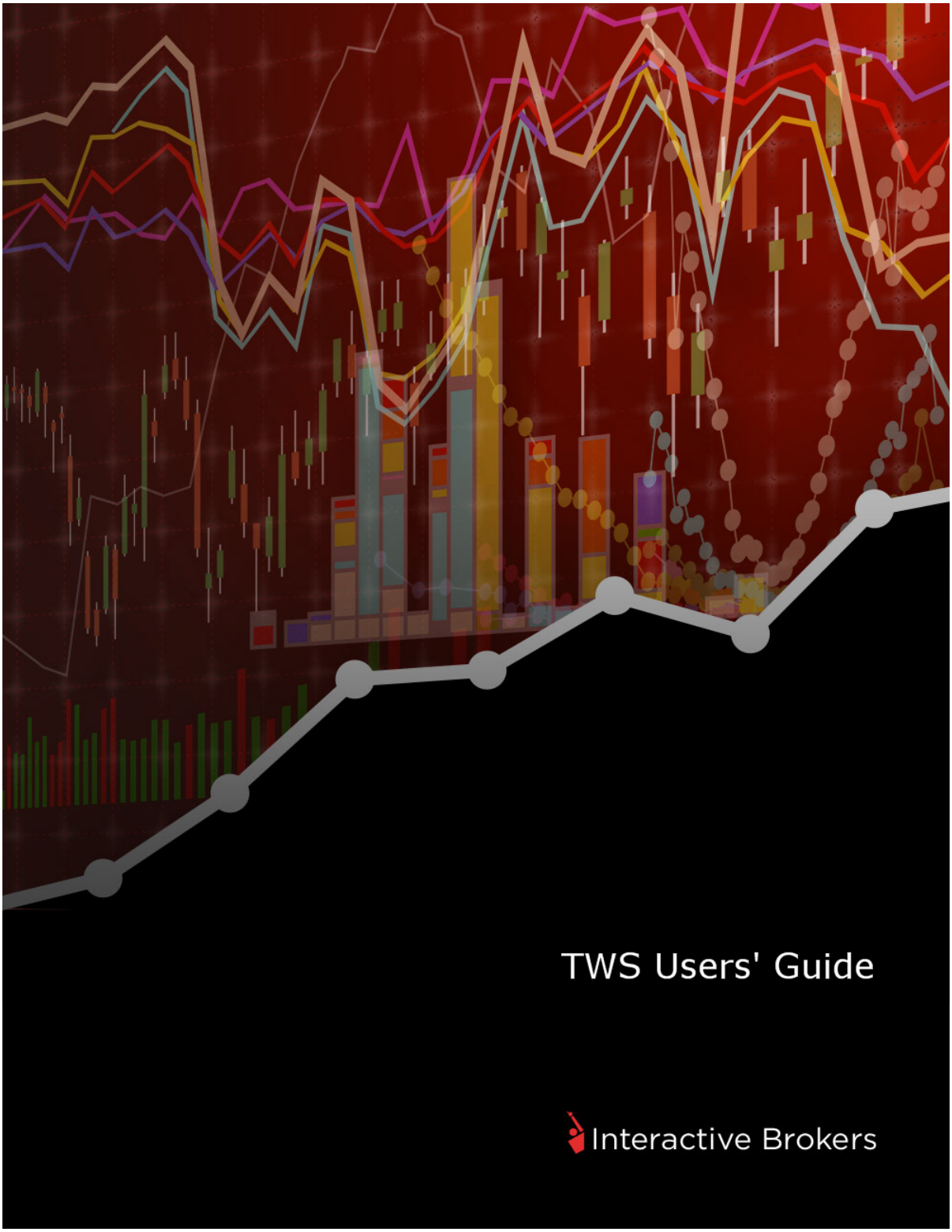

TWS Users' Guide

July 2016

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Get Started

Start trading right away.

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Log In to TWS

Before you can log into TWS, you need to download and install the TWS software. Downloads are accessed using the Login button in the top right corner of the web site.

Download Software

From the TWS Software page, choose from any of the software versions in the top row. Simply click a version to go to the Download page. Follow the simple instructions to install.

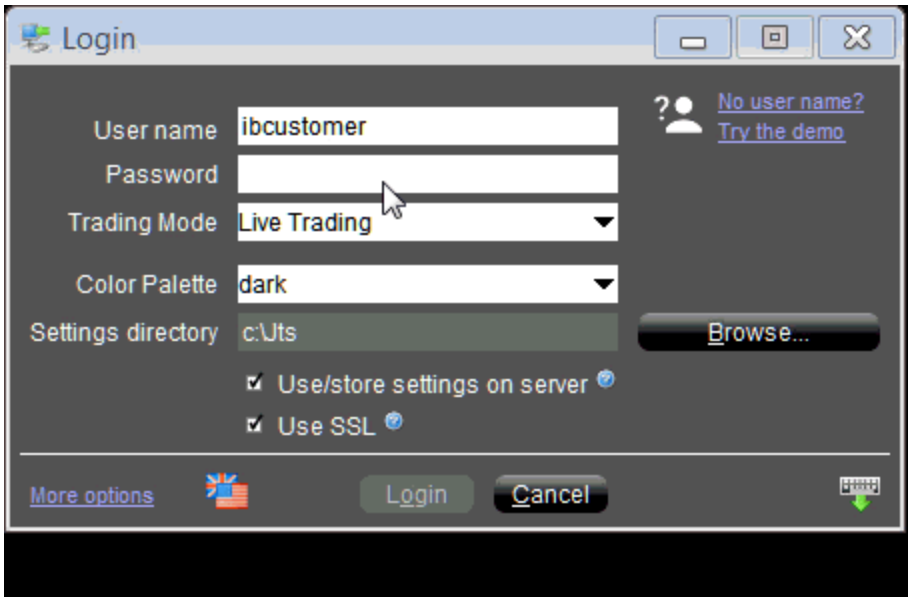
Once you install any version, you will have access to all of the other TWS versions when you log in. See instructions below to switch between versions.

To log in to TWS

Double-click the Trader Workstation icon that was placed on your desktop during installation.

Enter your User Name and Password.

From the Trading Mode selector box, choose to log into Paper or Live TWS.



Click the Login button at the bottom of the window.

Switch between stable, Latest and Beta versions

You can switch versions of the application between stable, Latest and Beta TWS without having to download additional software.

In the bottom left corner of the Login box, click *More options*.

In the Version selector box, choose Stable, Latest or Beta.

Click the “Apply & Restart” button next to the Version selector.

Log in to the new version.

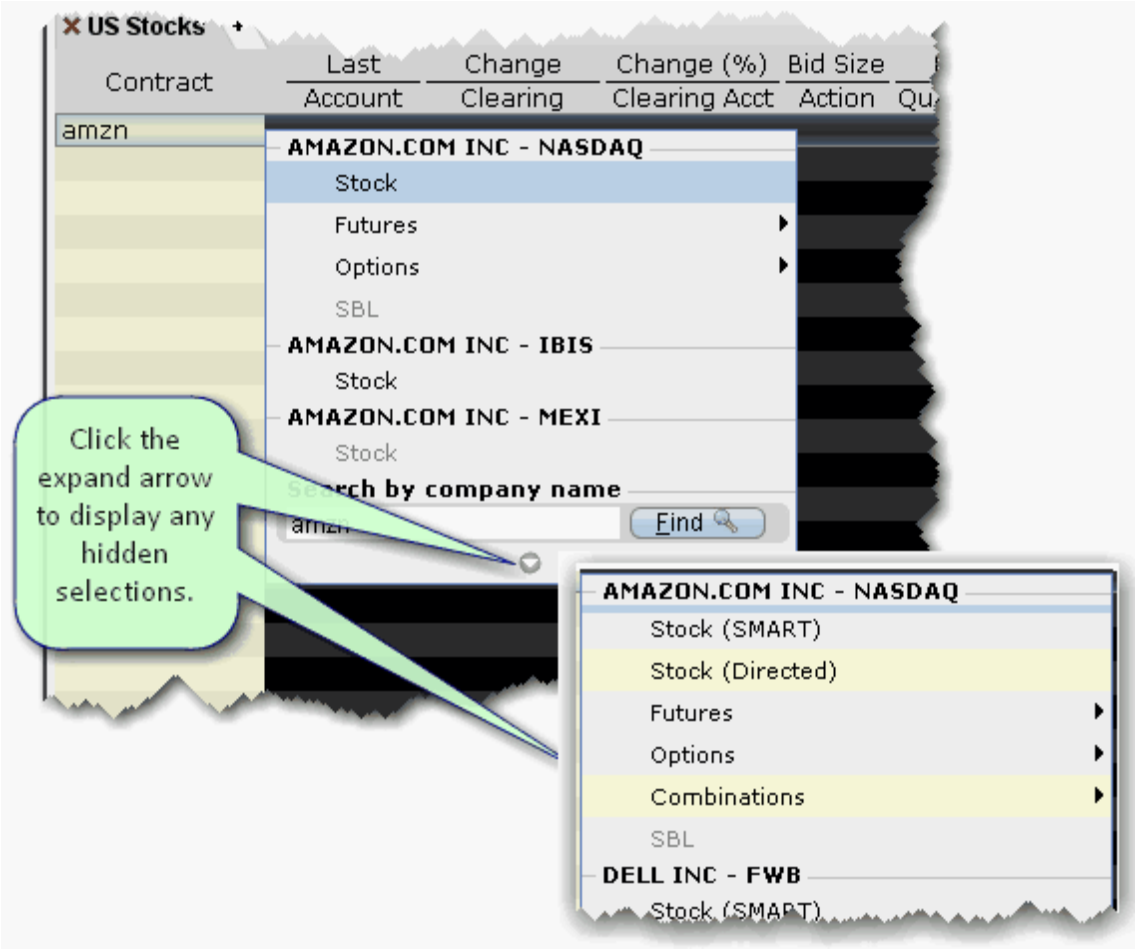
Offline TWS

To use a version that does not update automatically but requires manual updating for new features, download the Offline TWS installer from the TWS Software page.

Add Market Data

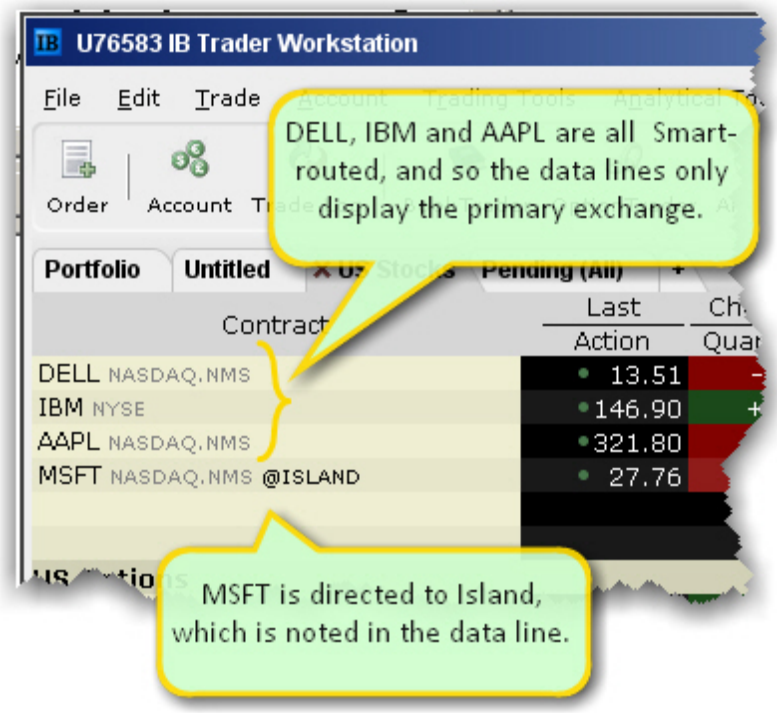
When you first open TWS, a sample Quote Monitor displays several sample lines of data. Before you trade an asset, you'll want to be able to see streaming data for the asset. A market data line represents an individual ticker, and displays the product type, order destination, ask and bid prices, and any other defining attributes. You can add a market data line by typing a symbol directly into the *Contract* column of the Quote Monitor.

> **Note:** Enter security definitions by entering the exchange contract class or contract symbol in the Contract field. Enter forex pairs using the syntax xxx.yyy in the Contract field.



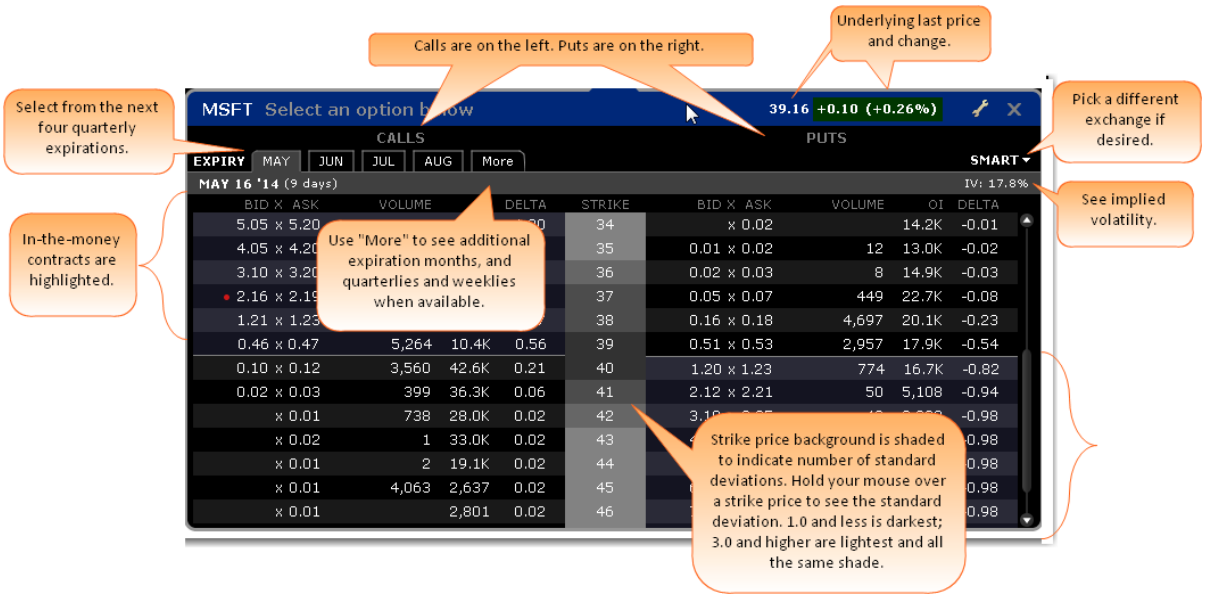
To add market data to the Quote Monitor

1. Click in the *Contract* field in an empty row.
2. Enter an underlying symbol and press **ENTER**.
3. Select an asset type from the picklist on the trading screen.



If you choose Smart as the exchange (rather than selecting Directed and then picking a destination) the market data is aggregated and the default order routing is Smart. From a display perspective, ticker lines that use aggregated Smart data do not display Smart in the data line. TWSwill only show the exchange if you elect to direct route. When you create an order, regardless of the market data selection you can modify the order routing destination on a per-order basis using the *Destination* field.

Option Selector



4. In the **Contract Selection** box, select a contract(s) and click OK. For assets requiring right, expiry and strike price, use the Selector box. In-the-money contracts are highlighted. Use the Smart dropdown to choose a single exchange.

Notes about Market Data use

A market data line is considered “active” when visible.

Each alarm that you set always uses one line of market data whether or not you are viewing the asset that contains the alarm.

Market data requested through an API has top priority, followed by data requested by alarms, and finally basic market data display. This means that if you are viewing a trading page that includes 100 lines of market data, and you also have price-activated alarms set for 6 other contracts, those 6 contracts will receive market data, and your trading page will only show data for 94 contracts.

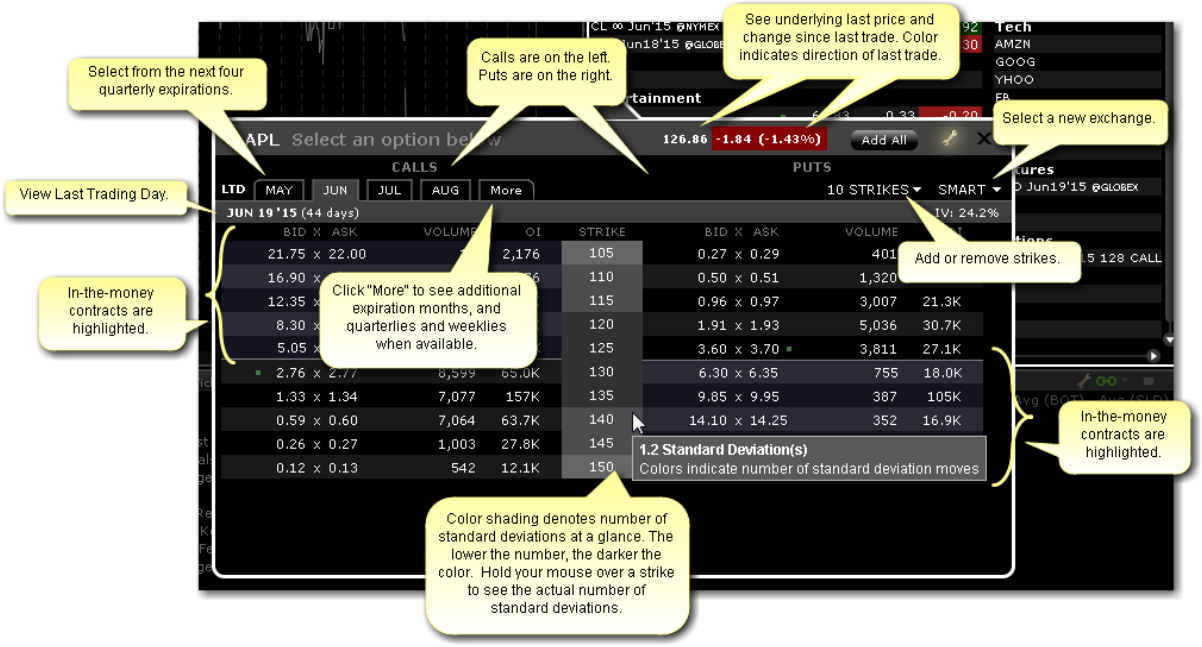
The option chains in the OptionTrader do not count against available market data lines.

For details on market data fees and allocation rules, see the Market Data and News Subscriptions overview on the IB web site.

Note: If you add a market data line for a derivative instrument, will ask if you want the underlying symbol added to the page. If you answer yes, it will be included above its derivative.

Option Selector

The contract selector for options, which is invoked when you add an option ticker to a page, has been drastically redesigned. Add an underlying and select "Option" to open the Option Selector. Available expiries are listed in a tabset across the top. By default the next four quarterly expirations are listed in a white font. Click on the tab titled 'more' to the right to display all available expirations, and a final selection box where weeklies and quarterly expirations are available. When selected, the next four weekly expirations will populate the tabs in yellow. Deselect the weeklies/quarterly check box from the 'more' tab to return to the regular quarterly expiration series.



The current underlying last price and change are in the top right corner and the available, selectable options-per-expiry are listed vertically.

The IV reading for the selected weekly or monthly contract is displayed in the upper right.

Use the 'Smart' dropdown to select a specific exchange if needed.

In-the-money contracts are highlighted using a default grayscale. Lighter shades of gray relate to out-of-the-money calls and puts while darker shades reflect closer to-the-money contracts.

Hovering over the strike price reveals a popup box detailing the Standard Deviation relating to the required movement from the prevailing price of the underlying to reach the strike price. (Note that Standard Deviations can also be plotted on IB interactive charts using the selection in the Chart Parameters box).

Strike price color-coding can be configured to fall colors (orange and brown) by clicking on the wrench icon and changing from grayscale to fall.

Configure further according to sensitivity to stock price movement. Choose between 1, 2 and 3 Standard Deviations or 1.0, 1.5, 2.0, 2.5 and 3.0 SDs.

Click on any call or put to add it to a main TWS page. Each line added will be color-coded in either green or pink to designate in-and out-of-the-money options, respectively.

Create an Order

There are many ways to create an order in TWS. This topic shows you how to create and transmit an order directly from a ticker line in the Quote Monitor.

To create and transmit an order from the Quote Monitor

1. Click the Ask or Bid in a market data line to create an order line directly below the selected ticker.

   Click the **Ask** to create a **Buy** order.

   Click the **Bid** to create a **Sell** order.

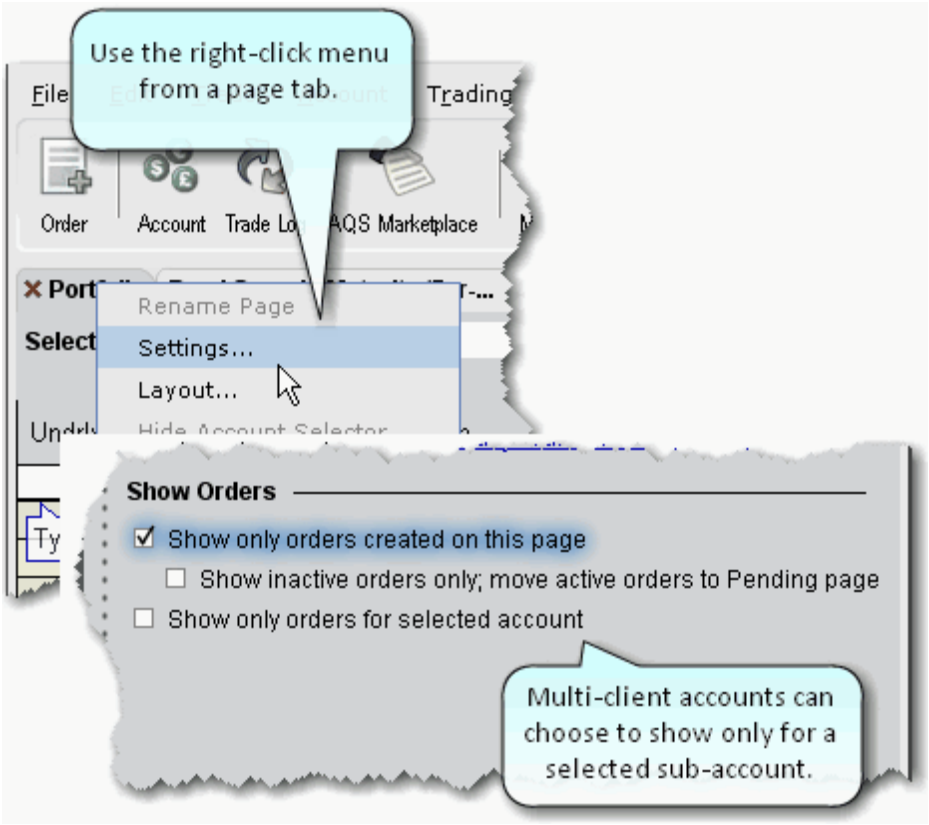
2. On the Order line, modify the order parameters including Time in Force, Action, Quantity, Price, Order Type, or Destination, if needed.

   Note: To trade more efficiently by using default values, create order Preset strategies using the Order Presets in Global Configuration.

3. To transmit your order, click “Transmit” (or “T” if you have reduced the size of the **Transmit** field).

Show Orders

By default, a working order will display on any page that has the ticker. You can modify where you want working orders to display using the Page settings.



4. Right click a tabbed title and select *Settings*.

Show only orders created on this page - Regardless of the tickers, only the orders you create from this page will display on this page.

Show inactive orders only, move active orders to Pending page - Shows deactivated or non-transmitted orders only. Working orders created from this page will only display on the Pending page.

Modify an Order

You can modify an order up until the time it fills. Until this occurs, the order remains visible and editable.

Using Mosaic

Working orders appear in the Orders panel, and can be edited by clicking the appropriate field.

Using Advanced Order Entry

The order line appears below the ticker on the page on which it was created, and on the Pending page. An order is “working” if the order status is green.

VWAP orders are accepted immediately and cannot be modified.

To modify a working order

1. On an order line, click in the field you want to modify, and make your change.

   Orders that have child orders associated with them, such as bracket or scale orders, cannot have the order side flipped. Orders than can be flipped will note this using (Reverse) next to the opposite-side action in the Action drop-down. When you flip the order side, a cancel request is sent for the original order and both the original with the cancel request and the new reversed order are displayed.

2. Click Update in the Transmit column to transmit your modified order.

To undo changes before you transmit, right-click and choose Discard Modifications.

> **Note:** You may receive a fill on the original order before your modified order has replaced it on the exchange. Please see the Customer Agreement for specific details on modifying and canceling orders.

Transmit an Order

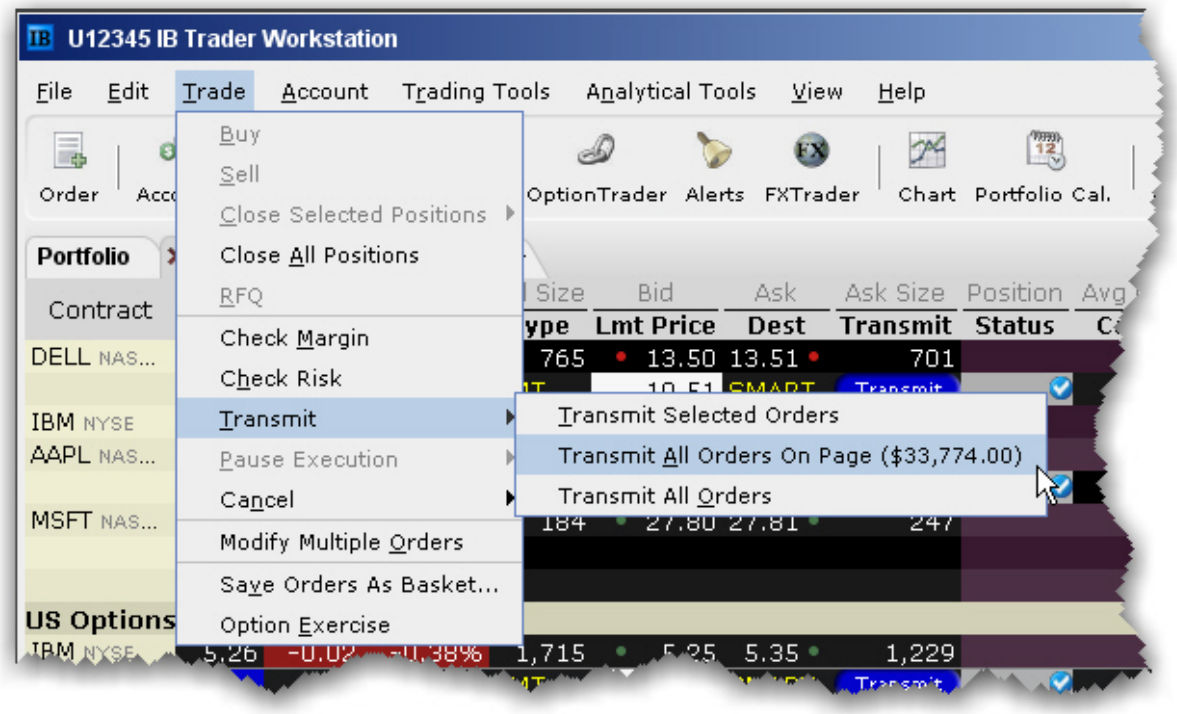
Once you have verified the order parameters on an order management line, you are ready to transmit your order.

To transmit an order

Click *Transmit* (or “T” if you have reduced the size of the field) in the **Transmit** field, or

Use the right-click menu on the order line and select *Transmit.*

When an order is accepted at the destination, it becomes a “working” order. All working orders appear on the Pending page. A red tab title indicates that the page holds a working order.



To transmit multiple orders

From the **Trade** menu select *Transmit*, and then select:

Transmit Selected Orders to submit the orders you have selected on the current page

Transmit All Orders on Page to send all of the orders on the current page. The dollar value in parenthesis reflects the total value of all orders on the page.

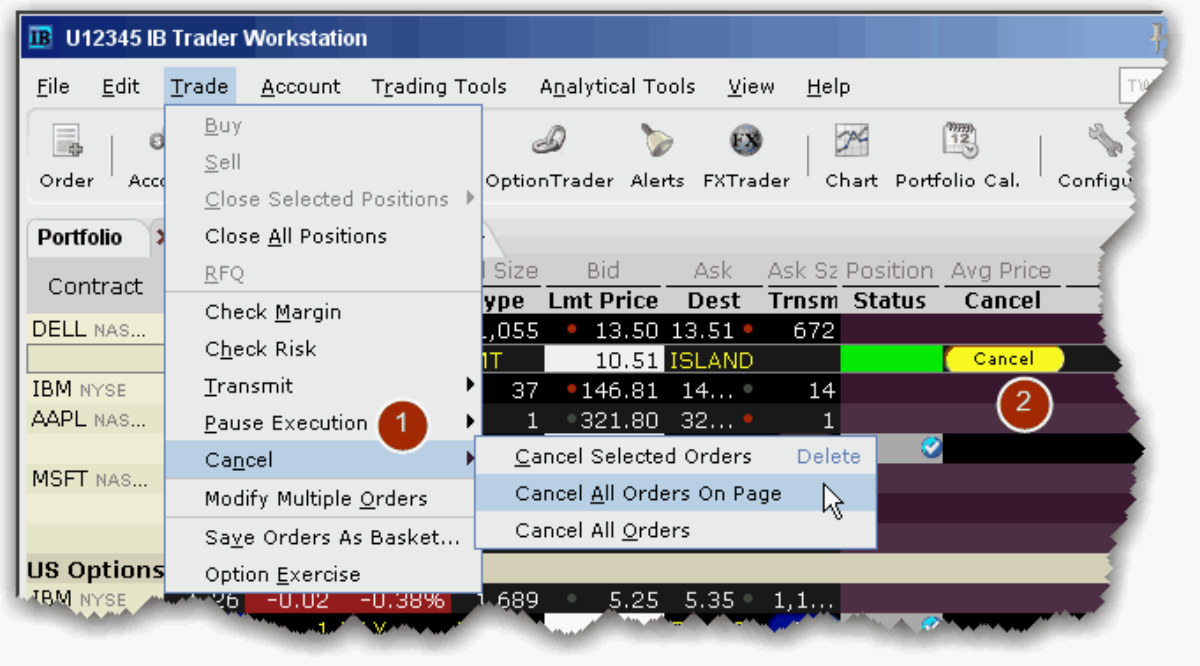
Transmit All Orders to submit all orders in TWS.

Cancel an Order

For a working order, the **Cancel** command sends a cancellation request to the order destination. See the Order Status Colors page for the meaning of status colors on an order management line.

For a non-transmitted order, use the right-click **Discard** command to delete the selected order (s) from your trading screen.

You can cancel any working order up until the time it has been executed at an order destination. You can also choose to cancel all orders on a page or all orders on your workstation.



To cancel a working order

1. From the **Trade** menu select *Cancel*, and then select:

   Cancel Selected Orders to submit a cancel request for the order(s) you have selected on the current page

   Cancel All Orders on Page to cancel all working and non-submitted orders on the current page.

   Cancel All Orders to submit a cancel request for all orders in TWS.

   Or,

2. Click Cancel (or “C” if you have reduced the field size) in the **Cancel** field.

For information on the colors displayed in the Status field, see the Order Status Colorstopic.

Note: Your working order is not confirmed CANCELED until the status field turns red. Please see the appropriate Customer Agreement for further information on order confirmation/cancellation.

Add a Quote Monitor

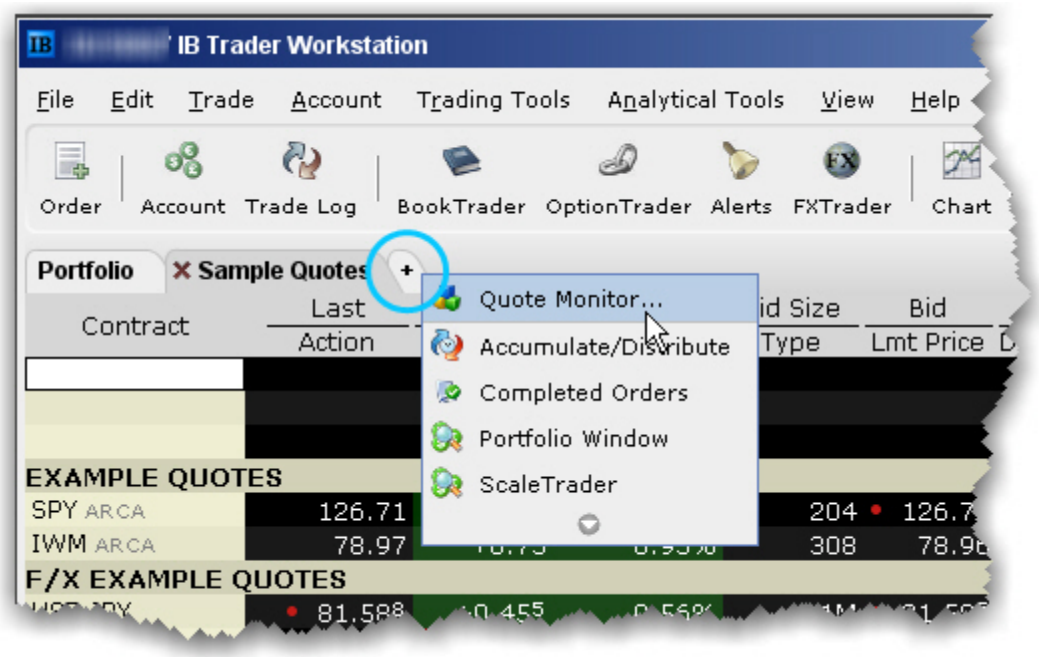
There is no limit to the number of Quote Monitors you can create in TWS. You can enter as many lines of market data as you want, but at any one time you will only be able to see 100 active market data lines at a time. For details, see Notes about Market Data use. Use the Quote Monitors to sort your assets by instrument type, exchange, or your own trading system categories. You can navigate through the tabbed pages without the mouse by using the *Ctrl* key along with the *Page Up* and *Page Down* keys.

To detach a page, simply click the tab and drag the page away from the tabset.

To create a new page, click the "+" sign and select Quote Monitor

To delete a page, click the X.

To rename a page, right-click the page title and select *Rename Page*.



You can also use a page-level feature called Quick Stock Entry, which will automatically complete a market data line for a stock using the set of order destinations you set up.

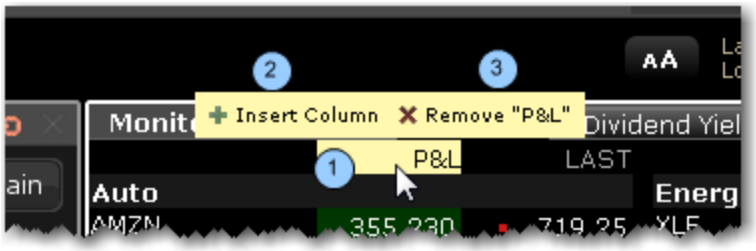
To add a Portfolio Page

You can create a system-maintained Quote Monitor that includes a data line for each position in your portfolio. Use the right-click menu from the “+” sign and select *Portfolio Window*. The portfolio page can only be created once.

This creates a page with the same positions that are displayed in the Portfolio section of the Account window. Each time you take a position, the Portfolio page is automatically updated to include market data for the new position. When you zero out a position, the market data line remains on your Portfolio page. You can remove zero position tickers from this and other pages using the right-click menu on a page and selecting *Clear Zero Position Rows*.

Add and Remove Fields

You can quickly add and remove fields from most windows by holding your mouse over the field name to invoke the insert/remove column commands.



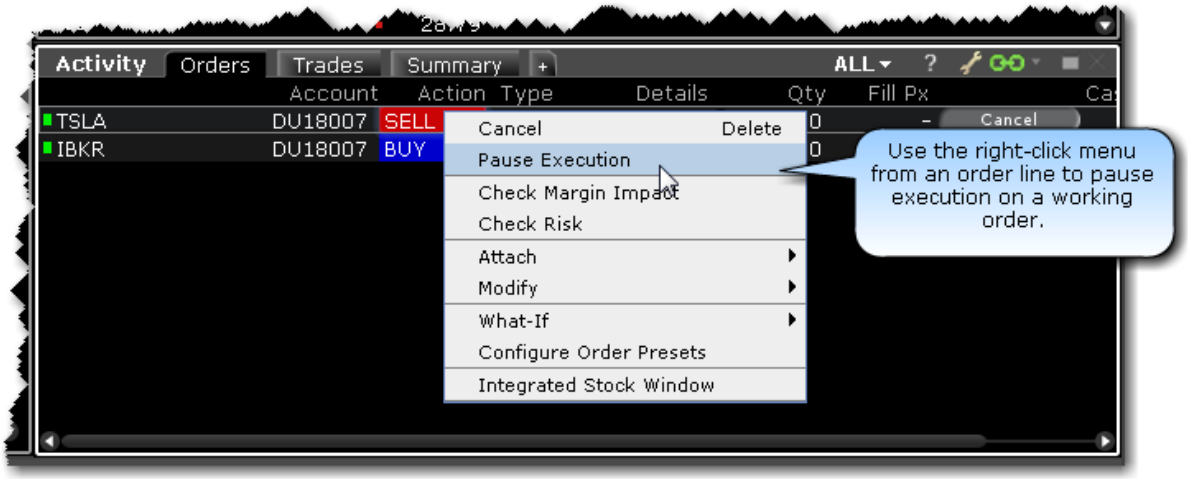
To add or remove columns from a window

1. Hold your mouse over a field to invoke the quick insert/remove commands.
2. Click the “+” icon to insert a column to the left of the selected column. Pick from the drop-down picklist that appears when you click "Insert Column."
3. Click the “x” icon to remove the selected column from the window. You can re-add it at any time.

You can choose not to see these icons by deselecting the feature "Quickly insert/remove columns from column headers" from the **Display**>*Settings* page in Global Configuration.

Pause Execution

When you pause a working order, a cancel request is submitted to the exchange and the order is put into an inactive state but remains available on the Orders panel (Mosaic) or Quote Monitor (Classic) for you to resubmit at any time.



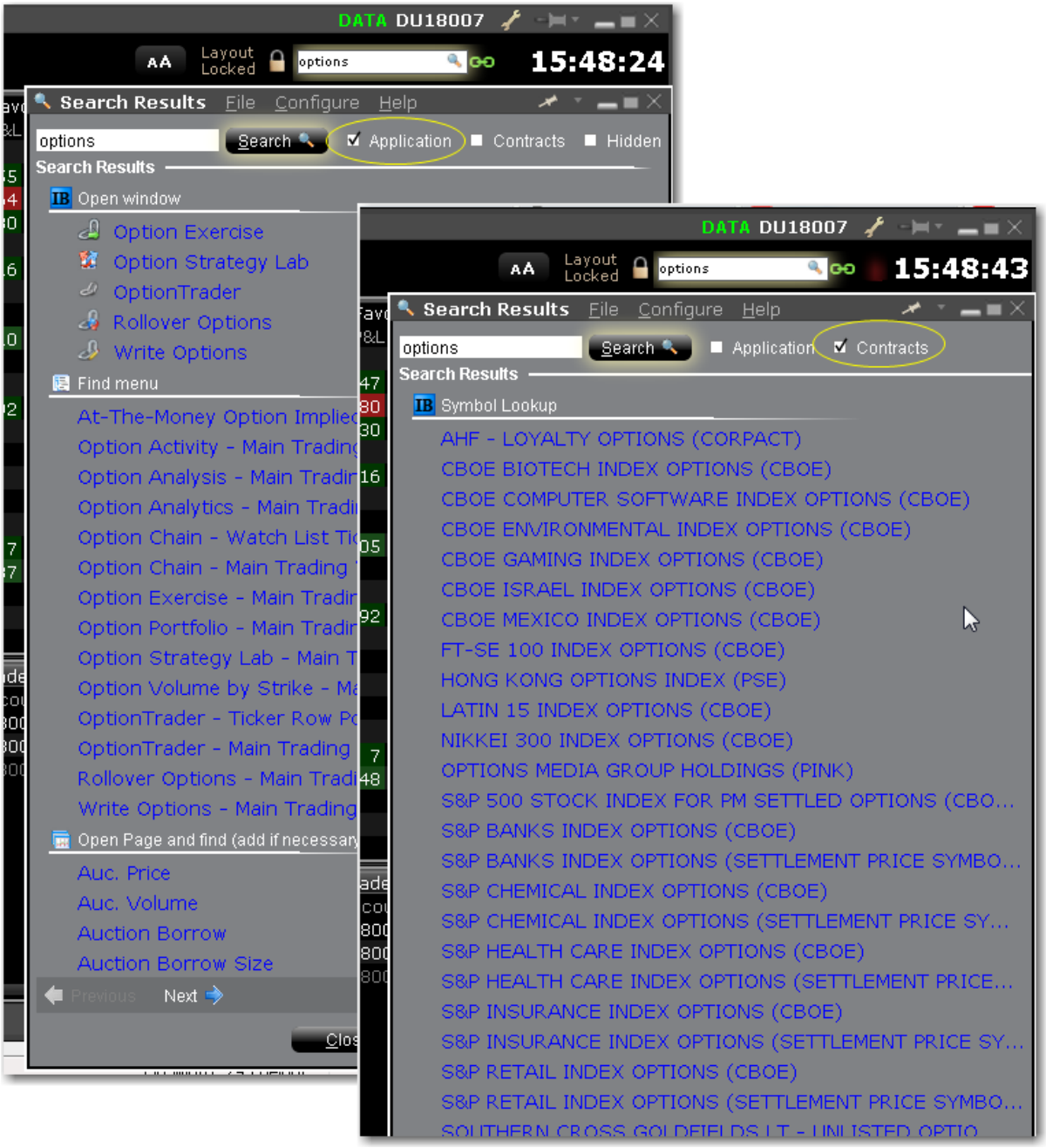
To pause execution on an order

Right-click a working order and select *Pause Execution*.

Use the DTC time in force to deactivate a day order that has not executed by the close of the market.

Use the Integrated Search Tool

The Integrated Search Tool in the top right corner of the anchor window lets you search for tools and features in the application as well as for contracts in our database to add to your trading pages. Check "Application" and select from the list of findings to go directly to your destination. Check "Contracts" and select to add a contract directly to your trading page.



Search for a feature or contract

1. Enter the name of the feature, contract or type of contract you are looking for.
2. Check Application, Contract or both.
3. Click the return that matches your search criteria.

When you use the The search will open and focus in on the feature, or begin adding the contract to the trading page.

2

Mosaic

The Mosaic workspace provides all of your trade, quotes, analytics and research and account information within a single easy-to-use framework.

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Understanding the Mosaic Interface

Details on using and customizing the Mosaic interface.

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The Mosaic Interface

The Mosaic workspace is completely customizable, with a drag and snap functionality that lets you easily align new windows to the default workspace. The "grouped window" layout allows you to size and move the Mosaic workspace as a single unit, and the workspace remains locked until you deliberately unlock it to add, move or delete windows. See Workspace Modes for more information.

Windows are linked by the colored grouping link in the upper right corner of each window, and groups can be changed while the workspace is locked. Grouped windows all reflect the same underlying.

The Mosaic workspace provides comprehensive order entry and order management functionality that includes charts, watchlists, quote details, market scanners, and your account information. If you want to add a window, simply unlock the workspace and open the window from the **New Window** drop-down. Drag the window alongside the Mosaic; it automatically snaps into place. Be sure to lock the workspace when you have finished editing to avoid inadvertently deleting or moving a window.

The Anchor Window

The Anchor Window is the control center of the workspace.

Use the New Window drop down list to open more tools.

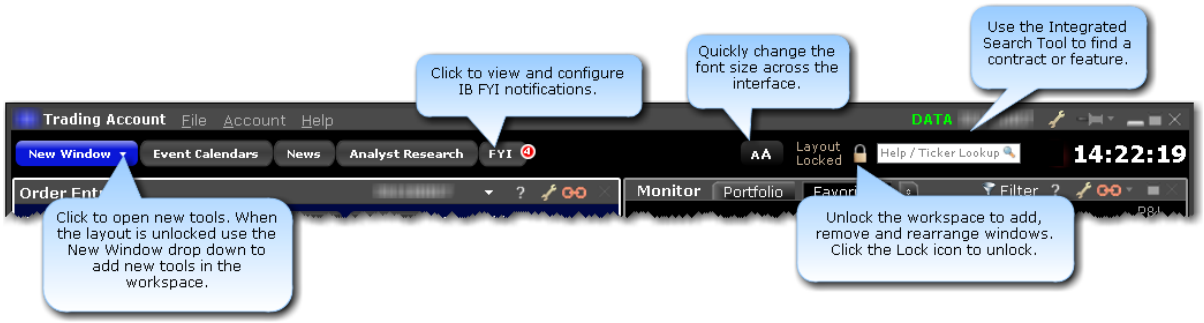
View Event Calendars, News and Analyst Research.

Click the FYI button to see new notifications and to configure FYIs. The red badge tells you how many new notifications are waiting.

Quickly adjust the font size across the entire interface.

Unlock the workspace to make changes like adding, removing and rearranging windows.

Use the Integrated Search Tool to find tickers from the contract database and to find tools within the application.



The Mosaic workspace is a grouped selection of tiles and tools that, by default, function as a unit within the layout.

Windows within the workspace cannot be inadvertently closed or repositioned. You must unlock the workspace to make changes.

When the workspace is re-sized all included windows will re-size and scale appropriately within the layout.

Use the font size adjustor to make the font larger or smaller within the entire workspace.

Maximize windows inside the workspace by double-clicking the titlebar, with no need to unlock the interface first. For example, you may want a better look at your chart. Double-click to see a large version, then double-click again to put the chart back into its spot.

The Mosaic has two editing modes: Locked and Unlocked.

By default, the Mosaic workspace is in "locked" mode when you launch the tool. When the workspace is locked, it acts as a single, grouped unit. You cannot add, remove, re-size or move any component windows, but you can re-size the **entire** workspace, and each component within will be scaled accordingly. Note that you can, however, modify windows grouping assignments. We lock the workspace by default to avoid potential issues of inadvertently deleting and moving individual components.

If you want to rearrange the windows, add or remove windows, or re-size individual component windows, click the Lock icon to unlock the workspace.

Layout Locked

When the Mosaic layout is locked, the workspace is outlined in black and the lock label indicates the status. Keep the layout locked until you need to add, remove or resize individual windows.

To unlock the layout for editing

Click the "lock" icon located to the left of the search field.

Layout Unlocked

When the Mosaic layout is unlocked, the workspace is outlined in green and the lock icon appears to be open to indicate the status. When unlocked, windows within the workspace frame act as separate, ungrouped windows, and you are able to remove them, re-size them, and add new windows to the layout frame.

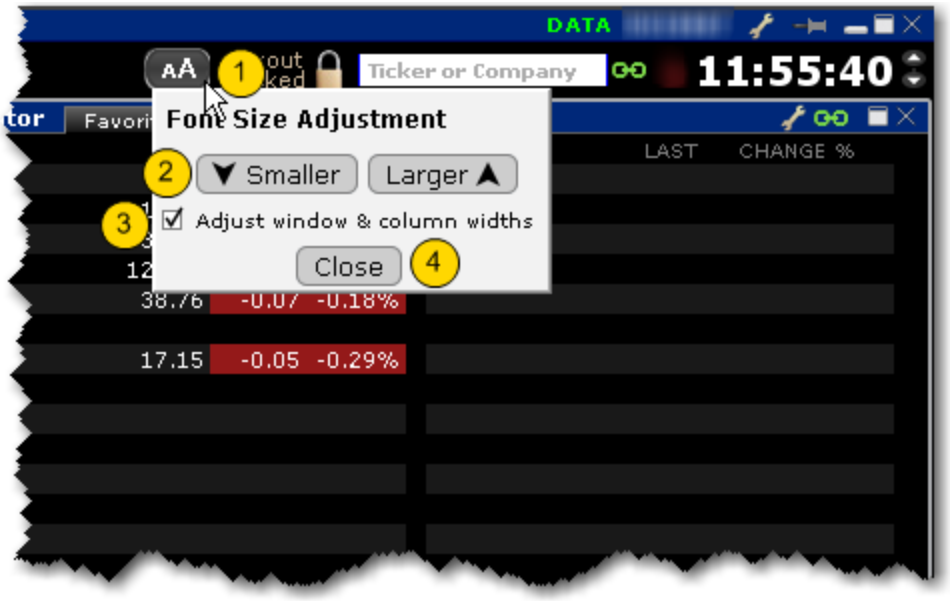
Be sure to always lock the workspace when you have finished editing to avoid unwanted changes or deletions to the Mosaic. You will not be allowed to exit the application if the workspace is unlocked.

To lock the layout

Click the "lock" icon

Mosaic Fonts

Quickly make the Mosaic windows font larger or smaller.



To adjust font size throughout Mosaic

From the Anchor window, click the Font Size Adjustment icon.

Click "Smaller" or "Larger" until the font size is correct. Notice that the font size changes in the Mosaic as you click the button.

If "Adjust window & column widths" is checked, the Mosaic windows will size automatically to keep the same font:window ratio. If unchecked, only font size will change.

Click *Close* when done.

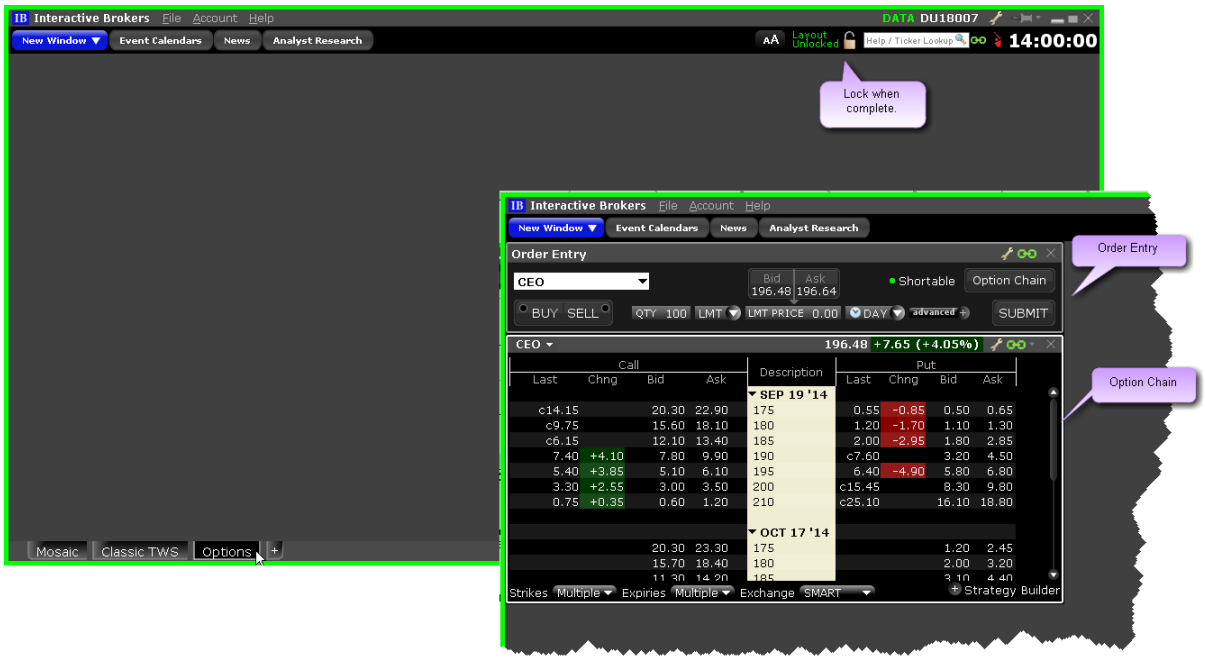
Templates

You can add multiple Mosaic-based workspaces using the Templates command from the New Window drop down, the New Window Group command on the Mosaic File menu, or by clicking the "+" sign along the bottom of the frame.

> Adding a template creates a Mosaic workspace based on the original Mosaic layout. Creating a workspace from the New Window command or by clicking the "+" sign creates a customizable but blank unlocked workspace.

The customizable workspace opens with a green line outlining it. Add windows to the workspace using the New Window drop down. When you are finished designing the workspace, click the lock icon to lock the design.

You can only have a single Classic TWS workspace. This command is grayed out if you already have a Classic TWS tab.



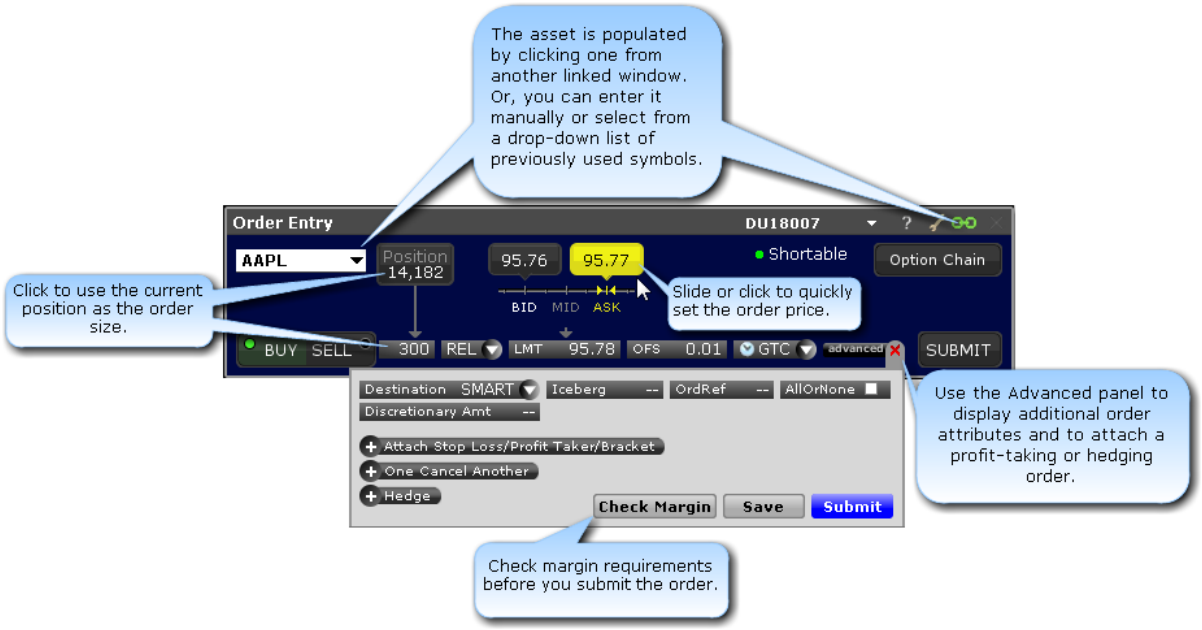
Trade in Mosaic

The Mosaic trading tools make it easy to create, submit and modify orders.

The Order Entry Window

Use the Order Entry window to create and then Submit or Save an order. It's linked via windows color grouping to other windows, which means that when you choose an instrument from another window in the group, the Order Entry is "loaded" with that instrument and ready to submit an order. It's easy to change the asset by selecting from the drop down list of previously

used instruments, or typing in a new one manually. To set up an option order, click the Option Chain button to easily pick an option contract.



The Order Entry tile comes in different modes, and you can modify the mode to fit your trading style. The above image shows the Interactive mode.

To change the Order Entry mode

Click the configuration wrench icon in the top right corner of the panel's title bar and select *Settings*.

Select the Order Entry tool style. Choose from:

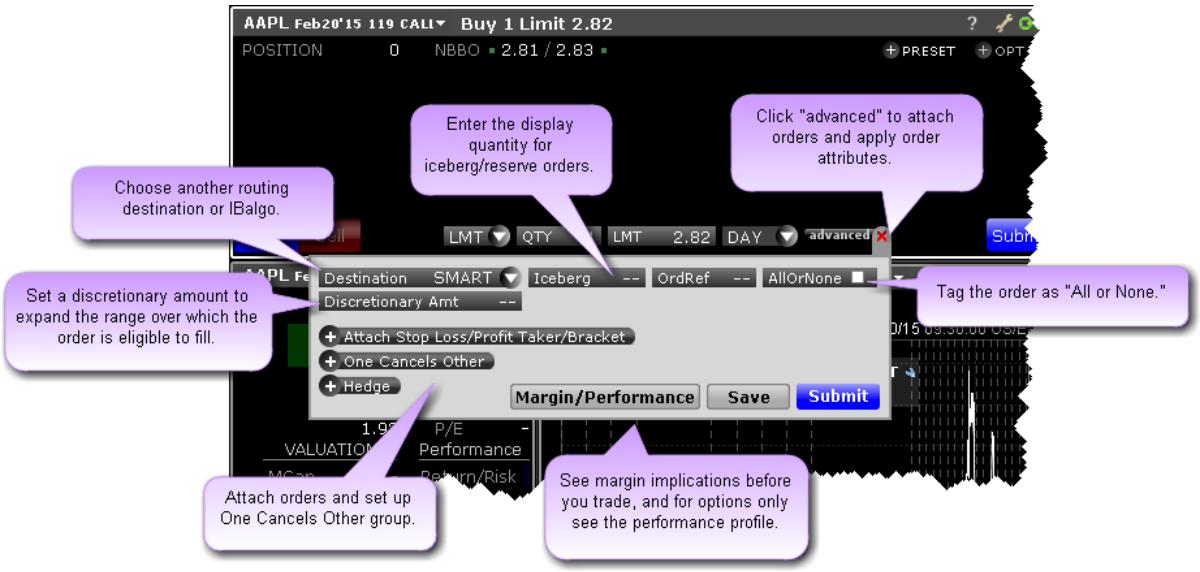
Interactive: Enables the clickable "Position" and "Bid/Mid/Ask" ruler to fill in order parameters.

Simplified: Smaller display with fewer selections.

Rapid Transmit: Quickly submit the order by clicking the Sell or Buy button. This version does not include a "Submit" button.

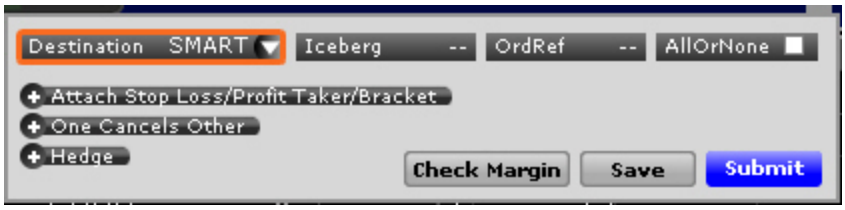
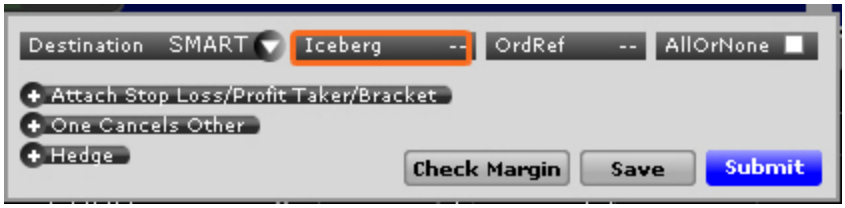
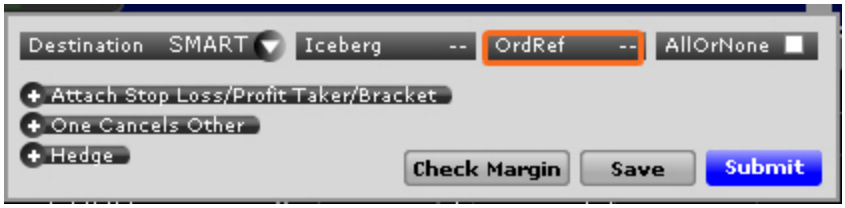
Advanced Orders Panel

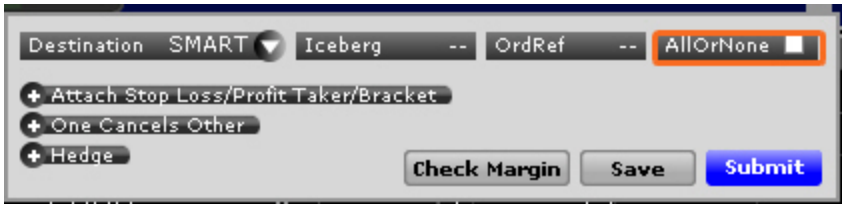
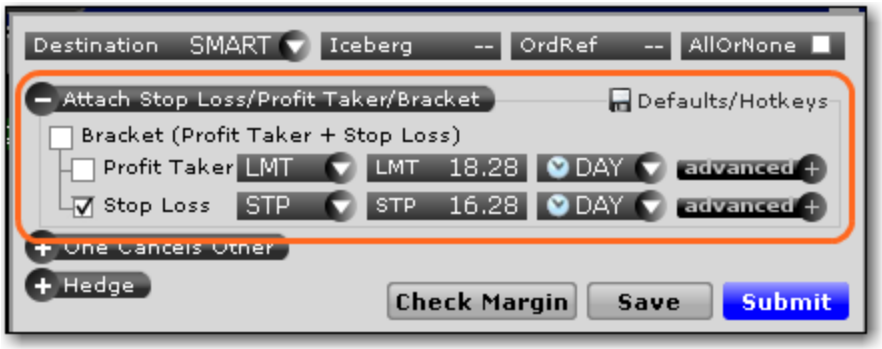
Click the "advanced" icon from the Order setup line to use stop loss, profit taker and bracket orders, set up Iceberg, One Cancels Other and hedge orders, and apply other advanced order attributes.

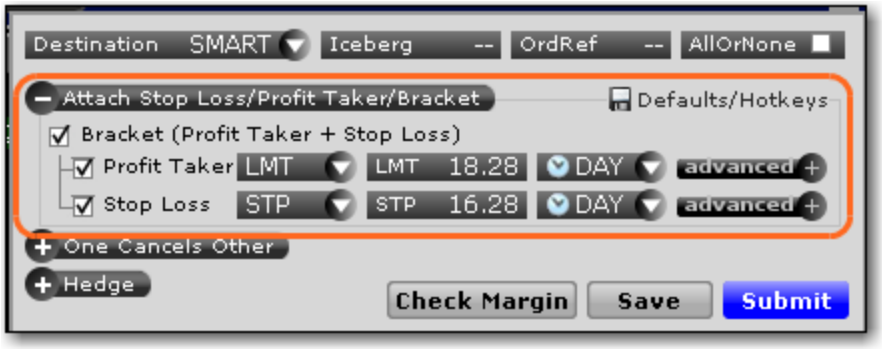


- Routing
- Iceberg Orders
- Order Reference
- All or None Attribute
- Stop Loss
- Bracket
- Profit Taker
- OCO (One Cancels Other)
- Hedge Order
- Check Margin
- See Performance Profile

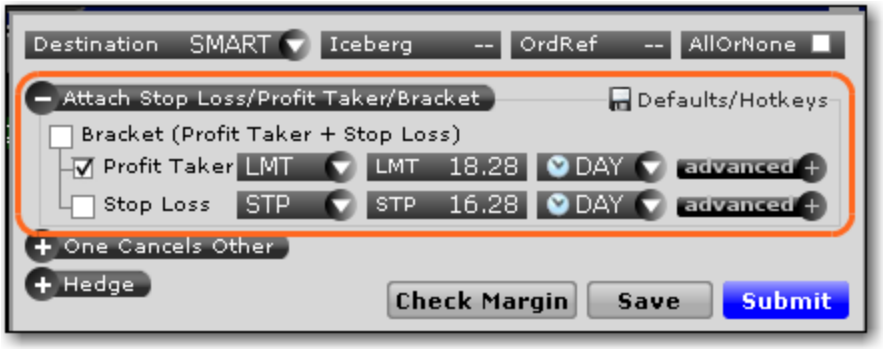
Use the Advanced Orders panel to:

What?	How?
Routing Select a new routing destination.  Back to top	Click SMART and choose a destination from the drop-down list.
Iceberg Create an iceberg order, which displays only a user-specified order size to the market.  Back to top	Click in the field and enter a partial quantity of the order. This quantity will be displayed to the market.
Order Reference Add a reference number that helps you track the order through its lifecycle.  Back to top	Click in the field to make it editable then enter a reference number.
All or None Attribute Specify that either all of the order executes or none of it executes.	Check to apply the "All or

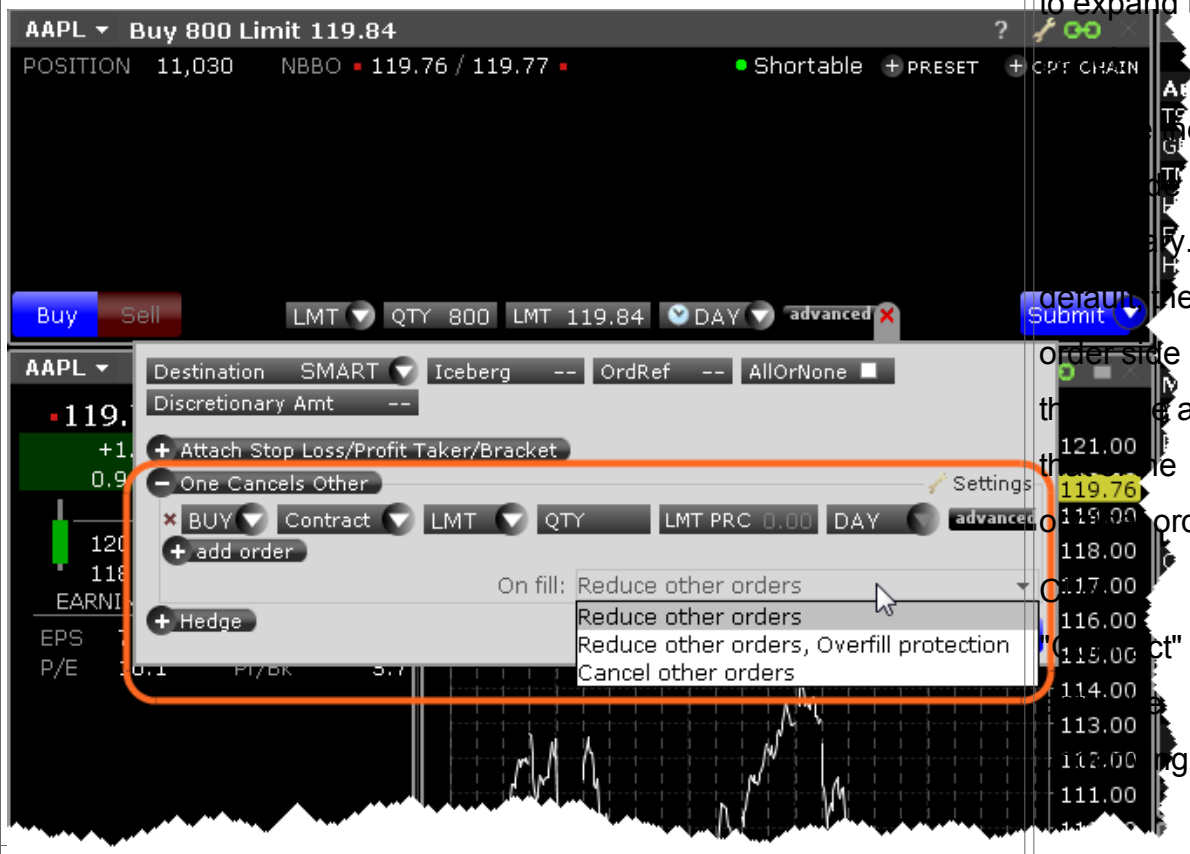
What?	How?
 Back to top	None" attribute to the order.
Attach a Stop Loss Attach a Stop Loss order to the original order.  Back to top	Click "Attach Stop Loss/Profit Taker/Bracket." Check the "Stop Loss" box only. In the STOP field, modify the stop type (stop, stop limit or trailing stop) as needed. In the STP PRC field enter the stop price. In the DAY field modify the time in force as needed.

What?	How?
	Click "more" to modify the routing destination and/or add an order reference.
Attach a Bracket Attach a Bracket order to the original order. This brackets the order with two opposite-side orders, and is designed to help limit loss and lock in a profit.  Back to top	Click "Attach Stop Loss/Profit Taker/Bracket." Check "Bracket." The Profit Taker and Stop Loss boxes will be checked automatically. Modify the child orders. **Profit Taker Child** Specify Limit or Relative as the opposite-side Profit Taker order

What?	How?
	type. Enter a limit price. For a relative order, this is the price cap. For relative orders, enter the offset if desired. Specify the time and force and other parameters as needed. **Stop Loss Child** In the STOP field, modify the stop type (stop, stop limit or trailing stop) as needed. In the STP PRC field enter the stop price.

What?	How?
	In the DAY field modify the time in force as needed. Click "more" to modify the routing destination and/or add an order reference.
Attach a Profit Taker Attach a profit taker child order to the original order. The profit taker is an opposite-side limit or relative order.  Back to top	Click "Attach Stop Loss/Profit Taker/Bracket." Check the "Profit Taker" box. Specify Limit or Relative as the opposite-side Profit Taker order type. Enter a limit price. For a

What?	How?
	relative order, this is the price cap. For relative orders, enter the offset if desired. Specify the time and force and other parameters as needed.
One Cancels Other Include the order in a one-cancels-other order group.	Click "One Cancels Other" to expand the [illegible] if [illegible]y. By [illegible] order side is [illegible] as [illegible] order. [illegible] "[illegible]ct" and [illegible]g.



What?	How?
Back to top	Specify the order type, quantity, price and time in force. To add more orders to the group, click *+Add Order* and follow steps 2 - 4 above. If an order completely fills, other orders in the group are canceled. The *On Fill:* box instructs TWS what to do if an order in the group is partially filled. Use the drop down selector to choose the action:

What?	How?
	a- **R-e-d-u-c-e o-t-h-e-r o-r-d-e-r-s**: R-e-d-u-c-e-s t-h-e q-u-a-n-t- .

What?	How?
	i-t-y o-f o-t-h-e-r o-r-d-e-r-s i-n t-h-e g-r-o-u-p b-y t-h-e

What?	How?
	a-n-t-i-t-y o-f t-h-e o-r-d-e-r-. ***R-e-d-u-c-e o-t-h-e-*** *b-.*

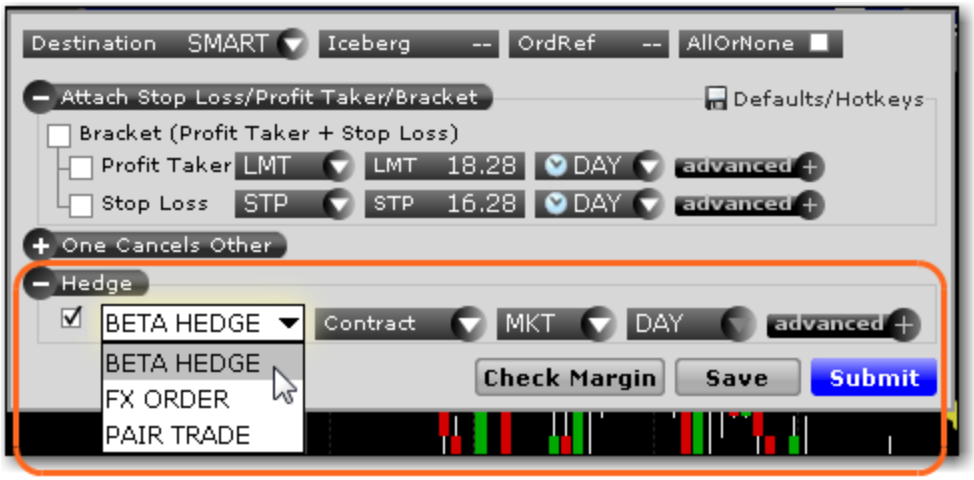
What?	How?
	r ***o-r-d-e-r-s-,*** ***o-v-e-r-f-i-l-l*** ***p-r-otection:*** *R-e-d-u-c-e-s*

What?	How?
	q-u-a-n-t-i-t-y o-f o-t-h-e-r o-r-d-e-r-s i-n t-h-e - i-

What?	How?
	p b- y t- h- e p- a- r- t- i- a- l- l- y f- i- l- l- e- d q- u- a- n- t- i- t- y o- f

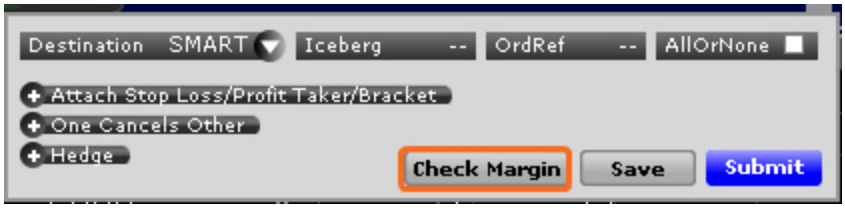
What?	How?
	e w- i- l- l b- e s- u- bmitted t- o a- v- o- i- d m- u- l- t- i- p- l- e o- r- d- e- r- s f- i- l-

What?	How?
	C-. **C-a-n-c-e-l o-t-h-e-r o-r-d-e-r-s**: A-l-l o-r-d-e-r-s i-n t-h-e g-

What?	How?
	r-o-u-p w-i-l-l b-e c-a-n-c-e-l-e-d-.
Attach Hedging Order Attach a hedging order to the parent order. Choose from Beta, FX, or Pair Trade hedge. The hedging order will transmit when the parent order fills.  	Click "Hedge" to expand the panel. In the drop down list, select the hedge type and check the box next to the order type field. a. Beta

What?	How?
Back to top	Hedge - specify the hedging contract, the order type (limit, market or relative), the beta (change default beta if required), and the time in force. b. FX Order - specify the forex pair, the order type (limit, market or relative), and the time in

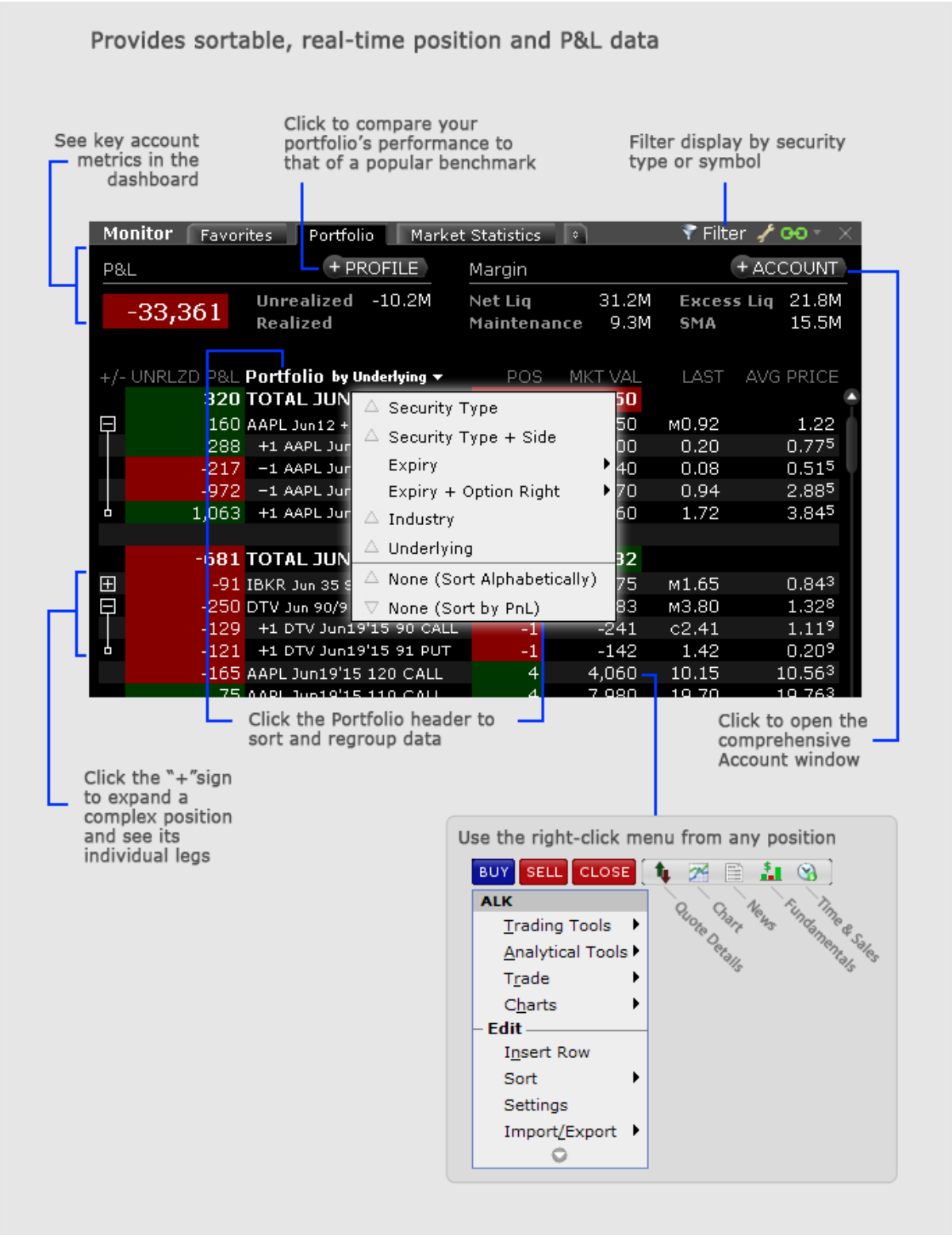
What?	How?
	force. c. Pair Trade - specify the hedging contract, the order type (limit, market relative, or RPI (available if the contract is listed on NYSE), the offset (required for RPI order), the ratio (the original contract is "1" so

What?	How?
	if you enter "2" the hedging order quantity will be twice that of the original order, or 2:1) and the time in force.
Check Margin Check the margin requirements for the order before you submit it.  Back to top	Click "Check Margin."

The Portfolio

The mosaic Portfolio window, which is included in the grouping of Monitor Panel tabs along with the Mosaic Market Scanners and the Watchlists, provides key account information.

The Portfolio window is a "source" for windows grouping, which means that when you select an asset all linked windows will display that asset.


Provides sortable, real-time position and P&L data
See key account metrics in the dashboard
Click to compare your portfolio's performance to that of a popular benchmark
Filter display by security type or symbol
Monitor
Favorites
Portfolio
Market Statistics
Filter
P&L
+ PROFILE
Margin
+ ACCOUNT
-33,361
Unrealized -10.2M
Realized
Net Liq 31.2M
Maintenance 9.3M
Excess Liq 21.8M
SMA 15.5M
+/- UNRLZD P&L Portfolio by Underlying
POS
MKT VAL
LAST
AVG PRICE
Security Type
Security Type + Side
Expiry
Expiry + Option Right
Industry
Underlying
None (Sort Alphabetically)
None (Sort by PnL)
Click the Portfolio header to sort and regroup data
Click to open the comprehensive Account window
Click the "+"sign to expand a complex position and see its individual legs
Use the right-click menu from any position
BUY
SELL
CLOSE
ALK
Trading Tools
Analytical Tools
Trade
Charts
Edit
Insert Row
Sort
Settings
Import/Export
Quote Details
Chart
News
Fundamentals
Time & Sales

To open the Portfolio for the first time

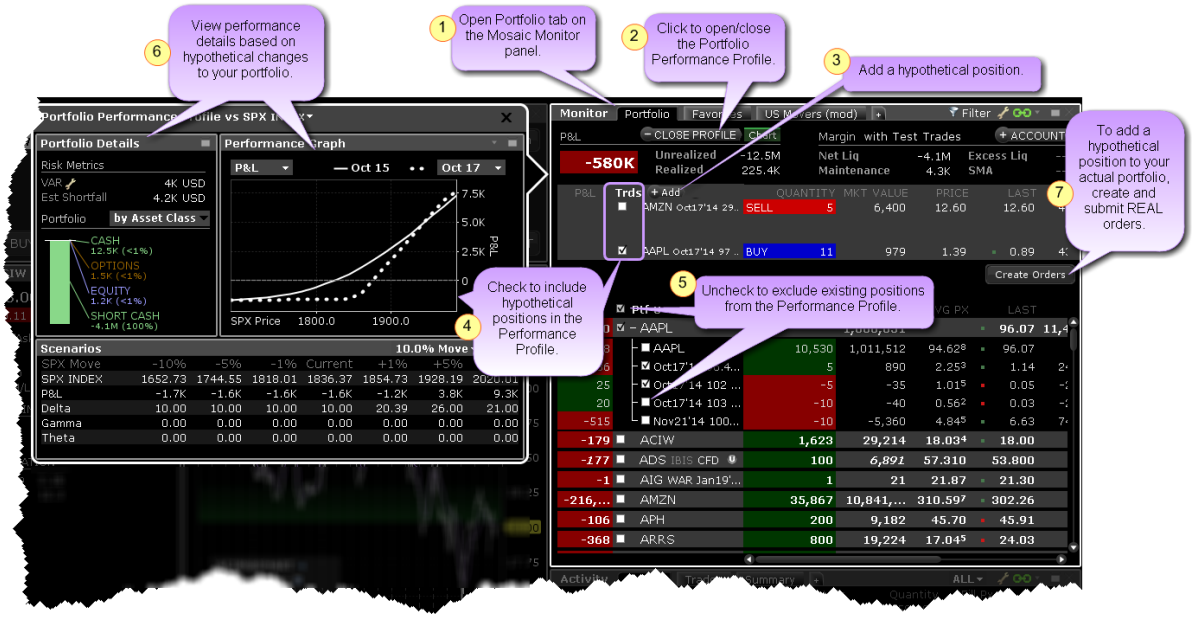
From the Monitor panel, click "+" sign to add a new page.

From the drop down list, select *Portfolio*.

Once you add the Portfolio to your Monitor list, it will be available as a tab. If you can't see it displayed along the top of the Monitor panel, hold your mouse over any tab to expand the tabset and see all available tabs.

Portfolio Performance Profile

This what-if feature allows you to toggle the Mosaic Portfolio window into "what-if" mode and add or remove hypothetical positions to and from your existing portfolio to see how these changes will affect key portfolio metrics, including P&L, Delta and the Greeks and Value at Risk. If you like the performance results from the hypothetical adding or removing of any positions, you can create and submit real orders to add these positions to your actual portfolio.



To open the Performance Portfolio Profile

From the Monitor panel of the Mosaic, navigate to or open the **Portfolio** page.

Click the Profile button at the top of the page to put the Portfolio into "what-if" mode.

To use the Performance Portfolio Profile

Use this what-if tool to hypothetically remove positions from your existing portfolio, add new positions, or change the position quantity and see how key performance metrics are affected.

To hypothetically remove positions

Uncheck any of your actual positions to remove them from the risk calculations.

To hypothetically add new positions

Click the "Add Test Trade" button.

Add the contract like you're adding it to any TWS window.

Set the side and quantity. The hypothetical position is now established.

To add hypothetical positions to your actual portfolio

Click Create Orders under the Test Trades section. All of your test trades are set up as actual live orders.

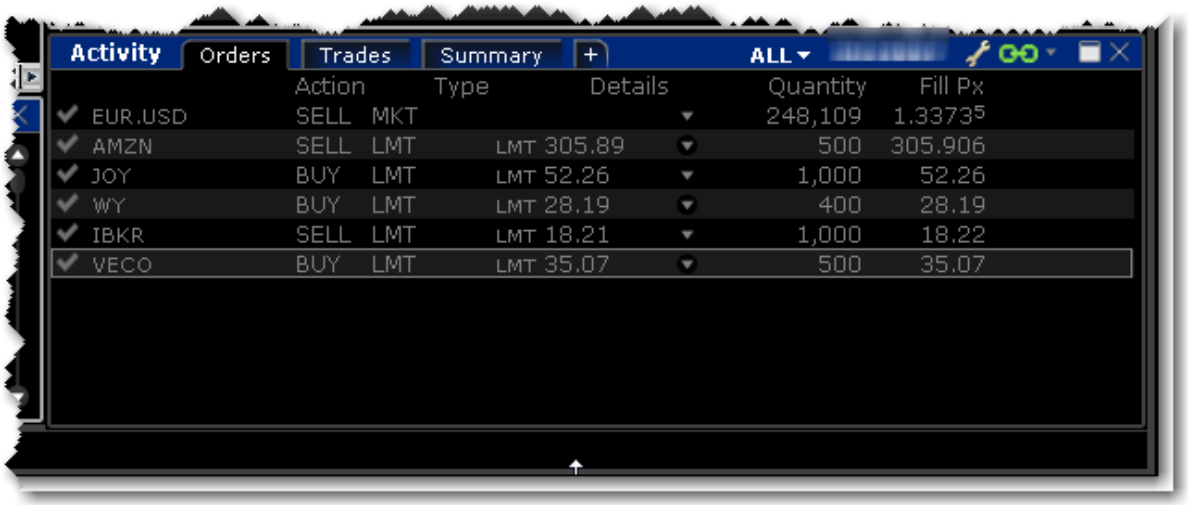
Discard any orders that you don't want to transmit.

Modify order parameters for remaining orders.

Click Submit.

The Orders Window

The mosaic Orders window is one of the tabs in the Activity Panel, and provides a running list of all live, canceled and completed orders.

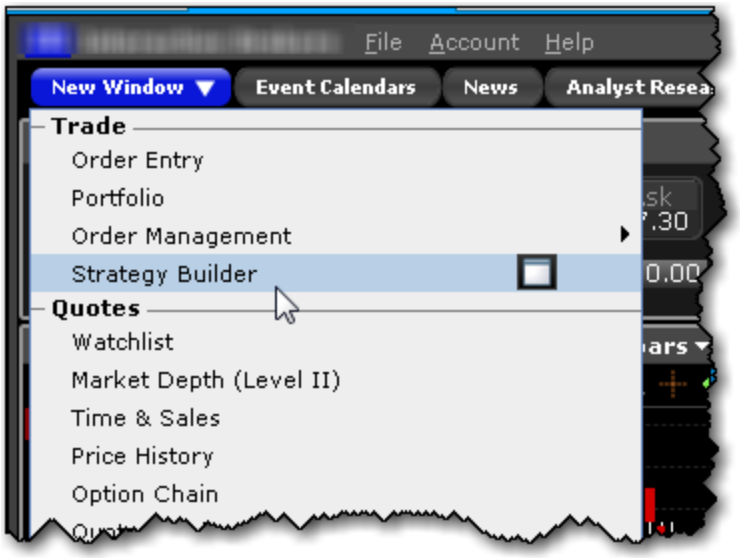


Click the display drop-down (ALL in the above image) to specify which order types to displayi n the Orders window. Choose from:

ALL ORDERS
LIVE ORDERS
CANCELED ORDERS
COMPLETED ORDERS

Strategy Builder

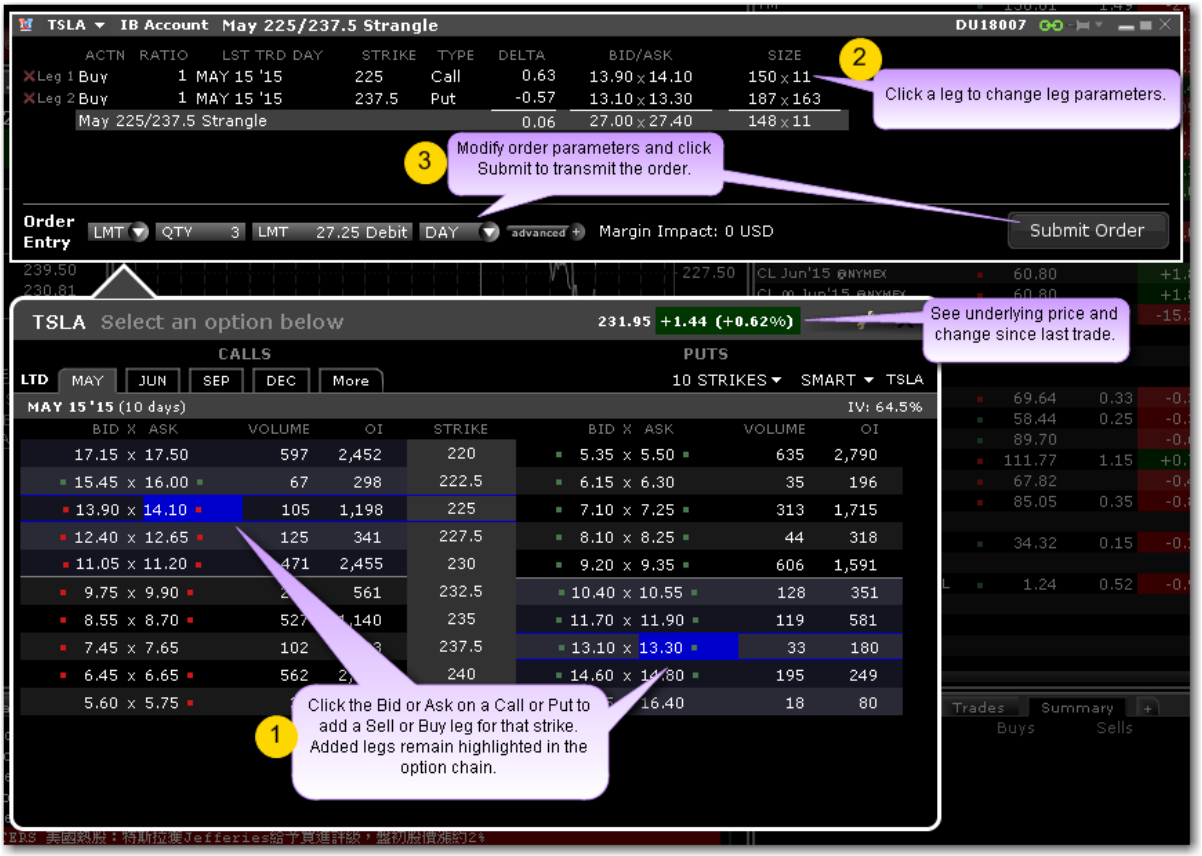
Use the Strategy Builder to quickly build options combo orders directly from the option chain display.



To open Strategy Builder

From within Mosaic use the New Window drop-down and select *Strategy Builder*.

From within the Option Chain window, click *Strategy Builder* in the lower right corner.



To create a strategy

Within the Option Chain area, click the bid or ask for a call or put to add it as a leg to the Strategy Builder.

The strategy displays below the leg in the Strategy Builder window, and is updated each time you add a leg. Options used in the spread are highlighted in the Option Chain.

Once the strategy is defined, modify order parameters as needed, including order type, quantity, price, time in force and more.

Click Submit to send the order. Use the drop-down arrow on the Submit button to save the order and transmit at a later date.

Quotes and Data in Mosaic

Depth and breadth of quotes across our myriad Mosaic tools.

The Watchlist **102**

Predefined Watchlists **103**

Market Depth **104**

Time & Sales Data **105**

Price History Window **109**

Option Chains **110**

The Quote Details Window **111**

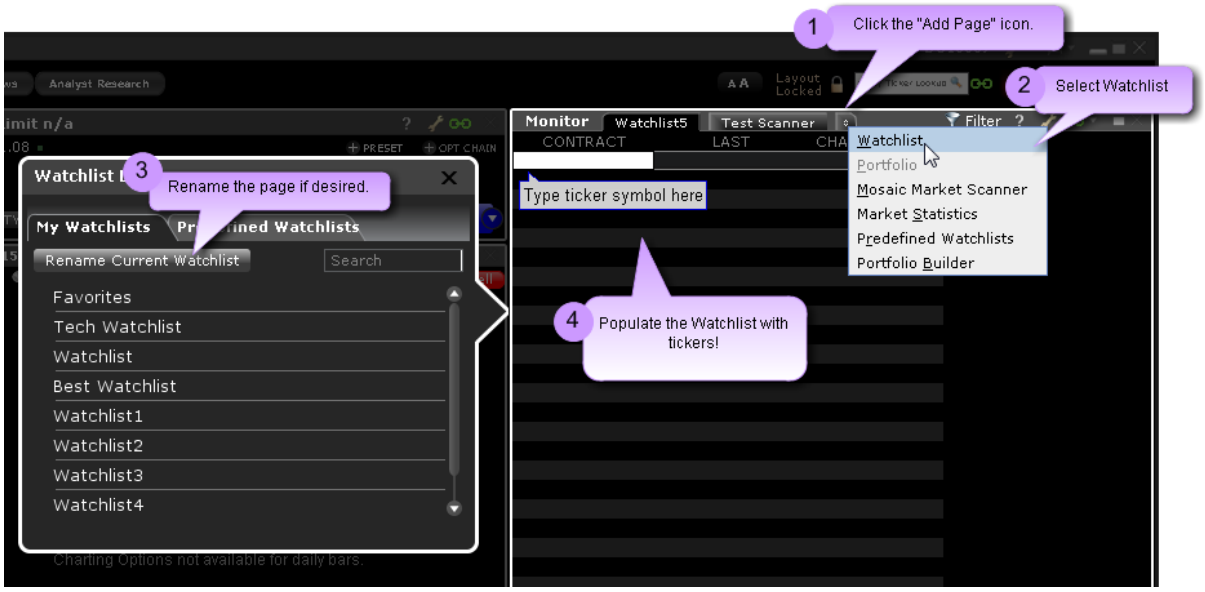
FX Matrix **111**

SLB (Stock Loan Borrow) Rates **113**

The Watchlist

Watchlists hold double columns of tickers with the symbol, last price and change since the last trade. Colored tick dots indicate whether the value has increased (green) or decreased (red). Use the right-click menu from any ticker to access trading and analytical tools, and to edit the Watchlist.

Add tickers to a Watchlist by entering the underlying symbol and selecting the asset type.



Watch a short video to see how to create a Watchlist!

To add a Watchlist in Mosaic

Click the new page icon to add a page.

From the tools list select *Watchlist*.

Click Rename Current Watchlist to name the Watchlist if desired. Otherwise Watchlists are named Watchlist1, Watchlist2 etc.

Add tickers to the Watchlist.

To add a Watchlist in Classic TWS

From the Trading Tools menu select *Watchlist*.

Click Rename Current Watchlist to name the Watchlist if desired. Otherwise Watchlists are named Watchlist1, Watchlist2 etc.

Add tickers to the Watchlist.

Predefined Watchlists

The Predefined Watchlists function lets you create a new ticker Watchlist that is populated from a user-selected scanner. The list of tickers is automatically refreshed each time you log in.

Watch a short video to see how to create a Predefined Watchlist!

Market Depth

The Market Depth window is a minimized version of the full TWS Market Depth Trader. Note that when you open the Market Depth from within the Mosaic, it is automatically linked to the primary Mosaic windows group and is populated with that underlying. To unlink or link to other tools, use Windows Grouping.

To open the Market Depth

Mosaic: From the New Window drop down select *Market Depth*.

TWS: From the Trading Tools menu select *Market Depth*.

Market Depth lines are shaded by price group for easy distinction. It's easy to create an order at a specific price level by simply clicking a price in the Bid (left) or Ask (right) column.

To create a Market Depth order

1. Click a Bid or Ask price. In the Order Entry window, the order line is populated with the default Bid or Ask price.
2. Select Buy or Sell and modify the order parameters as desired.
3. Click Submit to transmit the order.

Time & Sales Data

You can elect to view the Time & Sales for any underlying.

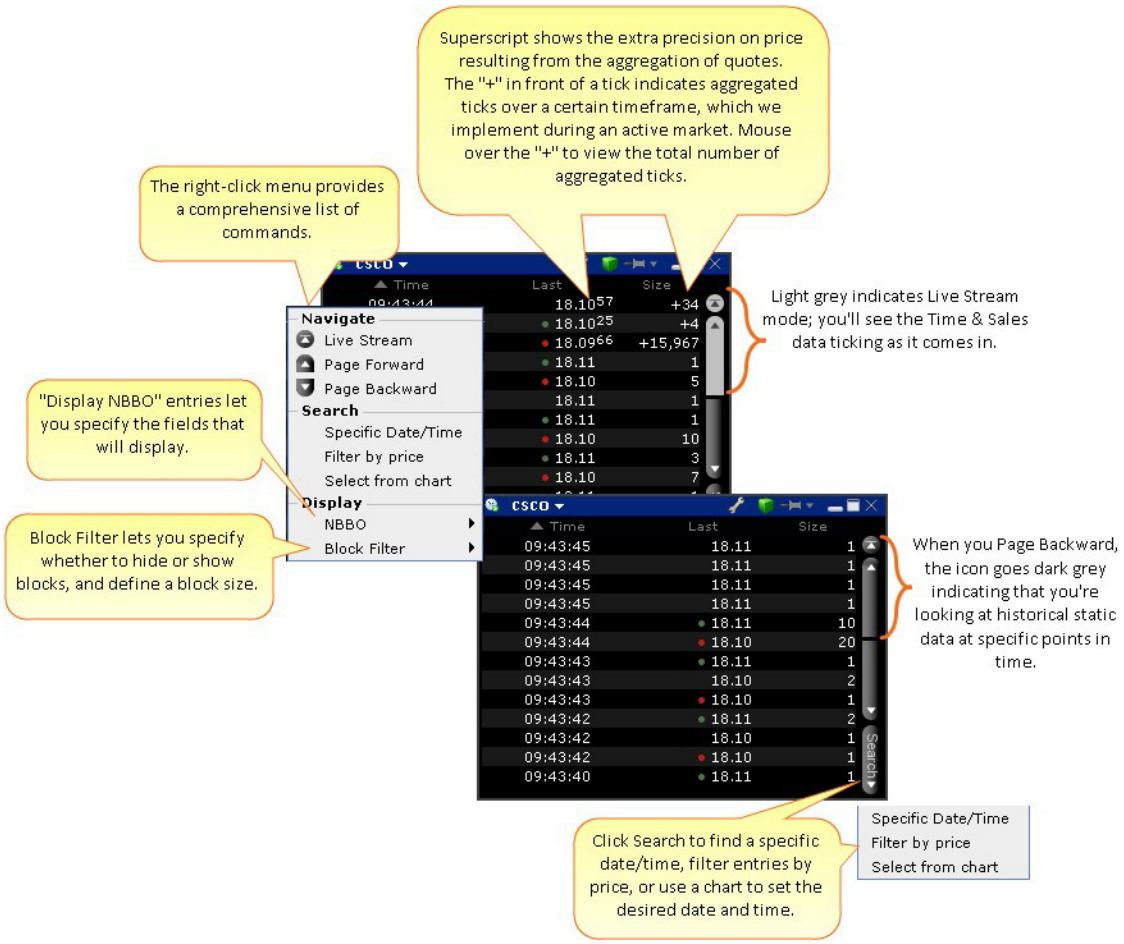
To use Time & Sales

1. Open the Time & Sales window.

   From Mosaic - From the New Window drop down select *Time & Sales*.

   From Classic TWS - From the Analytical Tools menu select *Time & Sales*.

2. To change the underlying, select a new ticker in a grouped window, or enter the ticker symbol in the entry field.



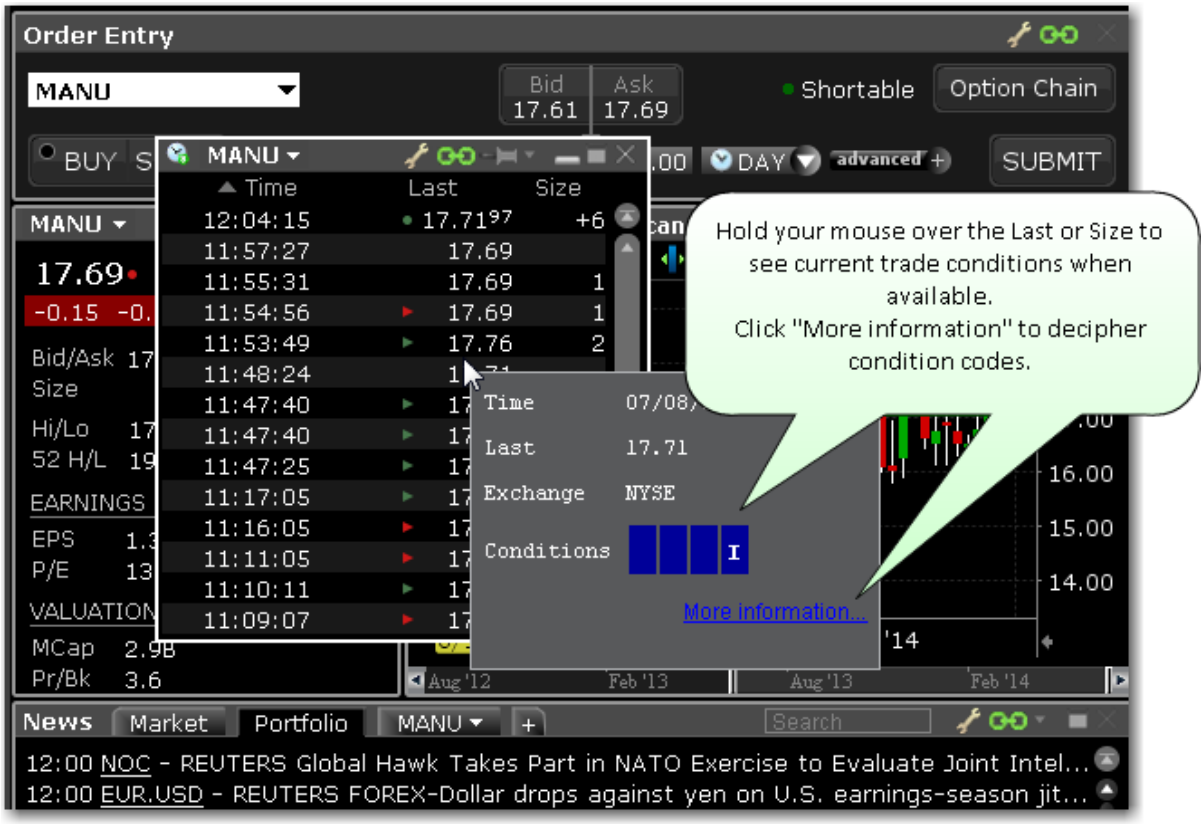
Select from chart

From the Time & Sales **Search** menu, choose *Select from chart*. The chart for the active underlying opens with the cursor in "Time and Sales" mode.

Click on the time/date you want reflected in the Time & Sales window.

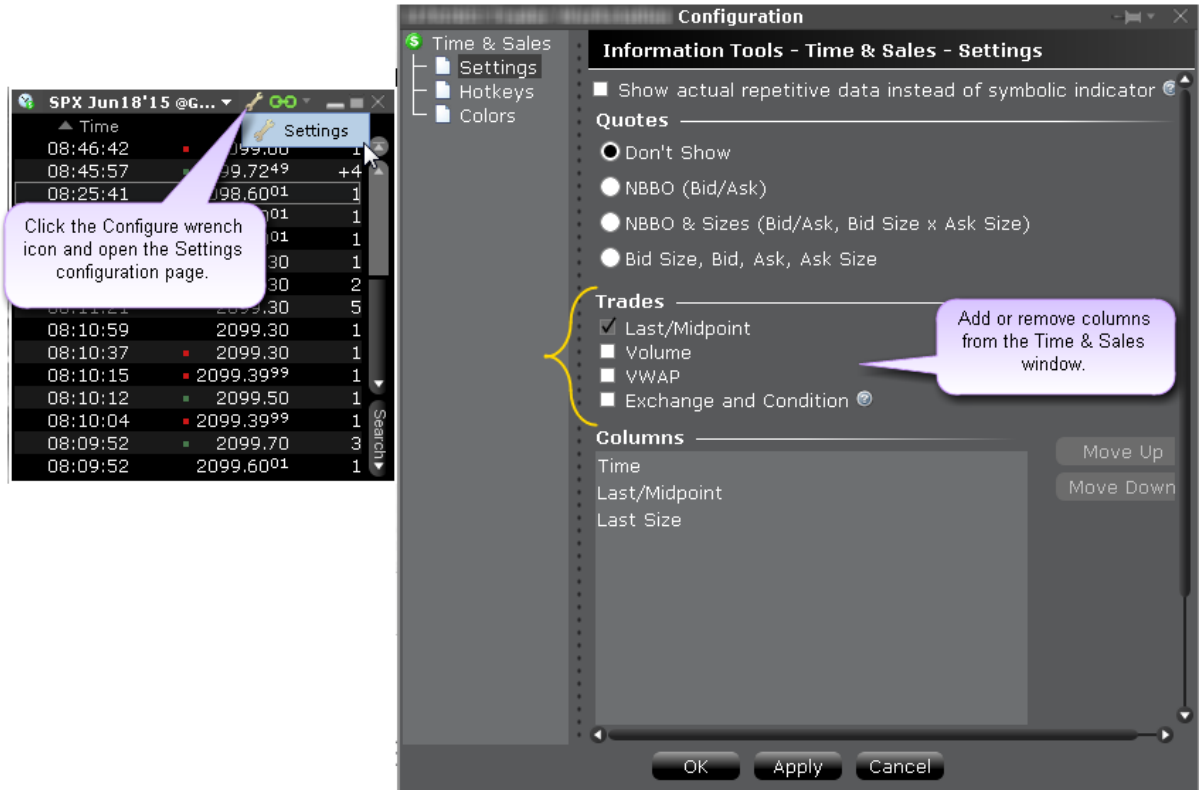
To search for a date and time from a chart, use the "Select from chart" from the Search button.

See Trade Conditions



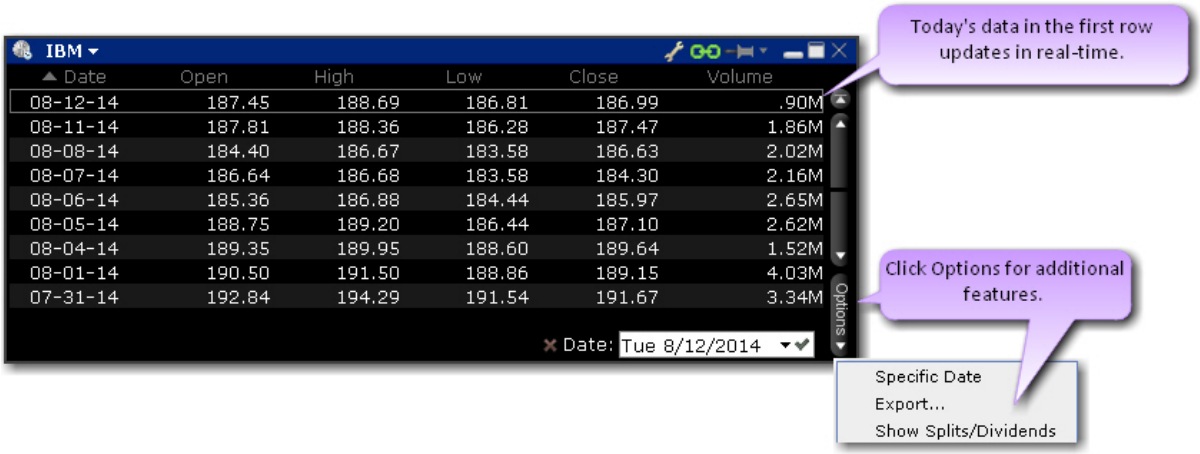
In addition to using the mouse over feature, you can elect to add the **Exchange and Conditions** field to the Time & Sales window to show trade conditions when available.

To configure the Time & Sales window or add/remove fields, access the Settings configuration page by clicking the wrench icon.



Price History Window

The Price History shows the Open, High, Low, Close and Volume by date, with the first line corresponding to today's date and using real-time market data. Use the scroll bars on the right side to scroll up and down by date, and use the "Options" button at the bottom of the scroll bar to go to a specific date/time, export the current table to Excel, and show splits/dividends by opening the Adjustments field.



Option Chains

The Mosaic option chains present a scaled-down version of features found in the full OptionTrader tool. The Option Chains are designed to fit into the smaller Mosaic workspace while still providing relevant option chain data and trading capability. Use the Strategy Builder to create option combos from within the Option Chain window.

To open the Option Chains

From the Order Entry window click *Option Chain*.

The Option Chain opens populated with the active group underlying.

To create an option order using the Option Chain

Click the Ask or Bid price for a call or put.

Calls are on the left, puts are on the right. Once you click a bid or ask price the order displays in the Order Entry window.

In the Order Entry window, modify the option price, quantity and order type as needed.

Click Submit to send the order, or click Advanced to check the margin impact, save the order or attach a hedge or other advanced order attribute.

The Quote Details Window

The Mosaic Quote Details window provides quick-glance data on a specific underlying.

For more information on the Mosaic, see The Mosaic Interface topic.

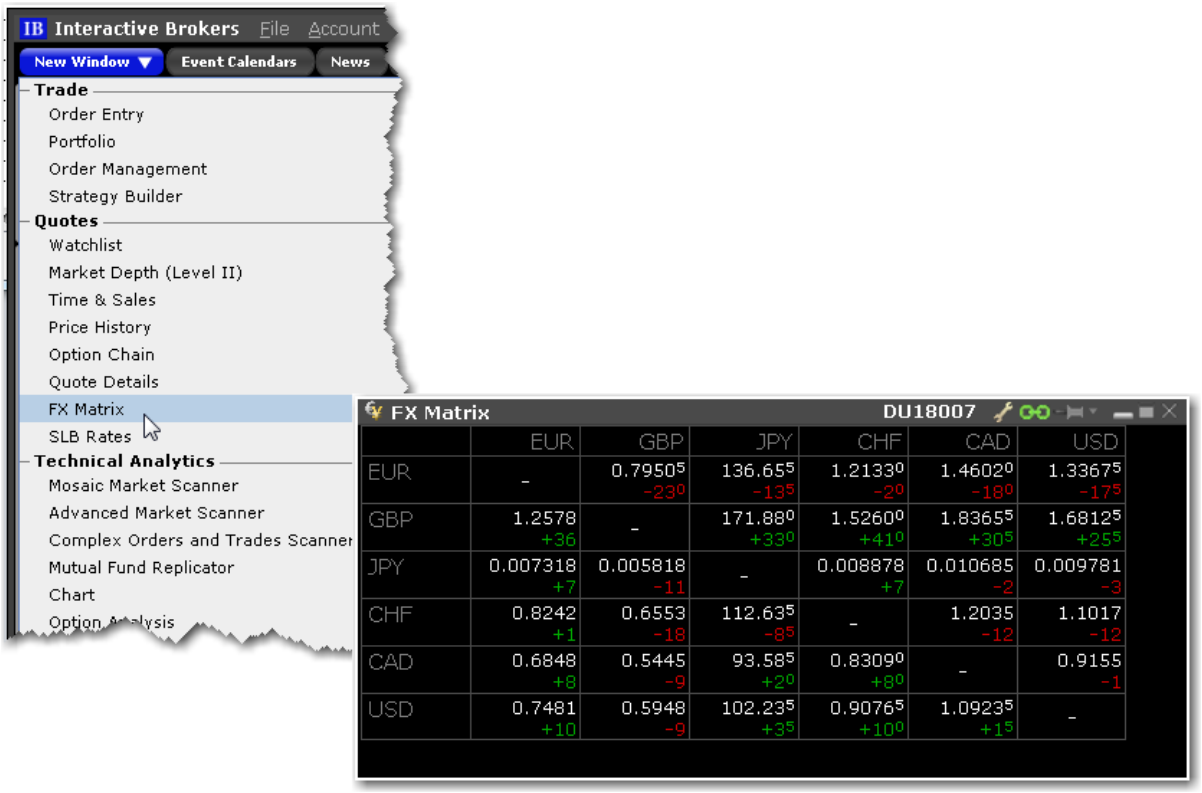
FX Matrix

The FX Matrix provides a convenient way to view FOREX pairs in bulk. The tool comes preloaded with a set of currencies and the currency list is customizable. Currencies are listed down the left and across the top; find the intersect of the desired currencies for the most current fx price.

To open the FX Matrix

From within Mosaic - From the New Window drop-down select FX Matrix.

From within Classic TWS - From the Trading Tools menu select FX Matrix.



To create orders using the FX Matrix

Click a box at the intersection of two currencies.

The FX order populates the Order Entry panel. Specify order parameters and click Submit.

For an all-in-one FX trading experience, use the FXTrader.

SLB (Stock Loan Borrow) Rates

The SLB Rates window provides charted daily rate history and intraday time & sales of stock loan fees.

Technical Analytics

Find market scanners, charts, labs and more in our robust offering of technical analytics.

Portfolio Builder **115**

Mosaic Market Scanners **118**

Predefined Mosaic Market Scanners **124**

Mosaic Market Statistics **129**

Advanced Market Scanner **130**

Complex Orders and Trades Scanner **131**

Mutual Fund/ETF Replicator **133**

Options Analysis **136**

Implied Volatility Tab **137**

Historical Volatility Tab **140**

Industry Comparison **141**

Portfolio Analyst **167**

Wall Street Horizon Data **167**

The Toolbox **169**

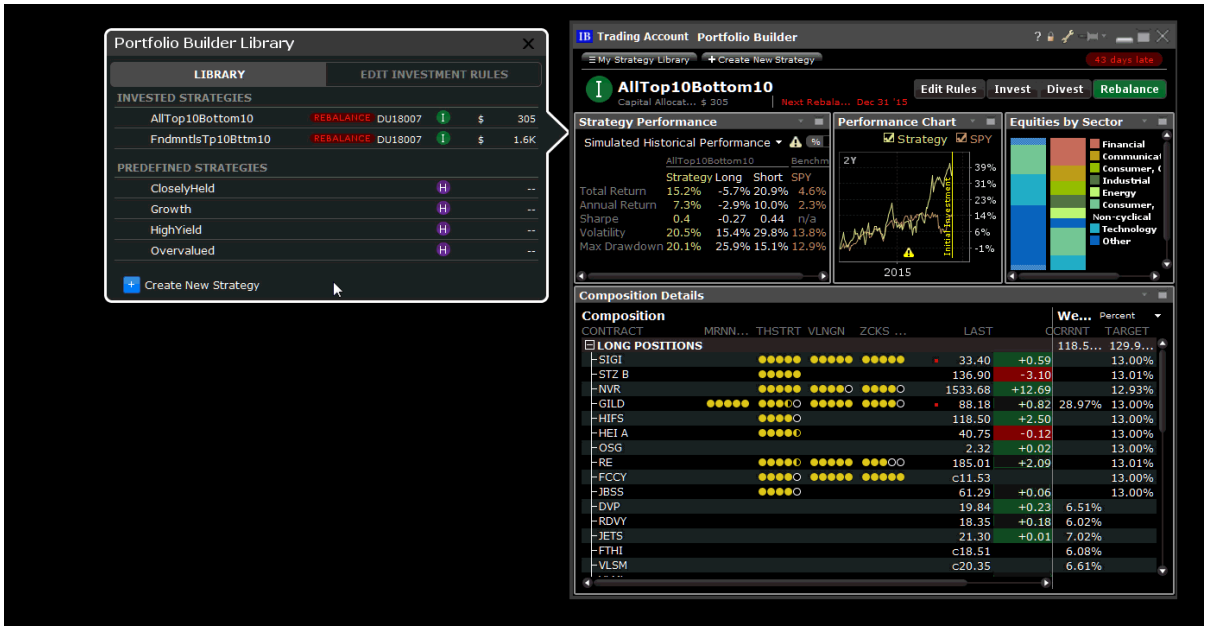
Portfolio Builder

Use Portfolio Builder to create investment strategies based on fundamentals data and top-tier research, back-test and adjust as needed and then invest in the strategy and tracks its performance within your existing portfolio.

To open Portfolio Builder

From the Mosaic New Window dropdown, select **Portfolio Builder.**

Select a pre-defined strategy in the Portfolio Builder Library sidecar to get started, and then click the **Customize** button to modify settings. Or click *Create New Strategy* and then click the **Edit Rules** button to modify settings. In the sidecar setup page, define the Portfolio Builder specifications. Results are reflected immediately in the main Portfolio Builder page as you create your portfolio strategy.



Choose from pre-defined templates including:

Closely Held - The universe of equities for this strategy includes stocks that have strong balance sheets (where Total Long Term Debt/Total Shareholder equity for most recent period is under 50) and high insider ownership (over 20%), and is sorted based on equally-weighted ratings from all analysts. After sorting, the 10 highest-ranked of these stocks comprise the long portion of the portfolio, and the 10 lowest-ranked comprise the short portion. The investment amount you allot to the strategy is allocated using a long/short ratio of 130%/50%, and is set to rebalance monthly.

Growth - The universe of equities for this strategy includes stocks that are regarded as "Growth" stocks (with an Earnings Per Share change over the last 12 months greater than 5%) at attractive valuations (price-to-earnings ratio under 12), and is sorted based on equally-weighted ratings from all analysts. After sorting, the 10 highest-ranked of these stocks comprise the long portion of the portfolio, and the 10 lowest-ranked comprise the short portion. The investment amount you allot to the strategy is allocated using a long/short ratio of 130%/50%, and is set to rebalance monthly.

High Yield - The universe of equities for this strategy includes stocks that are regarded as "High Yield" (with a dividend yield over the last 12 months greater than 3%) at attractive

valuations (price-to-earnings ratio under 15), and is sorted based on equally-weighted ratings from all analysts. After sorting, the 10 highest-ranked of these stocks comprise the long portion of the portfolio, and the 10 lowest-ranked comprise the short portion. The investment amount you allot to the strategy is allocated using a long/short ratio of 130%/50%, and is set to rebalance monthly.

Overvalued - The universe of equities for this strategy includes stocks that are regarded as "Highly Valued" (with a price-to-earnings ratio greater than 10) with strong performance (a year-to-date change greater than 10%), and is sorted by market capitalization. After sorting, the 10 lowest-ranked of these stocks comprise the long portion of the portfolio, and the 10 highest-ranked comprise the short portion. The investment amount you allot to the strategy is allocated using a long/short ratio of 130%/50%, and is set to rebalance monthly.

Define investment amount, universe and more.

Investment Amount and Long/Short Leverage -Specify an investment amount that will be used to calculate simulated historical performance, and then specify the percentage of that amount you want to allocate to creating long (up to 500%) and short (up to 300%) positions. Select Filter by Industry to display the Industry Filter. Specify industries to include in your hypothetical portfolio, and set limits on how much of each industry to include as long and/or short positions. Optionally define restrictions on all or specific stocks.

Universe - Define the universe of equities for the strategy to invest in by filtering by index and last price. Use the Add Additional Filters drop down list to choose from a myriad of other filter criteria including High/Low/Volume/History, Dividends, Fundamentals and Short Selling. Set a Minimum/Maximum range for all filters, and view the filter and min/max range graphically in the filter's histogram chart.

Investment Strategy - Sort the stocks in your investment universe by Market Capitalization, Analyst Ratings by top research providers, and more than 40 Other Criteria, four of which we select for you to get you started. Specify how the strategy should determine the long and short positions to include (i.e. go long in the top 10 ranked equities and short in the bottom 10), how positions should be sized and when to send a rebalance notification.

Backtest Settings - Set the time period over which back testing results are displayed and the index against which performance is charted. Elect to optimize the weight of positions based on highest return, lowest variance or highest Sharpe ratio, and the weight of ranking providers.

See results displayed in the tool to the right of the sidecar as you make your selections. Use the toggle switch next to the Simulated Historical Performance title to toggle the performance data display between percent of the initial investment and an absolute dollar value. Portfolio Builder scans are saved as individual tabs in the Monitor panel and in the scan library. You can close the scan tabs, but will always be able to open a saved scan at any time and recreate the tab from with the library. Edit the strategy at any time by selecting Edit Strategy at the top of the scan. Once you're satisfied with your investment rules and backtesting results, click the Invest button to create orders and invest in your custom portfolio. Once you've invested, the purple "H" badge changes to a green "I" badge.

For more details about creating the ideal custom portfolio strategy, see the Portfolio Builder Feature in Focus.

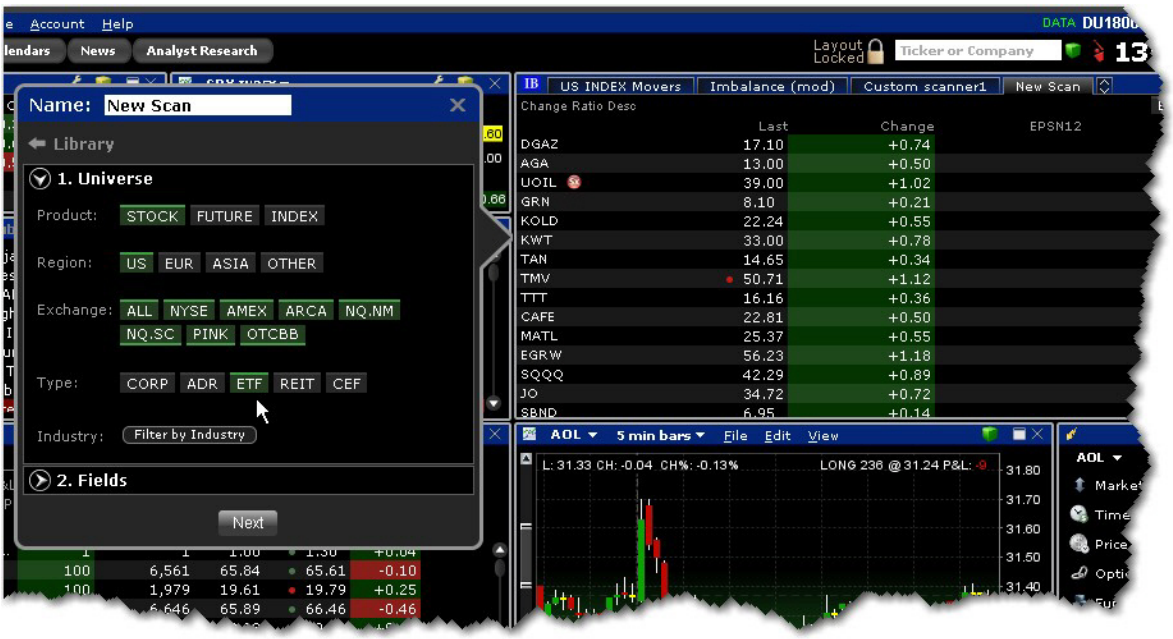
Mosaic Market Scanners

Create, customize, edit and view Mosaic Market Scanners from within the Mosaic workspace. You can create a new custom scanner, or choose a Predefined Mosaic Market Scanner.

To create a Mosaic Market Scanner

From within Mosaic, click the "+" sign in the Watchlist Plus window and select *Mosaic Market Scanner*.

In the Scanner Library, enter a name for the scan.



Define the scan "Universe" including the product(s), region(s), exchange(s), type(s) for stock, and optional industry filters. Click the item to include/exclude. Items in green are included. You can see the market scanner results in the scanner pane as you define the universe.

Use the Fields section to add, remove, and manage each displayed value. Use Dual Sort on one field to show the scanner sorted in both directions on the selected field. To change the order in which fields are displayed in the scan, drag and drop fields into the desired order.

Each field provides a "Display" and "Sort" selection. Use these selectors to customize and organize scan data.

"Display" Field Information

The Display selections let you specify how and if you want the values in the field displayed. Use the "Bar" and "Gradient" graphical indicators to provide at-a-glance information on the on the tickers in your market scan. Choose from the following:

Values - This selection will show the expected numerical value appropriate for the field. This is the default display.

Gradient - The Gradient uses a filled, colored circle with different shades to provide information on the field value. Red shades identify a downward move and green shows upward movement. Hold your mouse over a gradient to see the color-shading key.

Bar - The Bar chart displays the field value graphically using a colored bar to indicate the direction and degree of change. Red indicates negative and green indicates positive. The length of the bar indicates the degree of change (the value). Bars that have values outside the hand-picked range will display a very bright section at the end of the bar to signify values outside the range.

Line The Line chart displays the field value graphically using a colored line. You can elect to view up to three fields that use the Line chart view. Mouse over the "Lines ?" display in the scanner to see the key to the Line colors.

Values + Gradient - Displays two fields for a single value; one with the numerical value and one with the gradient.

Values + Bar - Displays two fields for a single value; one with the numerical value and one with the bar chart.

Values + Line - Displays two fields for a single value; one with the numerical value and one with the line chart.

None - The value for the field will not display. You can use the combination of a "none" value with a sort specification for a field to have the scanner search on and sort by a field without showing the field value, for example, Market Cap. If you set the sort to descending, the scan will return tickers with the highest market cap but will not show you the actual market cap.

"Sort" Field Information

The Sort field allows you to specify sort criteria AND determine the field on which the scan will be based. You can only select sort criteria for ONE field. Sort selections include:

Unsorted - This means that the field values are not ordered and that this field does not drive the scan.

Low to High - This means that the fields values are sorted ascending from lowest to highest, and that the scanner is driven by this field.

High to Low - This means that the fields values are sorted descending from highest to lowest, and that the scanner is driven by this field.

Dual Sort - This selection splits the scanner into two columns, with one column showing values sorted from Low to High, and the other showing values sorted

Click Done to complete the scan. Click *Edit Scanner* at the top right of the scan window to modify the scan at any time.

To ensure that your new scanners are saved, be sure to exit TWS while the Mosaic window is still open. If you close the Mosaic before you log out your changes will be lost. kjal'jf asdk'jf 'lkjds'lfj ljdf'dj fjf'

To open or edit an existing scanner

Click a tab on the Watchlist Plus window.

You can export the scan results to an Excel spreadsheet to allow you to use and manipulate the data.

To export scanner results

Complete defining the scanner criteria (or "Edit" the scanner).

At the bottom of the scanner window, click *Export Results*.

Enter a name for the file, and modify the *Save in* location if desired. Click *Save*.

The scan data is now saved in a .csv file. \

Predefined Mosaic Market Scanners

Delete this text and replace it with your own content.

To create a Predefined Scanner

From within Mosaic, click the "+" sign on the Watchlist Plus window and select *Mosaic Market Scanner*.

In the *Predefined Scans* section of the Scanner Library, select a region and choose a predefined scan, or use the Search field to find scans based on a keyword. Available scans are shown below:

Stock Scanners
Future Scanners
Index Scanners
Option Scanners

US	Europe	Asia
US Movers A dual-sorted scan that displays stocks with the greatest negative percent change (left side) and greatest positive percent change (right side).	**Europe Movers** A dual-sorted scan that displays stocks with the greatest negative percent change (left side) and greatest positive percent change (right side).	**Asia Movers** A dual-sorted scan that displays stocks with the greatest negative percent change (left side) and greatest positive percent change (right side).
US Active Displays stocks with the greatest daily volume, today.	**Europe Active** Displays stocks with the greatest daily volume, today.	**Asia Active** Displays stocks with the greatest daily volume, today.
US ROE Scans for major US corporations with the strongest return on equity over the past 12 months.		
US FUT Movers A dual-sorted scan that displays futures with the greatest negative percent change (left side) and greatest positive	**Europe FUT Movers** A dual-sorted scan that displays futures with the greatest negative percent	**Asia FUT Movers** A dual-sorted scan that displays futures with the greatest negative percent

US	Europe	Asia
percent change (right side).	change (left side) and greatest positive percent change (right side).	change (left side) and greatest positive percent change (right side).
US INDEX Movers A dual-sorted scan that displays indexes with the greatest negative percent change (left side) and greatest positive percent change (right side).	**Europe INDEX Movers** A dual-sorted scan that displays indexes with the greatest negative percent change (left side) and greatest positive percent change (right side).	**Asia INDEX Movers** A dual-sorted scan that displays indexes with the greatest negative percent change (left side) and greatest positive percent change (right side).
Dividend Yield Lists equities with the richest dividend yields.		
Imbalance A dual-sorted scan that lists the largest auction imbalances to buy and sell. Only displays values during NYSE and NASDAQ auctions.		
Reg Imbalance A dual-sort scan listing the largest ratio of Regulatory Imbalance to Average Daily Volume. Only displays values during NYSE closing auctions.		
Russia ET Displays the set of US ETFs whose holdings focus solely on Russian equities.		
P/C Volume		

US	Europe	Asia
A dual-sorted scan that displays equities with the highest and lowest put/call ratios.		
IV/HV A dual-sorted scan that identifies equities whose options currently have the highest and lowest implied volatilities vs. their historical 30-day volatilities.		
Alternative Energy Displays the list of US publicly traded corporations in the alternative energy industry.		
Option Volume Displays equities with the highest option volume today.		
IPO Stocks Displays equities sorted by their IPO date.	**IPO Stocks** Displays equities sorted by their IPO date.	**IPO Stocks** Displays equities sorted by their IPO date.
Complex Orders and Trades Returns all complex strategies on a specific underlying that have a native bid/ask quote or that have traded today. To find the strategy that has traded the most today, sort the results by Volume (click on the Volume column to sort).		

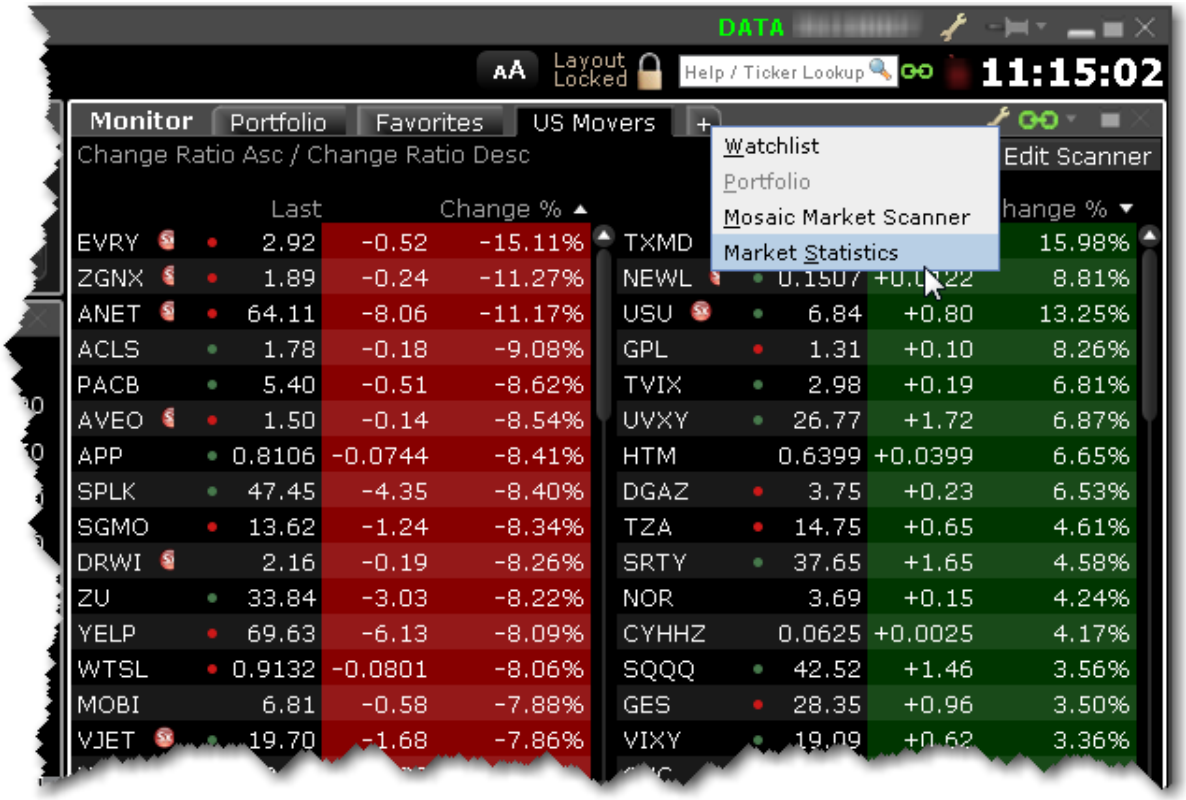
Mosaic Market Statistics

Market Statistics are sorted by exchange and display:

Advancing, declining and unchanged issues

Up, down, unchanged and total volume

TRIN and TICK indicators



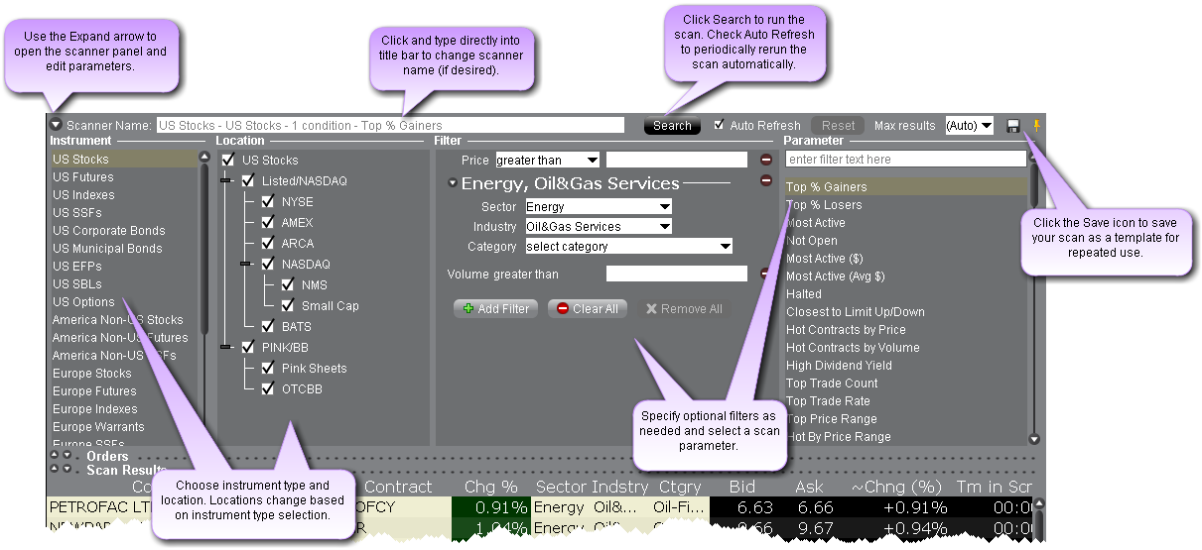
To run Market Statistics

From the Mosaic Monitor panel, click the "+" sign to add a window.

Select *Market Statistics.* A new tab named "Market Statistics" is created.

Advanced Market Scanner

The Advanced Market Scanners quickly scan of relevant markets and return the top contracts based on the instrument, parameter and filtering criteria you define. In addition, you can transmit orders directly from a scanner, and save a scan as a template for later use.



To create an Advanced Market Scanner

From Mosaic - From the New Window drop down select *Advanced Market Scanner*.

From Classic TWS - From the Analytical Tools menu select *Advanced Market Scanner*.

Use the icons to the far right of the command to open the scanner as a new window (recommended) or as a new tab.

Define Scan Criteria

1. Select an instrument type from the **Instrument** list. Note that the scan title changes with each selection to reflect the criterion you select.

2. Instruments are defined by region. “Global” scanners can scan an instrument across global markets.
3. Choose the location/exchange whose data will be included in the market scan. The valid locations change in response to the instrument you selected in Step 1.
4. Use the **Filter** fields to narrow the contracts that will be returned in your query by characteristic. For example, you may only want to see the Top% US Stock Gainers within a certain P/E range, or with a capitalization above 2,000,000.
5. Choose a Scanner parameter, such as *Top% Gainers*, *Hot Contracts by Price* or *Top Option Implied Volatility* in the **Parameter** field.
6. Click *Search* to return the top contracts that meet your search criteria. Data is updated every 60 seconds.

Most scans return the top 50 contracts by default. You can specify the maximum number of returns using the Max results field.

To save a scanner template

1. After you have defined the scan criteria, click the "Save" disk icon to the right of the **Max Results** field.
2. Select *Save Template*.
3. Enter a descriptive file name and click *Save*.

To use a saved scanner template

1. From within a Market Scanner page, click the "Save" disk icon to the right of the **Max Results** field.
2. Select *Load Template*.
3. Select the scanner file you want to use and click *Open*.

Complex Orders and Trades Scanner

You can create this scanner individually, or as a tab in the Predefined Mosaic Market Scanners . The Complex Orders and Trades scan returns all complex combination strategies on a specific

underlying that have a a native bid/ask quote or that have traded today. To find the strategy that has traded the most today, sort the results by Volume (click on the Volume column to sort).

Contract	Volume	Bid	Ask
Aug29 270/275 Bull Call	1	1.30	2.15
+ Aug 250 - Aug22 250 - Aug 255 + Aug22 255 Call	1	-0.05	1.45
Sep 310/320 Bull Call	3	0.28	0.59
Aug22/Aug29 247.5 Reverse Calendar Put	1	-1.45	-1.15
Dec 190/2x165 Bull Put	20	-0.88	-0.25
Aug22 232.5/227.5 Bull Put	5	-0.18	0.06
+ Aug 250 + Sep 250 - Aug 240 - Sep 255 Call	1	-7.40	-5.80
Aug22 245/242.5 Bull Put	4	-0.35	-0.09
Sep 175/215 Bull Call	5	37.15	40.90
Sep 230/290 Strangle	1	5.69	5.86
Dec 270/285 Bull Call	1	4.80	6.85
Aug29 250/247.5 Bull Put	2	-0.82	-0.40
Aug 250/252.5 Bull Call	8	2.30	2.75
Aug29 250/255 Bull Call	1	2.45	4.10
Sep 210/220/230 Butterfly Put	1	0.29	0.57
Aug/Sep 270 Calendar Call	2	8.24	8.44
Aug29 255/265 Bull Call	1	5.20	6.75
Aug22 275/Aug29 270 Diagonal	1	-3.74	-3.07
Aug22 262.5/272.5 Bull Call	1	3.72	4.08
Aug 237.5/232.5 Bull Put	5	-0.07	-0.03
Aug 255/235 Bull Put	6	-0.70	-0.61
Sep05 260/250 Bull Put	1	-3.95	-3.10

To open the Complex Orders and Trades scanner

From Mosaic - From the New Window drop down select *Complex Orders and Trades Scanner*.

From Classic TWS - From the Analytical Tools menu, select *Complex Orders and Trades Scanner*.

Mutual Fund/ETF Replicator

The Mutual Fund/ETF Replicator finds a single or compound ETF whose performance parallels that of a user-specified Mutual Fund or ETF, but whose fees are generally lower. Once you enter the contract or symbol and the investment amount, the replicator scans the market and returns the top single and compound ETFs in the recommended quantity (based on the investment amount) whose performance most closely follows that of your submitted asset. The Performance Analysis and Return Comparison panels display performance correlation characteristics including the correlation, tracking error and a comparison of management fees.

Use the Mutual Fund/ETF Replicator

Open the Mutual Fund/ETF Replicator.

From Mosaic - From the New Window drop down select *Mutual Fund/ETF Replicator*.

From Classic TWS - From the Analytical Tools menu select *Mutual Fund/ETF Replicator*.

Enter the fund or ETF symbol, or click Browse Mutual Funds to search by fund family.

Modify the investment amount, if desired.

View comparison between returned ETF(s) and the original entered contract.

This comparison is intended for information purposes only, and does not constitute a recommendation or solicitation to buy or sell securities. There is no guarantee that any correlation displayed within this tool will continue into the future, or that the displayed ETFs will have a similar investment return into the future as the entered fund or ETF. Customers are solely responsible for their own trading decisions.

You can define parameters to display a real-time line or bar chart for all supported contracts.

Charts are not supported for mutual funds.

Some of the features of a real-time chart are captured in the above image.

1. **Chart Dashboard/Menu** allows you to quickly change the underlying, time period and chart display type and Save Templates (**File** menu) access Chart Parameters, Studies, and Global Configuration (**Edit** menu) and easily control hide/display attributes of the chart's components (**View** menu)
2. **Chart Toolbar** - Provides quick-click access to add commentary, edit the chart, zoom in and out, change the cursor to a crosshair, increase or decrease the bar width for a bar chart, and open Global Configuration.
3. The customizable **Quote Zone** makes relevant data immediately visible on the chart. To add/remove fields from the Quote Zone, right-click and select *Configure Quote Zone*.
4. **Action Buttons** - Click a button to arm the cursor with the selected function. Click in the

chart at the desired price level to create a price alert, sell order or buy order at the selected price. The order displays on the chart and in the ChartTrader panel if you have that opened (via Chart Parameters).

5. **Hot Buttons** - Check the "Armed" checkbox to activate Instantaneous Transmission. Click a button to arm the cursor with the selected function. Click in the chart at the desired price level to **immediately transmit** a price alert, sell order or buy order at the selected price. Enable via the *Hot Buttons* checkbox in the **Additional Data and Features** section of the Chart Parameters window.
6. **Vertical Scrollbar** allows you to quickly increase or decrease the visible price range. Once you use the scrollbar, the price update is locked and you must unlock using the price icon for real-time updates. The blue arrow icon allows you to add a degree of vertical buffer to the chart with each click.
7. The **Bar Details Zone** provides detailed information for a specific bar in the chart. We have displayed it for information only, since the image depicts a line chart.
8. If enabled, the ChartTrader displays once you have created an order using the Buy or Sell hot buttons. Enable via the *ChartTrader* checkbox in the **Additional Data and Features** section of the Chart Parameters window.

To create a chart

From Mosaic - From the New Window drop down select *Chart*.
From Classic TWS - From the Analytical Tools menu select *Chart*. Enter Chart Parameters.

Options Analysis

Use or options labs to create the best strategies for your portfolio.

Volatility Lab

Comprehensive toolkit of volatility tools the provide a snapshot of past and future readings for vol on a stock, its industry peers and soem measure of the broad market.

Volatility Lab

A comprehensive toolkit of volatility tools providing a snapshot of past and future readings for: volatility on a stock, its industry peers and some measure of the broad market.The Volatility Lab comprises three tabbed workspace snapshots for Implied Volatility, Historical Volatility and Industry Comparison.

To open the Volatility Lab

From within Mosaic, use the New Window drop down.

From within TWS, use the Trading Tools window.

Implied Volatility Tab

The Volatility Lab opens to the Implied Volatility layout by default. Move between layouts (Implied Volatility, Historical Volatility, Industry Comparison) using the tabset along the bottom frame. The Implied Volatility layout comprises five windows:

1 Implied Volatility Window

This displays the measure of anticipated volatility of the stock using the prevailing option

premium. The plot allows the user to display the IV reading for as many or as few of the available last trading days. Each is color-coded with the reading for implied volatility measured on the right axis and the stock price is traced using the grey line. This look-back view of IV can be plotted for 1 week, one, two and six months, one year or a custom period. The user may be able to immediately tell from the readings whether or not implied volatility is relatively high in any given month, possibly caused by expected earnings announcements or uncertainty over possible changes to dividend payments.

2 Volatility Profile Window

Shows the Historical and Implied readings of volatility side-by-side, over time. Either measure can be removed from the screen by clicking on the checkbox. Compare actual stock volatility to the forward measure apparent through option premium, and gauge how far the two measures deviate over time in response to market shocks, or as the underlying share prices track higher or lower. The window allows the user to look back over a one-year period. Use the Configure Wrench icon to change modes. In the Volatility Profile window the default view compares historic and implied readings of volatility but the alternate mode, Volatility Profile Comparison, shows the readings of implied volatility on industry comparable stocks.

3 Multi-Expiry Skew

Displays the “volatility smile” created by the premium paid for options at selected expirations. Because an option’s premium is significantly comprised of the reading of implied volatility, an option trader is concerned by the respective cost of calls and puts at strike prices above and below the prevailing price of the underlying shares. When investors are more willing to pay higher premiums for in-the-money calls or out-the-money puts, the volatility curve may show a skew to price points below the prevailing share price. Conversely if options are priced higher for out-of-the-money calls and in-the-money puts, the volatility curve might be skewed higher to points above the prevailing share price. Use the Configure Wrench icon to change between Multi-expiry Skew, Time Lapse Skew (described in #4 below) and Skew Comparison (which allows the user to view the skew on a specified expiration date for the ticker and its industry comparables, any of which can be unchecked above the plot. Because we could be viewing

stocks or an index with hugely different prices, the x-axis defaults to Moneyness rather than any individual share price).

You change the display for Multi-expiry and Time Lapse skews to compare Moneyness or Strike. Moneyness is the position of the strike to the underlying, while the Strike option will display the actual set of available strike prices on the x-axis. Use the Custom Calendar drop-down menu in the upper right of the screen to drive the same view to any available prior date. The user can then compare how long a particular condition may have been in place. Note also that the display can be changed between Moneyness and Strike using the Configure Wrench icon.

4 Time lapse Skew

An option trader may be interested in knowing how such a price skew has evolved. By using the Time Lapse Skew panel, the user can plot the current volatility skew for a selected expiration and compare to any prior period reading of one day, one, two and three weeks and one month ago. This allows investors to identify changing conditions in the option market or perhaps to identify a catalyst that caused skew to occur or disappear.

5 Open Interest

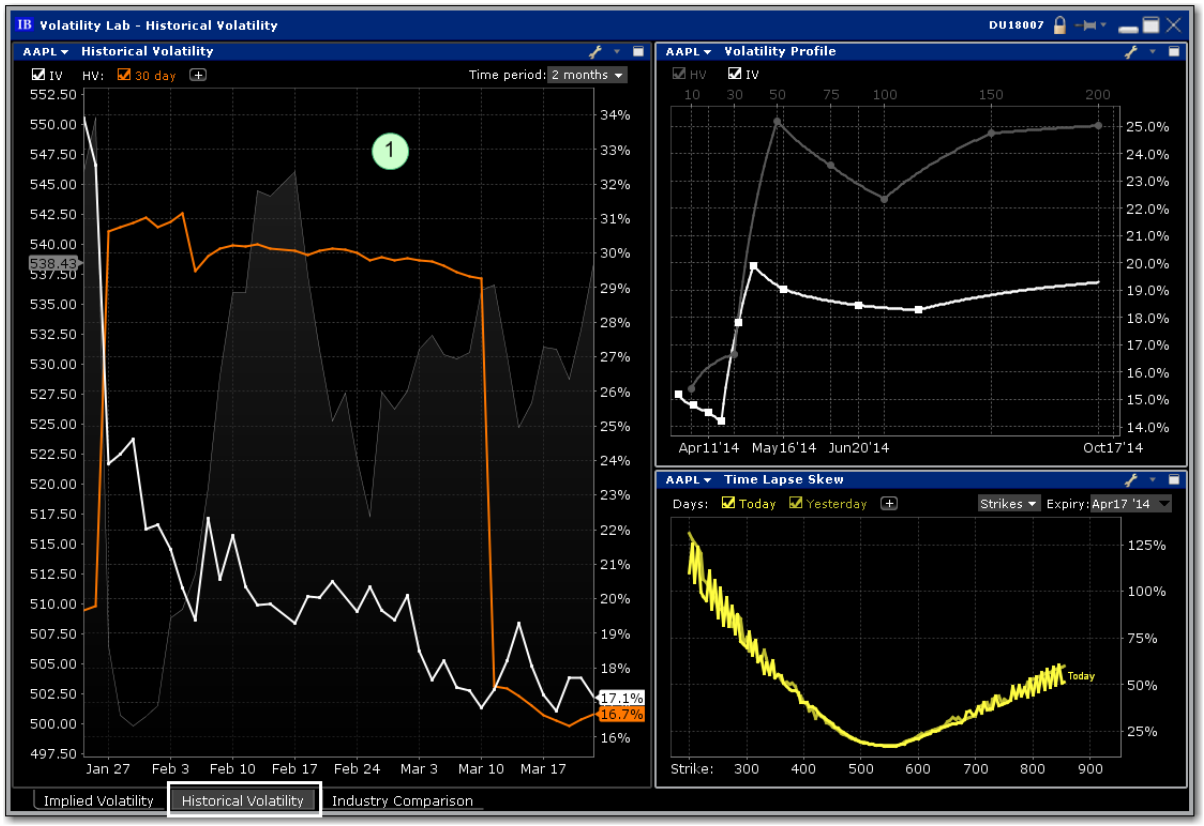
view current or historic open interest for available contract months and strikes. Choose any available expiry and view the combined put and call reading of open interest. The plot can be restricted to specific strikes or will default to open interest across all strikes. Open interest measures investor enthusiasm for a particular stock and also identifies strikes where most or least liquidity might be available. Note also that in the upper right corner there is a calendar drop-down menu that allows the user to view open interest on chosen months or strikes from prior dates. Just pick the time period and select that date.

Use the Configure Wrench icon to change modes between Open Interest and Option Volume. The Chart allows the user to determine whether to see volume or open interest for Puts and Calls combined in one chart (Puts + Calls) or broken out into bull and bear contracts in two

charts (Puts & Calls). Use the calendar dropdown to review activity or positioning from any prior calendar date.

Historical Volatility Tab

This tab comprises the Historical Volatility window, along with the Volatility Profile and Time Lapse Skew, both of which are described above (#2 and #4).

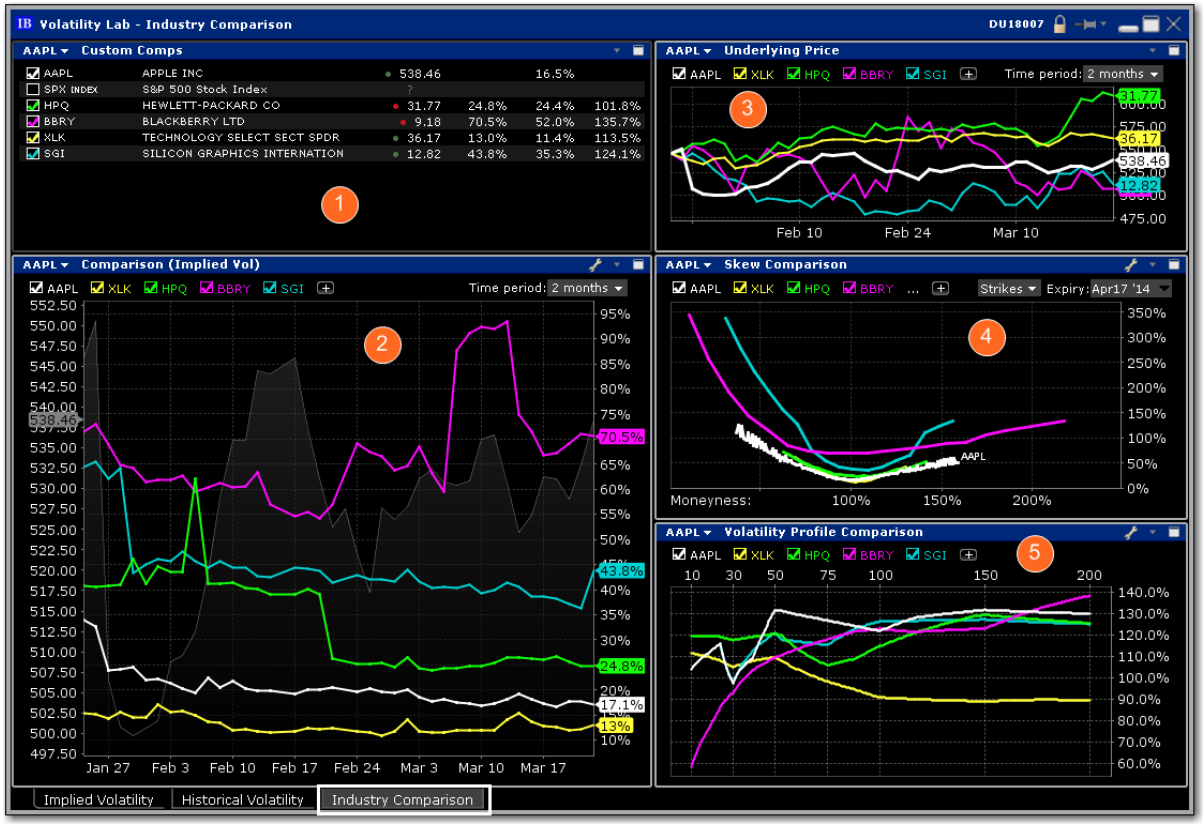


1 Historical Volatility

This plot defaults to the 30-day reading of both implied and historical volatility plotted against the share price over a custom period. By clicking on the plus arrow the user can select from an array of calculations to view historical volatilities. Investors may want to see how high and for how long volatility measures rise or fall when they suffer significant swings driven by aberrations to the trend for the underlying share price. The grey line in the background plots the reading for the underlying share price.

Industry Comparison

The five-window Industry Comparison workspace provides comparison of a stock's volatility measures against those of comparable companies in the same industry group.



Custom Comps

The company is grouped in the upper pane along with its competitors with a share price and volatility comparison. Check related companies to see their data reflected across all windows.

Implied Volatility Comparison

The measure of volatility for each of the selected companies appears below in the Implied Volatility Comparison window along with the share price of the company under analysis, which is plotted as a gray line in the background. Click the "+" sign to add competitors or the comparison to the S&P 500 index. Note also that you can add a company that is not considered

a competitor by TWS by entering its ticker symbol into either of the Custom input fields. This feature allows you to compare the implied volatility display on an industry against that of a stock in another field. The default time frame for this chart is two-months. Use the Time Period drop-down menu to choose from the available time frames to tailor the view. Use the Configure Wrench icon to change modes.

3 Underlying Price

In addition to displaying volatility comparisons, this tab allows the user to compare the share price performance of the chosen underlying with its peer group, the S&P 500 index, and other custom-defined companies. Any tickers you may have entered in the Volatility Comparison plot will show up here, but these can be removed by deselecting them above the chart. Note also that the time period is configurable by selecting the drop-down menu in the upper right of the chart.

4 Skew Comparison

This plot is discussed above.

5 Volatility Profile Comparison

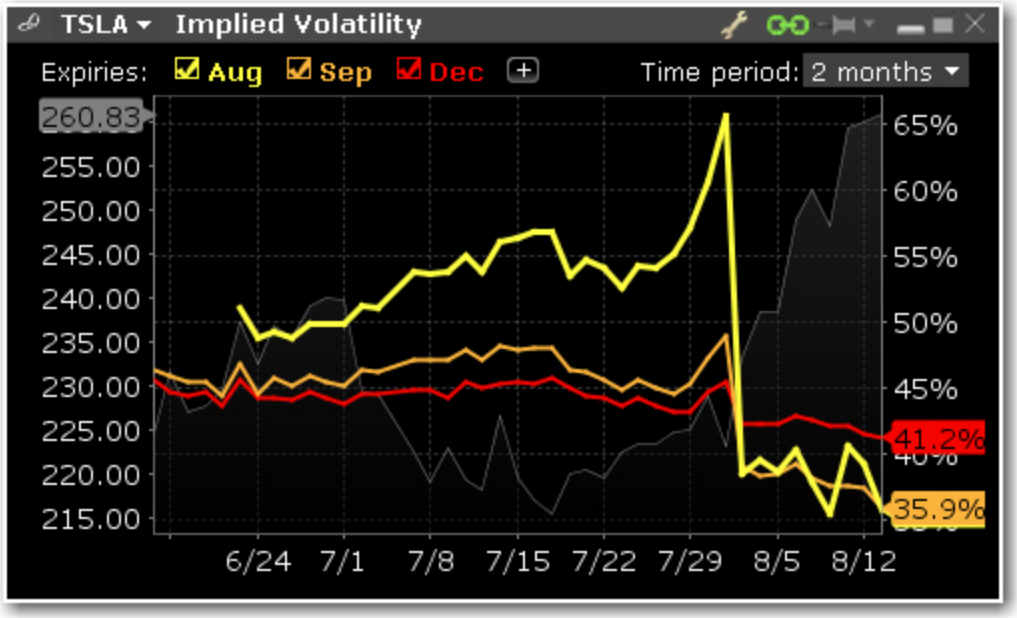
This plot is discussed above.

Volatility Over Time

Implied Volatility Window

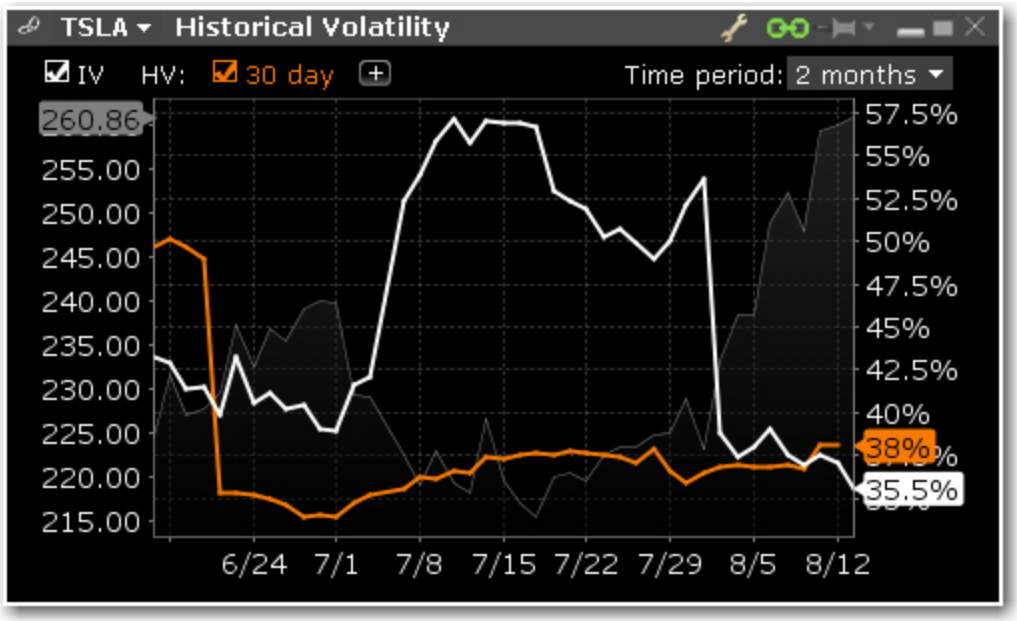
This displays the measure of anticipated volatility of the stock using the prevailing option premium. The plot allows the user to display the IV reading for as many or as few of the available last trading days. Each is color-coded with the reading for implied volatility measured on the right axis and the stock price is traced using the grey line. This look-back view of IV can be plotted for 1 week, one, two and six months, one year or a custom period. The user may be able to immediately tell from the readings whether or not implied volatility is relatively high in

any given month, possibly caused by expected earnings announcements or uncertainty over possible changes to dividend payments.



Historical Volatility

This plot defaults to the 30-day reading of both implied and historical volatility plotted against the share price over a custom period. By clicking on the plus arrow the user can select from an array of calculations to view historical volatilities. Investors may want to see how high and for how long volatility measures rise or fall when they suffer significant swings driven by aberrations to the trend for the underlying share price. The grey line in the background plots the reading for the underlying share price.



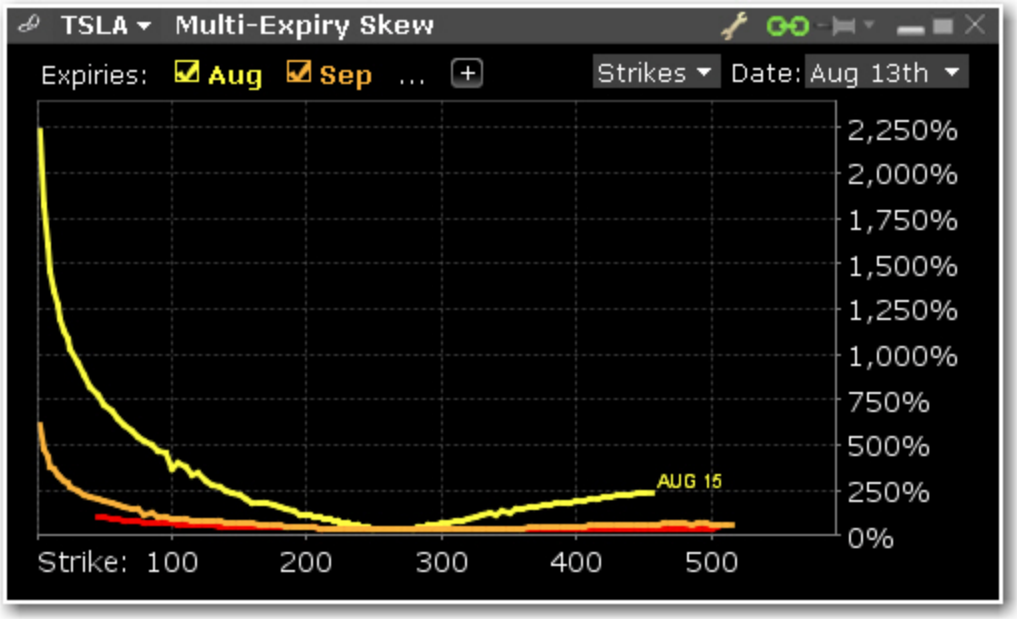
See the complete Volatility Lab.

Volatility Skew

Multi-Expiry Skew

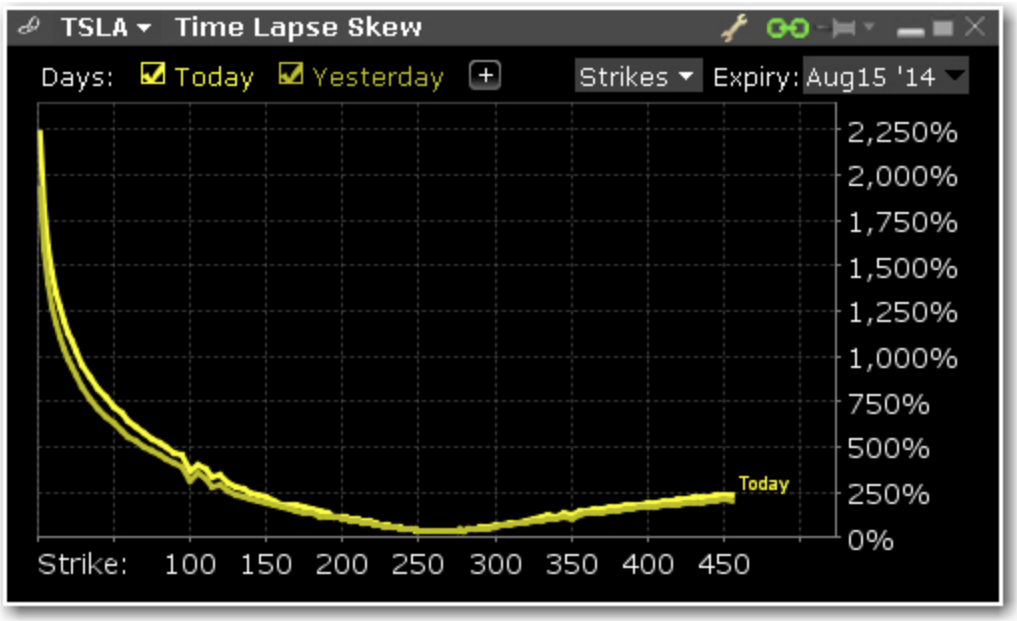
Displays the “volatility smile” created by the premium paid for options at selected expirations. Because an option’s premium is significantly comprised of the reading of implied volatility, an option trader is concerned by the respective cost of calls and puts at strike prices above and below the prevailing price of the underlying shares. When investors are more willing to pay higher premiums for in-the-money calls or out-the-money puts, the volatility curve may show a skew to price points below the prevailing share price. Conversely if options are priced higher for out-of-the-money calls and in-the-money puts, the volatility curve might be skewed higher to points above the prevailing share price. Use the Configure Wrench icon to change between Multi-expiry Skew, Time Lapse Skew (described in #4 below) and Skew Comparison (which allows the user to view the skew on a specified expiration date for the ticker and its industry comparables, any of which can be unchecked above the plot. Because we could be viewing stocks or an index with hugely different prices, the x-axis defaults to Moneyness rather than any individual share price).

You change the display for Multi-expiry and Time Lapse skews to compare Moneyness or Strike. Moneyness is the position of the strike to the underlying, while the Strike option will display the actual set of available strike prices on the x-axis. Use the Custom Calendar drop-down menu in the upper right of the screen to drive the same view to any available prior date. The user can then compare how long a particular condition may have been in place. Note also that the display can be changed between Moneyness and Strike using the Configure Wrench icon.



Time lapse Skew

An option trader may be interested in knowing how such a price skew has evolved. By using the Time Lapse Skew panel, the user can plot the current volatility skew for a selected expiration and compare to any prior period reading of one day, one, two and three weeks and one month ago. This allows investors to identify changing conditions in the option market or perhaps to identify a catalyst that caused skew to occur or disappear.



See the complete Volatility Lab.

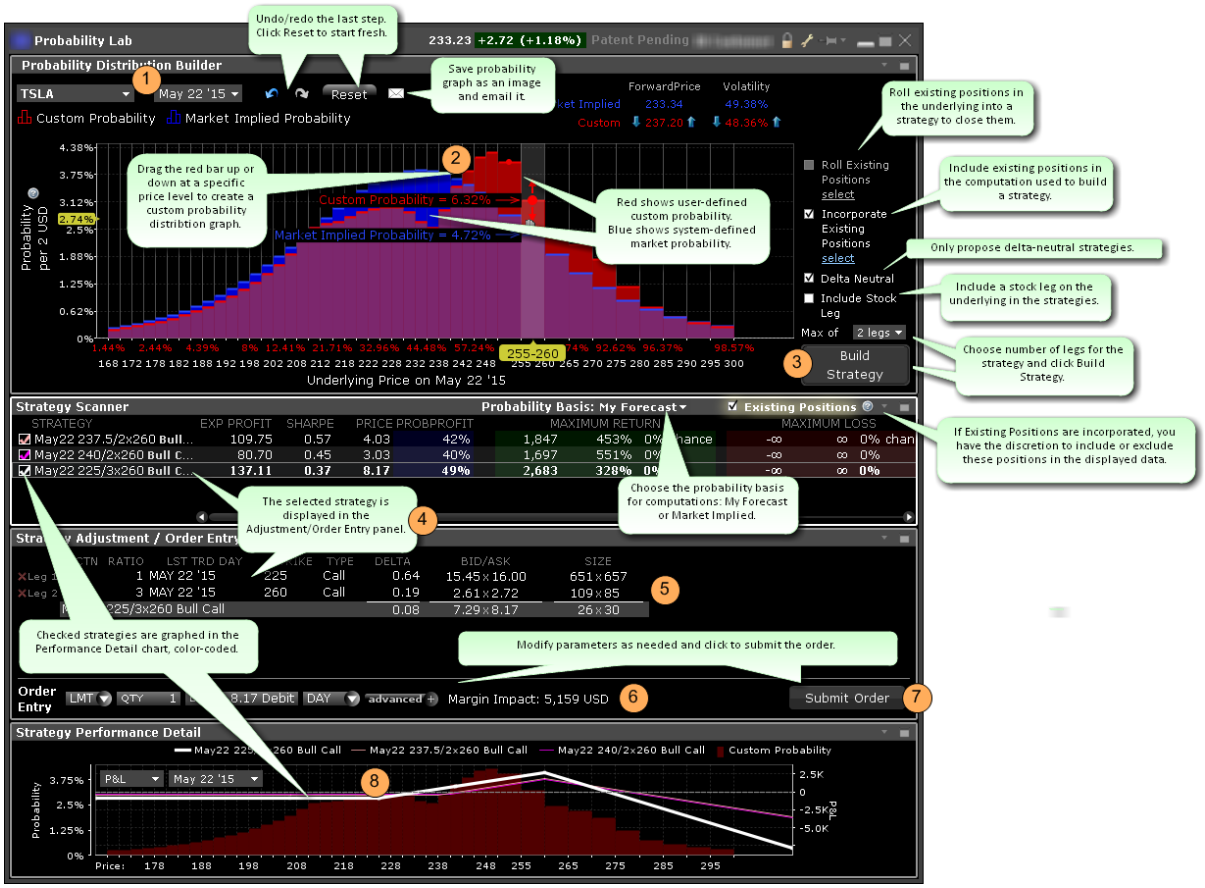
Probability Lab^{SM} (Patent Pending)

Use the Probability Lab to customize the Probability Distribution based on your price or volatility forecast for the underlying ticker. Analyze and trade any of the option combinations suggested from your probability distribution.

To open the Probability Lab

From within Mosaic, use the New Window drop down.

From within TWS, use the Trading Tools window.



To use the Probability Lab

Enter a ticker and select a last trading day. The market defined Probability Distribution (PD) is built.

In the **Probability Distribution Builder**, grab the red bar in any price interval and pull it up if you believe there is a higher probability of the stock price ending up in that price interval at the expiration date specified. Pull it down if you believe there is a lesser probability of the stock price ending up in that interval at the expiration date specified.

All probabilities must add up to 1.00 so you will see the other levels adjust when you make changes in any price interval.

You can also adjust the probability using the up/down arrow icons near the values, or by dragging the hand icon to the left or right within the distribution graph.

When you are satisfied with your custom PD, specify desired parameters, select the minimum number of legs you want in your option strategy and click *Build Strategy*.

a. ***Roll Existing Positions*** *- When applicable, allows you to select existing positions in the underlying to include in the strategy. The Strategy Builder will attempt to create a strategy that gets you out of the selected position. Only positions that expire before the selected last trading day will be displayed, and only two positions can be rolled. If the user-defined max number of legs below is too small, it will be adjusted. Cannot be used in conjunction with Incorporate Existing Positions feature.*
b. ***Incorporate Existing Positions*** *- Check to have your existing positions in the underlying included in the computation used to build a strategy. Once you have built the strategies, you can view the data for the strategies both with and without the selected existing positions being included by checking/unchecking the "Existing Positions" feature in the blade of the Strategy Scanner. Cannot be used in conjunction with Roll Existing Positions feature.*
c. ***Delta Neutral*** *- Check to only build strategies that are delta neutral.*
d. ***Include Stock Leg*** *- Check to have the underlying stock included as a leg in the returned strategies.*

The **Strategy Scanner** (in the panel below the PD Builder) will display three potential combination option strategies that complement your customized PD. For each strategy (and based on your custom PD) the selector displays the Expected Profit, Sharpe ratio (which shows the ratio of expected profit to variability of outcome), net debit or credit, percent likelihood of profit, max potential profit and loss and the associated probabilities, and the margin requirement if you were to trade the strategy.

To create an order, in the **Strategy Scanner** select the strategy. To view color-coded representations in the **Strategy Performance Detail** graph, check the strategy.

a. ***Probability Basis*** *- Choose the probability basis for calculations using the drop down selector.*
b. ***Existing Positions*** *- If you have elected to Include Existing Positions when building strategies, you now have the option to view data (including P&L in the performance details graph and data point in the strategy scanner) both including and excluding your existing positions in the underlying using the Existing Positions checkbox that will display next to the Probability Basis drop down list. Check to include; uncheck to exclude.*

In the **Strategy Adjustment/Order Entry** panel, adjust any parts of the strategy by clicking in a field in the leg you want to modify. For any leg, you can modify the action, ratio, last trading day, strike or type.

Once the legs are defined, use the Order Entry line to modify any order parameters. Use the advanced order area to create a hedging stock order and to attach order attributes including iceberg and all or none.

When the order is ready to be sent, click **Submit**.

Use the **Strategy Performance Detail** graph to see the predicted profit or loss that would result from the selected trade if your forecast is accurate, along with the associated probability that corresponds to each price point. Use the drop down list to select Delta, Gamma, Vega, Theta or Rho for display.

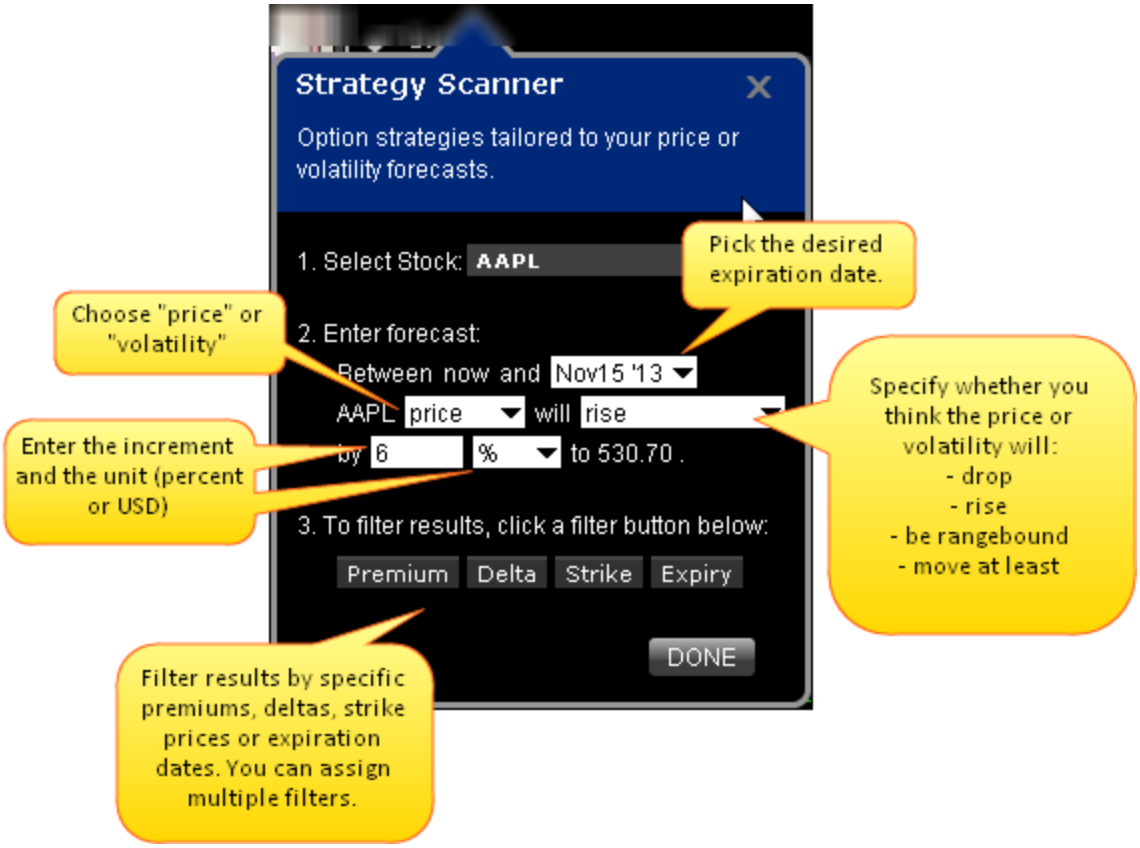
Option Strategy Lab

Enter your price or volatility forecasts for an underlying and the Option Strategy Lab will return a list of single and complex option strategies that will potentially profit based on the forecast.

To open the Option Strategy Lab

From within Mosaic, use the New Window drop-down and select *Option Analysis and then Option Strategy Lab*.
From within Classic TWS, use the **Trading Tools** menu and select *Option Strategy Lab*.

When you first open the Option Strategy Lab, the Strategy Scanner opens to allow you to enter your forecast data.



To populate the Option Strategy Lab

In the Strategy Scanner, enter the underlying.

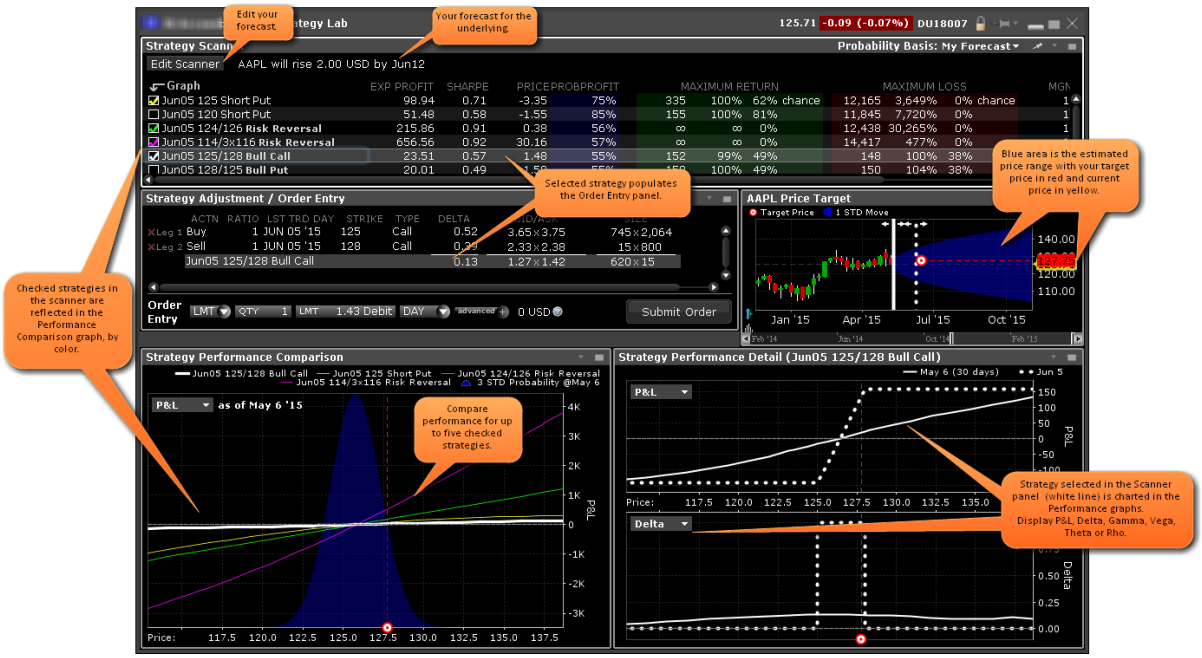
Define your forecast, including:

The range, between now and a selected last trading day.
Price or Volatility as the forecast driver.
The predicted action of the price or volatility. Choose from:
- *Drop*
- *Rise*
- *Be rangebound*
- *Move at least*

The increment and unit (choose from value or percentage)

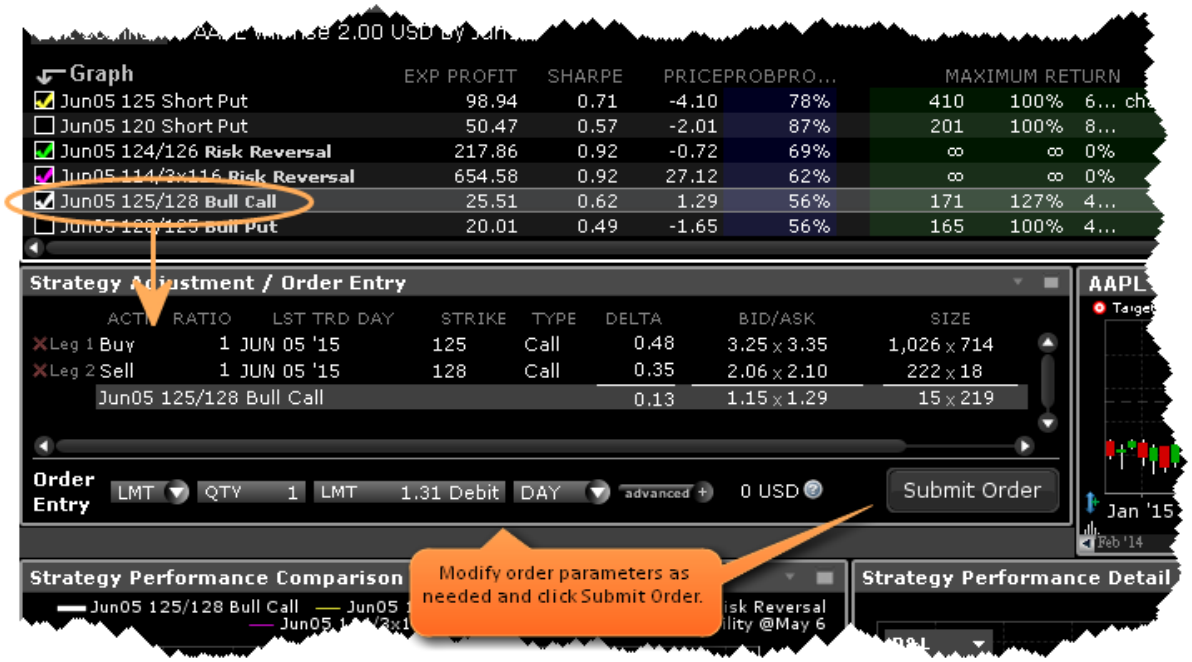
If desired, filter your results by Premium, Delta, Strike or Last Trading Day. You can select multiple filters and define multiple values within each filter.

Click *Done* to populate the lab.



Order Entry

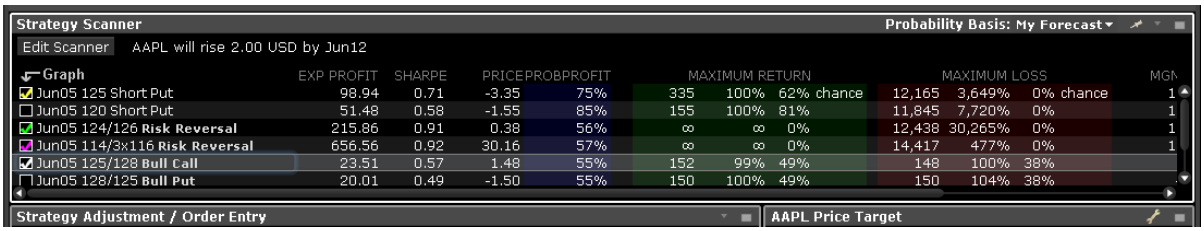
The strategy selected in the scanner populates the Order Entry panel. Each time you select a new strategy the Order Entry panel is repopulated.



Modify order parameters in the Order Entry section at the bottom of the panel, and click Submit to trade the strategy. Before you submit the order, you can analyze the forecast-based strategy using the charts and graphs.

Analyze Strategies in the Scanner

Based on your forecast, the scanner returns a list of options or complex option strategies that will potentially be profitable if your forecast is correct. Some fields in the scanner include:



Expected Profit

Sharpe Ratio - the measure of excess return (the risk premium) per unit of deviation for the strategy.

Return/Risk Ratio - the ratio of the max potential gain to the max potential loss.

Probability of Profit - the market implied probability of any gain.

Maximum Potential Gain

Maximum Potential Gain as a Percentage of your Investment

Maximum Potential Loss

Maximum Potential Loss as a Percentage of your Investment

Break Even Point - the underlying price(s) required for a strategy to break even.

Hold your mouse over a value in any field to see the definition. Add more fields by clicking the Configure wrench icon and then selecting *Configure Columns*.

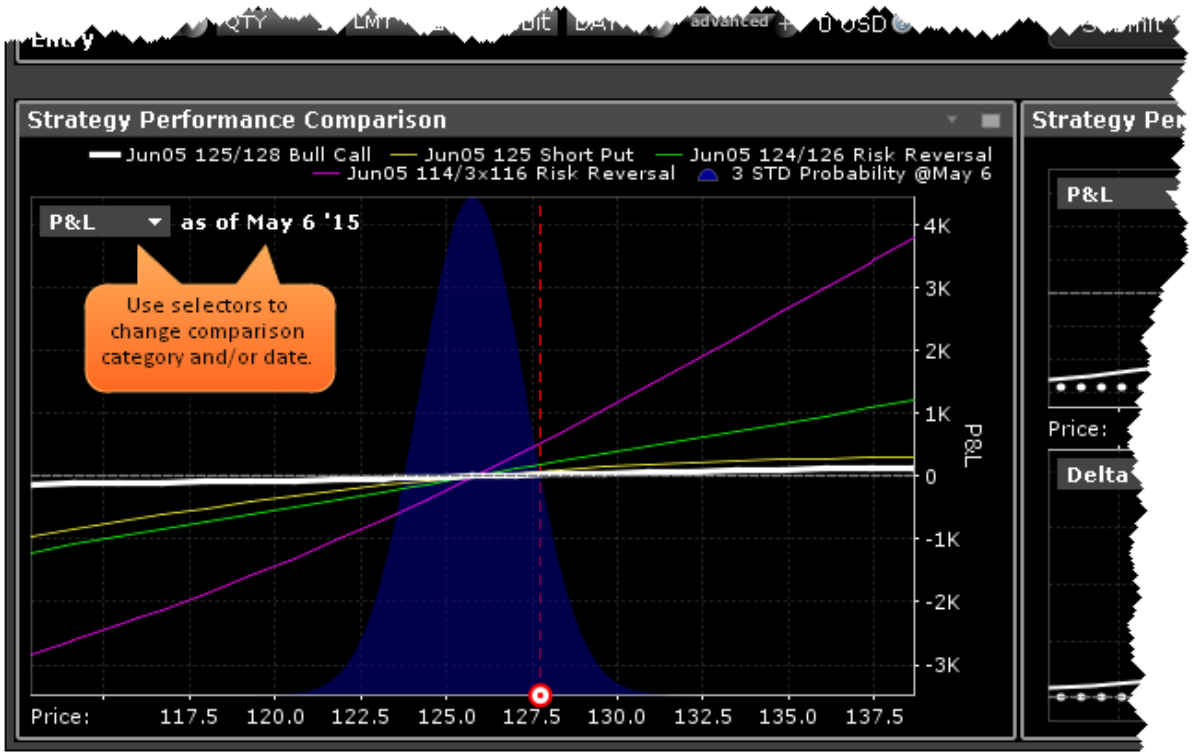
Analyze the Price Target

The Price Target chart shows the current underlying price highlighted in yellow, and the target price based on your forecast in red.

The blue shaded area represents the estimated price range to one standard deviation. Drag the dotted line to change the expiration date.

Compare Strategy Performance

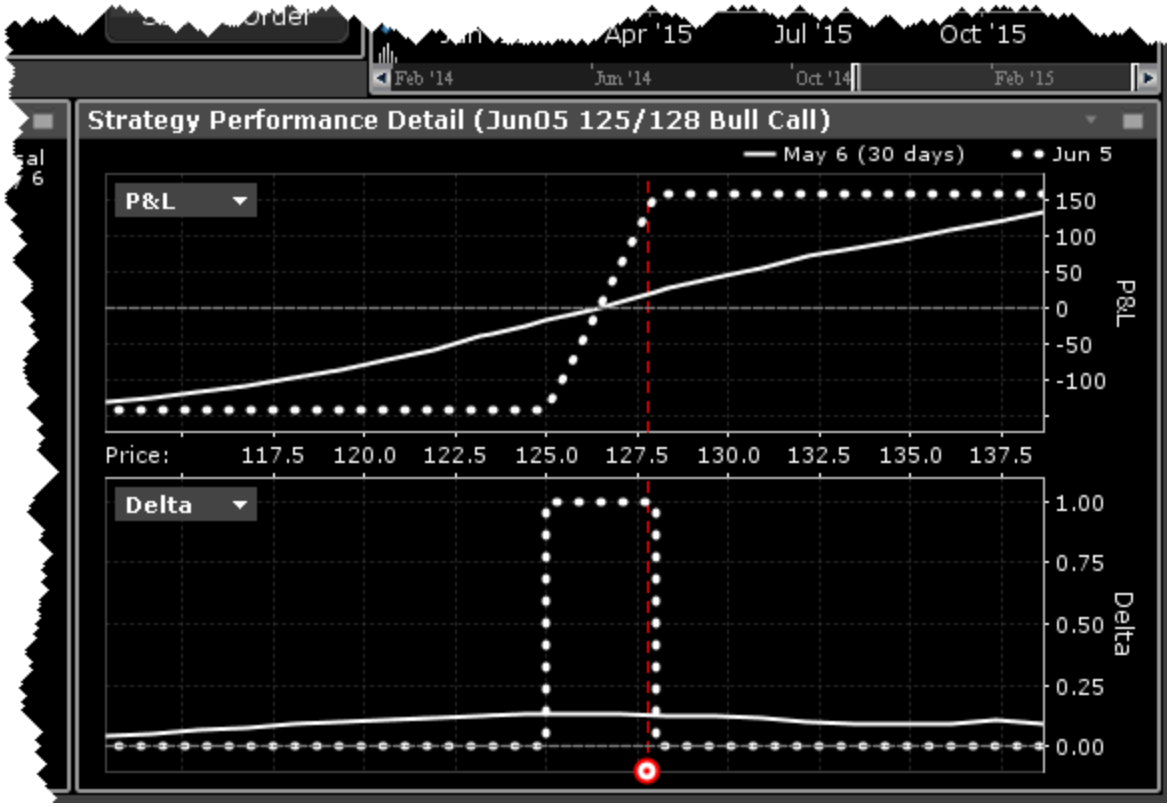
Each strategy checked in the scanner is represented in the comparison chart.



By default the chart is set to today's date, but you can choose the last trading day you specified in your forecast or any date between today and the last trading day.

Strategy Detail

The Performance Details charts provide a close-up look at the option or strategy selected in the scanner. Use the selector to change the comparison category.



The last trading day is driven by the date in your forecast, and can be changed by changing the date in the Performance Comparison, or by dragging the date line in the Price Target chart.

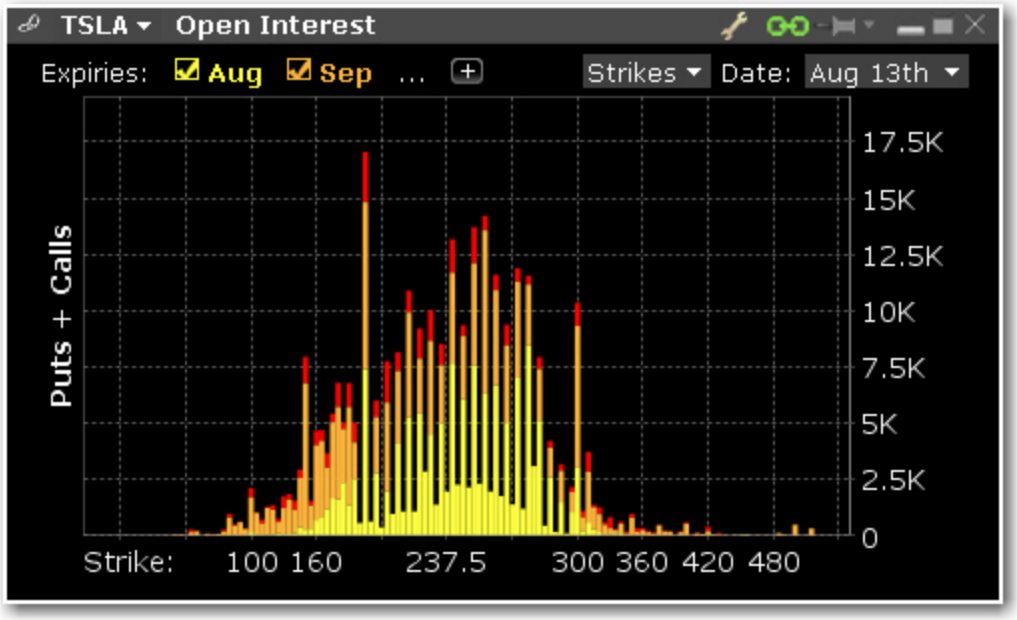
Option Activity

Open Interest and Option Volume

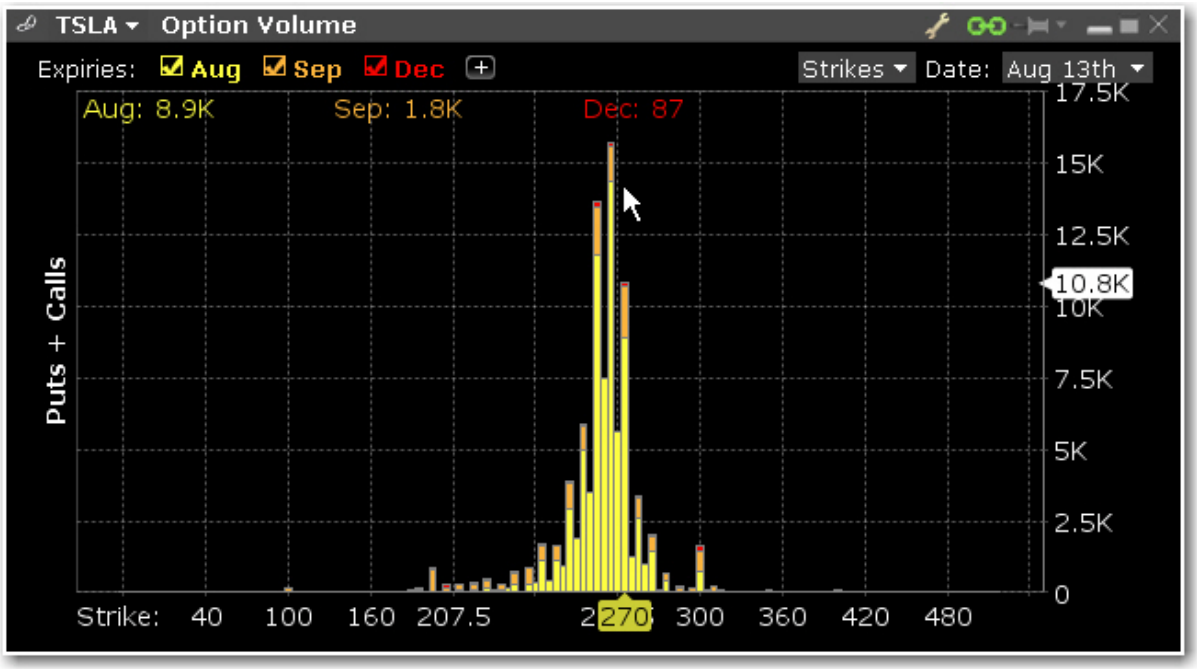
view current or historic open interest for available contract months and strikes. Choose any available expiry and view the combined put and call reading of open interest. The plot can be restricted to specific strikes or will default to open interest across all strikes. Open interest measures investor enthusiasm for a particular stock and also identifies strikes where most or least liquidity might be available. Note also that in the upper right corner there is a calendar drop-down menu that allows the user to view open interest on chosen months or strikes from prior dates. Just pick the time period and select that date.

To view Open Interest/Option Volume

From the New Window dropdown, select Option Analysis then select *Option Activity* and then *Open Interest/Option Volume by Strike*.



Use the Configure Wrench icon to change modes between Open Interest and Option Volume. The Chart allows the user to determine whether to see volume or open interest for Puts and Calls combined in one chart (Puts + Calls) or broken out into bull and bear contracts in two charts (Puts & Calls). Use the calendar dropdown to review activity or positioning from any prior calendar date.

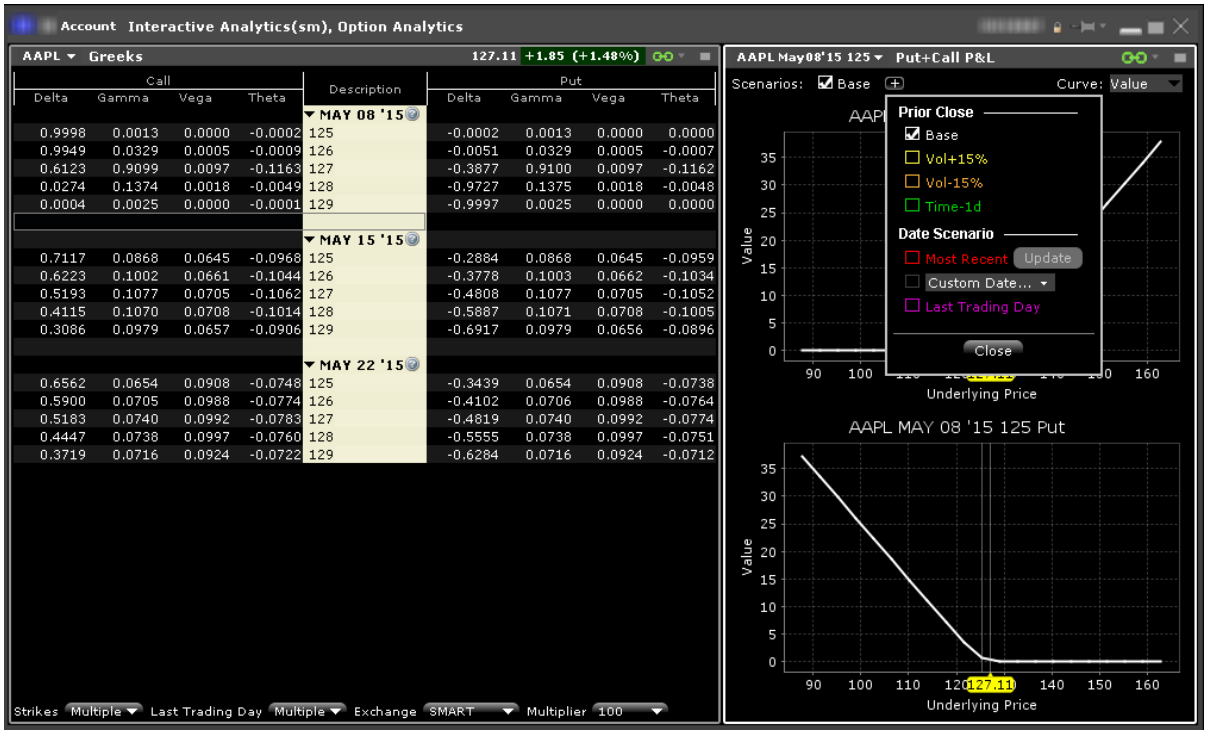


Option Analytics

The **Option Analytics** window displays values that reflect the rate of change of an option's price with respect to a unit change in each of a number of risk dimensions.

The contract price plots display the static set of contract prices determined during the price scan. Each point associates an underlying price on the horizontal axis with the corresponding contract price on the vertical axis. Note that the contract price is expressed as the price per underlying unit (just as it is represented on an order line or in the execution window). The top plot displays calls, the bottom plot displays puts, for whichever option(s) your have highlighted in the list.

Move your mouse over the curves to highlight the current value. Also, note that the current underlying price is highlighted on the bottom axis, and the close price is marked by a light gray vertical line.



Use the Plus sign to specify the close value. Use the *Vol+15%*, *Vol-15%* and *Time-1d* raise the implied volatility by 15% in relative change*, reduce the implied volatility by 15% in relative change*, and reduce the time to expiry by one calendar day. Use the Date Scenario section to create dynamic curve scenarios.

To view the Option Analytics window

From Mosaic - Use the New Window drop down and select Option Analysis > Interactive Analytics > Option Analytics.

From Classic TWS - Use the **Analytical Tools** menu and select Option Analysis > Interactive Analytics >Option Analytics from the Technical section.

*For an example of a relative percent change, if the current implied volatility of an option is 10%, a 15% relative change would result in an implied volatility of 11.5%, calculated as follows:

10% * (1 + 0.15) = 11.5%.

Additionally you can open just the option Greeks or just the Put & Call P&L by selecting:

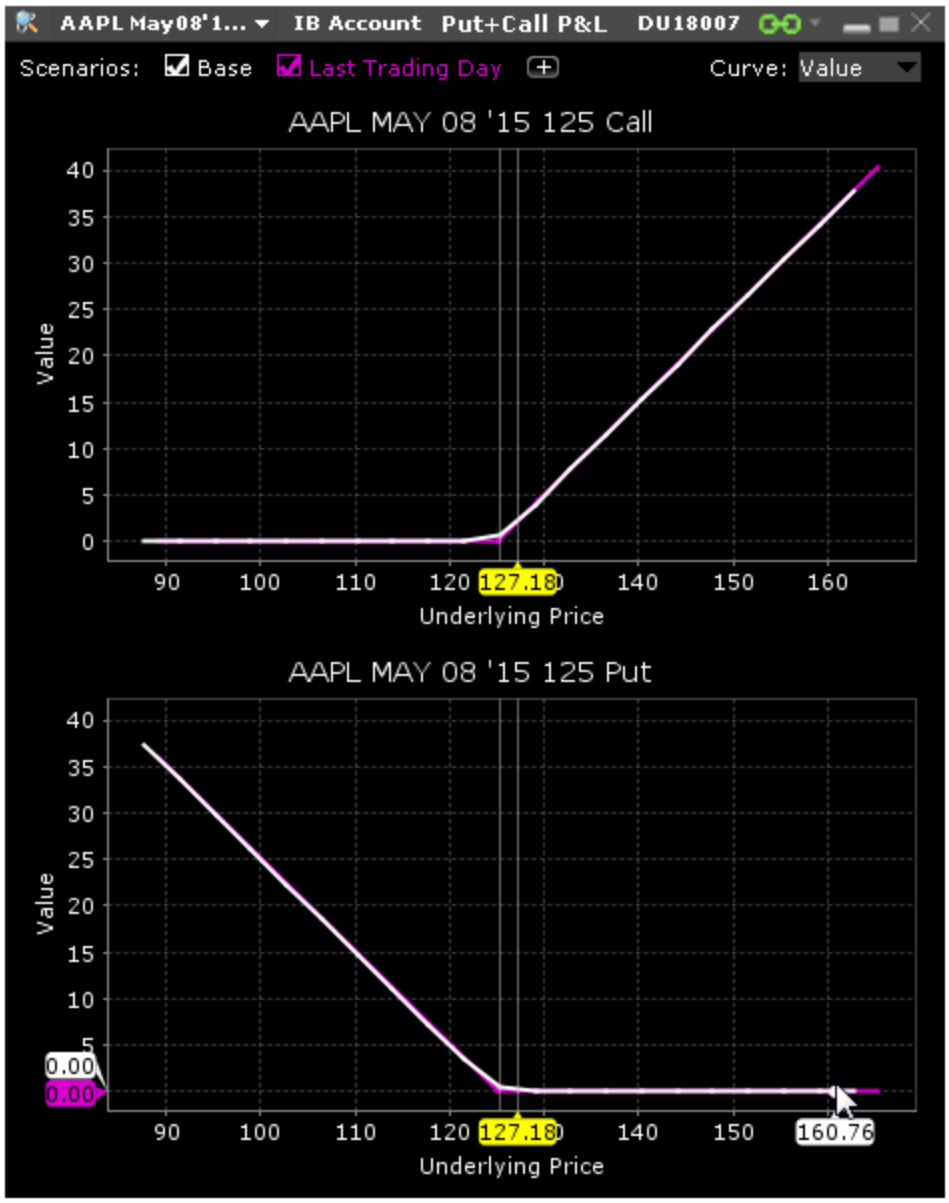
Option Analysis > Interactive Analytics > Greeks

Option Analysis > Interactive Analytics >Put+Call P&L

AAPL IB Account Greeks 127.20 +1.94 (+1.55%) DU18007

Call				Description	Put			
Delta	Gamma	Vega	Theta		Delta	Gamma	Vega	Theta
				MAY 08 '15				
0.9999	0.0009	0.0000	-0.0001	125	-0.0001	0.0009	0.0000	0.0000
0.9961	0.0248	0.0003	-0.0007	126	-0.0039	0.0248	0.0003	-0.0006
0.7017	0.8745	0.0086	-0.0761	127	-0.2984	0.8745	0.0086	-0.0760
0.0335	0.1727	0.0017	-0.0058	128	-0.9666	0.1728	0.0017	-0.0057
0.0002	0.0017	0.0000	0.0000	129	-0.9999	0.0016	0.0000	0.0000
				MAY 15 '15				
0.7210	0.0862	0.0645	-0.0953	125	-0.2791	0.0862	0.0645	-0.0944
0.6316	0.0998	0.0648	-0.1028	126	-0.3685	0.0998	0.0648	-0.1019
0.5290	0.1080	0.0705	-0.1052	127	-0.4711	0.1080	0.0705	-0.1043
0.4205	0.1082	0.0708	-0.1011	128	-0.5796	0.1082	0.0708	-0.1002
0.3161	0.0995	0.0656	-0.0908	129	-0.6841	0.0996	0.0656	-0.0898
				MAY 22 '15				
0.6621	0.0650	0.0908	-0.0742	125	-0.3380	0.0650	0.0908	-0.0733
0.5965	0.0704	0.0988	-0.0771	126	-0.4036	0.0705	0.0988	-0.0762
0.5249	0.0739	0.0992	-0.0781	127	-0.4753	0.0739	0.0992	-0.0771
0.4512	0.0741	0.0996	-0.0761	128	-0.5491	0.0742	0.0996	-0.0751
0.3776	0.0722	0.0924	-0.0725	129	-0.6227	0.0723	0.0924	-0.0715

Strikes Multiple Last Trading Day Multiple Exchange SMART Multiplier 100



Option Analytics Greeks

You can elect to open only the Greeks section of the Option Analytics window.

To open the Greeks

From Mosaic - From the New Window drop down select Option Analysis > Interactive Analytics > Greeks.

From Classic TWS - From the Analytical Tools menu, select Option Analysis > Interactive Analytics > Greeks.

AMZN Greeks 319.35 +1.02 (+0.32%)

Call				Description	Put			
Delta	Gamma	Vega	Theta		Delta	Gamma	Vega	Theta
				AUG 15 '14				
0.8064	0.0339	0.0893	-0.3822	312.5	-0.1936	0.0339	0.0893	-0.3803
0.7218	0.0444	0.1015	-0.4367	315	-0.2781	0.0444	0.1014	-0.4345
0.6058	0.0534	0.1145	-0.4742	317.5	-0.3943	0.0534	0.1145	-0.4721
0.4682	0.0567	0.1150	-0.4718	320	-0.5318	0.0567	0.1150	-0.4700
0.3311	0.0522	0.1066	-0.4246	322.5	-0.6690	0.0522	0.1066	-0.4226
0.2163	0.0419	0.0912	-0.3478	325	-0.7838	0.0419	0.0912	-0.3457
0.1355	0.0302	0.0720	-0.2669	327.5	-0.8647	0.0302	0.0719	-0.2649
				AUG 22 '14				
0.7053	0.0259	0.1914	-0.2350	312.5	-0.2947	0.0259	0.1914	-0.2331
0.6397	0.0289	0.1922	-0.2482	315	-0.3604	0.0289	0.1922	-0.2462
0.5662	0.0310	0.2091	-0.2536	317.5	-0.4339	0.0310	0.2091	-0.2516
0.4879	0.0321	0.2100	-0.2530	320	-0.5122	0.0321	0.2100	-0.2510
0.4072	0.0318	0.2109	-0.2428	322.5	-0.5930	0.0318	0.2109	-0.2408
0.3306	0.0299	0.1955	-0.2228	325	-0.6696	0.0299	0.1955	-0.2207
0.2600	0.0269	0.1672	-0.1981	327.5	-0.7403	0.0269	0.1672	-0.1961
				AUG 29 '14				
0.6678	0.0214	0.2495	-0.1845	312.5	-0.3322	0.0214	0.2495	-0.1825
0.6140	0.0230	0.2714	-0.1933	315	-0.3861	0.0230	0.2714	-0.1913
0.5554	0.0238	0.2726	-0.1960	317.5	-0.4448	0.0238	0.2726	-0.1940
0.4955	0.0244	0.2738	-0.1968	320	-0.5046	0.0244	0.2738	-0.1948
0.4349	0.0242	0.2749	-0.1915	322.5	-0.5653	0.0242	0.2749	-0.1895
0.3754	0.0236	0.2548	-0.1834	325	-0.6248	0.0236	0.2548	-0.1814
0.3182	0.0223	0.2559	-0.1710	327.5	-0.6821	0.0223	0.2558	-0.1690

Strikes Multiple Expiries Multiple Exchange SMART Multiplier 100

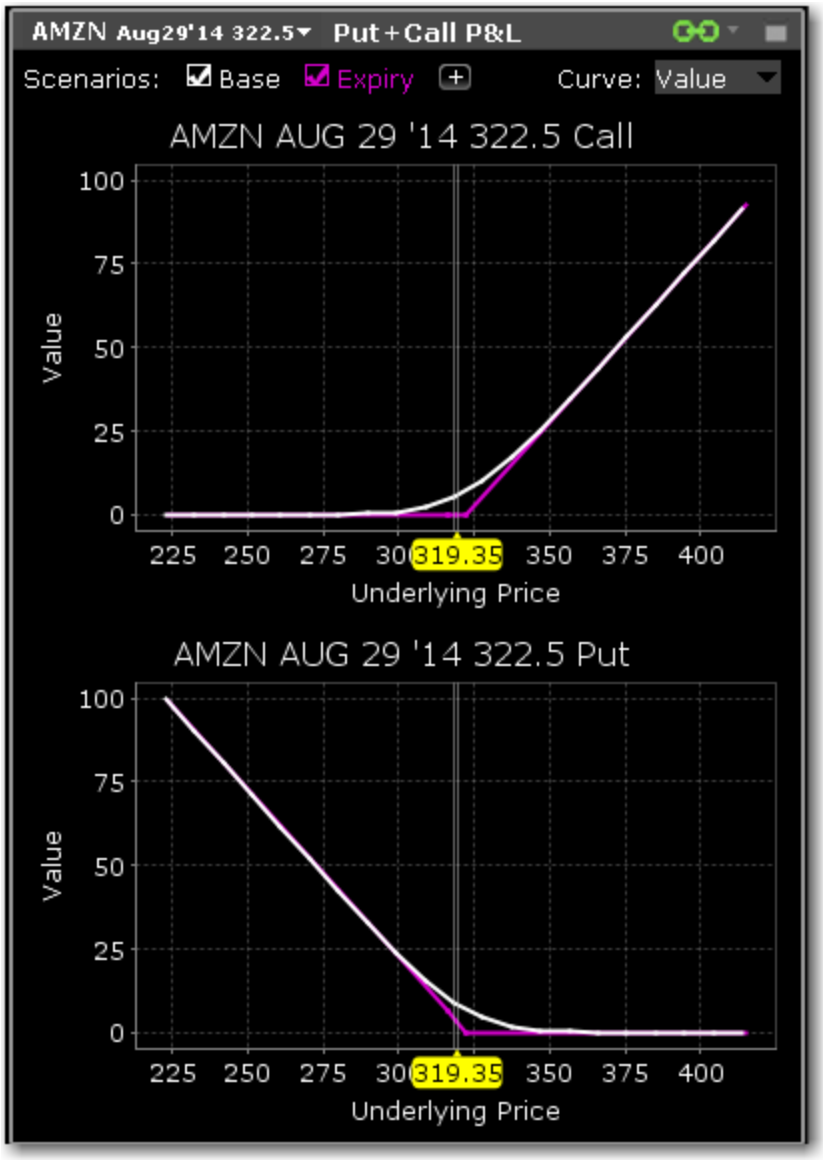
Option Analytics P&L

You can elect to open only the P&L section of the Option Analytics window.

To open the Option P&L

From Mosaic - From the New Window drop down select Option Analysis > Interactive Analytics > Put + Call P&L.

From Classic TWS - From the Analytical Tools menu, select Option Analysis > Interactive Analytics > Put + Call P&L.



Option Analytics

The **Option Analytics** window displays values that reflect the rate of change of an option's price with respect to a unit change in each of a number of risk dimensions.

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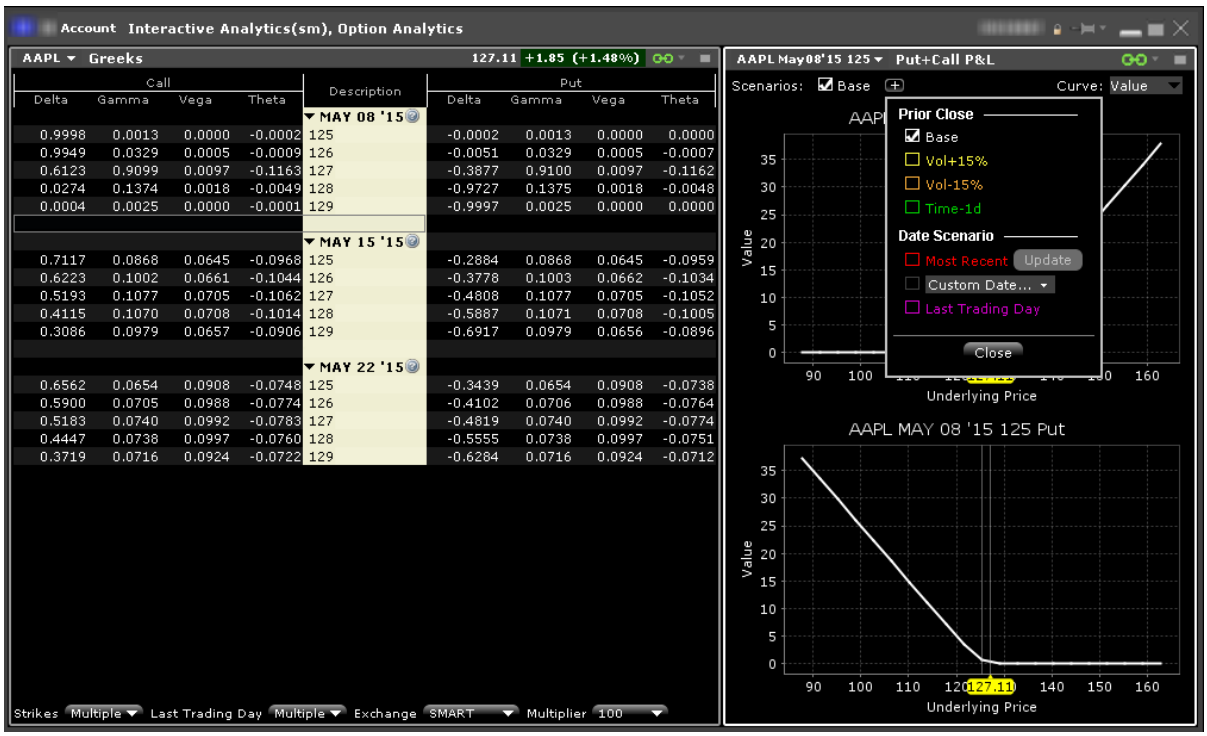
Move your mouse over the curves to highlight the current value. Also, note that the current underlying price is highlighted on the bottom axis, and the close price is marked by a light gray vertical line.



Use the Plus sign to specify the close value. Use the *Vol+15%*, *Vol-15%* and *Time-1d* raise the implied volatility by 15% in relative change*, reduce the implied volatility by 15% in relative change*, and reduce the time to expiry by one calendar day. Use the Date Scenario section to create dynamic curve scenarios.

To view the Option Analytics window

From Mosaic - Use the New Window drop down and select Option Analysis > Interactive Analytics > Option Analytics.

From Classic TWS - Use the **Analytical Tools** menu and select Option Analysis > Interactive Analytics >Option Analytics from the Technical section.

*For an example of a relative percent change, if the current implied volatility of an option is 10%, a 15% relative change would result in an implied volatility of 11.5%, calculated as follows:

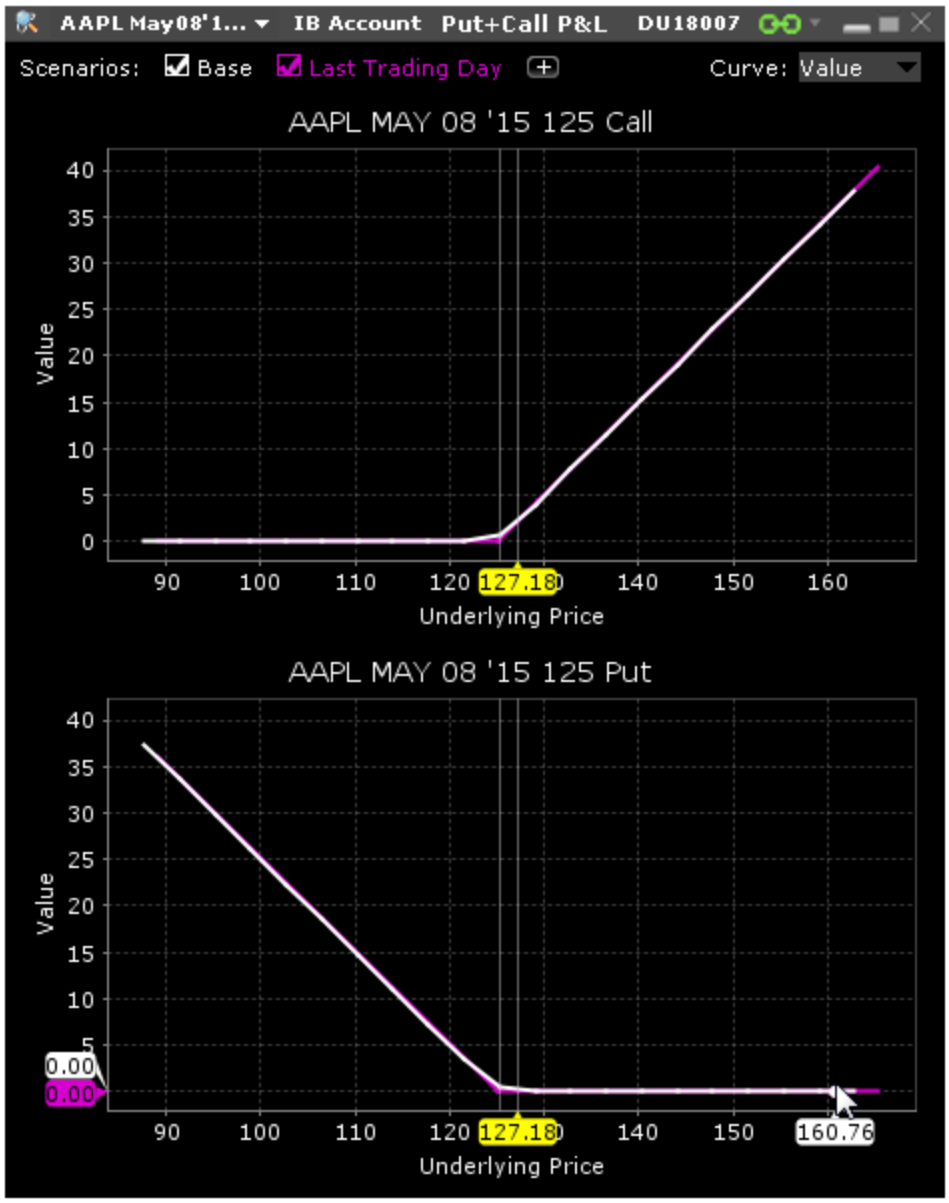
10% * (1 + 0.15) = 11.5%.

Additionally you can open just the option Greeks or just the Put & Call P&L by selecting:

Option Analysis > Interactive Analytics > Greeks

Option Analysis > Interactive Analytics >Put+Call P&L

Call Delta	Call Gamma	Call Vega	Call Theta	Description	Put Delta	Put Gamma	Put Vega	Put Theta
				MAY 08 '15				
0.9999	0.0009	0.0000	-0.0001	125	-0.0001	0.0009	0.0000	0.0000
0.9961	0.0248	0.0003	-0.0007	126	-0.0039	0.0248	0.0003	-0.0006
0.7017	0.8745	0.0086	-0.0761	127	-0.2984	0.8745	0.0086	-0.0760
0.0335	0.1727	0.0017	-0.0058	128	-0.9666	0.1728	0.0017	-0.0057
0.0002	0.0017	0.0000	0.0000	129	-0.9999	0.0016	0.0000	0.0000
				MAY 15 '15				
0.7210	0.0862	0.0645	-0.0953	125	-0.2791	0.0862	0.0645	-0.0944
0.6316	0.0998	0.0648	-0.1028	126	-0.3685	0.0998	0.0648	-0.1019
0.5290	0.1080	0.0705	-0.1052	127	-0.4711	0.1080	0.0705	-0.1043
0.4205	0.1082	0.0708	-0.1011	128	-0.5796	0.1082	0.0708	-0.1002
0.3161	0.0995	0.0656	-0.0908	129	-0.6841	0.0996	0.0656	-0.0898
				MAY 22 '15				
0.6621	0.0650	0.0908	-0.0742	125	-0.3380	0.0650	0.0908	-0.0733
0.5965	0.0704	0.0988	-0.0771	126	-0.4036	0.0705	0.0988	-0.0762
0.5249	0.0739	0.0992	-0.0781	127	-0.4753	0.0739	0.0992	-0.0771
0.4512	0.0741	0.0996	-0.0761	128	-0.5491	0.0742	0.0996	-0.0751
0.3776	0.0722	0.0924	-0.0725	129	-0.6227	0.0723	0.0924	-0.0715



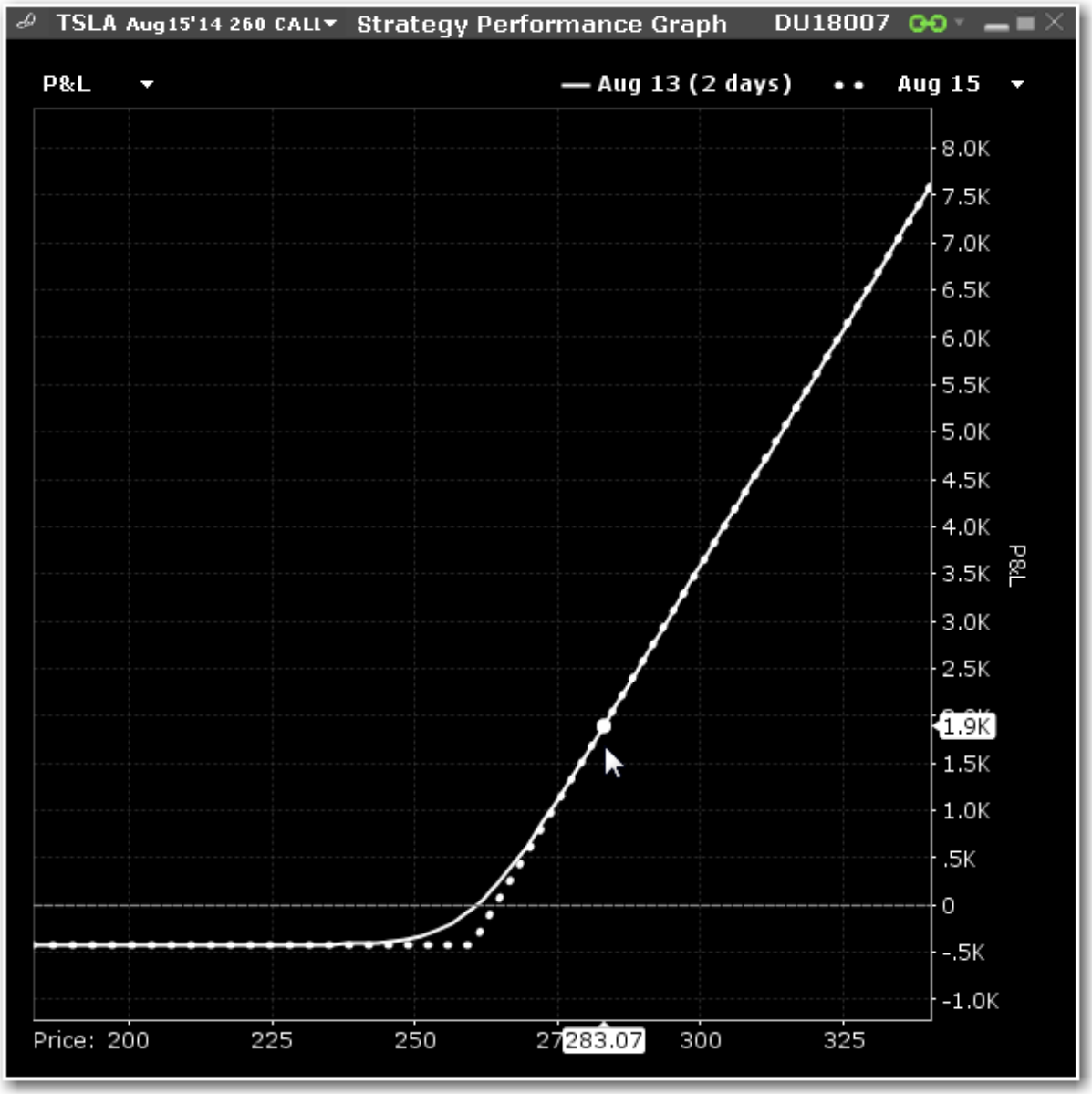
Strategy Performance Graph

Displays the P&L (or any of the Greeks) as a function of the underlying price. The graph is displayed as part of the Performance Profile, and can also be opened as its own window.

To open the Strategy Performance Graph

From Mosaic - From the New Window drop down list select **Option Analysis** and then *Strategy Performance Graph*.

From Classic TWS - From the Analytical Tools menu, select **Option Analysis** and then *Strategy Performance Graph*.



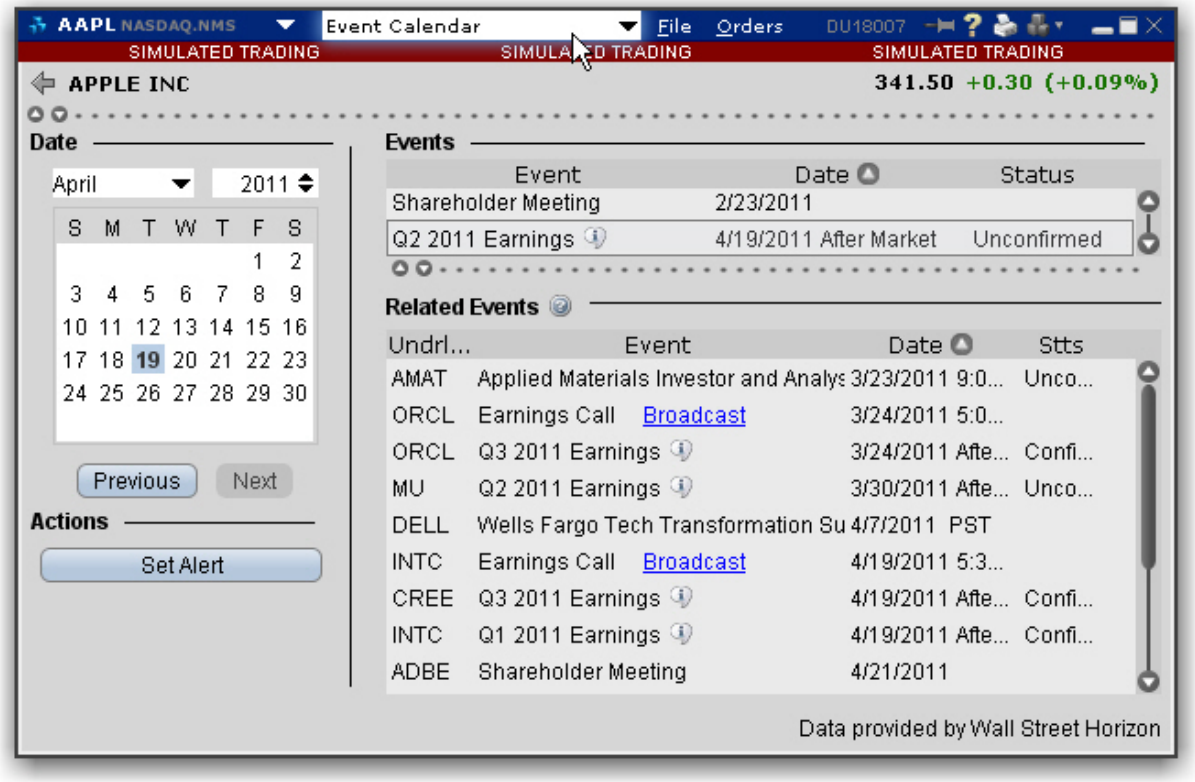
Portfolio Analyst

PortfolioAnalyst allows you to evaluate the performance of your IB portfolio by creating and saving reports based on a set of measurement criteria and optionally comparing their data to selected industry benchmarks. Once you create and save reports, you can run, edit or delete them.

Portfolio Analyst is part of Account Management. For details, please see the Portfolio Analyst section of the Account Management.

Wall Street Horizon Data

Subscribe to Wall Street Horizon to see ticker-specific events calendars and industry-related events for thousands of companies worldwide. The Events Calendars display dates for earnings announcements, shareholder meetings, investor conferences and other events, and provides links to Seeking Alpha transcripts whenever available.



To access the WSH Corporate Events Calendar

From Mosaic - From the New Window drop down select *WSH Corporate Events Calendar*.
From Classic TWS - From the **Analytical Tools** menu select *WSH Corporate Events Calendar.*Then select My Portfolio to see events for companies in your portfolio, or Selected company to see events for the company selected in the Quote Monitor. See below for detailed instructions on company-specific display.

If you don't see this command listed in the Fundamentals section of the Analytical Tools men, use the *Expand* arrow at the bottom of the list to display hidden menu items.

Select a future event in either table and click *Set Alert* to create a message or order action alert.

Click the blue hypertext to access a transcript.

You can also view the Events Calendar for one or multiple tickers.

To view Events for specific tickers

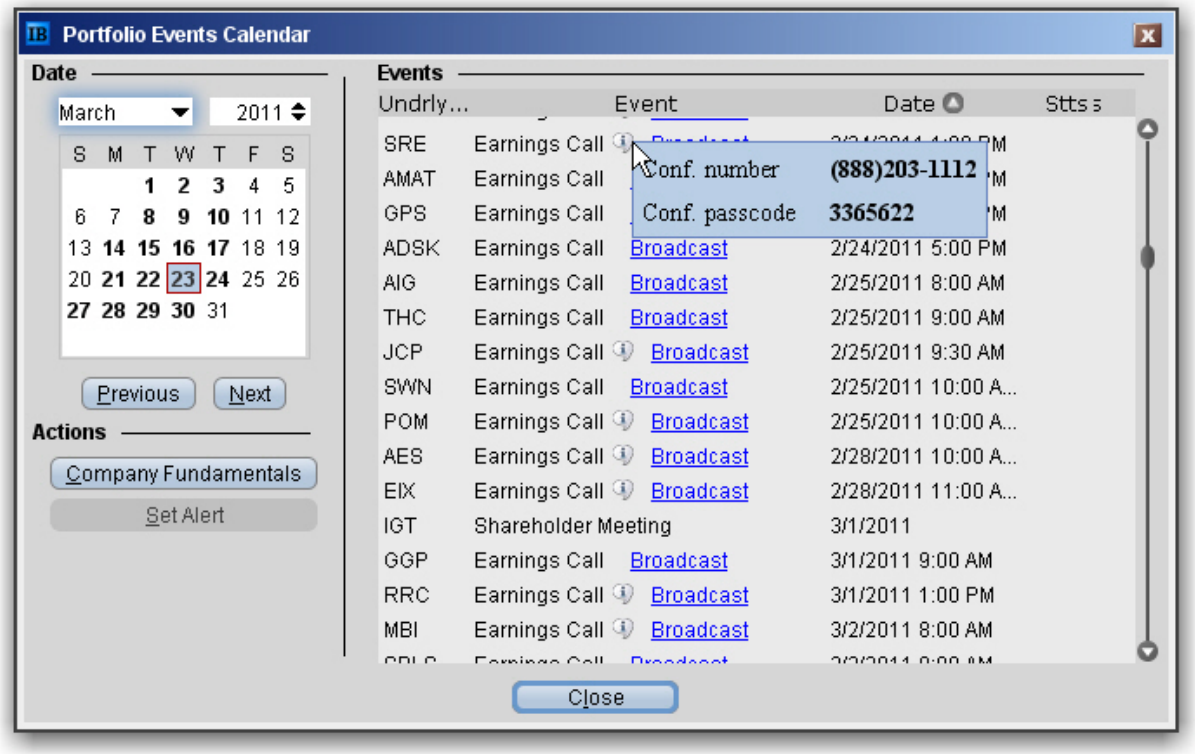
1. Start in the Classic TWS interface.
2. From a Quote Monitor, select a ticker or select multiple tickers by holding down the Ctrl key and clicking the market data lines.
3. From the WSH Corporate Events Calendar menu command choose *Selected company*.

You can also view recent events for your portfolio, which comprises all of your current positions.

To view a Portfolio Events Calendar

1. From the **Analytical Tools** menu, select *Event Calendar* and then *My Portfolio*.

   Note: If you have a large portfolio, it may take several minutes for all of the data to load. You may want to consider viewing events for a subset of tickers using the procedure above.



Recent events are listed in the Events table, sorted by date.

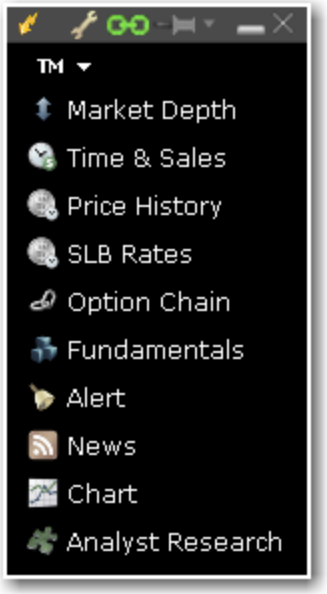
Click the Underlying field heading to re-sort the table by underlying. Click any other field to re-sort by that field.

Hold your mouse over the Earnings Call Information icon to see dates for upcoming Earnings calls.

Select a line and click the *Company Fundamentals* button to open that tool for a single underlying.

The Toolbox

The Mosaic Toolbox includes a predefined list of quick links to useful tools that use windows grouping to link them to the primary Mosaic group. Click an item to open the tool populated with the currently selected underlying.



To display the toolbox

From Mosaic - From the New Window drop down select *Toolbox*.

From Classic TWS - From the Analytical Tools menu in the **Technical** section select *Toolbox*.

IB Information System

News and fundamentals abound throughout the IB Information System.

Event Calendars **171**

Fundamentals **176**

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Event Calendars

Find economic events, earnings, dividends and splits and more in our Event Calendars.

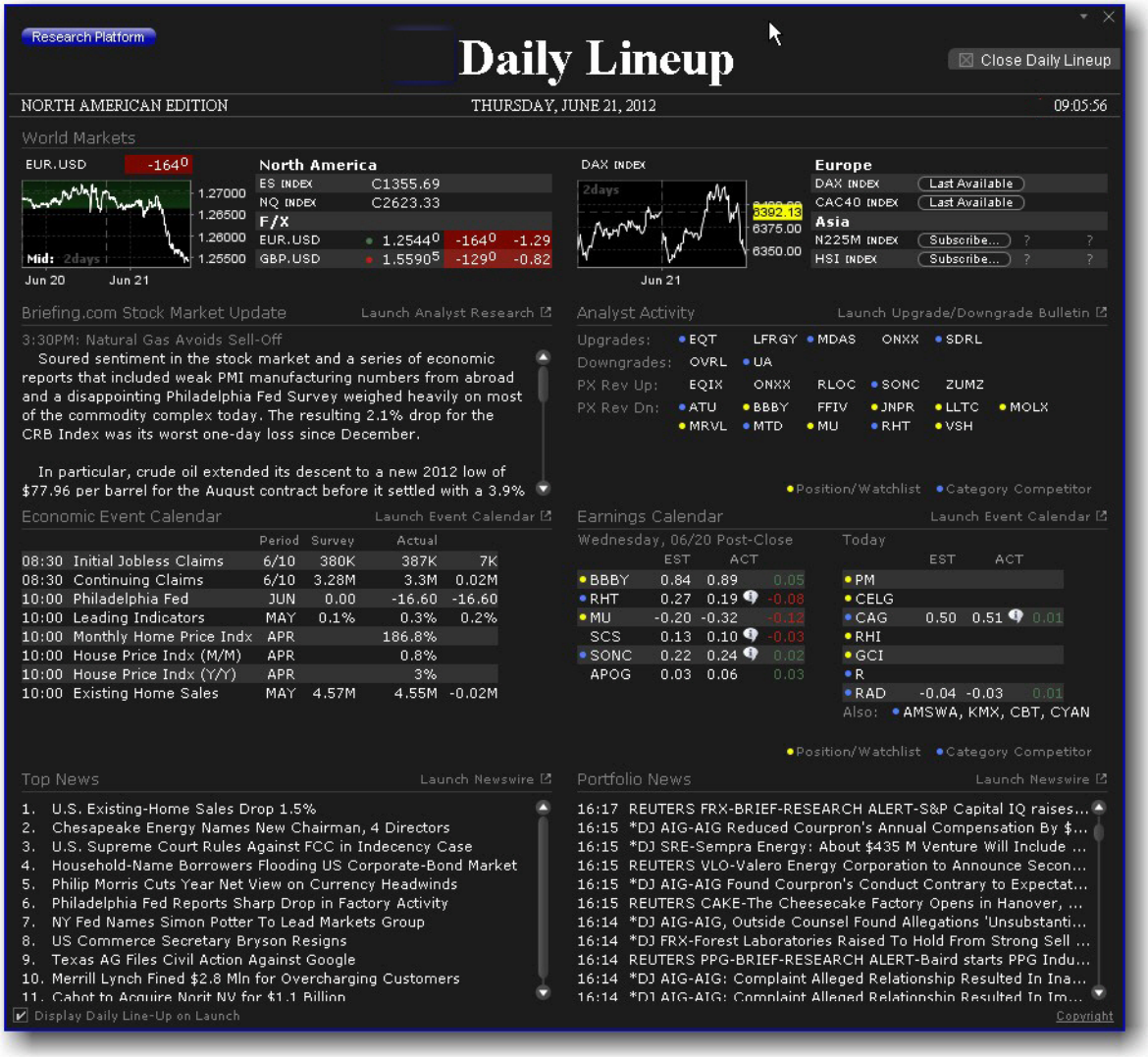
Daily Lineup

Designed to be viewed first thing in the morning, the Daily Lineup provides a birds-eye view of upcoming market events. IBIS subscribers will see the Daily Lineup when they first log in, and can view the summary at any time during the day by selecting Daily Lineup from the New Window > Event Calendar menu.

The Daily Lineup updates in realtime throughout the day. Thumbnail charts in the World Markets change based on the selected contract. In the News sections, click a headline to view the full story.

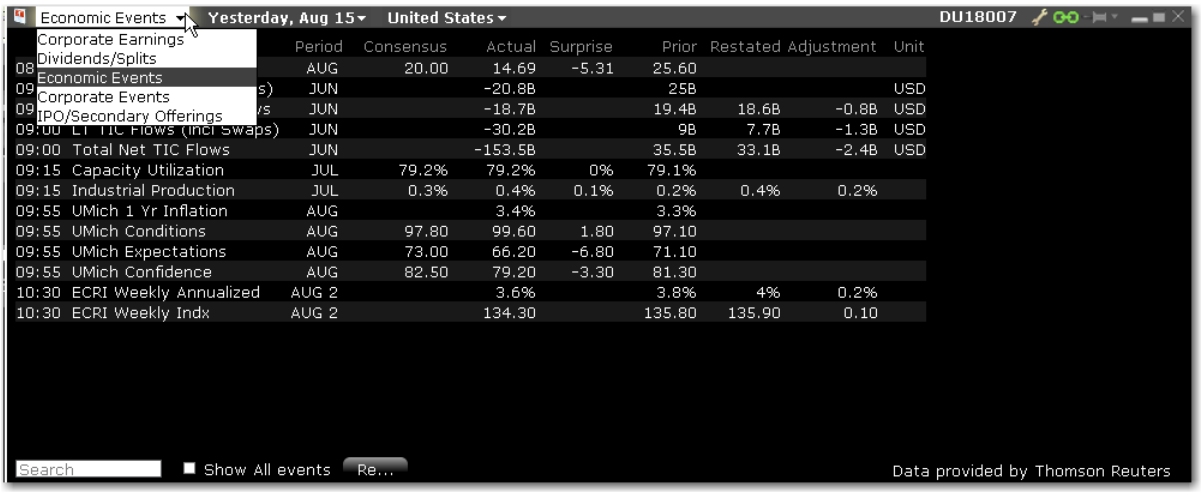
To view Daily Lineup

From Mosaic - Click the **Event Calendars** button and select *Daily Lineup*.
From Classic TWS - From the **Analytical Tools** menu select *Daily Lineup*.



Economic Events

Subscription-based event details.



To view Economic Events

From Mosaic - Click the **Event Calendars** button and select *Economic Events*. Or, from the New Window drop down select **Event Calendars** and then **Economic Events.**

From Classic TWS - From the **Analytical Tools** menu select *Economic Event Calendar*.

Corporate Earnings

Subscription-based event details.

To view Corporate Earnings

From Mosaic - Click the **Event Calendars** button and select *Corporate Earnings*. Or, from the New Window drop down select **Event Calendars** and then **Corporate Earnings.**

From Classic TWS - From the **Analytical Tools** menu select *Corporate Earnings Calendar*.

Dividends and Splits

Subscription-based details concerning dividends and splits.

To view Dividends and Splits

From Mosaic -Click the **Event Calendars** button and select *Dividends/Splits*. Or, from the New Window drop down select **Event Calendars** and then **Dividends and Splits.**

From Classic TWS - From the **Analytical Tools** menu select *Corporate Earnings Calendar* and use the drop down field to select *Dividends/Splits*.

IPOs and Secondary Offerings

Subscription-based IPO/Secondary offering details.

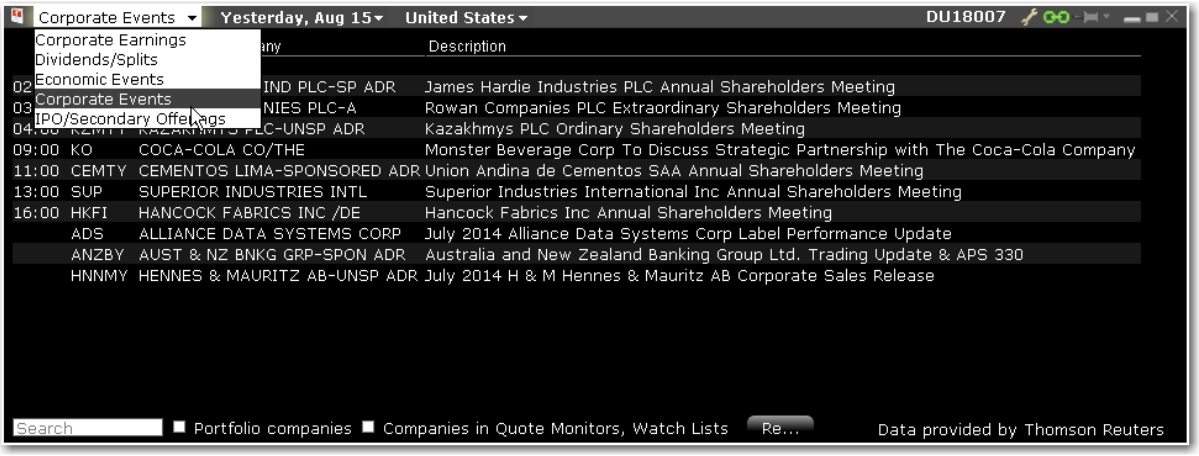
To view IPO/Secondary Offerings

From Mosaic - Click the **Event Calendars** button and select *IPO/Secondary Offerings*. Or, from the New Window drop down select **Event Calendars** and then **IPO/Secondary Offerings.**

From Classic TWS - From the **Analytical Tools** menu select *Economic Event Calendar* and from the drop down window select *IPO/Secondary Offerings.*

Corporate Events

Subscription-based corporate events details.



To view Corporate Events

From Mosaic - Click the **Event Calendars** button and select *Corporate Events*. Or, from the New Window drop down select **Event Calendars** and then **Corporate Events.**

From Classic TWS - From the **Analytical Tools** menu select *Economic Event Calendar* and from the drop down window select *Corporate Events.*

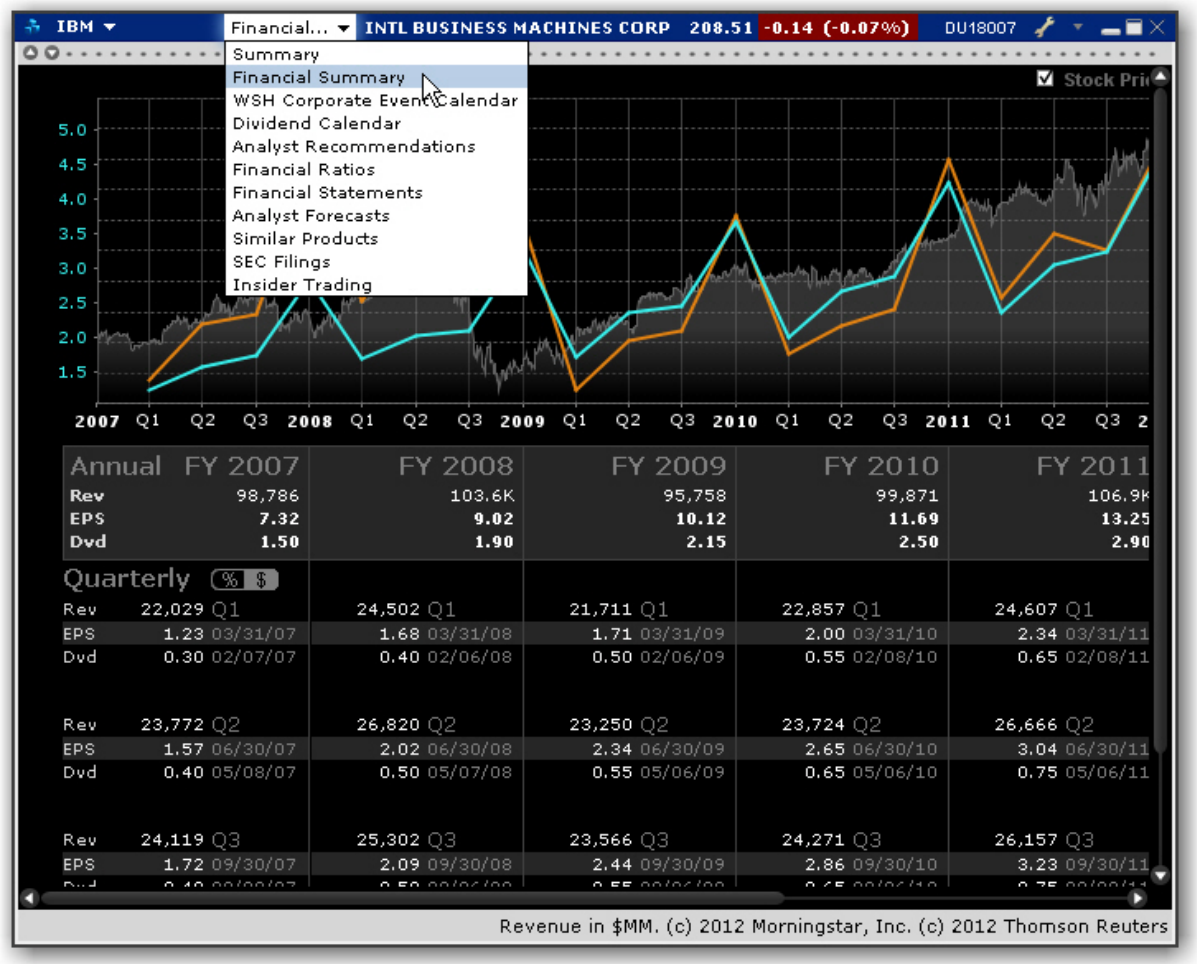
Fundamentals

Subscriber-based Fundamentals provide comprehensive, high quality financial information on thousands of companies worldwide.

Customers who subscribe to Reuters Worldwide Fundamentals receive additional global data, and customers who subscribe to Wall Street Horizon have access to comprehensive high-

quality financial information on thousands of companies, in the form or company and portfolio Events Calendars.

To subscribe to Reuters Fundamentals and Wall Street Horizon, log into Account Management, and use the*Market Data Subscriptions* page. You can access Account Management directly from within TWS by selecting *Account Management Home* from the TWS **Account** menu.



To access Company Fundamentals

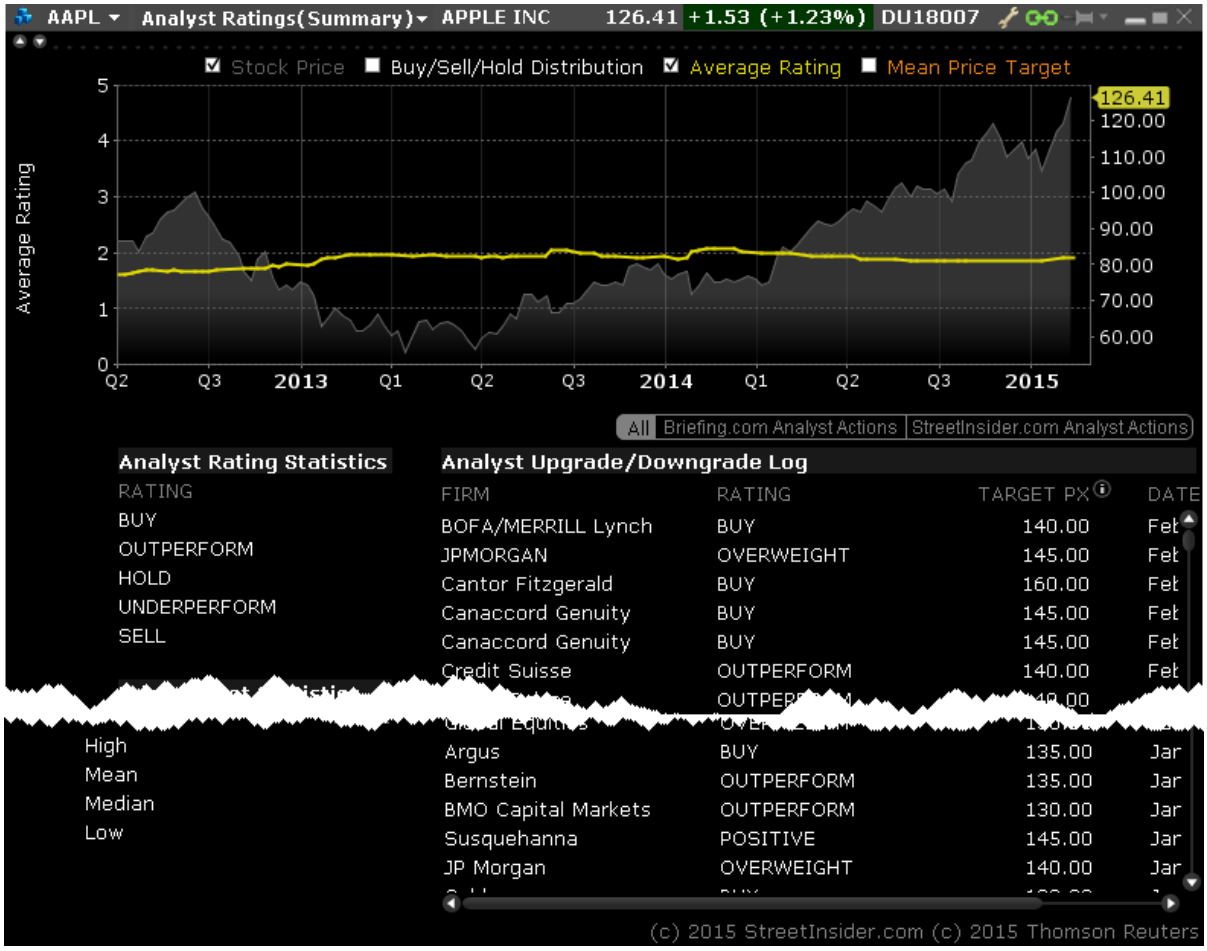
1. Select an underlying symbol.
2. Use the right-click menu to select *Analytical Tools*, and then select *Company Fundamentals*.

3. Use the drop-down list in the title bar to change windows. Availability is based on your subscriptions. Choose from the company Summary, Financial Summary, WSH Corporate Event Calendar, Dividend Calendar, Analyst Recommendations, Financial Ratios, Financial Statements, Analyst Forecasts, Similar Products, SEC Filings, and Insider Trading.

Analyst Ratings (Summary)

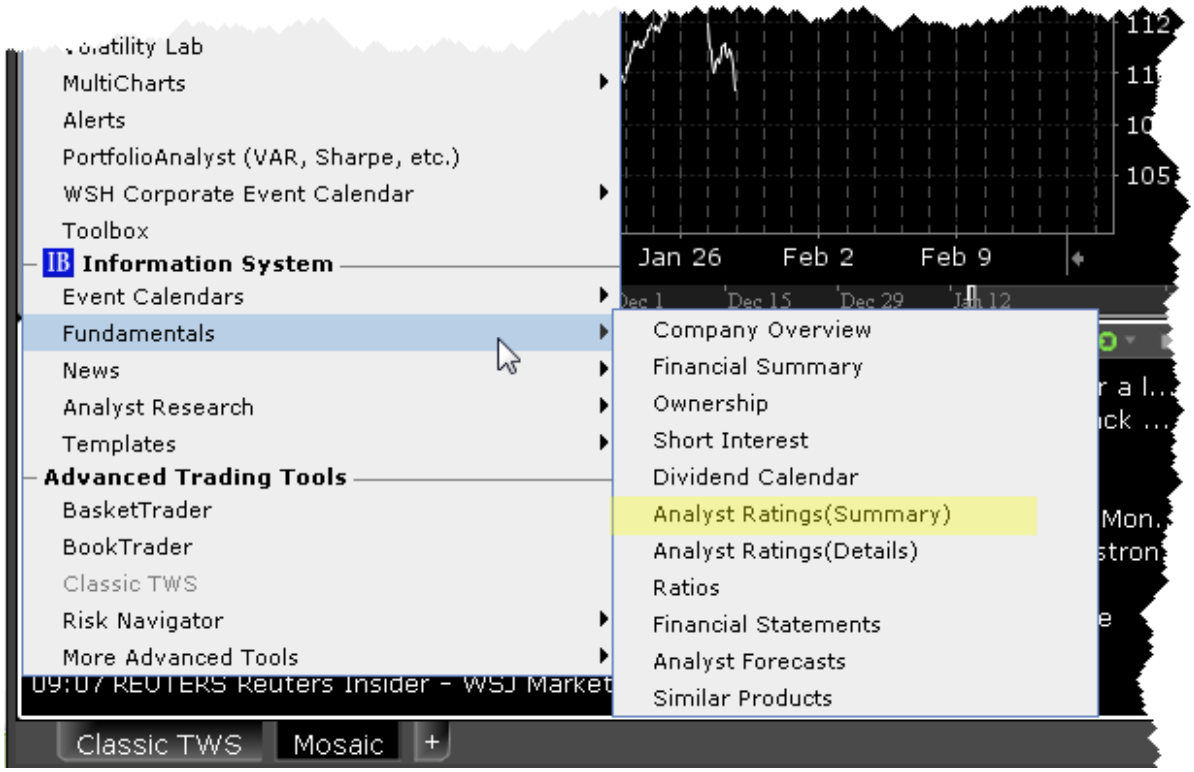
Our sell-side Analyst Rating Summary tear sheet provides summary rating and price target statistics, along with upgrade/downgrade history. It graphs mean ratings history, price target history and rating distribution over time.

Full display requires subscription to Reuters Fundamentals.



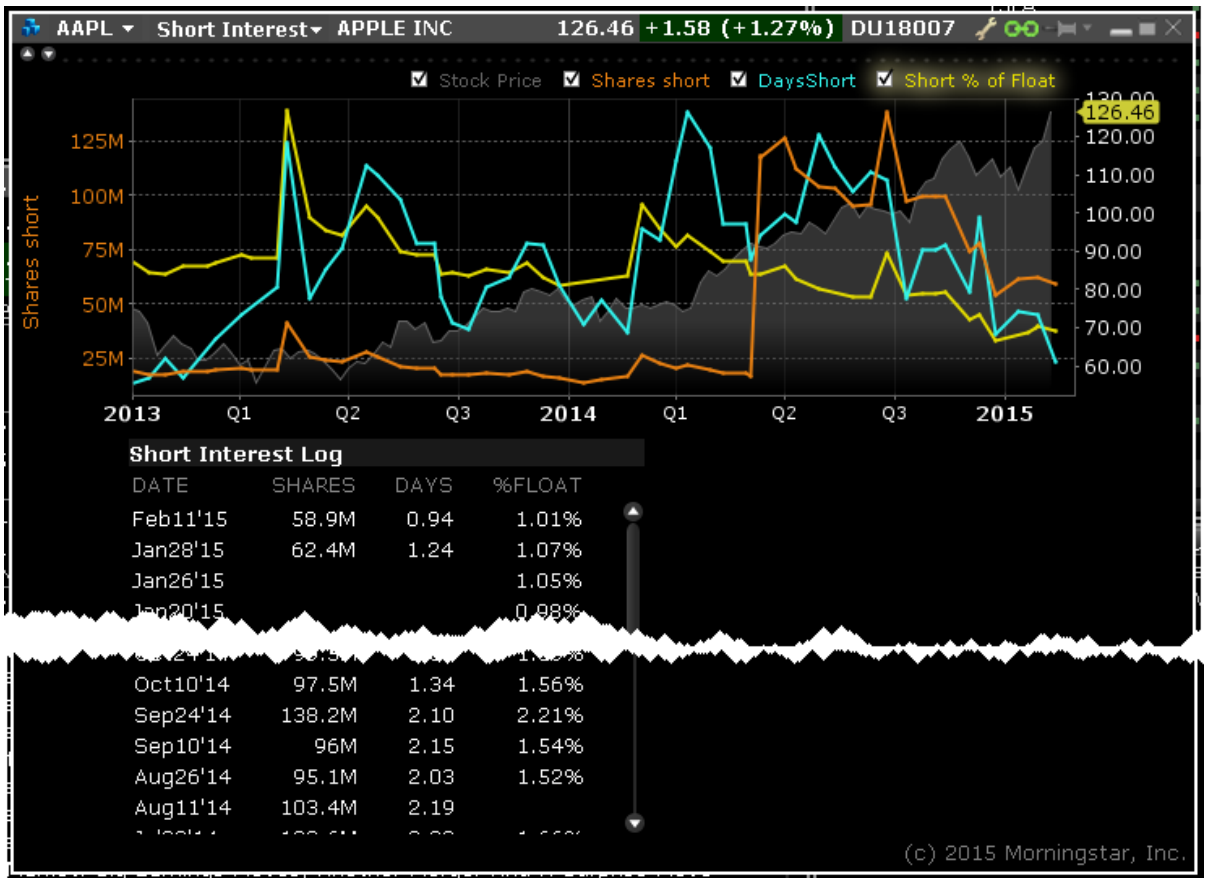
To view Analyst Ratings (Summary)

From within Mosaic, use the New Window drop down to select **Fundamentals** then *Analyst Ratings (Summary)*.



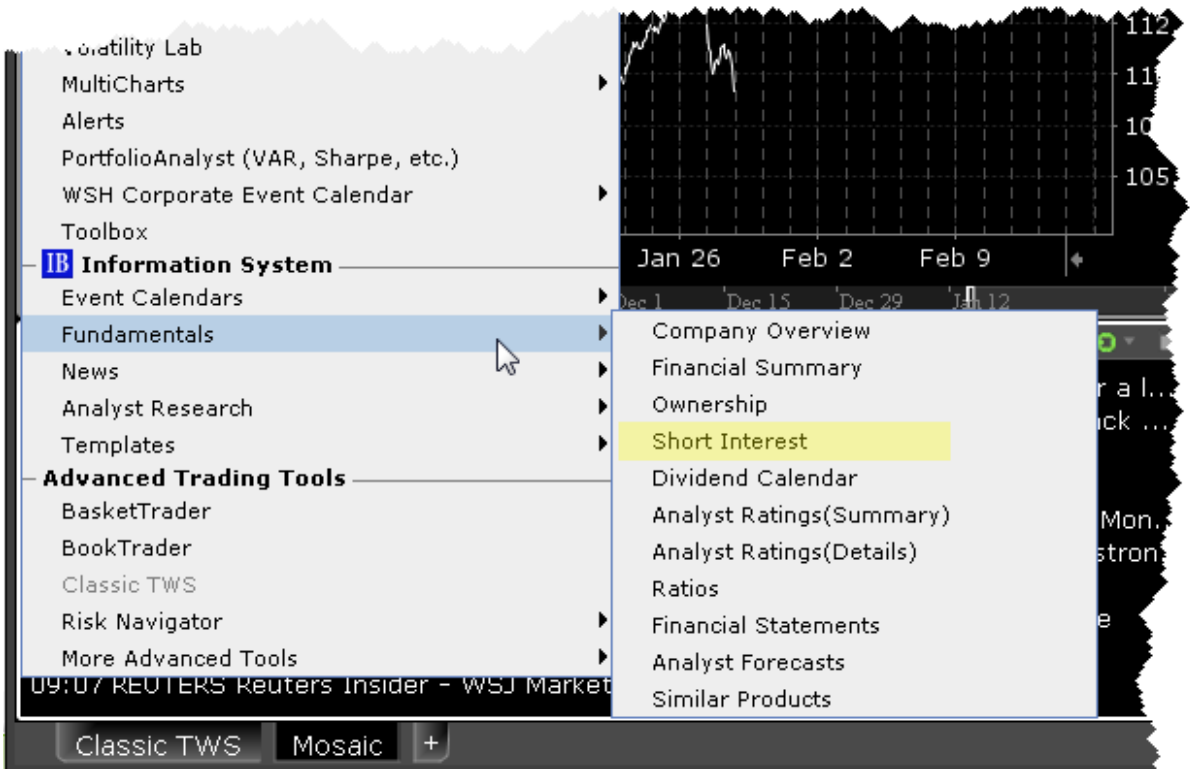
Short Interest Tear Sheet

Keep an eye on short interest profiles with the Short Interest tear sheet. The chart graphs short interest as a percent of float, days short, or shares short, while the short interest log provides exact values on a semi-weekly basis.



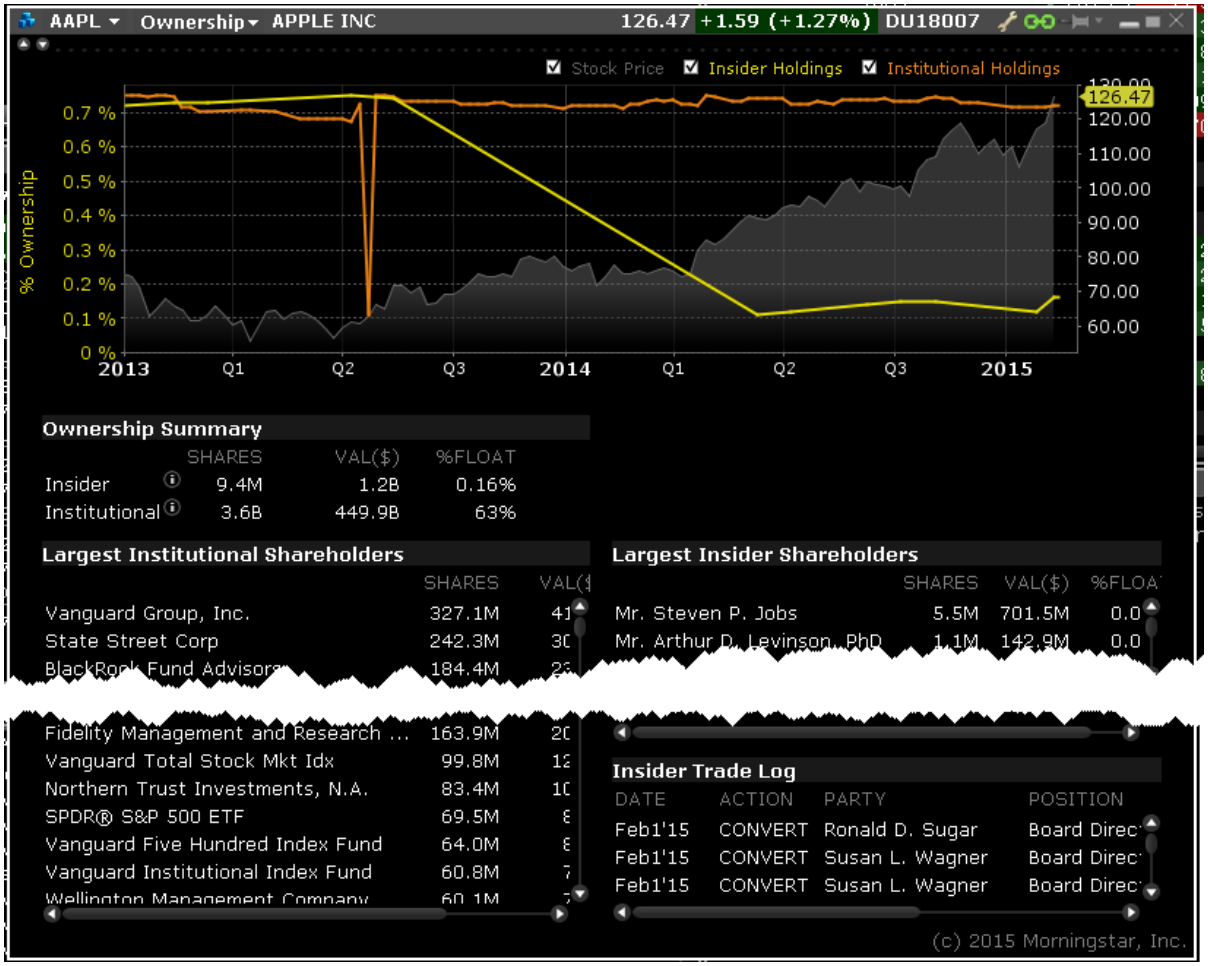
To view the Short Interest Tear Sheet

From within Mosaic, use the New Window drop down to select **Fundamentals** then *Short Interest*.



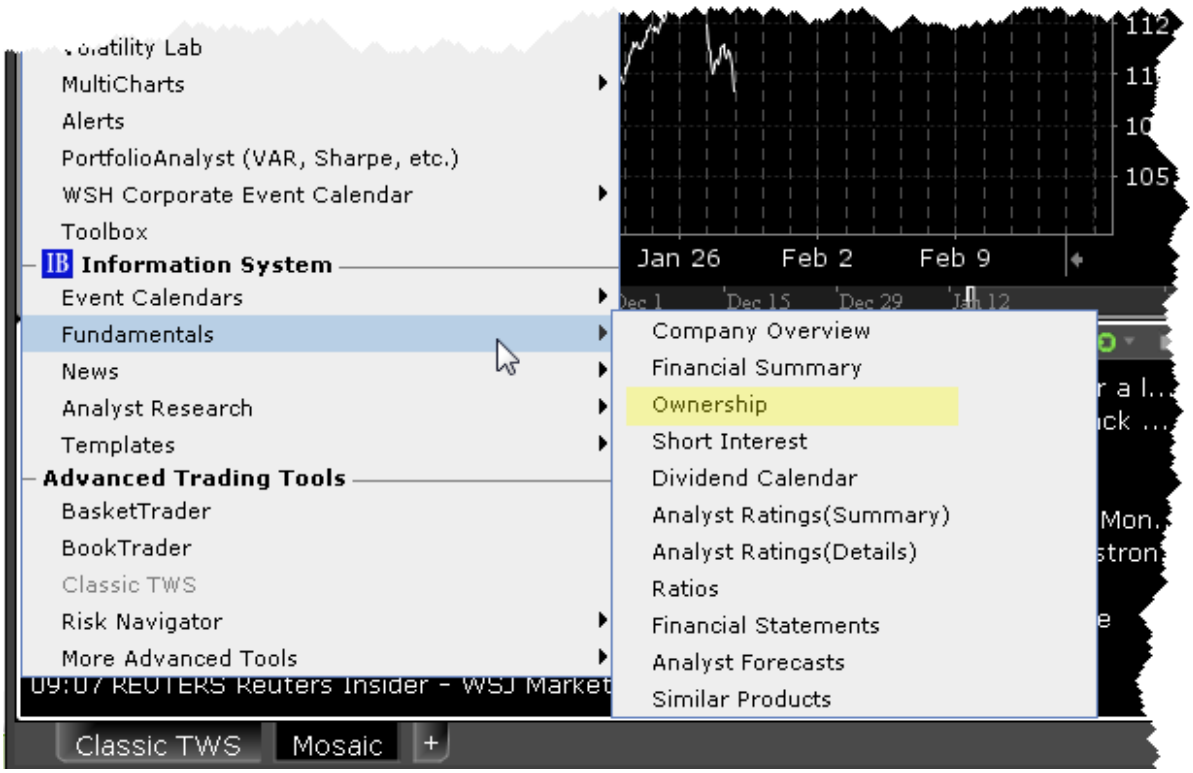
Ownership Tear Sheet

Detailed insider and institutional ownership statistics and graphs to incorporate into your investment strategies. The Insider and Institutional Ownership tear sheet provides detailed institutional and insider ownership rosters with a graph of ownership percentage over time, and an insider trade log.



To view Ownership Tear Sheet

From within Mosaic, use the New Window drop down to select **Fundamentals** then *Ownership)*.



Mosaic News Panel

The News panel groups all of your news feeds into a single window.

Many of the feeds require a paid subscription. If you are not subscribed, you will not see the selection in your news list.

Bloomberg TV News Feed

Watch live TV from the Bloomberg TV news feed.

To watch Bloomberg TV

From within the Mosaic News panel, click the icon to add a page, located at the end of the current tabset.

Select **Bloomberg TV** from the drop down list of news feeds.

Click the “Play” icon to watch news.

Note: Use the “Expand” function or double-click the title bar to enlarge the Bloomberg TV viewing screen.

StockTwits News Feed

Add the StockTwits news feed to your Mosaic news panel to find out what real traders and investors are saying. Real headlines in real language.

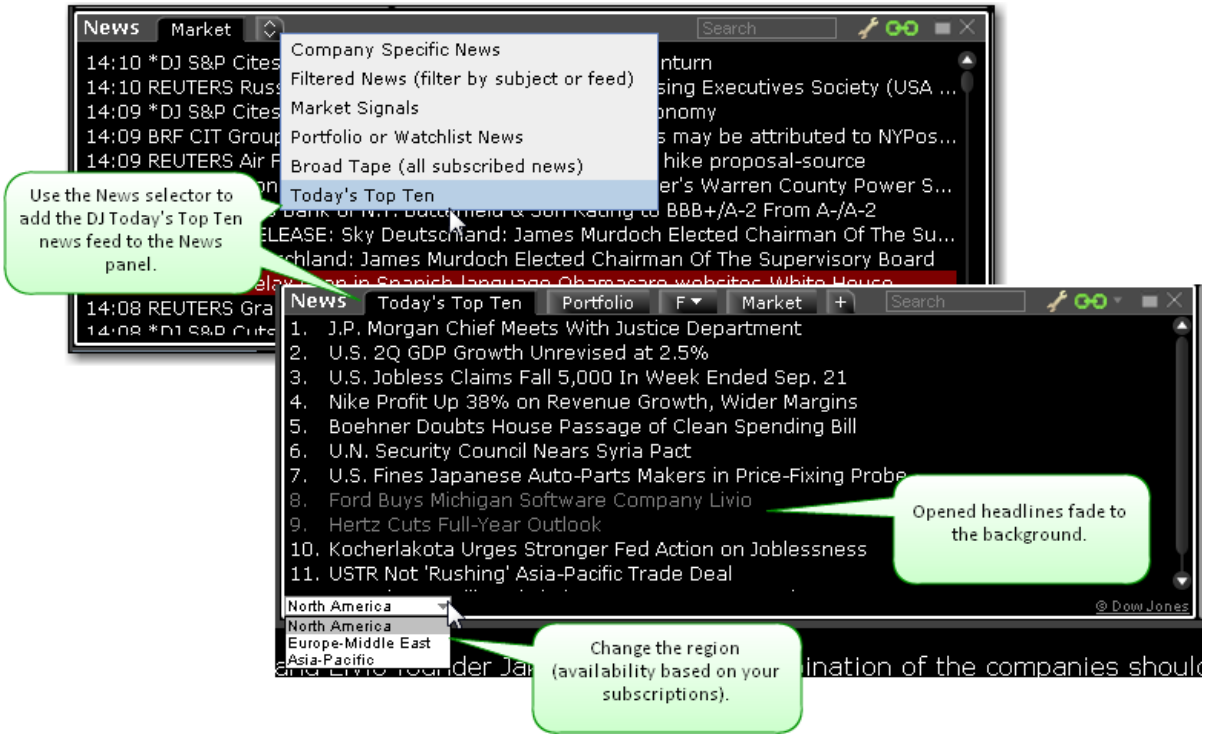
Add the StockTwits news feed

From within the Mosaic News panel, click the icon to add a page, located at the end of the current tabset.

Select **StockTwits** from the drop down list of news feeds to create the news feed tab.

Today's Top Ten News

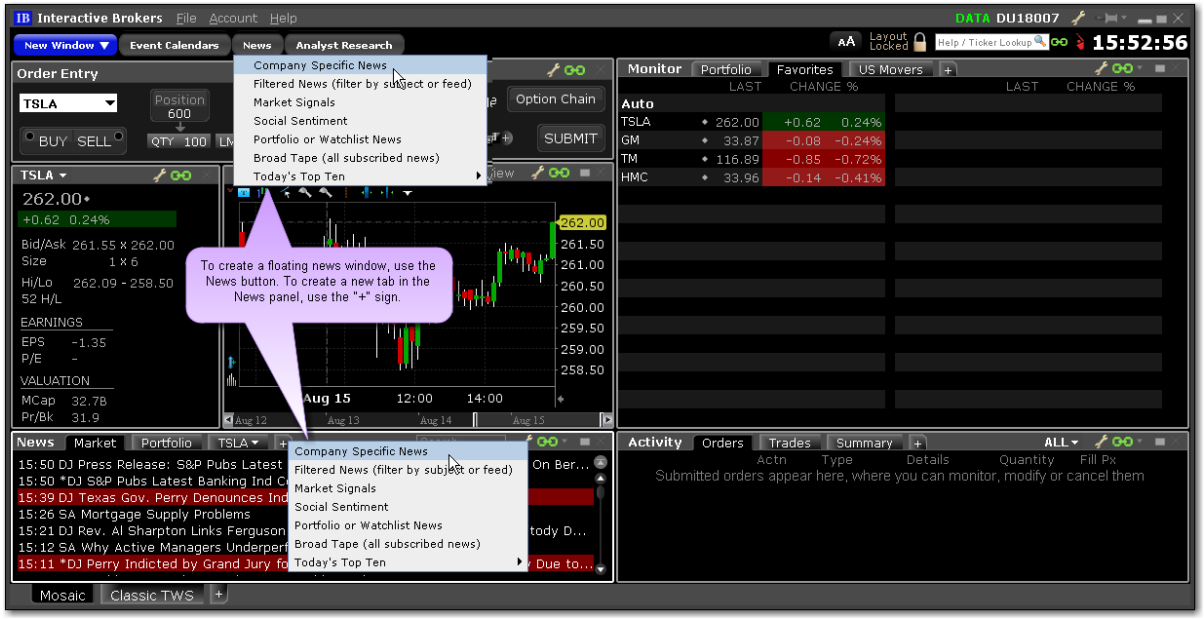
IBISsubscribers with a Dow Jones news subscription can elect to view the DJ Today's Top Ten items by adding Top Ten from the News panel.



Click a top news headline to view the full content.

Company Specific News

Displays real-time streaming news for the underlying selected in any grouped window.



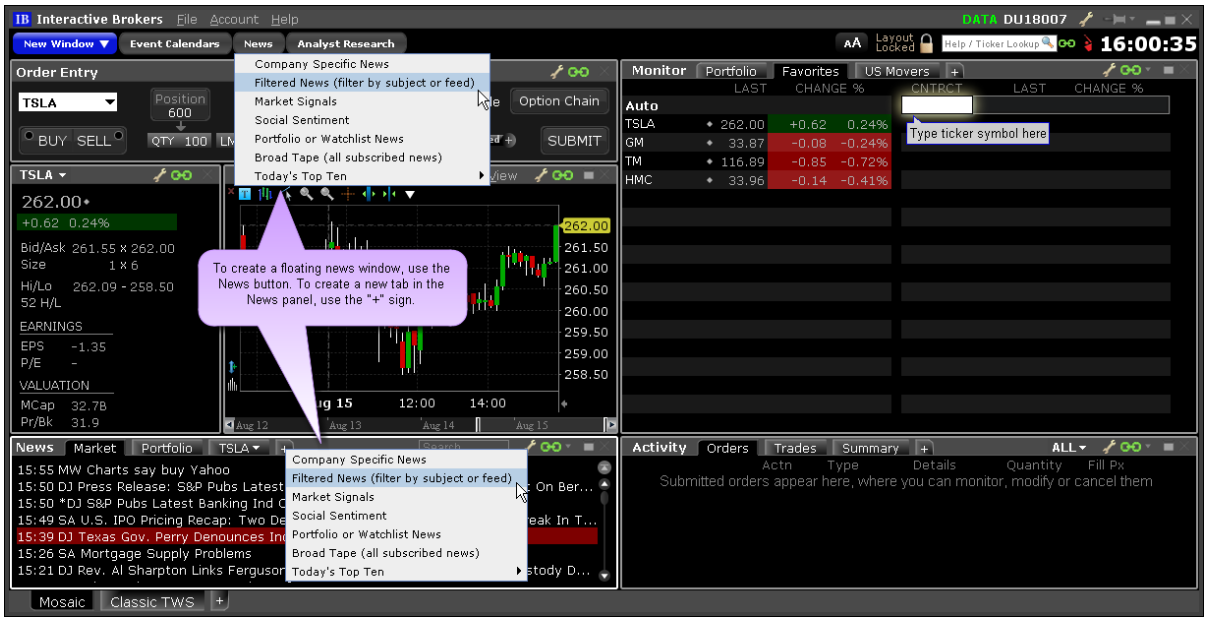
To view Company Specific News

From Mosaic - From the News panel, click the "+" sign and select *Company Specific News*. Or, from the **News** button, select *Company Specific News*.

From Classic TWS - From the **Analytical Tools** menu select *Company Specific News*.

Filtered News

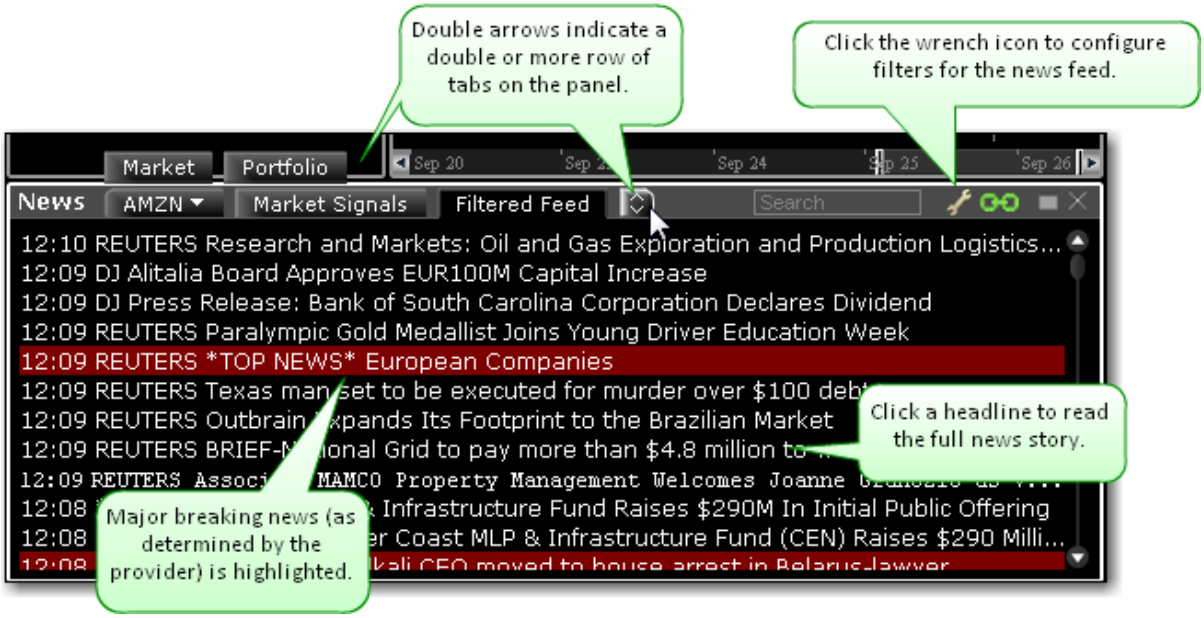
View real-time streaming general news that you can filter by subject. Add Market Signals as part of your integrated news headlines. Note that the Filtered News window cannot be part of a windows group.



To view Filtered News

From Mosaic - From the News panel, click the "+" sign and select *Company Specific News*. Or, from the **News** button, select *Company Specific News*.

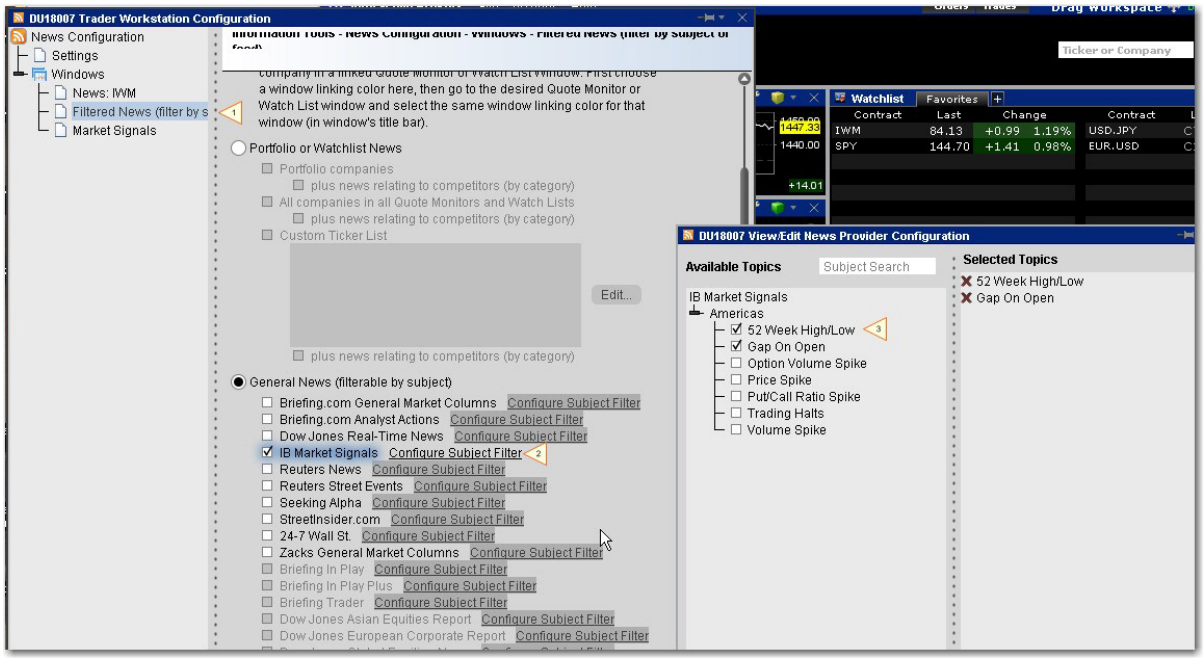
From Classic TWS - From the **Analytical Tools** menu select *Filtered News*.



Market Signals

IB's data servers continuously scan the markets for irregular price and volume actions and transmit these notifications directly to your TWS in the form of Market Signal alerts. Available market signals include price spikes, irregular volume spikes, new 52 week highs/lows, put/call ratio spikes, trading halts and more.

Market Signals can be integrated into the general news headlines in the **Filtered News** window, or viewed as a separate feed in the **Market Signals** window. By default, the Market Signal alert "Gap On Open" is active in the Filtered News window.



To add Market Signals to Filtered News

From the Filtered News title bar, click the Configure wrench icon.

Ensure that Filtered News is selected in the left pane.

In the right pane, select General News and click *Configure Subject Filter* next to **IB Market Signals**.

Select the signals to add using the checkboxes and apply.

To use the Market Signals window

From the News panel, click the "+" sign and select *Market Signals*.

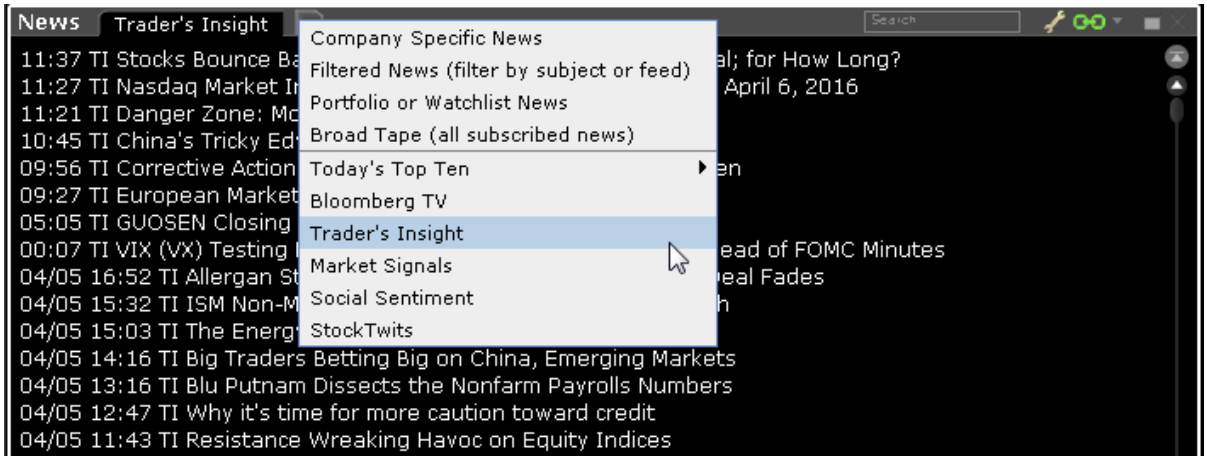
From the Market Signals title bar, click the wrench-shaped Configure icon and then click *Settings*.

In the right pane of Global Configuration under Market Signals, click *Configure Subject Filter*.

Select the signals to add using the checkboxes, and apply.

Traders' Insight News Feed

The IB Traders' Insight, designed to give traders an edge with daily global market commentary written by traders and industry contributors, is now available as a separate news feed in TWS.



To add a Traders' Insight News Feed

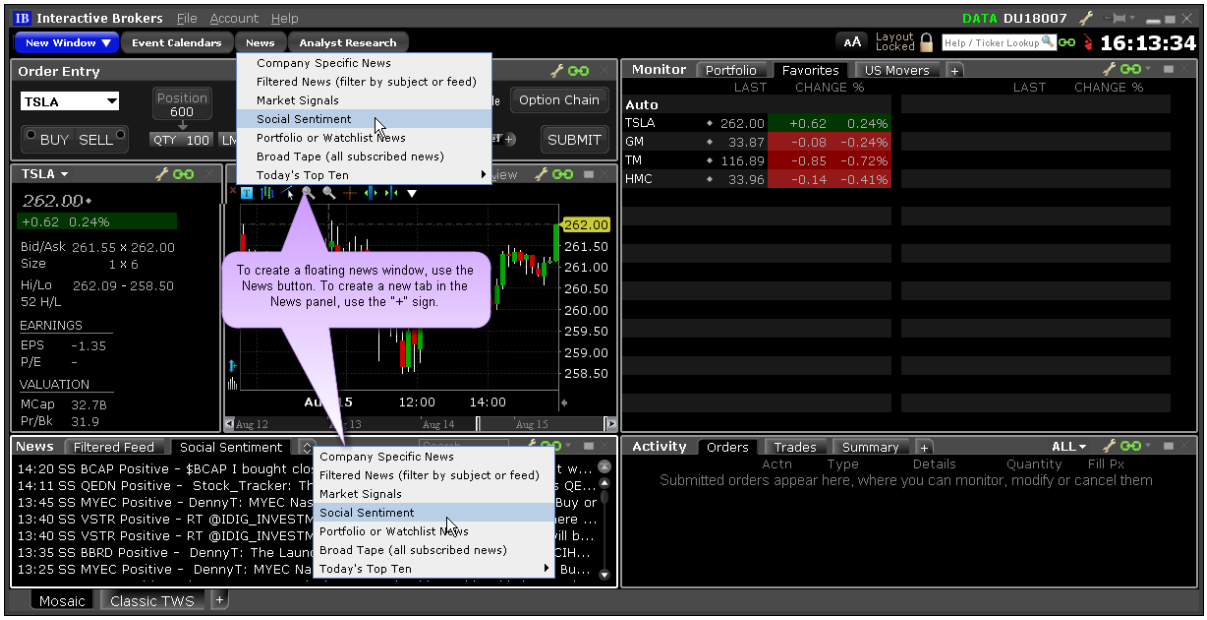
From within the Mosaic News panel, click the icon to add a page, located at the end of the current tabset.

Select Traders' Insight from the drop down list of news feeds.

All Traders' Insight headlines use the prefix "TI" to identify them.

Social Sentiment

Social Sentiment is included in the Filtered Feed. Social Sentiment news headlines are identified by the prefix SS. You can also created a Social Sentiment news tab or floating window.



To view Social Sentiment

From Mosaic - From the News panel, click the "+" sign and select *Social Sentiment*. Or, from the **News** button, select **Social Sentiment** to create a separate window.

From Classic TWS - From the **Analytical Tools** menu select *Social Sentiment*.

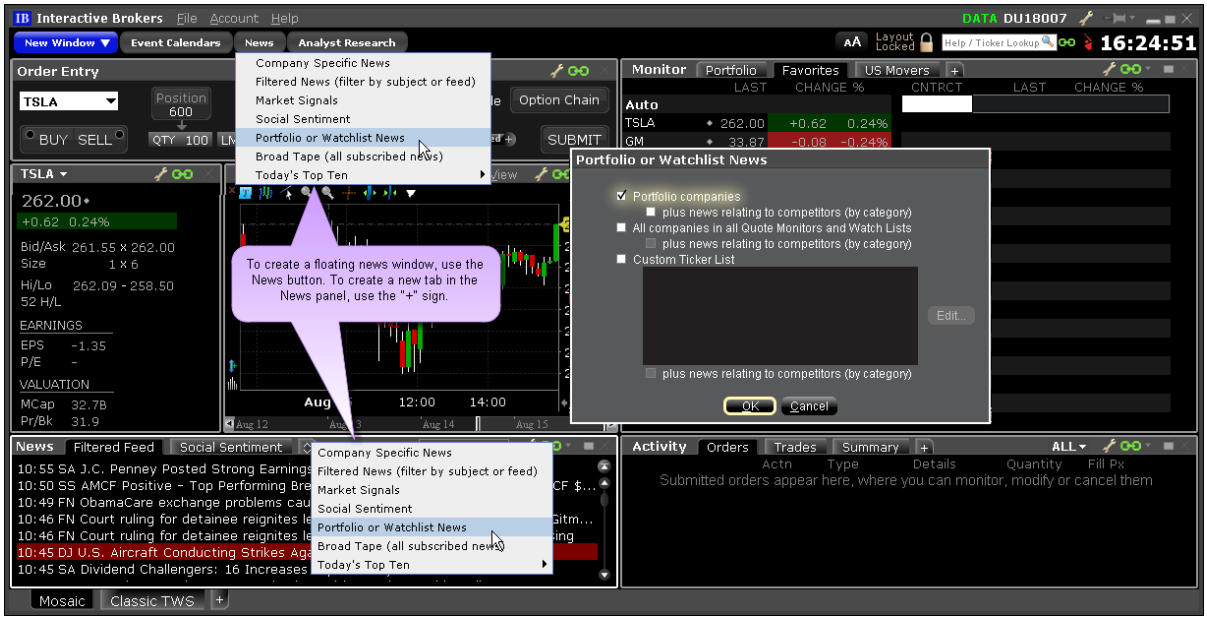
Portfolio or Watchlist News

Show news for:

Companies in your portfolio, plus news relating to competitors or those companies.

All companies listed in your Watchlists and in the Quote Monitor in TWS, plus news relating to competitors of those companies.

A custom-defined list of companies.



To view Portfolio or Watchlist News

From Mosaic

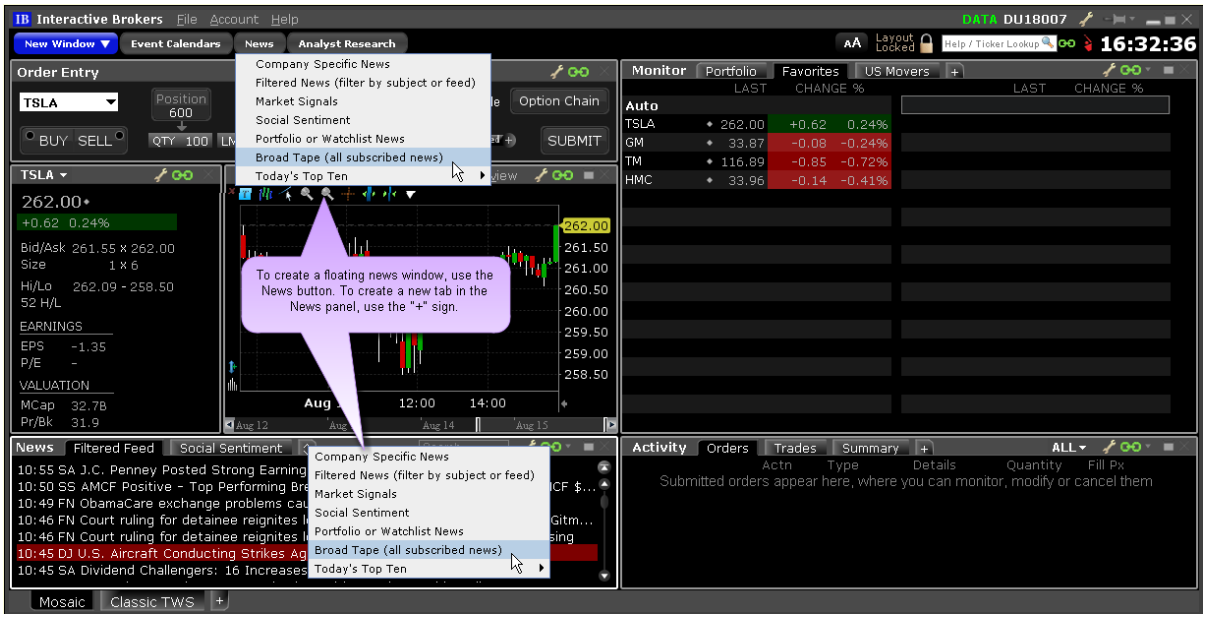
1. From the News panel, click the "+" sign and select *Portfolio or Watchlist News*. Or, from the **News** button, select **Portfolio or Watchlist News** to create a separate window.
2. In the settings dialog to indicate which tickers to use for headlines. Check one or multiple selections.

From Classic TWS

1. From the **Analytical Tools** menu select *Portfolio or Watchlist News*.
2. In the settings dialog to indicate which tickers to use for headlines. Check one or multiple selections.

Broad Tape News

Displays news from all subscribed news wires.



To view Broad Tape News

From Mosaic - From the News panel, click the "+" sign and select *Broad Tape News*. Or, from the **News** button, select **Broad Tape News** to create a separate window.

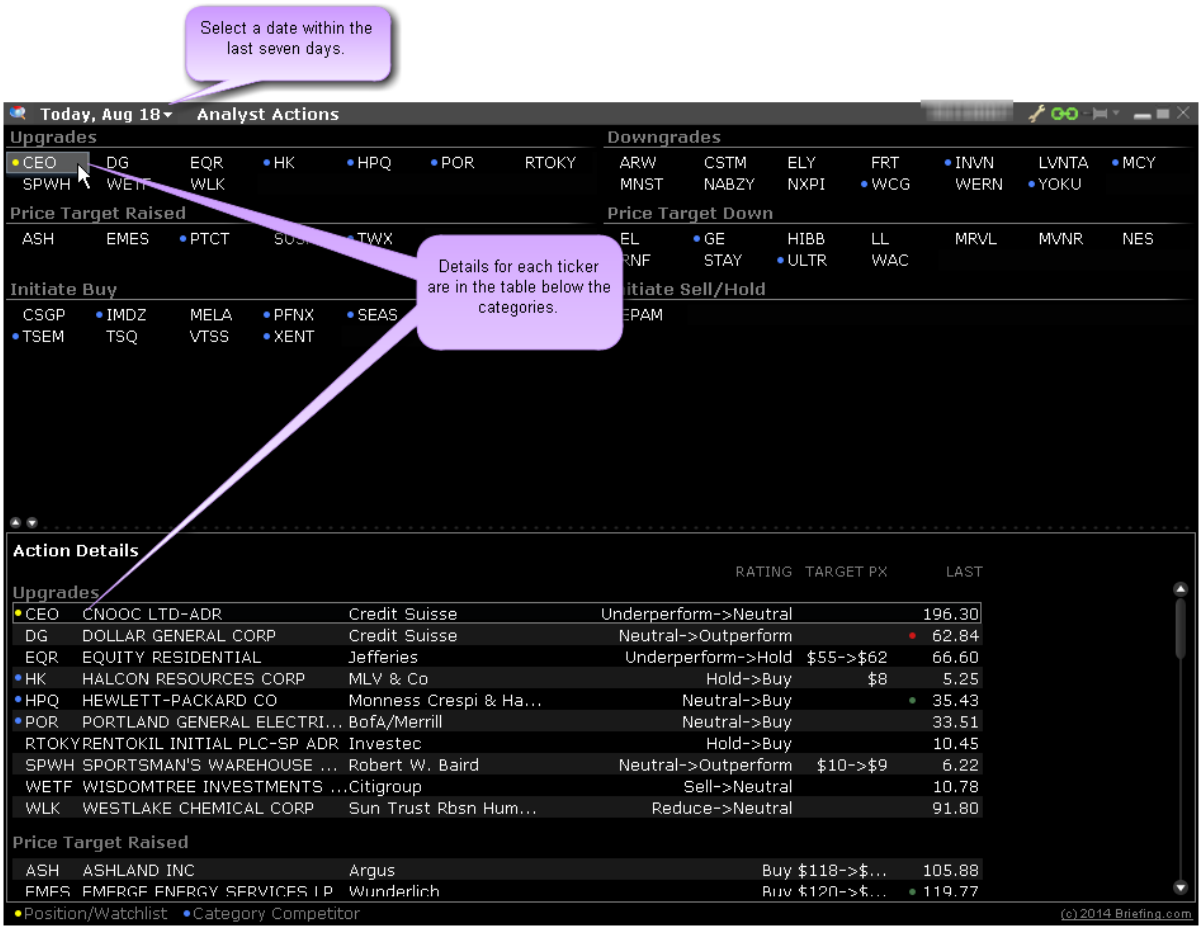
From Classic TWS - From the **Analytical Tools** menu select *Broad Tape News*.

Analyst Research

Research and analysis from top providers.

Analyst Actions

The top panel summarizes upgrade/downgrade activity for companies including those in your watchlist and portfolio and competitors of those companies. The lower panel provides upgrade/downgrade details. Yellow tick dot identifies Watchlist or portfolio companies; blue tick dot identifies category competitors.



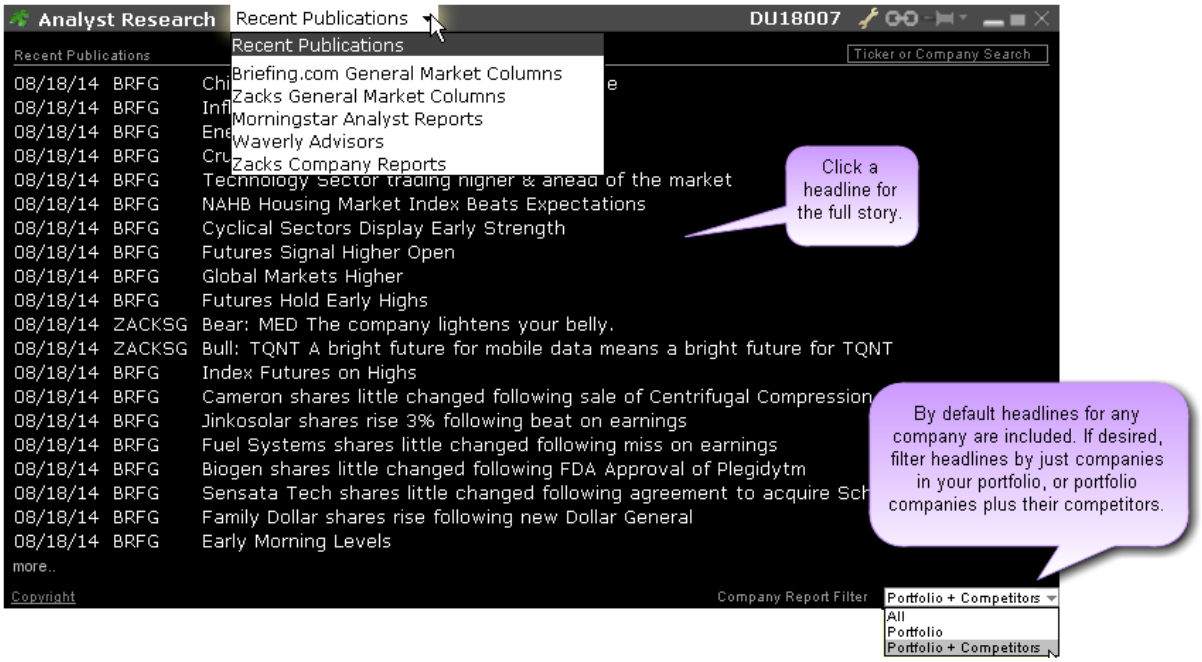
To open the Analyst Actions window

From Mosaic - From the New Window drop down select **Analyst Research** and then *Analyst Actions*.

From Classic TWS - From the **Analytical Tools** menu, select **Analyst Research** and then *Analyst Actions*.

Recent Publications

Recent headlines from all or any of your subscribed publications are listed.



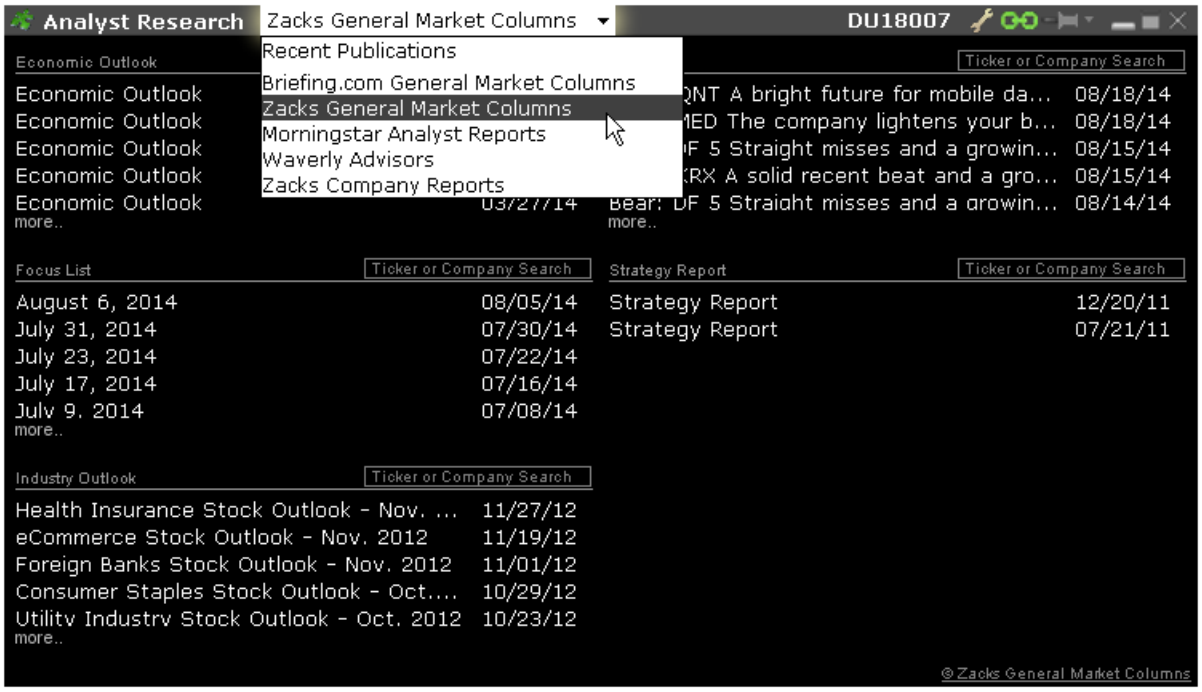
To open Recent Publications

From Mosaic - From the New Window drop down select **Analyst Research** and then *Recent Publications*.

From Classic TWS - From the **Analytical Tools** menu select *Analyst Research* and then *Recent Publications*.

Market Columns and Reports

View briefing.com and Zack's General Market Columns using the selector field. View subscription-based Morningstar Analyst Reports, Waverly Advisors and Zack's Company Reports.

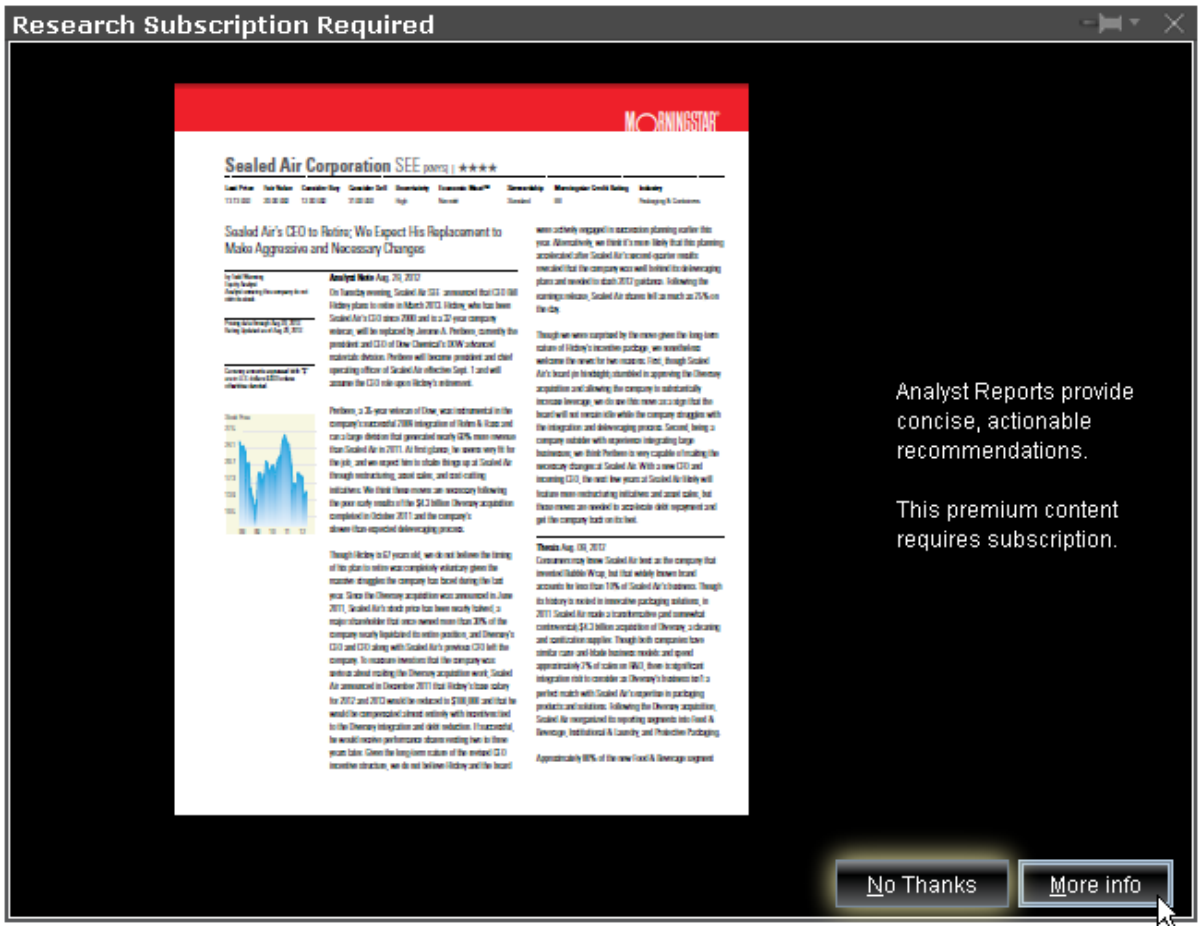


To view Analyst Research Market Columns and Reports

From Mosaic - From the New Window drop down select **Analyst Research** and then choose a specific report.

From Classic TWS - From the Analytical Tools menu select **Analyst Research** and then choose a specific report.

To subscribe to any subscription- based report, select the report and click **More Info** to open the Subscription Manager in Account Management.


Research Subscription Required
Sealed Air Corporation
Sealed Air's CEO to Retire; We Expect His Replacement to Make Aggressive and Necessary Changes
Analyst Reports provide concise, actionable recommendations.
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3

Trading Tools

TWS provides a comprehensive collection of specialized trading tools that function separately as stand-alone windows, and in conjunction with other TWS tools. Our expanding family of order management applications include:

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BasketTrader

Use the BasketTrader to manage groups of orders on multiple products, and to easily create an order group modeled on a popular index.

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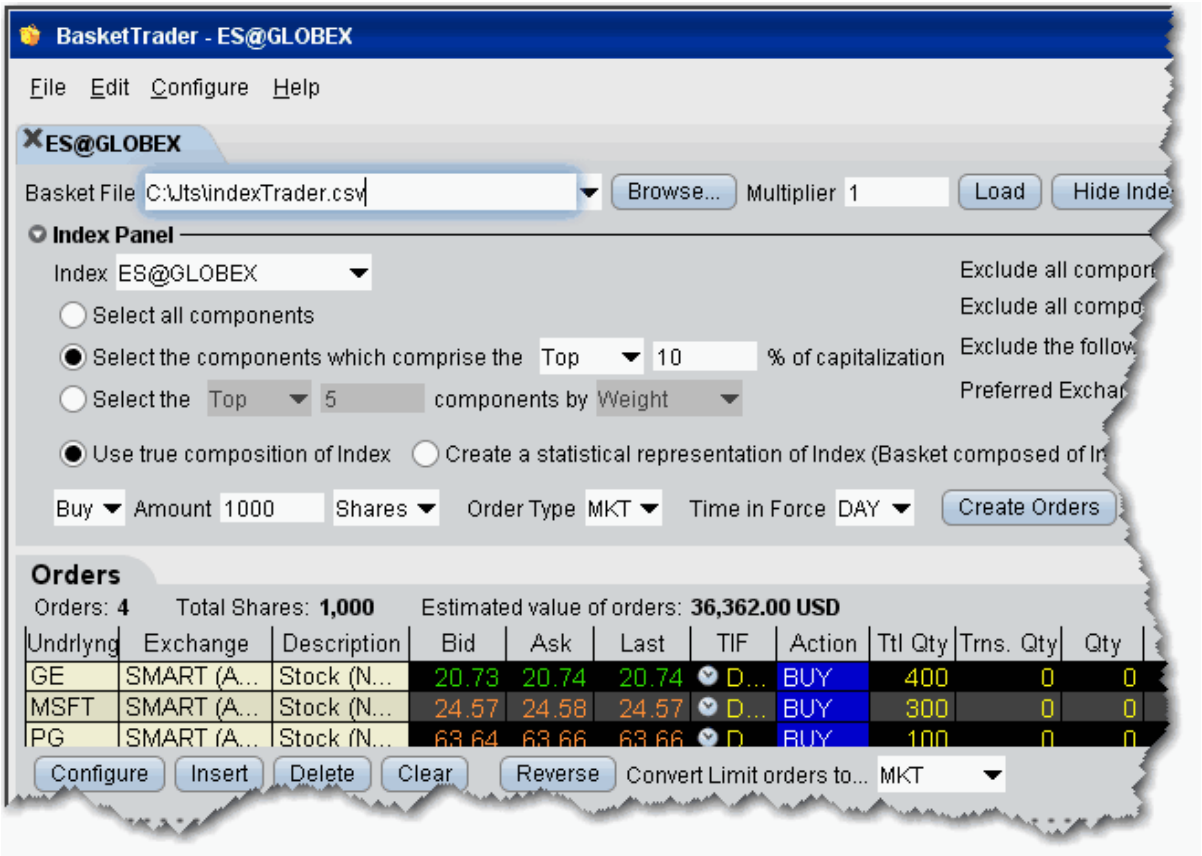
Send a Basket Order

Before you can select and transmit a basket order, you must create and save the basket file.

You can modify a basket order before you send it by adding or removing assets, changing the multiplier and quantities, and reversing the order sides and then converting limit orders to market or relative orders. You can also elect to create a basket file based on a selected **index** using the index composition or statistical composition. Use the criteria selections to fine-tune your index basket. If you choose to base your index basket on the index composition, the system automatically keeps the basket in line with the index composition as it changes.

When you send a basket order, each order in the basket is cleared individually. If your account does not meet margin requirements, it is possible that only a portion of the basket order will execute.

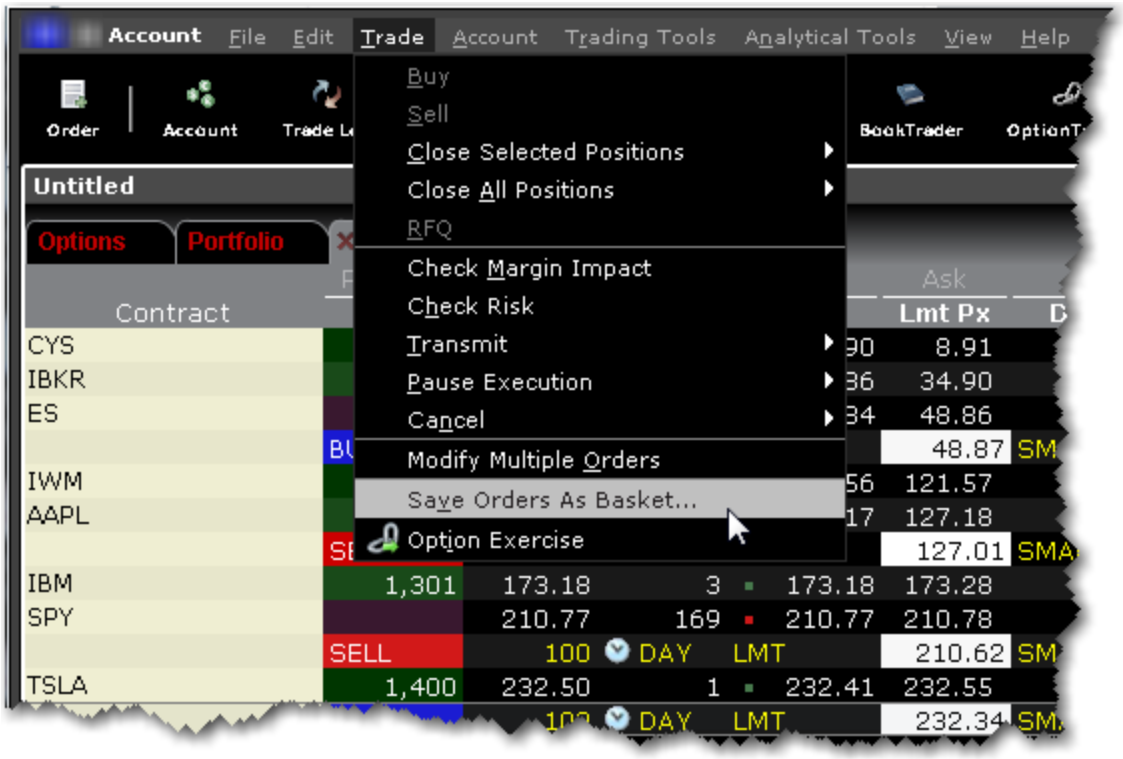


To send a basket order

1. On the **Tools** menu, select *BasketTrader,* or click the Basket icon on the trading toolbar.
2. In the **Basket File** field, use the drop-down list to select a basket, or click the *Browse* button to find a basket file that doesn't appear in the list. Use the IndexTrader panel to create a basket based on an index or a portion of an index.
3. Modify the **Multiplier** if necessary. This value multiplies the quantity of each order in the basket.
4. Click **Load** to populate the Orders tab with the orders in the basket.
5. Modify order parameters if necessary, and click Transmit in the **Execute Basket** panel to transmit the entire basket order. You can transmit individual orders within the basket using the market data lines in the **Orders** tab and clicking the "T" in the status field.

Create a Basket File in TWS

TWS will automatically create a basket file from a group of non-transmitted orders on a trading page. When you want to trade or manage baskets, open the basket file from the BasketTrader. You can also create a basket file manually, outside of TWS, but we recommend using the TWSautomated process to get the file started.



Note: TWScreates a basket file from orders on a single trading page. You can easily combine orders from multiple files into one using MS Excel.

To automatically create a basket file

From within the Classic TWS interface:

1. Create orders to include in the basket file.

   Click the Ask Price on a market data line to create a BUY order.

   Click the Bid Price on a market data line to create a SELL order.

2. Modify order parameters and define order attributes.
3. On the **Trade** menu, select *Save Orders as Basket*.

If *Save Orders as Basket* is not visible, click the Hidden Features arrow at the bottom of the menu to display the command.

4. In the dialog box, review or rename the file and use a .csv extension (i.e. stocks.csv) and click OK.

The system uses the Trading page name as the default basket name.

5. Cancel the orders you created. Use the **Trade** menu and select *Cancel* then *Cancel All Orders on Page*.

The BasketTrader supports Bracket orders, but baskets that include brackets will have the Reverse and Cancel and Reverse features disabled. Remember to create the bracket order(s) on the Quote Monitor and then save the brackets as a basket file. You cannot create bracket orders within the BasketTrader itself.

Manually Create a Basket File

We highly recommend that you first create a TWS basket file from a trading page using several different order types and products. Then open the sample file in Excel and use this as your starting point to edit the fields and create new rows. The key to the basket file is the relationship between the header row and order rows. The header fields can occur in any order as long as the values in the order rows correspond to the Header field.

The basket file is formatted as follows, where the top row is the Header row, and subsequent rows are orders rows. The Header Row includes field titles for each order value. The Order Row includes order values that correspond with the required field title for that order type.

Field 1 value	Field 2 value	Field 3 value	Field 4	Field 5 value	Field 6 value	Field 7	Field 8 value
value	value	value	value	value		value	value

value	value	value	value	value	value	value	value

For example:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Action	Quantity	Symbol	SecType	LastTradingDayOrContractMonth	DivPrt	Exchang	Currency	TimeInFor	OrderType	LmtPrice	Strike	Right	
2	BUY	5	IBM	FUT	20150918	TRUE	ONE	USD	DAY	LMT	176.22			
3	BUY	4	AAPL	OPT	20150515		SMART/	USD	DAY	LMT	3.64	127	C	
4	BUY	5000	AMZN	STK			SMART/	USD	DAY	LMT	423			
5														
6														

Notes about creating basket files:

For derivatives, if you use the format YYYYMM, we understand you are using the last trading day. If you use the format YYYYMM we understand you are identifying the contract month. Both formats are accepted in column E *LastTradingDayorContractMonth*.

Valid Header Row fields include all TWS fields.

Child values in the order row fields must match the fields in the parent Header Row in content. For example, if your Header Row field is *Symbol* and you enter the value **STK** in that field of the order row, your file will not be readable.

Basket files created in a text editor must be saved as a .csv (preferred) or .bsk file.

Although not recommended for new files, the .bsk file extension is still supported in the new basket layout.

For basket files created in a text editor, do not leave a space between a value and its comma, or TWS will not be able to read the file.

If you create your basket file in Excel, enter only one value (or no value) per cell and DO NOT use commas.

Save your Excel basket file as a .csv file.

Fields in the Header Row need not be in any specific order as long as they have a corresponding correct value in the order row field.

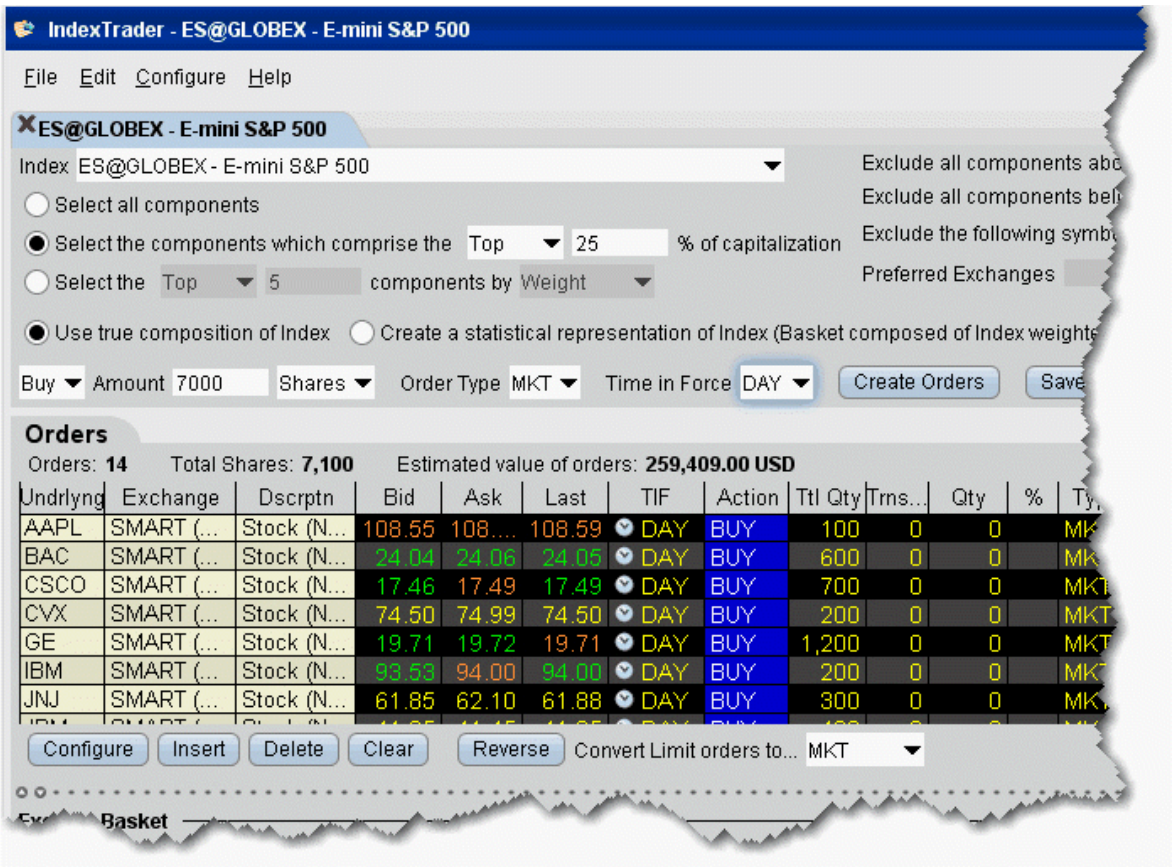
If the order does not require a field value, that field can be left blank.

The major differences between the original and improved basket file formats include:

Old Basket File	New Basket File
Old version supported only limited number of pre-defined fields.	New version supports all TWS fields.
Old version required you to enter order values in a specific sequence.	New version **does not** require any specific order sequence for fields.
Old version required only order values (since the "header" fields were hard-coded into TWS).	New version requires a header row with order-specific field titles. Use multiple header rows in a single basket for order types that require different field values.
Old version required blank placeholders for values that were not required.	New version requires an exact one-to-one relationship between a header field and an order value; you cannot leave an order field blank if there is a header field defined.
Old version was saved as .bsk (TWS-specific) file.	New version uses .csv (generic) file extension.

IndexTrader

The IndexTrader helps you create a basket order based on an index. Use the IndexTrader as a standalone window, or as the Index Panel in the BasketTrader window.



To open the IndexTrader

From the **Trading Tools** menu, select *IndexTrader* from the **Multi Contract** group.

BookTrader

Create an order at any price, including the best bid and ask, with a single click in the BookTrader price ladder.

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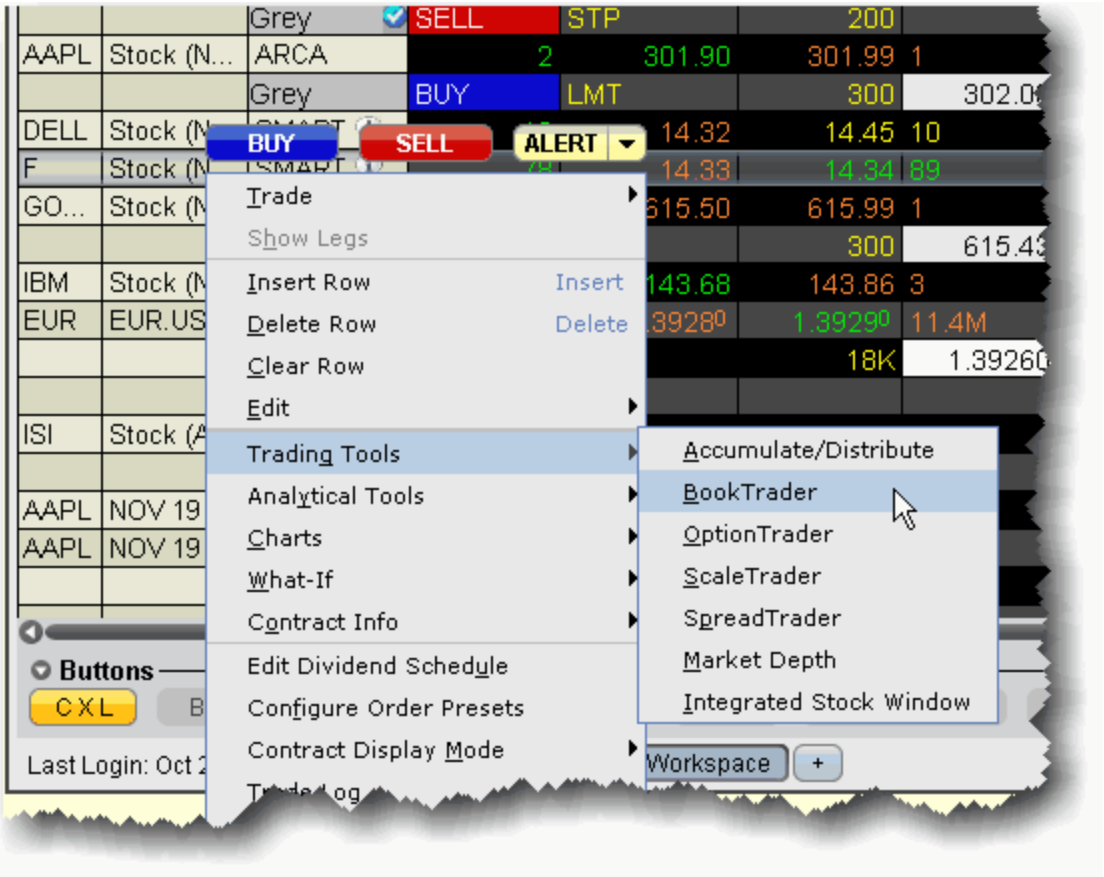
Open BookTrader

Create an order at any price, including the best bid and ask, with a single click in the BookTrader price ladder. **BookTrader** displays as a separate window for whichever contract you select. It shows a series of prices above and below the best bid and ask in the price ladder.

To open BookTrader

1. Select a contract on the trading page.
2. Right click and select **Trading Tools**, then select *BookTrader.*



Orders transmitted from BookTrader are displayed on the **Pending** page and in the Orders panel of the BookTrader.

NOTES:

The number of deep book data windows that you can display at one time (including BookTrader, ISW and Market Depth) is equal to 1 for every 100 allowed lines of market data, with a minimum of three and a maximum of 30. Market data allowance is based on commissions, available equity and other criteria. So a client with the minimum allowance of 100 lines of market data will be able to open 3 deep book windows. A client with an allowance of 500 lines of market data will be able to open 5 unique deep book windows.
For details on how market data allowances are calculated, see the Market Data and News overview page on the IB website.
When subscription deep book data is at its window limit, additional windows will display aggregated top level data, and the Deep Button panel will be hidden.
By default, BookTrader uses specific colors to convey information. You can customize these colors by clicking the Configure button on the toolbar, and then selecting BookTrader Colors.
The current Cumulative Bid and Ask sizes are displayed at the top of the Bid Size and Ask Size columns. To turn this feature off, use the **Configure** > *Settings* page.
When the inside market (or last trade price) moves outside the display area, the ladder will automatically re-center on the inside market (or last trade price). When the user is scrolling the ladder using either the Up/Down arrow keys or the scrollbars, and the inside market (or last trade price) falls outside of the display area, auto-recentering will occur five seconds after the user has completed scrolling. This five-second time period is counted down visually using an optional animated progress bar which is configurable in the Re-center panel of the BookTrader Settings page.
By default, clicking in any size field initiates an order. If the order hasn't filled and you click another size, the current unexecuted order is canceled and replaced with the new order.

You can modify the way multiple same-side orders are handled from the Settings page in BookTrader configuration.

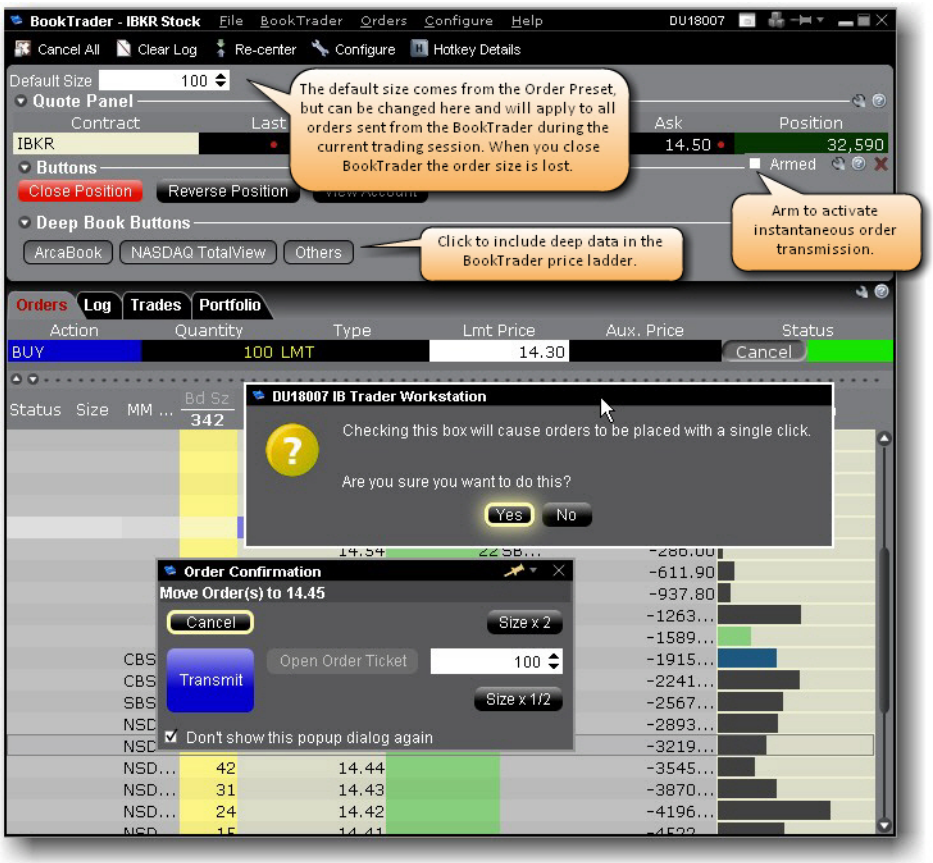
You can open a blank BookTrader window by clicking the BookTrader icon on the trading toolbar. Use the Underlying field to initiate contract selection.

Trade with BookTrader

To trade with BookTrader, click the Bid Size or Ask Size at a certain price level in the price ladder. The first time you submit an order, you will be asked to confirm the order parameters. In this box you have the option not to show the confirmation box again, and if you elect this option your orders will transmit instantaneously from that point forward.

Default mouse actions are described below. You can modify the default settings that control how orders are handled using the *Settings* page in **BookTrader** configuration.

By default, the option to *Use context cursors in armed mode* is activated on the BookTrader Settings configuration page. This feature displays helpful order-related information when you hold your cursor over the Bid Size or Ask Size field in the price ladder.



To create a SELL Limit order in BookTrader

In the price ladder, click the **Ask Size** at the desired price level.

A limit order is created at the selected price level. You can manage the transmitted order from the Orders panel at the top of the price ladder.

To create a BUY Limit order in BookTrader

In the price ladder, click the **Bid Size** at the desired price level.

A limit order is created at the selected price level. You can manage the transmitted order from the Orders panel at the top of the price ladder.

Use the BookTrader Quantity Multiples to create a series of quick-click buttons at different size multiples of the default order quantity.

BookTrader Default Click Actions

The bullets below define the mouse click actions based on where you click:

Click on any **Bid size** to create a **Buy Limit** order at the selected price.

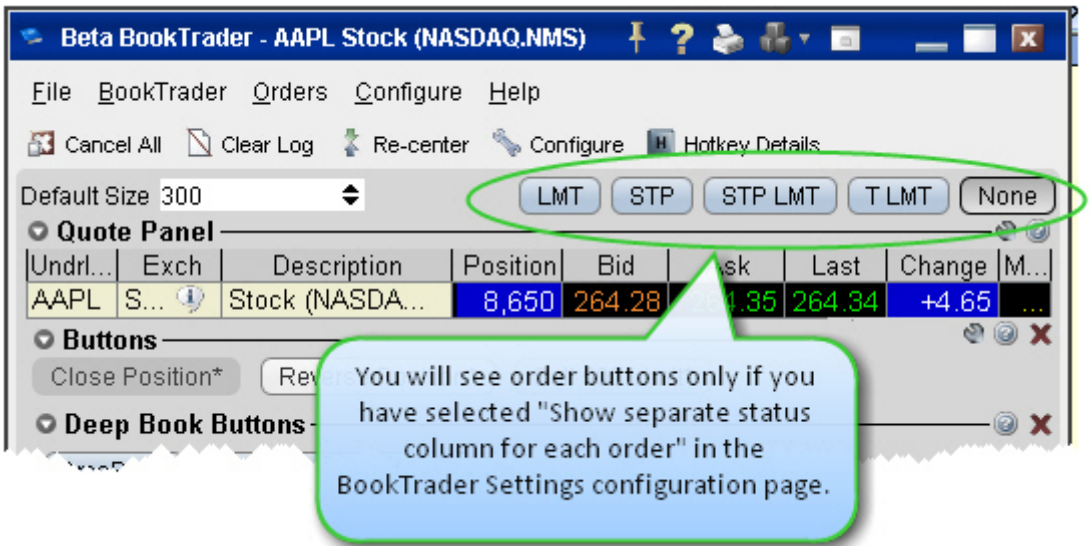
Click on any **Ask size** to create a **Sell Limit** order at the selected price.

Right-click on any **Bid size** to create a **Buy Stop** order.

Right-click on any **Ask size** to create a **Sell Stop** order.

Hold the **Alt** key and click on any **Bid** or **Ask** size to create a **Bracket** order.

Note: Note: The default click actions do not apply IF you have selected one of the BookTrader Order Type Select buttons.



For details on all system-configured BookTrader shortcuts, open the **BookTrader** *Hotkeys* window in Global Configuration.

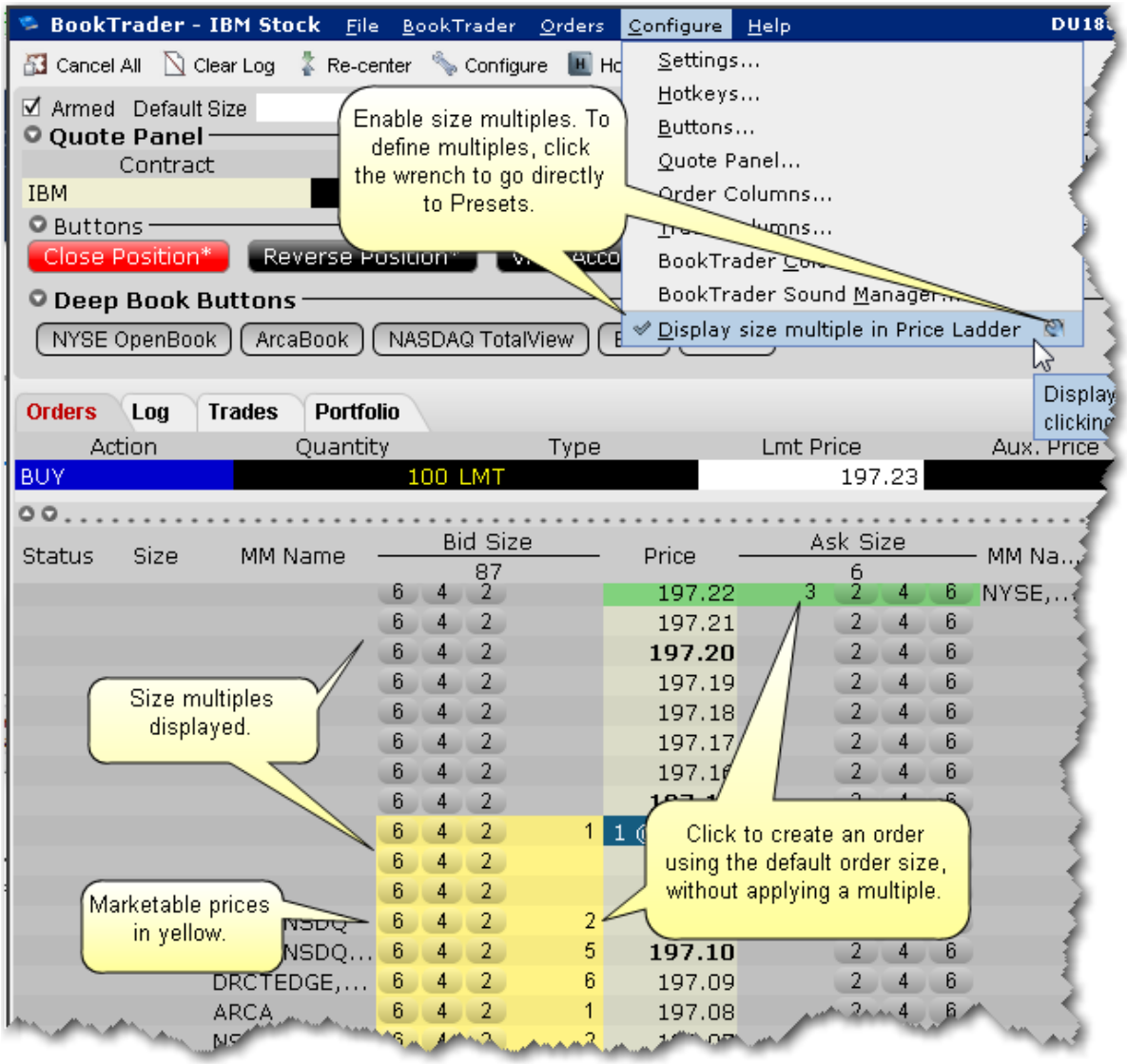
Default order information comes from the active order presets for the contract or instrument. For information on using presets, see the Configure Order Defaults and Presets topic.

BookTrader Quantity Multipliers

To help speed order placement, you can define size multipliers in the order Preset that will create multiples of the default order size and display them as quick-click order buttons in the BookTrader price ladder.

To set up BookTrader multipliers, use the Timing and Size section of the Order Presets. You can quickly access this page by clicking the Configure wrench at the bottom right of the BookTrader Configure menu.

Activate the feature within BookTrader by selecting *Display size multiple in Price Ladder* from the BookTrader *Configure* menu.



The size multiple creates and submits instantaneous orders in the amounts specified x lot size. In the above image for a stock, clicking the "6" multiple will create an order for 600 shares (6 x 100).

BookTrader Order Handling

Use the **Configure**>*Settings* area in **BookTrader** to change the way orders are handled and how the order status is displayed. For details see the Configure BookTrader topic.

When you select *Show separate status column for each order* in the **Price Ladder Status Column** area of the Settings configuration page, BookTrader works in Advanced Mode. This enables several key features:

First, it allows you to control BookTrader using only your keyboard. The mouse will still work to navigate, but for users who don't want to take the time to move from the keyboard to the mouse and back again, advanced mode gives you 100% keyboard control.
Second, when you create an order, a new *Order* column is created in which all parts of the order (parent and child orders) are visible and can be modified. The new *Order* column appears to the right of the price column for SELL orders (which you initiate by clicking in the *Ask Size* field) and to the left of the price column for BUY orders (which you initiate by clicking in the *Bid Size* field).
Third, the order type select buttons become available for activation.

Note: You can click in the Order column to create child orders that belong to the parent order in the Order column.
For example, if you create a buy Limit order, and then select the Target Limit order type button, when you click at a different price level in the **Order** column (rather than in the Size column) the target limit order is created as a child of the original limit order. If you click the Ask Size or Bid Size column, a new Order column is created with another order.

Each new Order column may contain up to 4 elements:

The parent order (LMT)
The stop order (STP)
The stop limit (SLMT)
The target limit order (TLMT) - this is the limit order created as part of a bracket order, or a stand-alone opposite-side limit order.

There are three ways to modify the price of an order; via the keyboard, by dragging with the mouse, or by using the mouse click.

To modify order price via the keyboard

1. Tab through the application until you are in the Price Ladder.
2. Use the up/down arrows to highlight the order line in the price ladder.
3. Use the left/right arrow keys to navigate to the order you want to modify.
4. Depress the **Shift** key to grab the order, and use the up/down arrow keys to move the order to a new price level.
5. Release the **Shift** key to transmit the new order.

To move parent and child orders together, for example a bracket or stop limit order, depress and hold the **Alt** key instead of the Shift key.

To modify order price by dragging with the mouse

1. Hold the mouse over the order until it becomes a two-headed arrow.
2. Click the order or suborder and drag it to a new price level.
3. Release the mouse key to create the order.

To move parent and child orders together, for example a bracket or stop limit order, press and hold the **Alt** key while you click and drag.

To modify order price with a mouse click

1. Click the order and press and hold the **Shift** key.
2. Click in the desired price level and release the **Shift** key to create the order.

To move parent and child orders together, for example a bracket or stop limit order, press and hold the **Alt** key instead of the Shift key in 1) above.

The size of the order can be modified in the Order Confirmation box, or by clicking in the row header and entering a new quantity as shown above.

Suborders can be canceled by right clicking on them (default) or using a hotkey. The bracket can be can canceled by clicking the **C** on the row header.

BookTrader Hotkeys

This topic discusses the hotkeys that are specific to BookTrader or that have customizable options specific to BookTrader.

For information on hotkeys that appear in the BookTrader hotkeys box but are available to all TWS windows, see the general Hotkeys topic.

Hotkey Action	Description
BookTrader	
Cancel Sub	This hotkey will cancel an order in the Price Ladder.

Order	
Decrease BookTrader Order Size	Set a left or right mouse-click event for a specific field that will decrease the order size of any BookTrader order by whatever number of ticks you define.
Increase BookTrader Order Size	Set a left or right mouse-click event for a specific field that will increase the order size of any BookTrader order by whatever number of ticks you define.
Re-center	Set a hotkey to recenter the focus to either the last traded price, or the midpoint bid/ask price. Set the re-center focus using the *Settings* page in the BookTrader configuration area.
Create Orders	
Add Auto Stop Order	Attaches an opposite-side stop order to the selected order.
Add Trailing Stop Order	Attaches an opposite-side trailing stop order to the selected order.
Attach Bracket Orders	Attaches a pair of orders (a limit and a stop order) to bracket the selected order.
Buy	Creates a buy order for the selected asset.
Buy or Sell Specific Product	Create a hotkey to buy or sell a specific product with it's own default order type, limit price, stop offset, time in force. etc. Use the Customize tab of the Configure Hotkey box to set product-specific details. If you select BookTrader Price for any of the price configurations, you will only be able to set a mouse-click shortcut since using the BookTrader Price requires you to

	click on a price in the price ladder.
Close Position	Creates an opposite-side order to close out the position on the selected contract.
Reverse Position	Creates an opposite-side order to reverse the position on the selected contract. By default you need to transmit the order manually, but you can elected to have this hotkey transmit reverse position orders instantaneously by checking the feature in the *Customize* area of the **Configure Hotkey** box.
Sell	Creates a sell order for the selected asset.
Modify/Transmit Orders	
Change Order to Market	Changes the order type of the selected order to a market order.
Decrease Price or Size	Decreases the order price or order quantity by a specified value.
Increase Price or Size	Increases the order price or order quantity by a specified value.
Modify Order Type	Displays the **Type** dropdown list to let you select a different order type for the active order.
Modify Time-in-Force	Displays the **Time in Force** dropdown list to let you select a different Time in Force for the active order.
Order Ticket	Opens the Order Ticket. If you've highlighted a ticker, the order ticket will be populated with that product.

Transmit Order	Transmits the selected order.
Update Limit Prices	Updates the limit price of the active, unexecuted order to reflect the price/offset you define on the *Customize* page of the **Configure Hotkey** box.
Cancel Orders	
Cancel All Orders	Cancels all orders on all pages in TWS.
Cancel Contract's Orders	Cancels all orders associated with a specific asset.
Cleanup orders	Removes orders from the page. Use the customize area of the configure Hotkey box to define whether to remove cancelled, filled and/or untransmitted (including deactivated) orders from either the active pages or all pages.
Deactivate	A deactivated order is cancelled but remains on the page ready to be transmitted.
Delete Rows/Cancel Orders	This hotkey can be configured to either delete rows, or delete and cancel orders.
Tools	
Add to Rebalance Window	Used to add a contract to the Rebalance window. This hotkey does not open, close or adjust any positions.
Arbitrage Meter	Opens the Arbitrage Meter for the active index market data line.

Integrated Stock Window	Opens the ISW.
Show FXTrader	Opens the FX Trader module.
Show Market Depth	Opens the Market Depth module.
Show OptionTrader	Opens the OptionTrader.
Show Rebalance Window	Opens the portfolio Rebalance window.
Show SpreadTrader	Opens the SpreadTrader.
Realtime Activity Monitoring	
Alarms	Opens the Alarm Settings box for the active contract.
View Alerts	Opens the Alerts window where you can view, edit or create an alert.
Analysis	
Model Navigator	Opens the Model Navigator window.
Show Fundamentals	Opens a Reuters Fundamentals page for the contract.
Show IB Risk NavigatorSM	Opens the IB Risk NavigatorSM, our real-time price/risk analytics tool.
Show Option	Opens the Option Analytics with focus on the selected

Analytics	options contract.
Show real-time charts	When you have a contract selected, this opens the New Chart window where you can set parameters for the active contract to create a real-time chart.
Miscellaneous	
Clear Log	Clears the Log panel.
Configure Order Presets	Opens the Presets configuration page for the active strategy.
Help Chat	Opens the customer service Chat area of the Account Management screen.
Minimize all windows	Minimizes all open windows and puts them on the bottom of the status bar.
Msg Center	Opens the customer service message center.
Request Trade Cancellation	Logs you into the Customer Service area of the Account Management screen.
Search TWS	Displays the Search field which you can use to find contract and application information.
Show Description	Displays the Description box for the selected contract.
Show Details	Displays contract details for the selected contract.
Show Earnings Estimate	For the selected contract, displays the Earnings estimate.
Show	For the selected contract, shows the account number and the

Positions	current position.
View Account	Opens the Account window.
View Trades	Opens the Trades window.

BookTrader Colors

BookTrader displays a lot of information in a small space using colors and numbers.

Market Data Colors

The market data colors display after BookTrader is armed but before any order is transmitted.

The **Bid Size** column shows marketable bid prices in yellow. Values in this column represent the size of an order at the specific price, and help show market depth.
The **Ask Size** column shows marketable ask prices in green. When a size appears in an ask size field, this indicates the current best ask.
The **Status** field remains gray until you submit an order.

Price Field - Background Colors

The **current best bid** price is shown by a **Yellow** background, with the size next to it in the *Bid Size* field.
The **current best ask** price is shown by a **Green** background, with the size next to it in the *Ask Size* field
The **Last** transaction is highlighted by a **Slate Blue** background.
The **High** price is highlighted by a **Bright Blue** background.
The **Low** price is highlight by a **Red** background.

The **Average Cost** (including commissions) is indicated by a highlight across the entire row. You'll only see this if you hold a position in the active contract.

BookTrader Colors

Column Name	Possible Color	Notes
Status		Once you transmit an order, the status colors change. See **Order Status Colors** table below.
Bid Size		Indicates the size of the current best bid.
		Indicates that a limit order has been transmitted (by clicking in the field).
		Indicates a stop order has been transmitted (by right-clicking in the field).

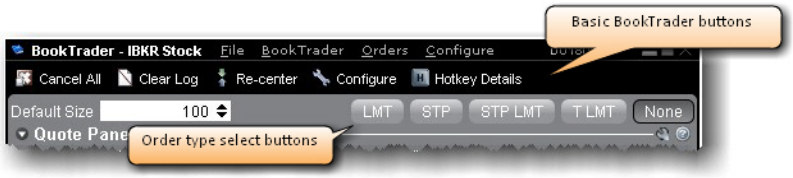
Price	No color	One in a range of prices displayed for the contract.
		The current best bid price.
		The current best ask price.
		The price at which the last order executed, and the size of the order.
		The current high price.
		The current low price.
Ask Size		Indicates the size of the current best ask.
		Indicates that a limit order has been transmitted (by clicking in the field).

		Indicates a stop order has been transmitted (by right-clicking in the field).

BookTrader Buttons

Order Type Select buttons

When you configure the **Price Ladder Status Column** to *Show separate status column for each order* from the Settings configuration page, the Order type select buttons function becomes available.



These buttons override the default mouse click functions of BookTrader to create only the order type selected. For example, if you click the LMT order type select button, any mouse click you perform in the price ladder, even a right-click, creates a limit order.

To release the order type function and return to the default click actions, click *None.*

Basic Buttons panel

The BookTrader toolbar also includes a basic buttons panel.

Cancel All - cancels all orders on the active BookTrader.

Clear Log - clears all order information from the white log area just above the buttons.

Re-center- click to keep the best bid/ask price or last traded price always visible in the center of the BookTrader screen. Use the Configure menu to elect to have the ladder recenter around the midpoint of the bid/ask, or the last price.

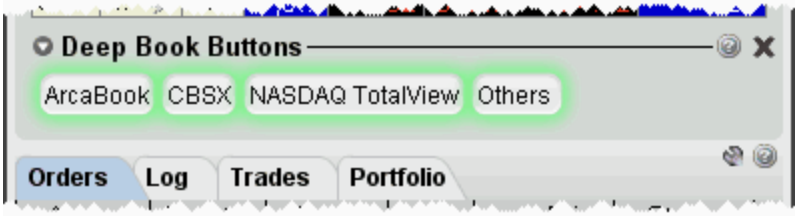
Configure- opens the Configuration dialog box.

Hotkey Details - displays a list of all current hotkeys for BookTrader.

Default size - displays the default order size based on the Preset for the instrument, and allows you to change the default order size for BookTrader orders without re-configuring the Preset.

Deep Book buttons

Use the Deep Book Buttons to filter out market data from the price ladder. De-select a button to filter out that data.



The *Others* button includes data from exchanges that don't offer deep data; Level I data from deep exchanges you have elected to filter out, and Level I data for exchanges that offer deep data but to which you do not subscribe. Hold your mouse over the button to see the exchange's data included.

ChartTrader

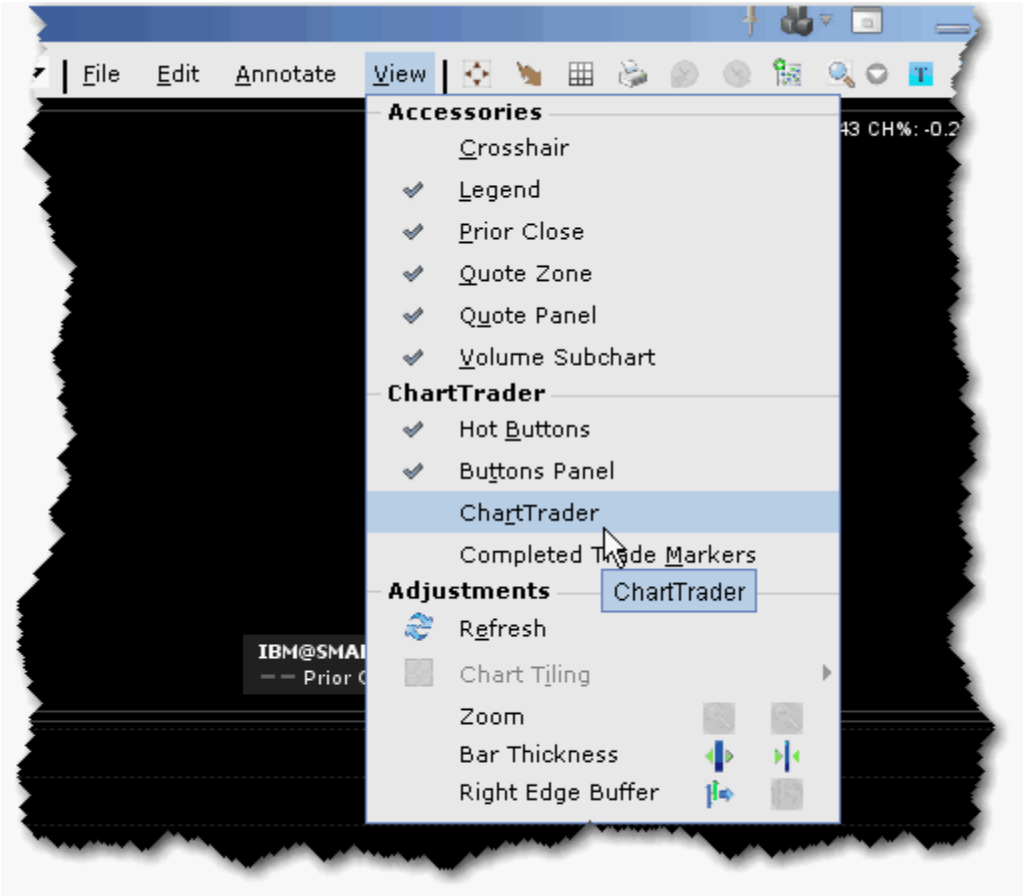
Use the ChartTrader to create and send orders directly from within any real-time chart.

Open ChartTrader **231**

Create and Transmit Chart Orders **232**

Open ChartTrader

You can trade directly from a real-time chart using ChartTrader, which you display from the ChartTrader menu from within a chart. Send instantaneous orders by clicking directly in the chart, or create and modify an order from the Quote panel.

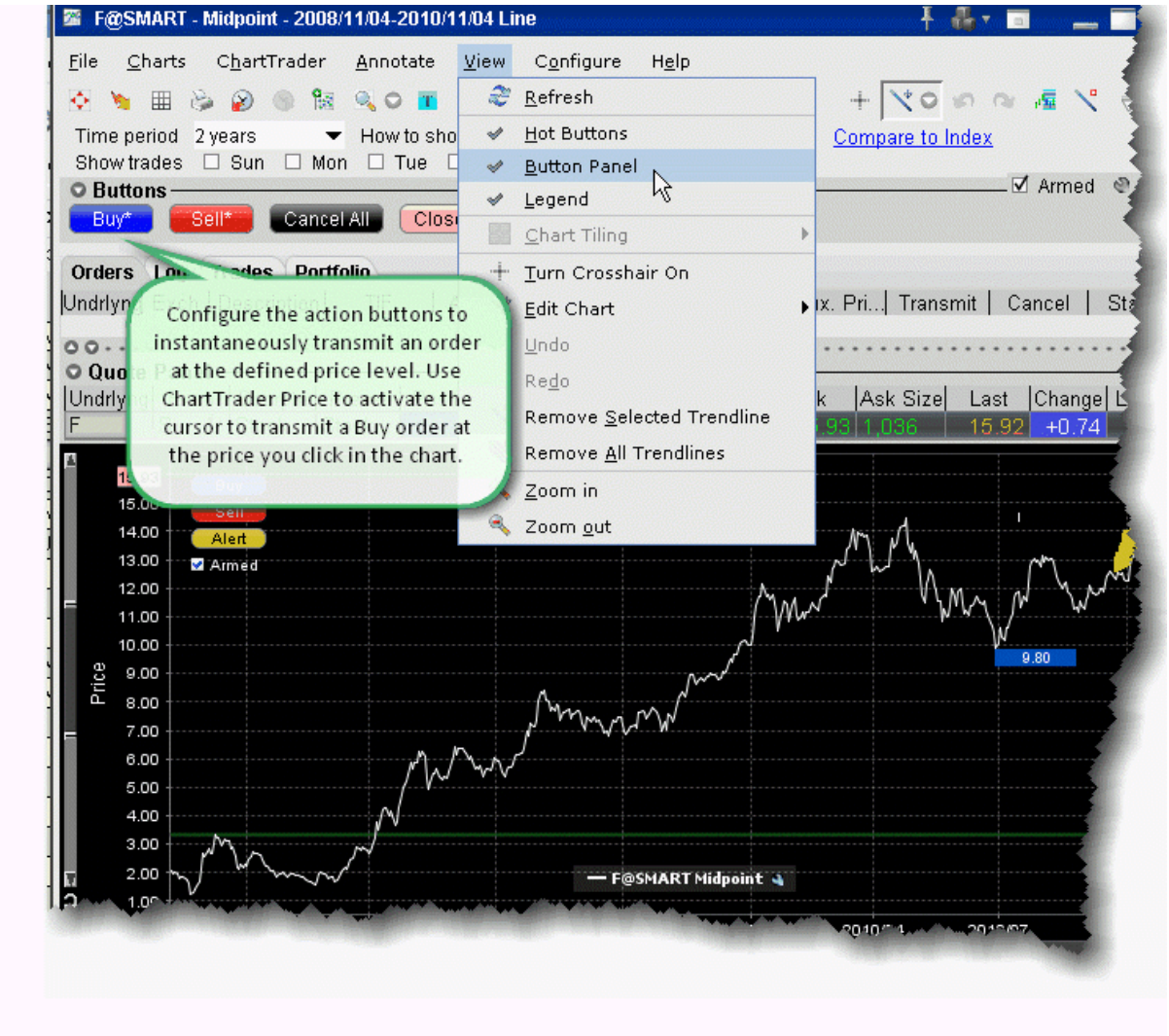


To open ChartTrader

1. First open a real-time chart by selecting a contract on the trading screen and using the right-click menu to select *Charts*, then *New Chart*.
2. From the **View** menu, select *ChartTrader*.
3. The ChartTrader is activated and displays the Orders, Log, Trades and Portfolio panels.

Create and Transmit Chart Orders

ChartTrader is designed to instantaneously transmit orders created with a single click within the chart. Order parameters are picked up from the active order preset. Button actions and order defaults can be set from the Chart configuration page



Instantaneously transmit an order

1. Open the chart Configuration page, and choose *Buttons*.
2. Select a button and click Edit.

3. Check the red *Transmit order instantaneously* checkbox and click OK.
4. On the button panel, click the button you set up for instantaneous transmit to arm your cursor.

Any buttons set for instantaneous transmit will have an asterisk (*) next to their name.

5. Move your cursor into the chart and position the broken blue (for Buy) or red (for Sell) line at the order price you want. Note that your exact price is displayed along the price axis.
6. Click to transmit an order. Your order appears in the Quote panel, and the broken line becomes solid.

You can also create orders that do not transmit instantaneously.

Create a Non-Instantaneous Order

From the Quote panel, click Bid (sell) or Ask (buy) to create an order in the Orders panel.

Note that you can also configure the ChartTrader buttons to create a modifiable order by unchecking the red *Transmit order instantaneously* checkbox on the button configuration page.

ComboTrader

Create combination orders that include options, stock and futures legs. Note that only US option-stock and option-option combo orders are guaranteed by IB to fill.

About Combination Orders **234**

Create a Combination Order **239**

Using the ComboTrader **242**

Advanced Combo Routing **246**

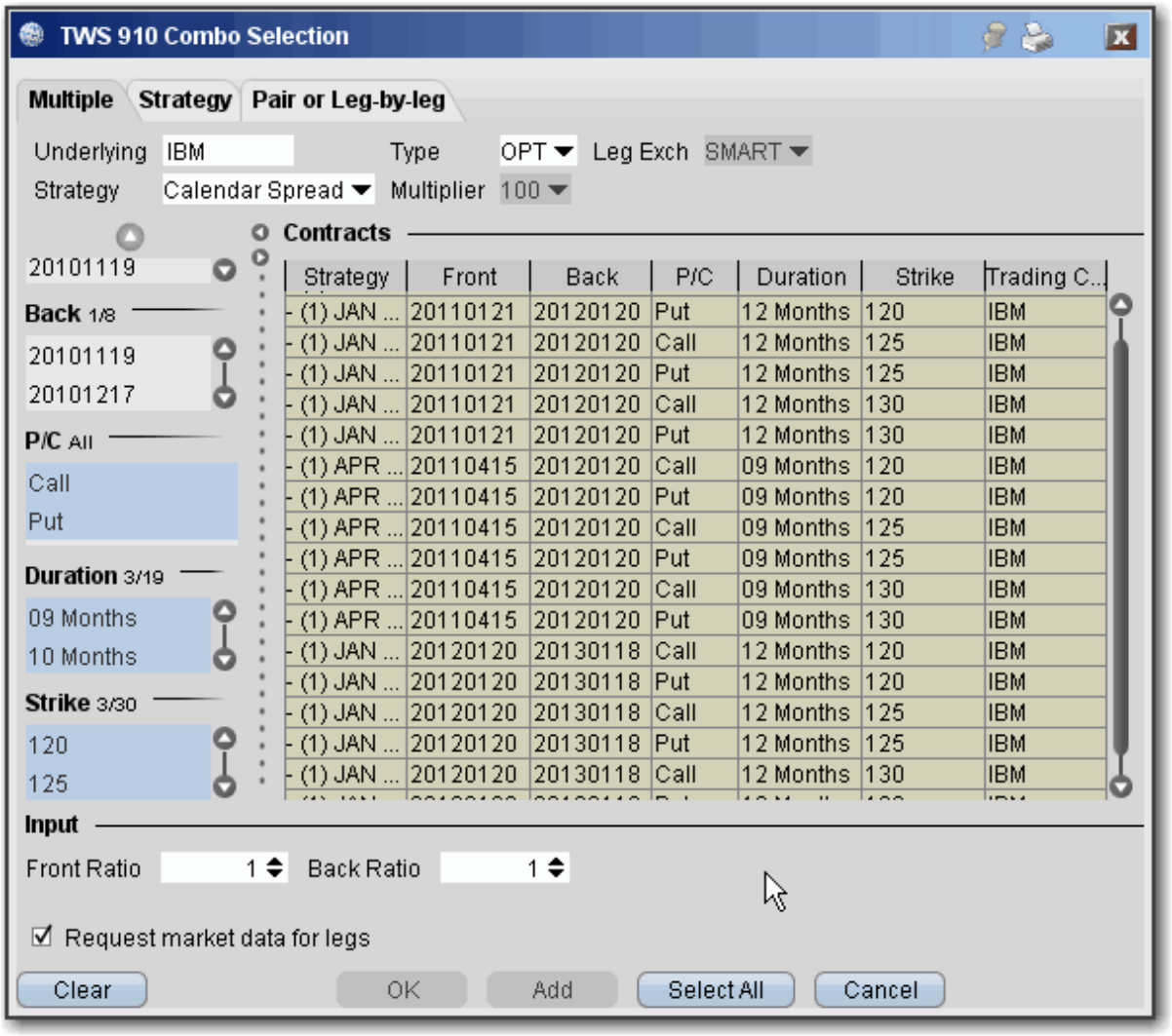
Transmit a Combination Order **249**

Notes on Combination Orders **250**

About Combination Orders

Create combination orders that include options, stock and futures legs (stock legs can be included if the order is routed through SmartRouting). Although a combination/spread order is constructed of separate legs, it is executed as a single transaction if it is routed directly to an exchange. For combination orders that are SmartRouted, each leg may be executed separately to ensure best execution. You can also create a futures EFP (Exchange of Futures for Physical) spread.

For details on using the VOL order type for combination orders, see the list of criteria in the Volatility Trading topic.



You can create a unique combination by manually defining an order leg by leg on the **Pair of Leg-by-Leg** tab, or create an order or group of orders with a named strategy using a template, on either the **Multiple** or **Strategy** tab. You can find a template to construct the following named combination strategies:

Box - An order to simultaneously purchase and sell two synthetics in identical numbers at different strike prices.
For example: Buy 1 April02 95 call, Sell 1 April02 95 put, Sell 1 April02 100 call, Buy 1 April02 100 put.

Butterfly - An order to simultaneously purchase an option with one strike price, purchase an option with a second strike price, and sell two options with a third strike price that is midway between the prices of the first two options. The ratio for a butterfly is always 1 x 2 x 1.
For example: Buy 10 March02 95 calls, Sell 20 March02 100 calls, Buy 10 March02 105 calls.

Buy Write - An order to simultaneously purchase (sell) a stock and sell (purchase) a call option of the same underlying.
Purchase a Buy Write: Sell 1 XYZ April06 95 call, Buy 100 shares XYZ
Sell a Buy Write: Buy 1 XYZ April06 95 call, Sell 100 shares XYZ

Calendar spread - An order to simultaneously purchase and sell options with different expiration dates, where both have the same underlying, right (call or put) and strike price. This spread is sometimes referred to as a *time spread*. A calendar spread whose options have different expiration dates and different strike prices is sometimes referred to as a *diagonal* spread.
For example: Buy 1 June15 100 call, Sell 1 March15 100 call.

Collar - An order to simultaneously buy (or sell) a put option and sell (or purchase) a call option in identical numbers where both have the same underlying and expiration date, but the call generally has a higher strike price, and buy (or sell) the underlying stock.
Purchase a collar: Sell 1 XYZ APR 17 '14 190 CALL, Buy 1 XYZ APR 17 '14 185 PUT, Buy 100 share of XYX
Sell a collar: Buy 1 XYZ APR 17 '14 190 CALL, Sell 1 XYZ APR 17 '14 185 PUT, Sell 100 share of XYX

Conversion - An order to simultaneously sell (or purchase) a call option and purchase (or sell) a put option in identical numbers where both have the same underlying, expiration date and strike price, and purchase stock of the same underlying.
Purchase a conversion: Sell 1 XYZ April04 75 call, Buy 1 XYZ April04 75 put, Buy 100 shares XYZ
Sell a conversion: Buy 1 XYZ April04 75 call, Sell 1 XYZ April04 75 put, Sell 100 shares XYZ

Delta Neutral - An order to simultaneously buy (or sell) options contracts and sell (or buy) a delta amount of the underlying. The quoted price is calculated as follows: *effectiveOptionPrice = optionPrice + delta x (inputStockPrice - stockPrice).*

Diagonal spread - An order to simultaneously purchase and sell options with different expiration dates and different strike prices, where both have the same underlying and right (call or put).

For example: Buy 1 June03 100 call, Sell 1 Sept03 105 call.

Iron Condor - An order to simultaneously purchase an out-of-the-money put bull spread, and sell an out-of-the-money call bear spread, where all legs have the same expiry.

Purchase an iron condor: Buy 1 XYX JAN08 25.0 PUT, Sell 1 XYZ JAN08 27.5 PUT, Sell 1 JAN08 30.0 Call, Buy 1 JAN08 32.5 Call.

Sell an iron condor: Sell 1 XYX JAN08 25.0 PUT, Buy 1 XYZ JAN08 27.5 PUT, Buy 1 JAN08 30.0 Call, Sell 1 JAN08 32.5 Call.

Reversal- An order to simultaneously purchase (or sell) a call option and sell (or purchase) a put option in identical numbers where both have the same underlying, expiration date and strike price, and sell stock of the same underlying.

Purchase a reversal: Buy 1 XYZ April04 75 call, Sell 1 XYZ April04 75 put, Sell 100 shares XYZ

Sell a reversal: Sell 1 XYZ April04 75 call, Buy 1 XYZ April04 75 put, Buy 100 shares XYZ

Risk Reversal- An order to simultaneously purchase (or sell) a put option and sell (or purchase) a call option in identical numbers where both have the same underlying and expiration date, but the call generally has a higher strike price.

Purchase a risk reversal: Buy 1 XYZ April04 75 put, Sell 1 XYZ April04 95 call

Sell a risk reversal: Sell 1 XYZ April04 75 put, Buy 1 XYZ April04 95 call

SSF/OPT - An order to simultaneously buy (or sell) one contract of a single stock future (SSF) and buy (or sell) a stock option of the same underlying.

For example: Sell 1 Oct06 60.0 call, Sell 1 Aug06 SSF.

Straddle - An order to simultaneously purchase (or sell) a call and a put in identical numbers, where both have the same underlying, expiration date and strike price.

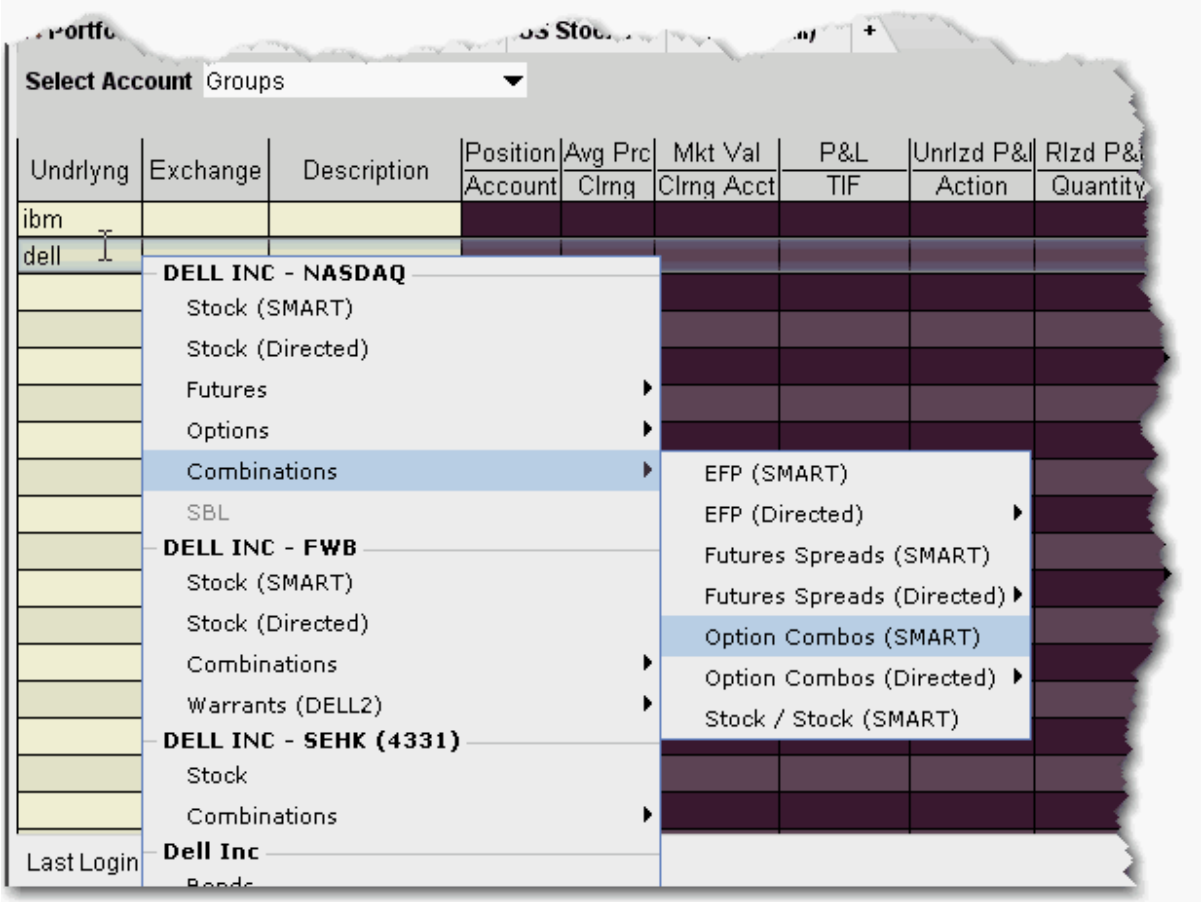
For example: Sell 1 Dec02 90 call, Sell 1 Dec02 90 put.

Strangle - An order to simultaneously purchase a call and a put with different strike prices, where both have the same underlying and expiration date. In the case where both the call and the put are out of the money, this order is referred to as an inside strangle.
For example: Buy 1 June02 95 put, Buy 1 June02 105 call.
Stk/Opt - An order to simultaneously purchase (or sell) one stock contract and purchase (or sell) one options contract.
For example: Sell 1 Jan07 55.0 put, Sell 100 shares of the underlying.
Synthetic - An order to simultaneously purchase a call and sell a put in identical numbers (or sell a call and purchase a put in identical numbers), where both have the same underlying, expiration date and strike price.
Purchase a synthetic: Buy 1 April02 100 call, Sell 1 April02 100 put.
Sell a synthetic: Sell 1 April02 100 call, Buy 1 April02 100 put.
Synthetic Put - An order to simultaneously purchase (or sell) a call option and sell (or purchase) stock where both have the same underlying.
Purchase a synthetic put: Buy 1 XYZ April03 75 call, Sell 100 shares XYZ
Sell a synthetic put: Sell 1 XYZ April03 75 call, Buy 100 shares XYZ.
Synthetic Call - An order to simultaneously purchase (or sell) a put option and purchase (or sell) stock where both have the same underlying.
Purchase a synthetic call: Buy 1 XYZ April03 75 put, Buy 100 shares XYZ
Sell a synthetic put: Sell 1 XYZ April03 75 put, Sell 100 shares XYZ.
Vertical spread - An order to simultaneously purchase and sell options at different strike prices, where both have the same underlying, right (call or put) and expiration date. This spread is sometimes referred to as a *price spread*.
Call vertical spread example: Buy 1 June02 100 call, Sell 1 June02 105 call.
Put vertical spread example: Buy 1 March02 105 put, Sell 1 March02 95 put

For more information on combination orders and margin requirements for combination orders, see U.S. Equity Options Margin Requirements on the IB website.

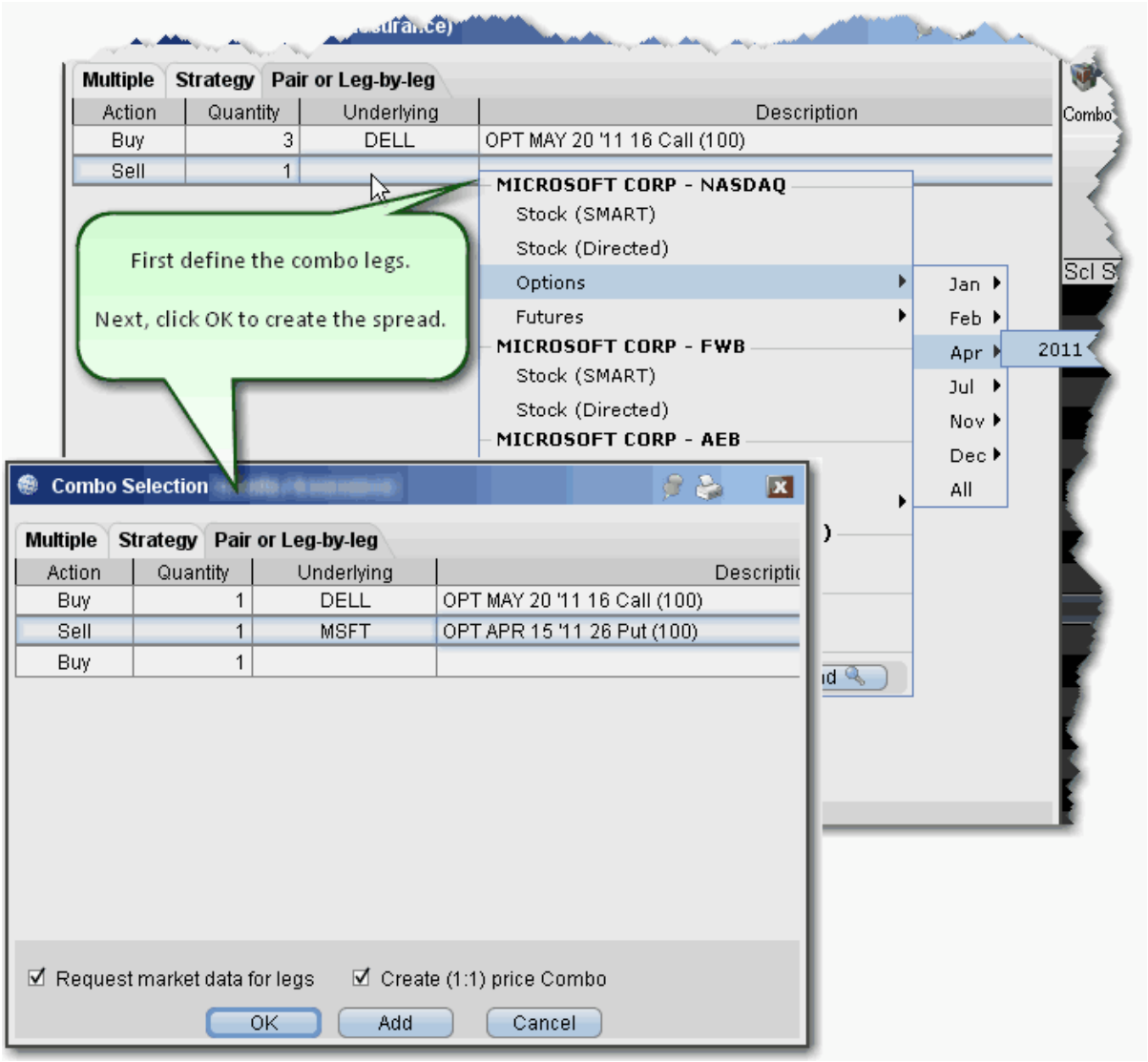
Create a Combination Order

You can create any kind of combination spread order using the **Combination Composition** box, including multiple leg combos, futures spreads and EFPs, and inter-market Smart combos.



To create a combo order

1. Enter an underlying on a blank line and select Combinations, then choose from the available combo selection types, including Smart option combos, Futures Spreads and EFPs.



2. From the **Pair or Leg-by-Leg tab,** define each leg.
3. After you have added all desired legs click OK, and the spread appears as a market data line on your quote monitor.

The implied price is calculated based on the underlying price of each leg, and changes with variations in the price of each underlying. Based on the implied price, SmartRouting will route each leg of the order separately to get the best price.

Note: To see individual leg prices for a combination or spread order, open the **Execution** reports window by clicking the Trades icon on the Trading Toolbar. Double-click the desired combination execution report line in the **Execution** window (or right-click on the line and select *Show Legs)* to open the **Execution Window for Legs**.

To create an EFP combo

1. Enter an underlying on a blank line and select *Combinations*, then select *EFPs*.
2. Click the Single tab at the top of Combo Selection box.

3. Choose *Futures* as the leg type, and *Future EFP* as the strategy.
4. Select the last trading day on the futures leg and click OK.

Note: EFP combos created using the template are Smart-routed.

To create a combination strategy

1. Right-click on a blank line and select *Generic Combo,* or create a market data line with the instrument type *Comb*.
2. In the **Leg Query** section, enter the underlying symbol for the first leg of the order.

3. Use the **Combo Template** tab to select a strategy.
4. Select data for all legs of the order and click OK. The combination order strategy appears on your trading screen as a market data line.

Guaranteed and Non-Guaranteed Combo Orders

IB supports both guaranteed (where executions are guaranteed to be delivered simultaneously for each leg and in proportion to the leg ratio) and non-guaranteed combo orders. To understand the differences between guaranteed and non-guaranteed combination orders, please see the knowledgebase article.

Notes on using Futures legs

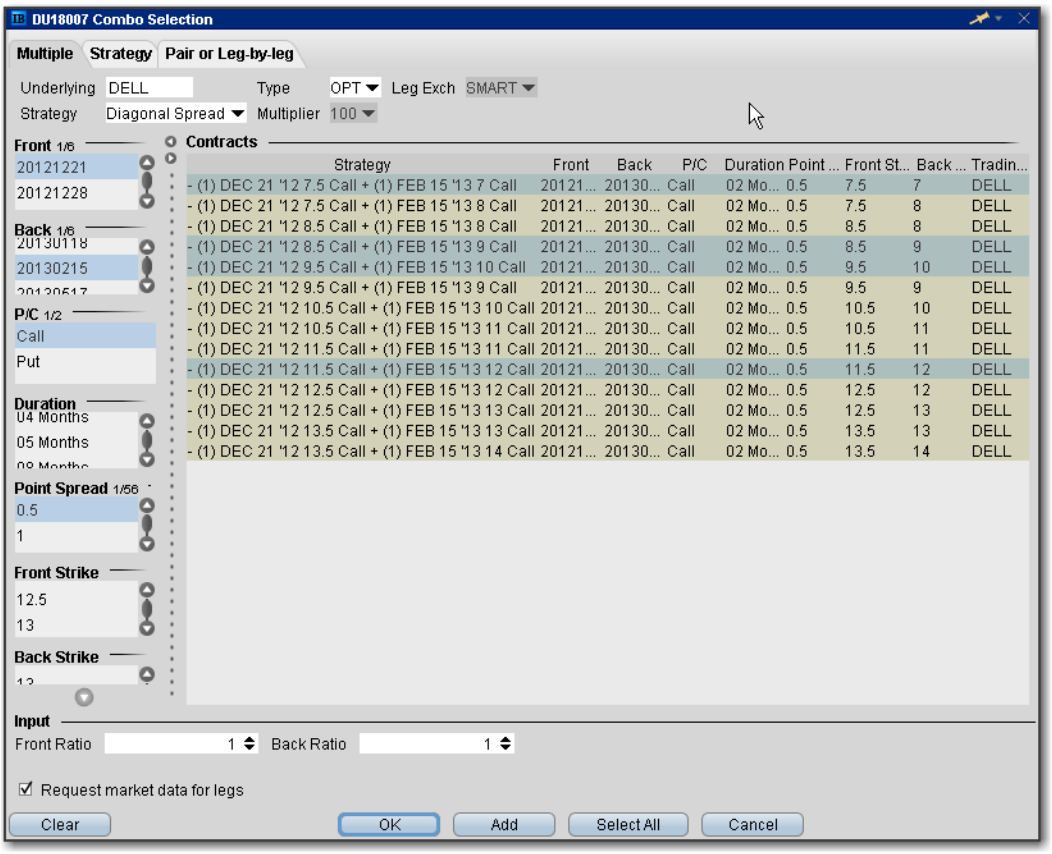
Intermarket combos that contain futures legs are supported for contracts on the following exchanges: Globex, One Chicago, CFE, EurexUS.
Only US contracts are supported for Smart combos.

Using the ComboTrader

ComboTrader provides three tabbed interfaces to help you create multi-legged spreads for futures and options.

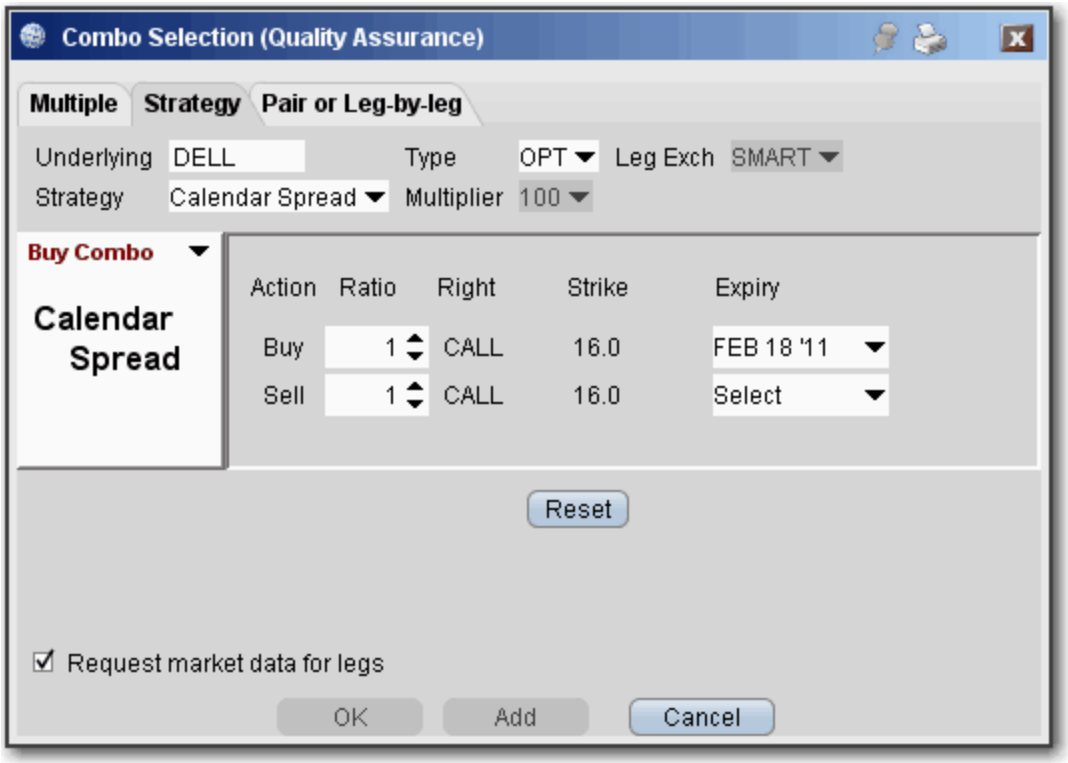
Multiple combos

Use the **Multiple** tab to create a group of individual combination orders on the same underlying at the same time. For certain strategies including Diagonals, boxes, Strangles, Risk Reversals, and Vertical Spreads you can filter by Point Spread.



Strategy combo

Use the **Strategy** tab to select a recognized combination order and define the necessary parameters. Note that for exchanges that list both American and European style options, a *Trading Class* field presents a dropdown list of available classes.

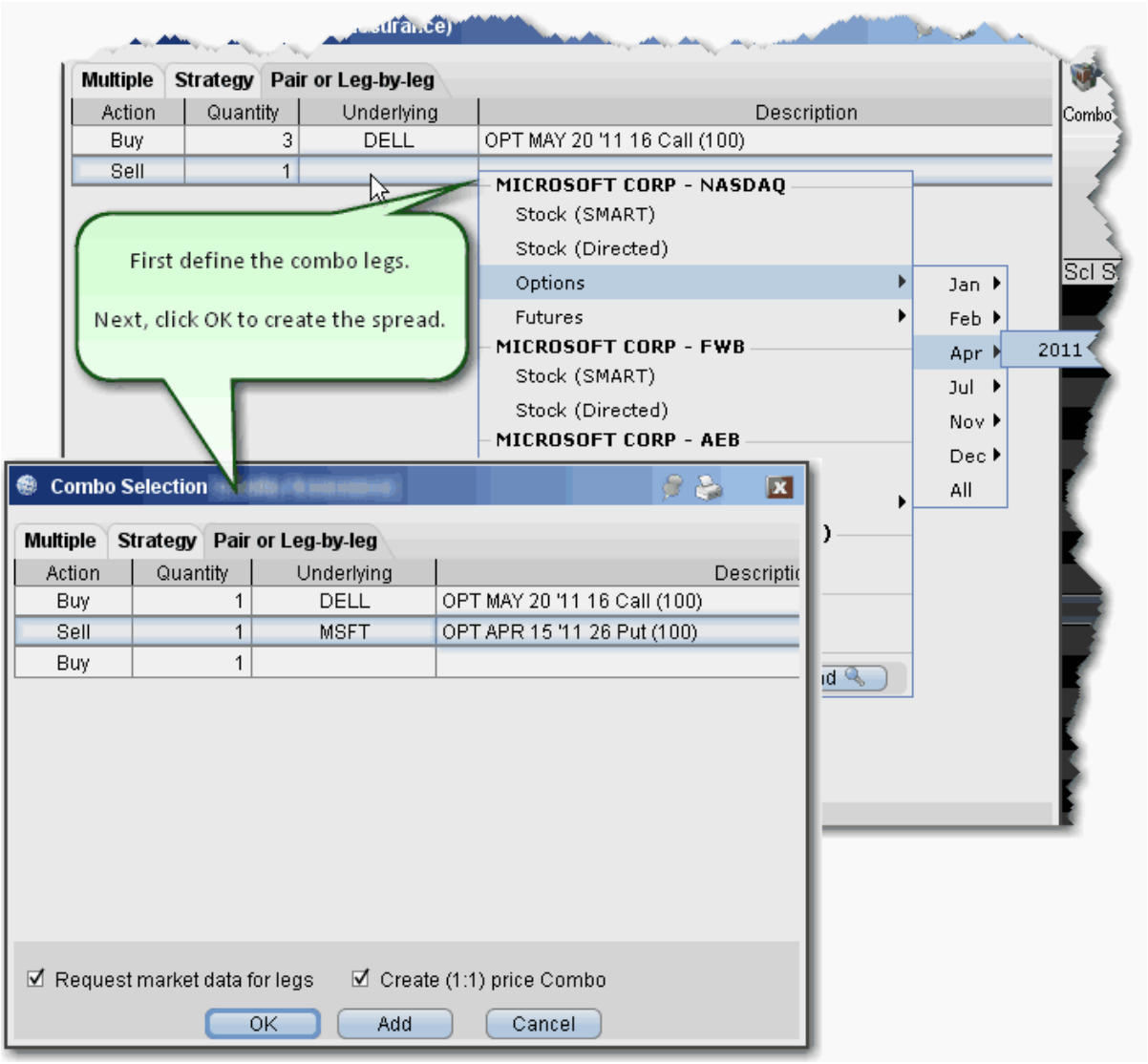


Field Name	Description
Underlying	Enter the underlying symbol.
Type	Select the instrument type for the strategy. Choose Options or Futures.
Strategy	Combination strategies are listed based on the **Leg Type** you selected. For descriptions of all combination strategies, see the Combination Orders topic. Use the Help button for strategy descriptions.
Multiplier	Select the contract multiplier.
Worksheet	Select *Sell Combo* or *Buy Combo* in the graph drop-down to see what the combination order looks like.

	The worksheet categories display drop-down list boxes each time you need to make a selection. Move through the worksheet and select choices as needed.
Reset	Click Reset to start over, either by selecting another strategy or editing the legs of the chosen strategy.
Request market data for legs	Check to create a market data line for each leg of the order, to be displayed on the trading screen.

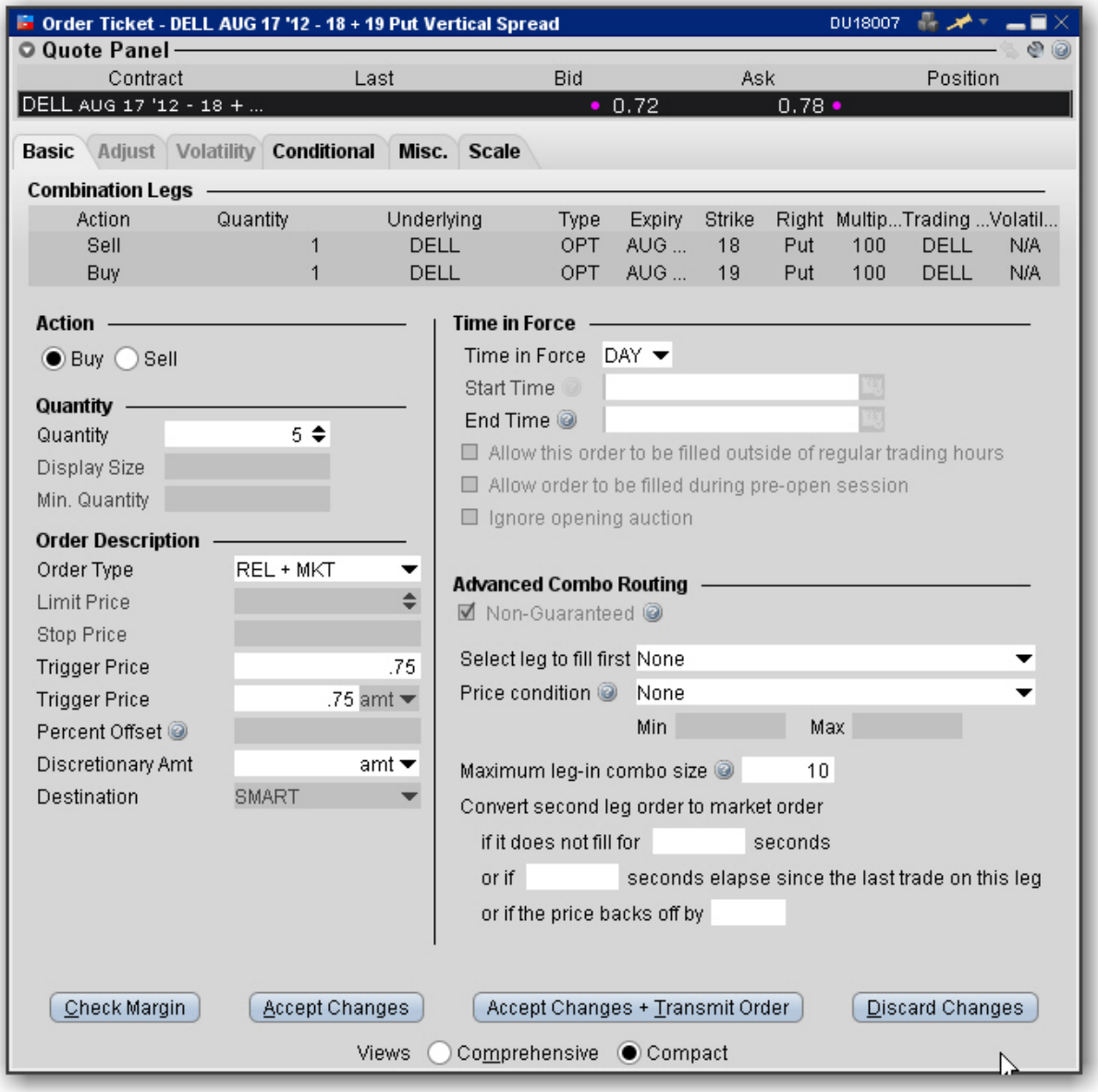
Pair or Leg-by-Leg Combo

Use the **Pair or Leg-by-Leg** tab to create the combination one leg at a time.



Advanced Combo Routing

Advanced combo routing (defined from the **Basic** tab of the Order Ticket) lets you control how each leg of a complex combination order is handled. Define advanced combo routing for both guaranteed and non-guaranteed combination orders routed to Smart. Selections displayed are based on the combo composition and order type.



To use advanced combo routing

1. Create the Smart combination strategy.
2. From the combo line on the Quote Monitor, click the Bid or Ask price to create a (sell or buy) order.
3. **Right-click** the order line and select *Modify* then select *Order Ticket.*

Based on the combo composition and the Order Type, the **Advanced Combo Routing** selections are displayed. You can monitor the progress of the combo order by holding your mouse over the Status field of the order line.

Advanced Combo Routing Fields (available based on selected Order Type):

Field Name	Description
Order Type	Choose from the basic order types as well as: Relative + Market, Limit + Market, Trailing Relative + Market and Trailing Limit + Market.
Select leg to fill first	For orders that are being legged-in, the chance exists that only the first leg of the combo will fill and you will be left with one unexecuted leg. Use this field to specify which leg is submitted and potentially filled first. Use the dropdown list to pick.
Maximum leg-in combo size:	The order is submitted in pieces, or segments. This is the maximum size of each segment.
Do not start next leg-in if previous leg-in did not finish:	Specify whether or not the system should attempt to fill the next segment before the current segment fills.
Convert second leg order to market order if...	These settings allow you to specify when (if ever) the second leg should be changed to a market order to fill right away, in cases where the first leg fills and the second leg does not and ends up sitting as a non-marketable limit order at the exchange,
...or if the price backs off by...	Provides a way to specify a stop-loss to fill

Field Name	Description
Discretionary Amt	the unexecuted leg of a combo by changing the leg to a market order if the price backs off by the specified amount. In cases where one leg fills and the other doesn't, the discretionary amount indicates how much you are willing to pay to fill the combo.

Transmit a Combination Order

To create a combination order

Before you transmit a combination order, carefully review your order parameters on the order management line, or from the Order Ticket window by clicking **Accept.**

1. From the market data line, click the "Ask" or "Bid" price for the combination order you want to create.

   Click the **Ask Price** to create a **Buy** order.

   Click the **Bid Price** to create a **Sell** order.

2. On the Order Management line, modify order parameters, if needed.

   Note on Pricing: If you buy a spread and you owe cash (debit spread), enter a positive limit price. If you buy a spread and you receive cash (a credit spread), **you must enter a negative limit price**. Conversely, if you sell a spread and receive cash, enter a positive limit price. If you sell a spread and owe cash, **you must enter a negative limit price**.
   For example, an April 20 xyz call shows a BID price of 6.60 and an ASK price of 6.70. An April 30 xyz call shows a BID price of 0.15 and an ASK price of 0.20.

   If you buy a "debit" call vertical spread with the following legs:
   Buy 1 OPT APR02 20.0 CALL (6.70)
   Sell 1 OPT APR02 30.0 CAL L (0.15)
   For this transaction you pay: 6.55 (a debit transaction)

   If you buy a "credit" call vertical spread with the following legs:
   Sell 1 OPT APR02 20.0 CALL (6.60)
   Buy 1 OPT APR02 30.0 CALL (0.20)
   For this transaction you receive 6.40 (a credit transaction; enter a negative limit price).

3. Transmit the order.

Notes on Combination Orders

This page contains notes and tips on creating and transmitting combination orders.

Use SmartRouting to execute legs separately to ensure you get the best price on all legs of your order.
Some exchanges that currently support native combination orders (which means they execute the legs together as one transaction) include:

ISE

ONE

DTB (Euro)

Note on pricing: If you buy a spread and you owe cash (debit spread), enter a positive limit price. If you buy a spread and you receive cash (a credit spread), **you must enter a negative limit price**. Conversely, if you sell a spread and receive cash, enter a positive limit price. If you sell a spread and owe cash, **you must enter a negative limit price**.

For example, an April 20.0 xyz call shows a BID price of 6.60 and an ASK price of 6.70. An April 30 xyz call shows a BID price of 0.15 and an ASK price of 0.20.

If you buy a "debit" call vertical spread with the following legs:
Buy 1 OPT APR02 20.0 CALL (6.70),
Sell 1 OPT APR02 30.0 CALL (0.15)
For this transaction you pay: 6.55 (a debit transaction)

If you invert the legs and buy a "credit" call vertical spread with the following legs:
Sell 1 OPT APR02 20.0 CALL (6.60)
Buy 1 OPT APR02 30.0 CALL (0.20)
For this transaction you receive 6.40 (a credit transaction, enter a negative price)

Before you transmit a combination order, carefully review the order parameters from the Order Management line.

EFPs

Enter Exchange for Physical (EFP) spreads.

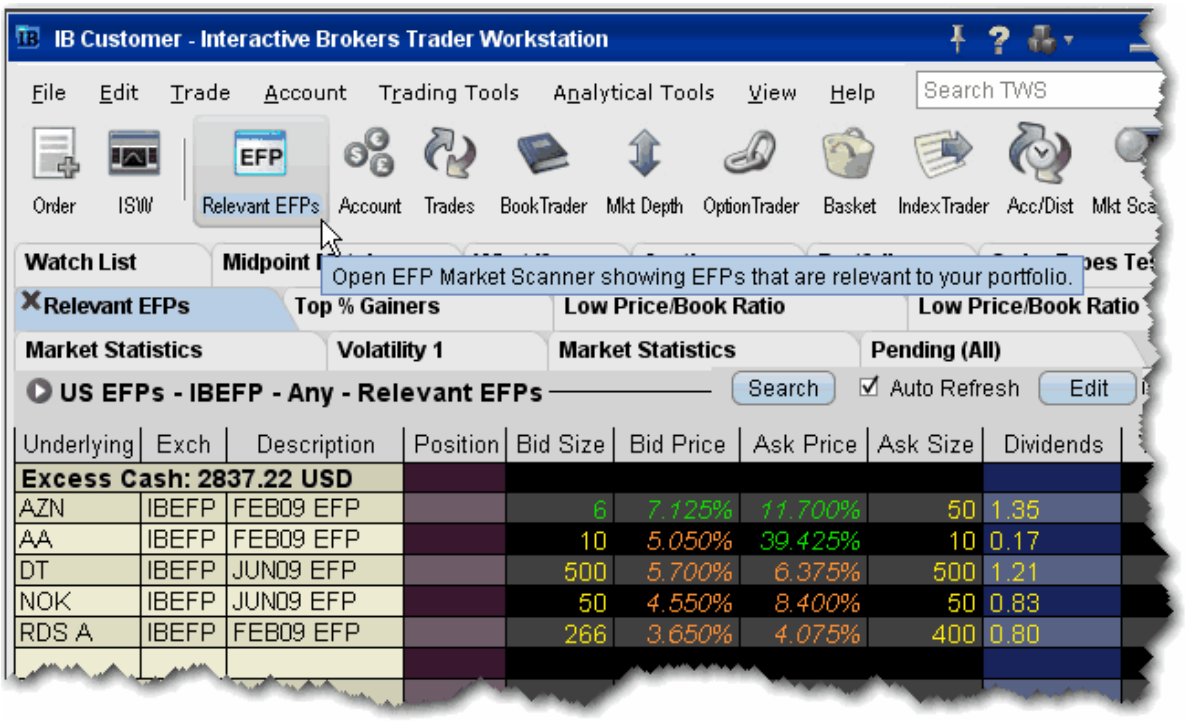
Relevant EFPs **252**

EFP Futures Spreads **253**

Relevant EFPs

Introduction

Using an Exchange of Futures for Physical (EFP), which allows the swap of a long or short stock position for a Single Stock Future (SSF) could help to reduce your trading costs. The Relevant EFPs Market Scanner scans the US market and returns all EFPs relevant to you based on the stock and single stock futures positions you currently hold. You can access this tool from the toolbar, or by selecting US EFPs as the Instrument and Relevant EFPs as the Parameter in the Market Scanner page.



For more details on how using EFPs could reduce your trading costs, see the EFPs Product Highlights.

To view Relevant EFPs

1. On the trading toolbar, click the **Relevant EFPs** icon.

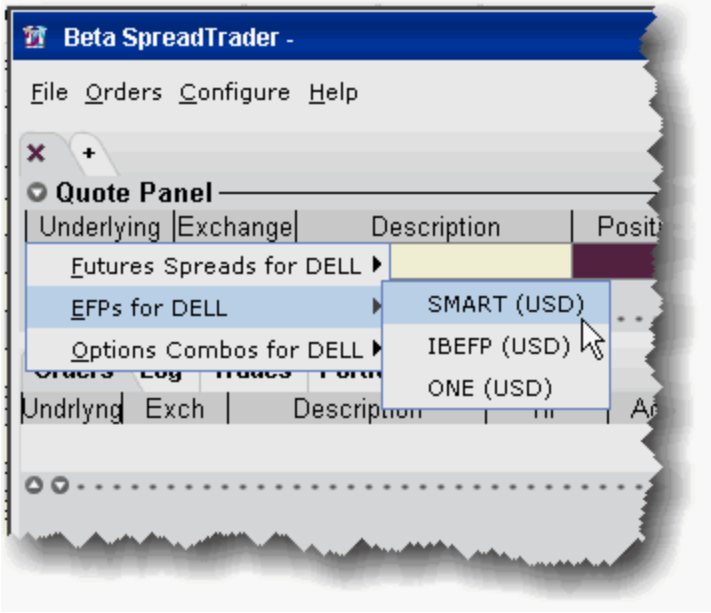
   The **Relevant EFPs** scanner page opens with all fields populated with the correct EFP selection.

2. Click *Search* if no values have been returned.

Note that this page is for display only. To trade one of these EFPs, click and hold, then drag it onto your trading page, or right-click and select **Edit** then select *Copy*. Open a trading page and use the right-click menu to select **Edit** then select *Paste*.

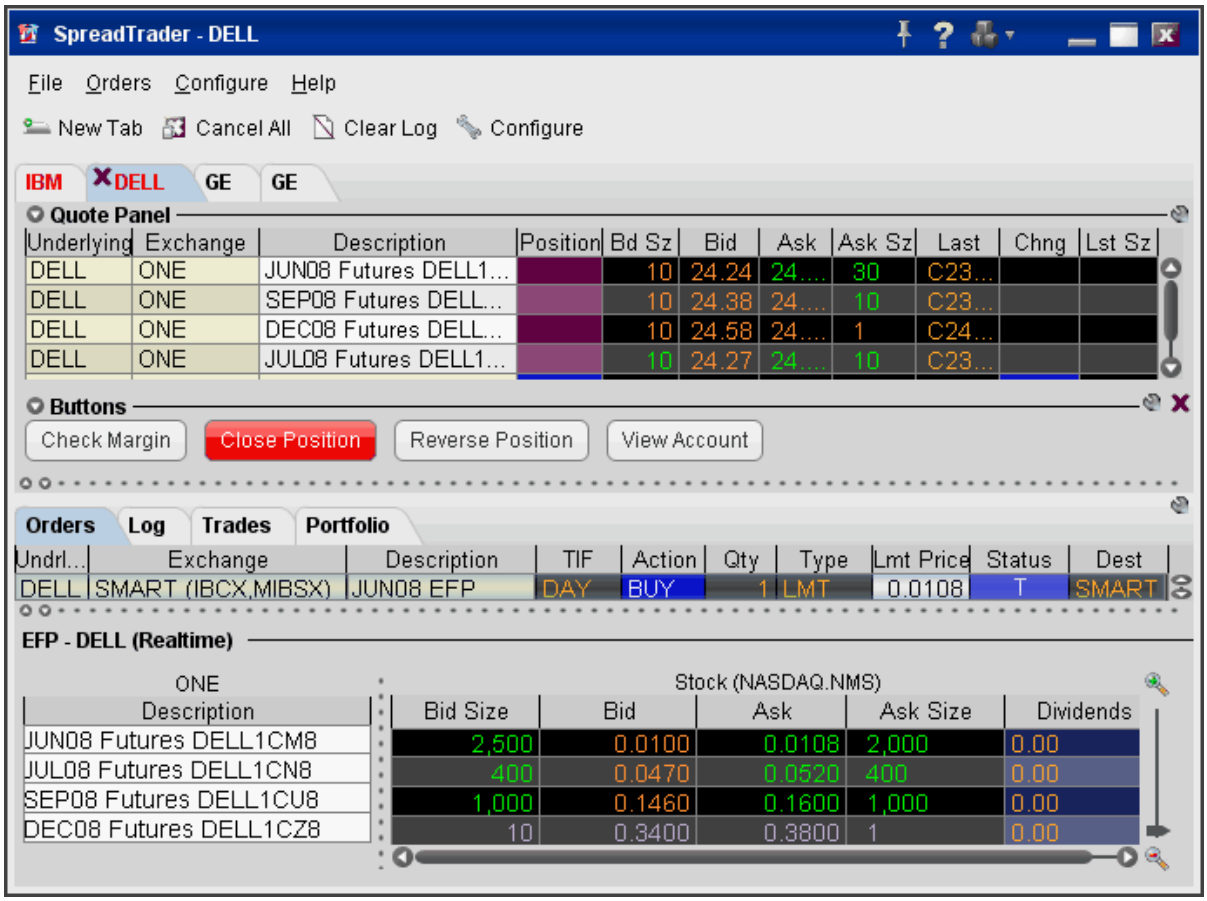
EFP Futures Spreads

An EFP (Exchange for Physical) is a combination order to sell/buy stock and buy/sell an SSF (single stock future).



To create an EFP in SpreadTrader

1. From the **Trading Tools** menu select *SpreadTrader*.
2. Enter a symbol in the underlying field and hit **Enter**.
3. Select *EFPs for xxx* and then select the routing destination, either SMART, IBEFP or ONE.



The spread matrix at the bottom of the window is populated with a list of all single stock futures legs on the left, and the stock across the top.

4. Click a bid or ask price at the intersection of two legs to create the EFP spread.
5. To transmit the order, click the "T" in the *Status* field of the Orders panel.

Note: Please note that smart-routed EFPs are not guaranteed.

FXTrader

Designed specifically for Forex traders, the customizable FXTrader window displays quote pairs with the emphasis on the key price component.

The FXTrader Window **255**

The FXTrader Trading Cell **256**

Using the FXTrader **258**

The FXTrader Window

FXTrader displays a 3x3 grid of "trading cells" designed to complement the way an FXTrader operates, with the standard elements of our order management modules (Orders, Log, Execution and Portfolio pages) provided at the top. The page is completely customizable, allowing you to increase or decrease the number of cells in the grid, invert a quote, change colors, and modify the way price and size is shown.

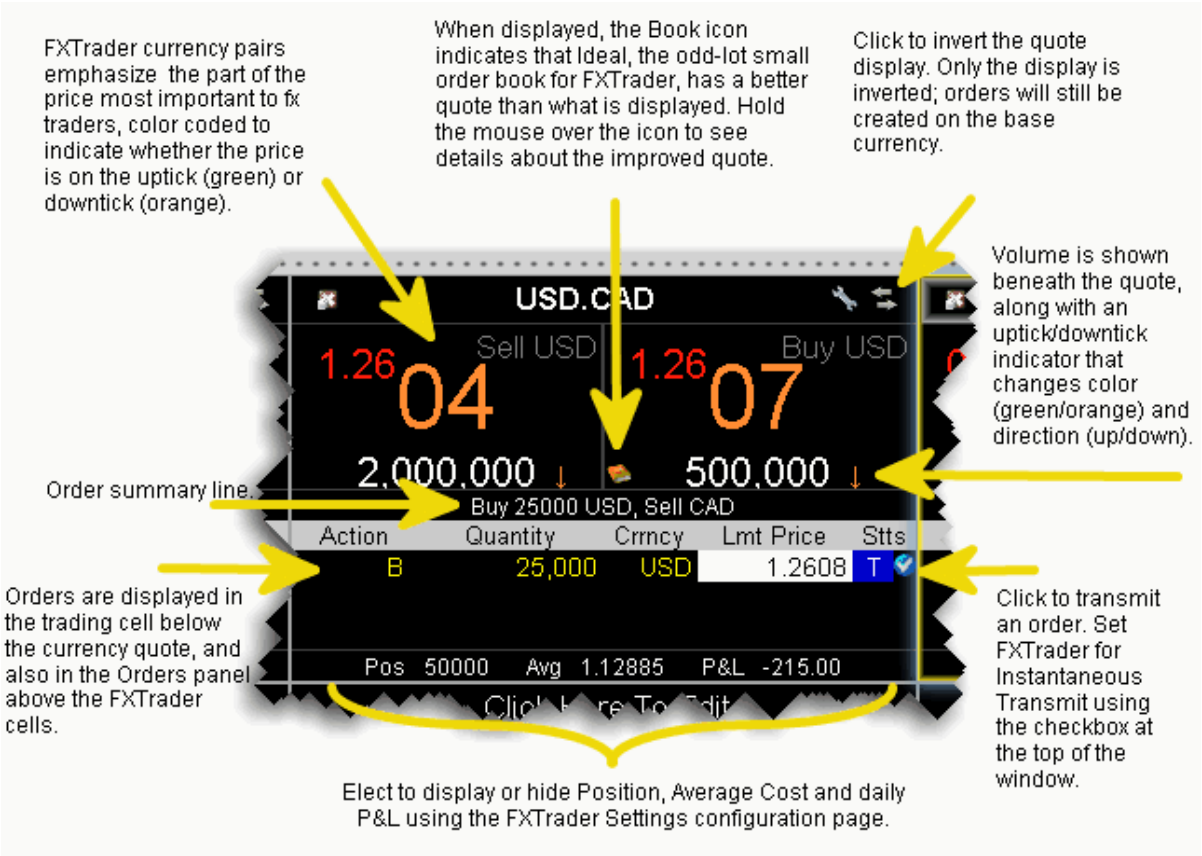
To configure the FX Trader, click the Configure icon in the toolbar or in any trading cell.

For details on the many levels of configuration you can set for the FXTrader, see the FX Trader Configuration topic.

The FXTrader Trading Cell

The trading cell in FXTrader includes many helpful features, including color coding to distinguish between upward and downward price and size movement; a cancel icon to cancel all orders for the currency pair, quick access to the FX Trader configuration windows, quick-

click to view inverted quotes, a message line to describe order details, a book icon with mouse-over information that displays when there is a price improvement opportunity for small orders, optional display of position and P&L information, and access to right-click TWS features from the Contract Label area.



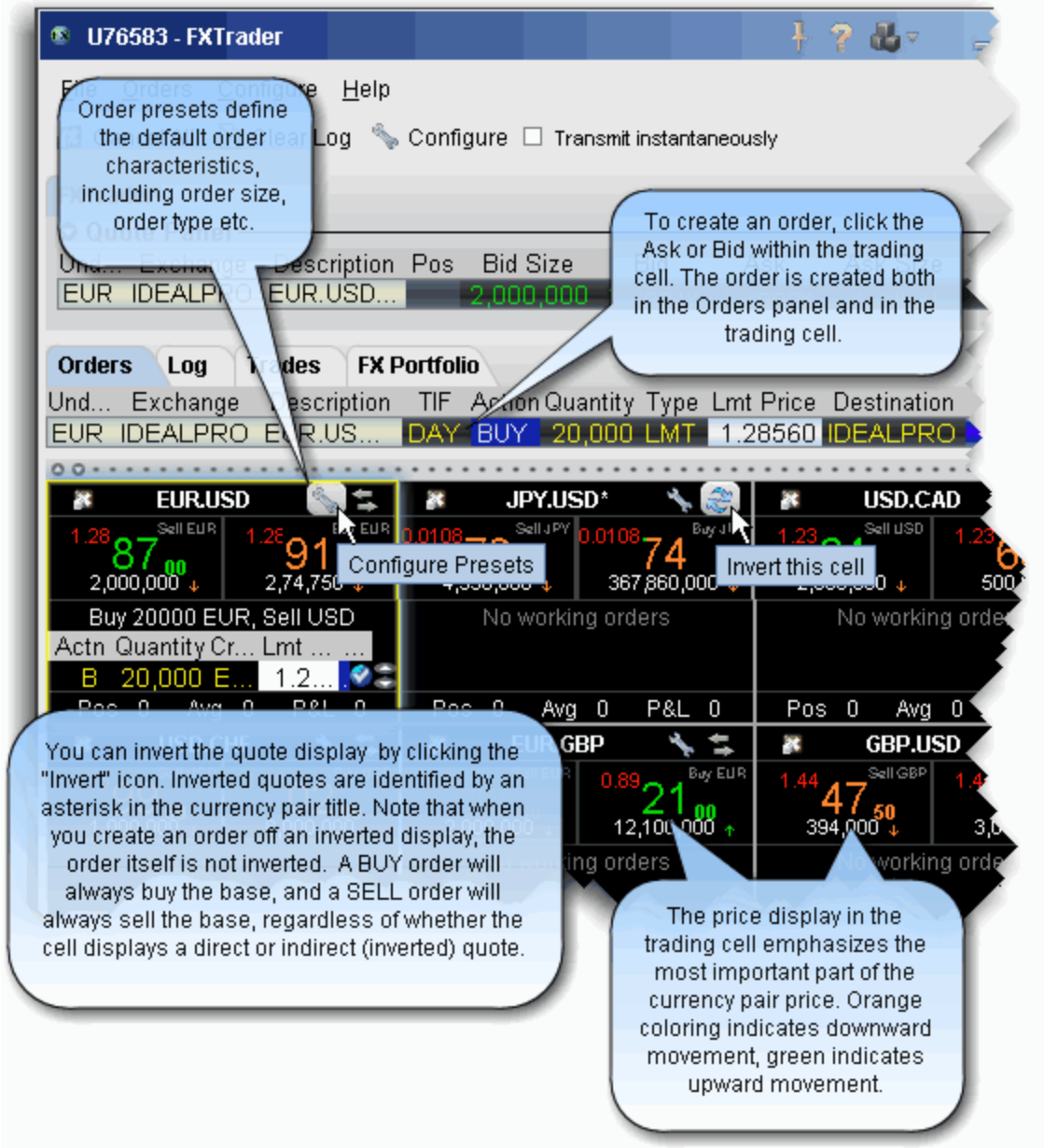
To open the FX Trader

1. Click the FXTrader icon on the Trading toolbar.

2. FXTrader displays populated with the most common FX pairs.

Using the FXTrader

When you select a trading cell, that currency pair populates the Quote Panel at the top of the window. You can create an order using the traditional TWS method of clicking the Bid or Ask from the Quote Panel. You can also create an order from within the trading cell.



To create an order from the trading cell

1. Click the Bid to create an order to sell the base (and buy the quote). Click the Ask to create an order to buy the base (and sell the quote).

The Integrated Stock Window

Trade, see charts, market data and deep data all from a single integrated window.

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Book Data Panel **261**

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Order Entry Panel (OEP) **264**

Auto Orders **265**

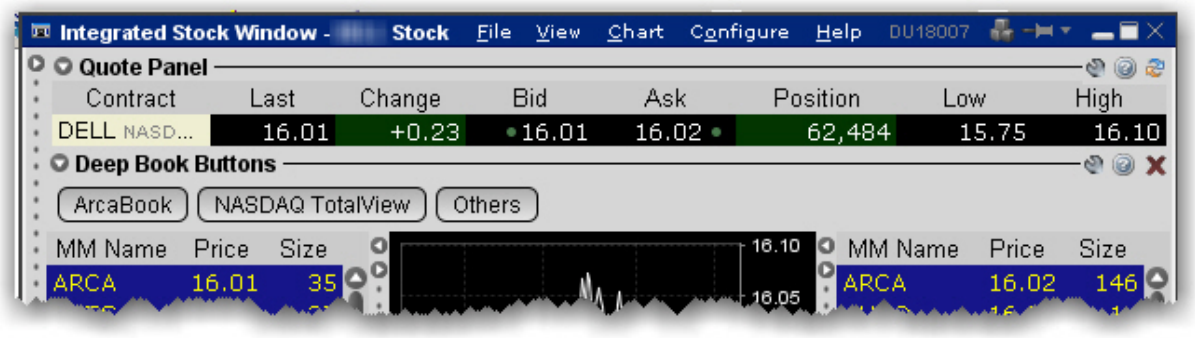
ISW Order Entry Sub Panels **267**

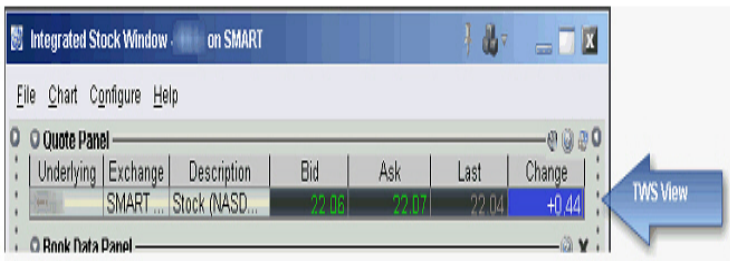
Quote Panel

The Quote Panel displays market data for the selected stock symbol. By default, the Quote Panel uses the single-row view used to show all TWS ticker lines.

To hide the Quote panel, on the **View** menu uncheck *Quote Panel*.

Use the *Switch View* icon in the top left corner of the panel to toggle between single-row view and ticker view.



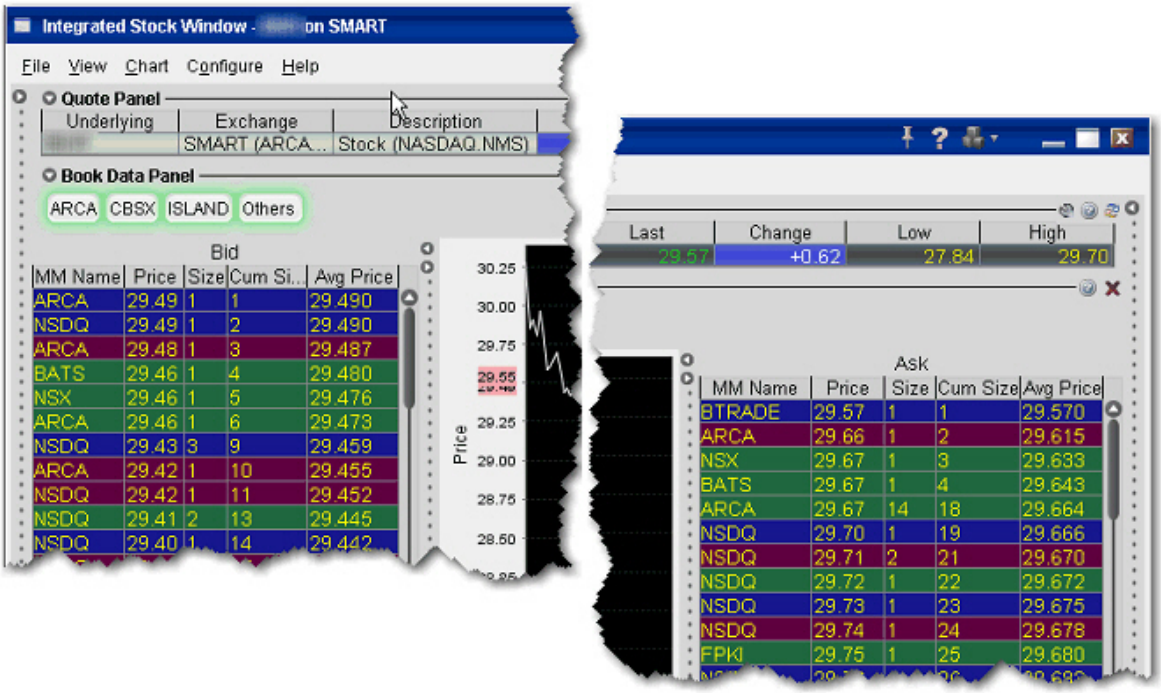


To add a symbol to the Quote Panel

1. Enter a symbol in the **Underlying** field and hit Enter.
2. Select a stock from the contract list.

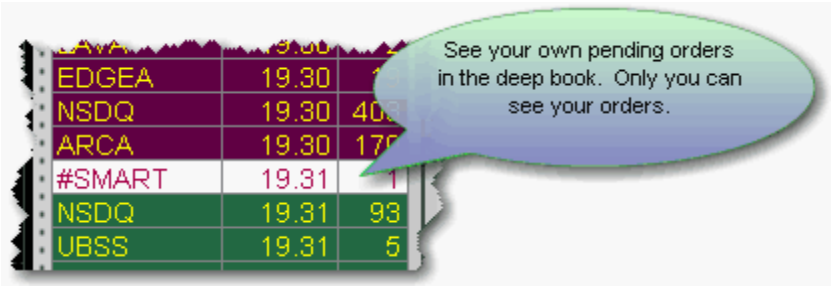
Book Data Panel

The Book Data Panel displays both Level I and Level II subscription and non-subscription quotes on either side of a real-time, configurable chart. Click a button to add data from a market center the book data panel.



To add data, click a market center button. *Bids* are displayed to the left of the chart, *asks* to the right.

See your own order highlighted in the depth by checking *Show pending orders in the book* on the ISW Configuration **Settings** page.



When you click a bid/ask price from the Book Data components, the price data is reflected in the Order Entry Panel order line, from which you transmit orders.

Modify the chart parameters using the Chart menu. Select Chart Parameters to change the time period, bar intervals and other data options.

If you elect to display the Others button, click it to include Level I data from market centers that don't offer Level II data, market centers to which you don't hold Level II subscriptions, and subscribed exchanges whose buttons are not currently selected. Show or hide the "Others" button from the Deep Book Buttons section of the Settings page.

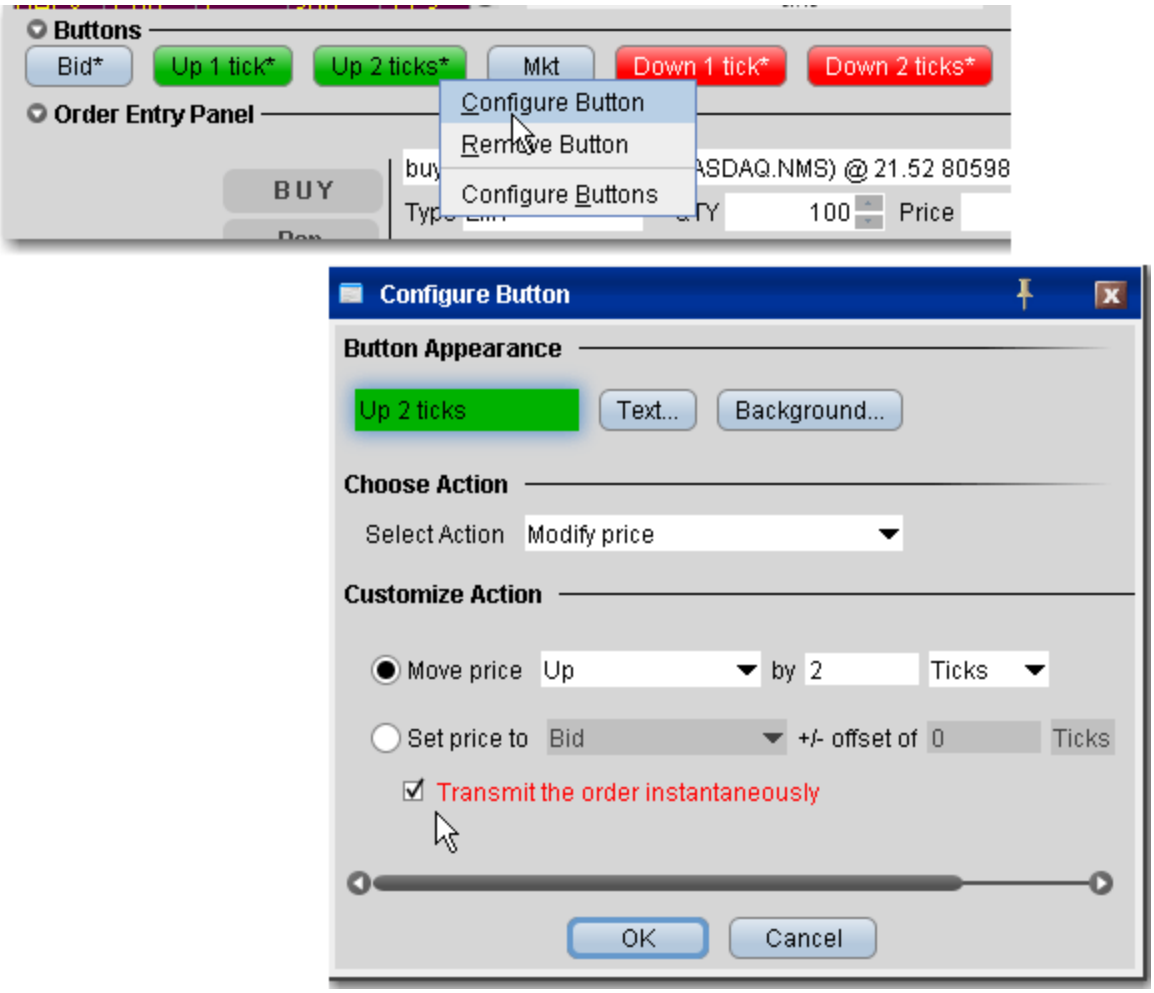
The number of deep book data windows that you can display at one time (including BookTrader, ISW and Market Depth) is equal to 1 for every 100 allowed lines of market data, with a minimum of three and a maximum of 30. Market data allowance is based on commissions, available equity and other criteria. So a client with the minimumallowance of 100 lines of market data will be able to open 3 deep book windows. A client with an allowance of 500 lines of market data will be able to open 5 unique deep book windows . For details on how market data allowances are calculated, see the Market Data and News overview page on the IB website.

When subscription deep book data is at its window limit, additional windows will display aggregated top level data, and the Deep Button panel will be hidden.

ISW Buttons Panel

The ISW includes three Button panels which you can hide or display using the **View** menu. The Left panel creates new order in the order line of the OEP, the Right panel provides single-click

access to other TWS order tools, and the lower panel is used to modify orders, both new and working, in the order line. All buttons are configurable and can be armed for **Instantaneous Transmit** by clicking the Armed checkbox and agreeing with the warning disclosure.



Note: Buttons names include an asterisk (*) when they are set to **Instantaneously Transmit** the order when clicked. To remove this attribute, de-select the *Armed* checkbox in the button panel.

Order Entry Panel (OEP)

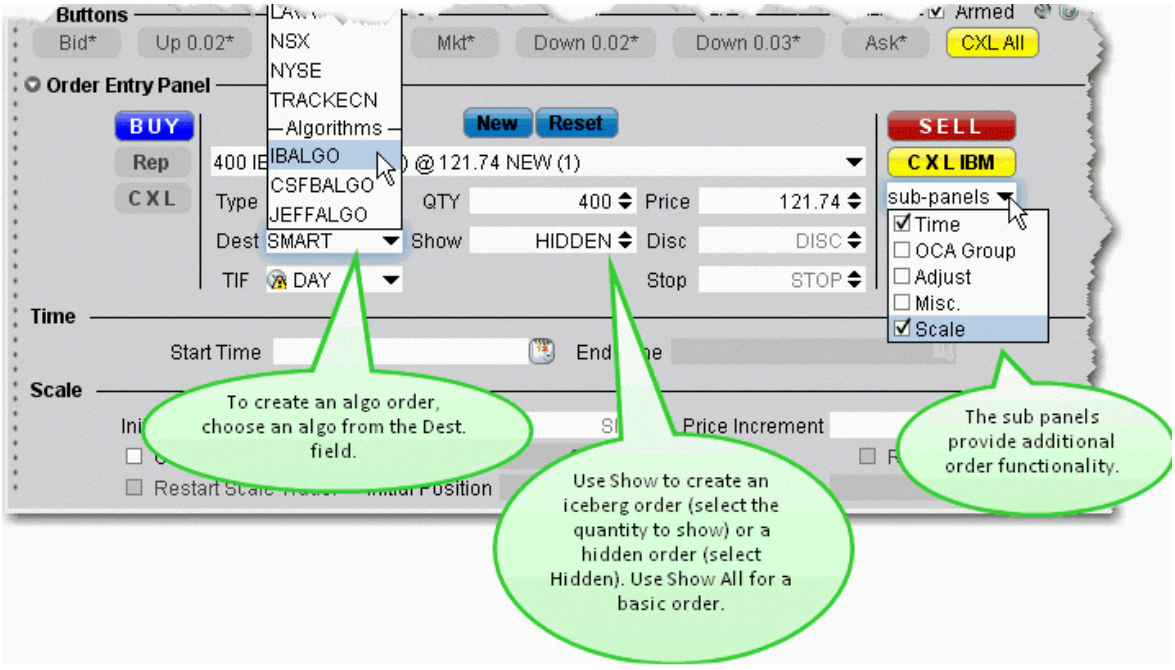
Enter orders by clicking a price level in the Level II panels then using the BUY or SELL buttons to transmit. Use the Order Entry Panel to:

Create and submit basic orders;

Modify a working order;

Apply order attributes such as hidden, discretionary, OCA;

Create and submit advanced orders such as algo, scale, adjustable and bracket.

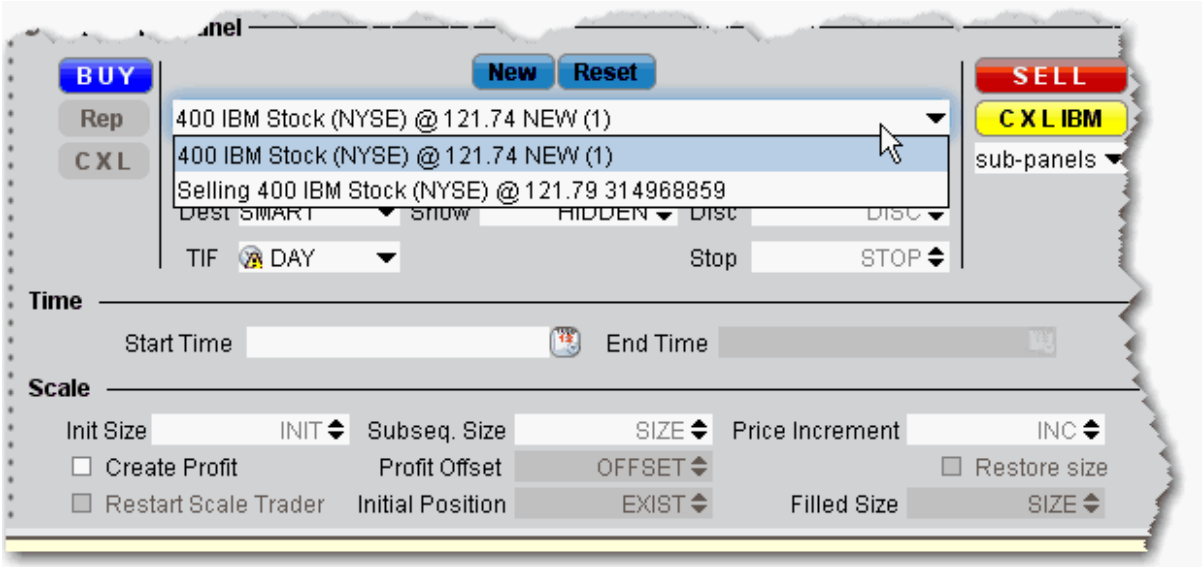


To create an order in ISW

1. Click a price level in one of the Level II components.
2. Edit the order parameters using the dropdown boxes and text entry fields below the order line.
3. Click the BUY or SELL button to transmit the order.

To modify a working order

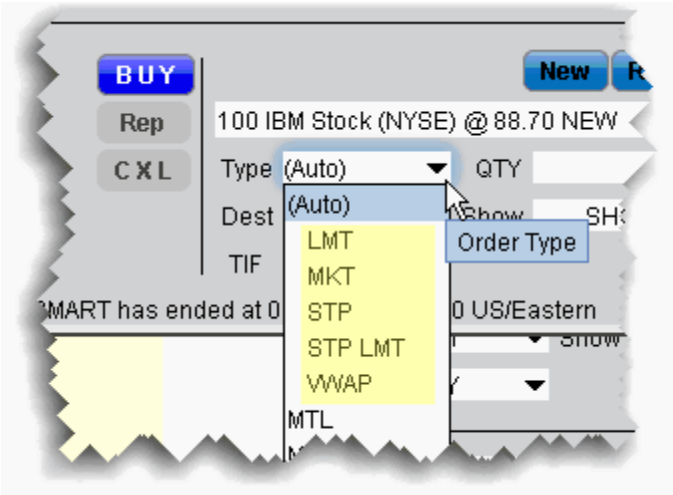
1. Select the order you want to modify using the dropdown list on the order line.



2. Modify order parameters using the dropdown lists and text entry fields or the bump Buttons.
3. Click **Rep** to cancel and replace the current working order with the modified order.

Auto Orders

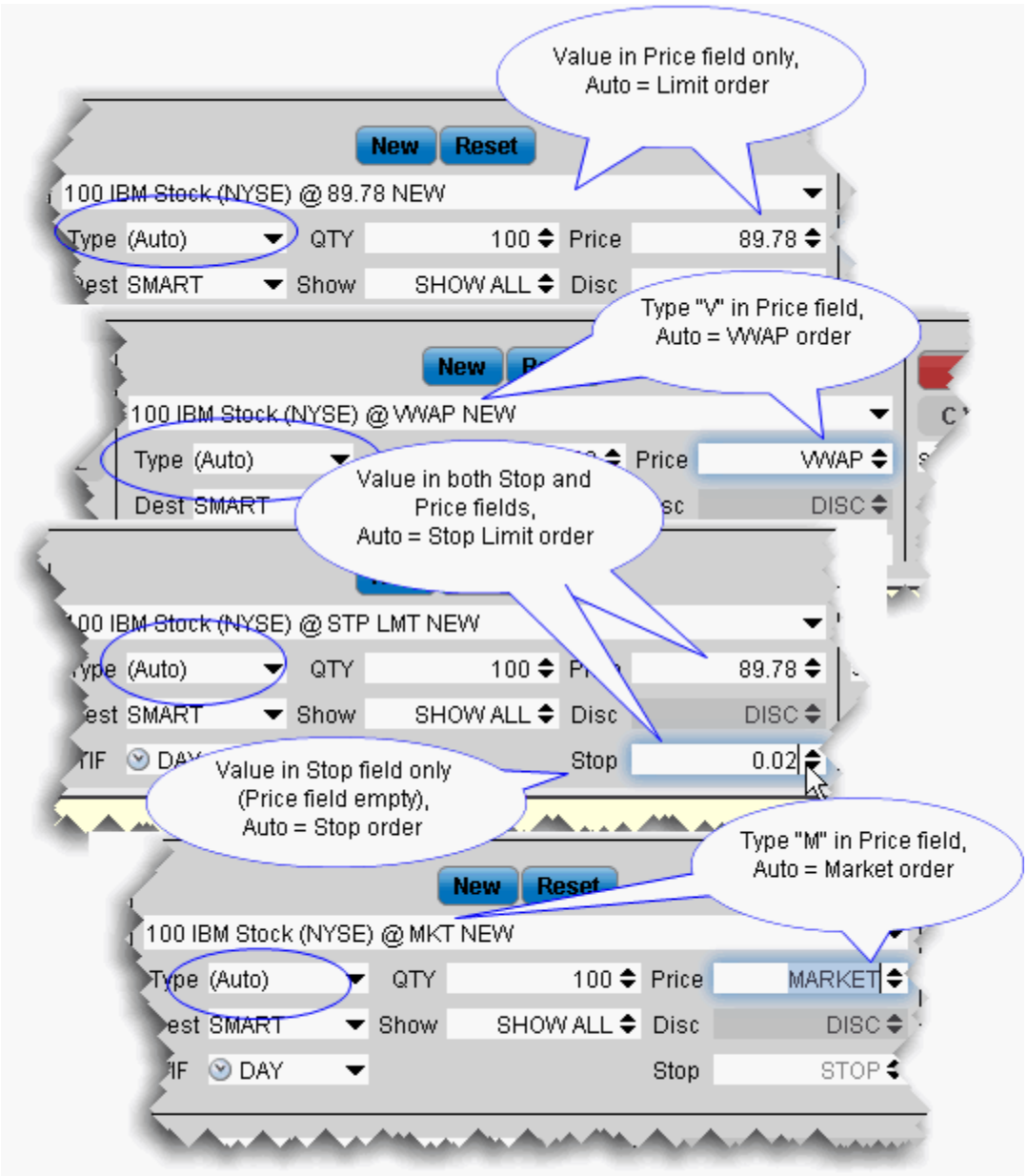
Use the Auto order in the Type field to have TWS select the order type based on the price values you enter. This feature is a short-cut to save you the step of having to choose the order type first and then define the price criteria.



By default, the (Auto) order appears in the Type field. Click to view the current list of supported auto order types from which TWS will choose. The chosen order type will display in the order description line. It is important to note the following:

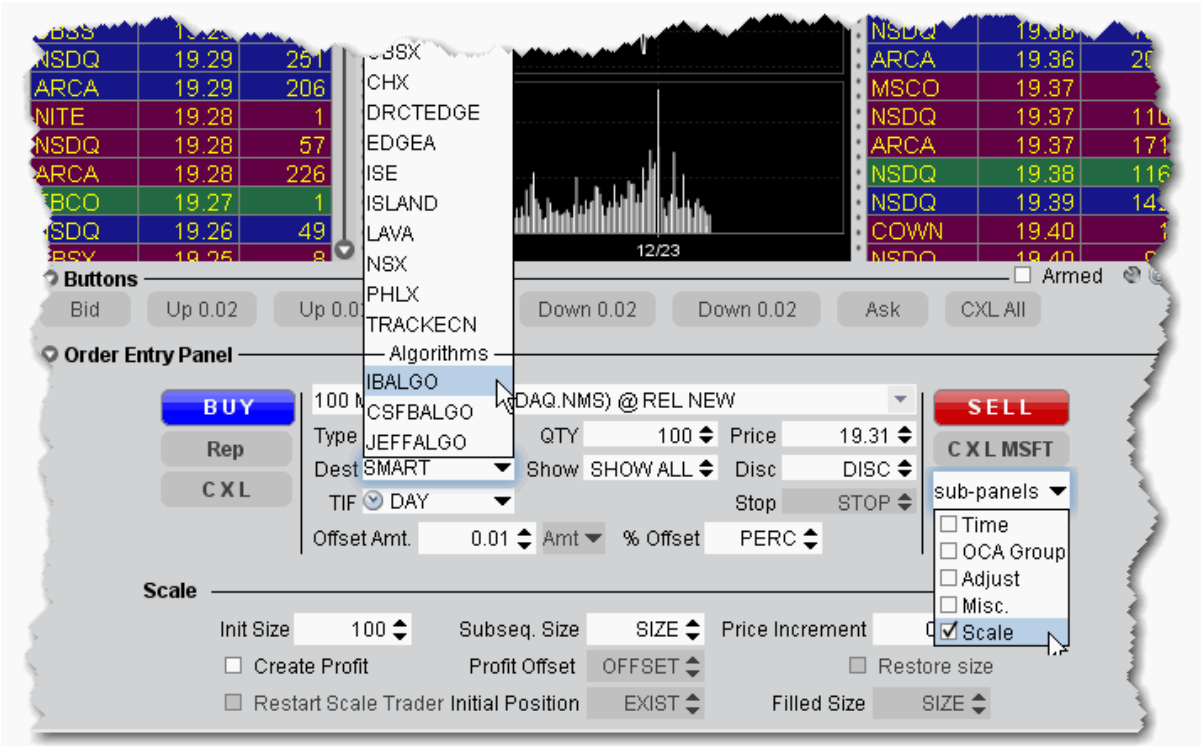
Only the order types listed under the (Auto) entry are eligible to be selected as an Auto order. All other order types must be selected manually from the **Type** dropdown list.
The Auto order appears in the **Type** field only for NEW orders. Working orders will display the actual order type in the **Type** field.

The Auto order type selection is made according to the rules as illustrated in the image below.



ISW Order Entry Sub Panels

Use the sub-panels to create advanced orders and apply order attributes. Use the Destination list to select an algo exchange and define an algo order.



To use the sub-panels

1. Click the sub-panels dropdown to display the list of available attributes and advanced order types.

Note that this menu is context-sensitive, so that only the order types that are valid for the order parameters you have defined will be shown. For example, if your order type is Stop, the Scale sub-panel will not be shown in the dropdown list for that order since the Scale attributes can only be applied to Limit and Relative orders.

2. Check the order attributes you want to apply to open the sub-panel(s) for that order type.
3. Enter values for the selected order type.

To enter an algo order

1. From the DEST drop-down list, select an algo destination under the Algorithms section.
2. In the new algo-specific panel, enter algo parameters.

See the TWS Users' Guide topics for details on setting up algo orders:

IBAlgos

CSFB Algos

Jefferies Algos

Market Depth

View the alternative bids and offers away from the inside quote to help you better gauge market liquidity. When using the Market Depth Trader for bonds, see the best bid and offer from away platforms (using Total Price) along with the best bid and ask from the IB book.

Market Depth Trader **269**

Market Depth Trader for Bonds **271**

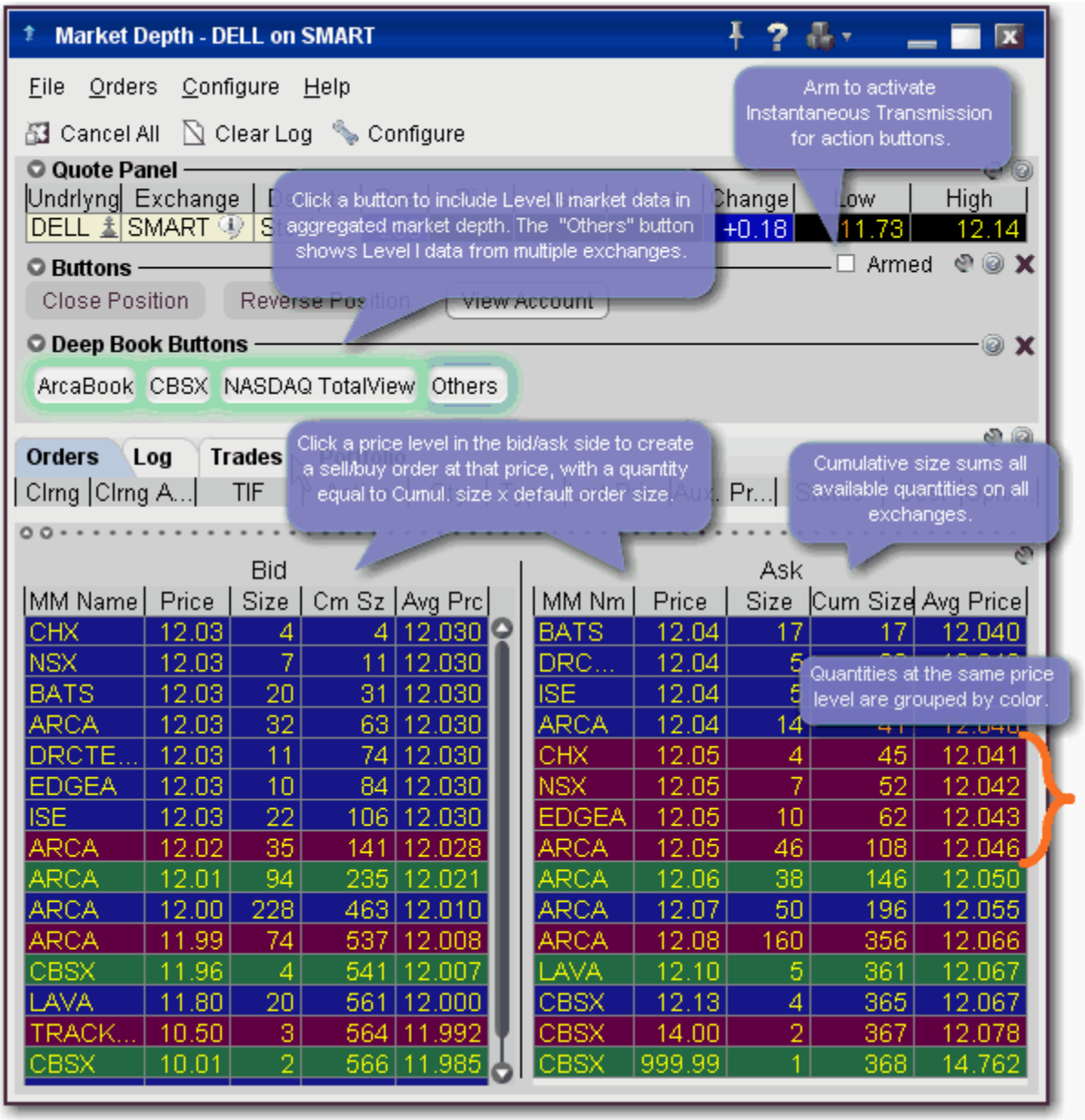
Market Depth Buttons Panel **272**

Create an Order **273**

Market Depth Trader

The aggregated Market Depth window displays the alternative bids and offers away from the inside quote to allow you to better gauge market liquidity. Create an order by clicking a price level in the Bid or Ask column. Transmit orders from the Orders panel.

Add or remove Level II data using the Deep Book Buttons. The *Others* buttons displays Level I data from exchanges that don't offer deep data, for which you don't have market data permissions, or for those to which you subscribe but haven't selected.



NOTES

The number of deep book data windows that you can display at one time (including BookTrader, ISW and Market Depth) is equal to 1 for every 100 allowed lines of market data, with a minimum of three and a maximum of 60. Market data allowance is based on commissions, available equity and other criteria. So a client with the minimum allowance of 100 lines of market data will be able to open 3 deep book windows. A client with an allowance of

500 lines of market data will be able to open 5 unique deep book windows . For details on how market data allowances are calculated, see the Market Data and News overview page on the IB website.

When subscription deep book data is at its window limit, additional windows will display aggregated top level data, and the Deep Button panel will be hidden.

We cannot guarantee that every price quoted for a particular security/commodity will be displayed in the Market Depth window.

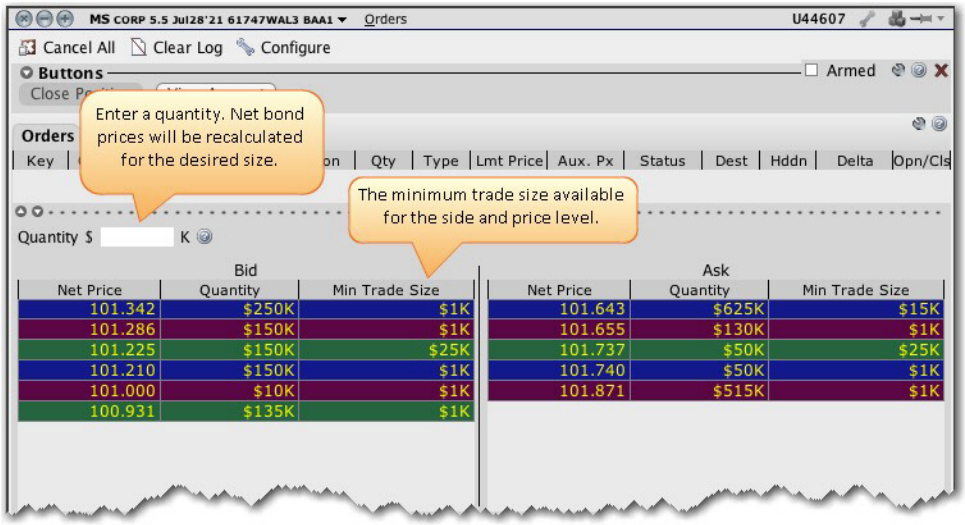
Cumulative size represents the total contract size available at a particular price or better. In the image above, the cumulative size available on the bid at $12.03 is 106.

Average Price is the average execution price received when transacting the cumulative contract size. You receive multiple executions as your order goes through the order book. Executions will appear in the Trades panel.

Use the Market Depth Trader for bond trading to view the minimum trade size for net bond prices and calculate net bond prices based on your desired size.

Market Depth Trader for Bonds

Use the Market Depth trader to see the minimum trade size for net bond prices and calculate net bond prices based on your desired size.



To take advantage of the Minimum Trade Size data and Quantity calculator, you need to configure bond pricing to use Net pricing mode. The Market Depth Trader shows the *Minimum Trade Size* available for a given price level and side in the market data. It also displays a **Quantity** field above the aggregated market depth data. Enter a quantity at which you would like to see the net prices calculated. This information may help you to control execution costs by showing the market data in net price terms at the size you would like to trade.

To open Market Depth Trader

From the **Trading Tools** menu, select *Market Depth Trader*.

Market Depth Buttons Panel

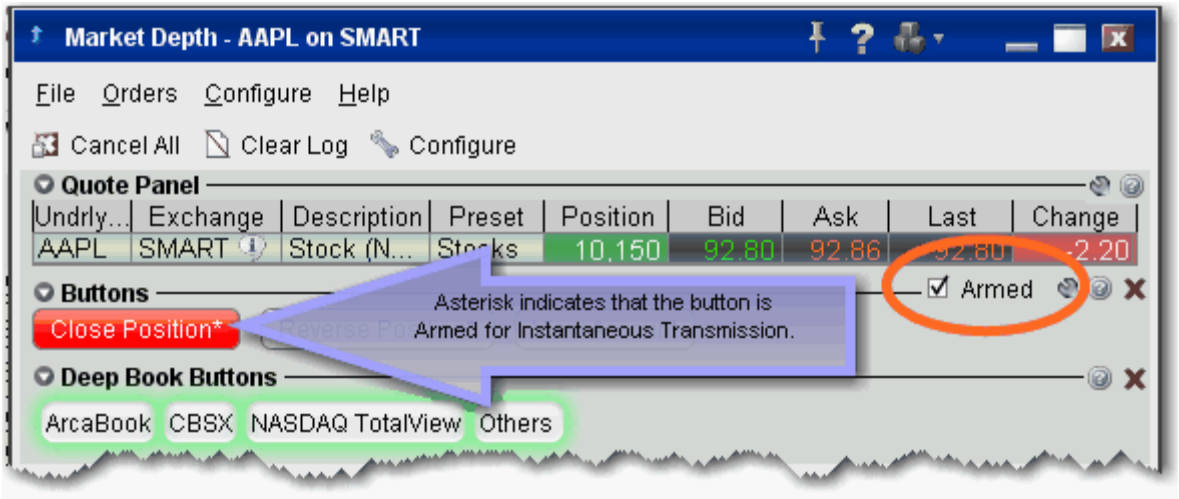
The buttons panel provides action buttons that allow you to:

Close Position - select an underlying in the quote panel, and click *Close Position* to have an opposite side closing order automatically created in the Orders panel. Transmit the order or modify any order parameters and then transmit.

Reverse Position - create an opposite side order with sufficient quantity to reverse your position from long to short or short to long.

View Account - opens the Account Information window.

You can set the buttons to transmit the order instantaneously by arming the button panel. Buttons with instantaneous transmit on will display an asterisk in their title.



To activate Instantaneous Transmit

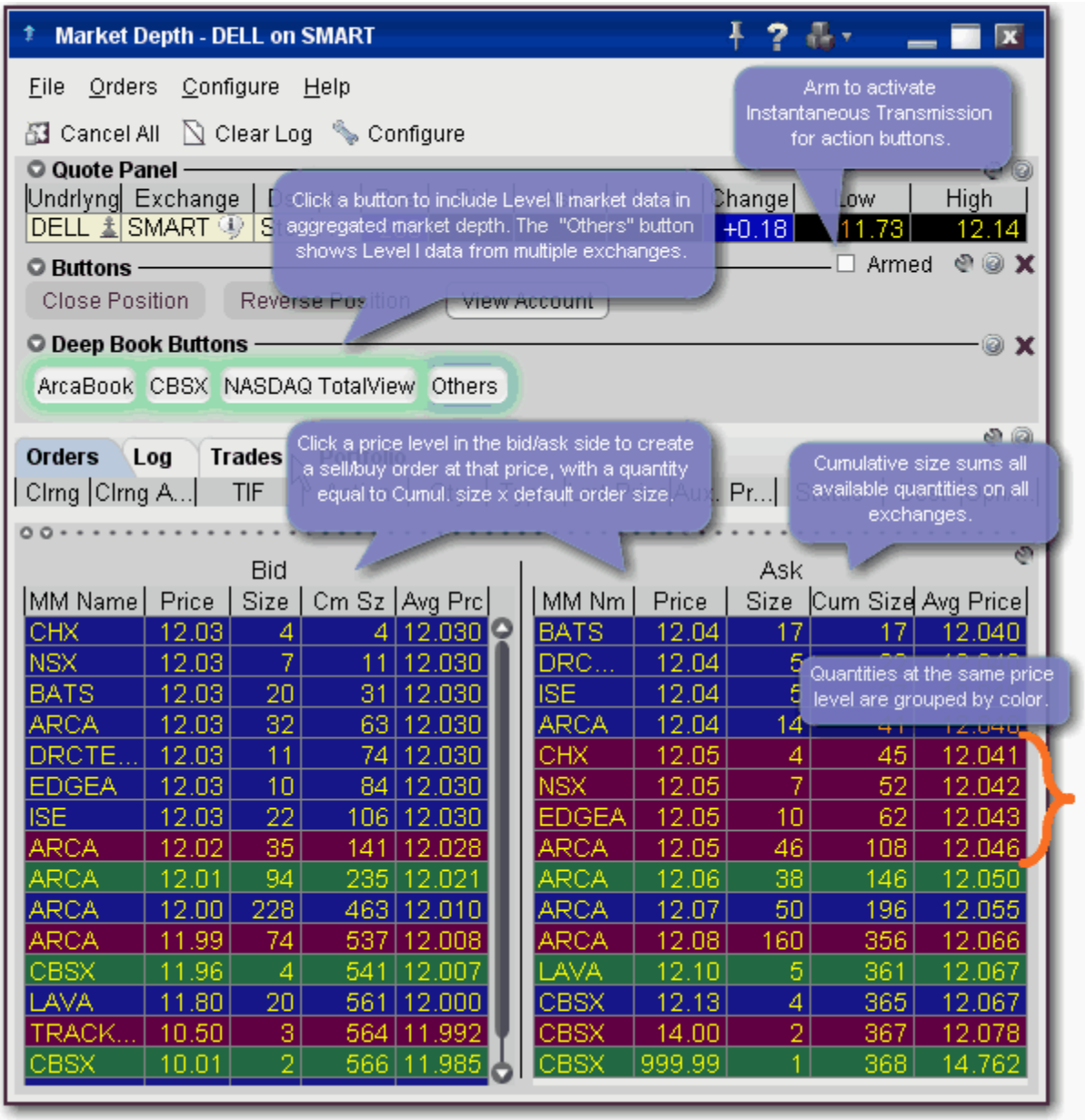
1. Check the *Armed* checkbox on the top right corner of the Buttons panel.
2. Read and agree to the disclosure message.

The asterisk in the button title indicates that these action buttons will instantaneously transmit an order when used.

Create an Order

Create orders from the Market Depth window by clicking the bid/ask at a specified price level. Be sure to confirm the order size before transmitting a Market Depth order.

The order size is based on default settings associated with the contract's Preset. If the preset uses the Use cumulative size for Market Depth, the order size equals the cumulative size on that line x default order size. For example, if the default order size is 100 and you click the ISE $12.03 price level (below), the order size will be 10,600. If you click the same price level at the ARCA line, the order size will be 6,300. If the above box is not checked, the order size will be the default order size. You can modify the order size before transmitting the order.

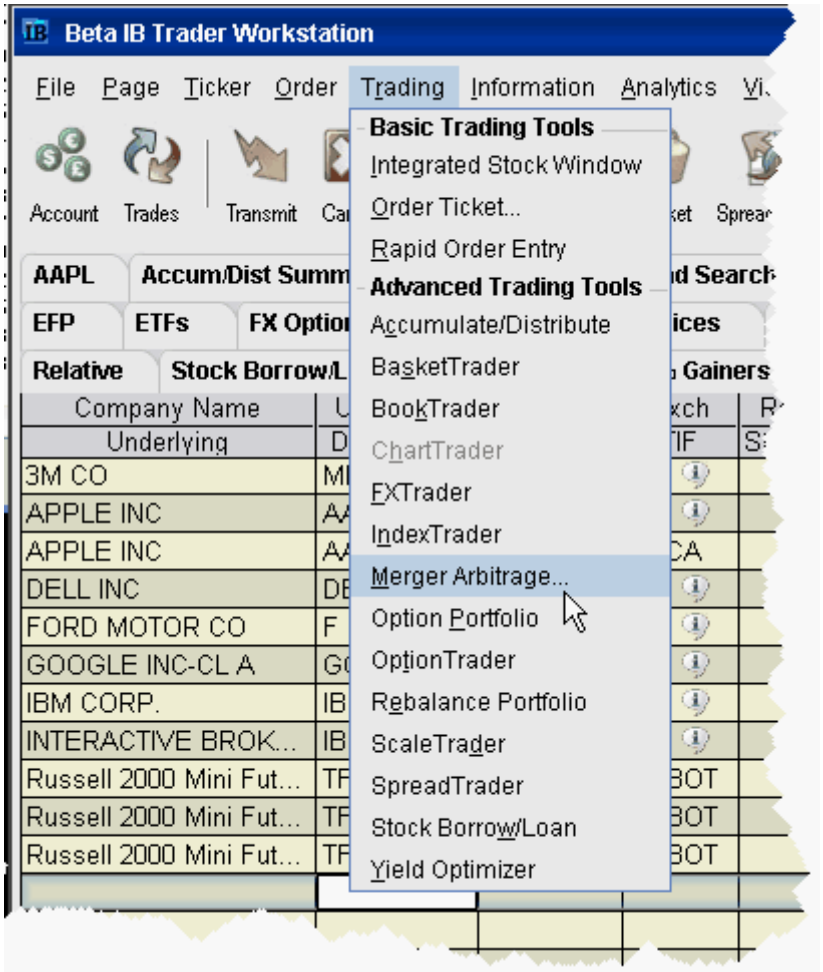


To create an order from Market Depth

1. Click on a price level in the Bid column for a Sell order, in the Ask column for a Buy order.
2. The order displays in the Orders panel. Modify parameters if necessary and transmit by clicking the “T” in the status column.
3. To transmit your order, click the "T" in the Status field of the order line.

Merger Arbitrage Window

Use the Merger Arbitrage window to create a combination order for an anticipated merger between two companies.

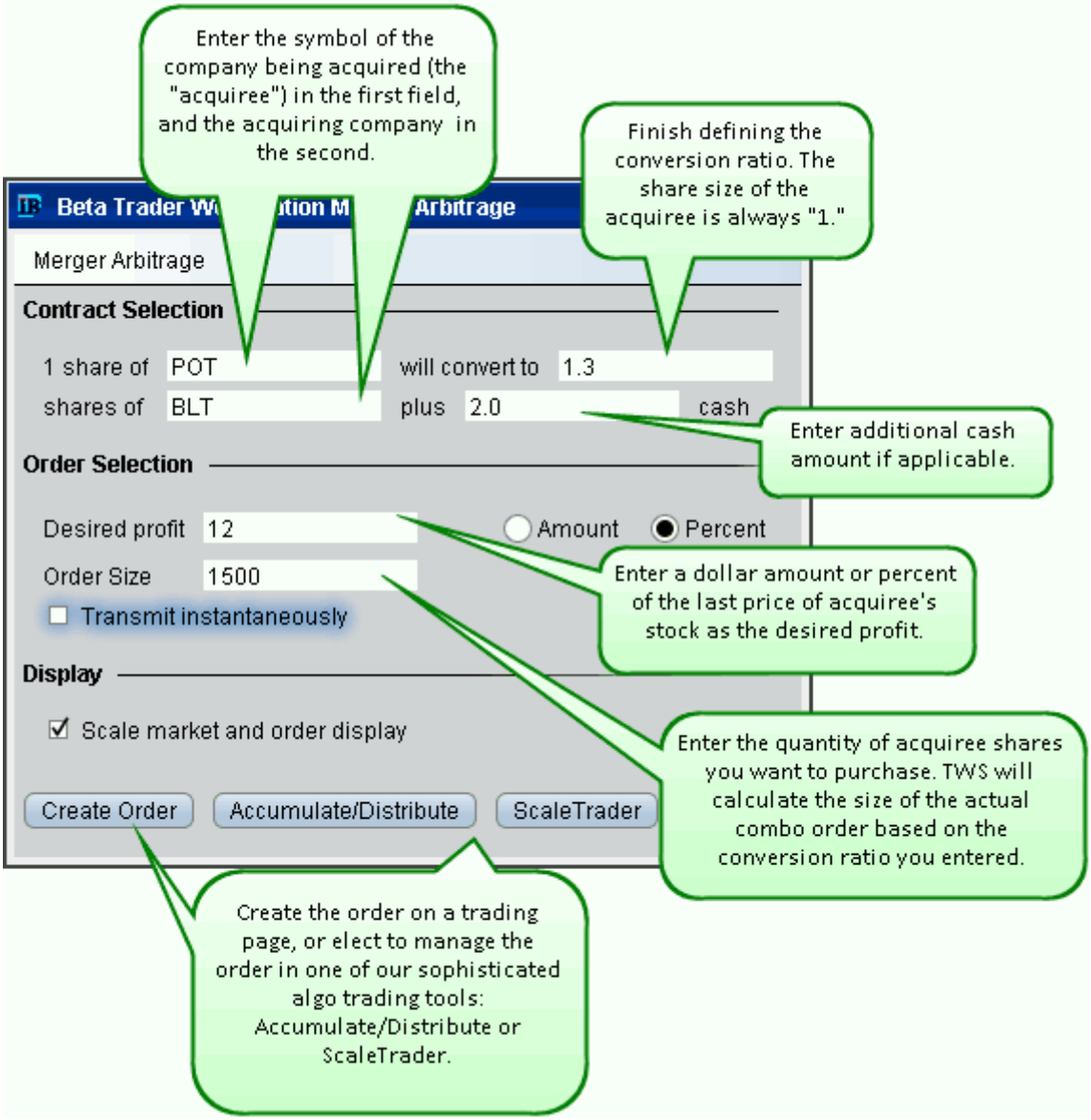


To create a Merger Arb combo

1. From the **Trading Tools** menu, select *Merger Arbitrage*.
2. Enter contract conversion information in the **Contract Selection** area.
3. In the **Order Selection** area, enter the desired profit as an absolute amount or a percent of the last price of the stock of the company being acquired (the acquiree).

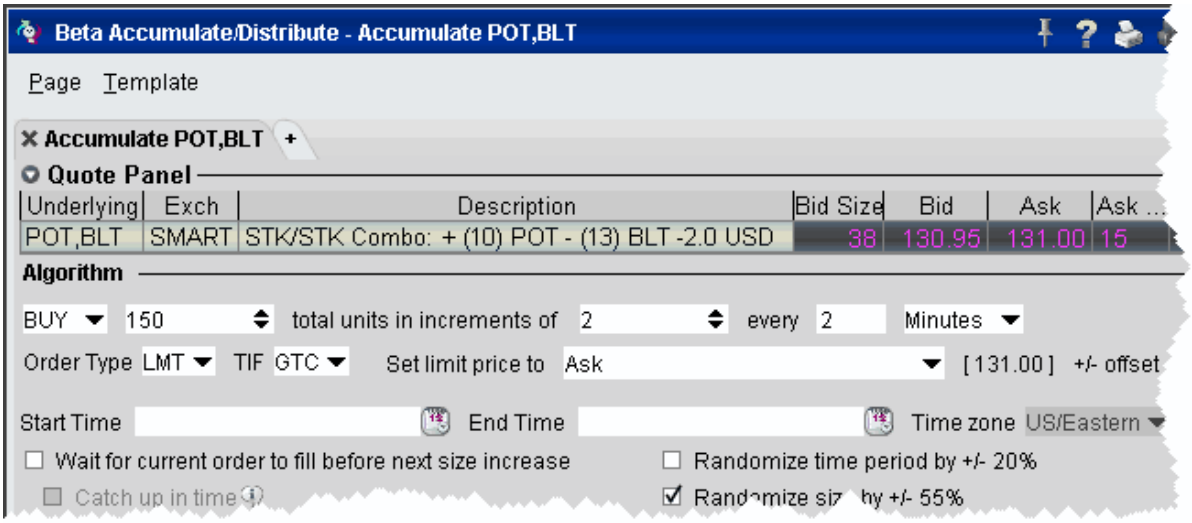
Pink fields are required.

4. Click **Create Order** to create a combination order line on the trading screen. You can also choose to manage your order from within one of our advanced algo trading tools, Accumulate Distribute or the ScaleTrader.



The *Scale market and order display* feature scales the market data to display the price of the combination per share of acquiree, and the order price will also be entered and displayed in these units. This is checked by default. Note that if the calculated size of the acquiree is one, this checkbox has no effect.

The combo order as entered above, and then opened in Accumulate/Distribute looks like this:



The remainder of the Accumulate Distribute window allows you to specify detailed and sophisticated order management criteria to help ensure that you receive the best price without being noticed.

OptionTrader

This configurable standalone screen shows market data for the underlying, lets you set up option chains based on the underlying, gives you access to your options orders, executions and portfolio information, drives the data for the Model Navigator and Options Analytics windows, and lets you create combination Spread orders.

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Loading Option Chains **279**

Combo Orders in the OptionTrader **281**

The Button Panel **282**

OptionTrader Statistics **284**

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Using the OptionTrader

OptionTrader is a robust trading tool that lets you view and trade options on an underlying. Display option chains on the underlying based on the criteria you define, including strike, expiry and exchange, and view the Greeks for each option. Use the Model Navigator to modify the values used to calculate option prices and the Greek risk dimensions. For real-time market risk management, use the IB Risk NavigatorSM.

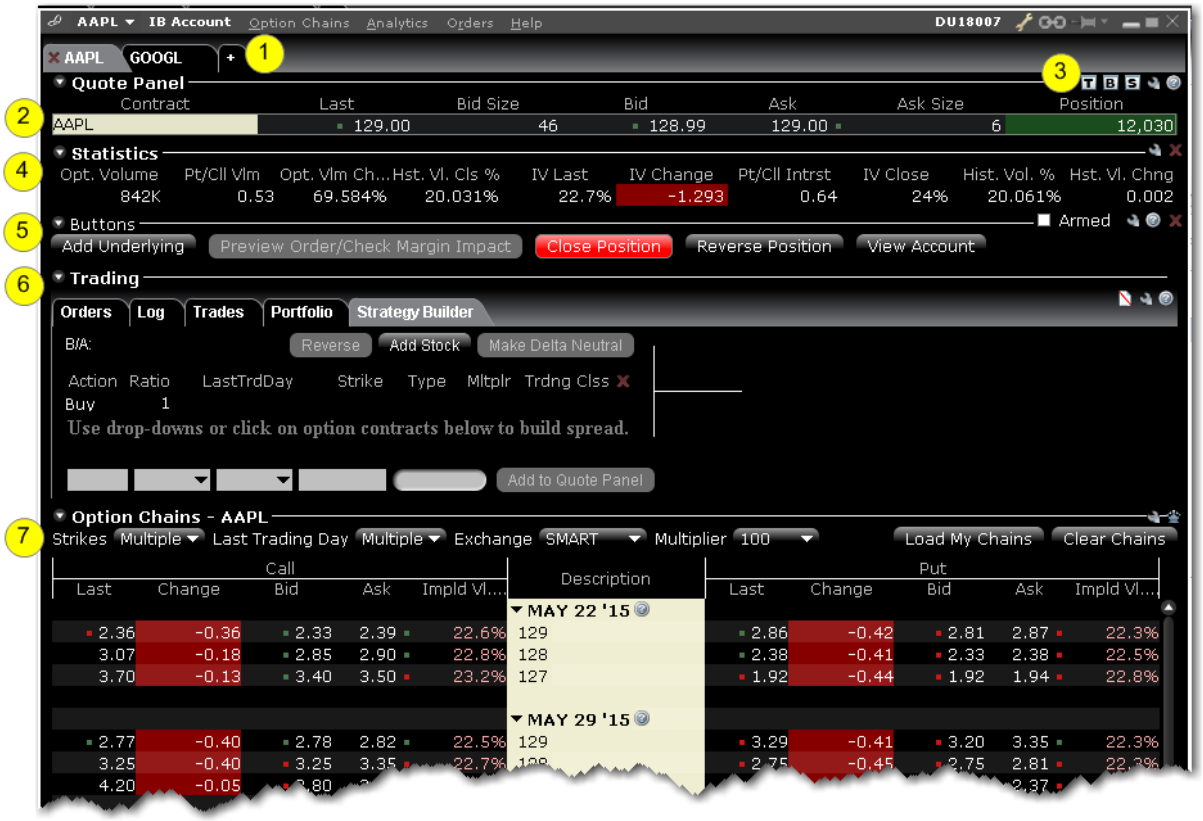
To open OptionTrader

From within Mosaic, use the New Window dropdown to select ***More Advanced Tools*** at the bottom of the list, then *OptionTrader*.
From with Classic TWS, use the **Trading Tools** menu and select *OptionTrader*.

The **OptionTrader** opens for the selected underlying. The toolbar,statistics panel and buttons panel can be hidden using the toggle buttons in the top right corner. Panels can also be contracted/expanded using the down/up arrows. The different sections are identified in the image below which corresponds to the following list:

1. The toolbar.
2. The **Quote Panel** which shows the underlying asset. You can create orders on the underlying by clicking the Bid (sell) or Ask from the Quote Panel.
3. Set of toggle buttons to hide/show the toolbar, button panel and statistics panel.
4. The Statistics panel, which displays option-related statistical data.

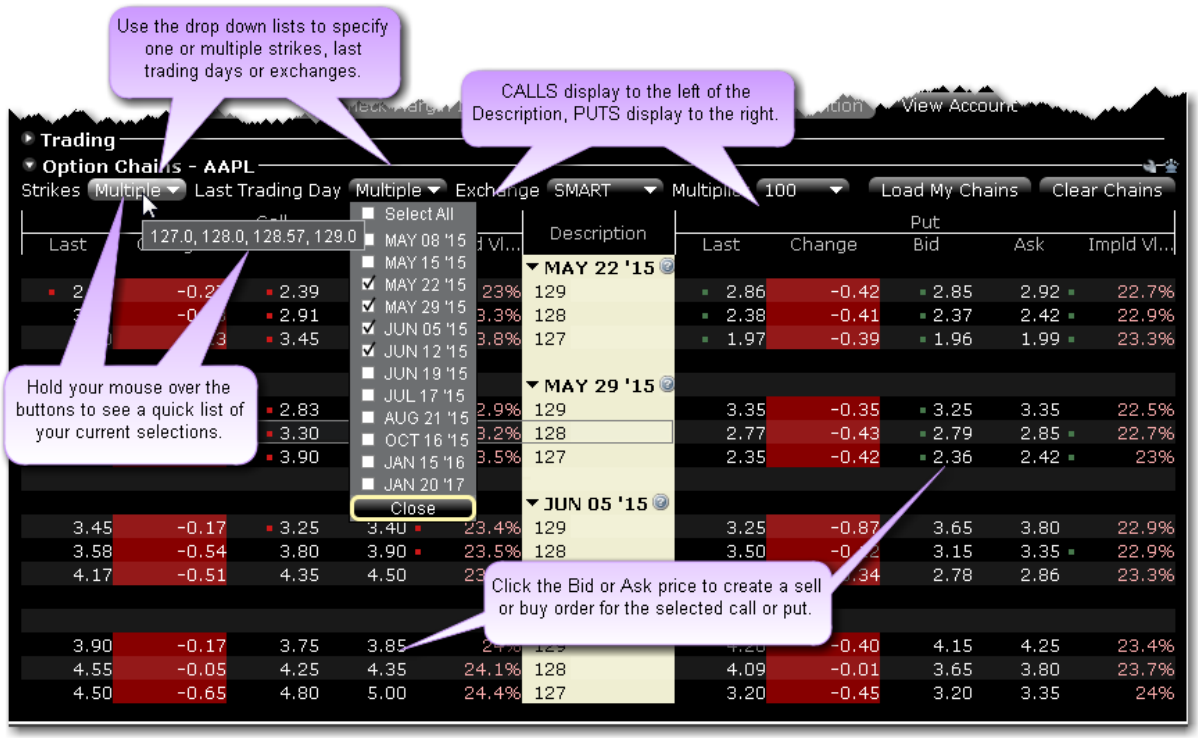
5. The Buttons panel, which holds custom action buttons that you can use to initiate common actions. Once you arm the panel, any button that you had defined for instantaneous transmit in the button panel will be identified by an asterisk (*) next to the button name.
6. The Trading Panel which includes tabbed pages for orders, activity log, filled trades for the day on that underlying, the Portfolio for the underlying, and the Combo tab that lets you create a combination spread without leaving the OptionTrader.
7. Option chains for the underlying. Specify the strike(s), expiry(ies) and exchange(s).



For information on loading option chains and configuring buttons and panels, see the TWS Users' Guide topics.

Loading Option Chains

Use OptionTrader to create and manage option chains. When you specify an underlying, chains load automatically. Use the Strikes, Last Trading Days and Exchanges lists to modify criteria and automatically load a new set of option chains.



Load option chains

Use Load My Chains to load chains on any option on the underlying in which you hold a position. Or, define the strike, last trading day and exchange criteria to view specific option chains.

Use **Strike**, **Last Trading Day** and **Exchange** buttons to define the options to include in the option chain.

If you select a single strike, last trading day or exchange, the button labels change to display the information. If you have selected multiple strikes, last trading days or exchanges, hold your mouse over the button to see the complete list of your selections.

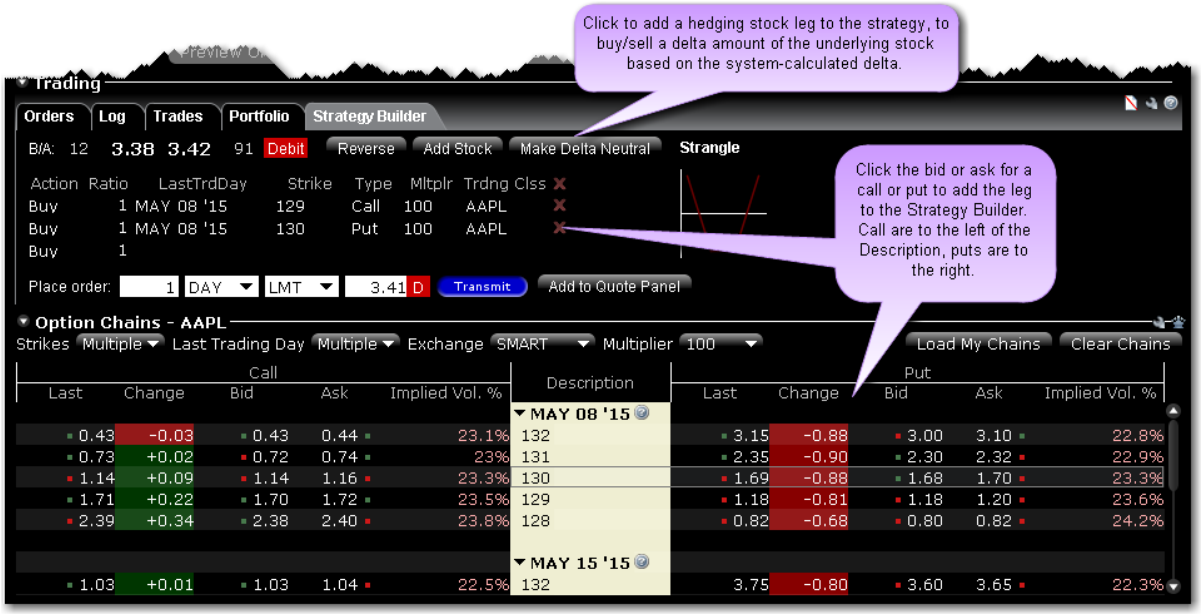
To create an order, click the Bid or Ask price for a put or call on the desired option line.

You can add pages for other contracts by clicking the **Add Tab** icon on the toolbar. After you click the **Add Tab** button, define an underlying by entering a symbol in the Underlying field on the quote panel. Hit Enter, then select an instrument type and then a specific contract. The new underlying will be reflected in the tab name.

Note: Option chain orders are displayed on the **Orders** page of the of the Trading panel.

Combo Orders in the OptionTrader

Use the Strategy Builder tab to define and submit complex multi-leg orders that use stock and option legs, based on the current OptionTrader underlying.



To create a combo order

Select Strategy Builder from the Trading tabset.

Add legs by clicking the desired option in the Option Chains area.

Click on the right "Call" side to add calls. Click on the left "Put" side to add puts.

Click the Bid price to add a Sell leg; click the Ask price to add a Buy leg.

You can quickly modify the Action, Last Trading Day, Strike or Put/Call designation using the drop-down arrow in the Combo window.

Use the optional feature buttons as needed:

Use "Add Stock" to add a stock leg.

Use "Make Delta Neutral" to add a stock leg with the delta quantity based on the system generated delta.

Use "Add to Quote Panel" to set up the quote line for transmission at a later time.

Use "Transmit" to submit the combo order using the order parameters shown.

To make the combo delta neutral

Click *Make Delta Neutral* at the top of the Strategy Builder window.

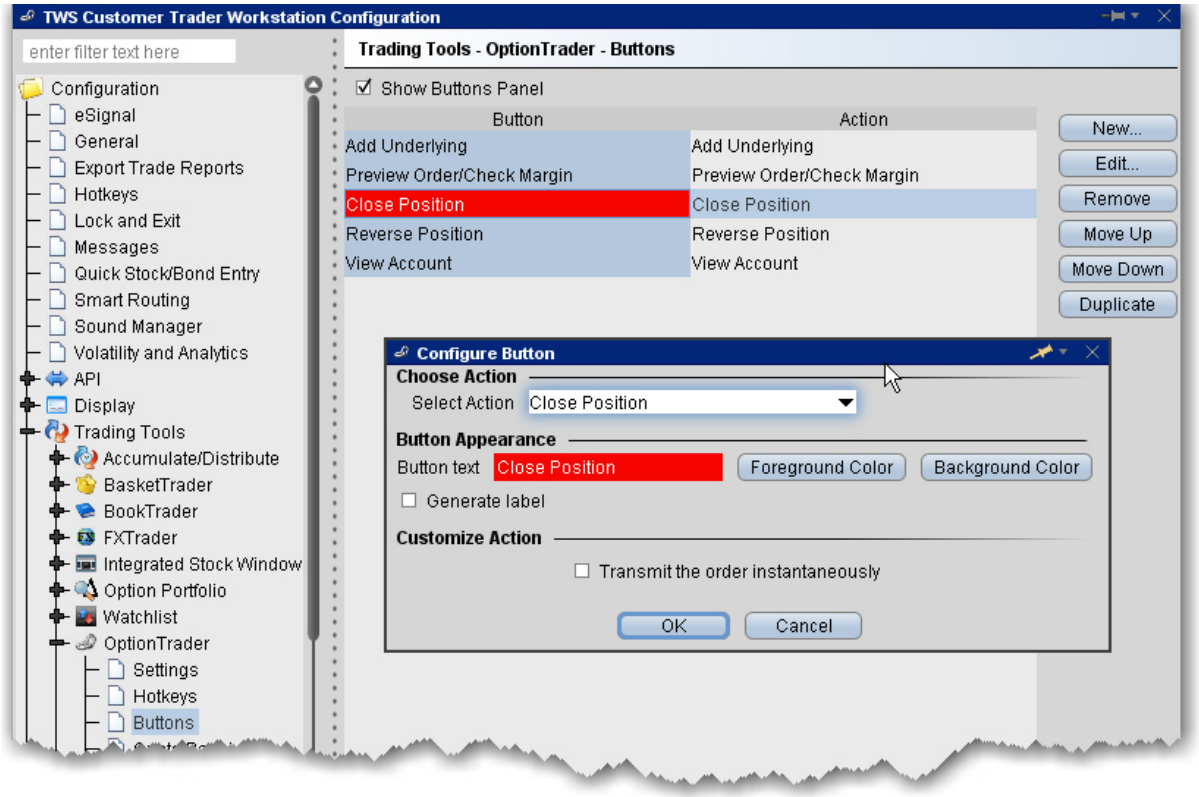
The stock leg is added at the bottom of the window, and the hedging quantity is generated automatically using the system calculated delta. If you modify the delta the stock leg quantity will change, and if you modify the stock leg quantity the delta value will update.

Modify the prices if needed. The Net Option Price is the limit price for the combo's option legs only. The Stock Price is displayed separately.

Choose to Transmit the delta neutral combo, or add the combo line to the Quote Panel.

The Button Panel

Many of the trading tools provide a configurable Buttons panel that you can elect to hide or display, and which lets you create new and edit buttons that perform the defined trading action with a single click.



To configure the buttons panel

1. From within the current tool, click the configure wrench to open Global Configuration for the tool.
2. Select *Buttons* in the left pane.

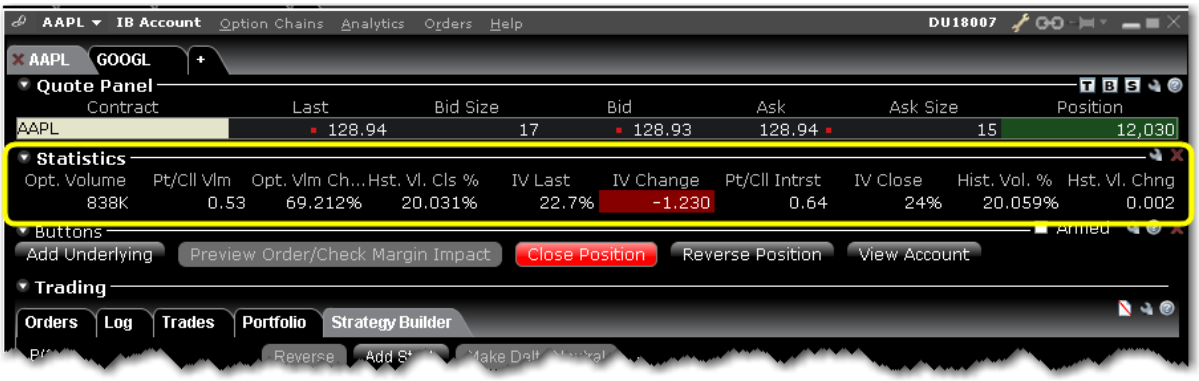
The existing buttons and their actions are displayed at the top of the page.

3. Click *New*to create a new button/action, or select a button and click *Edit*to modify an existing button.
4. Use the Button Appearance section to change the label, the text color and the background color.
5. Select an action to associate with the button using the Select Action dropdown.
6. Fine-tune the action by entering data in the **Customize Action** area. For example, for the action *Increase price or size*, you can specify the price or size field to which the button applies, and set the interval by which to increase the field value.

Note: NOTE: If you check the instantaneous transmit feature, the button will display an asterisk next to its name in the Buttons panel.

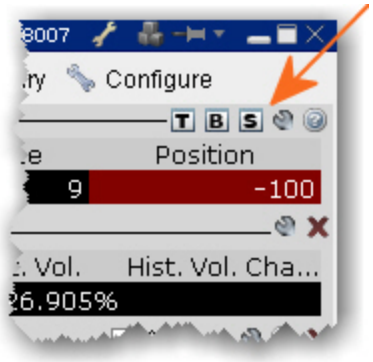
OptionTrader Statistics

An optional *Statistics* panel displays option-related statistical data for contracts with a stock underlying. You can elect to display the following statistics:



Field Name	Description
Bid Exch	Identifies the exchange(s) that are posting the best bid price on the options contract.
Model	The option model price is calculated using the underlying price, the interest rate, dividends and other data using the Model Navigator.
Ask Exch	Identifies the exchange(s) posting the best ask price on the options contract.
Historical Vol	Displays the 30-day historical volatility for an option. Right-click the field header to toggle between Daily or Annual,
Opt Implied Vol	A prediction of how volatile an underlying will be in the future. The IB 30-day volatility is the at-market volatility estimated for a maturity thirty calendar days forward of the current trading day, and is based on option

	prices from two consecutive expiration months.
Opt Open Interest	Charts the total number of options that were not closed.
Opt Volume	The total number of contracts traded over a specified time period.
Vol Change	Change in volatility from the previous day's close.
Opt Volume Change	Change in option volume from the previous day's close.
Put/Call Volume	Put option volume for the day divided by call option volume for the day.
Call/Put Volume	Call option volume for the day divided by put option volume for the day.
Put/Call Open Interest	Put option open interest for the day divided by call option open interest for the day.
Call/Put Open Interest	Call option open interest for the day divided by put option open interest for the day.
Open Interest Change	Change in open interest from the previous day's close.



To display the OptionTrader Statistics panel

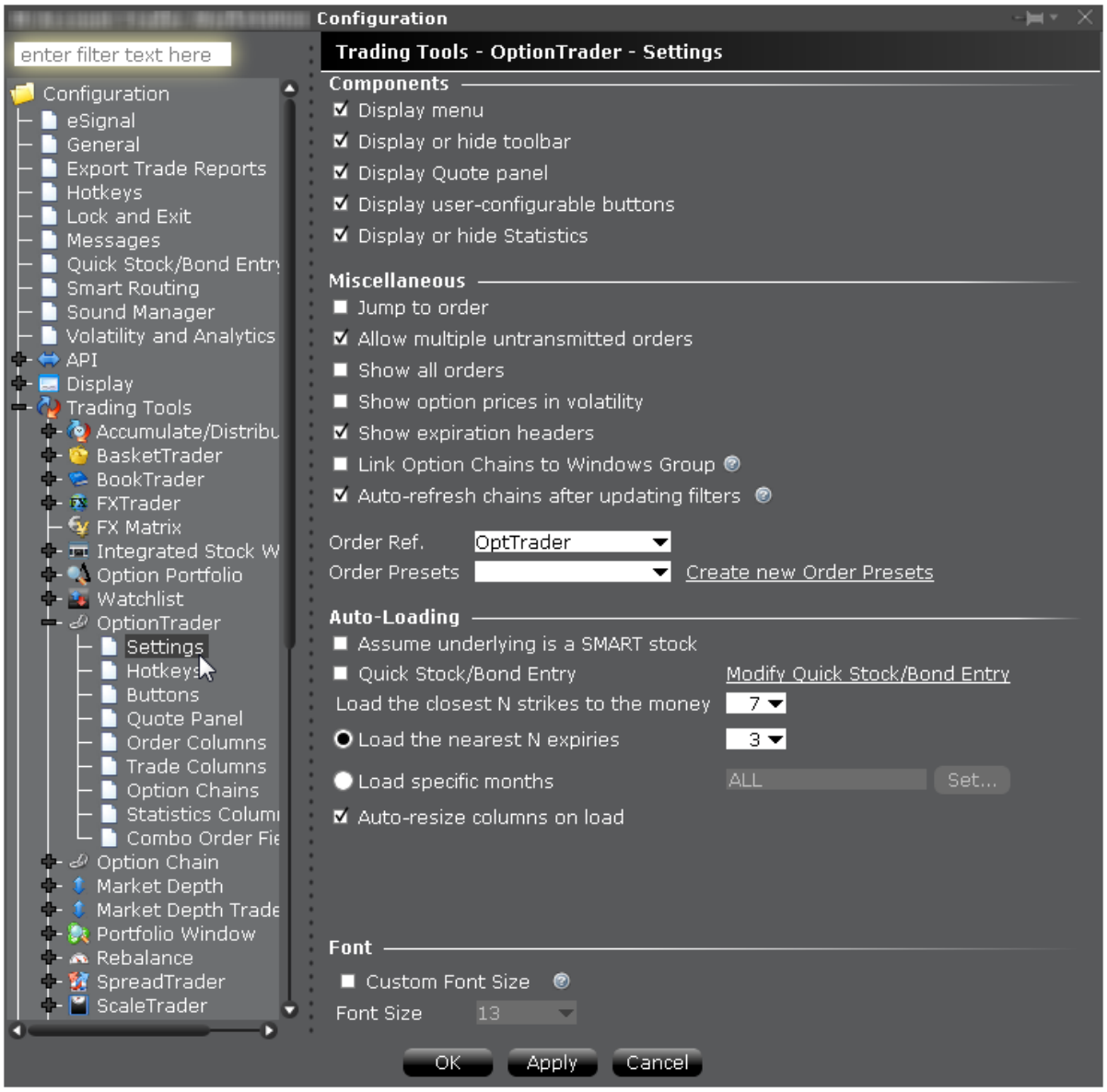
Click the "s" icons in the toggle panel located in the top right corner of the OptionTrader.

OptionTrader

Use the OptionTrader configuration page to define basic settings, order presets, hotkeys, buttons and to control the visibility of column fields.

To define OptionTrader configuration settings

1. Click the *Configure* wrench from any window.
2. Click *OptionTrader* in the left pane and then click *Settings*.
3. Use the right pane to set these parameters:



Settings

Components

Display menu - Check to see the OptionTrader menu.

Display or hide toolbar - Check to see the Option Trader toolbar.

Display Quote panel - check to display the Quote Panel, which displays a single line of market data for the asset. You can create an order from the Quote panel by click the bid or ask price.

Display user-configurable buttons - hide or display buttons you create using the Buttons panel.

Display or hide Statistics - a configurable, optional panel that shows option-related data and statistics.

Miscellaneous

Jump to order- automatically puts the cursor on the newly created order in the **Orders** panel.

Allow multiple untransmitted orders - if checked, you can create more than one order in the Underlying panel. Otherwise, only one untransmitted order is allowed.

Show all orders - check to view all orders for the underlying.

Show option prices in volatility - check to view volatility instead of dollar prices.

Show last trading day headers - check to sort option chains using a single header for the Last Trading Day followed by a list of strike prices. This helps save room in the option chain *Description* column.

Link option chains to windows groups - If checked, the Mosaic Option Chains window (not full OptionTrader) will be linked to the windows group allowing selected option chain contracts to act as the source and change focus in all grouped windows.

Auto refresh chains after updating filters - If checked, option chains update immediately when any filter criteria (strike, right etc) are changed. If unchecked, you must manually update chains using the Load Chains button.

Order Ref - A user-defined reference name to help identify where the order originated.

Order Presets - OptionTrader-specific default order settings. The OptionTrader preset is linked to the selected Order Ref. above. Create a preset for both Stock and Options with the same title and link to the Order Ref by selecting it or by creating a new preset. These presets will control the default order parameters for any stock and options orders created from the OptionTrader. If you do not create a stock preset for the OptionTrader, the default stock pre-set will be used for stock orders created in the OptionTrader.

Auto-Loading

OptionTrader automatically loads option chains based on the criteria you set in this area.

Assume underlying is a SMART stock - Uses Smart instead of a specific exchange.
Quick stock entry - Check to auto load stock and bring up the exchange dialog immediately when you enter an underlying.
Load the closest N strikes to the money - Choose a number to limit how many options load in the chain.
Load the nearest N expiries - Only shows you those options with the N closest expiries.
Load specific months - Specify the exact months' options you want to see.
Auto-resize columns on load - When checked, data columns will resize appropriately to accommodate revised data.

The Order Ticket

The Order Ticket is available as an alternative form of order entry for users who prefer to set all order attributes from a single tabbed window.

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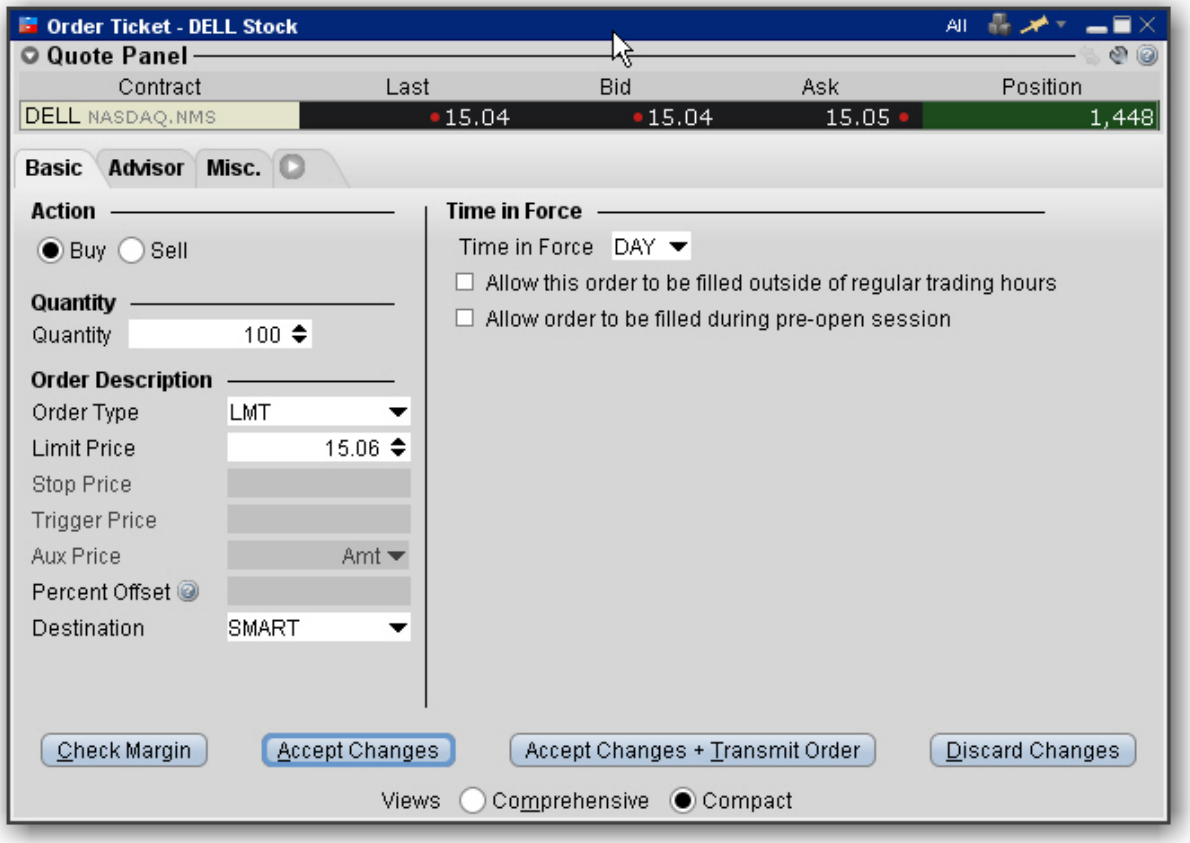
Basic

The Basic tab includes the basic order and time in force information, all based on the contract shown in the Quote Panel. The fields are context-sensitive, which means that only valid selections will be active. For example, if you select TRAIL LIMIT as the order type, the Stop Price, Trailing amount and Lmt Offset fields become active. In addition, selections you make on

this page affect the composition of the tabset. For example, if you select a stop or trailing order type, the *Adjust* tab becomes available; if you choose VOL as the order type, the *Volatility* tab is displayed, etc.

For combo orders, the Basic tab also includes Advanced Combo Routing.



To remove tabs and view all fields on a single large page, select the *Comprehensive* view.

Field	Description	Notes
Action	Choose Buy or Sell.	
Quantity		
Quantity	The number of units in the order.	
Display size	Enter a display size to create an Iceberg order.	

Min. Quantity	Enter the minimum quantity that must be available for the order to execute.	For options routed through Smart.
Order Description		
Order Type	Select an order type. Valid order types are determined by the underlying, exchange and security type selected.	
Limit Price	Enter the limit price if the order type requires it.	
Aux. Price	For Stop and Stop limit orders, this is the Stop election price. For Options relative to stock orders, this is the starting price. For trailing stop orders, this is the trailing amount.	
Trailing amount	The amount used along with the market price to calculate the initial stop price.	
Percent Offset	For Relative orders, sets the offset amount based on a percentage of the bid price for Buy orders or the Ask price for sell orders.	
Discretionary Amount	The amount off the limit price at which the order is still eligible to execute.	Enter an amount to create a Discretionary order.
Destination	Specifies the order destination.	To create CSFB or

		Jefferies algo, select CSFBALGO or JEFFALGO from this list.

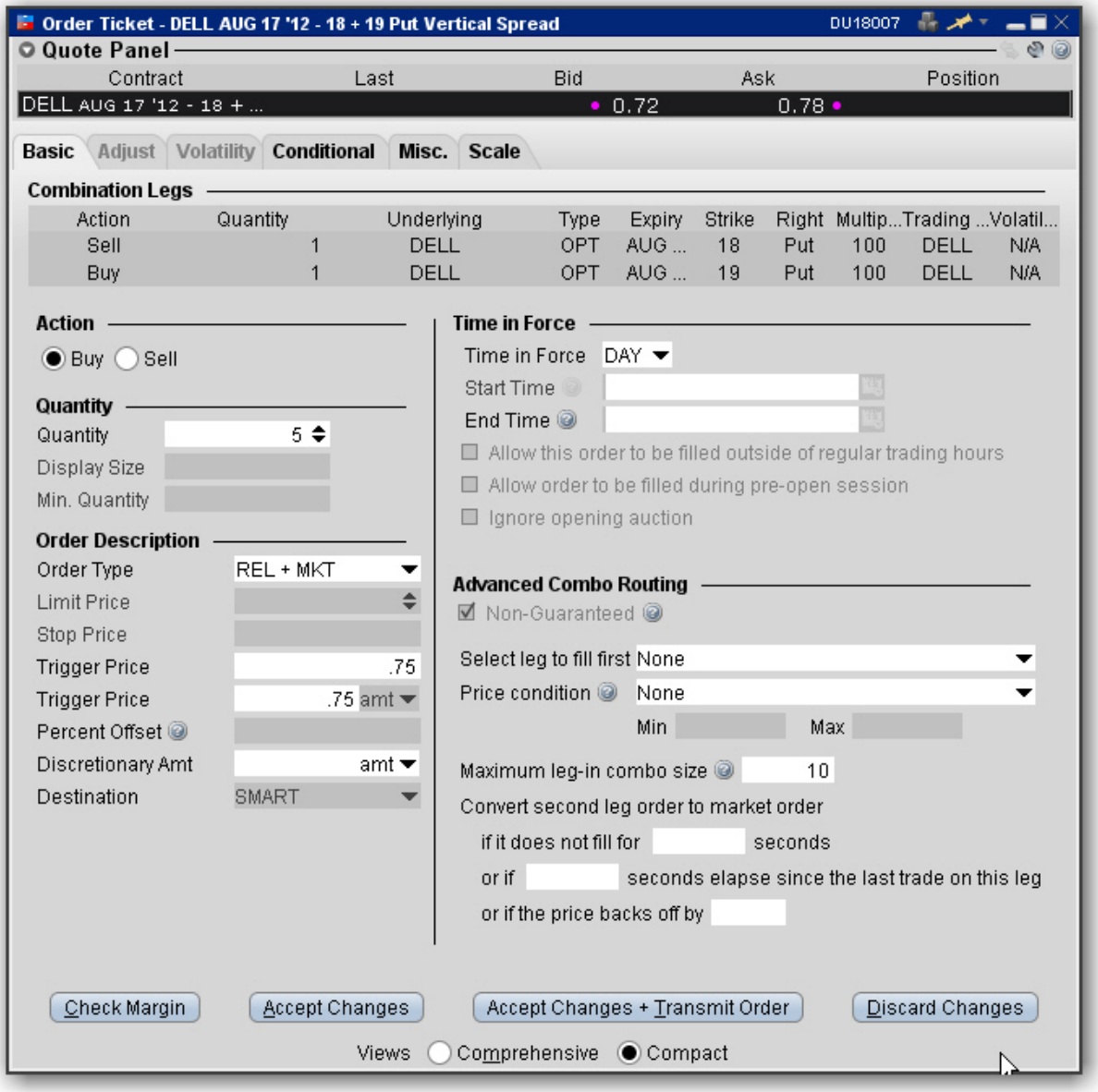
Field	Description	Notes
Time in Force	The time period during which your order will remain active. Choose from the selections presented, including: • DAY (day order), • GTC (order remains active until it is cancelled) • OPG (market or limit at the open order) • IOC (immediate or cancel) • GTD (order remains working until the date/time specified in the End Time field below.) • DTC (day 'till cancelled, is cancelled at the end of day like a day order, but remains on your trading screen deactivated to let you resubmit easily).	Only valid Times in Force are displayed per order, based on the product, order type and destination.
Start Time	Set the start time (and date) for the order.	

End Time	Set the end time and date for the order.	Only valid for GTD times in force.
Trading Hour Attributes The next three settings allow you to specify the hours during which orders are eligible to execute. By default, orders are set to trade during Regular Trading Hours only. **Note: Elections to trade outside regular trading hours may not be available for particular products that are not listed on an exchange. IB customers are solely responsible for ensuring that these parameter are valid for the product(s) involved.**		
Allow this order to be filled outside of regular trading hours.	Check this box if you want to allow orders to trigger or fill outside of regular hours.	You can also set this feature from the TIF dropdown on an order line in the trading window. Valid for US stocks listed on major exchanges. Not available for IOC, OPG (MOO and LOO), FOK, MOC or LOC orders.
Allow order to be routed and executed during pre-open session.	Check to allow orders to participate in the pre-open session from 4:00 - 9:30 am.	Can be applied to orders set for Regular Trading Hours only.
Ignore opening auction.	Check to ignore the opening auction which takes place at the open.	Can be applied to orders set for Regular Trading Hours only. This attribute cannot be used if you have configured Smart

		Routing to participate in Pre-open Re-route.
VWAP Time	Modify the VWAP cut-off time if desired by clicking the *Calendar* selection tool. Otherwise, the *Soonest* cut-off time is used.	VWAP orders are automatically routed and accepted immediately after being transmitted. VWAP orders cannot be cancelled.

Advanced Combo Routing

Advanced combo routing (defined from the **Basic** tab of the Order Ticket) lets you control how each leg of a complex combination order is handled. Define advanced combo routing for both guaranteed and non-guaranteed combination orders routed to Smart. Selections displayed are based on the combo composition and order type.



To use advanced combo routing

1. Create the Smart combination strategy.
2. From the combo line on the Quote Monitor, click the Bid or Ask price to create a (sell or buy) order.
3. **Right-click** the order line and select *Modify* then select *Order Ticket.*

Based on the combo composition and the Order Type, the **Advanced Combo Routing** selections are displayed. You can monitor the progress of the combo order by holding your mouse over the Status field of the order line.

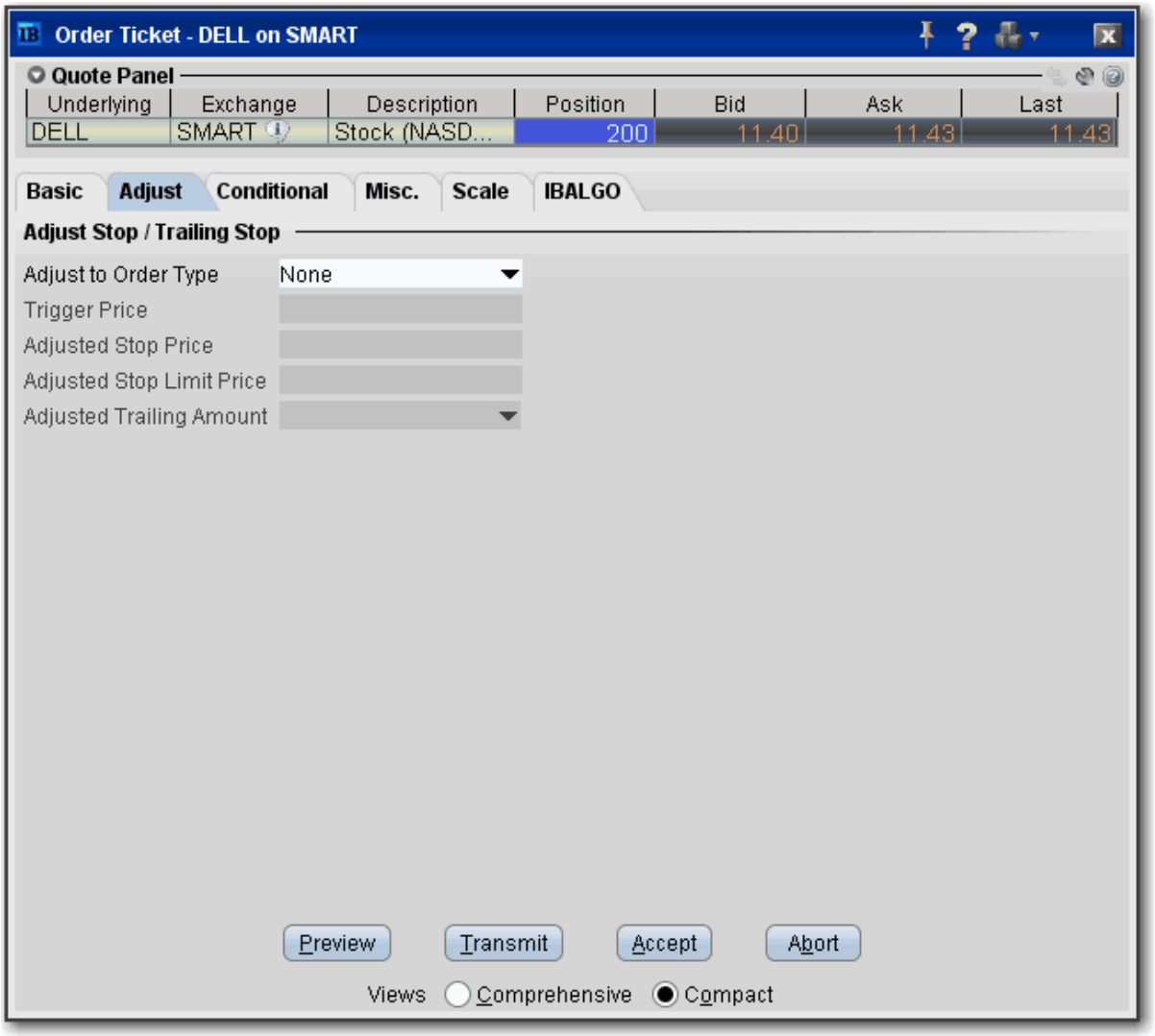
Advanced Combo Routing Fields (available based on selected Order Type):

Field Name	Description
Order Type	Choose from the basic order types as well as: Relative + Market, Limit + Market, Trailing Relative + Market and Trailing Limit + Market.
Select leg to fill first	For orders that are being legged-in, the chance exists that only the first leg of the combo will fill and you will be left with one unexecuted leg. Use this field to specify which leg is submitted and potentially filled first. Use the dropdown list to pick.
Maximum leg-in combo size:	The order is submitted in pieces, or segments. This is the maximum size of each segment.
Do not start next leg-in if previous leg-in did not finish:	Specify whether or not the system should attempt to fill the next segment before the current segment fills.
Convert second leg order to market order if...	These settings allow you to specify when (if ever) the second leg should be changed to a market order to fill right away, in cases where the first leg fills and the second leg does not and ends up sitting as a non-marketable limit order at the exchange,
...or if the price backs off by...	Provides a way to specify a stop-loss to fill

Field Name	Description
Discretionary Amt	the unexecuted leg of a combo by changing the leg to a market order if the price backs off by the specified amount. In cases where one leg fills and the other doesn't, the discretionary amount indicates how much you are willing to pay to fill the combo.

Adjustable Orders

Use the Adjust tab to define a one-time adjustment to a stop, stop limit, trailing stop or trailing stop limit order. This tab will only become active one of those orders types is selected.



To remove tabs and view all fields on a single large page, select the Comprehensive view.

Field	Description	Notes
Adjust to Order Type	When you select an adjusted order type, the stop order you're adjusting will not trigger when the stop price is hit. Instead, it	The following example continues to unfold for each field. You buy 100 shares of XYZ for $31.00/share, and submit a sell stop order with a trigger price of $30.00. This means that if the price hits

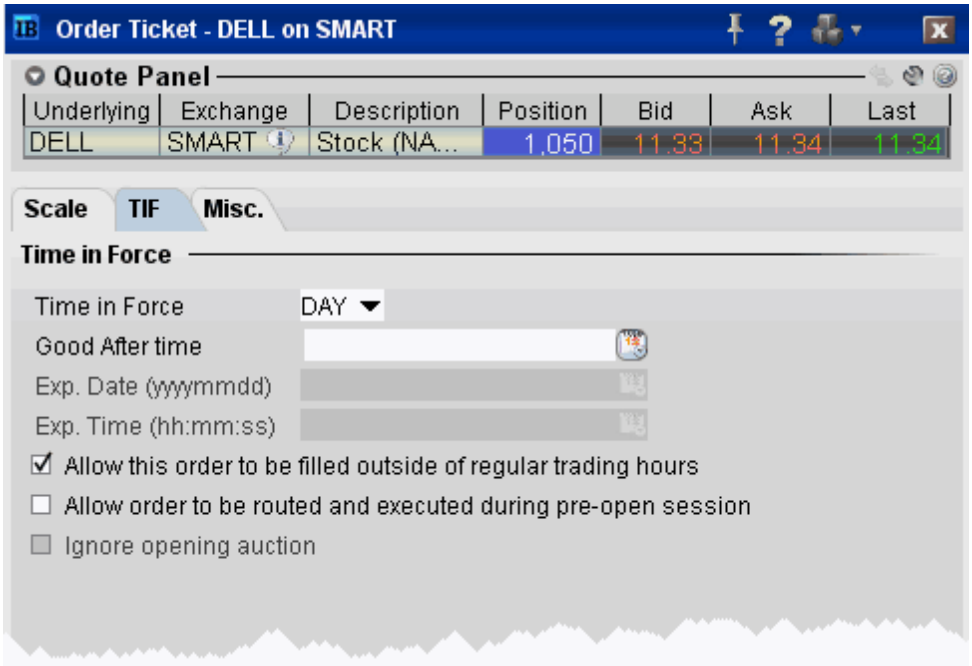
	will be changed to this order type, and use the other parameters below. Select one of the stop order types. When your current stop price is penetrated, it will change to this order type and use the instructions you set in the following fields.	$30.00, TWS will send a sell market order to the exchange. Now let's modify this scenario. In addition to the above Stop order, you decide to create an adjustable **Stop Limit** order to help lock in a profit if the stock price begins to rise. Now imagine the price starts going up. When it hits the trigger price (see next field below) TWS will cancel the Stop order and create a new Stop Limit order with the characteristics you set in the following fields.
Trigger Price	This price will trigger the adjusted order you defined in the Adjusted Order Type.	Set the adjustable trigger price to $34.00
Adjusted Stop Price	When the trigger price is hit, the adjusted stop price is implemented for the new order.	Set the adjusted Stop Price to $33.50. When the stock rises above the $34.00 trigger price you set above, you original Stop order is cancelled and replaced with a Stop Limit order with a stop trigger price of $33.50.
Adjusted Stop Limit Price	Used for Stop Limit and Trailing Stop Limit orders. This value will be the limit price of the order if it is triggered and submitted.	Set the Stop Limit to $33.00 to ensure your order will not execute below this price.
Adjusted	Used for Trailing Stop	If you had a trailing stop order with a trailing

Trailing Amount	and Trailing Stop Limit orders. This value will replace the original trailing amount if the adjusted order is triggered.	amount of $1.00, you could set the adjusted trailing amount to $.50. If the adjustment trigger is hit, the trailing amount is modified.

Scale Orders via ScaleTrader

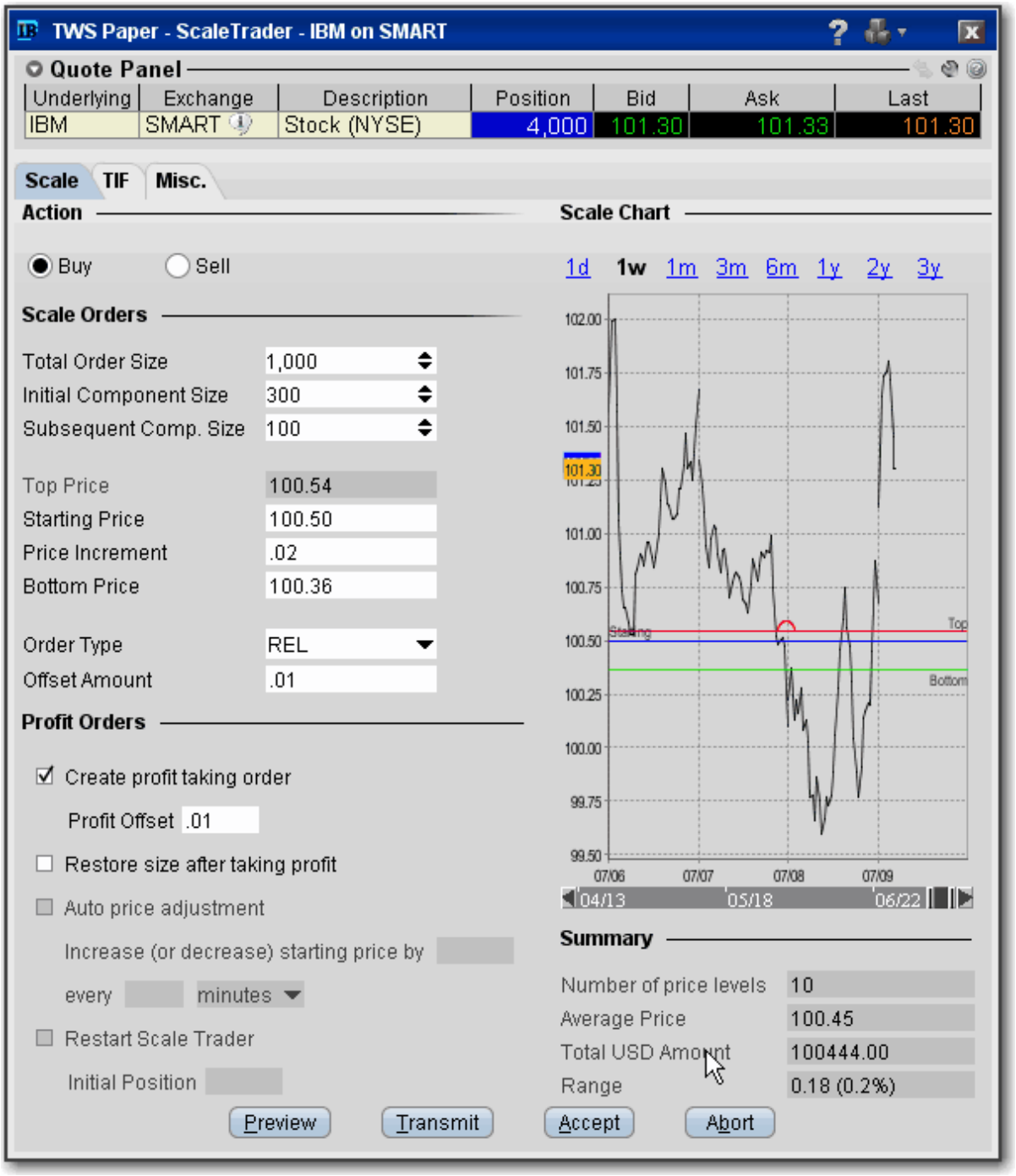
Scale orders are designed to help prevent larger sized trades from being subject to increasingly deteriorating prices by scaling your order into smaller, incrementally priced components based on user-specified price and size instructions. In addition to scaling your order, you can also define a profit offset amount which instructs TWS to automatically submit opposite-side profit taking orders against the individual components of the original order.

Click **Open ScaleTrader** from the Scale tab to set all scale parameters.



Set time in force parameters for the Scale order. See the Basic page for details.

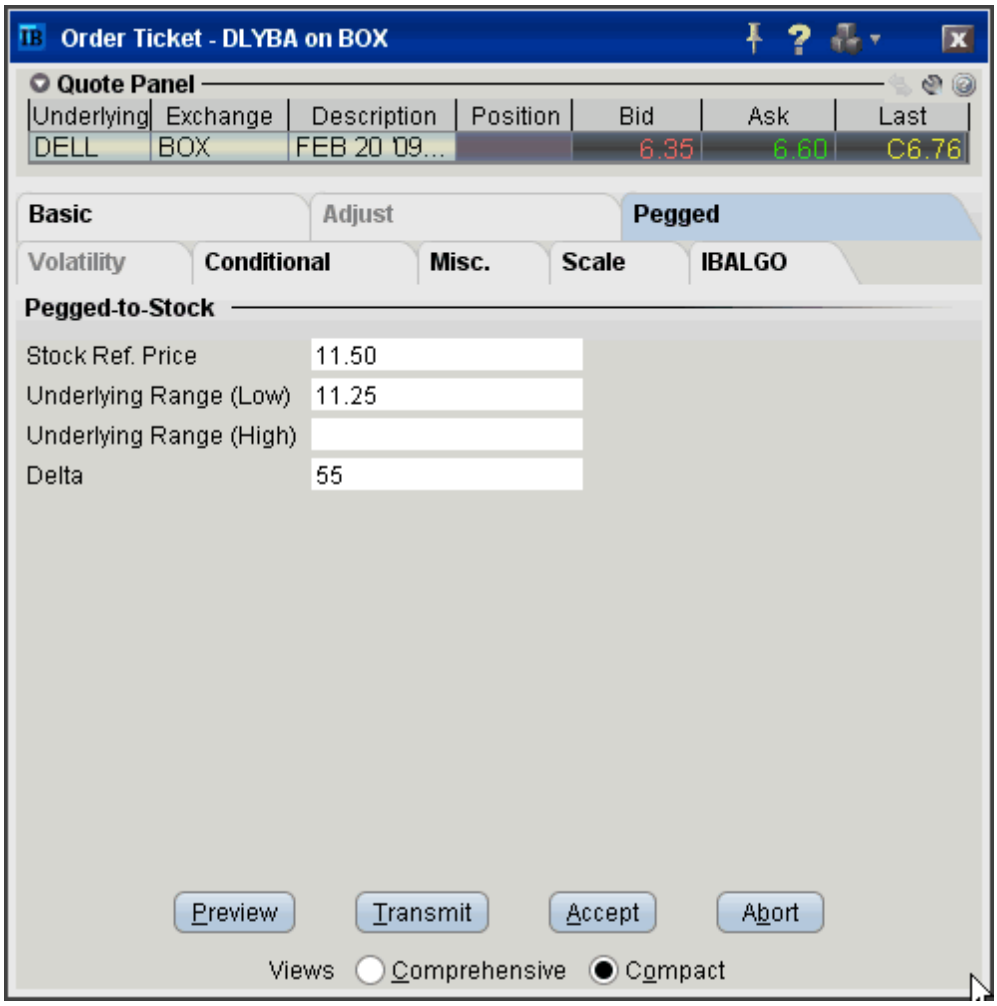
See the ScaleTrader topic for details on creating a scale order.



Pegged Orders

Select from the available fields to create an order. The fields are context-sensitive, which means that only valid selections will be active. For example, if you are creating any kind of

order other than a Pegged to Stock options order routed through BOX, this page will be inactive.

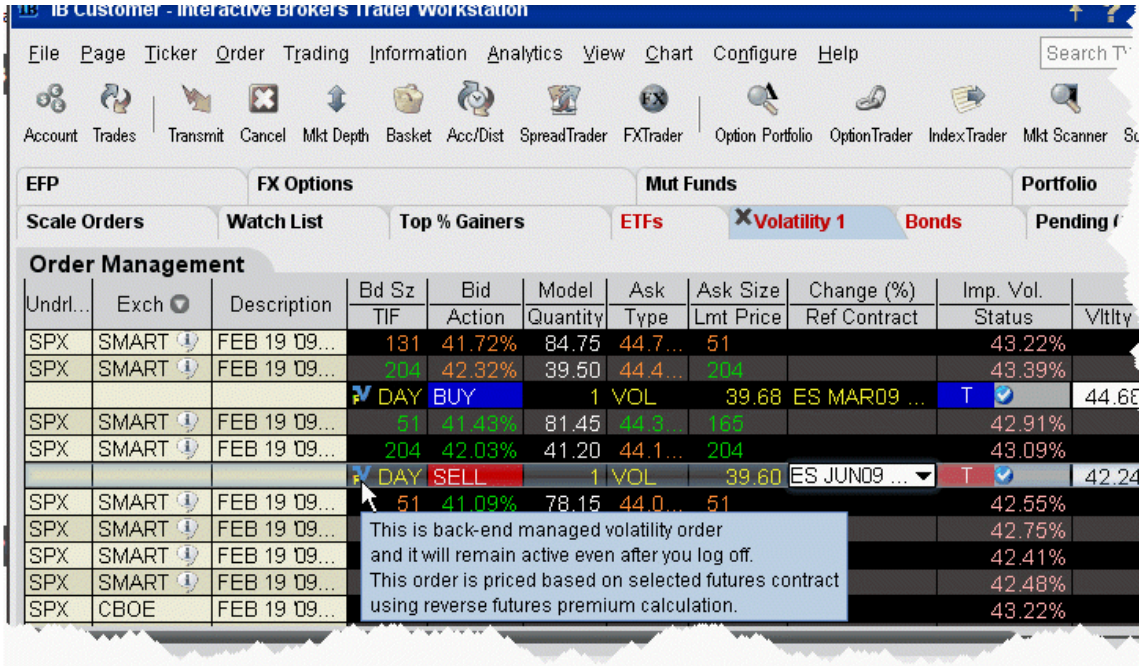


Field	Description	Notes
Stock Ref Price	Enter a stock price.	If you do not enter a value, the midpoint of the NBBO at the time of the order is used.

Underlying Range (Lower)	Define the lower portion of the stock range outside of which your order will be cancelled.	
Underlying Range (Higher)	Define the higher portion of the stock range outside of which your order will be cancelled.	
Delta	Enter a value (which will be used as a percent, ie. ".5" equal 50%) that will be multiplied by the change in the underlying stock price. The product is added to the starting price to determine the option price.	

Volatility Trading

The VOL order type allows you to trade volatility, and provides ways to dynamically manage your options orders.



To trade Volatility

1. From the **Trading Tools** menu, select *Volatility Trader*. The fields used to define and dynamically manage volatility orders are on the new page.
2. Create market data lines. Note that Bid and Ask price fields display in volatility rather than as a dollar amount. Market data for stock tickers will still display the bid and ask price.
3. Select *Annual* or *Daily* volatility using the **Volatility Type** dropdown list.
4. Create an order by clicking the **Ask** volatility for a Buy order, or the **Bid** volatility for a Sell order. The order type defaults to VOL.

> **Note:** You can use the VOL order type for equity options, index options and combination orders. Hold your cursor over the option's volatility to see the option price, based on that volatility.

Please note the following requirements for transmitting a VOL combination order:

Combo VOL orders must be Smart-routed.
All legs must be on the same underlying, and each leg must independently be eligible to use the VOL order type. For example, a BuyWrite order could not be sent as a VOL order since its stock leg would not allow this order type.
All VOL orders must be DAY orders.

You can elect to price a Smart-routed Index Option order using reverse futures premium calculations by selecting a futures contract from the Reference Contract field.

If you have changed the reference contract in the Model Navigator, VolatilityTrader will used the new contract as the default reference contract.

5. To have the workstation calculate a limit price for the option or combination order based on your volatility input, enter a value in the **Order Volatility** field. The value shown in the Imp Vol field is calculated via the Model Navigator.
6. To transmit the order, click the "T" in the **Transmit** field, or the *Transmit* icon on the trading toolbar.

Field	Description
Volatility	If desired, enter a volatility to use in calculating a limit price for the option. If blank, the calculation will use the volatility derived via Option Analytics.
Volatility Type	Select from Daily or Annual volatility.
Hedge Order Type	Select an order type. The application will send an order against the executed option trade to maintain a delta neutral position. Use the Hedge Aux. Price field to set a price for orders that require one. Note that for index options, you will need to select a futures contract for use in a hedge delta trade.

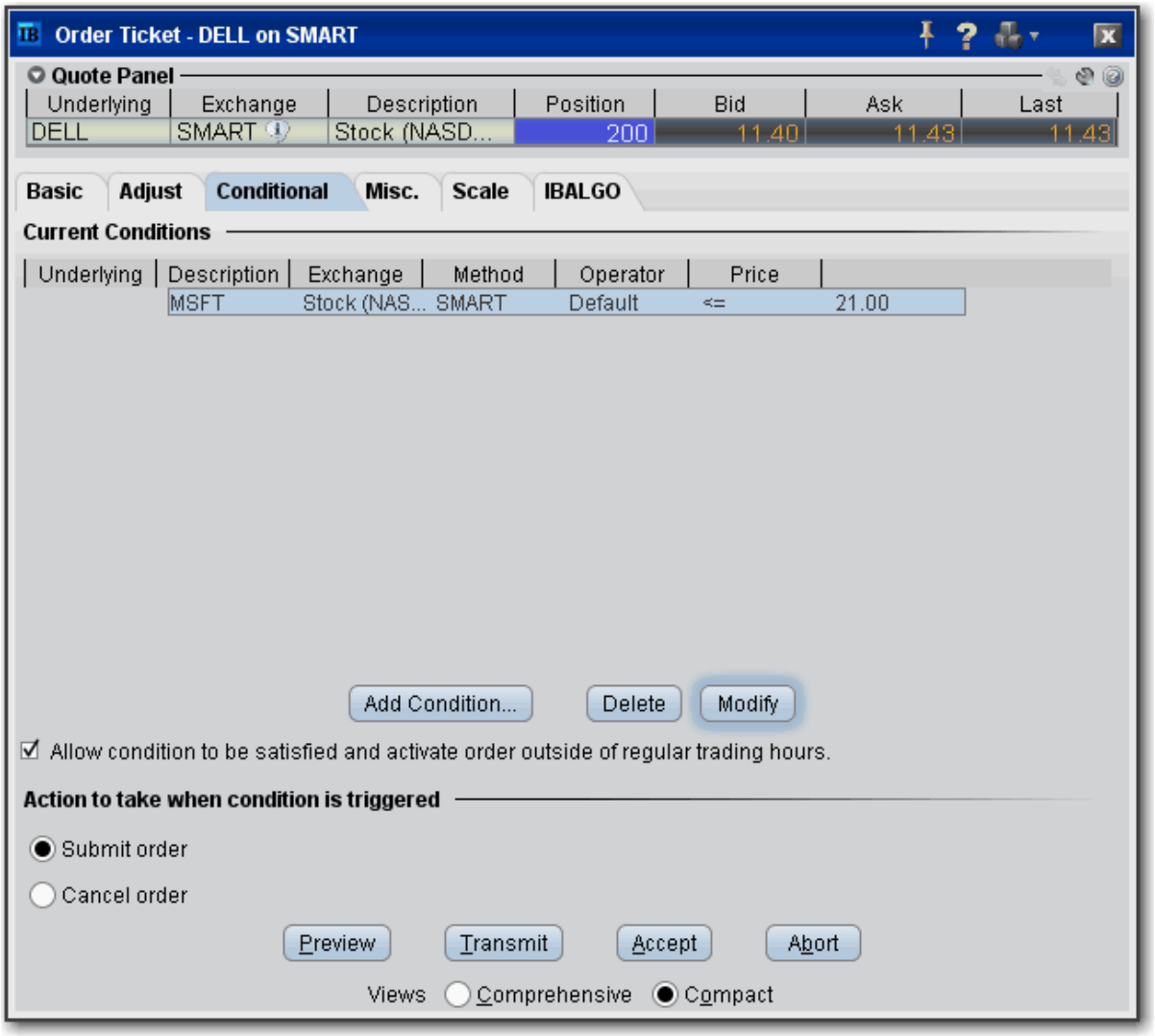
	Alternately, you can use the right-click menu to attach a Delta Hedge order and set the hedging attributes from the new order line. Please note that if you select Continuous Update, the system will use the delta associated with the parent order, which is calculated from the user-defined Implied Volatility specified at the time of the most recent order modification or price update, instead of using the current delta of the option based on market data at the time of trade. For a Limit delta hedge order, a snapshot of the stock bid/ask price is taken at the time the parent order fills, and the best available price is used as the limit price (best ask for a buy and best bid for a sell).
Hedge Aux. Price	Used in conjunction with the Hedge Order Type field. If you have selected an order type that requires you to define a price, for example a relative order, use this field to set the price.
Continuous Update	Check this selection to continuously update the price of the order if the price of the underlying instrument changes significantly. **Note that you can only check Continuous Update for three active orders at a time.** You will be subject to cancellation fees for order modifications that are made by the system when you have the Continuous Update mode enabled.
Reference Price Type	Elect to use the NBB (bid) when buying a call or selling a put; the NBO (ask) when selling a call or buying a put; or the average of the best Bid and Ask. This price is also used to compute the limit price sent to an exchange (whether or not Continuous Update is selected), and for stock range price monitoring.
Stock Price Monitoring	**Undrl. Range (Low)** - enter a low end acceptable stock price relative to the selected option order. If the price of the underlying instrument falls BELOW the lower stock range price, the option order will be cancelled.

	Merely touching the price does not cancel the order. **Undrl. Range (High)** - enter a high end acceptable stock price relative to the selected option order. If the price of the underlying instrument rises ABOVE the upper stock range price, the option order will be cancelled. Merely touching the watermark does not cancel the order.
Reference Contract	Used for smart-routed Index Option volatility orders. This field allows you to select the futures contract to use for calculating the implied volatility. To activate this feature, use the *Volatility and Analytics* page in **Global Configuration** and select*Price index options relative to futures contract*.

For a more detailed description of Trailing Stop orders visit the Order Types information page.

Conditional

A conditional order is an order that will automatically be submitted or cancelled ONLY IF specified criteria for one or more defined contracts are met. You can use stocks, options, futures or security indexes to trigger a conditional order.



To create a conditional order

1. Select an order line.
2. From the right-click menu, select *Modify* and then select *Condition*.
3. From the Conditional tab on the order ticket click **Add Condition**.
4. Enter contract information for the contingent asset in the Conditional Order box.
5. Enter the trigger information for the contingent asset:

Select the trigger method.

Select whether the price of the contingent asset should be less than or equal to (<=) or greater than or equal to (>=) the trigger price.
Enter the trigger price.

If you select the double bid/ask trigger method, the greater than or equal to operator (>=) will use the BID price and the less than or equal to operator (<=) will use the ASK price.

6. Click **OK**. The condition appears in the Current Conditions list.

To set multiple conditions, use the Add Condition button and click AND or OR in the Current Conditions area.

Field/Button	Description
Add Condition	Invokes the Conditional Order entry box.
Delete	Deletes the selected condition.
Modify	Opens the Conditional Order entry box for the selected condition to allow you to make changes.
Allow condition to be satisfied...	Lets the selected condition activate the order if it is satisfied outside of regular trading hours.
Action to take...	If selected conditional order is satisfied, you can elect to have the primary order submitted OR cancelled.

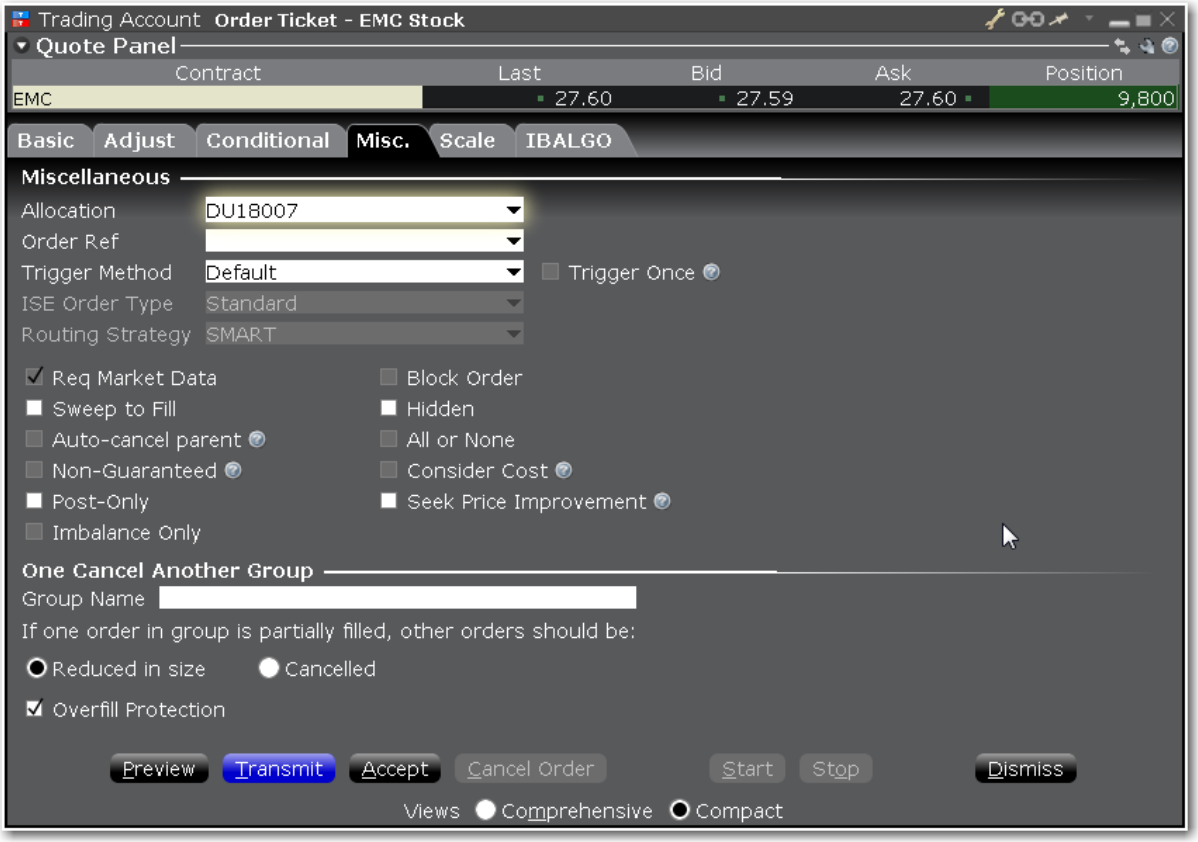
Miscellaneous

Use the Miscellaneous order fields to apply order attributes and set specific rules for OCA groups.

All fields are not always visible. Only fields that apply to the current order will be shown.

Note: OCA group names must be unique to ensure proper handling of OCA orders. Once you use a name, you cannot use it again even after the order executes or is canceled.

Note:



Field	Description
Allocation	Choose an account, model or portfolio strategy to receive allocation.
Order Ref	An identifying number you create to track your order.
Trigger Method	Select a new trigger method for the order.
Trigger Once	Check to allow the order to remain triggered until filled or cancelled. If left unchecked order will deactivate at the end of the day and will not

	trigger unless trigger conditions are met. For simulated orders only.
ISE Midpoint Match	Choose from Standard or SOI for an ISE MPM order.
Routing Strategy	Select a Smart routing strategy.
Req Market Data	Check to request market data for the order.
Block Order	Check to create a block order.
Sweep to Fill	Check to create a sweep-to-fill order.
Hidden	Check to create a hidden order.
Auto-cancel parent	For orders with a parent-child pair, check to have the parent order canceled when the child order is canceled.
All or None	Check to create an All or None order.
Non-Guaranteed	Checking this box indicates that you will take all the risk for partially-executed Smart routed combination orders. **Note:Only Smart-routed US stock-option and option-option combinations are guaranteed.**
Consider Cost	If checked, Smart routing will consider the total cost of executing the order, including commissions and other fees, when deciding where to route the order. If unchecked, only the exchange price is considered. For smart-routed European stocks.
Preserve Time Priority	Check to keep your order in the queue and prohibit from canceling and resubmitting orders intermittently. This feature is used on exchanges that charge a handling fee for orders that remain on the order book for a specified period of time.

Hide Pennies	When checked, hides the penny pricing of your options order.
Post only	If checked, when there is non-displayed liquidity at the same price point, the order price is adjusted low (for a buy) or higher (for a sell) by one penny to avoid taking that liquidity. If the order comes in at a price higher (for a buy) or lower (for a sell) than an order already sitting on the book, it becomes an IOC (immediate-or-cancel) order at the better price.
Deactivate	Check to deactivate the order, which cancels the order
Seek Price Improvement	If checked, Smart routed orders sweep certain exchanges for hidden liquidity at more favorable prices, then checks the dark pools as usual before routing to an exchange. Note that activating this feature may result in slower executions.
Imbalance only	Submits the order only to take the imbalance from an opening or closing auction.
OCA Group	
Group Name	If the order is part of a one-cancels-all order, enter the OCA name in this field. All orders with the same name in the OCA field become part of an OCA order. Once you use a name, you cannot use that name again even after the order executes or is canceled.
Partially filled instructions	Set instructions on how to behave when order is partially filled. The default is to have other orders in the OCA group proportionately reduced in size based on the quantity of the filled portion.
Overfill Protection	Dictates that only one order in the group will be routed to an exchange at a time. This completely removes the possibility of an overfill.

Pre-Borrow Shares for Shorting

If you plan on putting on a short sale, you can choose to pre-borrow shares to decrease your chances of being bought in on settlement date.

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Pre-Borrow Returns **318**

About Pre-Borrows

Eligibility

Pre-Borrow for Shorting is only available for Portfolio Margin customers.
To enable this program, you must log into Account Management and check *Pre-Borrow Program* in the **Trading Programs** section of the Trading Permissions area.

The Pre-Borrow Market

Pre-borrow orders are accepted from 6:45 - 14:45 ET.
Generally the most active time for pre-borrows occurs between 9:00 and 11:00 a.m.

Rates and Fees

The indicative rate displays in the data line for the stock in the *Lend* field. The actual rate to borrow that stock (our standard borrow rate) is computed at the end of the day and will be available on your activity statement.

Rates are subject to change based on availability of the underlying stock. Standard borrow rates are computed each night and will be available on your activity statement.
You will pay additional borrow fees for any stock held in excess of your short position.

The borrow rate is applied to the collateral to calculate the daily borrow fee.
The borrower is responsible for the daily borrow fee and for collateral on the transaction.
The collateral is equal to the settlement price x quantity. The settlement price is 102% x mark price rounded up to the nearest 1.00 with a 1.00 minimum.
Collateral is returned to the borrower when the borrowed shares have been returned to the lender.
In the case of dividend-paying shares, since shares are only being lent (not sold) by the lender, dividends paid during the borrow belong to the lender who actually owns the shares. The borrower of the shares must pay dividends to the lender in what is called *Payment in Lieu of Dividends*.

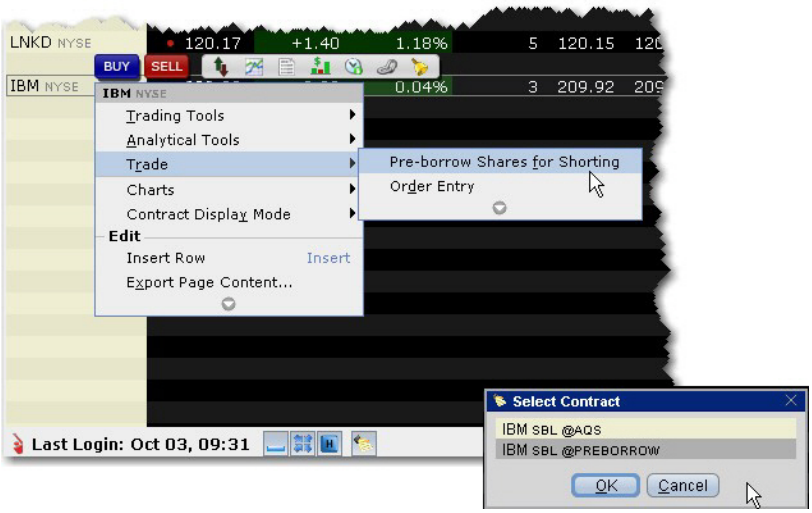
Transaction Information

A pre-borrow is presumed to anticipate a short sale. If no short sale trade executes within four days of the pre-borrow transaction, a non-purpose borrow results and the shares are returned.
If the pre-borrow is not followed by a short sale and a previous short on the same underlying exists, the pre-borrow will be applied to the existing short on the following day.
Only US and Canadian stocks are available to pre-borrow.
Orders are only eligible to fill during regular trading hours.
There is an order minimum of 50k USD for all pre-borrow transactions.
Only market orders are supported for pre-borrow orders.

Create a Pre-Borrow Order

You can initiate a pre-borrow order from US stock market data line or directly from within the Stock/Borrow Loan window.

Before you can pre-borrow you will need to enroll in the program via the Trading Programs area in Account Management.



To create a pre-borrow order

Right-click the stock underlying you want to pre-borrow and select **Trade** then select *Pre-borrow shares for Shorting*.

Select the contract/destination as *xyz SBL@PREBORROW*.

Answer "Yes" to the message offering to change the order type to MARKET. You will receive this message for every pre-borrow order if you have the default order type set to any type other than MARKET.

For the pre-borrow order you can only modify the quantity, which should correspond to the anticipated short sale.

Transmit the order.

Short Sales on a Pre-Borrow

Once the pre-borrow order is contracted, the quantity available to short will be shown in the **Private Locate** field.

Display the Private Locate field

Hold your mouse over any market data field until the "Insert Column" option appears. Click "Insert Column" and select **Stock Borrow/Loan** and then *Private Locate*.

For details on using the pre-borrow feature, see the About Pre-Borrows topic.

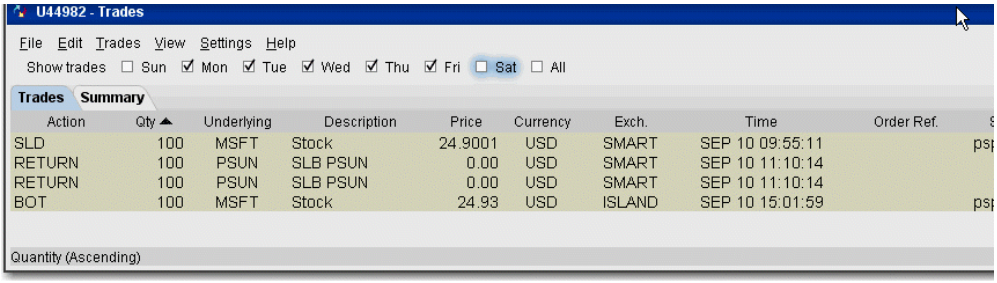
Transactions and Positions

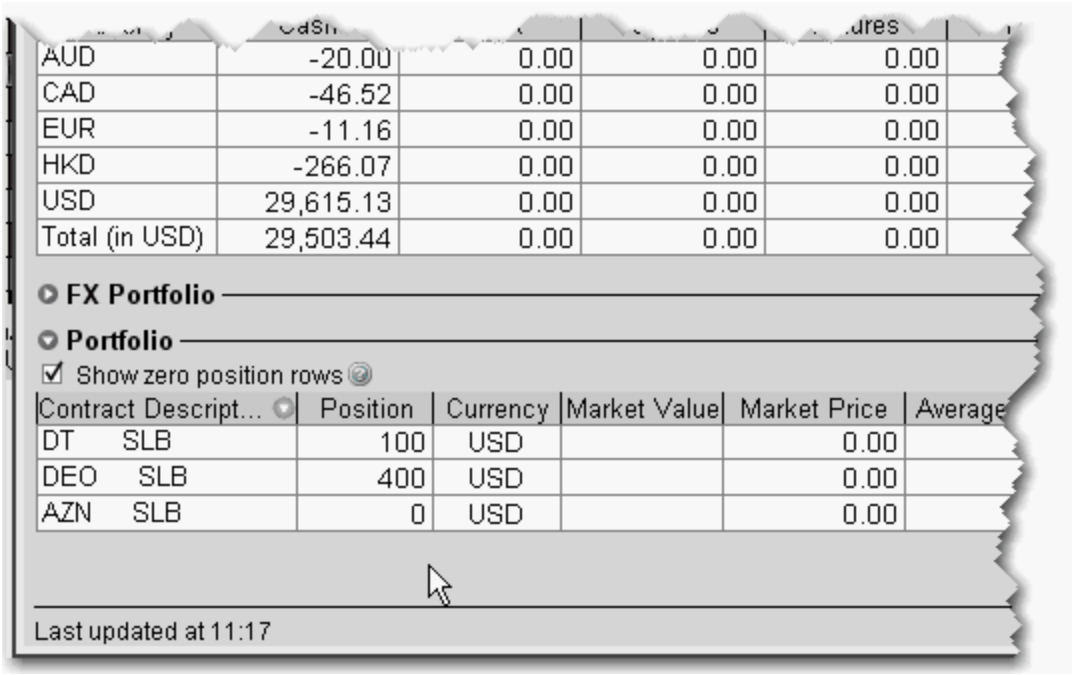
As with all TWS transactions, you can view executions in the Trades window, and monitor the Borrow/Loan positions in your portfolio from the Account Information window.

To view transactions

1. From the toolbar, click the **Trades** icon.
2. All transactions are displayed in the Trades tab. The Description field identifies Borrow/Loan transactions, and the borrow rate is shown in the Price field.

   For pre-borrows, the rate shown is the indicative rate. The actual, standard borrow rate is calculated at the end of the day and is shown on your account statement.





AUD	-20.00	0.00	0.00	0.00	
CAD	-46.52	0.00	0.00	0.00	
EUR	-11.16	0.00	0.00	0.00	
HKD	-266.07	0.00	0.00	0.00	
USD	29,615.13	0.00	0.00	0.00	
Total (in USD)	29,503.44	0.00	0.00	0.00	

FX Portfolio

Portfolio

Show zero position rows

Contract Descript...	Position	Currency	Market Value	Market Price	Average
DT SLB	100	USD		0.00	
DEO SLB	400	USD		0.00	
AZN SLB	0	USD		0.00	

Last updated at 11:17

To view Portfolio

1. On the toolbar, click the Account icon.
2. The **Portfolio** section at the bottom of the page shows all positions including borrows. The Market Price shows the borrow rate.

Borrow positions will also display on the system-generated **Portfolio** trading page.

Pre-Borrow Returns

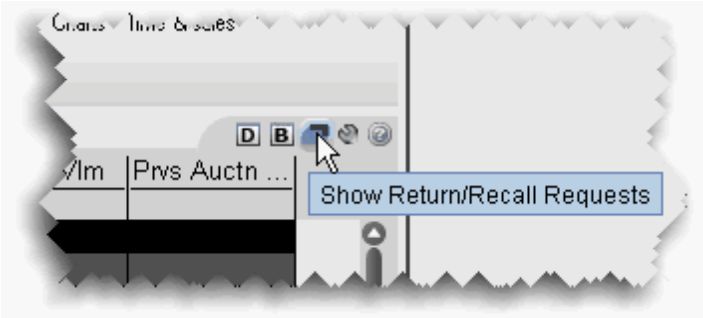
The Return/Recall panel displays any returns and recall requests (you must be logged in), and allows you to send return requests.

Once you borrow shares, you can return them using the Return order function, or the lender can recall the shares at any time. When borrowed shares are recalled, they are removed from your

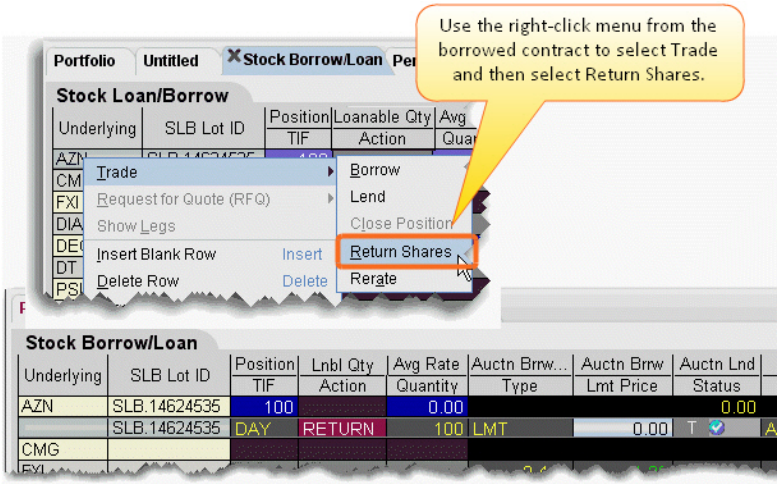
account, you are notified in the Return/Recall panel of TWS, and the recall will show up in the *Borrow Activity* section of your Activity Statement.

Please note that if you have borrowed to cover a short position and then purchase the shares and no longer need to maintain the borrow position, the borrowed shares are not automatically returned; you must return the shares. Returns cannot be made the same day (you can return the next day), and must be entered by 10:50 am.

To view the Return/Recall panel, click the Show Return/Recall Requests icon on the right-hand tab of the trading page.



To return borrowed shares



1. Right-click the ticker and select *Trade* then select *Return Shares*.
2. Confirm the order parameters and transmit the order by clicking the ‘T’ in the Status field.

Order Quantity Calculator

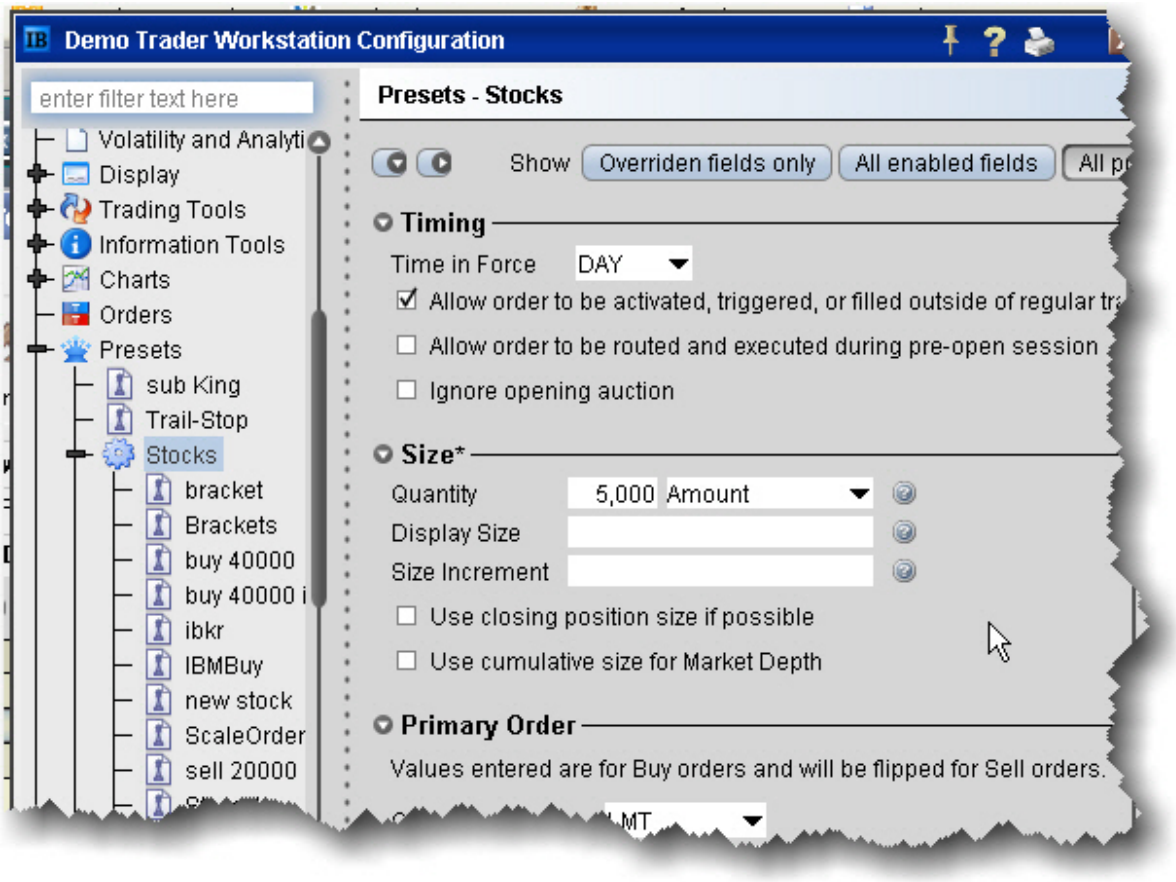
Calculate the order size based on currency, deliverable value, percent of Net Liquidation or percent change in position.

Determine Order Quantity **320**

Calculate Order Quantity **321**

Determine Order Quantity

When you create an order, you can define the order size several different ways. You can set a general default order size hat is used for all orders. You can set specific default sizes for instrument types, for example a quantity of 500 for all stock orders. You can even get more specific and set the default order size for a specific contract, for example set the quantity for all stock orders for underlying XYZ to 1000.

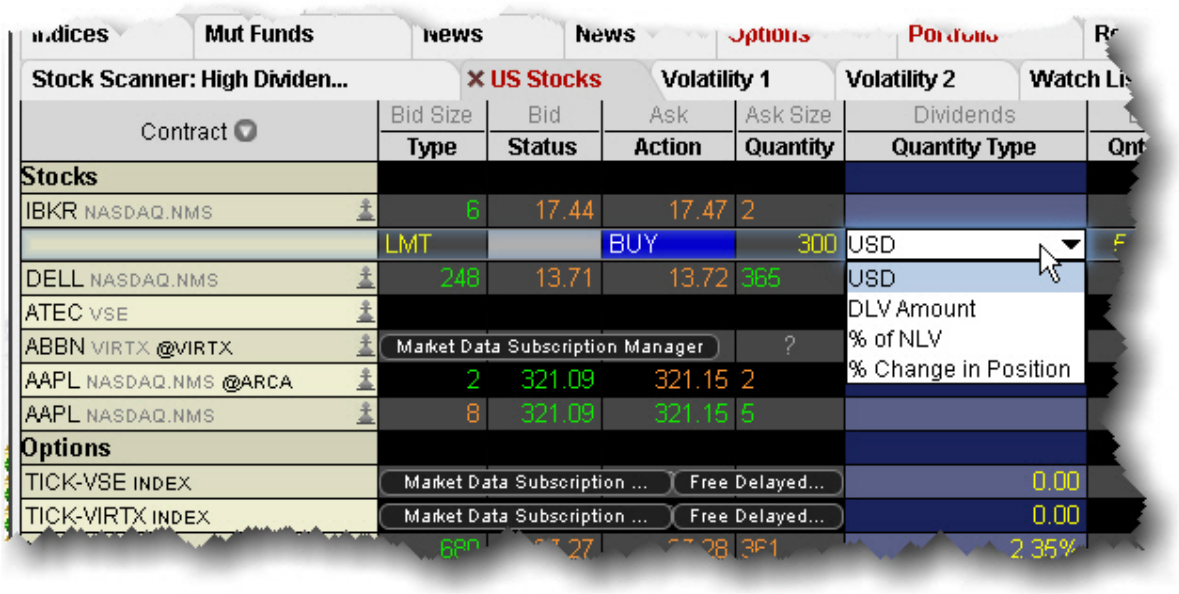


Alternatively, you can set a default currency amount that will be used to calculate the order size. For example, set the default amount for stocks to $5000.00. The order quantity is then calculated based on the stock price, and is rounded to the nearest 100 for U.S. stocks.

You can also have the workstation calculate the order quantity by Deliverable value amount, a percent of your Net Liquidation value, or based on a percentage of your current position.

Calculate Order Quantity

Use the **Quantity Type** and **Quantity Value** fields to calculate your order quantity based on:



Currency- assumes the base currency

DLV Amount - **See Deliverable Value (DLV) Calculation for more information.**

% of NLV - percent of Net Liquidation Value

% Change in Position - percent of the change for your position in the underlying.

For example, say you have a Net Liquidation Value of 40,000. XYZ shows a current ask price of 80.00. If you create a buy order for XYZ, select "% of NLV" as the Quantity Type and enter "20" in the Quantity Value field, you're telling the application to calculate the number of shares you could buy for 20% of $40,000 or $8000.00, based on the Ask price of $80.00. The calculated Order Quantity value of "100" is then displayed in the Quantity field.

To display the Quantity Type and Quantity Value fields

1. Right-click on any column name in the Order Management section of the trading screen, and click *Customize Layout*.
2. Click the Order Columns tab. In the Available Columns list in the Quantity section select *Quantity Type* and *Quantity Value* and Add them to the Shown columns list.

To calculate order quantity by currency

1. Create an Order by clicking the bid or ask price.
2. In the **Quantity Type** field, select the currency type. This field assumes the base currency.
3. In the **Quantity Value** field, enter a currency amount. For a buy order, enter the amount you want to spend. For a sell order, enter the amount you want to make. Based on the current bid/ask, your value gets rounded up or down.

The order quantity is calculated and displayed in the **Quantity** field.

To calculate order quantity by Deliverable Value (DLV Amount)

1. Create an Order by clicking the bid or ask price. **See Deliverable Value (DLV) Calculation for more information.**
2. In the **Quantity Type** field, select *DLV Amount*.
3. In the **Quantity Value** field, enter the dollar amount of your deliverable value you want to use to calculate the order quantity.

The order quantity is calculated and displayed in the **Quantity** field.

To calculate order quantity as a % of your Net Liquidation Value (% NLV)

1. Create an Order by clicking the bid or ask price.
2. In the **Quantity Type** field, select *% NLV* The Net Liquidation value is the first value in the upper left *Balance* area of the **Account** window.
3. In the **Quantity Value** field, enter a percent value that will multiplied by your NLV to calculate a dollar amount.

The order quantity is calculated and displayed in the **Quantity** field.

To calculate order quantity as a % of position change

1. Create an Order by clicking the bid or ask price.
2. In the **Quantity Type** field, select *% Change in Position*.If you do not hold a position in the selected underlying, you will not see this selection.
3. In the **Quantity Value** field, enter a percent value that will multiplied by your position to calculate the order quantity.

If your position is negative, you must enter a negative percent value to calculate a positive order quantity.

The order quantity is displayed in the **Quantity** field.

Rapid Order Entry

Enter orders more quickly with defaults and quick-click fields.

Enter Orders using Rapid Order Entry **324**

Update Multiple Orders **326**

Create "Instantaneous Transmit" Hot Key **328**

Enter Orders using Rapid Order Entry

The **Rapid Order Entry** panel, which is visible by default at the top of each trading page, allows you to quickly transmit an order without having to open an order ticket or click in a market data line. You simply tab through the fields, enter your order parameters, and click **Trade**. You can also enter the local or root underlying symbol, just as you can on the trading screen.

> **Note:** Rapid order entry can be set for Stocks, Options, Stocks/Options, Stocks/Futures and Combo orders.

To use the Rapid Order Entry panel

1. If the panel is hidden, from the **View** menu select *Rapid Order Entry*.

The panel displays the instrument setting in the title, for example (Stocks). With this setting, you can only create stock orders.

To change the instrument type

1. Right-click in the panel, and select *Rapid Order Entry*, then select the instrument type setting. Select Stocks/Options or Stock/Futures to enter either asset type.

Once you have transmitted an order using Rapid Order Entry, the details of the order appear in the Order Management panel of the trading page. Any modifications to your order must be made on this order management line.

Using the Stock/Options or Stock/Futures Settings

You can choose to set the panel to Stocks/Options or Stock/Futures if you trade both asset types.

If you enter the Last Trading Day, Strike, and P/C fields, the Rapid Order Entry panel assumes you're creating an option or futures order and the limit price defaults to the correct price. If you leave these fields blank, it assumes a stock order and the limit price defaults to the stock price.

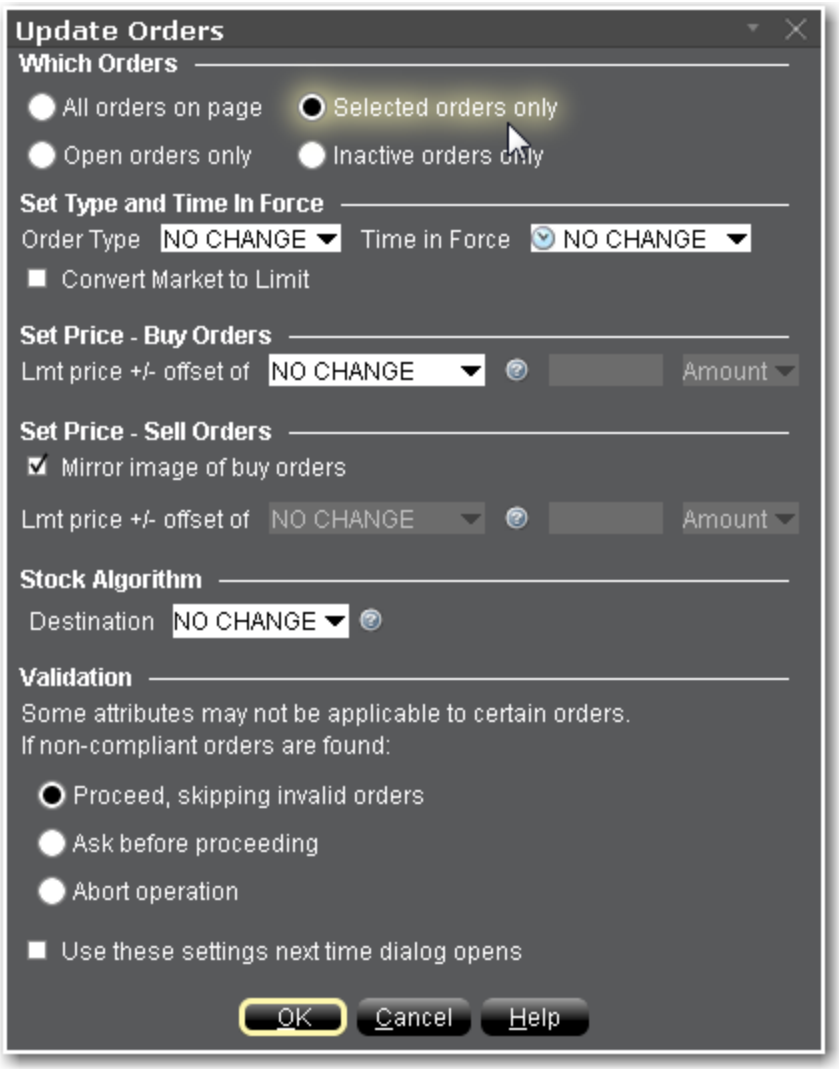
For the Option and Stock/Option layouts, you can set a default in Global Configuration to *populate with the nearest at-the-money option* , but if you set this for the Stock/Options layout you will always need to delete information to create a stock order since the Last Trading Day and Strike fields will auto-populate.

Update Multiple Orders

Automatically update order type, limit price, time in force and more for a specific group of orders. Automatically update the limit price to coincide with the ask, bid, midpoint, closing or last price.

Update multiple orders

1. On the **Trade** menu select *Modify Multiple Orders.*
2. Set update parameters:



Which orders

All selections apply only to orders on the active trading page. Specify whether to update attributes for:

All orders on the page - Including working orders, non-transmitted orders, etc

Open orders only - This includes all orders working on the current page.

Selected orders - This includes all orders (working or not) on the active page that you deliberately select.

Inactive orders - This includes all orders on the active page that are created but have not yet been transmitted.

Set Type and Time in Force

For the subset of orders specified above, specify changes to the current order type and time in force.

Check *Convert Market to Limit* to have all market orders automatically changed to limit orders. Buy limit orders will use the Ask as the default limit price; sell limit orders will use the Bid as the default limit price.

Set Price Parameters

Define the update price parameters for Buy orders and include an offset amount if desired.

Set the update price parameters for Sell orders. If you check *Mirror image of buy orders*, parameters are set reversed from the Buy orders selections. The mirror images of Midpoint, Last and Close would be the negative values for each of these prices.

Validation

If one or more of the orders marked for update cannot be updated, the *Validation* selection checked here will be used.

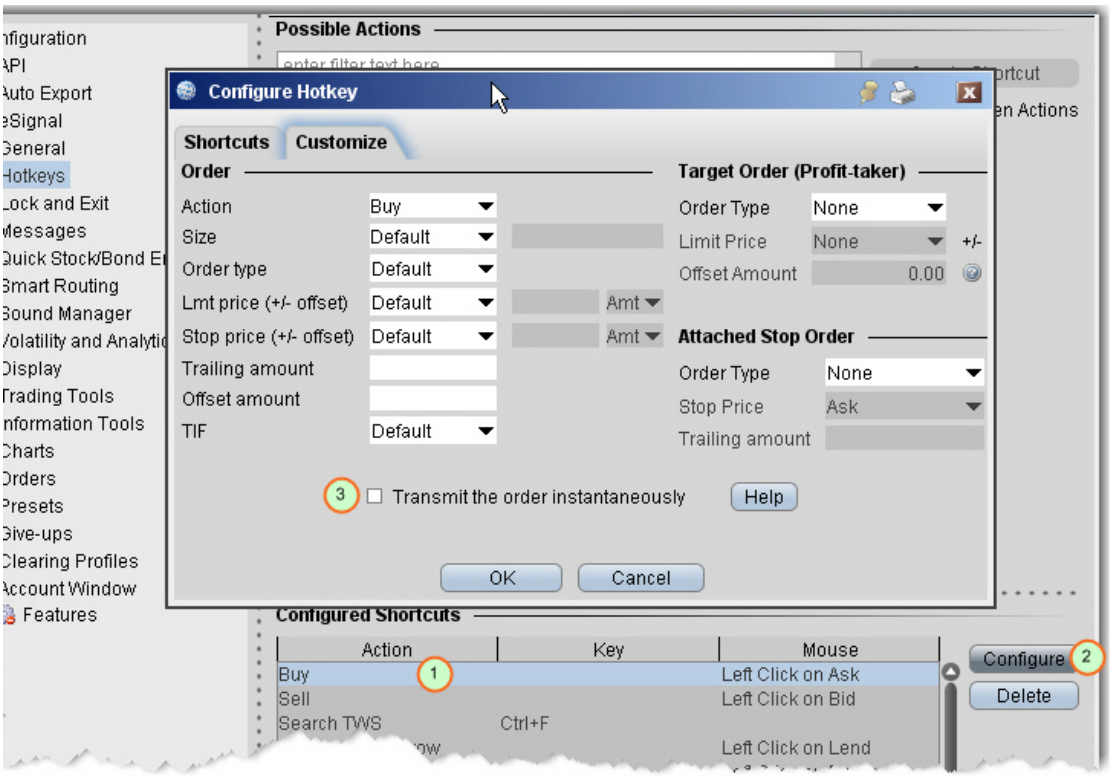
Create "Instantaneous Transmit" Hot Key

You use hot keys to perform common trading functions, such as creating specific order types. Once you have created an order, you must still select *Transmit* to send the order. You now have the option to enhance the *Buy* and *Sell* hot keys by adding "instantaneous transmit" functionality.

To add instantaneous transmit functionality to a hotkey

On the **Edit** menu, select *Global Configuration* and then select Hotkeys in the left pane.

1. In the Configured Shortcuts table, select the *Buy* or *Sell* action.
2. Click **Configure**, and open the **Customize** tab.
3. At the bottom of the page check *Transmit the order instantaneously* and click OK.



Note: To use this feature, you will be asked to sign an agreement stating that you understand its implications. Under the terms of the Customer agreement, you are responsible for all orders entered in your account. Consider carefully whether setting a hot key to instantaneously transmit orders is the best for the way you trade.

Rebalance Your Portfolio

Use the **Rebalance** window to redistribute percentages of positions in your portfolio that make up your current (signed) net liquidation value.

The Rebalance Window **330**

Import and Export Positions to Rebalance **331**

Rebalance for Advisors **335**

The Rebalance Window

Use the Rebalance window to assign application automatically creates orders to rebalance your portfolio based on target percentages you enter.

To rebalance your portfolio

1. From the **Trading Tools** menu, select *Rebalance Portfolio.*
2. The **Rebalance Portfolio** window shows three columns that are different from those on your trading screen:

   Deliverable Value - this is the deliverable value of the position. For stocks, this is the value of the stock, which is the same as the Market Value for the position shown in the *Portfolio* section of the **Account** window. For options, futures, and single stock futures (SSFs) it is the underlying stock or index value.

Current % - this is the current signed percent of the position to your net liquidation value shown in the *Balance* section of the **Account** window. This figure is calculated by dividing the DLV by the NLV (Net Liq. Value).
Rebalance % - use this field to enter a new percentage of the NLV that you want the position to have.

3. In the Rebal % field for one or multiple positions, enter the percent of the Net Liquidation Value that you want the position to have.
4. Click the **Create Orders** button to instruct the application to automatically create the orders to achieve the percent change.
5. Use the **Transmit All** button to send all orders, or click "T" on an order line to transmit a single order.

Note: For options, the rebalance % is based on the value of the underlying stock prices.

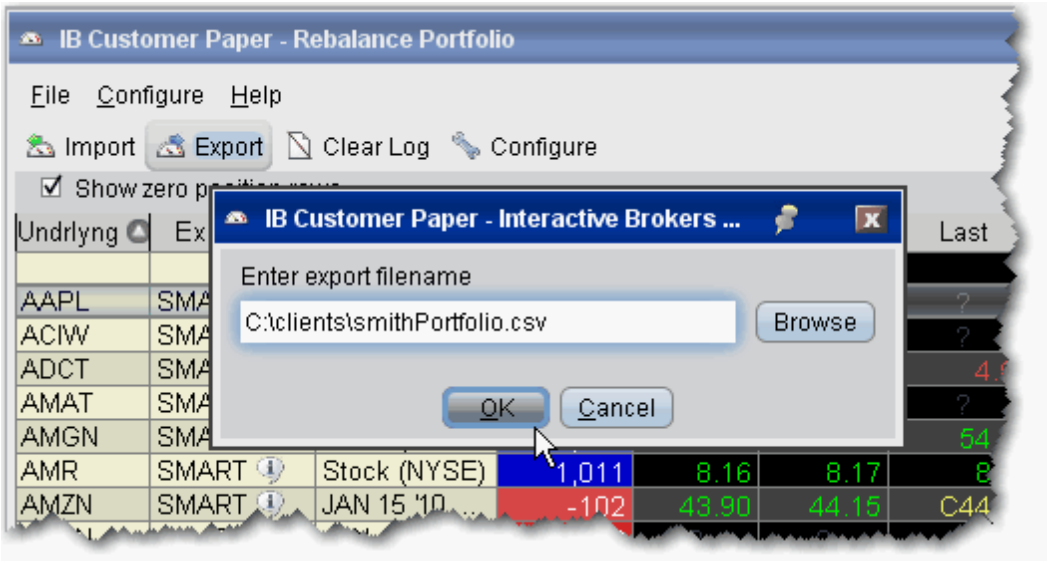
To open positions from the Rebalance window

1. Click Add Line from the buttons panel, and enter an underlying symbol into the blank row and hit *Enter*. Define the contract.
2. Enter a value in the *Rebal %* column and click the **Create Orders** button.
3. Transmit the order.

Import and Export Positions to Rebalance

Customers who prefer to work in Excel can export the Rebalance file and modify the current percentage to reflect the percent of net liquidation they want to their positions to have, then import the modified file back into Rebalance Portfolio.

Advisors can also use this feature to import a modified file to a new account to easily bring this account to the new percentages.



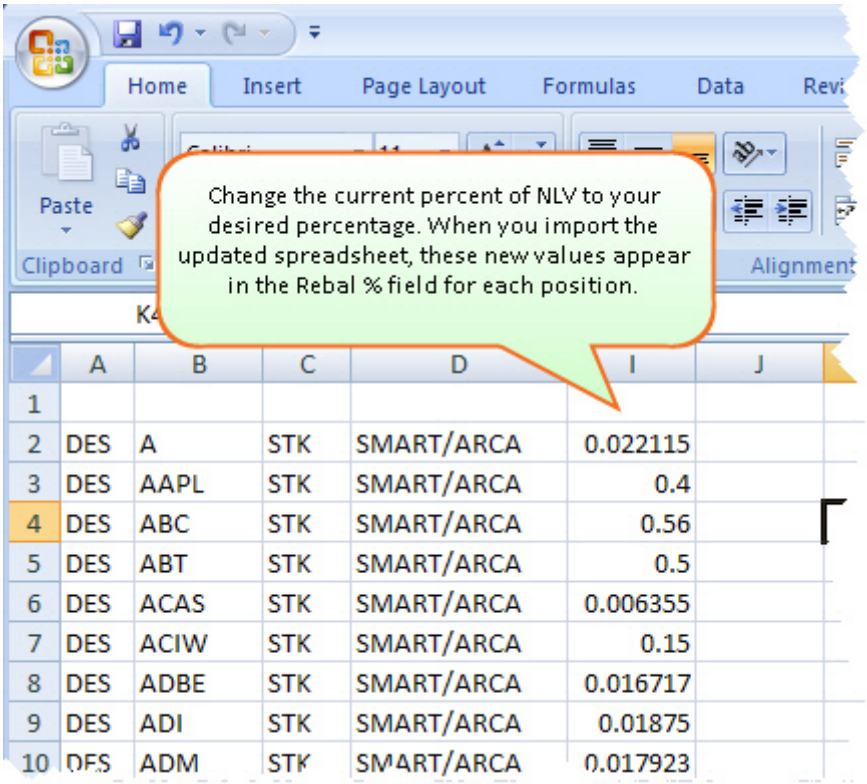
To export a portfolio

1. Click the *Export* icon at the top of the **Rebalance Portfolio** window.
2. Modify the location and file name if desired (leaving the .csv extension), and click OK. You may want to modify the generic file name to help identify it.

   For example, you could change the default C:\jts\rebalance.csv to C:\clients\smithPortfolio.csv.

3. Click OK from the file export confirmation message.

The directory path must exist for the Export functionality to work. You cannot create a new folder while exporting.



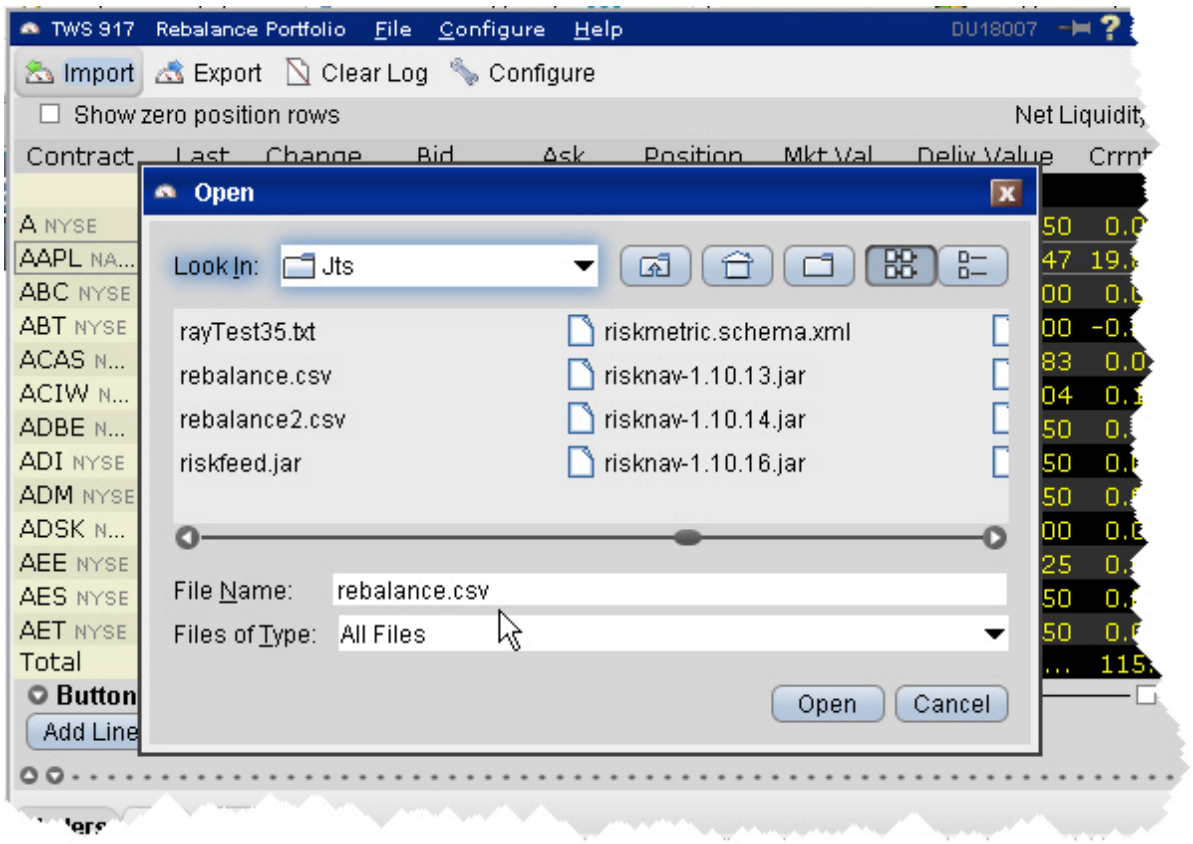
To rebalance the position's percent of NLV from Excel

1. Open the exported .csv file in MS Excel.

   Note that each line of the spreadsheet represents a position. The last column represents the current percent of Net Liquidation Value that the position holds. This exported value is equivalent to the value in the **Current %** field of the Rebalance Portfolio window.

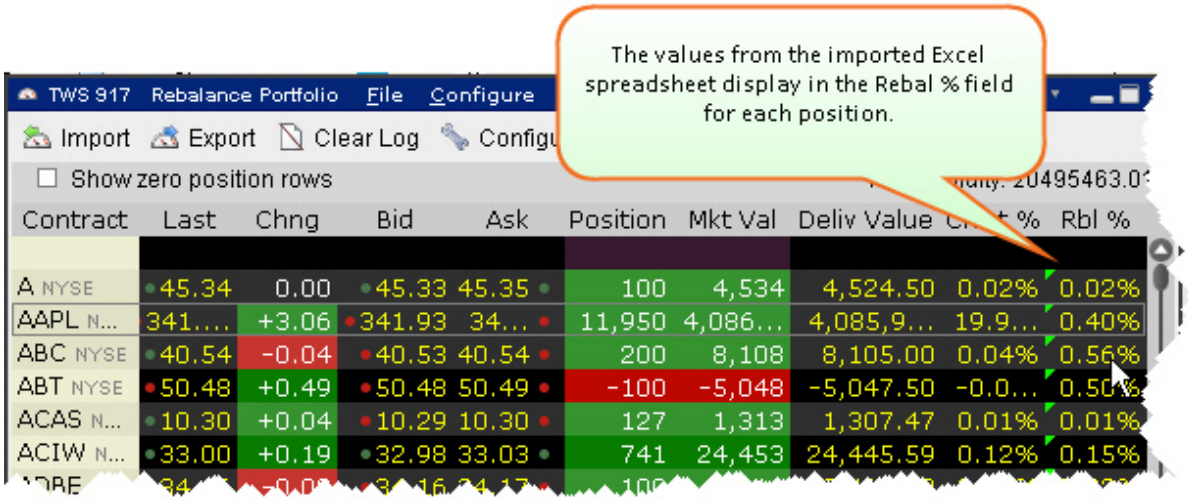
2. Change the current % of NLV to the new percent you want. Do this for as many lines as needed and click *Save*.

For example, if you want to rebalance your portfolio so that AAPL STK holds 5% of NLV instead of 16.20478 as shown above in line 2, you would change 16.20478 to 5.0. This modified value is imported in the Rebalance Portfolio as the new Rebal % value.



To import a rebalance portfolio

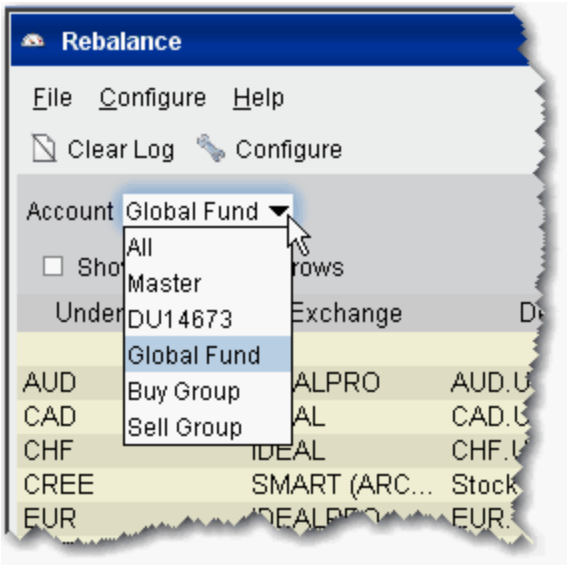
1. Click the Import icon at the top of the **Rebalance Portfolio** window.
2. Navigate to the modified .csv file you want to import and click *Open*. You will see the new Rebal % values in the modified position lines.



To complete the rebalance, create and transmit the orders.

Rebalance for Advisors

Advisors can elect to have TWS automatically **Rebalance** ALL accounts, a single subaccount, or a user-defined Account Group, which includes a subset of accounts, by redistributing percentages of positions in their subportfolio(s) that make up the current (signed) net liquidation value. TWS opens and closes positions to rebalance the selected accounts' portfolio based on the new percentages you enter. You can add contracts and create orders just as you would from the main trading screen.



Rebalance a SubPortfolio

1. Open the Rebalance window by clicking the **Rebalance** icon on the trading toolbar.
2. In the Account dropdown, select: *All* to rebalance All accounts; *Master* to rebalance the master account, an account number to rebalance that account, or an Account Group to rebalance all accounts in the group.
3. The **Rebalance** window shows three columns that are different from those on your trading screen:

   Deliv Value - this is the deliverable value of the position, which is the same as the Market Value for the position shown in the *Portfolio* section of the **Account** window.
   Current % - this is the current signed percent of the position to your net liquidation value shown in the *Balance* section of the **Account** window. This figure is calculated by dividing the DLV by the NLV (Net Liq. Value).
   Rebal% - Percentages are entered in terms of deliverable value.

Note: Please note that puts have a negative deliverable value since they deliver a short position. Consequently, to increase your put position, you must enter a negative deliverable value percentage.

4. In the **Rebal %** field, enter the new percent of the Net Liquidation Value that you want the position to have.

   If you have selected "All" in the Account dropdown, the rebalance percent for the instrument will be applied to all of your sub accounts' portfolios.

5. Click the **Create Orders** button to instruct the application to automatically create the orders to achieve the percent change.
6. Use the **Transmit All** button to send all orders, or click "Transmit" on an order line to transmit a single order.

   Note: For options, the rebalance% is based on the value of the underlying stock price.

Open positions from the Rebalance window

1. First, add a ticker line to the **Rebalance** window by selecting the market data line on your trading screen, and then clicking the selection arrow attached to the Rebalance icon on the trading toolbar. Click *Add to Rebalance Window*. Or, enter an underlying symbol into a blank row on the **Rebalance** screen as you would on the main trading window.
2. Enter a value in the *Rebal %* column and click the **Create Orders** button.
3. Transmit the order.

SpreadTrader

Easily create complex multi-leg futures and options spreads with SpreadTrader.

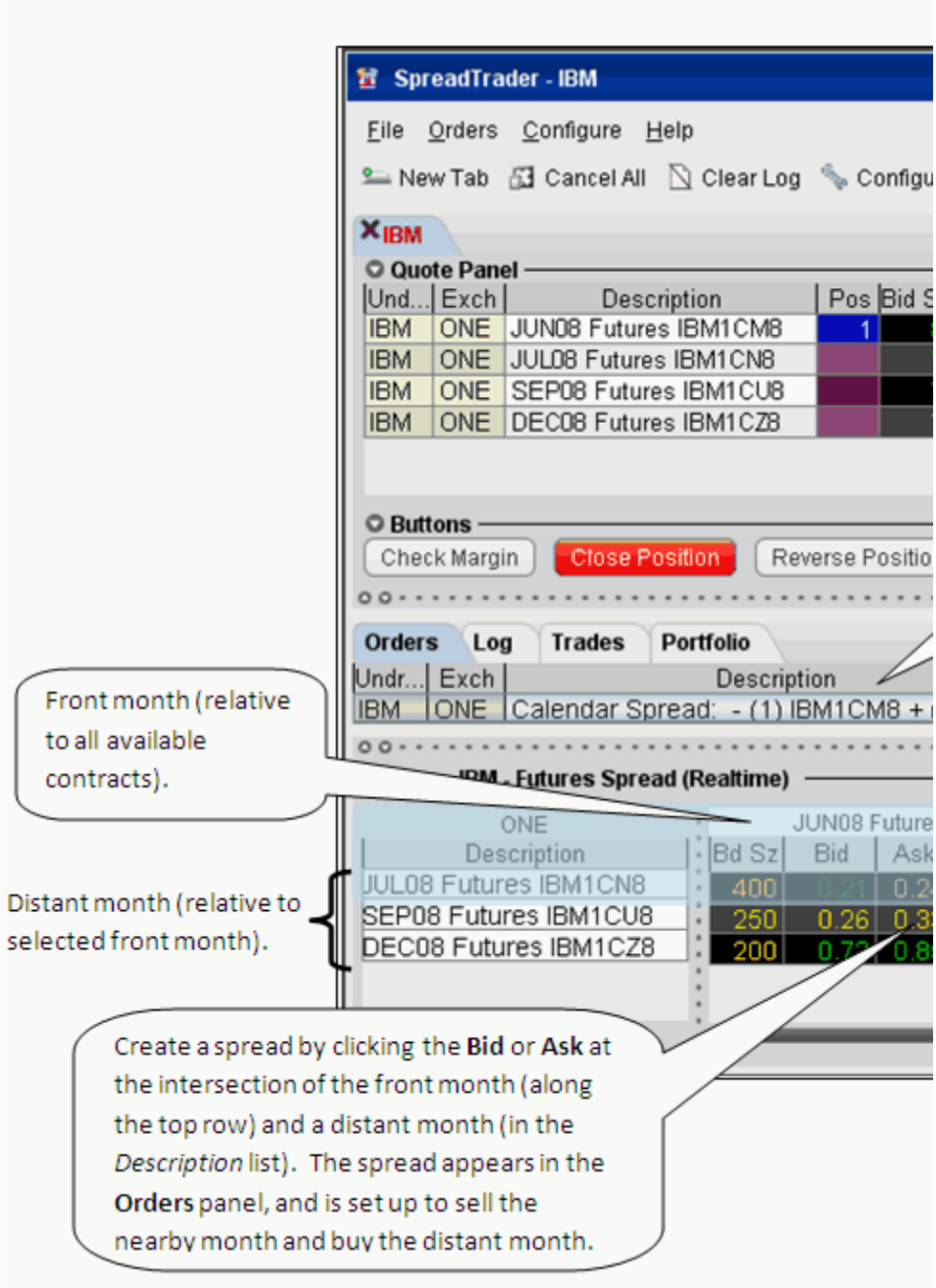
Create Futures Spreads with SpreadTrader **338**

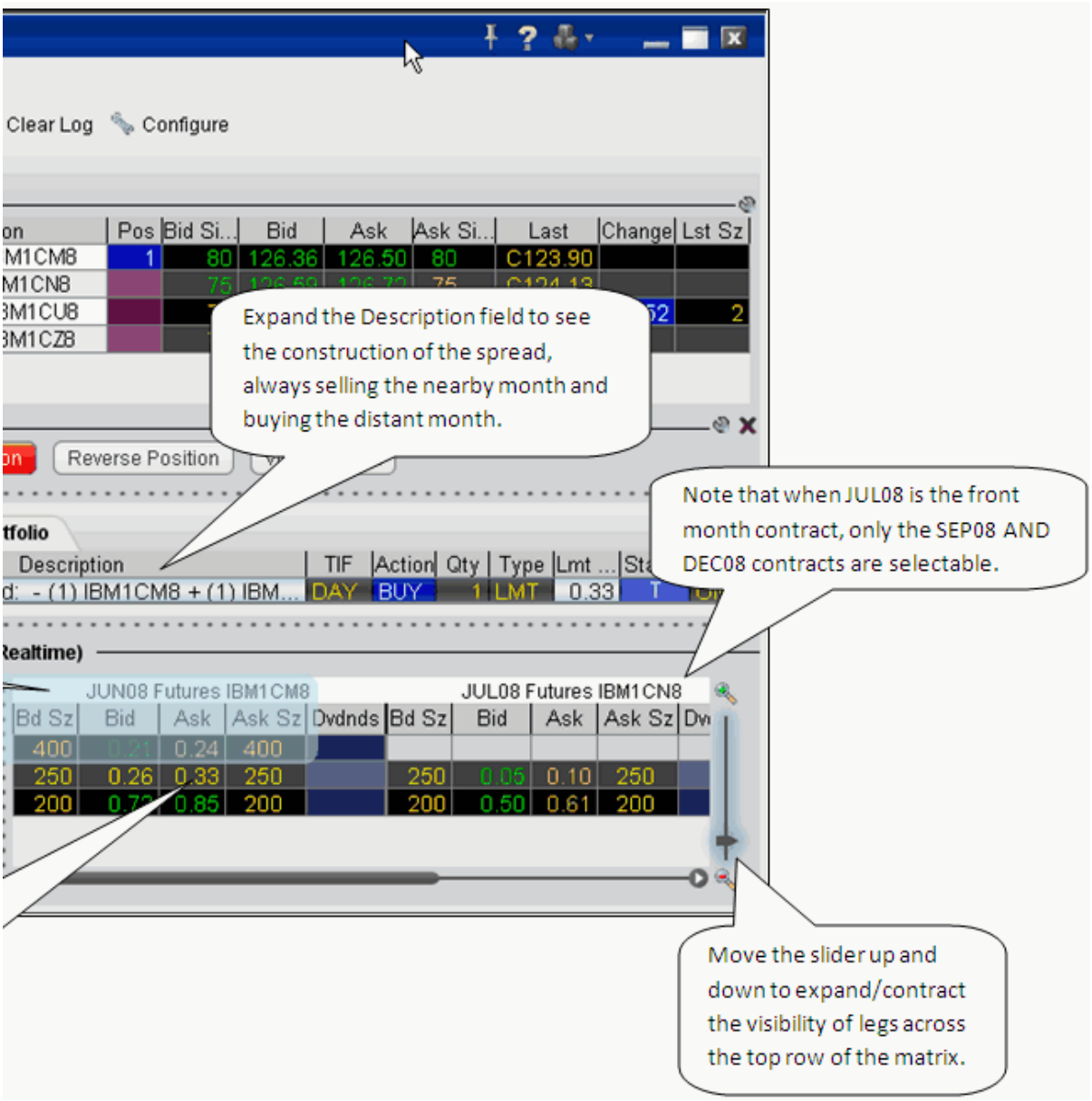
EFP Futures Spreads **340**

Create Option Spreads in SpreadTrader **342**

Create Futures Spreads with SpreadTrader

Use the SpreadTrader to quickly create and trade calendar spreads for futures.





Create a futures spread

1. Open **SpreadTrader** by right-clicking a contract on the trading screen and selecting **Tools** and then *SpreadTrader.*
2. Enter the underlying symbol and and then select *Futures Spreads for xxx,* then choose the routing.

3. In the **SpreadTrader** leg matrix at the bottom of the screen, click a bid or ask price at the intersection of two legs to create the calendar spread.

   The SpreadTrader matrix automatically structures the spread to sell the nearby month and buy the distant month.

4. Transmit the order from the Orders panel by clicking "T" in the Status field.

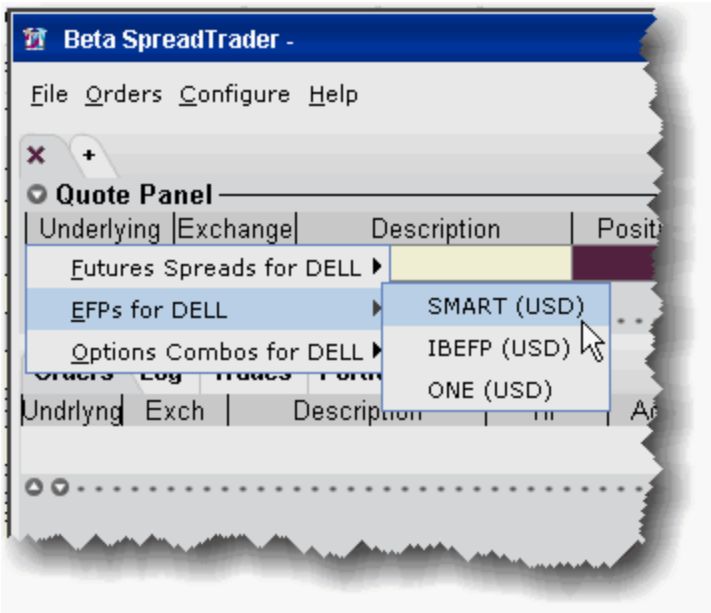
Background Colors in Quote Panel

The colors in the Description field of the **Quote** panel show you how far out from the current year the contract's maturity date is, at a glance. Industry-standard colors are defined below:

Number of Years Out	Background Color
>1	White
2nd	Red
3rd	Green
4th	Blue
5th	Gold
6th	Purple
7th	Orange
8th	Pink
9th	Silver
10th	Copper

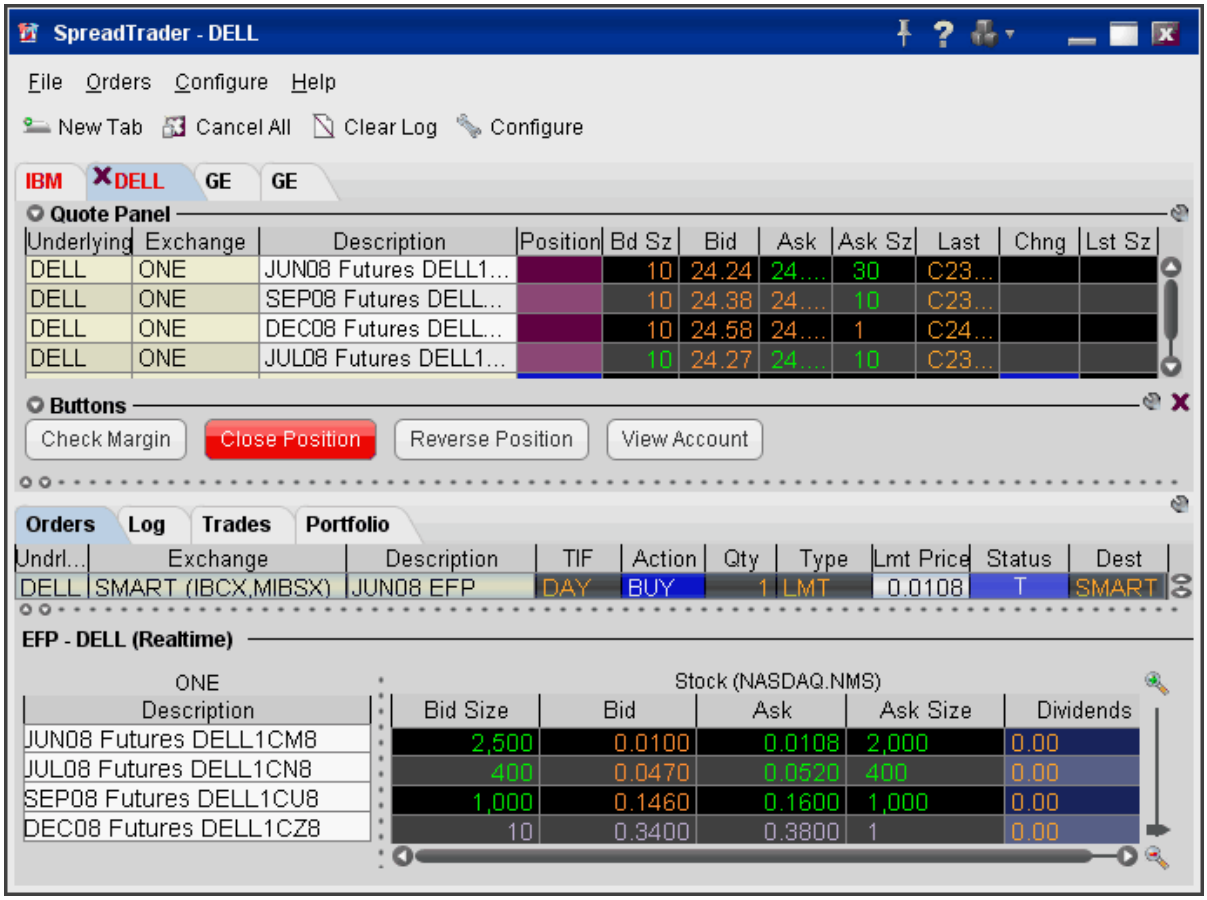
EFP Futures Spreads

An EFP (Exchange for Physical) is a combination order to sell/buy stock and buy/sell an SSF (single stock future).



To create an EFP in SpreadTrader

1. From the **Trading Tools** menu select *SpreadTrader*.
2. Enter a symbol in the underlying field and hit **Enter**.
3. Select *EFPs for xxx* and then select the routing destination, either SMART, IBEFP or ONE.



The spread matrix at the bottom of the window is populated with a list of all single stock futures legs on the left, and the stock across the top.

4. Click a bid or ask price at the intersection of two legs to create the EFP spread.
5. To transmit the order, click the "T" in the *Status* field of the Orders panel.

Note: Please note that smart-routed EFPs are not guaranteed.

Create Option Spreads in SpreadTrader

Use the option combo facility in SpreadTrader to create a matrix of variations on an option strategy for a single underlying, from which you can create and transmit multiple combination orders with two clicks of the mouse. The Option Wizard helps you to define exactly how you want the combo lines displayed in the matrix by allowing you to assign either a column position,

row position or fixed value to each parameter. You can also use filters to help specify exactly which contracts you want to display in the matrix.

To create an Options Spread Matrix

1. Open the **SpreadTrader** by clicking the SpreadTrader icon on the trading toolbar.
2. Enter an underlying symbol in the **Underlying** field and hit *Enter*.
3. With your mouse, select *Options Combos for XXX*, and then select an exchange/currency.
4. In the Option Spreads window, select a combination strategy. Once you do this, every available spread for that underlying is displayed in the right panel.

The number of parameters shown under the Filter section; Some have two (such as a conversion or Buy Write) while others, like the Butterfly, have 5 or more. You can use these filters to limit the number of combinations that appear in the right panel.

5. Hit the *Next* button at the bottom of the window to see the **Configure Table Variables** box.

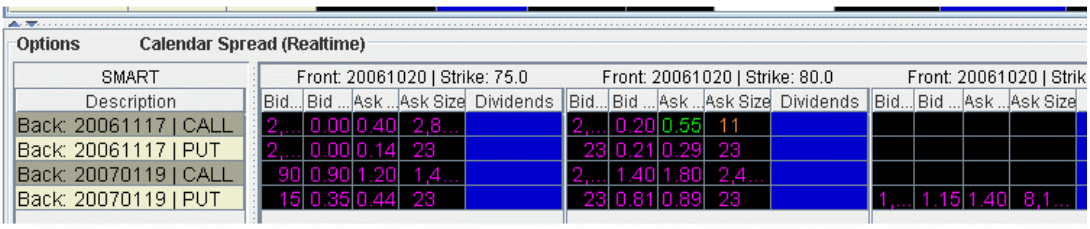
   Each variable is represented by a section in the box, with *Column Variable*, *Row Variable* or *Fixed Value* choices. A variable means that the combination parameter can use multiple valid values. For example, for a Calendar spread there are two variables for the right: put and call. If you select Call (which filters out the puts) it's no longer a variable, it's a fixed value. In that case, you won't see P/C in the variables list.

6. For each variable, check a radio box to instruct it to display as a row or column, or be used as a fixed value. Checking *Row* will create a row for every possible combination of row variables. Checking *Column* will display a column for every possible combination of column variables. Checking Fixed value will invoke another selection box where you choose a single value for the parameter.

For example, our Calendar spread has five parameters: **Front** month, **Back** month, **P/C**, **Duration**, and **Strike**. We filter out all but two **Front** months (20061020 and 20061117) and two **Back** months (20061117 and 20070119) and all but six potentially valid strike prices, and leave everything else as is. Since the only valid duration is one month, the **Duration** parameter is no

longer considered a variable. That leaves two variables in the **P/C** category (put and call) and multiple strike variables.

Hit *Next* to lay out our matrix using the four variables, and choose *Column Variable* for the **Front** month and the **Strike**, and *Row Variable* for the **Back** month and the right. When you click *Finish* you'll see something like this, where the Back month and the rights comprise the rows, and the Front month and Strikes comprise the columns.



What are you looking at?

Each row is divided into sections of market data for the column variables you picked, in this case for the front month and strike. If you could scroll across in this picture, you'd see the first of two Front months we picked (20061020) occurring in six blocks, once with each different strike price. Then you'd see the second front month, again once with each different strike price.

You see all the rows that are available, since our variables included only two back months and call/put. If you want to make any changes to the layout and combinations displayed, click the Options Wizard button on the toolbar.

> **Note:** If you receive a message saying you have too many combos to subscribe to market data, and you don't go in and filter your results further, the prices will not update, and the matrix title will read "...Snapshot" instead of "...Realtime."

Stock Borrow/Loan

Customers who have been approved for Portfolio Margin can use the Stock Borrow/Loan feature to borrow and lend US stocks electronically.

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Transactions and Positions **359**

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About Stock Borrow/Loan

Eligibility

Stock Borrow/Loan is available for Portfolio Margin customers.
To enable stock/borrow permissions, you must log into Account Management and from the **Manage Account** menu select *Trade Configuration* and then *Permissions*. From the Trade Permissions section, enable *United States (Stock Lend Borrow)* from the **Stocks** column.

The Borrow/Loan Market

The market's regular hours are from 6:45 - 15:00.
Most active time for borrow/lend occurs between 9:00 and 11:00 am.

Recalls and Rerates

As a borrower, if you request a rerate on the borrow, the lender has 25 minutes in which to respond. If there is no response or if the rerate request is rejected, the transaction is closed and borrowed shares are returned to the lender.

Rates and Fees

The borrow and lend rates display in the data line for the stock underlying in the *Borrow* and *Lend* fields.
When you hover your mouse over the borrow rate, you see the Total rate, which is:

Interest Rate - Borrow Rate

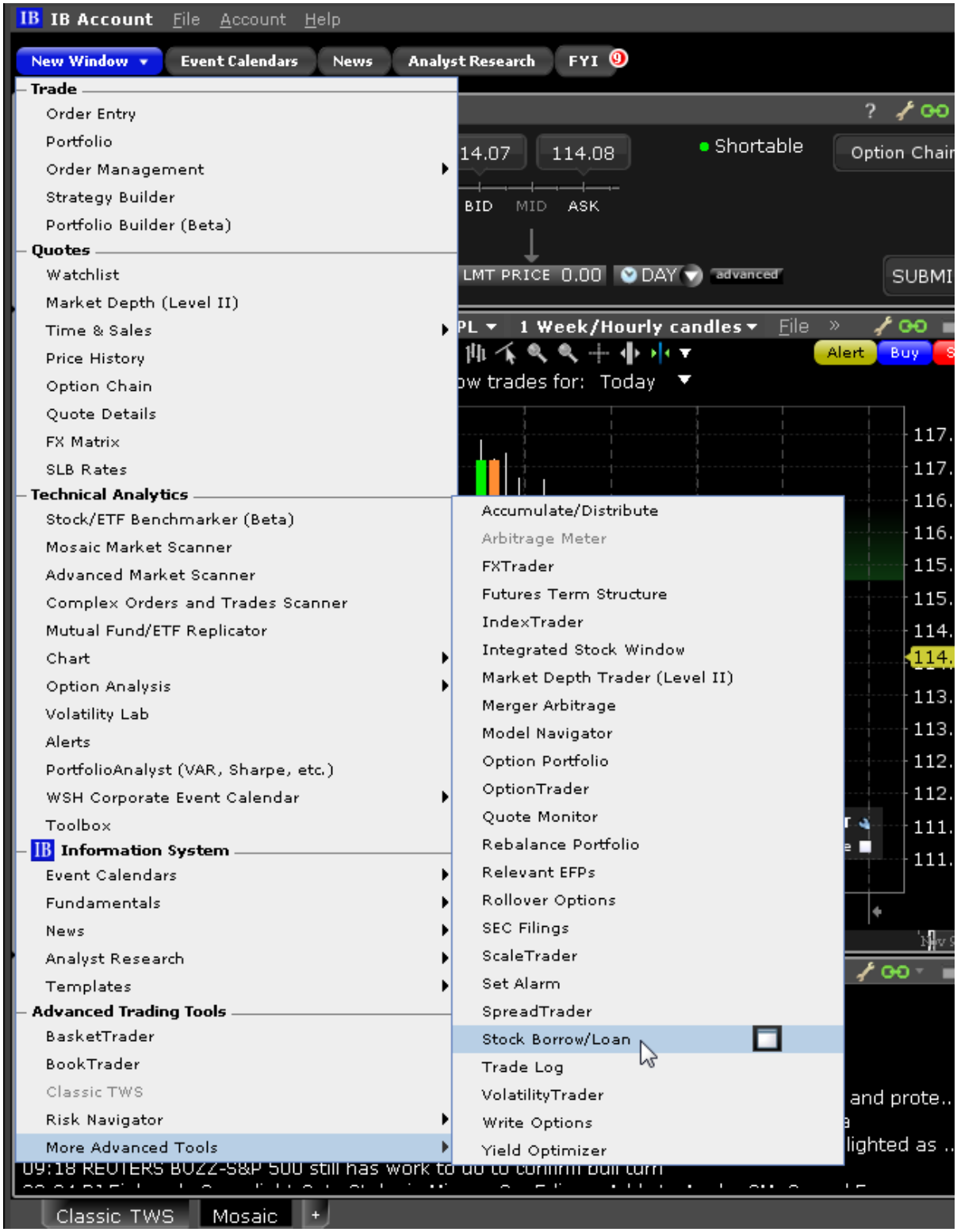
The interest rate is always the current opening Fed Funds Effective rate.
The borrow/lend rates change based on availability of underlying contract.
The borrow rate is applied to the collateral to calculate the daily borrow fee.
The borrower is responsible for the daily borrow fee and for collateral on the transaction.
The collateral is equal to the settlement price x quantity. The settlement price is 102% x mark price rounded up to the nearest 1.00 with a 1.00 minimum.
Collateral is returned to the borrower when the borrowed shares have been returned to the lender.
In the case of dividend-paying shares, since shares are only being lent (not sold) by the lender, dividends paid during the borrow belong to the lender who actually owns the shares. The borrower of the shares must pay dividends to the lender in what is called *Payment in Lieu of Dividends*.

Transaction Information

Orders are only eligible to fill during regular trading hours.
There is a price minimum of 200k for borrow transactions of easy-to-borrow shares. This minimum is in effect from the market's open at 6:45 am up until 11:00 am. Shares are considered easy-to-borrow if the borrow rate is less than or equal to 0.00.
To lend, you must own the shares outright, and they must be physically available and held at the DTC. The quantity you have available to lend is shown in the **Loanable Quantity** field. If your account has a margin balance, you may not be able to lend out all of the shares in a position. IB's segregation algorithm determines which shares are available to lend.
Only day limit orders are supported.

Access Stock Borrow/Loan

The Stock Borrow/Loan page has been configured specifically to support all of the borrow/loan fields and functionality.



To open Stock Borrow/Loan

From Mosaic: From the New Window drop down, select *More Advanced Tools* and then select *Stock Borrow/Loan*.
From Classic TWS: From the **Trading Tools** menu, select *Stock Borrow/Loan*.

The Stock Borrow/Loan window opens as a blank trading page.

To add tickers

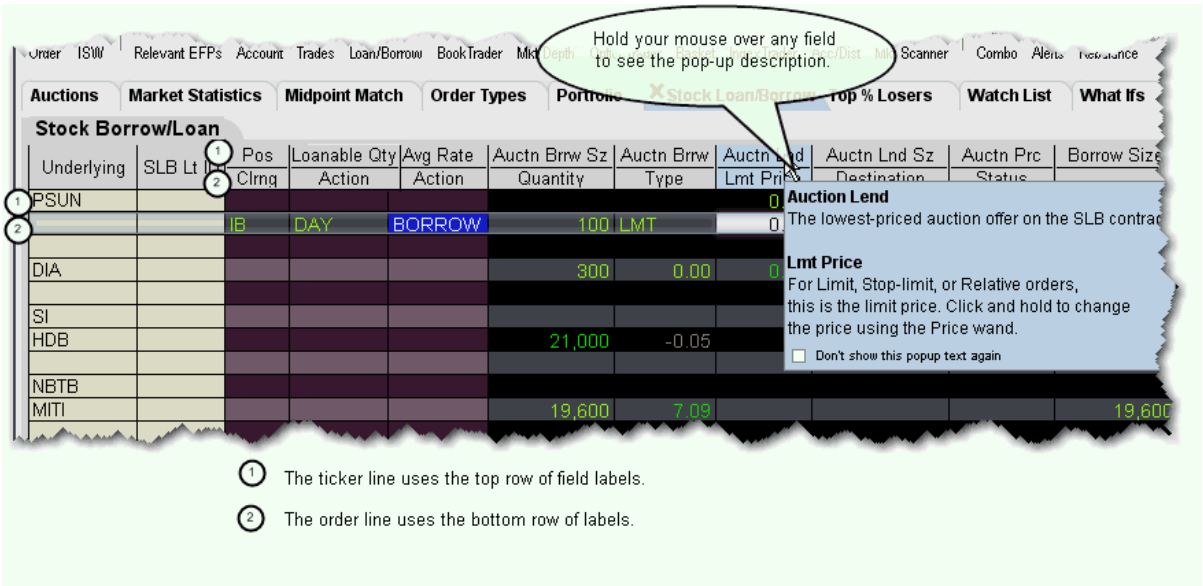
1. Enter a stock symbol in the Underlying field and hit enter.

Only agent lenders can lend or borrow in the primary (_P) markets.

In addition, you can manage borrow/loan transactions on a regular trading page by first entering the underlying stock symbol and then selecting SBL as the instrument type. You will need to manually add the relevant borrow/loan fields using the Layout manager.

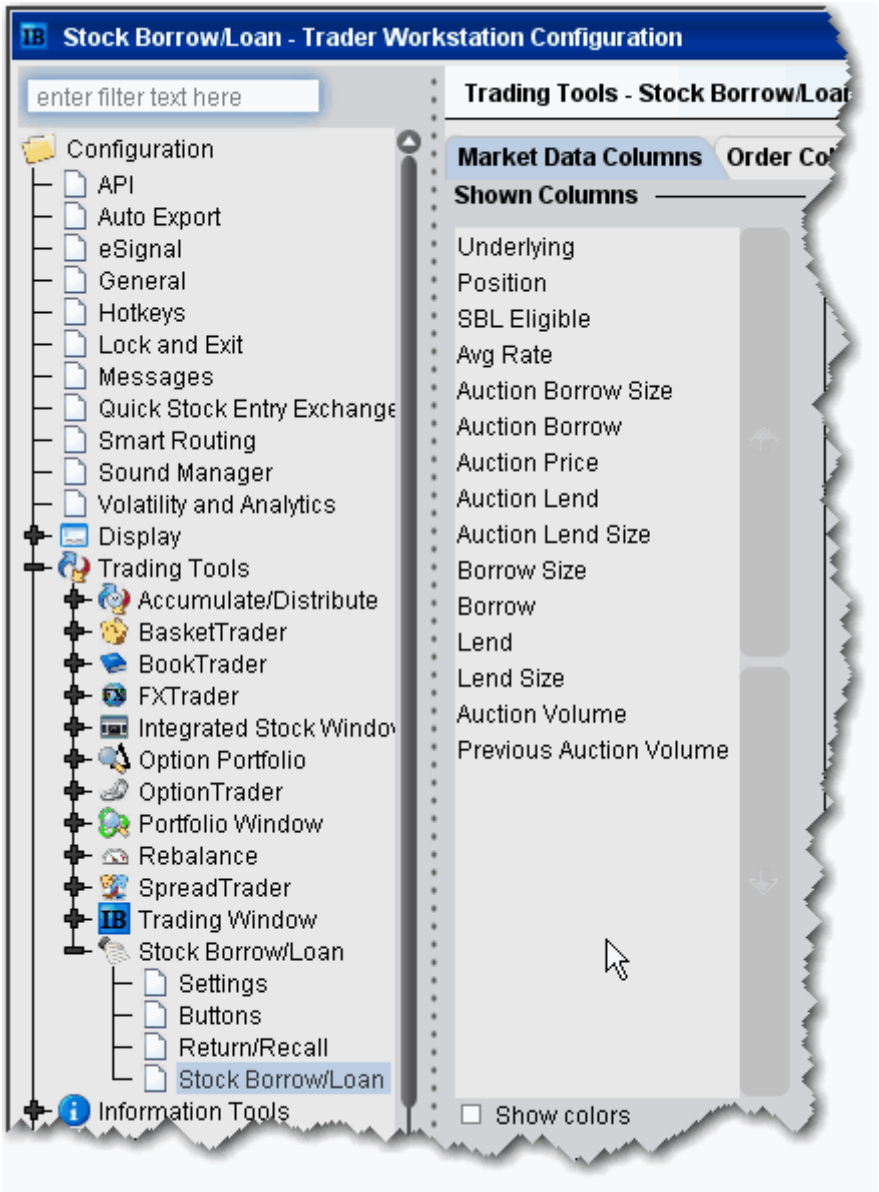
Borrow/Loan Fields

The Stock Borrow/Loan window includes fields used specifically for stock loan and borrow transactions. You can add any of these fields to other trading pages using the Layout manager. TWS trading pages display both ticker lines and order lines. When you create an order, the order line appears directly below its ticker line. Accordingly, the field labels are also laid out in a top/bottom row format.



Note: To make labels appear as a single large label like the Underlying field, you must add the same field from both the Market Data and the Order Columns tabs.

To view the Stock Borrow/Loan and other fields that can be added to a trading window, right-click anywhere within the field titles and select *Customize Layout.* The fields below are displayed by default in the Stock Borrow/Loan page.



Column	Description
Underlying	The underlying stock symbol of the stock being borrowed or lent.
Position	Your current position. In the LoanBorrowTrader, this represents your current stock position. This field is used for all asset types, it is not unique to the borrow/loan page.

Loanable Quantity	Shows the current position in the stock that is eligible for lending.
Avg Rate	The average borrow rate of your current Borrow/Loan positions.
Auction Borrow Size	The volume of shares being bid for at the Auction Borrow rate.
Auction Borrow	This value represents the best rate quoted to lend the underlying shares. Click the Auction Borrow field to create a Lend order.
Auction Lend	This value represents the best rate quoted to borrow the underlying shares. Click the Auction Lend field to create a Borrow order.
Auction Lend Size	The volume of shares available to borrow at the Auction Lend rate.
Auction Price	The indicative rate for the next scheduled auction. Auctions occur every 15 minutes while the Borrow/Loan market is open.
Borrow Size	The volume of shares being bid for at the last auction rate during continuous trading.
Borrow	The last auction rate that was established during continuous trading.
Lend	The last auction rate that was established during continuous trading.
Lend Size	The volume of shares available to borrow at the last auction rate during continuous trading.
Auction	The total number of shares available for the next auction.

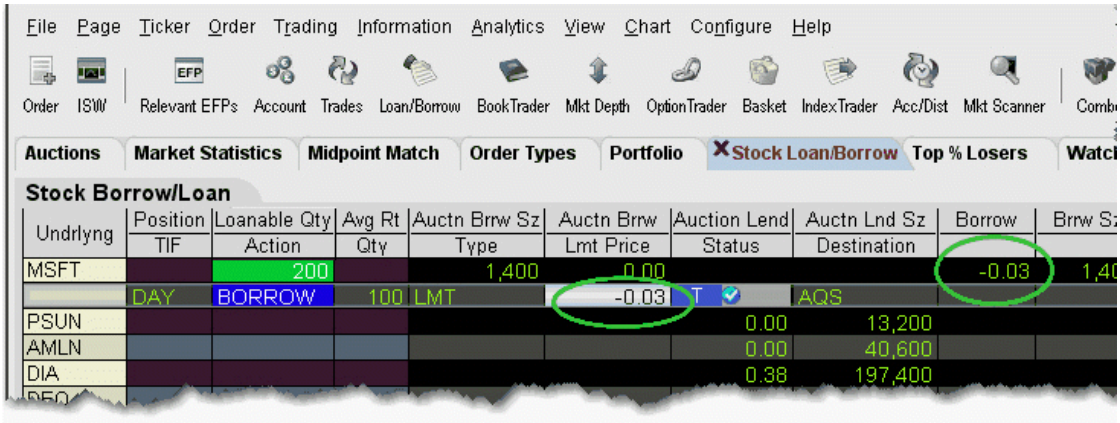
Volume	
Previous Auction Volume	The total number of shares that were available for the previous auction.

Borrow/Loan Transactions

You can borrow and lend shares directly from the data line.

To borrow, click the **Lend** or **Auction Lend** field.

To lend, click the **Borrow** or **Auction Borrow** field.

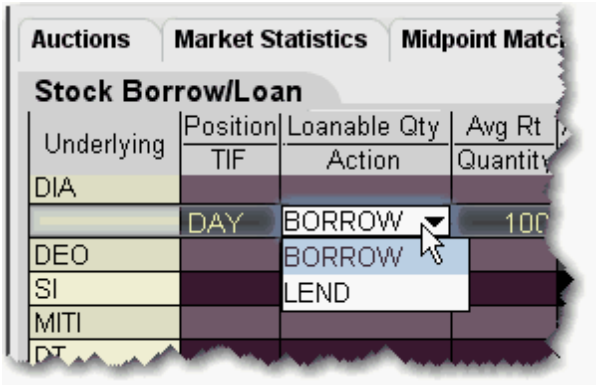


Borrowing Shares

Borrow requests are eligible to fill in either the continuous or auction market, based on price.

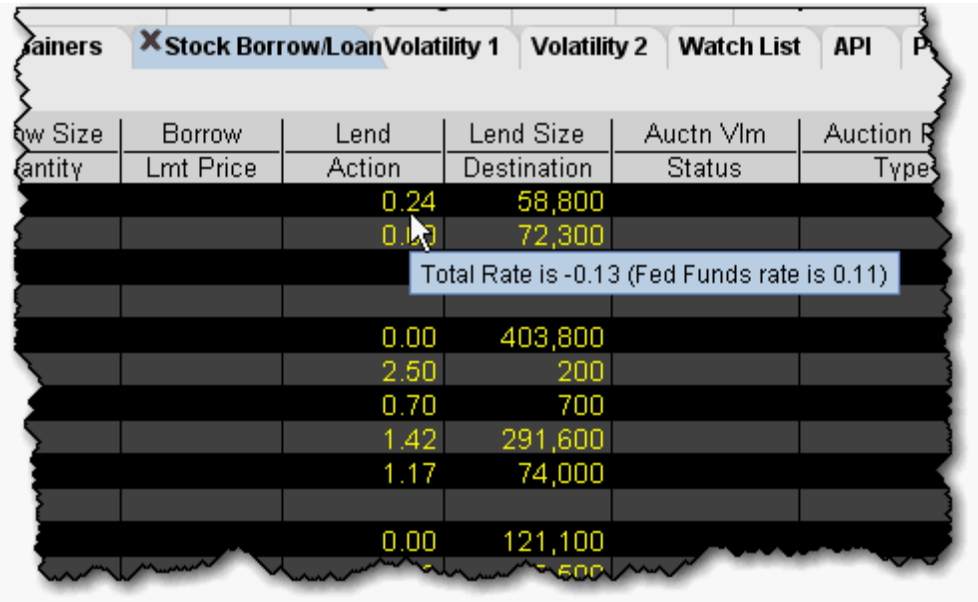
If you initiate a borrow by clicking the **Auction Lend** field, the limit price reflects the current best Lend rate.

If you initiate a borrow by clicking the **Lend** field, the limit price defaults to the last auction price.



Note: You can modify the transaction type on the order line using the Borrow/Lend drop-down in the Action field.

Continuous trading runs throughout the day, stopping for 5 minutes prior to each 1 minute auction. If your transaction does not fill during continuous trading, it will be held and entered in the next auction.



The Borrow Rate and Interest Rate

The borrow rate differs by symbol based on how difficult a stock is to borrow. The harder a stock is to borrow, the higher the borrow rate. The borrow rate includes the interest rate which is the same for all symbols and is equal to the day's opening Fed Funds rate. Shares are considered "easy-to-borrow" if a reasonable assurance can be made at trade date that the shares will be available for borrowing on settlement date. Oftentimes the borrow rate on such shares is equal to or less than 0.00.

> **Note:** There is a collateral minimum of 200k to borrow easy-to-borrow shares. This minimum is in effect from the market's open at 6:45 am up until 11:00 am.

The collateral amount is the price per share of the underlying x quantity. The borrow rate is applied to the collateral amount to calculate the daily *IB Carry Charge* that the borrower will pay for the privilege of borrowing the stock. The collateral represents the cash put up by the borrower to cover the borrow transaction, and is the underlying stock price times the quantity of the borrow transaction. The collateral is returned to the borrower when the shares are returned to the lender.

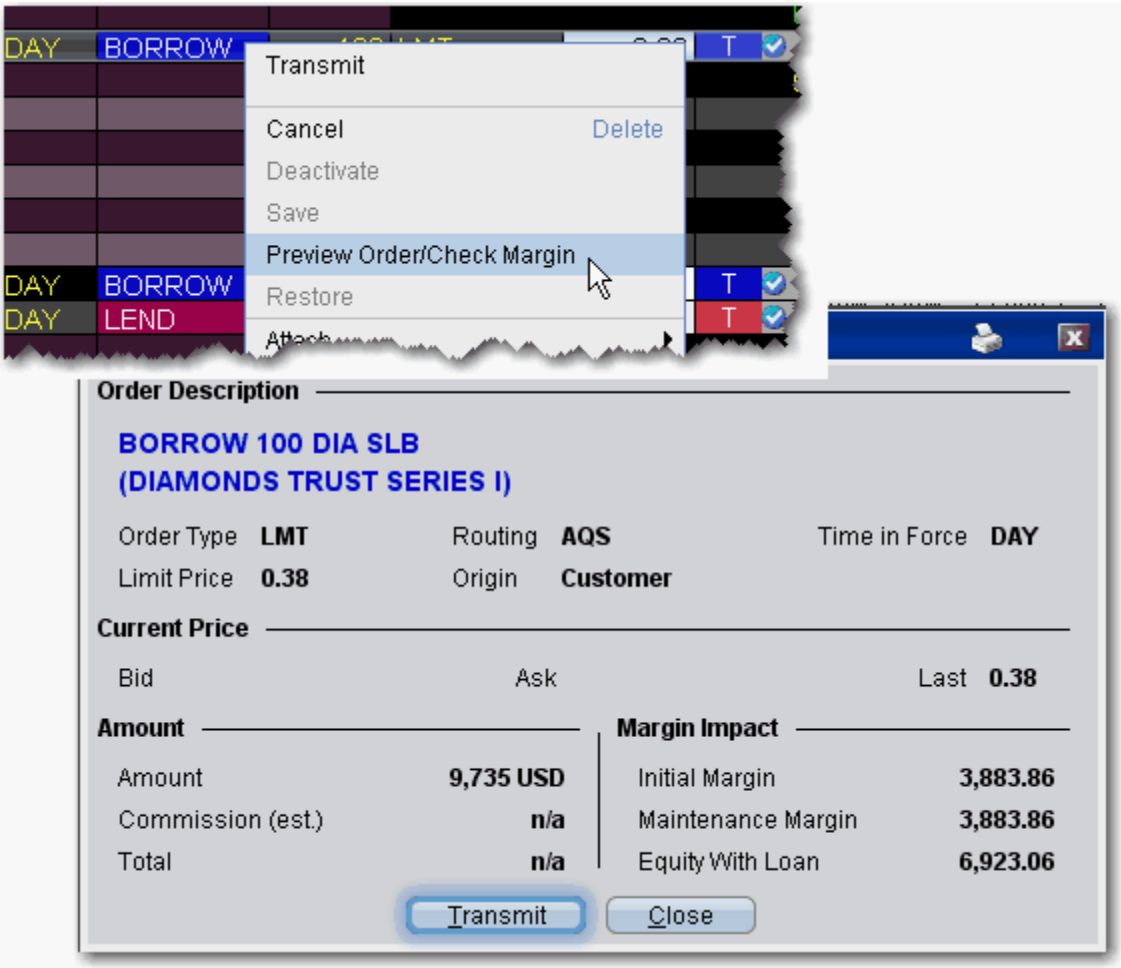
The daily IB Carry Charge is:

Quantity x Stock Price x Borrow Fee/360

For example, if you are borrowing 500 shares of a $20.00 stock with a borrow fee of 0.38, the daily IB Carry Charge on the transaction is:

500 x $20.00 x .0038/360 = 0.18

To see the total rate, which is the interest rate - borrow fee, hold your mouse over a rate field.



Preview Orders

Before you transmit the order, right-click and select *Preview Order/Margin*. The Order Description box shows the order parameters, and displays the amount that will settle, calculated as 102% * mark price, rounded up to the nearest $1, with a minimum of $1.

This preview is a current projection only and is subject to change.

Borrow Limits

You can borrow up to the amount you would be eligible to short based on the Net Liquidation Value in your account.

Lending Shares

To lend shares, you must own the shares (they cannot be long on margin) and the DTC must be holding them. The quantity of shares available to lend is shown in the **Loanable Quantity** field.

If you initiate a lend order by clicking the **Auction Borrow** field, the value in your order reflects the current best Borrow rate.
If you create a lend order by clicking the **Borrow** field, the rate defaults to the auction equilibrium rate.

You can manually modify the rate at which you want to lend directly in the order line.

Returns/Recalls/Rerates

The Return/Recall panel displays any return or recall requests when you are logged in, and allows you to send rerate and return requests.

Borrowing

Once you borrow shares, you can return them using the Return order function, or the lender can recall the shares at any time. When borrowed shares are recalled, they are removed from your account, you are notified in the Return/Recall panel of TWS, and the recall will show up in the *Borrow Activity* section of your Activity Statement. If you would like to negotiate a better rate on your borrowed shares, you can initiate a Rerate request order. If the rerate request is rejected, your shares are immediately returned to the lender.

Please note that if you have borrowed to cover a short position, and then purchase the shares and no longer need to maintain the borrow position, the borrowed shares are not automatically returned; you must return the shares.

Lending

As a lender of shares, you can recall your shares at any time except on the same day that you lent them, using the Recall order function.

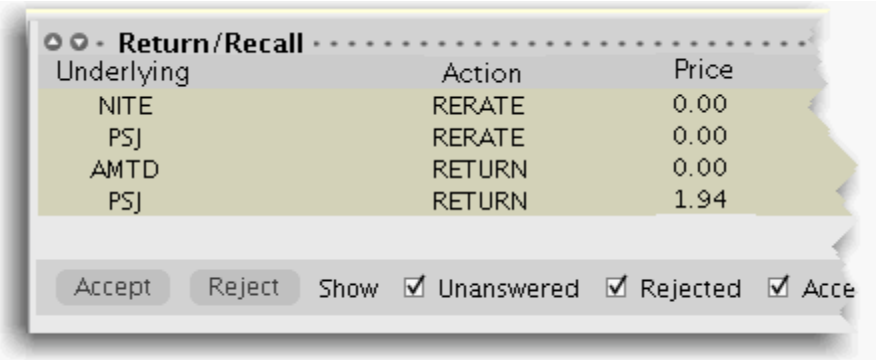
The borrow may want to negotiate the borrow rate by submitting a rerate request. You will be notified of a rerate request only if you are logged into TWS. If you receive a rerate request, you

must respond within 25 minutes; if you do not, the request is automatically rejected and all shares are returned to you. This time limit applies regardless of whether or not you are logged into TWS.

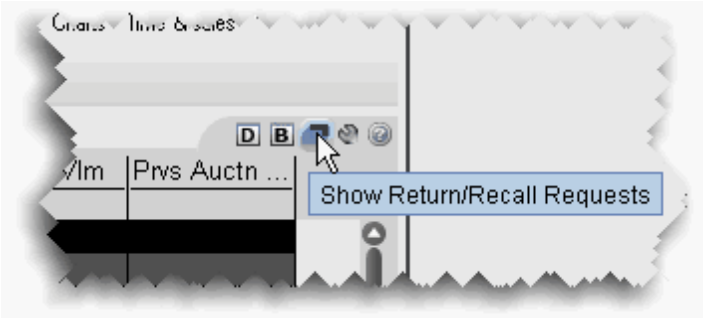
The borrower may return the shares to you at any time. You will be notified of a customer return in the Return/Recall panel.

In the case where you have lent a quantity of your fully-paid shares and subsequently sell the shares, IB will automatically recall the shares the following day. If IBdoes not receive the shares from the borrower in time for settlement of the stock sale, the stock sale will be completed but the loan will remain open until the shares are returned.

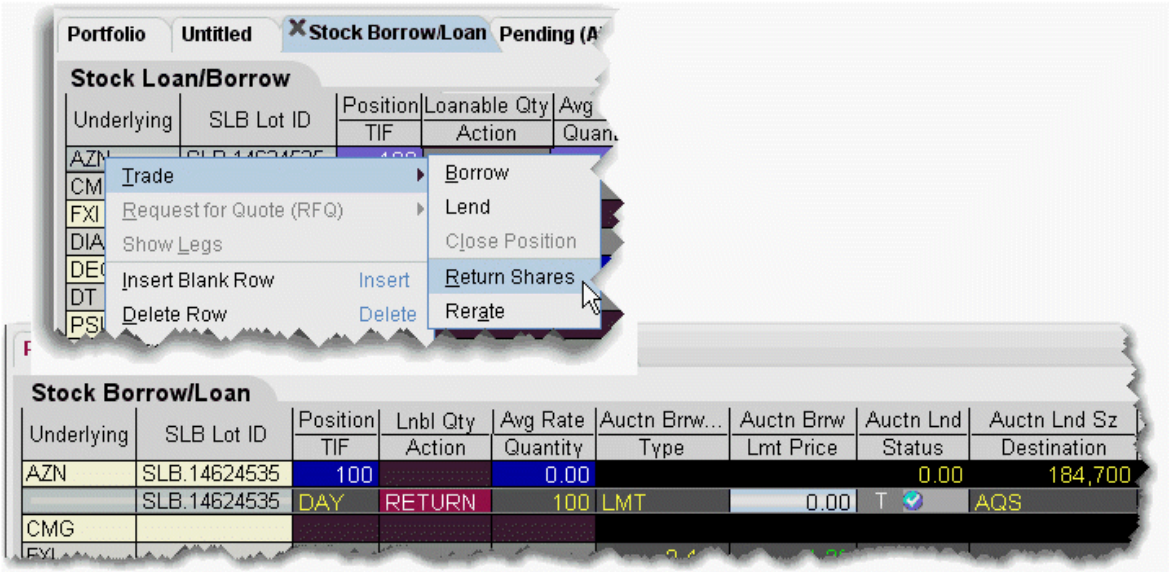
Rerate and recall requests from the counter party to whom IBhas lent your shares will display in the Return/Recall panel.



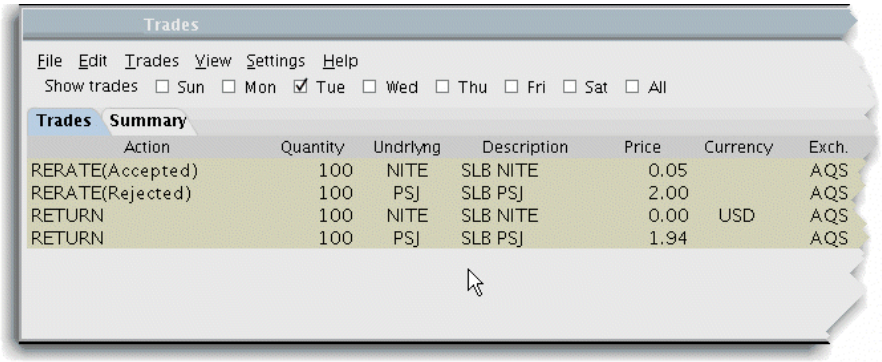
To view the Return/Recall panel, click the Show Return/Recall Requests icon on the right-hand tab of the trading page.



To return borrowed shares



1. Right-click the ticker and select *Trade* then select *Return Shares*.
2. Confirm the order parameters and transmit the order by clicking the ‘T’ in the Status field.



To request a rerate on borrowed shares

1. Right-click the ticker and select *Trade* then select *Rerate*.
2. Enter the rate you would like to receive in the Lmt Price field.
3. Transmit the order by clicking the "T" in the Status field.

If your rerate request is rejected, the transaction automatically becomes a return and your borrow position is reduced by the size of the request.

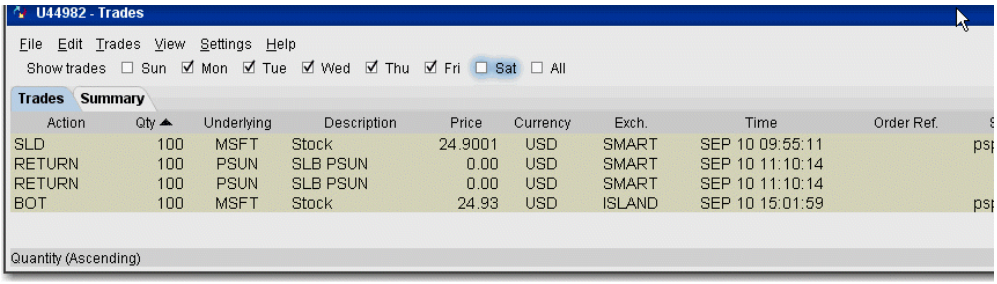
Transactions and Positions

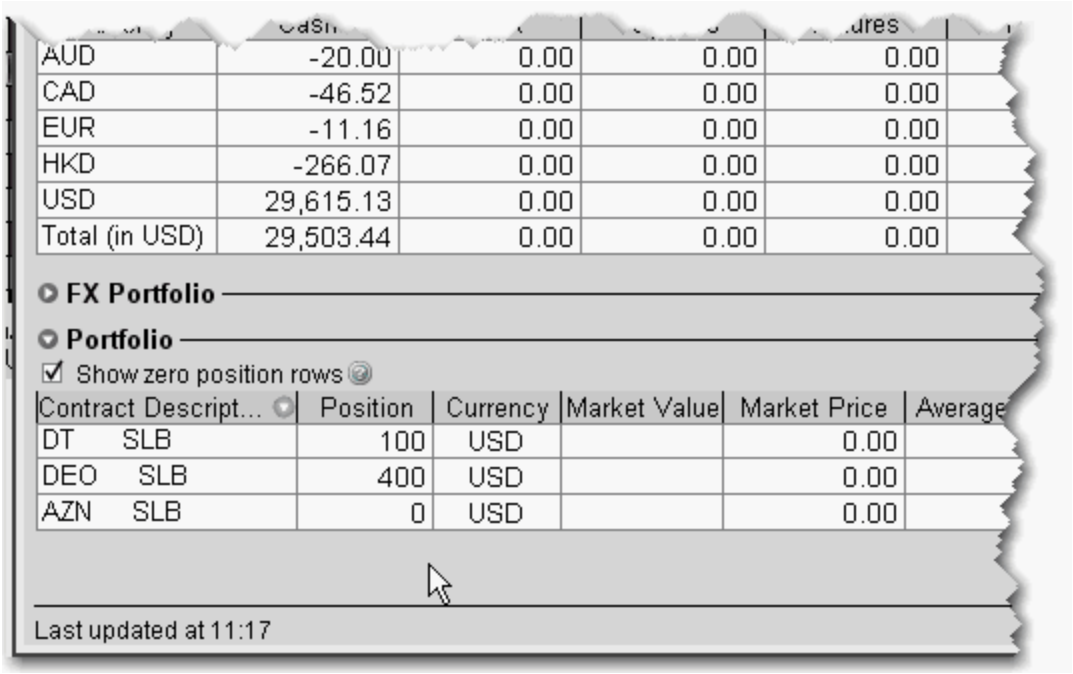
As with all TWS transactions, you can view executions in the Trades window, and monitor the Borrow/Loan positions in your portfolio from the Account Information window.

To view transactions

1. From the toolbar, click the **Trades** icon.
2. All transactions are displayed in the Trades tab. The Description field identifies Borrow/Loan transactions, and the borrow rate is shown in the Price field.

   For pre-borrows, the rate shown is the indicative rate. The actual, standard borrow rate is calculated at the end of the day and is shown on your account statement.





To view Portfolio

1. On the toolbar, click the Account icon.
2. The **Portfolio** section at the bottom of the page shows all positions including borrows. The Market Price shows the borrow rate.

Borrow positions will also display on the system-generated **Portfolio** trading page.

TWS Blotter

The Blotter integrates seamlessly with TWS to provide a more robust OMS system.

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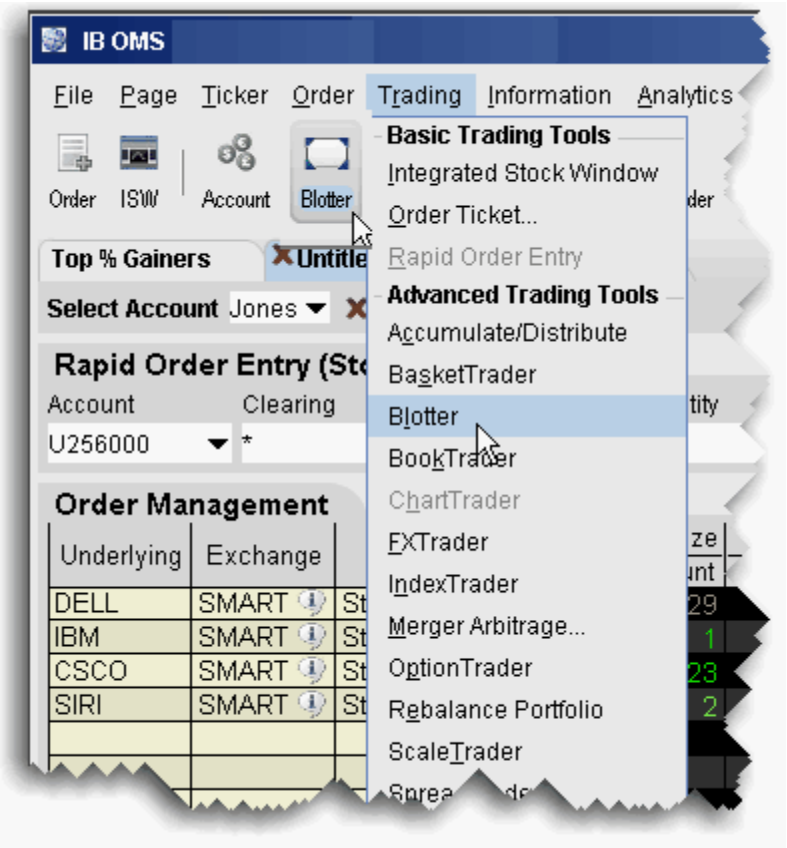
Using the TWS Blotter

The Blotter is part of our suite of specialized order management tools, and is the foundation of the IB OMS. Log into TWS to access the Blotter and other OMS functionality.



To open the Blotter

1. Log in to TWS.

   From the **Trading** menu, select *Blotter*.

   Or, click the **Blotter** icon on the trading toolbar.

Understand the Blotter Interface

Traders use the Blotter window to receive and create tickets, and to create and manage orders.

The Blotter comprises these main sections:

The **Manual Ticket Entry/Rapid Ticket Entry** panel, used to manually create new tickets.

The **Tickets** panel which displays manually created and electronic tickets, and the ongoing order status.

The **Orders** panel, used to modify and submit client orders.

The **Trades** panel, which displays summary and drill-down execution reports.

Electronic tickets via FIX are accepted via a pop-up notification box, and other tickets can be entered manually by the trader using the **Manual Ticket Entry** panel. Once an order is

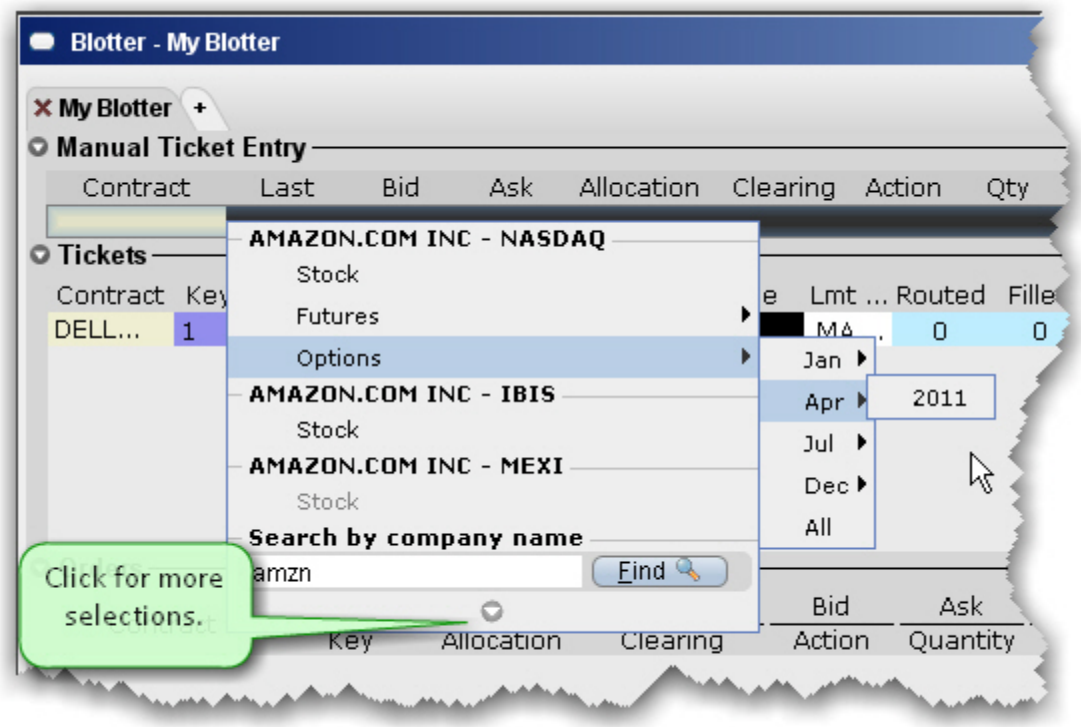
accepted or added, you can manage all aspects of your clients' orders from this single Blotter window.

Manual Ticket Entry

You can enter manual tickets from the Blotter by typing an underlying or contract symbol in the Underlying field of the Manual Ticket Entry panel. You can also enable ticket entry from other TWS windows, or add tickets to the Manual Ticket Entry panel from the right-click menu on a market data line.

To enter a manual ticket from the Blotter

1. Enter the underlying symbol in the **Contract** field, and hit *Enter*.

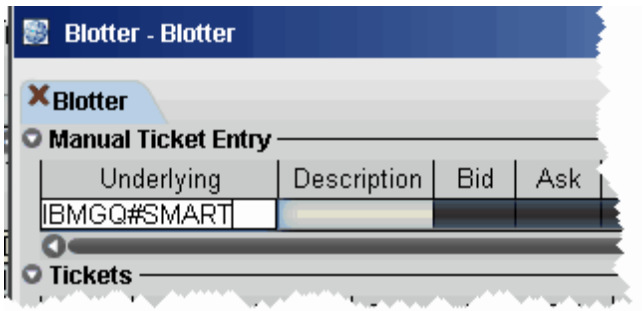


2. Use the Contract Selection list and Contract Selection box to define the contract.
3. In the ***Account*** field, select the beneficial account for the order. Select the ***Action*** (BUY or

Quantity and the order ***Type*** (Limit or Market for the parent order).

4. Click *Add* to put the order into the **Tickets** panel.

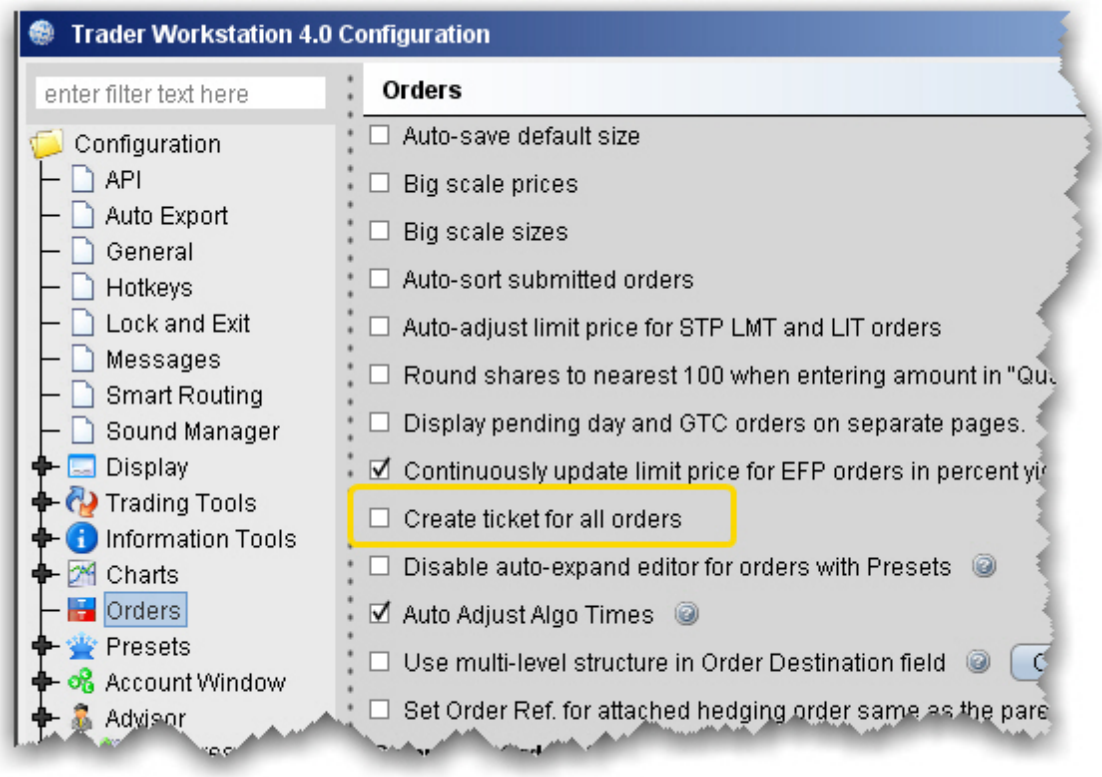
If you know the contract symbol you can enter a ticket quickly using symbol shorthand.



To enter a ticket using symbol entry

In the *Underlying* field, enter the contract symbol and routing choice as: `symbol#routing`

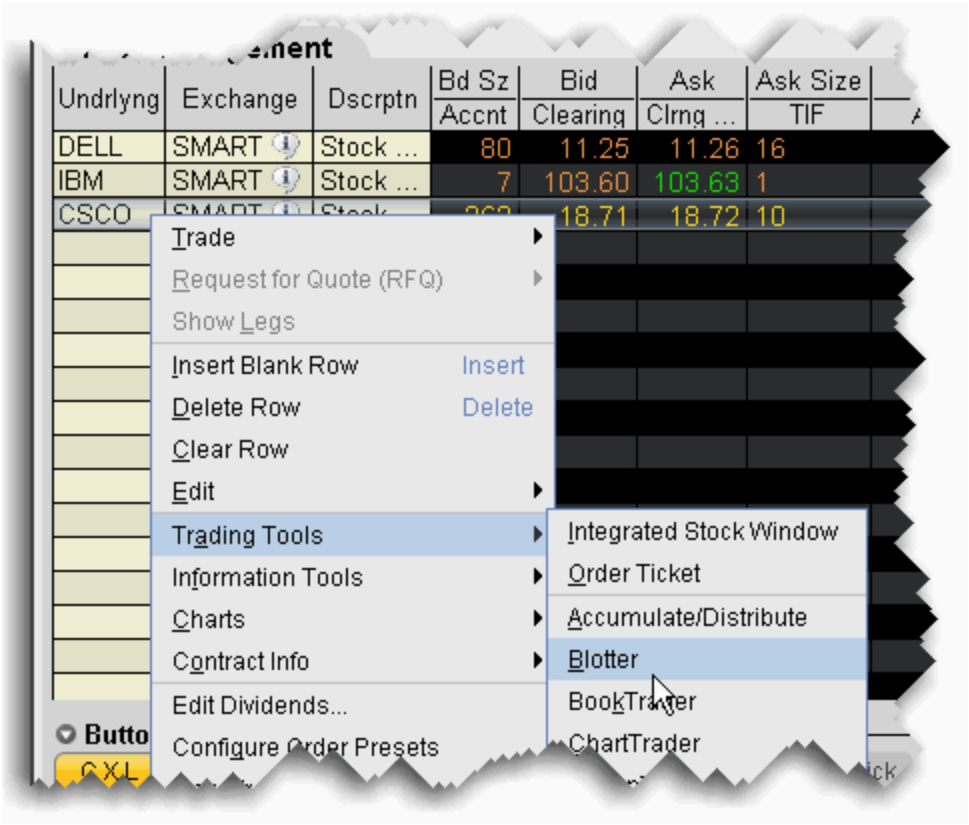
You can also instruct TWS to create blotter tickets for orders you initiate on other TWS windows.



To enable ticket entry from other TWS windows

1. From the **Edit** menu select *Global Configuration*.
2. In the left pane, select Orders.
3. In the right pane, check *Create ticket for all orders*.

Checking this feature tells TWSto send all of your orders to the Blotter for order management, regardless of the window from which the order originated.



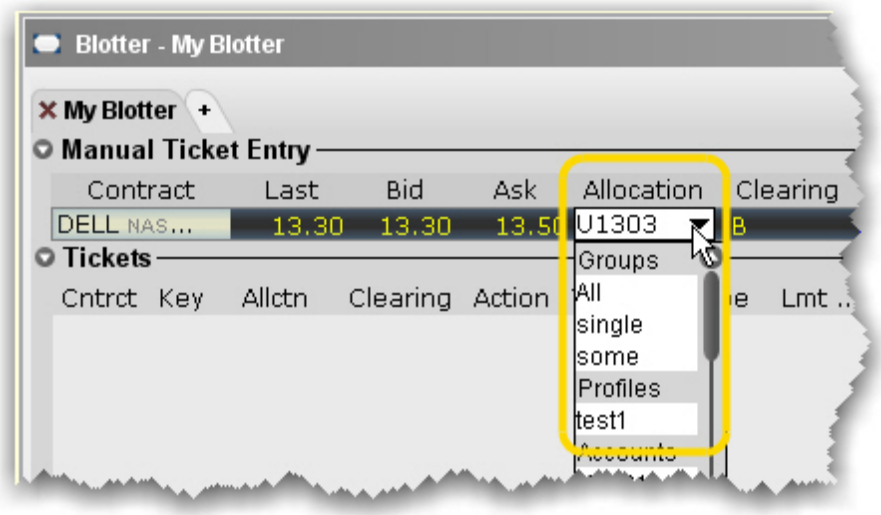
To create a manual ticket entry from the right-click menu in another window

1. Select the market data line for which you want to create a ticket.
2. From the right-click menu, select **Trading Tools** and then select *Blotter*.

The Manual Ticket Entry panel of the Blotter now displays the contract.

Advisor Allocations

An allocation method can be defined during manual ticket entry, and this designation is retained with the order and applied when the order fills.



To allocate shares

1. From the Manual Ticket Entry panel, create a ticket.
2. In the Allocation field, use the drop-down picklist to choose an allocation group, profile, or a single account.

As the order is processed, the assigned allocation remains and is applied when the order fills.

Receive Electronic Tickets

You are notified of incoming FIX tickets by a pop-up order notification window.

Click *Accept* for a single order to put a single ticket into the **Tickets** panel.

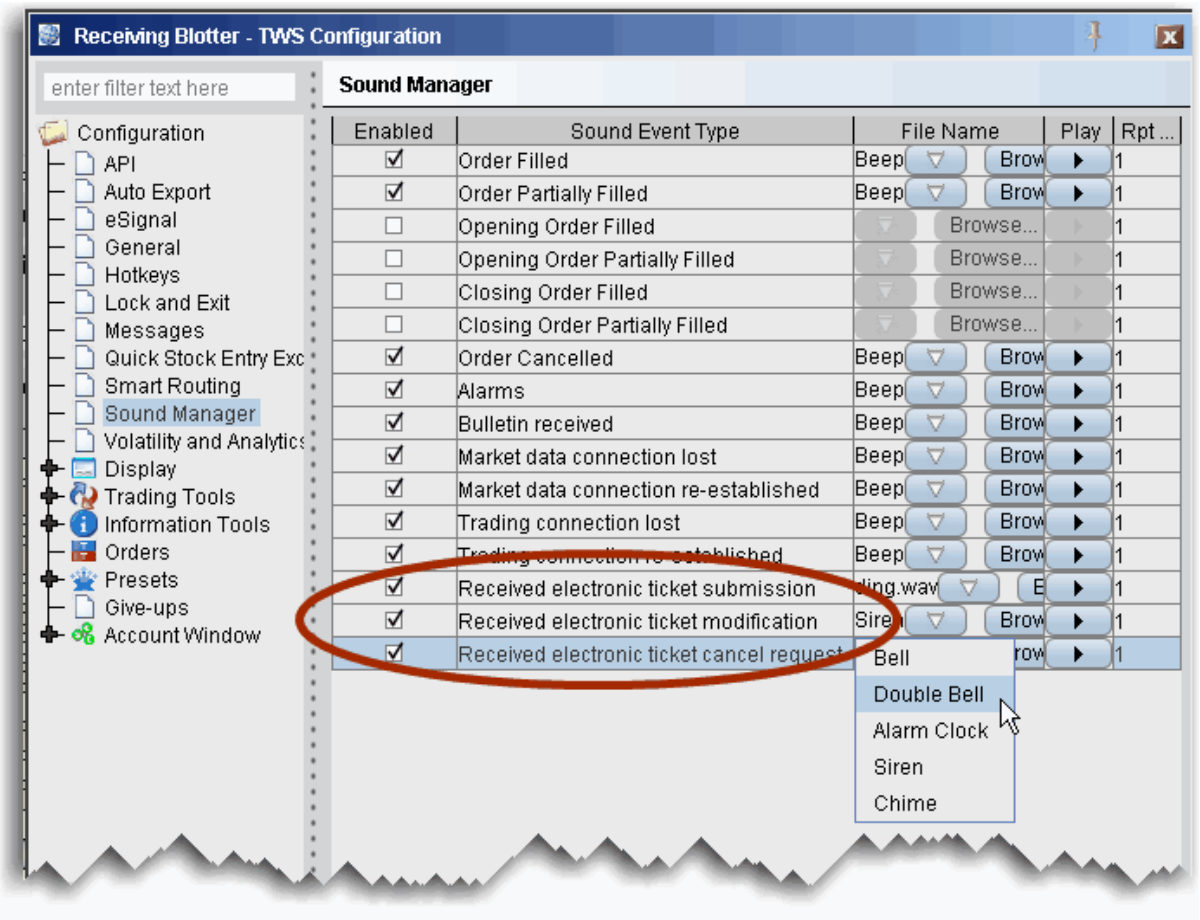
Click *Accept All* to put all tickets into the **Tickets** panel.

Click *Reject* to cancel a single ticket.

Click *Reject All* to cancel all tickets.

If you are not logged in when a ticket is received, it is sent to the next available trader.

You can assign sounds to specific events to help you recognize receipt of an electronic ticket, modification request of a electronic ticket, and a cancel request for an electronic ticket.



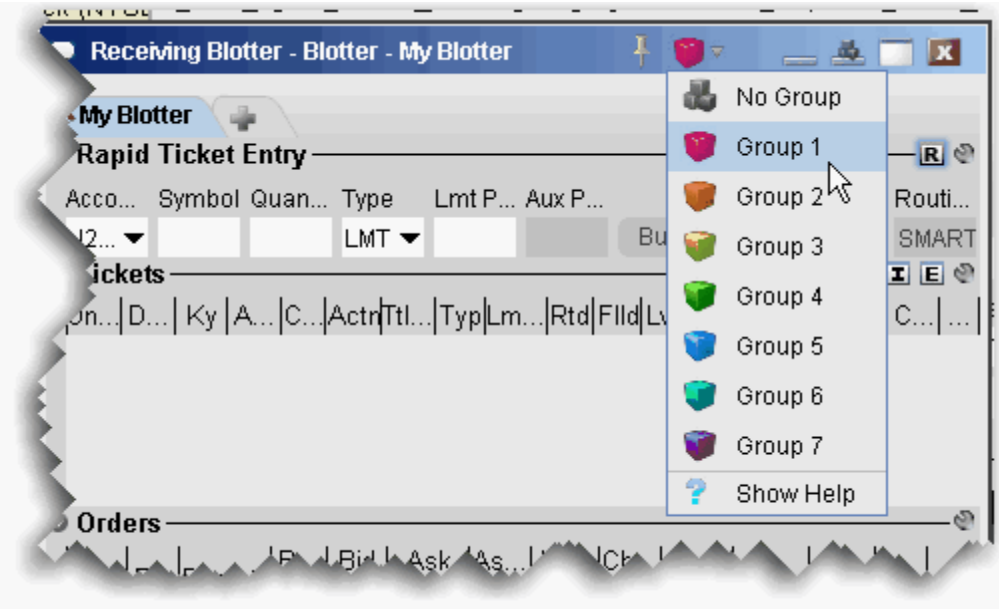
To assign sounds to events

1. On the **Configure** menu select *Global Configuration*.
2. In the left pane select *Sound Manager*, and in the right panel check the events to which you want to assign a notification sound.
3. Use the down arrow to display and select from available system sounds. Use the Browse button to find a sound file to apply.

   Click the “Play” arrow to hear the sound you have chosen.
4. In the Repeat Count field, modify the default setting if you want to notification to play more than once.

Use Color Grouping to Link Blotter Windows

Creating a windows group that includes the Blotter provides a shortcut for creating manual tickets. For example, assume you want to create an options order on IBM. Without grouping, you'd need to create the line in the Manual Ticket Entry of the Blotter, then enter IBM into the OptionTrader to get the option chains. With the windows, grouped, as soon as you enter IBM in the Blotter, the OptionTrader receives this entry and is populated with IBM chains automatically.



Assign windows to a "group" to link order and ticker actions. You assign a window to a group using the colored blocks on the top right of the title bar. All windows with the same color are part of the same group. When you change focus on one of the group's "Source" windows, all destination windows in the group reflect the change.

Any window that can be part of a group will display the blocks. A window can be part of one group at a time. When you close the window, its group affiliation is erased.

The window's designation is displayed in a mouse-over tooltip when you hover over the Group icon. A window can be a:

Source - this is a controlling window and can only SEND instructions. The Blotter window is a source-only window.

Destination - this is a receiving window, and can only RECEIVE instructions from a window with Source privileges.

Source/Destination - this is a multi-tasking window which can both SEND instructions to and RECEIVE instructions from other windows in the group. The OptionTrader window is both a Source and Destination window.

Create a Blotter group

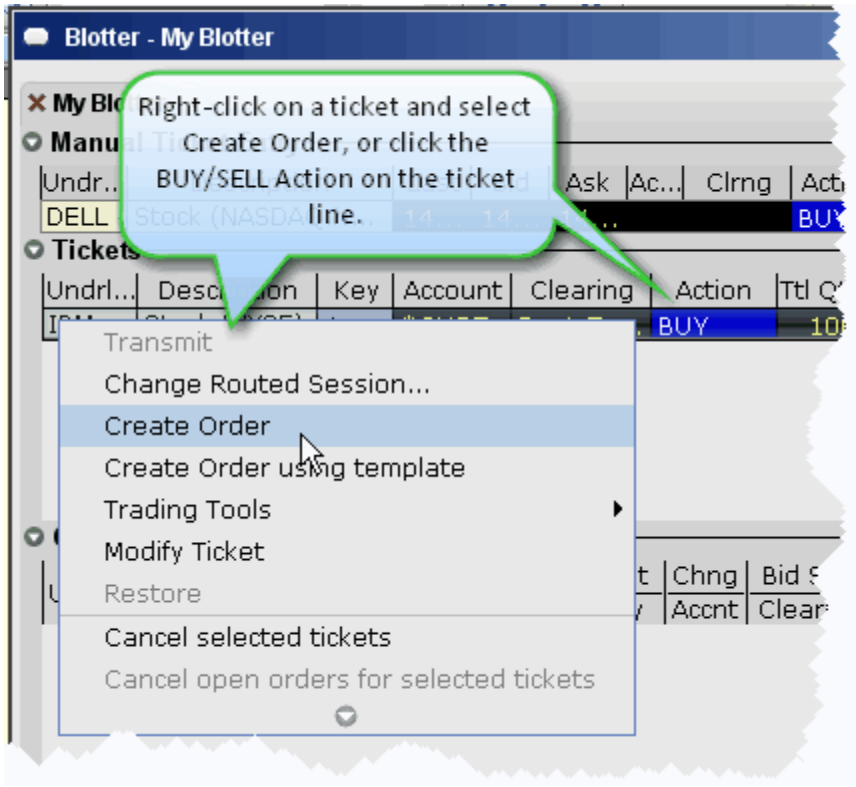
1. From the top corner of the **Blotter** window, display the Group dropdown and select a group.
2. Open a window you want to group, for example the **OptionTrader**, and select the same group number/color.

The OptionTrader and Blotter windows are now grouped. Open the windows side-by-side. In the Blotter, enter an underlying in the Manual Ticket Entry panel, and see how the OptionTrader data automatically changes to reflect the Blotter entry.

Using the Tickets Panel

Accepted electronic orders are staged in the **Tickets** panel. Only limit and market orders can be accepted.

You create orders from the ticket lines in the Tickets panel.



To create an order from a ticket

1. Right-click a ticket and select *Create Order*, or
2. Click the **Action** (Buy or Sell) on the ticket line.

You can open other TWS trading tools from the ticket and modify order parameters within the other tool.

Manage Orders

Orders are created from the **Tickets** panel and display in the **Orders** panel for modification and transmission. These orders are "child orders" of the original ticket, and must stay within any price, type or Time in Force limitations defined in the parent order.

Cancel the entire ticket.

Cancel all child orders associated with the ticket WITHOUT cancelling the ticket.

Monitor the order status for each ticket.

Orders are displayed in the **Orders** panel (see below) with a default ***Quantity***. You can modify the quantity per order, and change the default for specific products using the Order Preset Strategies in Global Configuration.

To cancel a ticket

Right-click the ticket line and select *Cancel this ticket,* or

Click the yellow “C” in the ***Cancel*** field and then click *Cancel this ticket*.

Canceling from the Tickets panel cancels the entire client order and any working components. Clients receive a cancelled order notice. To cancel a single child component of the order, cancel directly from the child order in the **Orders** panel.

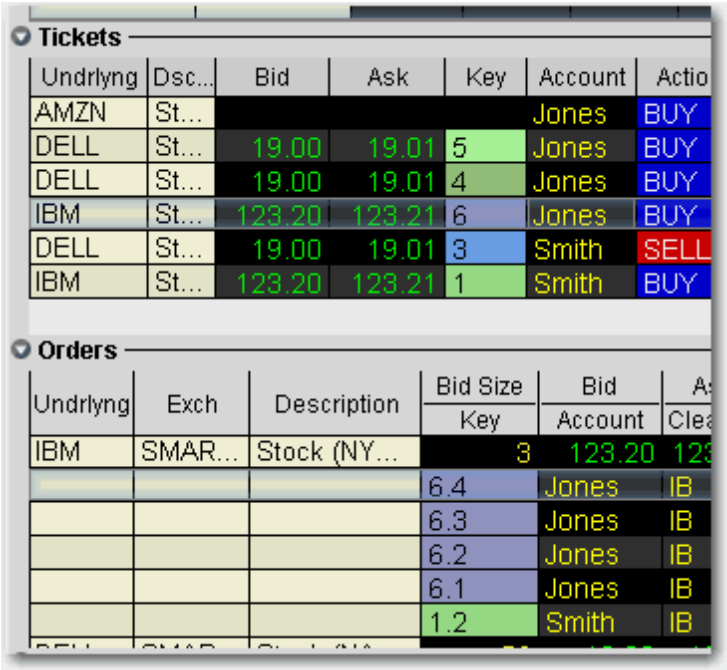
To cancel all child orders

Right-click the ticket line and select *Cancel open orders for this ticket.*

The child orders are canceled but the original order ticket is not canceled.

Using The Orders Panel

The **Orders** panel is where you actively manage orders.



Note: The relationship between parent/child orders is shown via the ***Key*** field in the Tickets, Orders and Trades panels . Every new child order is numbered sequentially and colored to indicate its relationship to the original order.

You can modify the following parameters for a child order:

Order Quantity, which can be modified to be *equal to* or *less than* the quantity in the ***Leaves*** status field for the order in the Tickets panel.

Limit Price (with restrictions) - you cannot adjust the price to be more aggressive than the client's original price, i.e. you cannot increase the price for a buy order, or decrease the price for a sell order.

Order Type (with restrictions) including:

Limit tickets can only be sent as a limit or relative orders.

Market orders can be submitted as: market, limit, stop, stop limit, trailing stop, trailing stop limit and volatility. For more information on IB order types, see the Order Types page on the

web site.

Time in Force - use the drop-down menu to choose from Day, GTC, OPG, IOC or GTD.

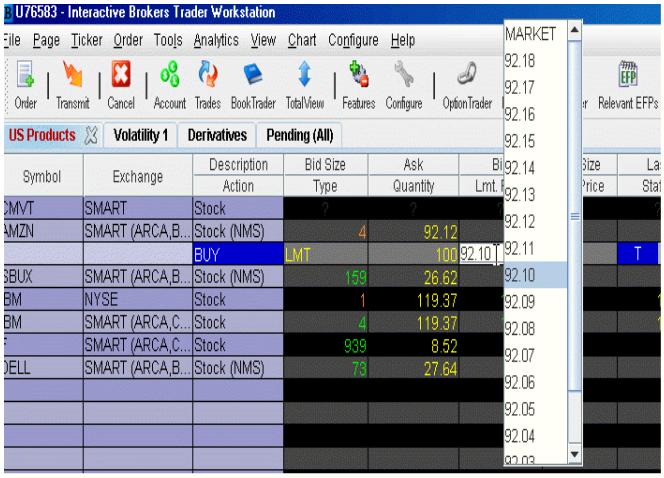
You must set the TIF for a child order equal to or shorter than that of the parent. Otherwise, the TIF of the parent order will override that of the child order.

Destination - choose a new routing destination for the order, create a new “Away” destination, or route to another desk within your firm.

To transmit an order

1. Modify order parameters by clicking in the appropriate field and selecting or entering a new value.

   Use the price or size “wand” to set a parameter by clicking and holding the mouse button in a field.



2. Click the “T” in the red ***Status*** field to transmit the order.

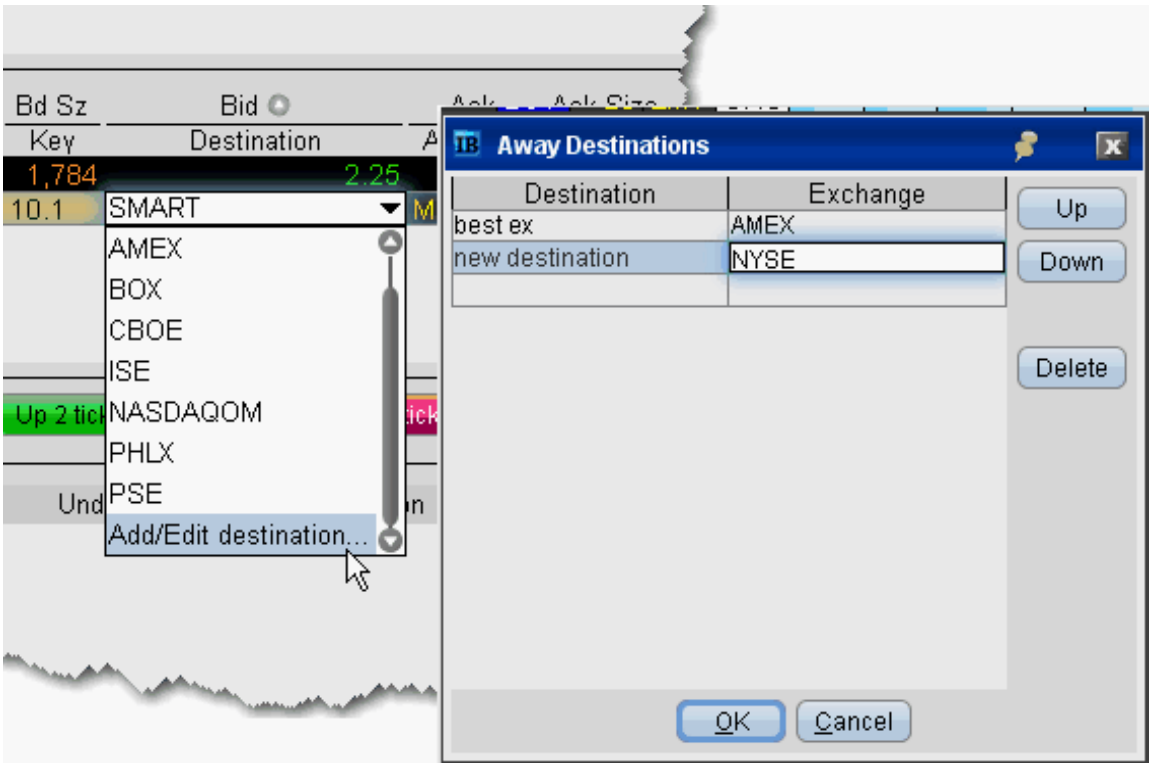
To cancel an order

Transmitted child orders show a “C” in the yellow ***Status*** field. Click to cancel the order.

Note: To create a new order, right-click the original ticket in the **Tickets** panel.

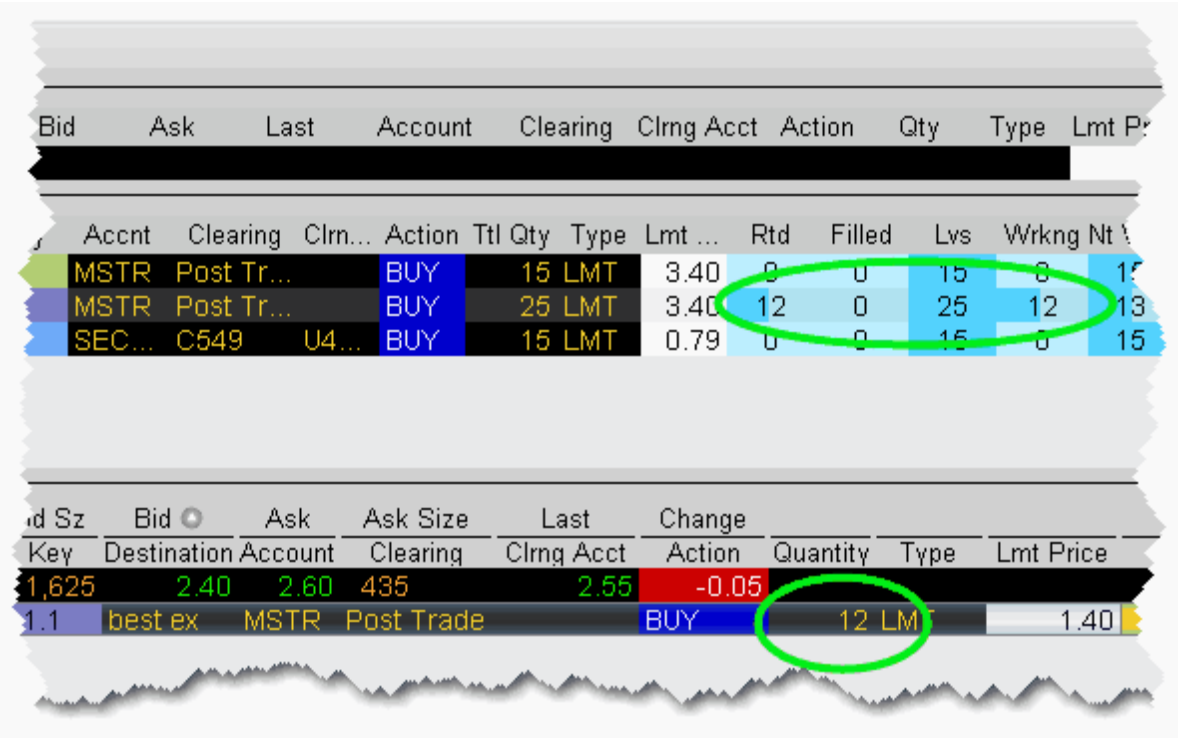
What is an Away Destination?

For order management purposes, the Blotter allows you to manually create “Away” destinations and to manually report trades executed away from IB. This data will be reflected in the order status fields and the Trade reports.



To create an Away destination

1. From an order in the Orders panel, click the *Destination* field dropdown.
2. Choose *Add/Edit destination* at the bottom of the list.
3. In the Away Destinations box, enter the title that will display in the Destination list, and the Exchange/Destination to which the order will be sent.
4. Click OK. The new destination now appears in the dropdown list and is the selected destination for the current order.

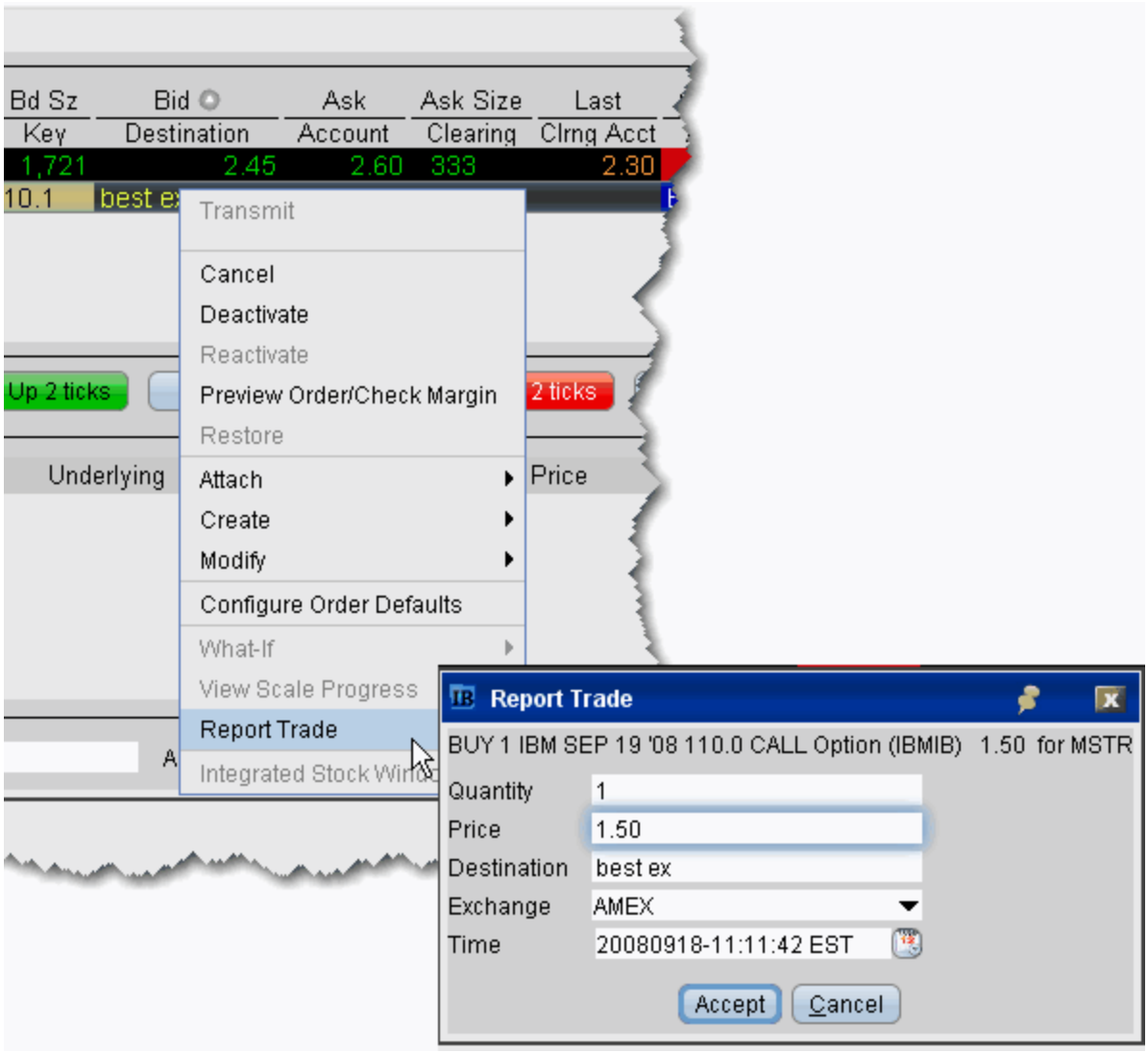


The order quantity transmitted to your away exchange is reflected in the order status columns of the Tickets panel. In the example above, a quantity of 12 was routed to the best ex away exchange. The status reflects 12 routed, 25 still left, and 12 working.

It is important to note that orders “transmitted” to your away destinations are not handled by IB. An away destination is simply an order-management tool that allows a place-holder within the Blotter for orders you will manage away from IB.

Add “Away Trade” Data to Blotter

To help manage your orders, the Blotter allows you to manually include trade data from orders filled away from IB.

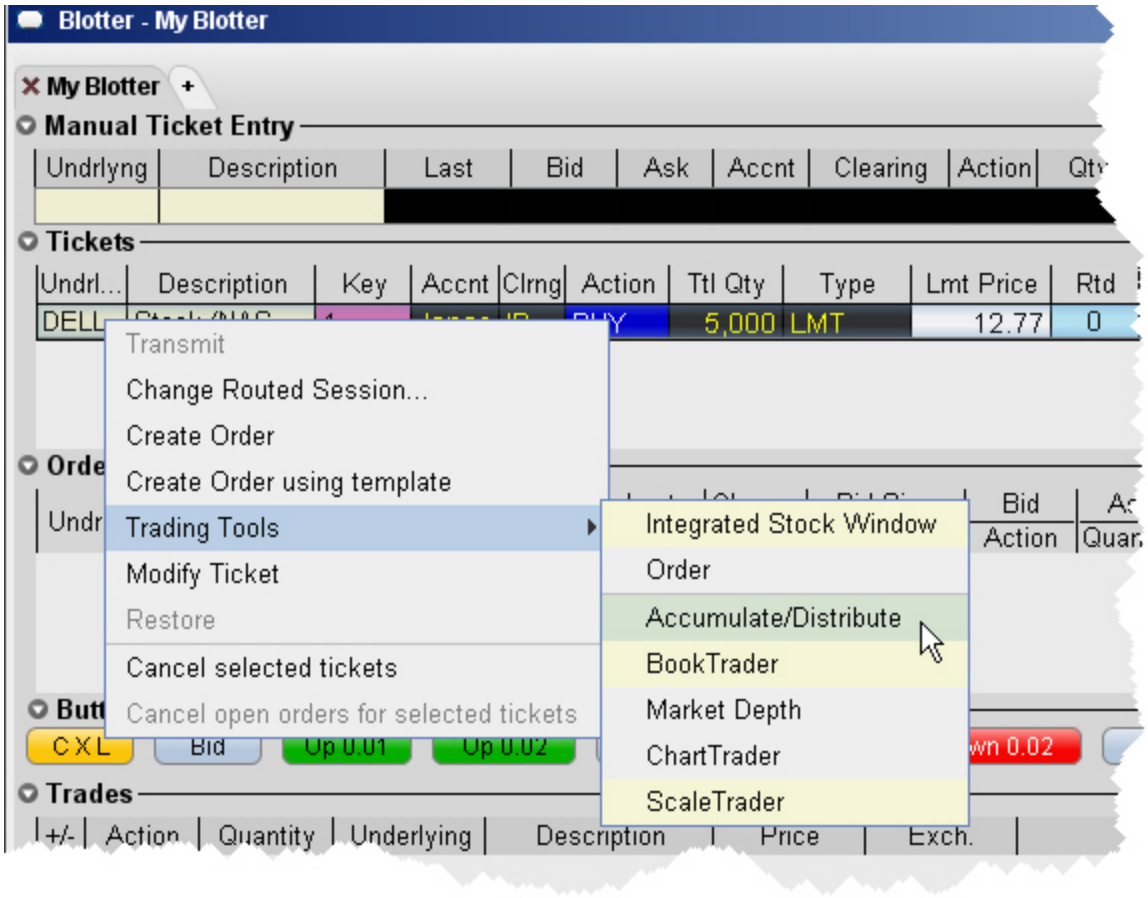


To report away trades

1. Highlight the *Away* trade order line in the **Orders** panel. *Note that you will only see the Report Trade command if you are on an Away trade order line.*
2. From the right-click menu, select *Report Trade*.
3. In the **Report Trade** box, enter the quantity, price, destination, exchange and time of execution. This information will be used by the Blotter to display trade data.
4. Click *Accept*. The information you specified is now incorporated into both the Order Status data in the **Tickets** panel and the execution data in the Trades panel.

Manage Orders with TWS Algos and Tools

Manage client orders using sophisticated TWStrading tools and algos. The IB OMS supports order management using the following tools and algos:



Accumulate Distribute (for stocks)

ScaleTrader (for stocks and options; market orders only; no support for profit taking child orders)

IB Stock algos including Arrival Price, Percentage of Volume Strategy, TWAP and VWAP

IB Option algos including Balance Impact and Risk, and Minimize Impact

BookTrader

Market Depth

ChartTrader

The Integrated Stock Window (ISW)

The Order Ticket

To manage a Blotter ticket from a different tool

1. Select the ticket and use the right-click menu to select *Trading Tools*.
2. Choose the trading tool. The tool will open, populated with the selected ticket information.

Reading the Trades Panel

Filled sub orders are removed from the Orders panel, and the parent order is removed from the Tickets panel once the entire order has filled. The **Trades** panel displays real time trade reports with a drill-down feature to view a breakdown of executions at each price level.

Use the **Filter** panel to view only those orders that meet the filter criteria.

Check *Show filled and canceled orders* to display these orders.

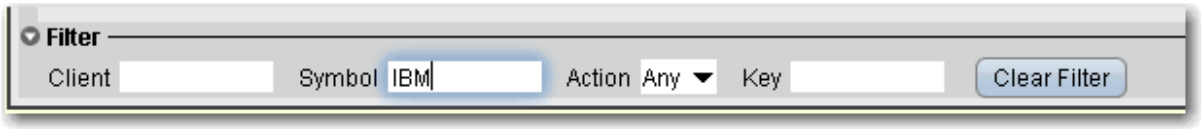
Display Orders by Filter Criteria

Although associated orders are visually linked by color and number ***Key***, as shown in the picture below, you may want to have only a single order family on the screen, or you may need to view a specific subset of orders based on other criteria, for example all orders for Client A, or all orders on underlying ABC. The Blotter provides two filtering strategies:

To filter out all orders except for one order family, the ***Key*** field for the relevant child order in the **Orders** panel. Click the child key again to clear the filter and show all order families.

To filter out all orders except those that meet other criteria, use the **Filter** panel to specify display criteria.

Find the **Filter** panel at the bottom of the Blotter window. Use these fields to filter by criteria other than a group of associated orders (the ***Key***). Filtering criteria applies across order information in all panels, including the **Tickets**, **Orders** and **Trades** panels.



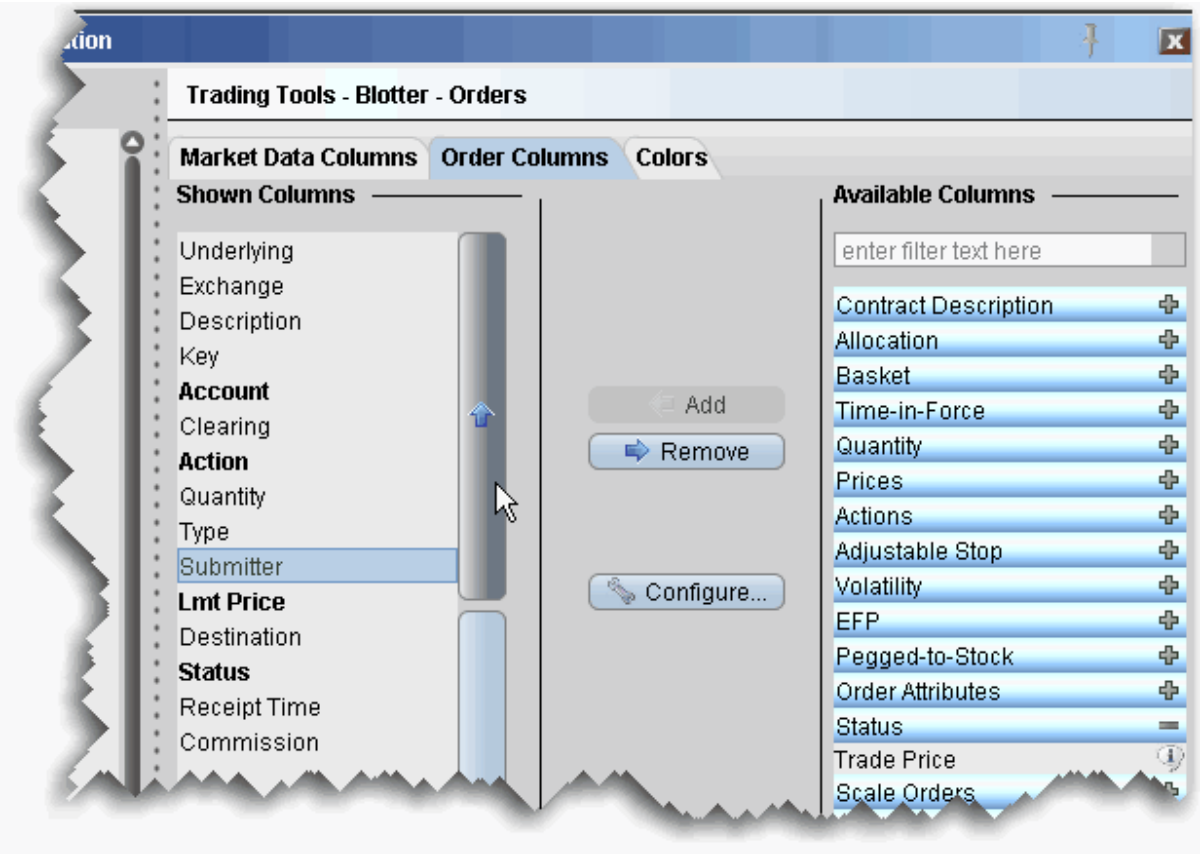
To use the filter panel

1. Enter the filter criteria, such as a client name, underlying symbol or action, and hit *Enter*.
2. To remove the filter and see all orders, click *Clear Filter.*

Order Sharing Modes

Depending on the sharing properties defined for your trading group, you may have permission to view and manage orders received by other traders as well as manage your own orders. You may be enabled for one of three possible modes:

Full sharing - this mode displays all orders for all traders in the Orders panel of your blotter. Display the Submitter field to see who last touched each order.



To display the Submitter field

1. In the **Orders** panel, right-click in the column headings and select *Customize Layout*.
2. Click the **Order Columns** tab, and in the Available Columns list expand the Status category.
3. Select Submitter and use the “Add +” button to move the field to the Shown Columns list.

Note: Use the Up and Down arrows to position the location of the field relative to the other order fields.

Login sharing - this mode requires you to log in to another user’s Blotter before you can access their orders. A separate tab is created for each login, and that users orders are displayed only on their tab.

No sharing - this mode only allows you to view and manage the orders you accepted or created.

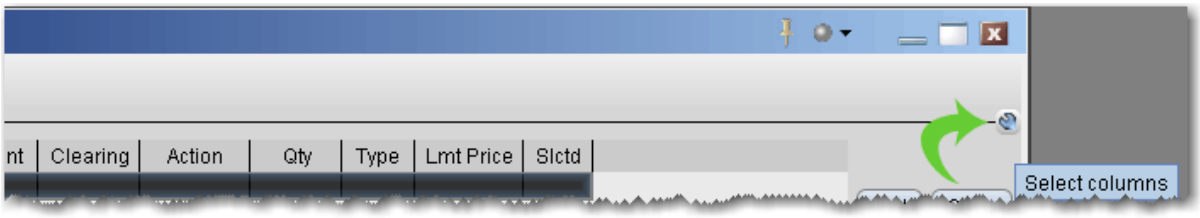
To log into another user's Blotter

1. Right-click the **My Blotter** tab.
2. Select *Open Blotter for Another User*, and enter the user's IB username.

Click OK. The other user's interface opens under a new tab in your Blotter window.

Configure the Blotter Panels

You can hide or display columns in the Blotter panels using the panel-specific layout manager in Global Configuration.



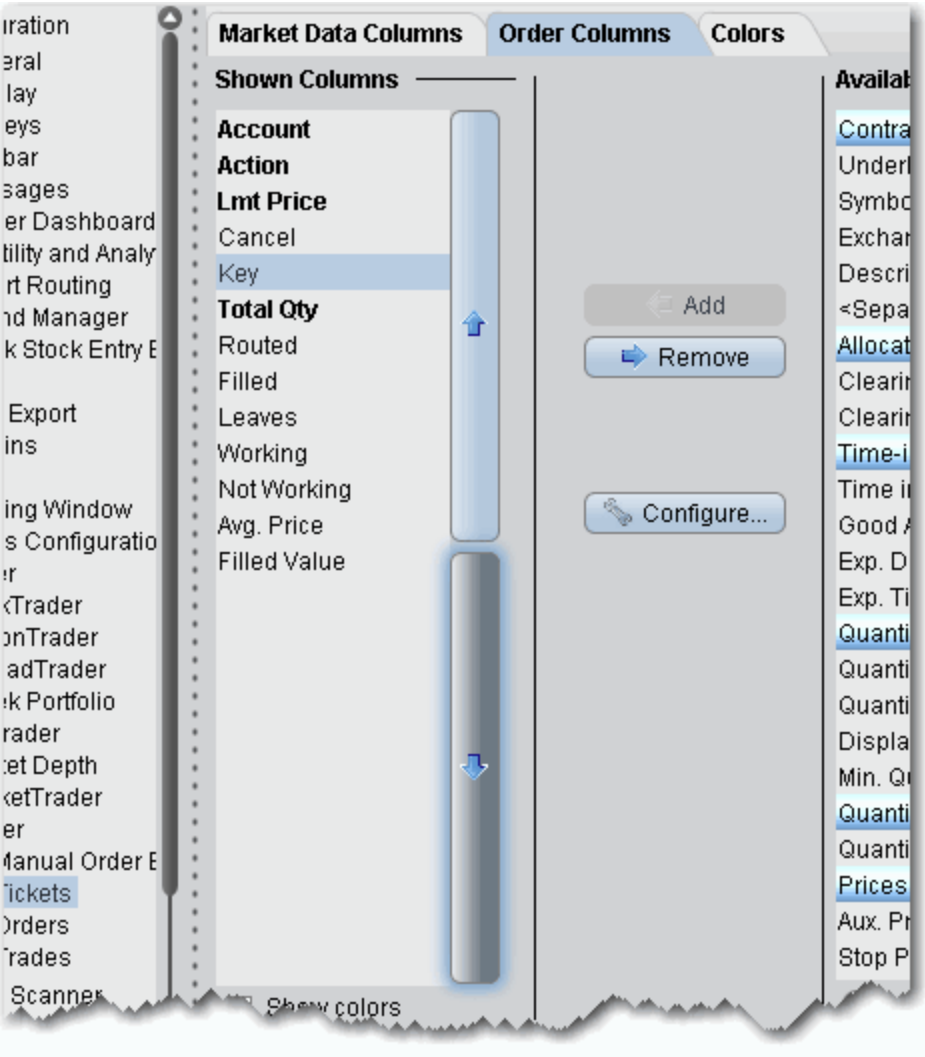
To show or hide Blotter columns

1. From the top left of any panel, click the *Configure* wrench icon.
2. In the right pane, select the tab for the columns you want to modify. You can choose Market Data Columns or Order Columns.

3. Field in the *Shown Columns* list are visible on your trading panel. To display other fields on your trading panel, select from the *Available* list and add to the *Shown* list.
4. To remove columns from the trading panel, select fields from the *Shown* list and remove to the *Available* list.

Bolded titles indicate columns that cannot be removed from the panel display.

You can change the order in which the fields are presented on a panel using the vertical up and down arrows in the *Shown Columns* list. In the picture below, I've moved the ***Key*** field to the right on my Tickets panel so that it displays next to the ***Total Quantity*** field.



To change the column order

1. In the *Shown Columns* list, click on the field that you want to move.
2. Click the arrows to move the column:

> *Moving the field UP in the list moves it to the left on the screen.*
> *Moving the field DOWN in the list moves it to the right on the screen.*

Panels that use the double-row layout can also be moved directly from the screen by dragging and dropping a column to a new location.

Trade Volatility

Trade volatility with our volatility tools and algos.

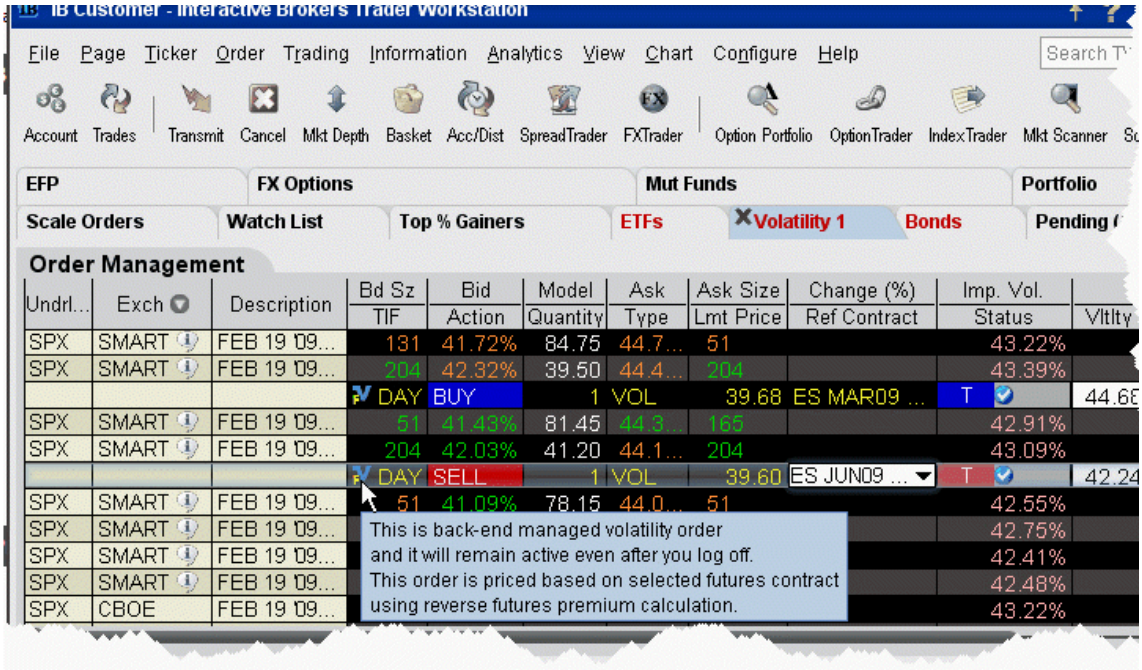
Volatility Trading 388

Attach a Delta Hedge Order 392

Volatility Trading 393

Volatility Trading

The VOL order type allows you to trade volatility, and provides ways to dynamically manage your options orders.



To trade Volatility

1. From the **Trading Tools** menu, select *Volatility Trader*. The fields used to define and dynamically manage volatility orders are on the new page.

2. Create market data lines. Note that Bid and Ask price fields display in volatility rather than as a dollar amount. Market data for stock tickers will still display the bid and ask price.
3. Select *Annual* or *Daily* volatility using the **Volatility Type** dropdown list.
4. Create an order by clicking the **Ask** volatility for a Buy order, or the **Bid** volatility for a Sell order. The order type defaults to VOL.

   Note: You can use the VOL order type for equity options, index options and combination orders. Hold your cursor over the option's volatility to see the option price, based on that volatility.

   Please note the following requirements for transmitting a VOL combination order:

   Combo VOL orders must be Smart-routed.
   All legs must be on the same underlying, and each leg must independently be eligible to use the VOL order type. For example, a BuyWrite order could not be sent as a VOL order since its stock leg would not allow this order type.
   All VOL orders must be DAY orders.

   You can elect to price a Smart-routed Index Option order using reverse futures premium calculations by selecting a futures contract from the Reference Contract field.

   If you have changed the reference contract in the Model Navigator, VolatilityTrader will used the new contract as the default reference contract.

5. To have the workstation calculate a limit price for the option or combination order based on your volatility input, enter a value in the **Order Volatility** field. The value shown in the Imp Vol field is calculated via the Model Navigator.
6. To transmit the order, click the "T" in the **Transmit** field, or the *Transmit* icon on the trading toolbar.

Field	Description
Volatility	If desired, enter a volatility to use in calculating a limit price for the

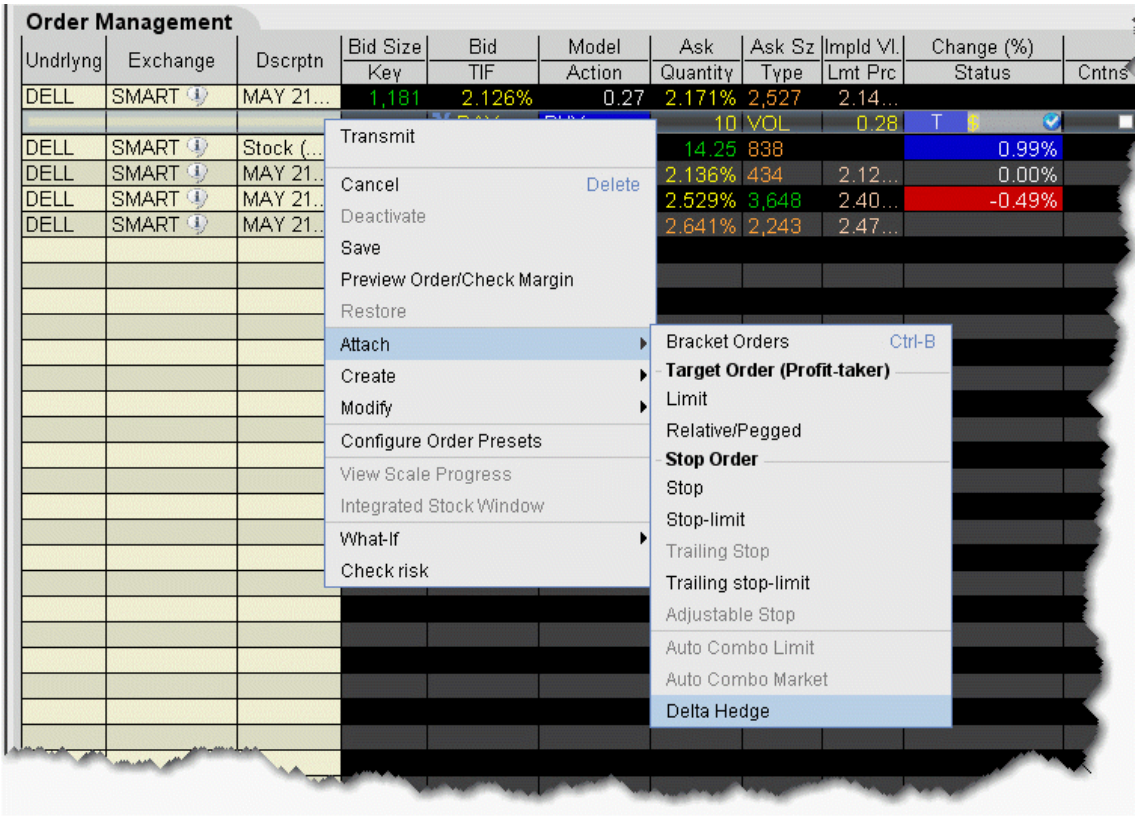
	Option Analytics.
Volatility Type	Select from Daily or Annual volatility.
Hedge Order Type	Select an order type. The application will send an order against the executed option trade to maintain a delta neutral position. Use the Hedge Aux. Price field to set a price for orders that require one. Note that for index options, you will need to select a futures contract for use in a hedge delta trade. Alternately, you can use the right-click menu to attach a Delta Hedge order and set the hedging attributes from the new order line. Please note that if you select Continuous Update, the system will use the delta associated with the parent order, which is calculated from the user-defined Implied Volatility specified at the time of the most recent order modification or price update, instead of using the current delta of the option based on market data at the time of trade. For a Limit delta hedge order, a snapshot of the stock bid/ask price is taken at the time the parent order fills, and the best available price is used as the limit price (best ask for a buy and best bid for a sell).
Hedge Aux. Price	Used in conjunction with the Hedge Order Type field. If you have selected an order type that requires you to define a price, for example a relative order, use this field to set the price.
Continuous Update	Check this selection to continuously update the price of the order if the price of the underlying instrument changes significantly. **Note that you can only check Continuous Update for three active orders at a time.** You will be subject to cancellation fees for order modifications that are made by the system when you have the Continuous Update mode

	enabled.
Reference Price Type	Elect to use the NBB (bid) when buying a call or selling a put; the NBO (ask) when selling a call or buying a put; or the average of the best Bid and Ask. This price is also used to compute the limit price sent to an exchange (whether or not Continuous Update is selected), and for stock range price monitoring.
Stock Price Monitoring	**Undrl. Range (Low)** - enter a low end acceptable stock price relative to the selected option order. If the price of the underlying instrument falls BELOW the lower stock range price, the option order will be cancelled. Merely touching the price does not cancel the order. **Undrl. Range (High)** - enter a high end acceptable stock price relative to the selected option order. If the price of the underlying instrument rises ABOVE the upper stock range price, the option order will be cancelled. Merely touching the watermark does not cancel the order.
Reference Contract	Used for smart-routed Index Option volatility orders. This field allows you to select the futures contract to use for calculating the implied volatility. To activate this feature, use the *Volatility and Analytics* page in **Global Configuration** and select*Price index options relative to futures contract*.

For a more detailed description of Trailing Stop orders visit the Order Types information page.

Attach a Delta Hedge Order

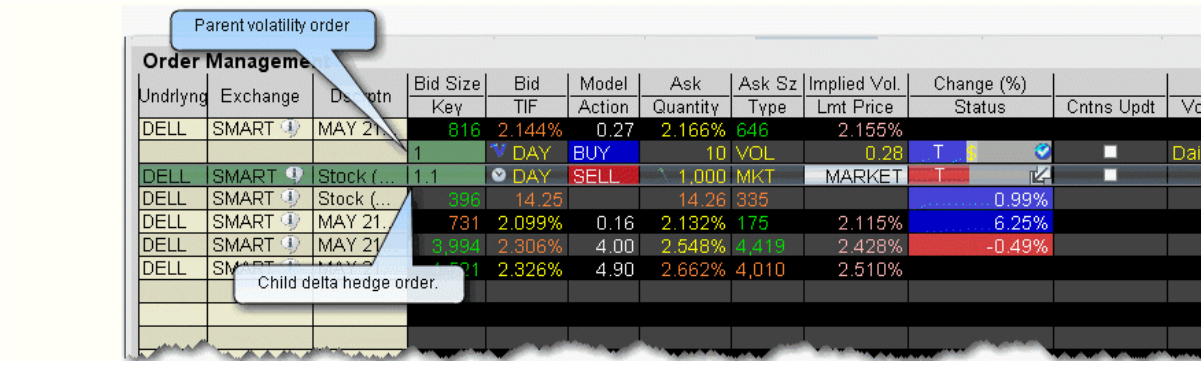
Attach a delta hedge order to an options order, and as an alternative to setting a hedge order attribute in the original Volatility order line.



To attach a Delta Hedge order

1. From the right-click menu, select *Attach* and then select *Delta Hedge*.

   A new linked delta hedge order line displays. The link between the parent and child orders is illustrated in the **Key** field.



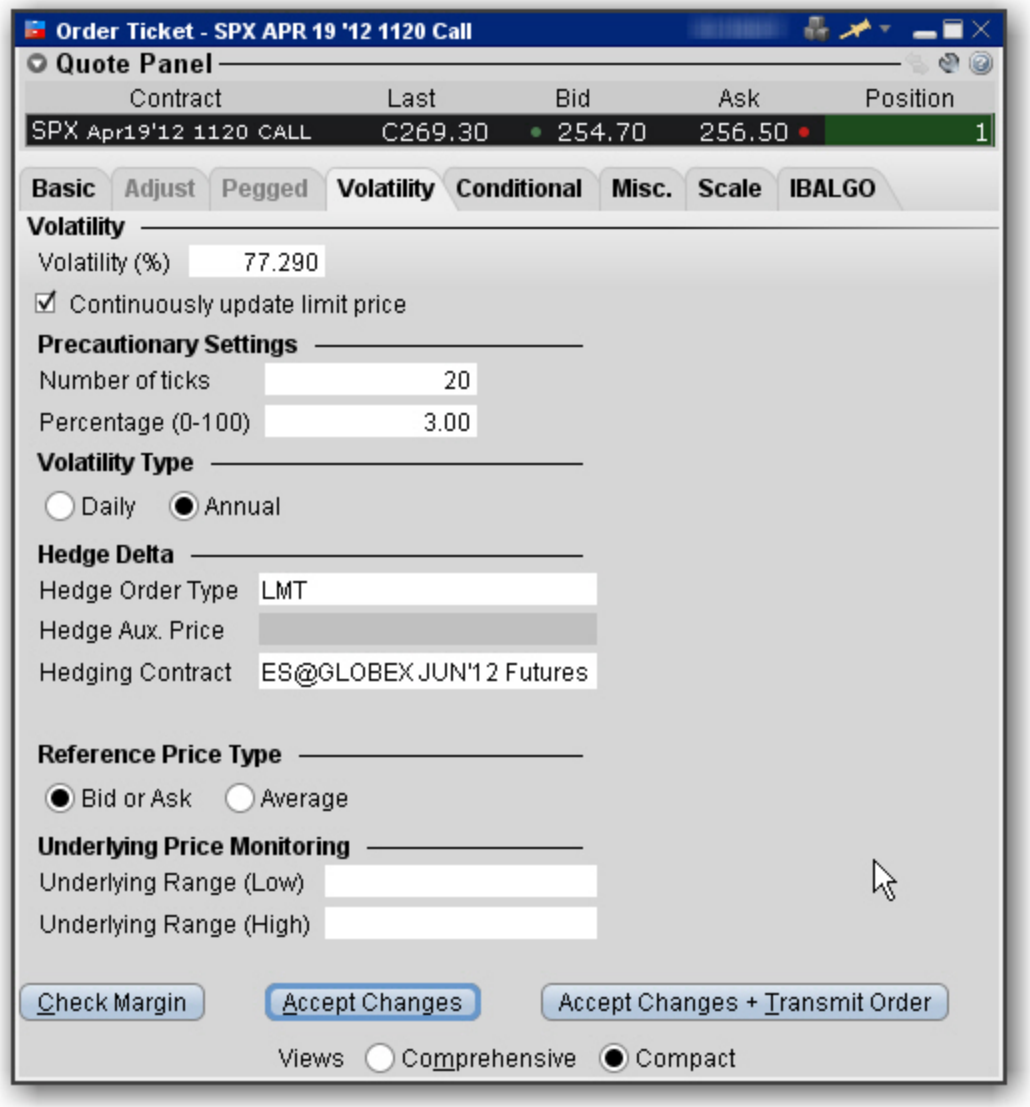
2. Select an order type for the hedging order (Limit, Market or Relative).

Please note that when you attach a delta hedge order to a Volatility order with Continuous Update or to a Relative/Pegged-to-Stock order, the system will use the delta associated with the parent order instead of using the current delta of the option based on market data at the time of trade. For Volatility orders, this delta is calculated from the user-defined Implied Volatility specified at the time of the most recent order modification or price update. For Relative/Pegged-to-Stock orders, this is the delta specified by the user.

For a Limit delta hedge order, a snapshot of the stock bid/ask price is taken at the time the parent order fills, and the best available price is used as the limit price (best ask for a buy and best bid for a sell).

Volatility Trading

The **Volatility** order type lets you create option orders where the limit price is calculated as a function of an option volatility that you can modify. If you did not create the order from the VolatilityTrader, you can activate the Volatility tab by selecting VOL as the order type on the Basic tab. If you have attached a delta hedge order from the trading window, you can view the order parameters on the Hedging tab.



To remove tabs and view all fields on a single large page, select the *Comprehensive* view.

Field	Description
Volatility	Displays the volatility used to calculate a limit price for the option. The value shown in the Imp Vol field is calculated via the Model Navigator.
Continuously Update Limit Price	When checked, the option price is automatically updated as the underlying stock price moves.

Precautionary Settings	Set these price cap “double-checks” as a precaution to ensure your order price remains within an acceptable distance from the market.
Volatility Type	Elect to view daily or annual volatility.
Hedge Delta	Select a Hedge Order Type. An order will be submitted against the executed option trade to maintain a delta neutral position. For index options, you can define the Hedging, or reference, contract. If you have modified the reference contract in the Model Navigator, the modified contract will be used as the new default reference contract for the order. For a Limit delta hedge order, a snapshot of the stock bid/ask price is taken at the time the parent order fills, and the best available price is used as the limit price (best ask for a buy and best bid for a sell).
	Use the Hedge Auxiliary Price field to set an auxiliary price for orders that require one, such as the offset for a Relative order.
Reference Price Type	Bid or Ask - If selected, use the NBB (bid) when buying a call or selling a put and the NBO (ask) when selling a call or buying a put. Average - uses average of the best Bid and Ask. This price is also used to compute the limit price sent to an exchange (whether or not Continuous Update is selected), and for underlying range price monitoring
Reference Contract	Select a futures contract to use in calculating the index value. The order price is then derived from this index value.
Underlying Price Monitoring	Underlying Range (Low) - enter a low end acceptable stock price relative to the selected option order. If the price of the underlying instrument falls BELOW the lower stock range price, the option order will be cancelled. Merely touching the price does not cancel the order.

	Underlying Range (High) - enter a high end acceptable stock price relative to the selected option order. If the price of the underlying instrument rises ABOVE the upper stock range price, the option order will be cancelled. Merely touching the watermark does not cancel the order.

Write and Roll Options

Use the Write Options tool to sell calls against long stock positions and sell puts against your short stock positions. Use the Rollover Options tool to roll over options that are about to expire to a similar option with a later expiration date.

Write Options **396**

Write/Roll Options: Option Chains **398**

Rollover Options **399**

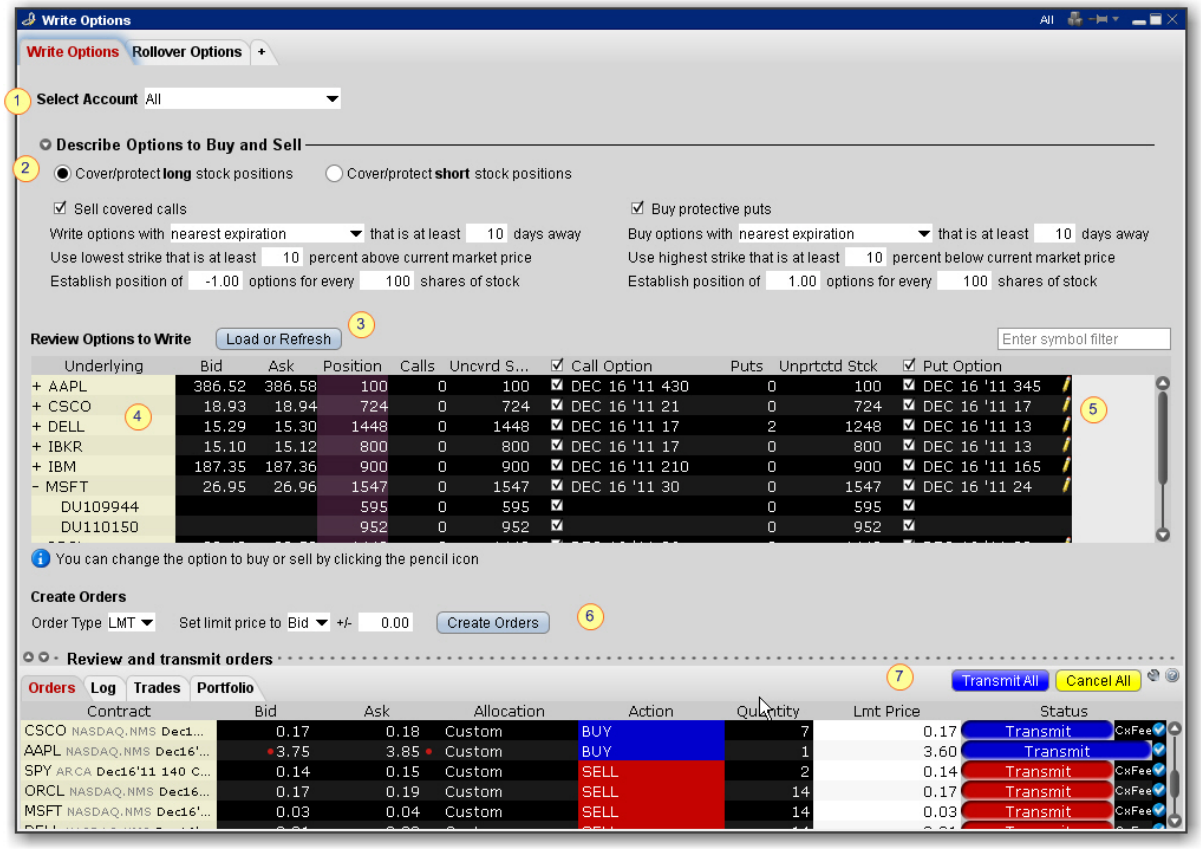
Write Options

Advisors can use the Write Options tool to quickly see all of their sub-account's long and short positions and to write options orders against their uncovered stock.

Open the Write Options tool

From Mosaic: Use the New Window drop down and select *More Advanced Tools* and then select *Write Options*.
From Classic TWS: From the **Trading Tools** menu, scroll to the *Options Focus* section and select *Write Options*.

Advisors will see the *Select Account* dropdown that lists all of their Account Groups and individual sub-accounts.



To use the Write Options tool

1. Select an Account Group, an individual sub-account, a Model or All accounts.
2. Describe the options to buy and sell:

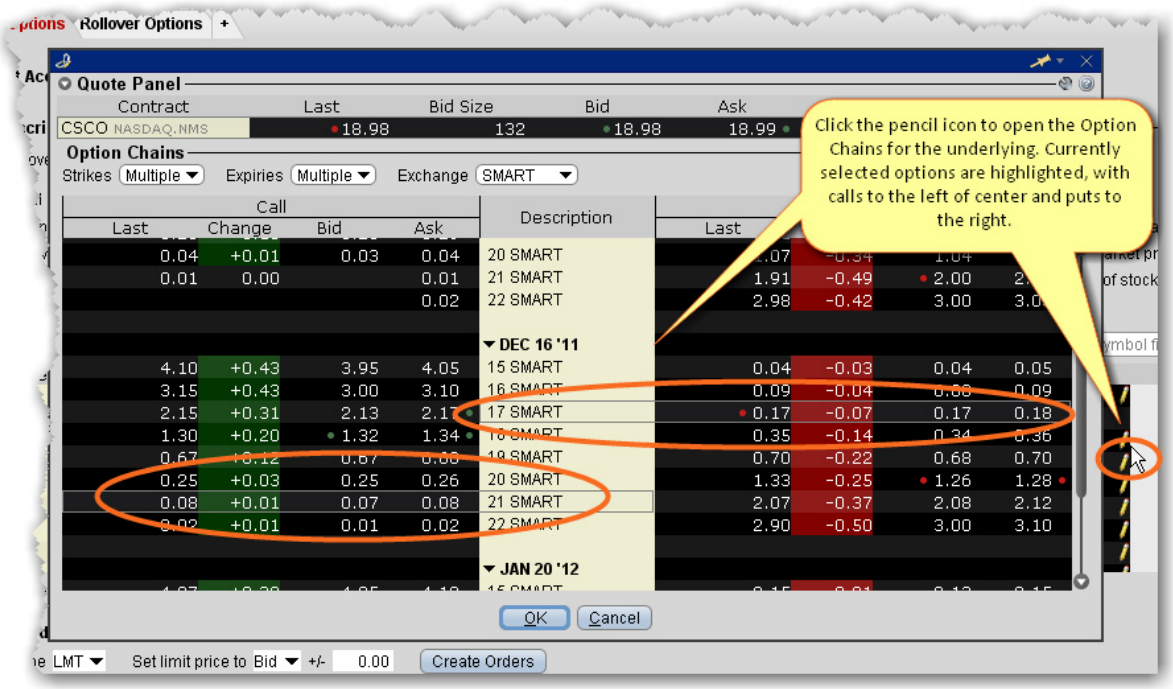
   If you are writing covered calls on your long stock positions, note that you can also choose to buy protective puts to create a collar combo.

   If you are writing covered puts on short positions, you can also elect to buy protective calls to create a collar combo.
3. Confirm or modify any conditions on the options and click **Refresh** to update the list of options to write.
4. The **Review Options to Write** list includes any positions for the account(s) you selected, the quantity of the position that is uncovered (has no options written against it) and the options that meet the criteria specified. Note that all options are selected by default. Click a check box to deselect the option for any account.

5. Click the pencil icon next to the option to open the Option Chains and select a different option to buy or sell.
6. Review or change the Order Type and price information and click *Create Orders*.
7. Orders will display in the Orders panel; click Transmit All to submit, or submit one order at a time using the Transmit button in the Status field.

Write/Roll Options: Option Chains

To select different options to buy or sell in the Write Options tool, click the pencil icon on the line you want to change and use the Option Chains to select a new contract.



To select a new option to buy or sell

1. From the **Review Options to Write** list, click the pencil icon on the far right of the option line you want to change.

The Option Chains window opens with the currently selected call and/or put contracts highlighted. Calls display to the left of the Description column and puts display to the right.

2. To select a new call option, click the desired description on the left side. You will see the call option highlighted. To select a put, click the description on the right side.
3. Click OK when the new options have been selected.

Rollover Options

Quickly see all of your sub-account's options that are about to expire and roll them over to the next month's contract

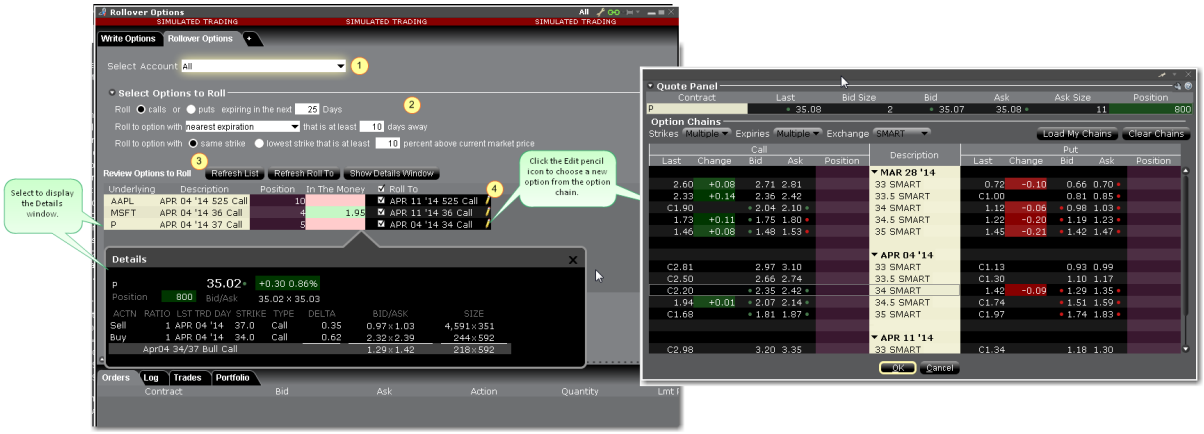
To roll over options

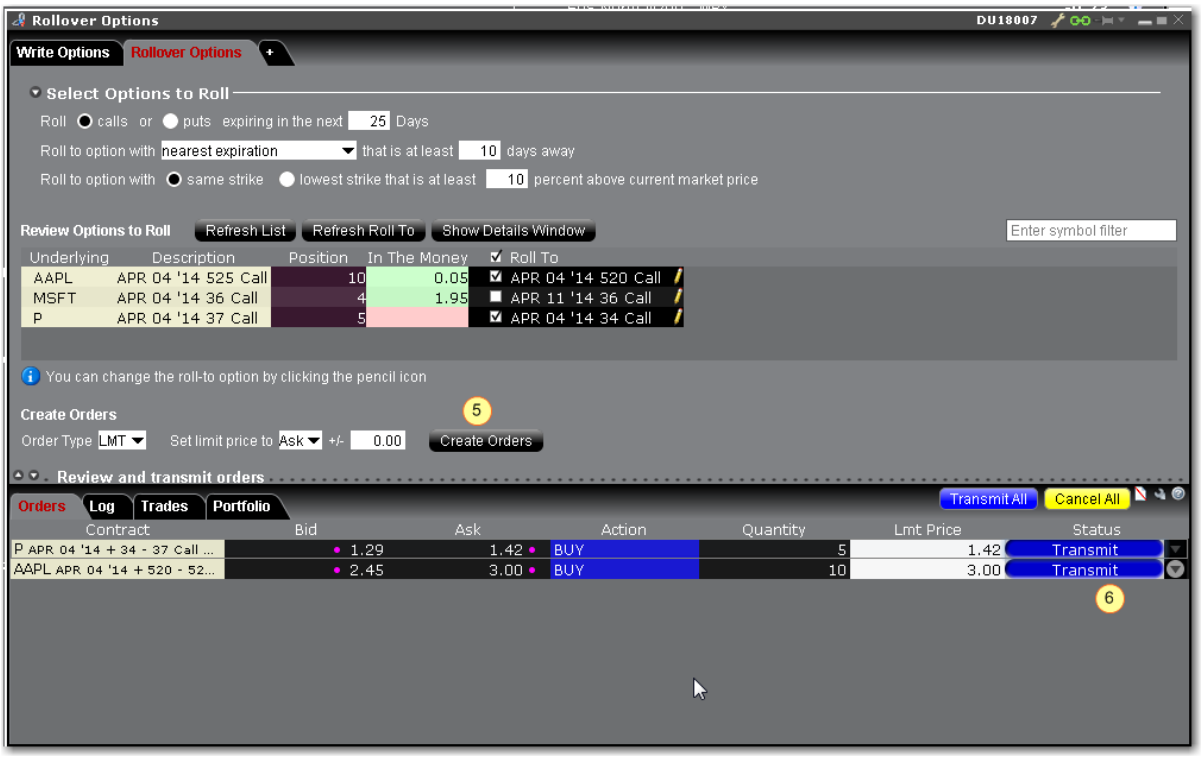
1. Open the Rollover Options tool:

   From Mosaic: Use the New Window drop down and select *More Advanced Tools* and then select *Rollover Options*.

   From Classic TWS: From the **Trading Tools** menu, scroll to the *Options Focus* section and select *Rollover Options*.

Advisors will see the *Select Account* dropdown that lists all of their Account Groups and individual sub-accounts.





To use the Roll Options tool

1. Advisors Only: Select an Account Group, an individual sub-account, or All accounts.
2. Choose whether you want to write calls on long stock positions, or write puts on short stock positions.
3. Use the default description or modify any conditions on the options, and click **Refresh**.

The list of Options to Roll includes any option positions for the account(s) you selected and the roll-to option that meets the criteria specified.

4. Click the pencil icon next to the option to open the Option Chains and select a different option to buy or sell.
5. Review or change the order information and click *Create Orders*.
6. Orders will display in the Orders panel; click Transmit All to submit.

Yield Optimizer

Use the Yield Optimizer to compare rates for borrowing and lending stock, and see the return you could receive if you invested the unused cash sitting in your account in an EFP.

Open the Yield Optimizer **401**

Compare Borrow Rates **403**

Open the Yield Optimizer

The Yield Optimizer allows you to compare the borrow rates for hard-to-borrow stocks using different strategies, including EFPs (where you would buy the stock and sell the stock future, essentially “borrowing” the shares), or having IB borrow shares for you.

Open the Yield Optimizer

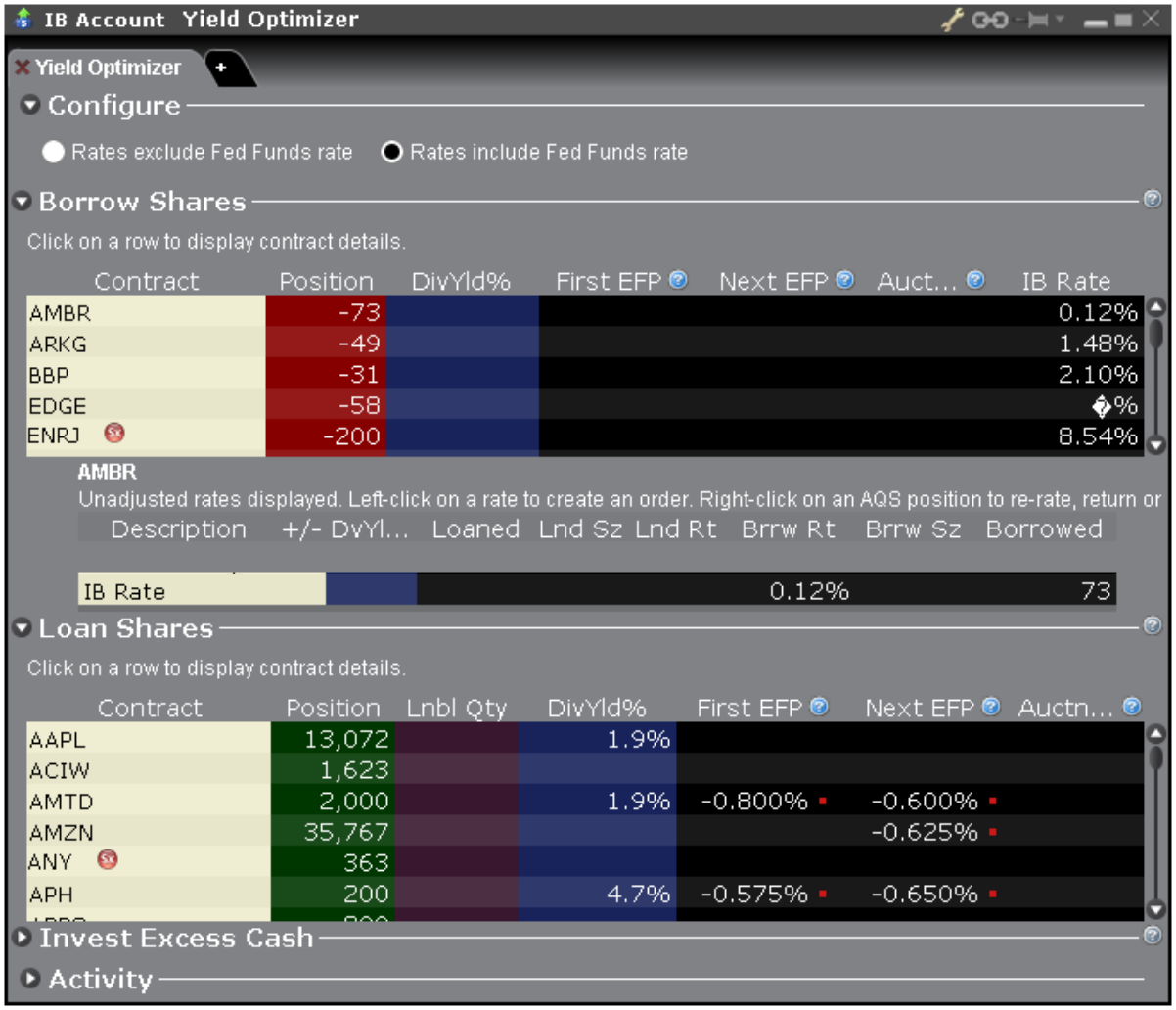
From Mosaic: Use the New Window drop down and select *More Advanced Tools* and then *Yield Optimizer*.

From Classic TWS: From the **Trading Tools** menu, scroll to the *Stock Borrow/Loan* section and select *Yield Optimizer*.

Use the Yield Optimizer to Compare Borrow Rates.

Compare Borrow Rates

The Yield Optimizer opens and displays all tickers in which you currently hold a short position. If you are considering putting on a short position and want to compare rates for the borrow transaction, use the Borrow Shares section of the Yield Optimizer.



Borrow Shares - Fields

Field	Description
Net Position	This is your aggregate net stock and SSF short position.

First EFP	Shows the rate you would pay to borrow shares by selling the EFP with the nearest SSF expiration. When you sell the EFP, you buy the stock and sell the SSF - this temporary purchase is in essence a borrow.
Next EFP	Shows the rate you would pay to borrow shares by selling the EFP with the next closest SSF expiration. When you sell the EFP, you buy the stock and sell the SSF - this temporary purchase is in essence a borrow.
IB Rate	Shows the rate you would pay to borrow the shares from IB. If you hold a short position and have not borrowed shares using any other method, this is the rate you are currently paying.

To compare borrow rates

1. Enter the underlying for the stock you want to short.
2. Compare borrow rates between First EFP, Next EFP, and IB Borrow Rate.
3. Select a row to view the details in a sub-panel.

Note that the contract details panel displays all available EFPs.

To borrow shares using one of the Yield Optimizer methods, click the desired Borrow Rate from the contract panel.

4

Algorithmic Trading

Algos can help to balance market impact with risk to get the best price for large volume orders. Our growing family of algos includes the following:

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Accumulate Distribute Algo

Use the Accumulate/Distribute algo to buy or sell large quantities in smaller, random sized increments over time, minimizing market impact. This algo supports multiple asset classes including stocks, options, futures, forex, and combination orders.

Customize the basic algo with conditions to meet your specific views on the market. Multi-account users will see the Account selection list at the top of the algo page.

Orders submitted via Accumulate/Distribute currently are active only while you are logged into TWS and stop when you log out. When you log back into TWS, answer “Yes” when asked if you want to reactivate the algo. If you answer “No” your Accumulate/Distribute algo orders are deleted.

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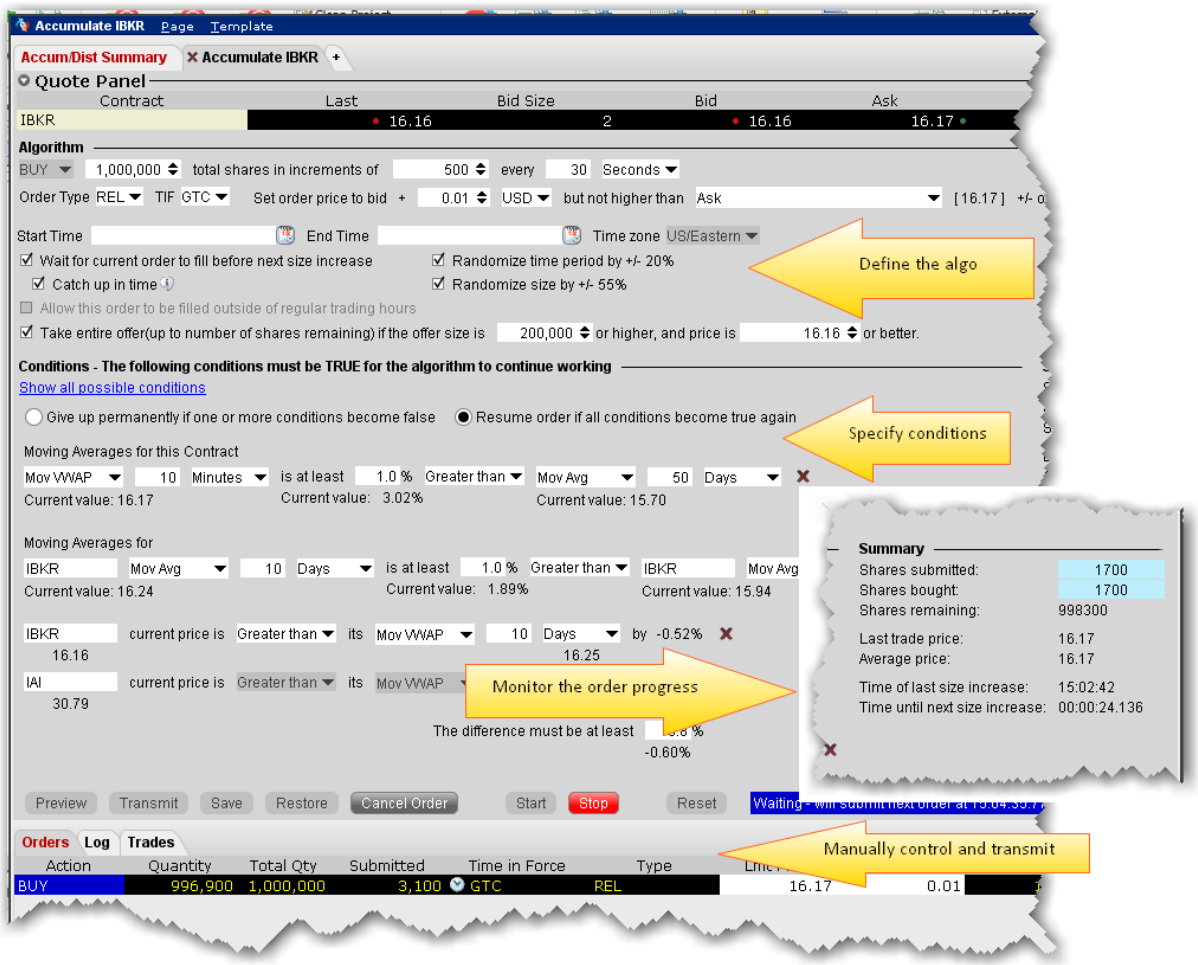
Get Started

The Accumulate/Distribute algo works to get the best price for your large volume orders while attempting to minimize market impact. It achieves this by slicing large orders into smaller components, and accumulating or distributing over time based on your pre-defined order parameters.



The algo window is divided into four major sections:

The **Algorithm** area, where you define the basic parameters of the order.

The **Conditions** area, where you specify conditions about price, position and market behavior that must remain true for your order to be valid.

The order **Summary**, which displays continuous real-time order progress.

The **Control** buttons, which you use to start and stop the algo and apply changes.

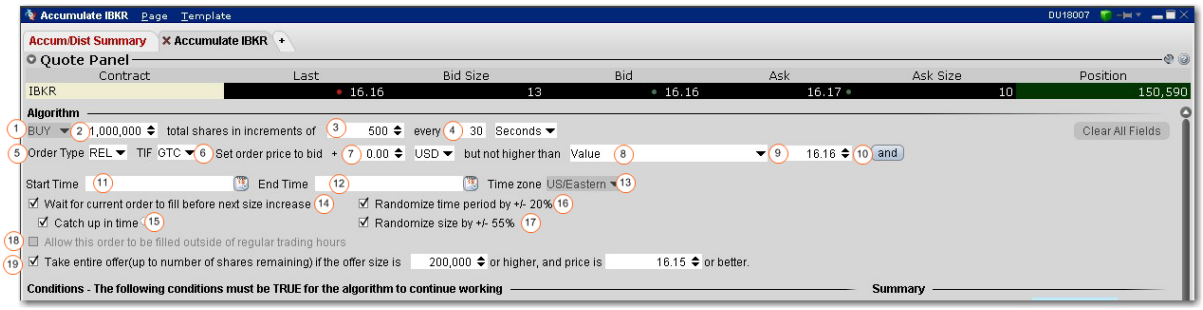
It also includes the Orders, Trades and Log panels, and the Quote panel to define the contract.

To open the Accumulate/Distribute window

From the New Window dropdown scroll to the **More Advanced Tools** menu and then scroll up to *Accumulate/Distribute*.

Define the Algorithm

The **Algorithm** area is where you set up basic parameters of the algo. Fields shaded pink are required.



Numbered descriptions below correspond to the numbered fields in the image above.

1. Select the action, BUY or SELL.
2. Enter the total order quantity, for example 1,000,000.
3. Define the size component for each increment. For example, you may want to trade the 1,000,000 share order in 500-share increments.
4. Specify the timing of order submission for the components, in seconds, minutes, or hours. For example, you may want to accumulate 1,000,000 shares in 500 share increments every 30 seconds.
5. Select the order type. The fields to set the price depend on the order type you select. For stock orders, choose from:

   Market - the order will attempt to fill at the current market price.

   Limit - set a limit price with an optional offset amount which must be met or bettered for the order to fill.

   Relative - Set an optional offset amount, and specify a cap. The quote adjusts automatically based on your criteria as the market moves.

   RPI (Retail Price Improvement) - For stocks only. This order type is similar to a Relative order but requires an offset of higher than zero.
6. Select time in force.

7. **Set order price to** ...(for RELATIVE orders) For BUY orders, use the bid plus any amount. For SELL, use the ask minus any amount. To use only the bid/ask with no offset you must enter “0.” This field is only visible for REL orders only and works with the following field:
8. **...but not higher than** - For RELATIVE orders, this is the price cap, which works in conjunction with the price calculation set in the previous field.
   - For LMT orders, the field is “**Set limit price to:**...”
   - For MKT this field does not display.
   Choose from the following calculations to ensure the limit price will not be set higher than (for a buy) or lower than (for a sell):

   None - for REL orders only. There is no cap on the price.
   Value - opens a field to set an absolute limit price.
   Mark Price - this is a static value shown in parentheses plus or minus an offset. This price will not move with the order.
   Bid - bid plus/minus an optional offset amount. Enter a negative value to effect a minus offset.
   Ask - ask plus/minus an optional offset amount. Enter a negative value to effect a minus offset.
   Last - the last traded price plus/minus an optional offset amount. Enter a negative value to effect a minus offset.
   VWAP - the VWAP plus/minus an optional offset amount. Enter a negative value to effect a minus offset.
   Mov VWAP - the moving VWAP (of the current contract) over the past [*specified time period*] plus/minus an optional offset amount. Enter a negative value to effect a minus offset.
   Mov Avg - the moving average (of the current contract) over the past [*specified time period*] plus/minus an optional offset amount. Enter a negative value to effect a minus offset.

Exp Mov Avg - the exponential moving average (of the current contract) over the past [*specified time period*] plus/minus an optional offset amount. Enter a negative value to effect a minus offset.

My Last Trade - the price of the last trade in the algo, shown as the Last Trade Price in the order Summary block. Note that this value cannot be used for the limit price alone since it would have no price for the first trade.

Relative to size traded - calculates the price cap as: *user-defined base price* minus *user-defined offset value* per *number of shares* relative to the total size traded in the algo, which is reflected in the **Shares bought** field of the algo Summary block. For example, if the values are: $5.50 - .02 per 100 shares, the cap price for the first 100-share order where Size Traded = 0 would be $5.50. Assuming the trade continues to execute in 100-share increments, the price cap would changes as follows: Size Traded = 100 cap = $5.48; Size Traded = 200 cap = $5.46; Size Traded = 300 cap = $5.44.

Relative to position - calculates the price cap the same as *Relative to size traded* except that the calculation is relative to the position as specified in the Account window and the Position column, while the size traded is relative to what happens only in the Accumulate/Distribute algo.

9. Enter the value that corresponds to the selection above.
10. For **Relative** and **Limit** orders, click ***and*** to add more price conditions to the “but not higher than/not lower than” price capping calculation. When you add multiple price-bounding conditions, a new “Greatest of/Least of” selection appears for you to ensure the order price will not be higher(lower) than the greatest of/least of *Condition A* and *Condition B* and *Condition C* etc.
11. Start time - by default, the start time is set to the current time, or to the next open if the markets are currently closed. Click in the field to set a new start time, but note that the algo will not start until you hit the *Start* button.
12. End time - by default, the end time is set to closing time of the current day, or to the next close is the algo is started outside of regular trading hours. Click in the field to set a new end time.

13. Modify the time zone if desired.
14. Wait for current order to fill before submitting next order - if checked, the next component will be held until the current quantity fills. The countdown until the Time of next order stops while the algo waits for the current order to fill. Once it fills, the next order is submitted if the specified time interval has elapsed.
15. Catch up in time - if checked and the algo falls behind, the next order will be placed immediately after the current order fills, disregarding the time interval. This process will repeat until the algorithm has caught up. *Missed orders* are tracked in the algo **Summary** block.

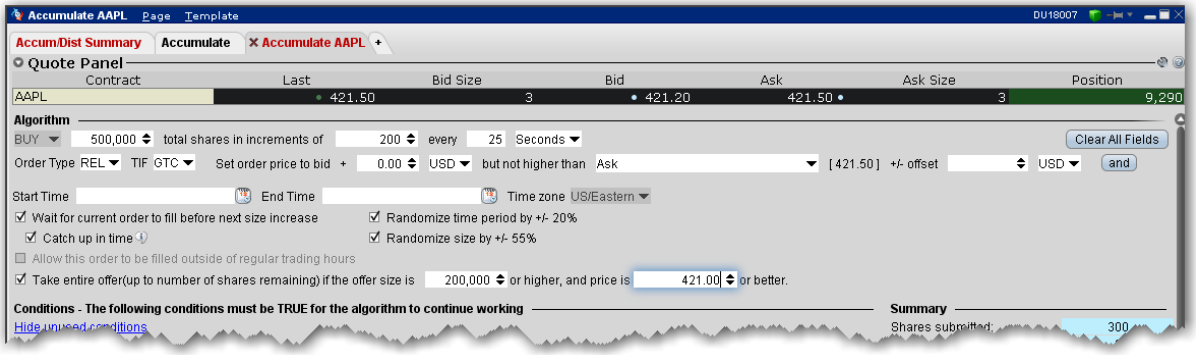
    After one order fills, there is always a delay of two seconds before the next order is submitted.

16. **Randomize time period by +/- 20%** - if checked, the time interval you specified will be increased or decreased randomly by up to 20% in either direction, to help keep the order from being noticed in the market. For example, if your defined time interval is 40 seconds, randomizing allows the algo to submit orders at intervals of 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47 or 48 seconds.
17. **Randomize size by +/- 55%** - if checked, the increment size you specified will increase or decrease randomly by up to 55% (rounded to the nearest 100) in either direction, to help keep the order from being noticed in the market. For example, if your defined increment is 500 shares, randomizing allows the algo to submit orders in random increments of 200, 300, 400, 500, 600, 700 or 800 shares.
18. **Allow this order to be filled outside of regular trading hours** - if checked order may fill outside regular trading hours.
19. **If the bid/ask is ____ or higher** - for a buy order, if the current offer size is greater than or equal to the size entered here AND the price is the same or better than the entered price, the algo will take the entire size, or as much as will not exceed the total order quantity. This order is submitted as IOC (Immediate-or-cancel).

Basic Algorithm Example

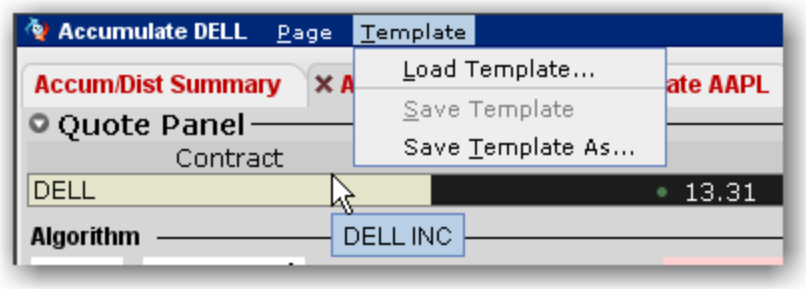
The populated fields in the image below translate to the following:

Buy 500,000 shares in size increments of 200 every 25 seconds. Set the price to the current best bid, but don't pay any more than the ask price. Let the algo run until it fills or is canceled.Wait for the current size component to fill before submitting the next increment, and if the algo falls behind schedule catch up in time by submitting increments immediately after a fill instead of honoring the time interval. Mix up the time intervals by adding and subtracting 20%, and make the order size less uniform by adding/removing 55% on each order, rounding to ensure no odd lots. If a large size order hits the market with a size of 200,000 or more and a price of 421.00 or better, take the entire offer without exceeding the original total order quantity or 500,000.



Using Templates

You can save the basic algorithm settings in a named template to help you save time defining multiple Accumulate/Distribute algo orders. Please note that the template only saves the basic algo settings, not the conditions, since conditions are contract-specific and would not translate across different algo orders.



Save Settings as a Template

After you have defined the basic algo settings described in the Define the Algorithm section, you may elect to save these parameters for use with another Accumulate/Distribute algo order.

To save a template

1. From the **Template** command in the title bar, *Save Template As*.
2. Enter a descriptive name for the template (for example Buy 20000 or Sell 1,000,000) and click OK.

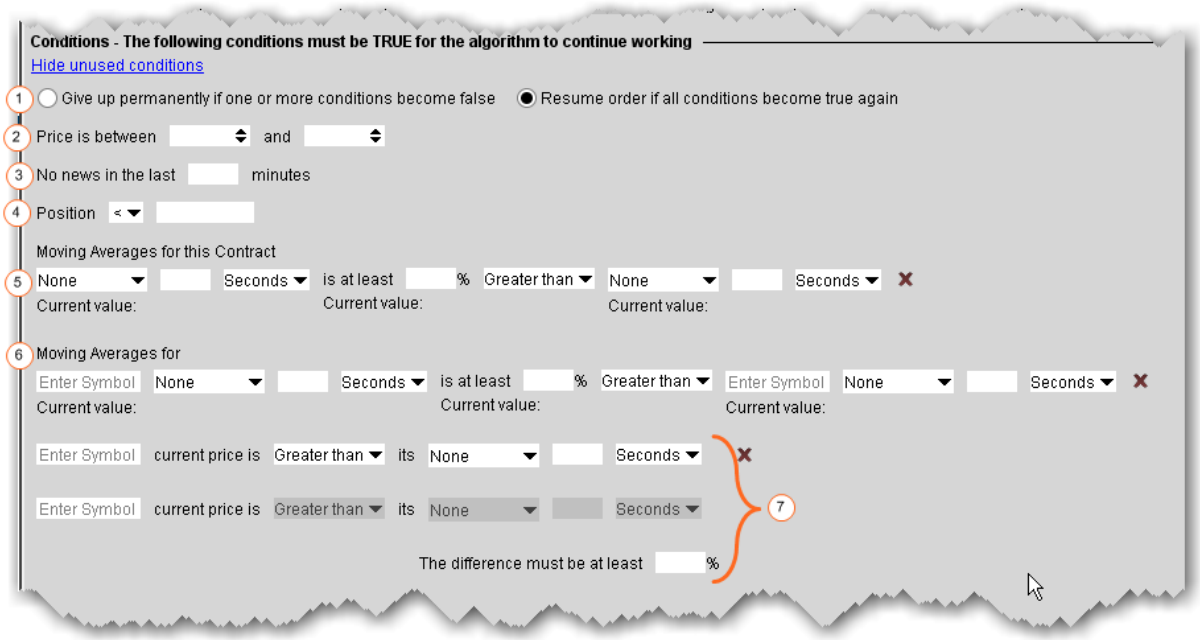
To use an Accumulate/Distribute template

From the **Template** command in the title bar, select *Load Template*.

If you make changes to an existing template after you load it, you have the choice to either *Save Template* which saves your changes to the existing template, or *Save Template As* to create a new template.

Define Algo Conditions

Note that the more conditions to be met, the more difficult it may be for your order to completely fill or to fill according to schedule.



All of the conditions are optional, but if you elect to set a condition, any unfilled fields in the definition become mandatory and are shaded pink.

To clear the values from a condition, click the “x” at the end of the line. The “x” only appears when you have entered data in a field.

Numbered descriptions below correspond to the numbered fields in the image above.

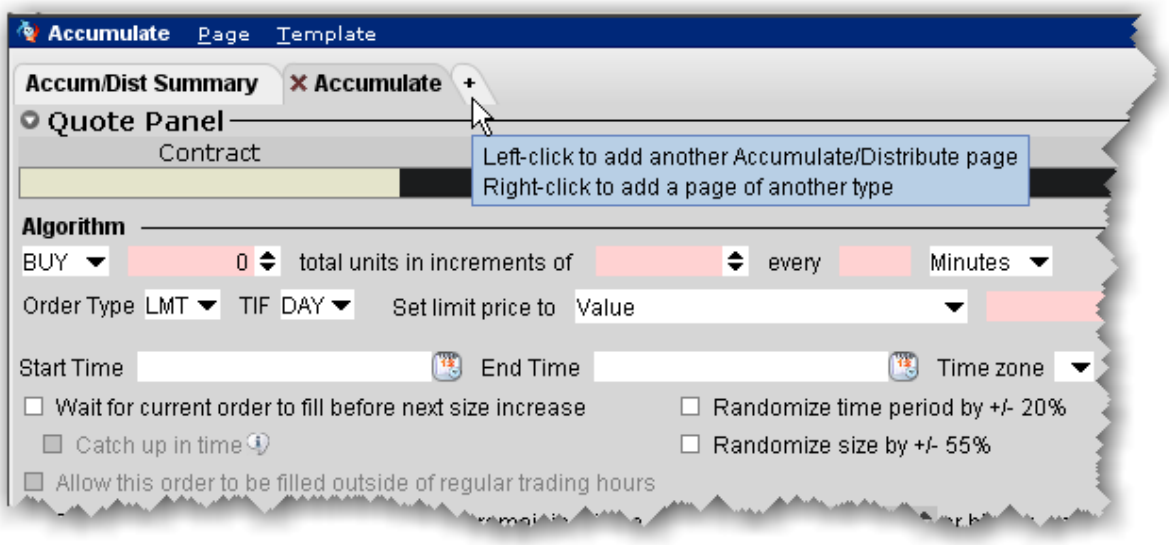
1. Specify whether you want untrue conditions (when set) to permanently stop the algo, or to stop it temporarily and resume if/when conditions become true.
2. Define a range within which the instrument price must stay for the order to continue working.
3. Ensure that the price movement will not be affected by news stories by entering a value in minutes. Until there has been no news for your defined time period as the algo will not work. News is monitored by the news suppliers you have set up in TWS, including Google News, Yahoo! Headlines and the Reuters subscription service.
4. Specify that your position, as reflected in the Account window and Position column, must be greater than or less than a specified value. This acts as a floor or ceiling for the

position. Not only will TWS**not** place the order if the Position condition is violated, but it will not fill any order that would leave it violated.

5. **Moving averages for this contract** - Define moving average criteria for the current instrument . Specify that the current instrument ’s: **moving VWAP**, **moving average**, **exponential moving average** or **last** over the past [*specified time period*] is at least a [*specified percent*] greater than or less than another moving average (for the current instrument) over [*specified time period*]. To clear the values, click the ‘x’ at the end of the line.
6. **Moving averages for** - Compare two moving averages, which could be for the same instrument or for different contracts, for the same time period or for different time periods. Specify the underlying, and then set values as in #4 above. To clear the values, click the ‘x’ at the end of the line.
7. These three fields work together to compare the change in price of two stocks over a specified time period, based on the difference between the stock’s price and its moving average. The algo completes the calculation based on your inputs. To clear the values, click the ‘x’ at the end of the line. Enter a percent value difference that must be met between the two stock calculations.

Create Multiple Algo Orders

The Accumulate/Distribute algo was designed to allow a single trader to do the work of multiple traders, and it's easy to create and monitor multiple orders from the same page.



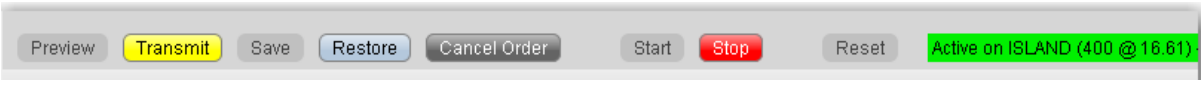
To add another Algo

1. Click the "+" sign from the Accumulate/Distribute algo page to add a new tab.
2. On the new page, enter a symbol in the **Contract** field on the Quote panel and select an instrument .
3. Define the algo.

To monitor all algo orders from a single page, open the **Accum/Dist Summary** tab.

Transmit and Modify the Algo

Use the buttons along the bottom of the **Conditions** area to control the algo.



You cannot activate the algo until all required fields are filled. Missing fields are shaded pink.

Once all fields are complete you can activate the algo. Buttons works as described below:

Preview - Click to update the order line, and to display the Order Preview box.

Transmit - Transmit the order. Additionally, if you modify the order, click to apply changes to the algo. For example, if you change the share increment from 500 to 300, the change will not be recognized until you click the Transmit button.

Save - Saves the order for transmission at a later date.

Restore- click to restore unapplied changes to the original value. For example, you can undo your change by clicking Restore. Once you Apply the change the Restore button is no longer available.

Cancel Order - Cancels the order.

Start - activates the algo. If you stop the algo manually, click Start to resume from where it left off.

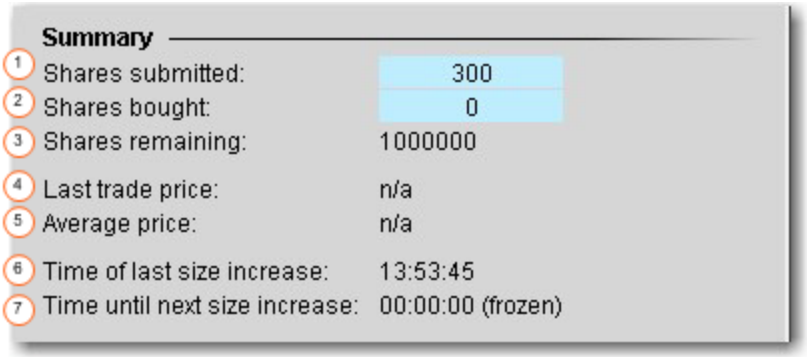
Stop - stops the algo. This button will become active once the algo is started.

Reset - if the algo is stopped, either because it has finished or because you have manually stopped it, the Reset button will start the algo from the beginning. If you prefer to resume the algo from where it left off, use the Start button.

Status text: this note tells you what is happening on the current algo screen.

Monitor the Order Progress

The order Summary provides real-time data to let you monitor the progress of the Accumulate/Distribute order. This data applies only to the algo on this page. Use the aggregate **Summary** tab to see order management lines for all of your Accumulate/Distribute algos.



Data in the Summary block monitors the order in real time and shows the following:

Share submitted - Shows the number of shares that have currently been submitted.

Shares bought - The total number of shares bought (or sold) to date in the algo. The sliding shading illustrates the percent of the order complete.

Shares remaining - The outstanding quantity.

Last Trade Price - The price at which the last trade in the algo filled.

Average price - The average price to date for the completed portion of the order.

Time of last size increase - The time the last component size filled.

Time until next size increase - The counter counts down the time until the next component size will be submitted.

About IB Algos

Our proprietary IB Algos are designed to help balance market impact with risk on your large volume orders. A brief overview of our expanding family of IB Algos is shown below. Click an algo to find out more:

Adaptive: Attempts to achieve the fastest fill at the lowest all-in price.

Arrival Price: Attempts to achieve the bid/ask midpoint at the time that the order was submitted.

Balance Impact and Risk: Balances the market impact of trading the option with the risk of price change over the time horizon of the order.

Close Price: Designed to minimize slippage with respect to the closing price by slicing orders into smaller quantities and executing them in the continuous market just before the close.

Dark Ice: Like an Iceberg/Reserve order, Dark Ice exposes only a fixed, small amount of the total order quantity at a time, but the Dark Ice algo also randomizes the display size based on the probability of the price moving favorably.

Minimize Impact: Lets you control participation in the Average Daily Options Volume, and tries to minimize market impact by slicing the order over time to achieve a market average without going over the user-defined Max Percentage value.

Percentage of Volume: Helps clients limit the contribution of their orders to the overall average daily volume, thereby minimizing the impact that their orders have on the price of the instrument .

Price Variant Percentage of Volume: This algo lets you participate in the average daily volume at a user-defined rate that varies over time, depending on the market price of the security.

Size Variant Percentage of Volume: This algo lets you participate in volume at a user-defined rate that varies over time, depending on the remaining size of the order.

TWAP: Aims to achieve the time-weighted average price calculated from the time you submit the order to the time it completes. Incomplete orders at the end of the stated completion time can continue to fill if the box 'allow trading past end time' is checked.

Time Variant Percentage of Volume: A customizable IB algo that lets you participate in the Average Daily Volume at a user-defined rate that varies with time. You define the target percent "rate of participation" at the start and end time, and the algo calculates the participation rate over time between the two. This allows your order to work more aggressively at the start and less so at the end, or vice versa.

VWAP: The best-efforts VWAP algo seeks to achieve the Volume-Weighted Average Price calculated from the time you submit the order to the close of the market. The best-efforts VWAP algo is a lower-cost alternative to the Guaranteed VWAP.

About IB Algos

Our proprietary IB Algos are designed to help balance market impact with risk on your large volume orders. A brief overview of our expanding family of IB Algos is shown below. Click an algo to find out more:

Adaptive: Attempts to achieve the fastest fill at the lowest all-in price.

Arrival Price: Attempts to achieve the bid/ask midpoint at the time that the order was submitted.

Balance Impact and Risk: Balances the market impact of trading the option with the risk of price change over the time horizon of the order.

Close Price: Designed to minimize slippage with respect to the closing price by slicing orders into smaller quantities and executing them in the continuous market just before the close.

Dark Ice: Like an Iceberg/Reserve order, Dark Ice exposes only a fixed, small amount of the total order quantity at a time, but the Dark Ice algo also randomizes the display size based on the probability of the price moving favorably.

Minimize Impact: Lets you control participation in the Average Daily Options Volume, and tries to minimize market impact by slicing the order over time to achieve a market average without going over the user-defined Max Percentage value.

Percentage of Volume: Helps clients limit the contribution of their orders to the overall average daily volume, thereby minimizing the impact that their orders have on the price of the instrument .

Price Variant Percentage of Volume: This algo lets you participate in the average daily volume at a user-defined rate that varies over time, depending on the market price of the security.

Size Variant Percentage of Volume: This algo lets you participate in volume at a user-defined rate that varies over time, depending on the remaining size of the order.

TWAP: Aims to achieve the time-weighted average price calculated from the time you submit the order to the time it completes. Incomplete orders at the end of the stated completion time can continue to fill if the box 'allow trading past end time' is checked.

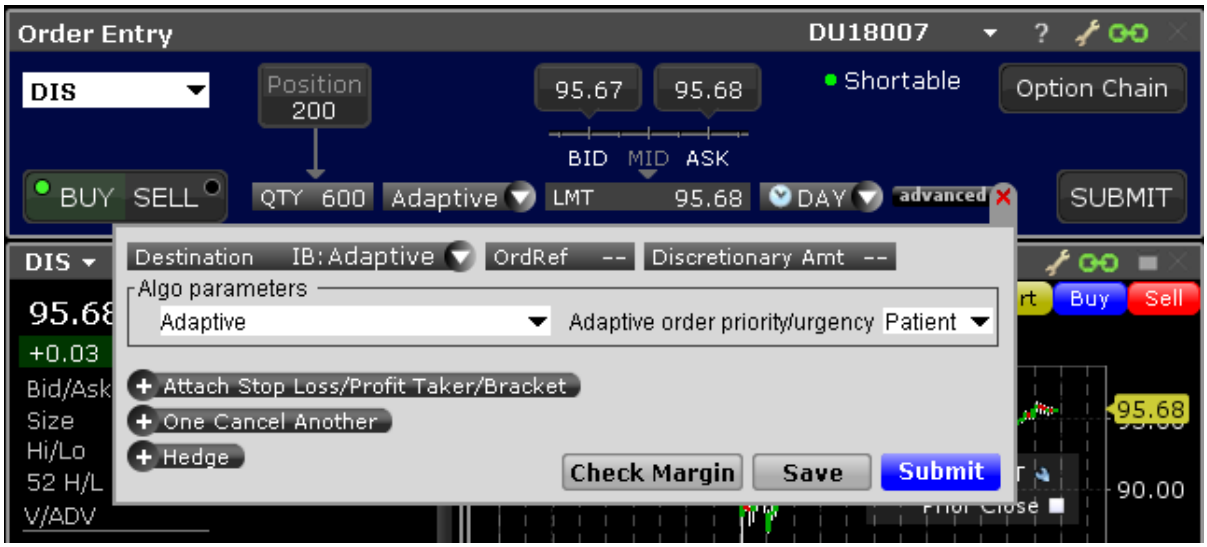
Time Variant Percentage of Volume: A customizable IB algo that lets you participate in the Average Daily Volume at a user-defined rate that varies with time. You define the target percent "rate of participation" at the start and end time, and the algo calculates the participation rate over time between the two. This allows your order to work more aggressively at the start and less so at the end, or vice versa.

VWAP: The best-efforts VWAP algo seeks to achieve the Volume-Weighted Average Price calculated from the time you submit the order to the close of the market. The best-efforts VWAP algo is a lower-cost alternative to the Guaranteed VWAP.

Adaptive Algo

This algo can be used with a limit or market order, and is designed to achieve better than average cost efficiency over basic limit and market orders by ensuring that market and

aggressive limit orders trade between the spread. You can specify how urgently you want the order to fill using the "priority/urgency" selector in the algo window.



To create an Adaptive algo

Specify the order side (buy/sell) and quantity in the Mosaic Order Entry panel.

From the LMT type field, select IBALGO and then select *Adaptive*.

By default, the priority is set to normal. If you would like to make it more or less urgent, click advanced to open the Algo Parameters. Use the drop down to specify the urgency:

Critical: Of all four selections scans available prices most quickly to fill, and so provides lowest chance of price improvement, and lowest chance of price variance.
Urgent: Of all four selection, scans available prices second most quickly to fill, and so provides some chance for price improvement and less than average chance of price variance.
Normal (default): Of all four selection, scans available prices second most slowly to fill, and so provides a good chance of price improvement and an average chance of price variance.
Patient: Of all four selections scans available prices most slowly to fill, and so provides the highest chance of a better overall fill and also the highest chance of price variance.

Click Submit to send.

Arrival Price

This strategy is designed to achieve or outperform the bid/ask midpoint price at the time the order is submitted, taking into account the user-assigned level of market risk which defines the pace of the execution, and the user-defined target percent of volume.

To create an Arrival Price algo

Set up the order in the Mosaic Order Entry panel.

From the LMT type field, select IBALGO and then select *Arrival Price*.

Complete the algo parameters and click Submit to send the order.

Max Percentage - enter a max percentage of the average daily volume from 1% to 50%.
Urgency/Risk Aversion - select from the most aggressive *Get Done* to the least aggressive *Passive*. This value determines the pace at which the order will be executed. High urgency may result in greater market impact.
Start time/End time - change the default times at which the submitted order will start to work and be canceled using the Start/End Time fields. The End Time supersedes the time in force. Note that the algo will stop at the designated end time regardless of whether the entire quantity has filled unless you check *Allow trading past end time*.

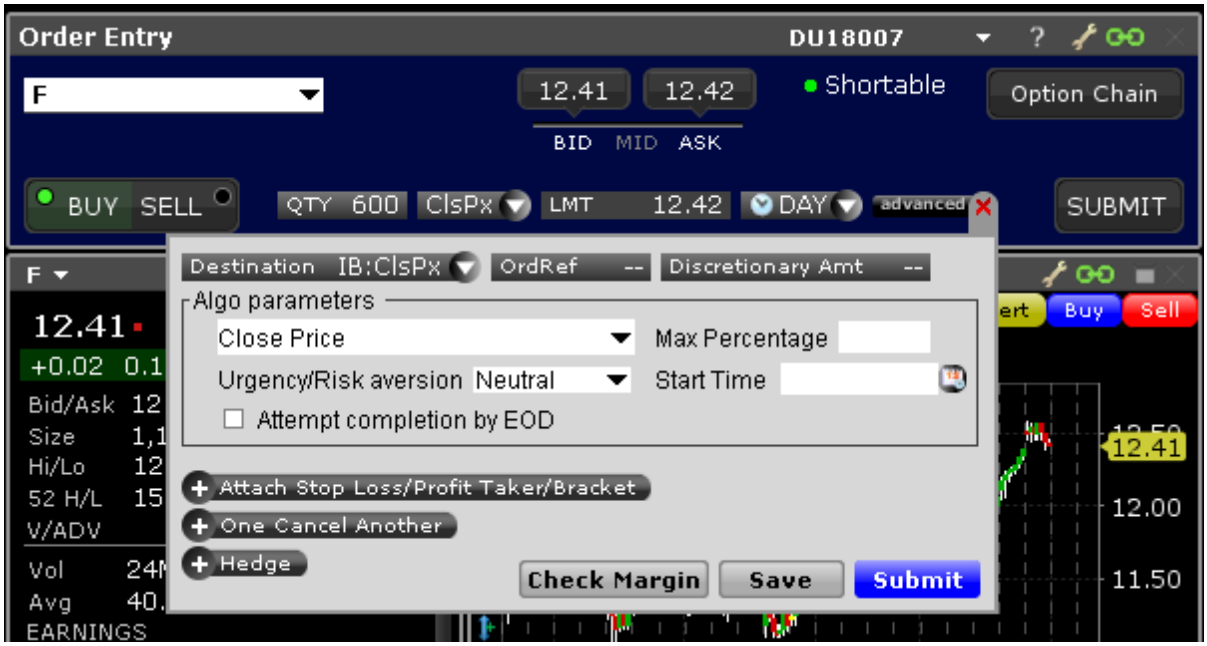
Allow trading past end time - if checked, the algo will attempt completion by the specified end time, but will continue to work past the end time to execute any unfilled portion. This feature only applies when an End Time has been specified.
Attempt completion by EOD - if checked your order will be execute by the end of day if possible. Please note that a portion of your order may be left un-executed if the risk of the price changing overnight is less than the extra cost of executing the whole order today regardless of whether the EOD box is checked.

For more information on IBAlgos, see the IB Order Types and Algospage.

Close Price Strategy

The Close Price algo is designed to minimize slippage with respect to the closing price by slicing orders into smaller quantities and executing them in the continuous market just before the close. It considers the user-assigned level of market risk, the user-defined target percentage of volume, and the volatility of the stock in determining how long before the close it should start executing the trade, and the pace at which the trade should be executed.

This strategy is especially useful when the volume to be executed is large relative to the average close auction volume and submitting the entire order into the close auction via an MOC or LOC order would adversely impact the closing price.



To create a Close Price algo

Set up the order in the Mosaic Order Entry panel.

From the LMT type field, select IBALGO and then select *Close Price*.

Complete the algo parameters and click Submit to send the order.

Max Percentage - enter a max percentage of the average daily volume from 1% to 50%.

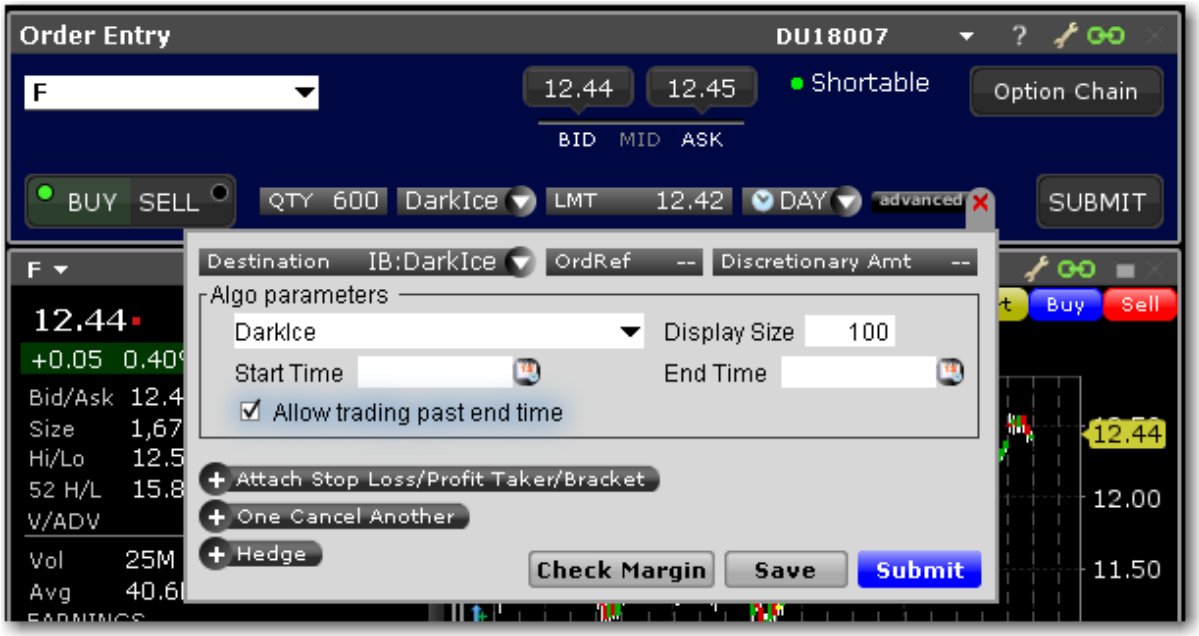
Urgency/Risk Aversion - select from the most aggressive *Get Done* to the least aggressive *Neutral*. This value determines the pace at which the order will be executed. High urgency may result in greater market impact.

Start time/End time - change the default times at which the submitted order will start to work and be canceled using the Start/End Time fields. The End Time supersedes the time in force. Note that the algo will stop at the designated end time regardless of whether the entire quantity has filled unless you check *Allow trading past end time*.

Attempt completion by EOD - if checked your order will be execute by the end of day if possible. Please note that a portion of your order may be left un-executed if the risk of the price changing overnight is less than the extra cost of executing the whole order today regardless of whether the EOD box is checked.

Dark Ice

The Dark Ice algo is similar to an iceberg or reserve order, as it allows the user to specify a display size different from the order size, which is shown in the market. Additionally, the algo randomized the display size +/- 50%, and based on the calculated probability of the price moving favorably, it decides whether to place the order at the limit price or one tick lower than the current offer for buy orders and one tick higher than the current bid for sell orders.



To create a Dark Ice algo

Set up the order in the Mosaic Order Entry panel.

From the LMT type field, select IBALGO and then select *Dark Ice*.

Complete the algo parameters and click Submit to send the order.

> *Display Size - enter a size that you want displayed to the market. Note that the algo will randomize the size by 50% on either side.*
> *Start time/End time - change the default times at which the submitted order will start to work and be cancelled using the Start/End Time fields. The End Time supersedes the time in force. Note that the algo will stop at the designated end time regardless of whether the entire quantity has filled unless you check Allow trading past end time.*

Allow trading past end time - if checked, the algo will attempt completion by the specified end time, but will continue to work past the end time to execute any unfilled portion. This feature only applies when an End Time has been specified.

For more information on IBAlgos, see the IB Order Types and Algos page.

Percentage of Volume Strategy

Allows you to participate in volume at a user-defined rate. Order quantity and volume distribution over the day is determined using the target percent of volume you entered along with continuously updated volume forecasts calculated from TWS market data.

To create a Percentage of Volume algo

Set up the order in the Mosaic Order Entry panel.

From the LMT type field, select IBALGO and then select *Percentage of Volume*.

Complete the algo parameters and click Submit to send the order.

Target Percentage - enter the target percentage of participation in average daily volume.

Start time/End time - change the default times at which the submitted order will begin to work and be cancelled using the Start/End Time fields. **Note that the algo will stop at the designated end time regardless of whether the entire quantity has filled**.
Attempt to never take liquidity - check to ensure the algo order will not hit the bid or lift the offer if possible. This may help to avoid liquidity-taker fees, and could result in liquidity-adding rebates. However, it may also result in greater deviations from the benchmark.

IB will use best efforts not to take liquidity, however, there will be times that it can not be avoided.

For more information on IBAlgos, see the IB Order Types and Algospage.

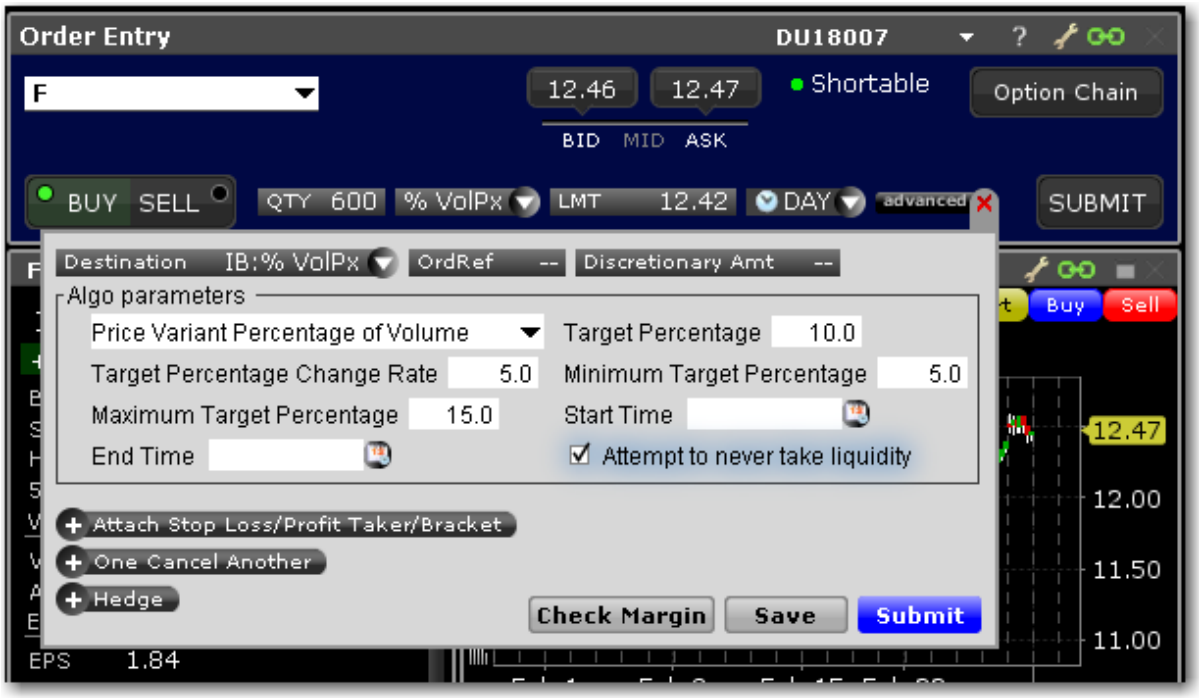
Price Variant Percentage of Volume Strategy

This algo allows you to participate in volume at a user-defined rate that varies over time based on the price of the security. It lets you buy more aggressively when the price is low and less aggressively as the price increases, and just the opposite for sell orders.

To recalculate the percent of volume applied with each price change:

```
Target Percentage - 100 x Order Side x Target Percentage Change
Rate x Percent change in price
```

where Order Side = 1 for buy, -1 for sell.



To submit a Price Variant Percent of Volume Order

Set up the order in the Mosaic Order Entry panel.

From the LMT type field, select IBALGO and then select *Price Variant Percentage of Volume*.

Complete the algo parameters and click Submit to send the order.

Initial Target Percentage of the average volume to start off the order. Enter "1" for 1% etc.

Target Percentage Change Rate will control how the target percent of volume will be adjusted with respect to price changes to the underlying. Each price change triggers a new calculation for the current percent of volume.

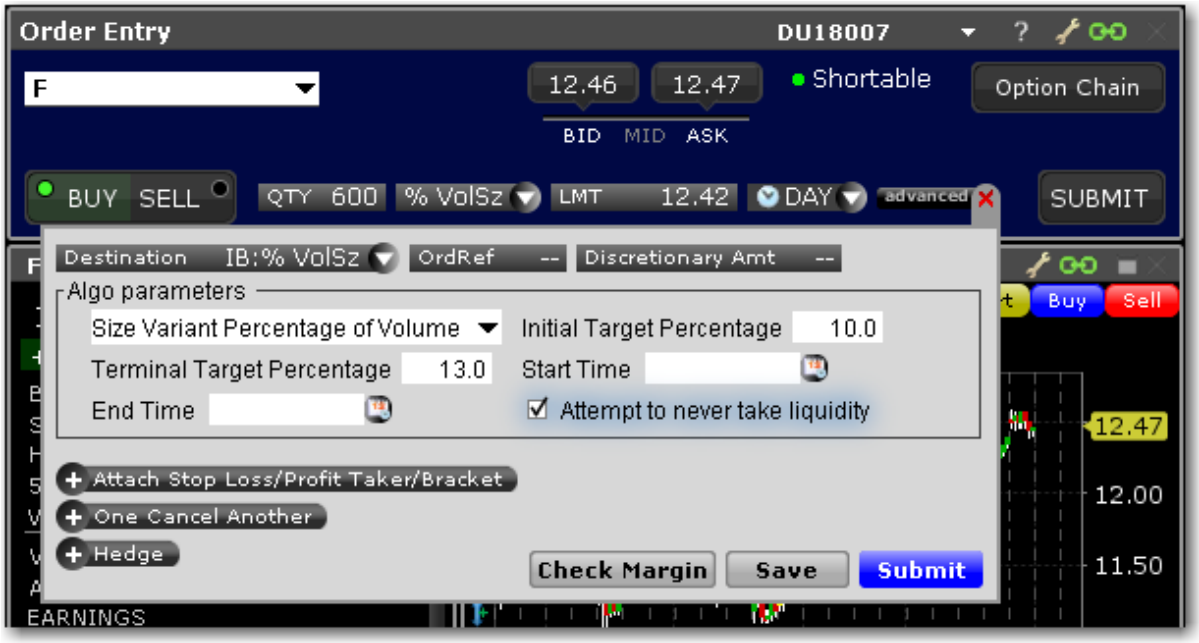
Specify a **Minimum** and **Maximum** target percentage if desired.

Specify the start time and end time if needed. Otherwise the algo will start when you transmit the order and end at the market's close.

Attempt to never take liquidity - If checked the order is guaranteed not to hit the opposite side, and it will trade at a price better than or equal to the limit price.

Size Variant Percentage of Volume Strategy

This algo strategy allows your order to work more aggressively at the start and less aggressively towards the end, or vice versa. It lets you participate via volume at a user-defined rate that varies with time based on the remaining order quantity.



To submit a Size Variant Percent of Volume Order

Set up the order in the Mosaic Order Entry panel.

From the LMT type field, select IBALGO and then select *Size Variant Percentage of Volume*.

Complete the algo parameters and click Submit to send the order.

Initial Target Percentage of the average volume to start off the order. Enter "1" for 1% etc.
Set the **Terminal** (or ending) **Target Percentage** of the average volume to end the algo.
The system will calculate the target percentage rates between the initial and terminal rates as the algo progresses.
Specify a start and end time if needed. Otherwise the algo will start when you transmit the order and end at the market's close.

Attempt to never take liquidity - If checked the order is guaranteed not to hit the opposite side, and it will trade at a price better or equal to the limit price.

Time Variant Percentage of Volume Strategy

This algo strategy allows your order to work more aggressively at the start and less aggressively towards the end, or vice versa. It lets you participate via volume at a user-defined rate that varies with time based on the initial and terminal participation rates that you specify. The algo will then calculate the rate of participation between the start and end times.

To submit a Time Variant Percent of Volume Order

Set up the order in the Mosaic Order Entry panel.

From the LMT type field, select IBALGO and then select *Time Variant Percentage of Volume*.

Complete the algo parameters and click Submit to send the order.

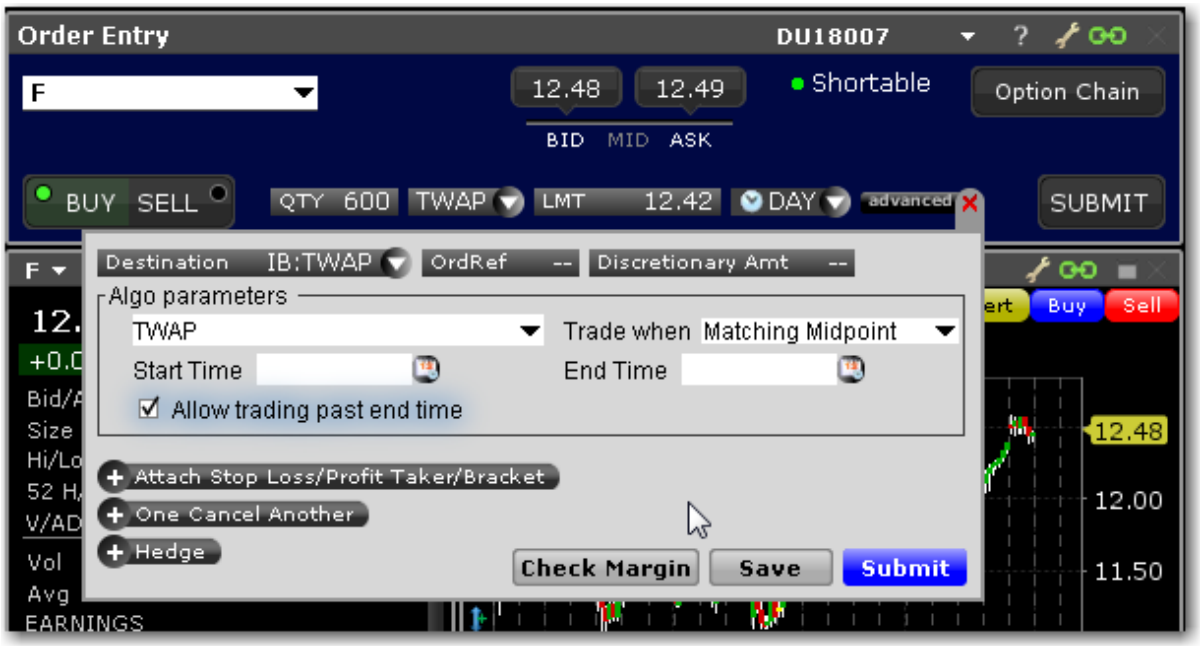
Initial Target Percentage of the average volume to start off the order. Enter "1" for 1% etc. Set the **Terminal** (or ending) **Target Percentage** of the average volume to end the algo. The system will calculate the target percentage rates between the initial and terminal rates as the algo progresses.

Specify a start and end time if needed. Otherwise the algo will start when you transmit the order and end at the market's close.

Attempt to never take liquidity - If checked the order is guaranteed not to hit the opposite side, and it will trade at a price better or equal to the limit price.

TWAP

Designed to achieve the time-weighted average price calculated from the time the order is submitted to the close of the market.



To create a TWAP algo

Specify the order side (buy/sell) and quantity in the Mosaic Order Entry panel.

From the LMT type field, select IBALGO and then select *TWAP*.

Define parameters:

Trade when - select from:

Marketable - the default value indicates that the order will be submitted when it is marketable, based on your limit price.

Matching Midpoint - the order will be submitted when the limit price = midpoint of the bid/ask.

Matching Same Side - the order will be submitted when the limit price = the price on the same side as your order (either the bid or the ask).

Matching Last - the order will be submitted when the limit price = last price.

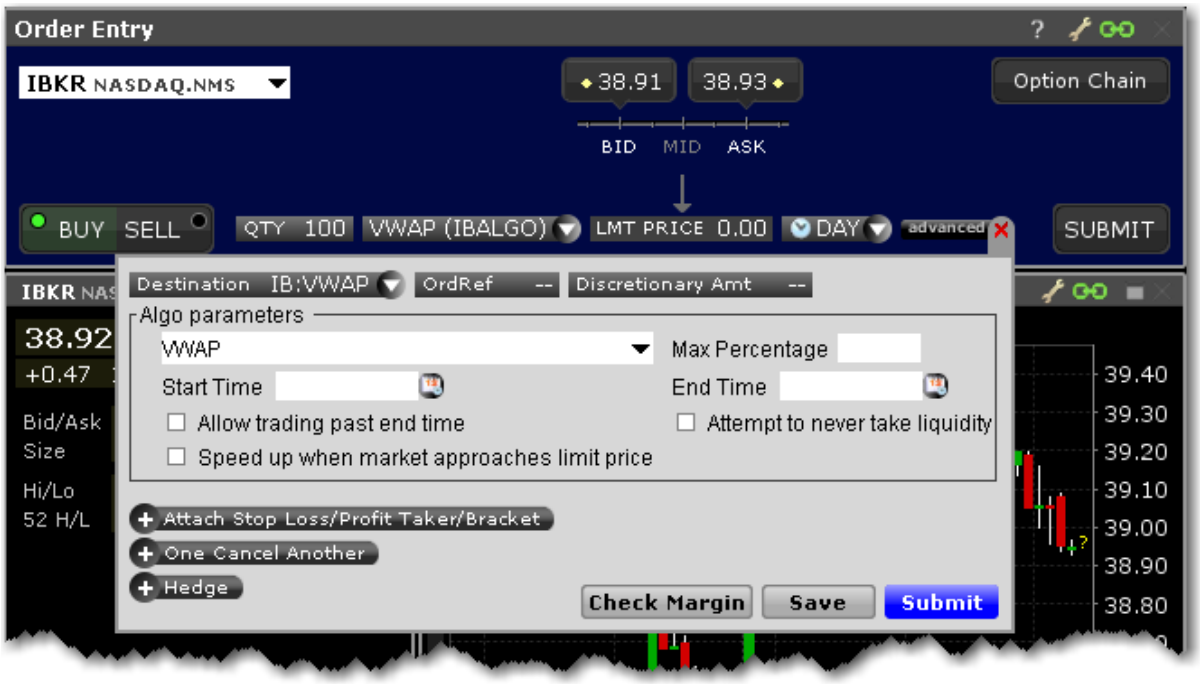
Start time/End time - change the default times at which the submitted order will start to work and be cancelled using the Start/End Time fields. The End Time supersedes the time in force. Note that the algo will stop at the designated end time regardless of whether the entire quantity has filled unless you check *Allow trading past end time*.

Allow trading past end time - if checked, the algo will attempt completion by the specified end time, but will continue to work past the end time to execute any unfilled portion. This feature only applies when an End Time has been specified.

For more information on IBAlgos, see the IB Order Types and Algos page.

VWAP

Designed to achieve or outperform the VWAP price, calculated from the time you submit the order to the close of the market.



To create a VWAP algo

Specify the order side (buy/sell) and quantity in the Mosaic Order Entry panel.

From the LMT type field, select IBALGO and then select *VWAP*.

Define parameters:

Max Percentage - enter a max percentage of the average daily volume from 1% to 50%.
Start time/End time - change the default times at which the submitted order will start to work and be cancelled using the Start/End Time fields. The End Time supersedes the time in force. Note that the algo will stop at the designated end time regardless of whether the entire quantity has filled unless you check *Allow trading past end time*.
Allow trading past end time - if checked, the algo will attempt completion by the specified end time, but will continue to work past the end time to execute any unfilled portion. This feature only applies when an End Time has been specified.

If you specify and Start and End time, TWS confirms that acceptability of the time period using yesterday's trading volume. If the time period you define is too short, you will receive a message with recommended time adjustments.

Attempt to never take liquidity - Check to ensure the algo order will not hit the bid or lift the offer if possible. This may help to avoid liquidity-taker fees, and could result in liquidity-adding rebates. However, it may also result in greater deviations from the benchmark.

IB will use best efforts not to take liquidity, however, there will be times that it can not be avoided.

Speed up when market approaches limit price - When checked, this feature will increase the rate of trading when the order is marketable and the market price closes the gap toward the order's limit price, since the chance of a market move resulting in the order becoming non-marketable is high. Checking this feature for relatively small order sizes may help to ensure a better fill rate.

Minimize Impact

Designed to minimize market impact by slicing the order over time as defined by the Max Percentage value. This algo applies to Options only.

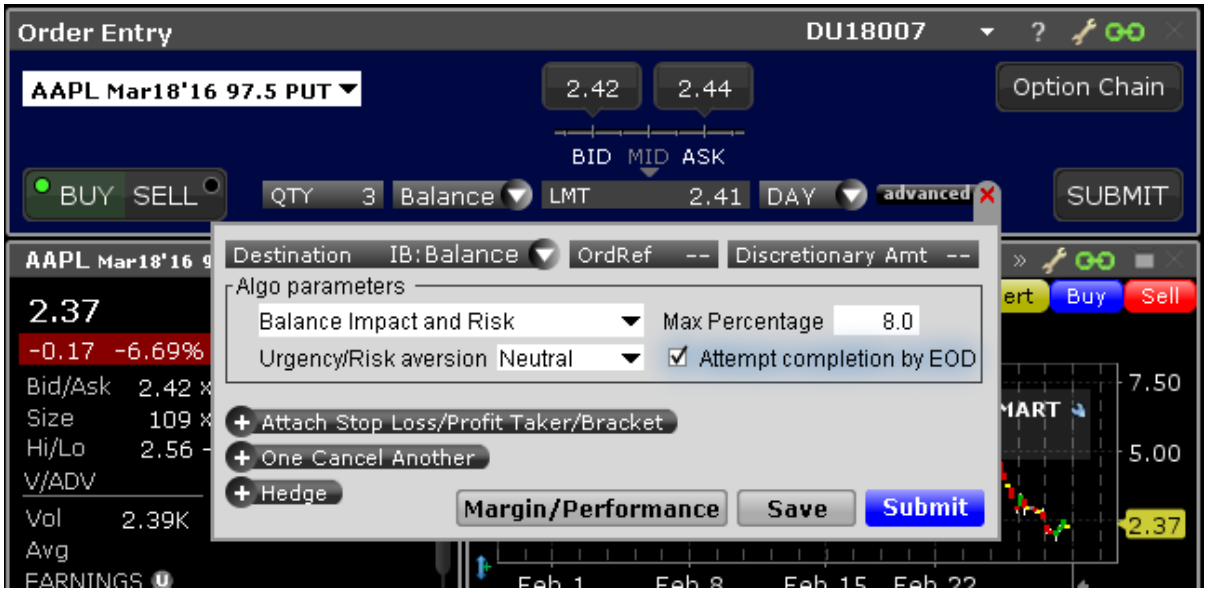
Max Percentage - enter a max percentage of the average daily volume from 1% to 50%.

For more information on IBAlgos, see the IB Order Types and Algos page.

Balance Impact and Risk

Balances the market impact of trading the option with the risk of price change over the time horizon of the order by taking into account the user-assigned level of market risk which defines the pace of the execution, and the user-defined target percent of volume.

This algo is for options only.



To create a Balance Impact and Risk algo

Set up the order in the Mosaic Order Entry panel.

From the LMT type field, select IBALGO and then *Balance Impact and Risk*.

Complete the algo parameters and click Submit to send the order.

Max Percentage - enter a max percentage of the average daily volume from 1% to 50%.
Urgency/Risk Aversion - select from the most aggressive *Get Done* to the least aggressive *Passive*. This value determines the pace at which the order will be executed. High urgency may result in greater market impact.

This feature is designed to affect large orders that affect a significant percentage of the average daily volume.

Attempt completion by EOD - if checked your order will be executed by the end of day if possible. If not checked, a portion of your order may be left unfilled if the risk of the price changing overnight is less than the extra cost of executing the whole order today.

For more information on IBAlgos, see the IB Order Types and Algos page.

CSFB Algos

To use CSFB algos, select CSFBALGO as the routing destination.

CSFB Auction **440**
CSFB Blast **441**
CSFB Close **443**
CSFB Crossfinder+ **444**
CSFB Float **446**
CSFB Float Guerrilla **448**
CSFB Guerrilla **451**
CSFB Price Inline **454**
CSFB I Would **456**
CSFB Lightpool **459**
CSFB Pathfinder **460**
CSFB Pre/Post **461**
CSFB Reserve **462**
CSFB Sniper **464**
CSFB Tex **467**
CSFB TWAP **469**
CSFB Volume Inline **472**
CSFB VWAP **474**

CSFB Auction

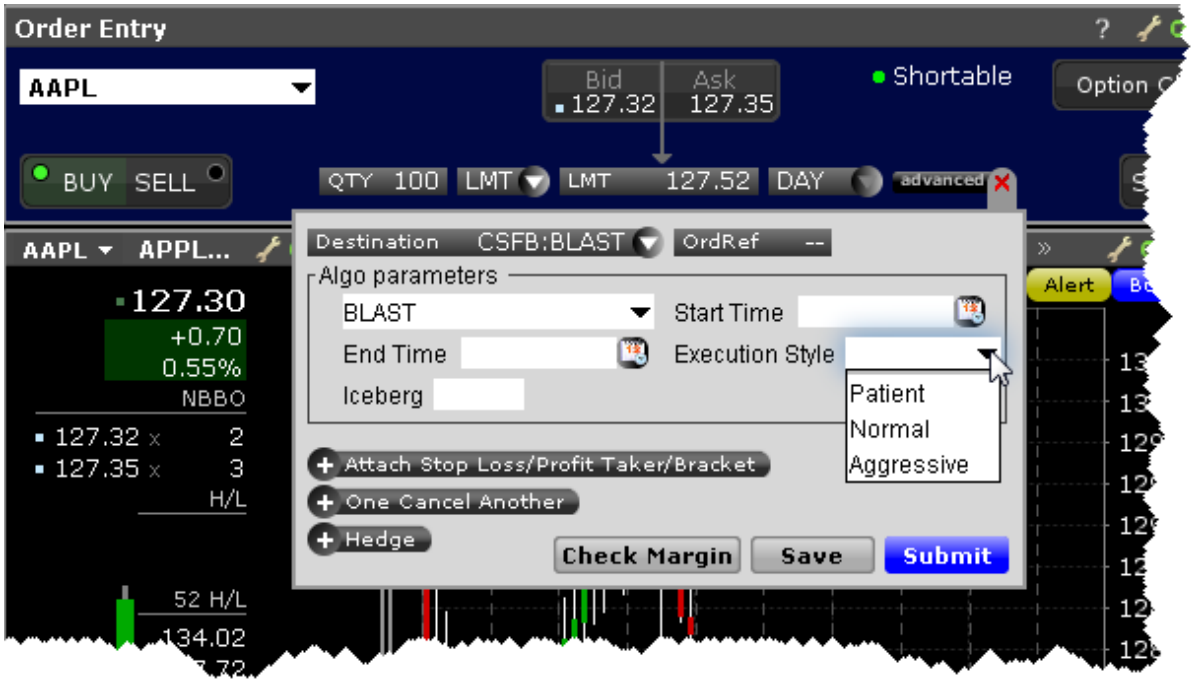
Call an auction and control the order.

Field	Description
Algo Selector	Select the CSFB algo.
Execution Style	Select the degree of urgency.
Iceberg	Enter the display size for the order. Cannot be less than 100 shares, or greater than the order size.

To use CSFB algos, select CSFBALGO as the destination and then select the algo.

CSFB Blast

An aggressive algo that simultaneously routes your order to all available exchanges and ECNs with an intermarket sweep designed to getting as close to simultaneous arrival as possible.

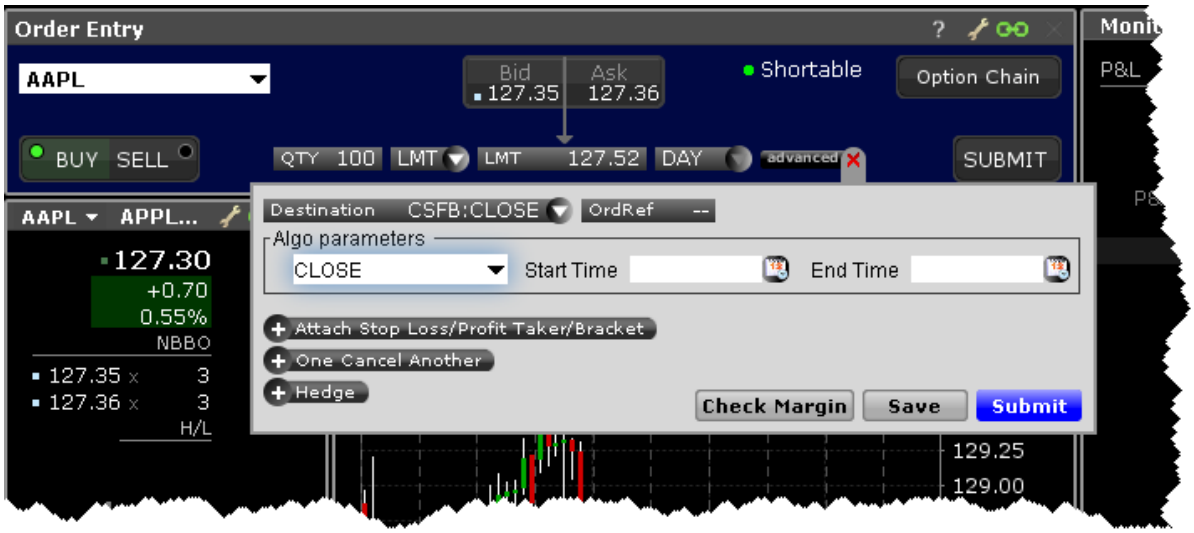


Field	Description
Algo Selector	Select the CSFB algo.
Start Time	Enter a start time for the algo if desired. If no start time is set, the algo becomes active when you submit.
End Time	Enter the end time for the algo if desired. If no end time is set, the default end time is the market's close.
Execution Style	Select the degree of urgency.
Iceberg	Enter the display size for the order. Cannot be less than 100 shares, or greater than the order size.

To use CSFB algos, select CSFBALGO as the destination and then select the algo.

CSFB Close

Minimizes market impact by intelligently working orders into the close.



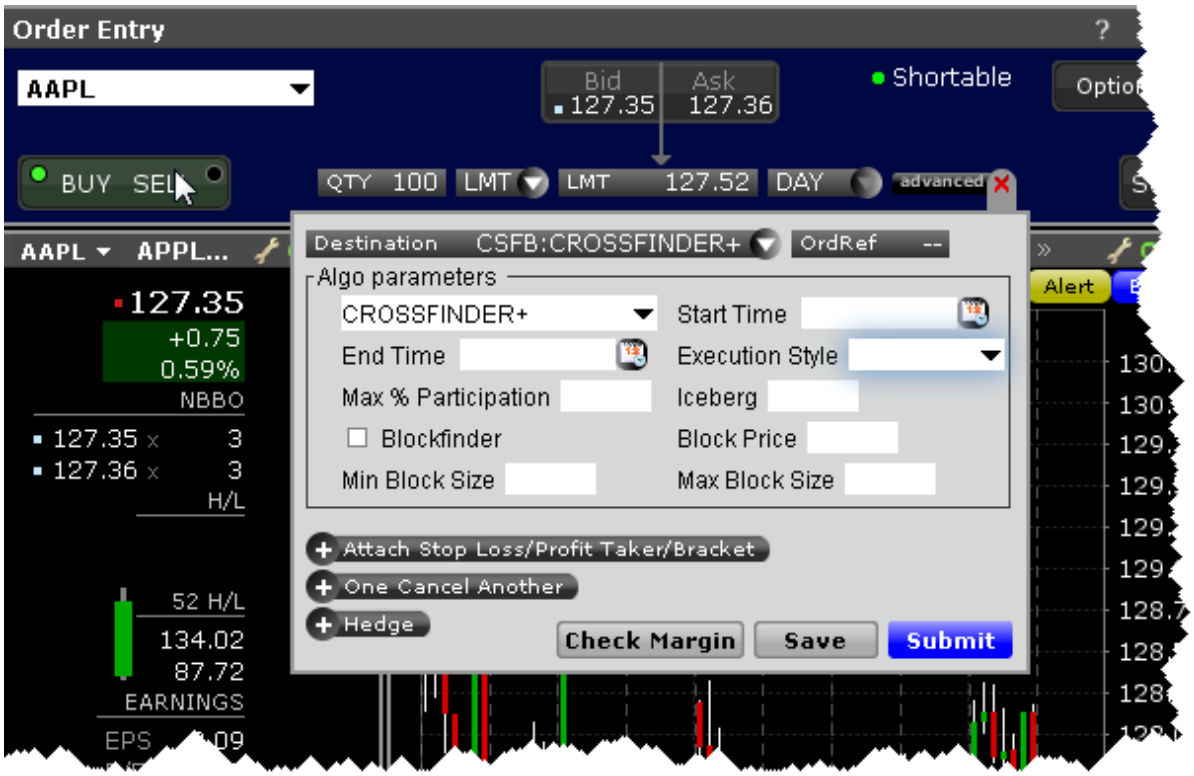
Field	Description
Algo Selector	Select the CSFB algo.
Start Time	Enter a start time for the algo if desired. If no start time is set, the algo becomes active when you submit.
End Time	Enter the end time for the algo if desired. If no end time is set, the default end time is the market's close.

To use CSFB algos, select CSFBALGO as the destination and then select the algo.

CSFB Crossfinder+

This strategy locates liquidity among a broad list of independent and broker-owned dark pools, with continuous crossing capabilities. Using dynamic smart routing logic, CrossFinder+ will spread your order over multiple destinations. This algo will fill at the midpoint or better, and may not execute.

For large sized orders, use Blockfinder to define a price/size at which you're willing to potentially move a large block while still working the algo.



Field	Description
Algo Selector	Select the CSFB algo.
Start Time	Enter a start time for the algo if desired. If no start time is set, the algo becomes active when you submit.
End Time	Enter the end time for the

Field	Description
	algo if desired. If no end time is set, the default end time is the market's close.
Execution Style	Select the degree of urgency.
Max % Participation	Define the max percent of volume if desired.
Iceberg	Enter the display size for the order. Cannot be less than 100 shares, or greater than the order size.
Blockfinder	Check to enable Blockfinder, which submits blocks (with a 10,000 share minimum) for execution which remaining size continues to fill through the algo.
Blockprice	Only valid if Blockfinder is enabled. Define the price at which the block is eligible to execute.
Min Block Size	Only valid if Blockfinder is enabled. Define the minimum block size if desired. Must be at least 5000 and increments are in sizes of 5000. If no minimum size is defined the default size of 10,000 is used.

Field	Description
Max Block Size	Only valid if Blockfinder is enabled. Define the maximum size of the block if desired.

To use CSFB algos, select CSFBALGO as the destination and then select an algo.

CSFB Float

This tactic displays only the size you want shown and floats on the bid, midpoint, or offer until completion. Enter a display size in the Iceberg field and choose a patient, normal, or aggressive execution.

For large sized orders, use Blockfinder to define a price/size at which you're willing to potentially move a large block while still working the algo.

Field	Description
Algo Selector	Select the CSFB algo.
Start Time	Enter a start time for the algo if desired. If no start time is set, the algo becomes active when you submit.
End Time	Enter the end time for the algo if desired. If no end time is set, the default end time is the market's close.
Execution Style	Select the degree of urgency.
Max % Participation	Define the max percent of volume if desired.
Iceberg	Enter the display size for the order. Cannot be less than 100 shares, or greater than the order size.
Blockfinder	Check to enable Blockfinder, which submits blocks (with a 10,000 share minimum) for execution which remaining size continues to fill through the algo.
Blockprice	Only valid if Blockfinder is enabled. Define the price at which the block is eligible to execute.
Min Block Size	Only valid if Blockfinder is enabled.

Field	Description
	Define the minimum block size if desired. Must be at least 5000 and increments are in sizes of 5000. If no minimum size is defined the default size of 10,000 is used.
Max Block Size	Only valid if Blockfinder is enabled. Define the maximum size of the block if desired.

To use CSFB algos, select CSFBALGO as the destination on the Basic tab.

CSFB Float Guerrilla

Uses the Guerrilla algo but floats a small, visible portion near touch to facilitate trading when that side of the book becomes active.

For large sized orders, use Blockfinder to define a price/size at which you're willing to potentially move a large block while still working the algo.

Field	Description
Algo Selector	Select the CSFB algo.
Start Time	Enter a start time for the algo if desired. If no start time is set, the algo becomes active when you submit.
End Time	Enter the end time for the algo if desired. If no end time is set, the default end time is the market's close.
Execution Style	Select the degree of urgency.
Min % Participation	Define the max percent of volume if desired.

Field	Description
Max % Participation	Define the max percent of volume if desired.
Iceberg	Enter the display size for the order. Cannot be less than 100 shares, or greater than the order size.
Blockfinder	Check to enable Blockfinder, which submits blocks (with a 10,000 share minimum) for execution which remaining size continues to fill through the algo.
Blockprice	Only valid if Blockfinder is enabled. Define the price at which the block is eligible to execute.
Min Block Size	Only valid if Blockfinder is enabled. Define the minimum block size if desired. Must be at least 5000 and increments are in sizes of 5000. If no minimum size is defined the default size of 10,000 is used.
Max Block Size	Only valid if Blockfinder is enabled. Define the maximum size of the block if desired.

Field	Description
I Would Price	Set a price at which you are willing to fill the entire order.

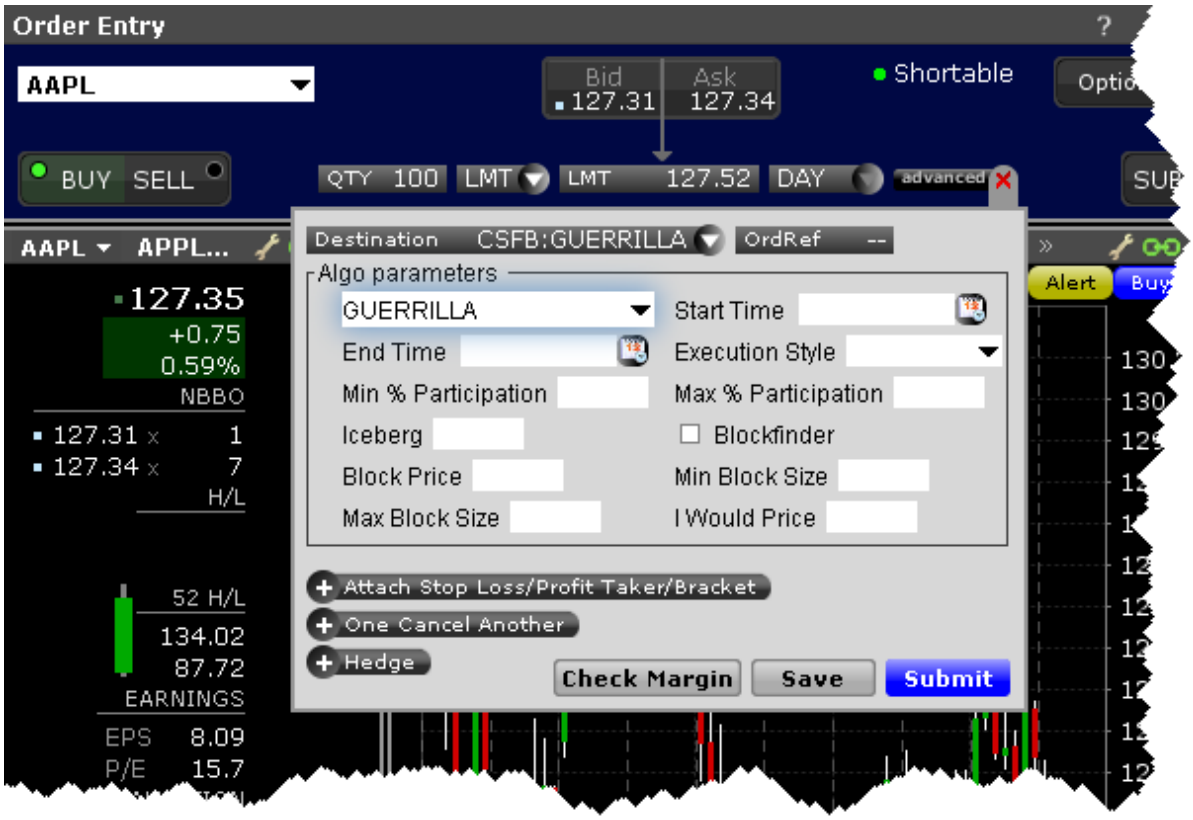
To use CSFB algos, select CSFBALGO as the destination and then select the algo.

CSFB Guerrilla

The GUERRILLA algo works differently depending on the Execution Style you select.

Normal and Passive modes: This tactic works orders without displaying bids or offers. When liquidity materializes, it seeks to aggressively participate in the flow. If liquidity is poor, the order may not complete.
Aggressive mode: This will hit bids/take offers in an intelligent way based on a fair price model. It minimizes market impact and never posts bids or offers.

For large sized orders, use Blockfinder to define a price/size at which you're willing to potentially move a large block while still working the algo.



Field	Description
Algo Selector	Select the CSFB algo.
Start Time	Enter a start time for the algo if desired. If no start time is set, the algo becomes active when you submit.
End Time	Enter the end time for the algo if desired. If no end time is set, the default end time is the market's close.
Execution Style	Select the degree of urgency.
Min % Participation	Define the max percent of volume if desired.
Max % Participation	Define the max percent of

Field	Description
	volume if desired.
Iceberg	Enter the display size for the order. Cannot be less than 100 shares, or greater than the order size.
Blockfinder	Check to enable Blockfinder, which submits blocks (with a 10,000 share minimum) for execution which remaining size continues to fill through the algo.
Blockprice	Only valid if Blockfinder is enabled. Define the price at which the block is eligible to execute.
Min Block Size	Only valid if Blockfinder is enabled. Define the minimum block size if desired. Must be at least 5000 and increments are in sizes of 5000. If no minimum size is defined the default size of 10,000 is used.
Max Block Size	Only valid if Blockfinder is enabled. Define the maximum size of the block if desired.
I Would Price	Set a price at which you are

Field	Description
	willing to fill the entire order.

To use CSFB algos, select CSFBALGO as the destination and then select an algo.

CSFB Price Inline

Minimizes implementation shortfall against the arrival price. Participation increases when the price is favorable.

For large sized orders, use Blockfinder to define a price/size at which you're willing to potentially move a large block while still working the algo.

Field	Description
Algo Selector	Select the CSFB algo.
Start Time	Enter a start time for the algo

Field	Description
	if desired. If no start time is set, the algo becomes active when you submit.
End Time	Enter the end time for the algo if desired. If no end time is set, the default end time is the market's close.
Execution Style	Select the degree of urgency.
Min % Participation	Define the max percent of volume if desired.
Max % Participation	Define the max percent of volume if desired.
Iceberg	Enter the display size for the order. Cannot be less than 100 shares, or greater than the order size.
Auction	Specify whether or not to include the order in all auctions, no auctions, just opening, just closing or just imbalance auctions.
Blockfinder	Check to enable Blockfinder, which submits blocks (with a 10,000 share minimum) for execution which remaining size continues to fill through the algo.
Blockprice	Only valid if Blockfinder is enabled.

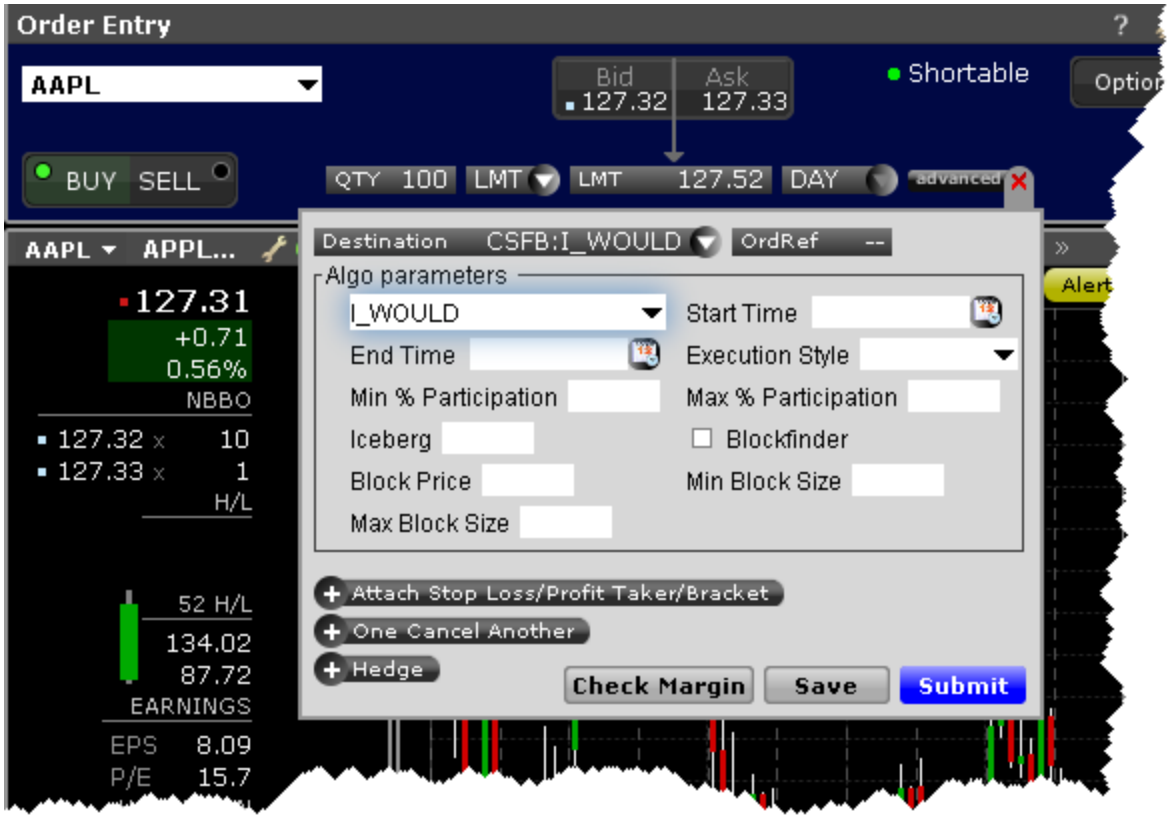
Field	Description
	Define the price at which the block is eligible to execute.
Min Block Size	Only valid if Blockfinder is enabled. Define the minimum block size if desired. Must be at least 5000 and increments are in sizes of 5000. If no minimum size is defined the default size of 10,000 is used.
Max Block Size	Only valid if Blockfinder is enabled. Define the maximum size of the block if desired.
I Would Price	Set a price at which you are willing to fill the entire order.

To use CSFB algos, select CSFBALGO as the destination and then select the algo.

CSFB I Would

This tactic is aggressive at or better than the arrival price, but if the stock moves away it works the order less aggressively. However, if the stock moves in your favor, it will act like Sniper and quickly get the order done.

For large sized orders, use Blockfinder to define a price/size at which you're willing to potentially move a large block while still working the algo.



Field	Description
Algo Selector	Select the CSFB algo.
Start Time	Enter a start time for the algo if desired. If no start time is set, the algo becomes active when you submit.
End Time	Enter the end time for the algo if desired. If no end time is set, the default end time is the market's close.
Execution Style	Select the degree of urgency.
Min % Participation	Define the max percent of volume if desired.
Max % Participation	Define the max percent of

Field	Description
	volume if desired.
Iceberg	Enter the display size for the order. Cannot be less than 100 shares, or greater than the order size.
Blockfinder	Check to enable Blockfinder, which submits blocks (with a 10,000 share minimum) for execution which remaining size continues to fill through the algo.
Blockprice	Only valid if Blockfinder is enabled. Define the price at which the block is eligible to execute.
Min Block Size	Only valid if Blockfinder is enabled. Define the minimum block size if desired. Must be at least 5000 and increments are in sizes of 5000. If no minimum size is defined the default size of 10,000 is used.
Max Block Size	Only valid if Blockfinder is enabled. Define the maximum size of the block if desired.

To use CSFB algos, select CSFB as the destination and then select the algo.

CSFB Lightpool

Routes orders to the Credit Suisse ECN.

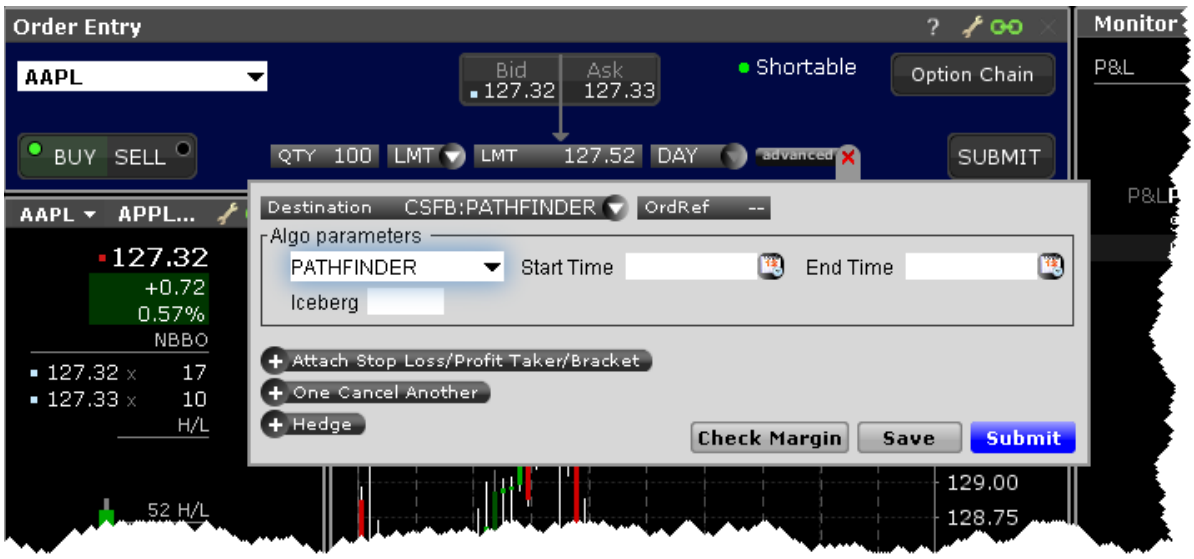
Field	Description
Algo Selector	Select the CSFB algo.
Start Time	Enter a start time for the algo if desired. If no start time is set, the algo becomes active when you submit.
End Time	Enter the end time for the algo if desired. If no end time is set, the default end time is the market's close.
Execution Style	Select the degree of urgency.
Iceberg	Enter the display size for the order. Cannot be less than

Field	Description
	100 shares, or greater than the order size.

To use CSFB algos, select CSFB as the destination and then select the algo.

CSFB Pathfinder

PathFinder will intelligently and dynamically post across multiple destinations, sweeping all available liquidity. The remainder will be posted at your limit price.



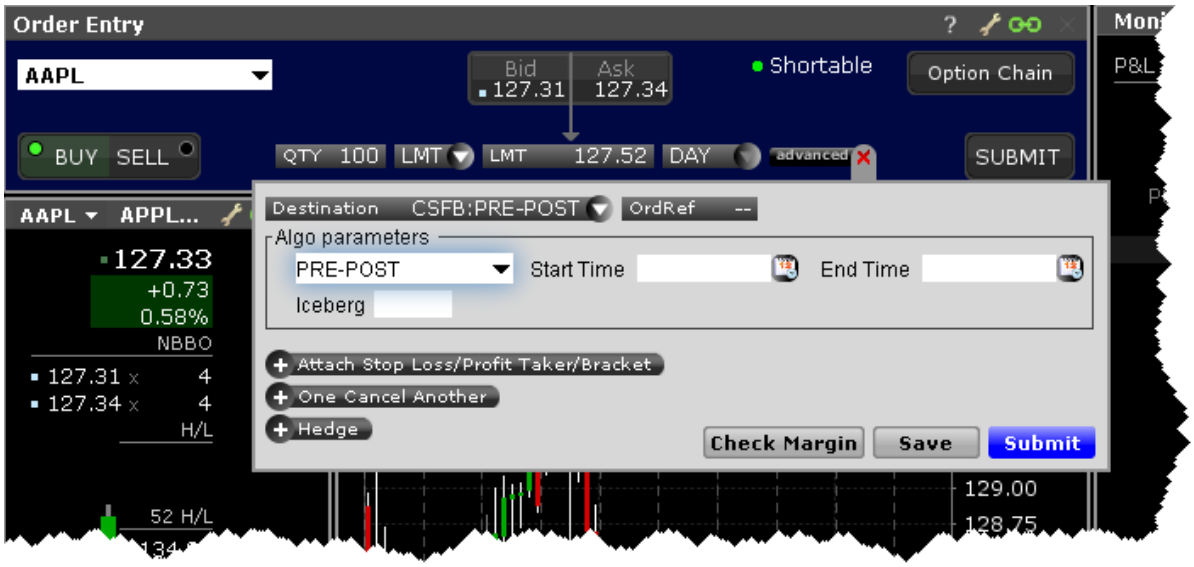
Field	Description
Algo Selector	Select the CSFB algo.
Start Time	Enter a start time for the algo if desired. If no start time is set, the algo becomes active when you submit.
End Time	Enter the end time for the algo if desired. If no end time is set, the default end time is the market's close.

Field	Description
Iceberg	Enter the display size for the order. Cannot be less than 100 shares, or greater than the order size.

To use CSFB algos, select CSFBALGO as the destination and then select an algo.

CSFB Pre/Post

Smart routed algo to be used during pre- and post-market hours. Only supports limit orders.



Field	Description
Algo Selector	Select the CSFB algo.
Start Time	Enter a start time for the algo if desired. If no start time is set, the algo becomes active when you submit.
End Time	Enter the end time for the algo if desired. If no end time is set, the default end time is

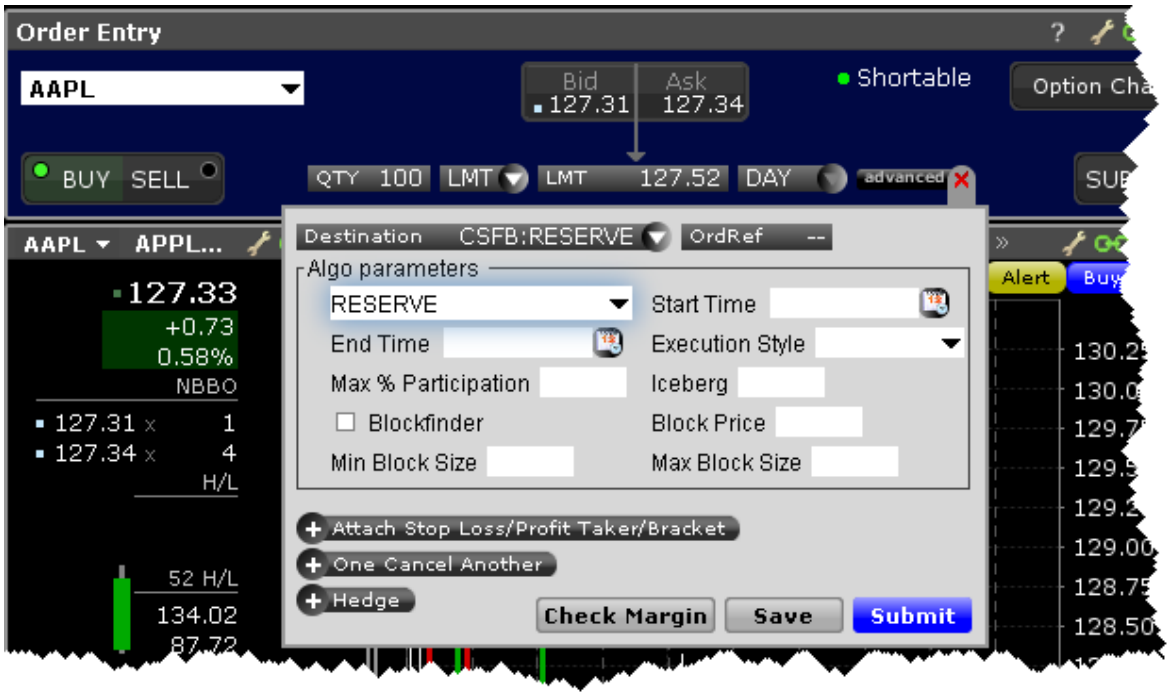
Field	Description
	the market's close.
Iceberg	Enter the display size for the order. Cannot be less than 100 shares, or greater than the order size.

To use CSFB algos, select CSFB as the destination and then select the algo.

CSFB Reserve

Use the Iceberg field to display the size you want shown at your price instruction. If you do not set a display size, the algo will optimize a display size. Upon getting filled, it sends out the next piece until completion.

For large sized orders use Blockfinder to define a price/size at which you're willing to potentially move a large block while still working the algo.



Field	Description
Algo Selector	Select the CSFB algo.
Start Time	Enter a start time for the algo if desired. If no start time is set, the algo becomes active when you submit.
End Time	Enter the end time for the algo if desired. If no end time is set, the default end time is the market's close.
Execution Style	Select the degree of urgency.
Max % Participation	Define the max percent of volume if desired.
Iceberg	Enter the display size for the order. Cannot be less than 100 shares, or greater than the order size.
Blockfinder	Check to enable Blockfinder, which submits blocks (with a 10,000 share minimum) for execution which remaining size continues to fill through the algo.
Blockprice	Only valid if Blockfinder is enabled. Define the price at which the block is eligible to execute.
Min Block Size	Only valid if Blockfinder is enabled.

Field	Description
	Define the minimum block size if desired. Must be at least 5000 and increments are in sizes of 5000. If no minimum size is defined the default size of 10,000 is used.
Max Block Size	Only valid if Blockfinder is enabled. Define the maximum size of the block if desired.

To use CSFB algos, select CSFBALGO as the destination and then select an algo.

CSFB Sniper

This is a very aggressive tactic that will hit bids/take offers that are better than your limit price, but will never post bids or offers. It achieves high participation rates. Note it is not a pure sweep and can sniff out hidden liquidity. As a result, it is often a better choice than placing a limit order directly into the market.

For large sized orders use Blockfinder to define a price/size at which you're willing to potentially move a large block while still working the algo.

Field	Description
Algo Selector	Select the CSFB algo.
Start Time	Enter a start time for the algo if desired. If no start time is set, the algo becomes active when you submit.
End Time	Enter the end time for the algo if desired. If no end time is set, the default end time is the market's close.
Execution Style	Select the degree of urgency.
Max % Participation	Define the max percent of volume if desired.
Iceberg	Enter the display size for the order. Cannot be less than

Field	Description
	100 shares, or greater than the order size.
Blockfinder	Check to enable Blockfinder, which submits blocks (with a 10,000 share minimum) for execution which remaining size continues to fill through the algo.
Blockprice	Only valid if Blockfinder is enabled. Define the price at which the block is eligible to execute.
Min Block Size	Only valid if Blockfinder is enabled. Define the minimum block size if desired. Must be at least 5000 and increments are in sizes of 5000. If no minimum size is defined the default size of 10,000 is used.
Max Block Size	Only valid if Blockfinder is enabled. Define the maximum size of the block if desired.

To use CSFB algos, select CSFBALGO as the destination and then select the algo.

CSFB Tex

Designed to minimize implementation shortfall. The tactic takes into account movements in the total market and in correlated stocks when making pace and price decisions. Timing is based on price and liquidity.

For large sized orders use Blockfinder to define a price/size at which you're willing to potentially move a large block while still working the algo.

Field	Description
Algo Selector	Select the CSFB algo.
Start Time	Enter a start time for the algo if desired. If no start time is set, the algo becomes active when you submit.

Field	Description
End Time	Enter the end time for the algo if desired. If no end time is set, the default end time is the market's close.
Execution Style	Select the degree of urgency.
Min % Participation	Define the max percent of volume if desired.
Max % Participation	Define the max percent of volume if desired.
Iceberg	Enter the display size for the order. Cannot be less than 100 shares, or greater than the order size.
Auction	Specify whether or not to include the order in all auctions, no auctions, just opening, just closing or just imbalance auctions.
Blockfinder	Check to enable Blockfinder, which submits blocks (with a 10,000 share minimum) for execution which remaining size continues to fill through the algo.
Blockprice	Only valid if Blockfinder is enabled. Define the price at which the block is eligible to execute.

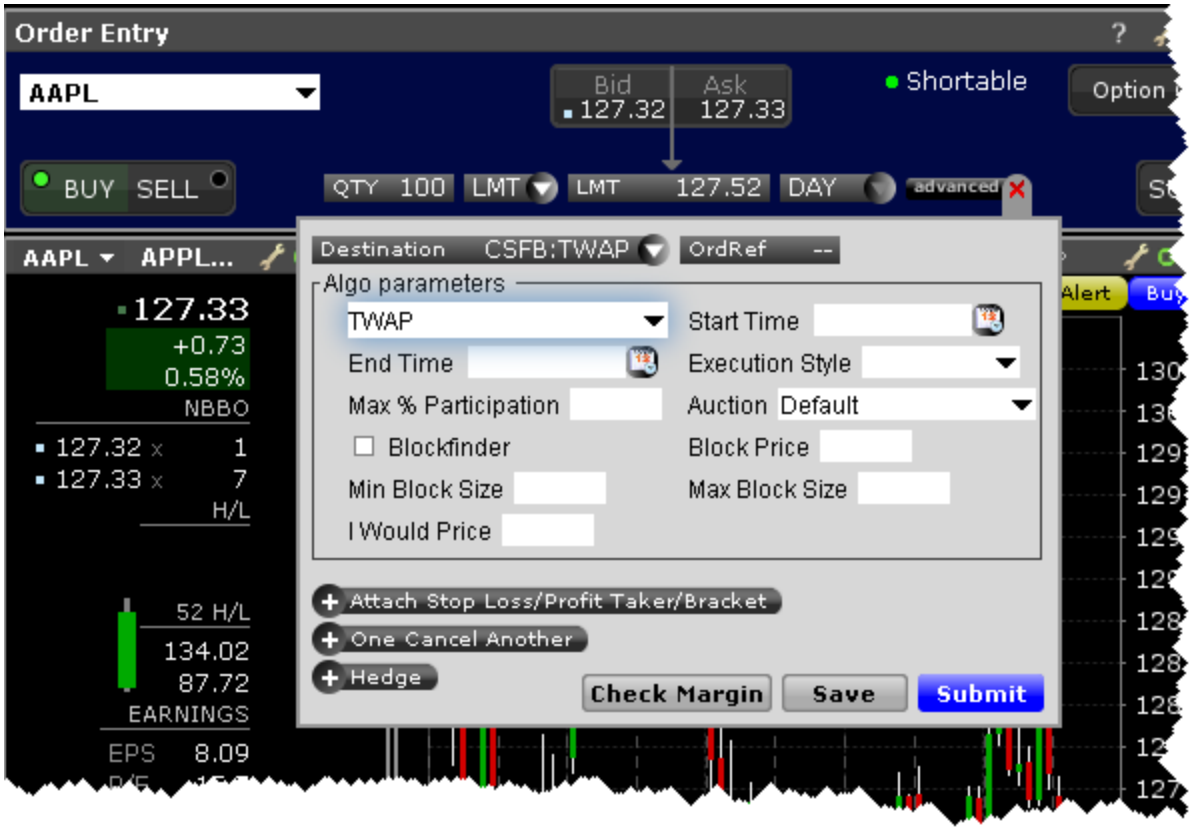
Field	Description
Min Block Size	Only valid if Blockfinder is enabled. Define the minimum block size if desired. Must be at least 5000 and increments are in sizes of 5000. If no minimum size is defined the default size of 10,000 is used.
Max Block Size	Only valid if Blockfinder is enabled. Define the maximum size of the block if desired.
I Would Price	Set a price at which you are willing to fill the entire order.

To use CSFB algos, select CSFBALGO as the destination and then select the algo.

CSFB TWAP

The system trades based on the clock, i.e., on a 2-hour order the system is 25% done after 30 minutes, 50% done after an hour, etc. Unlike VWAP, TWAP (time weighted average price) does not speed up/slow down based on projected volume or price moves. However, it does use smart limit order placement strategies throughout the order.

For large sized orders use Blockfinder to define a price/size at which you're willing to potentially move a large block while still working the algo.



Field	Description
Algo Selector	Select the CSFB algo.
Start Time	Enter a start time for the algo if desired. If no start time is set, the algo becomes active when you submit.
End Time	Enter the end time for the algo if desired. If no end time is set, the default end time is the market's close.
Execution Style	Select the degree of urgency.
Max % Participation	Define the max percent of volume if desired.
Auction	Specify whether or not to

Field	Description
	include the order in all auctions, no auctions, just opening, just closing or just imbalance auctions.
Blockfinder	Check to enable Blockfinder, which submits blocks (with a 10,000 share minimum) for execution which remaining size continues to fill through the algo.
Blockprice	Only valid if Blockfinder is enabled. Define the price at which the block is eligible to execute.
Min Block Size	Only valid if Blockfinder is enabled. Define the minimum block size if desired. Must be at least 5000 and increments are in sizes of 5000. If no minimum size is defined the default size of 10,000 is used.
Max Block Size	Only valid if Blockfinder is enabled. Define the maximum size of the block if desired.
I Would Price	Set a price at which you are willing to fill the entire order.

To use CSFB algos, select CSFBALGO as the destination and then select the algo.

CSFB Volume Inline

Works the order in line with the volume.

For large sized orders use Blockfinder to define a price/size at which you're willing to potentially move a large block while still working the algo.

Field	Description
Algo Selector	Select the CSFB algo.
Start Time	Enter a start time for the algo if desired. If no start time is set, the algo becomes active when you submit.

Field	Description
End Time	Enter the end time for the algo if desired. If no end time is set, the default end time is the market's close.
Execution Style	Select the degree of urgency.
Min % Participation	Define the max percent of volume if desired.
Max % Participation	Required for this algo. Define the max percent of volume.
Iceberg	Enter the display size for the order. Cannot be less than 100 shares, or greater than the order size.
Auction	Specify whether or not to include the order in all auctions, no auctions, just opening, just closing or just imbalance auctions.
Blockfinder	Check to enable Blockfinder, which submits blocks (with a 10,000 share minimum) for execution which remaining size continues to fill through the algo.
Blockprice	Only valid if Blockfinder is enabled. Define the price at which the block is eligible to execute.

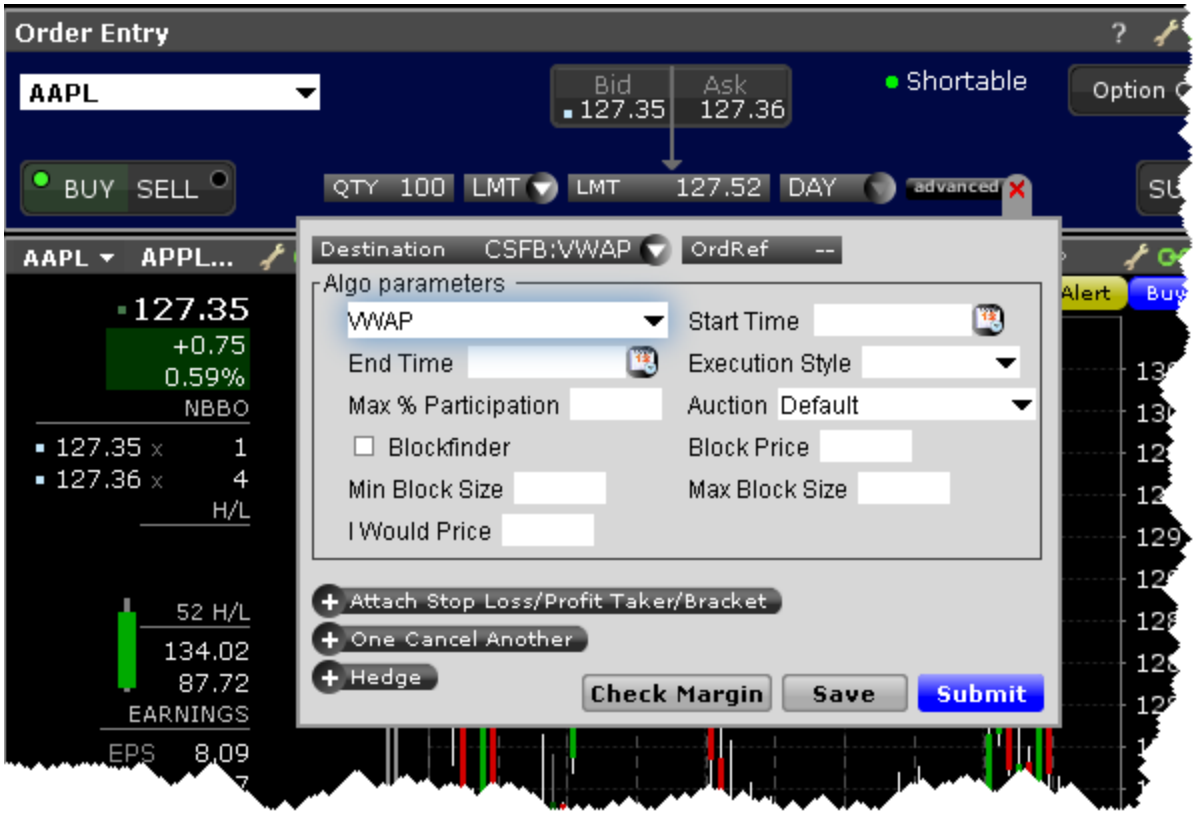
Field	Description
Min Block Size	Only valid if Blockfinder is enabled. Define the minimum block size if desired. Must be at least 5000 and increments are in sizes of 5000. If no minimum size is defined the default size of 10,000 is used.
Max Block Size	Only valid if Blockfinder is enabled. Define the maximum size of the block if desired.
I Would Price	Set a price at which you are willing to fill the entire order.

To use CSFB algos, select CSFBALGO as the destination and then select the algo.

CSFB VWAP

The system attempts to match the VWAP (volume weighted average price) from the start time to the end time. A unique and powerful feature is the ability to accept a maximum percent volume limit (“don’t be more than 20% of the volume.”) The system trades over your time period, subject to your price and volume constraints.

For large sized orders use Blockfinder to define a price/size at which you're willing to potentially move a large block while still working the algo.



Field	Description
Algo Selector	Select the CSFB algo.
Start Time	Enter a start time for the algo if desired. If no start time is set, the algo becomes active when you submit.
End Time	Enter the end time for the algo if desired. If no end time is set, the default end time is the market's close.
Execution Style	Select the degree of urgency.
Max % Participation	Define the max percent of volume if desired.
Iceberg	Enter the display size for the

Field	Description
	order. Cannot be less than 100 shares, or greater than the order size.
Auction	Specify whether or not to include the order in all auctions, no auctions, just opening, just closing or just imbalance auctions.
Blockfinder	Check to enable Blockfinder, which submits blocks (with a 10,000 share minimum) for execution which remaining size continues to fill through the algo.
Blockprice	Only valid if Blockfinder is enabled. Define the price at which the block is eligible to execute.
Min Block Size	Only valid if Blockfinder is enabled. Define the minimum block size if desired. Must be at least 5000 and increments are in sizes of 5000. If no minimum size is defined the default size of 10,000 is used.
Max Block Size	Only valid if Blockfinder is enabled.

Field	Description
	Define the maximum size of the block if desired.
I Would Price	Set a price at which you are willing to fill the entire order.

To use CSFB algos, select CSFBALGO as the destination and then select the algo.

Jefferies Algos

To use Jefferies algos, select JEFFALGO as the routing destination.

Jefferies Blitz **478**

Jefferies DarkSeek **479**

Jefferies Finale **482**

Jefferies Multi Scale **484**

Jefferies Opener **487**

Jefferies Pairs - Net Returns **490**

Jefferies Pairs - Ratio **491**

Jefferies Pairs - Risk Arb **493**

Jefferies Patience **495**

Jefferies Portfolio **498**

Jefferies Post **501**

Jefferies Seek **504**

Jefferies Strike **507**

Jefferies Trader **510**

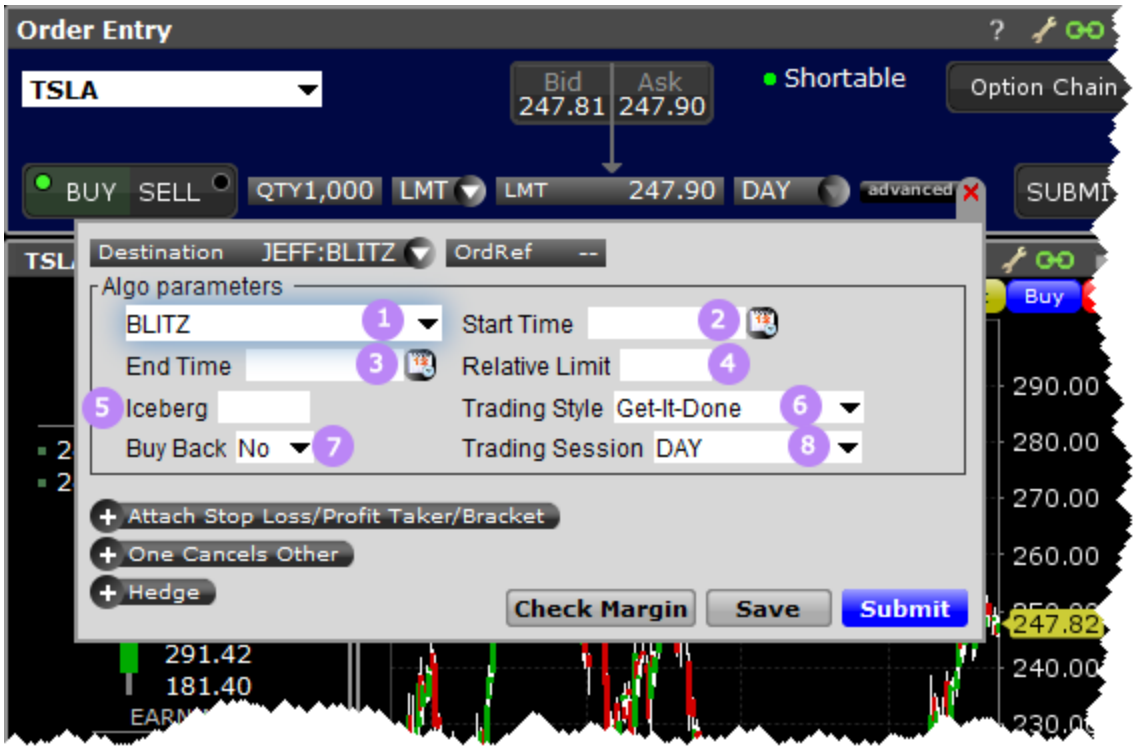
Jefferies TWAP **511**

Jefferies Volume Participation **515**

Jefferies VWAP **518**

Jefferies Blitz

Liquidity seeking algo that sweeps all displayed markets, and sends Immediate-or-Cancel orders to all non-displayed markets.



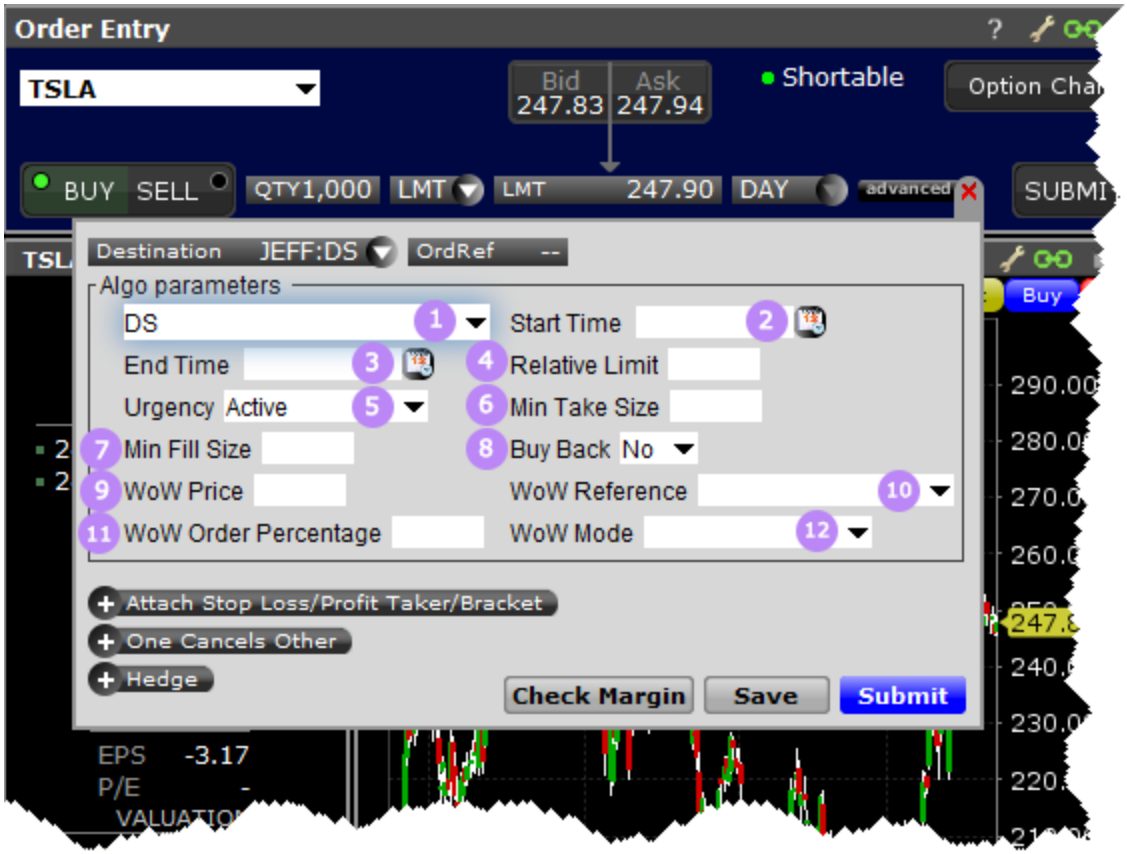
Number	Description
1	Choose algo
2	(optional) Set a start time
3	(optional) Set an end time
4	Relative Limit - (optional) Positive and Negative values are allowed. *Creates* a "soft" limit on the order as a price move from

Number	Description
	arrival price by the specified number of basis points. The strategy will use the Arrival Price after Market Open, the day's Opening price if the order is received before Market Open.
5	Iceberg (optional) – Enter display size.
6	Trading Style (optional)– Indicate increasing degrees of aggressiveness Price Improvement Opportunistic Get it done No Post
7	Buy Back -(optional) Indicates that the algo should engage SEC Rule 10b-18 restrictions for Buy Back in US instruments. Also applies local market Buy Back rules (for non-US instruments). This field cannot be modified. Value Y or N.
8	Trading Session (optional) - Day, Pre-Open, After hours.

To use Jefferies algos, select JEFFALGO as the routing destination.

Jefferies DarkSeek

Liquidity seeking algo that searches only dark pools.



Number	Description
1	Select DS for the DarkSeek algo.
2	(optional) Set a start time
3	(optional) Set an end time
4	Relative Limit - (optional) Positive and Negative values are allowed. Creates a "soft" limit on the order as a price move from arrival price by the specified number of basis points. The strategy will use the Arrival Price after Market Open, the day's Opening price if the order is received before Market Open.
5	Urgency (optional) Passive, Active or Aggressive.

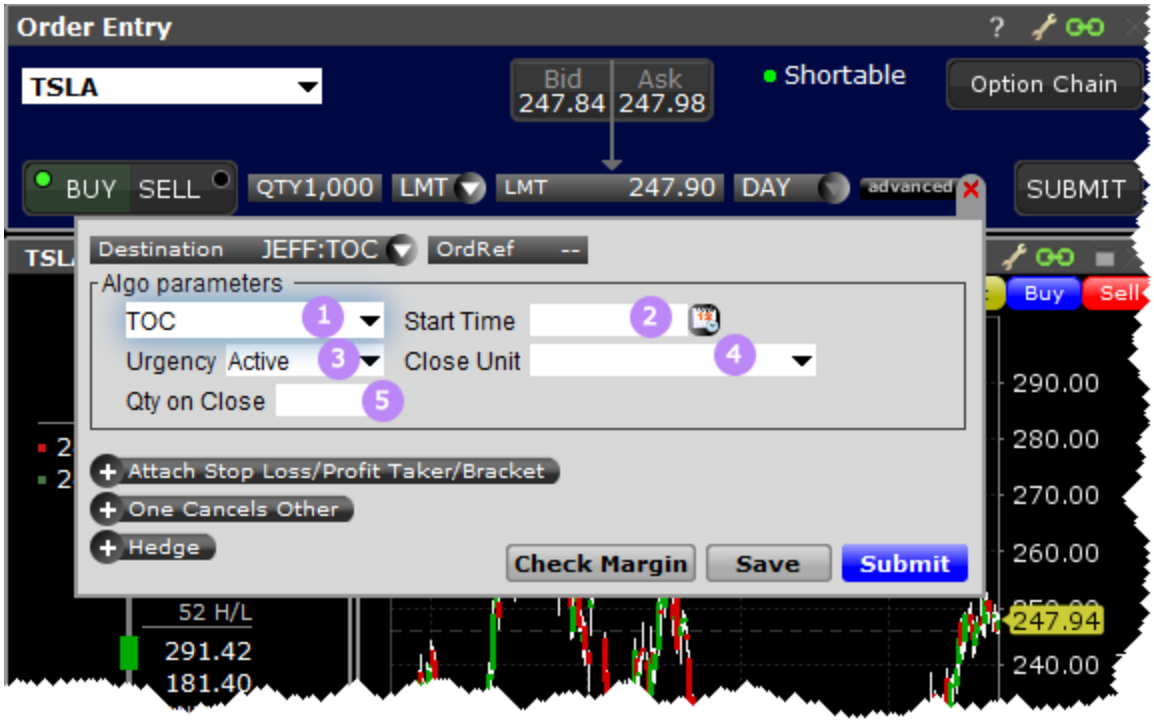
Number	Description
6	Min Take Size (optional) - Specifies the minimum number of shares per execution when accessing displayed liquidity. Rounded down to closest lot size.
7	Min Fill Size - (optional) Specifies minimum number of shares per execution. This applies only to eligible dark pool fills.
8	Buy Back (optional) - Indicates that the algo should engage SEC Rule 10b-18 restrictions for Buy Back in US instruments. Also applies local market Buy Back rules (for non-US instruments). This field cannot be modified. Value Y or N.
9	WoW Price (optional) Users must be able to modify this field on a Cxl/Replace or cancel the original entry. If this field has a value, user may specify BPS Arrival or Price. Price is the default behavior if WoW Reference is not submitted.
10	WoW Reference (optional)This field is used in con-junction with the WoW Price fields. If a user enters a value in the WoW Price field; they may specify BPS Arrival or Price. If WoW Price is not submitted, a “reference” can be submitted for processing. Users must be able to modify this field on a Cxl/Replace or cancel the original entry. Market Inside NBBO Price

Number	Description
	Arrival Price PNC Open BPS Arrival Price OPP Midpoint
11	WoW Order Percentage - (optional) specified max percent of order WoW can act on. 5-100.
12	WoW Mode BLITZ DARKSeek Seek Passive Seek Active Seek Aggressive Volume 10% Volume 20% Volume 30% VWAP Day Custom 1 Patience

To use Jefferies algos, select JEFFALGO as the routing destination.

Jefferies Finale

Benchmark algo that lets you trade into the close.



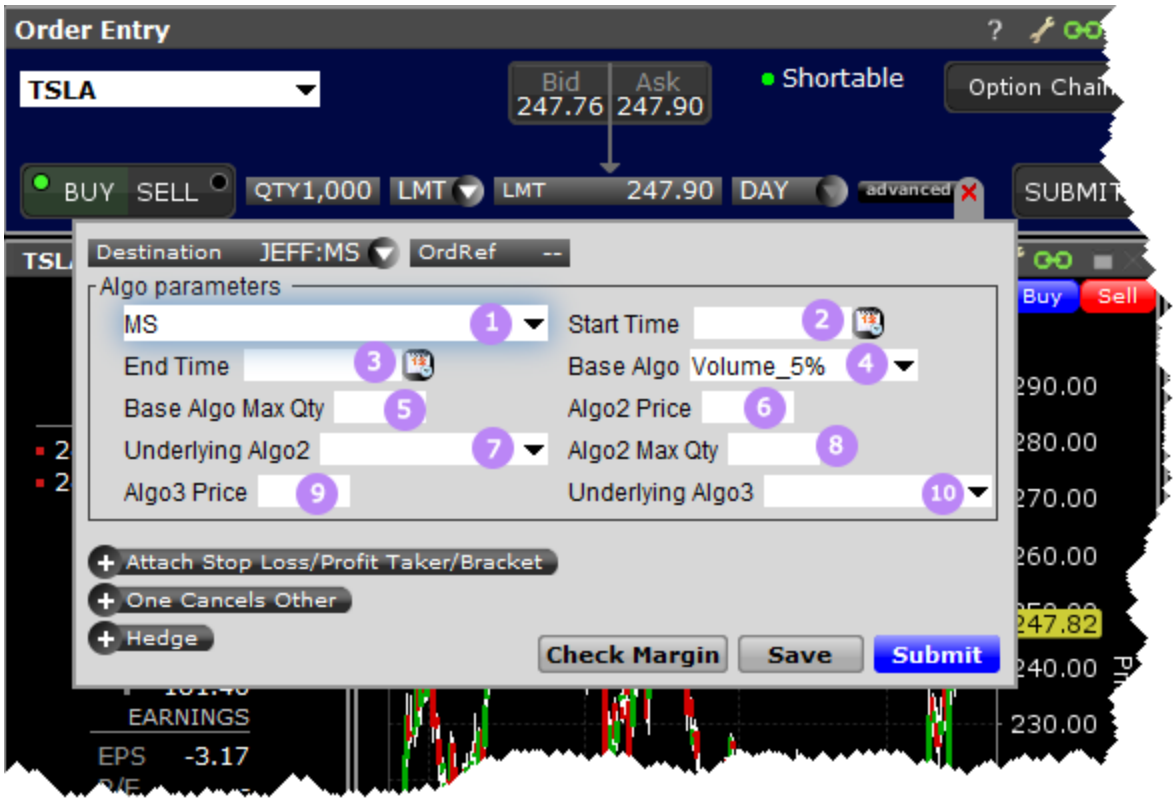
Number	Description
1	Choose TOC to use the Finale algo.
2	Start Time – (optional) Define the algo start time.
3	Urgency (optional) – Set the degree of urgency for execution. a. Passive b. Active c. Aggressive
4	Close Unit (optional) Used to determine type of Close Quantity value. Shares % of Order % of ADV % of Expected Open
5	Close Qty - (optional) - This field combines

Number	Description
	with Close Unit field to determine the quantity that will be placed into the closing auction. Positive numbers only. For an Close Unit = Shares, Close Qty must be equal to or greater than 1 round lot. For any % option, value should be less than or equal to 100.

To use Jefferies algos, select JEFFALGO as the routing destination.

Jefferies Multi Scale

Three-tiered "holder" strategy - use algorithms within this work flow.



Number	Description
1	Select MS to use the Multi Scale algo.
2	(optional) Set a start time
3	(optional) Set an end time
4	Base Algo (**required**)– percent of volume for parent (base) algo. Must be different from Algo2 and Algo3 values: Volume 5% Volume 10% Volume 15% Volume 20% Volume 25% Volume 30% DARKSeek Seek Passive Seek Active Seek Aggressive BLITZ VWAP Day Custom 1 Qty Scale Patience
5	Base Algo Max Quantity(optional) – Max quantity for parent (base) algo. Rounded down to the closest lot size.
6	Algo2 Price – Required if Algo2 is defined. Used to trigger Algo2 and must be different from limit price and Algo3 price. 00.00
7	Underlying Algo2 – Different from Base

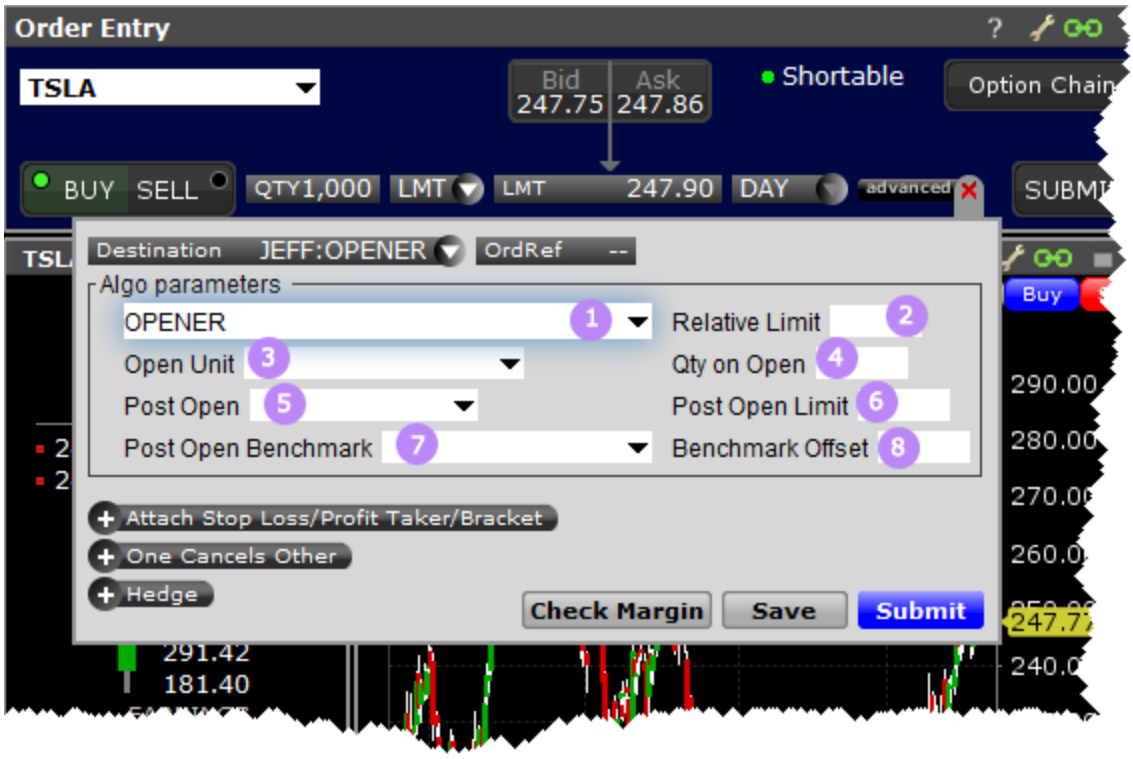
Number	Description
	Algo and Algo3: Volume 5% Volume 10% Volume 15% Volume 20% Volume 25% Volume 30% DARKSeek Seek Passive Seek Active Seek Aggressive BLITZ VWAP Day Custom 1 Qty Scale Patience
8	Algo2 Max Quantity (optional) – Max quantity for algo2. Rounded down to closest lot size.
9	Algo3 Price - Required if Algo3 is defined. Used to trigger Algo3 and must be different from Base Algo price and Algo2 price. 00.00
10	Underlying Algo3 – Different from Base Algo and Algo2: Volume 5% Volume 10% Volume 15% Volume 20%

Number	Description
	Volume 25% Volume 30% DARKSeek Seek Passive Seek Active Seek Aggressive BLITZ VWAP Day Custom 1 Qty Scale Patience

To use Jefferies algos, select JEFFALGO as the routing destination.

Jefferies Opener

Benchmark algo that lets you trade into the open.



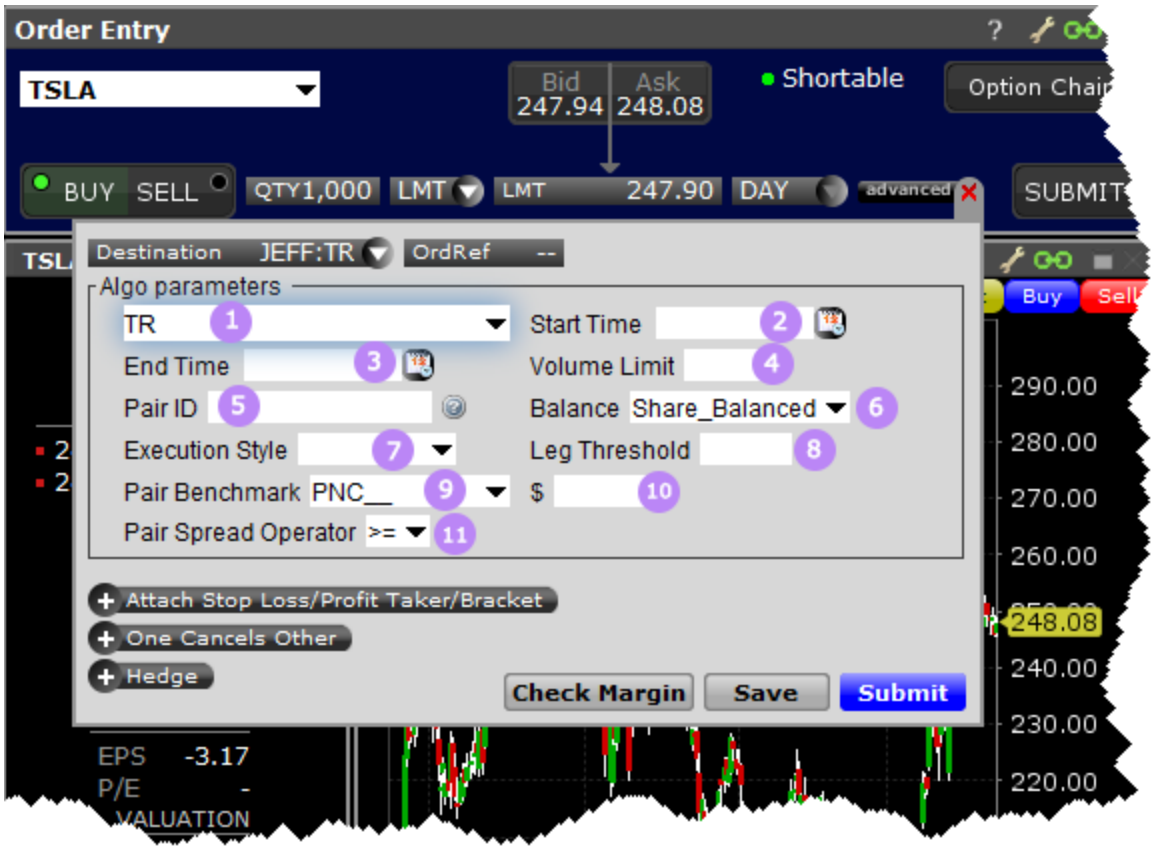
Number	Description
1	Choose algo
2	Relative Limit - (optional) Positive and Negative values are allowed. Creates a "soft" limit on the order as a price move from arrival price by the specified number of basis points. The strategy will use the Arrival Price after Market Open, the day's Opening price if the order is received before Market Open.
3	Open Unit (optional) - Used to determine type of Open Quantity value. Shares % of Order % of ADV % of Expected Open
4	Qty on Open - (optional) - Used in conjunction with the Open Unit field to specify the quantity that will be placed into the opening auction. Positive numbers only. If Open Unit is Shares, the Open Qty must be equal to or greater than 1 round lot. For any % option, the value must be less than or equal to 100.
5	Post Open (optional) - Select the strategy to use for the opening auction: Volume 5% Volume 10% Volume 15%

Number	Description
	Volume 20% Volume 25% Volume 30% DARKSeek Seek Passive Seek Active Seek Aggressive BLITZ VWAP Day Custom 1 Qty Scale Patience
6	Post Open Limit - (optional) - Absolute limit price for the post-open strategy. This limit will be ignored if it exceeds the overall limit or relative limit price.
7	Post Open Benchmark - (optional) – Inside NBBO Price Arrival Price PNC Open
8	Benchmark Offset - (optional) – Positive or Negative value in basis points set as the Relative Limit from the Post Open benchmark. These fields work together to set the Relative Limit for the Post Open strategy. If the Post Open Limit is specified then the order will use the value that is more passive.

To use Jefferies algos, select JEFFALGO as the routing destination.

Jefferies Pairs - Net Returns

Lets you execute two stock orders simultaneously. Use Net Returns to unwind a deal.



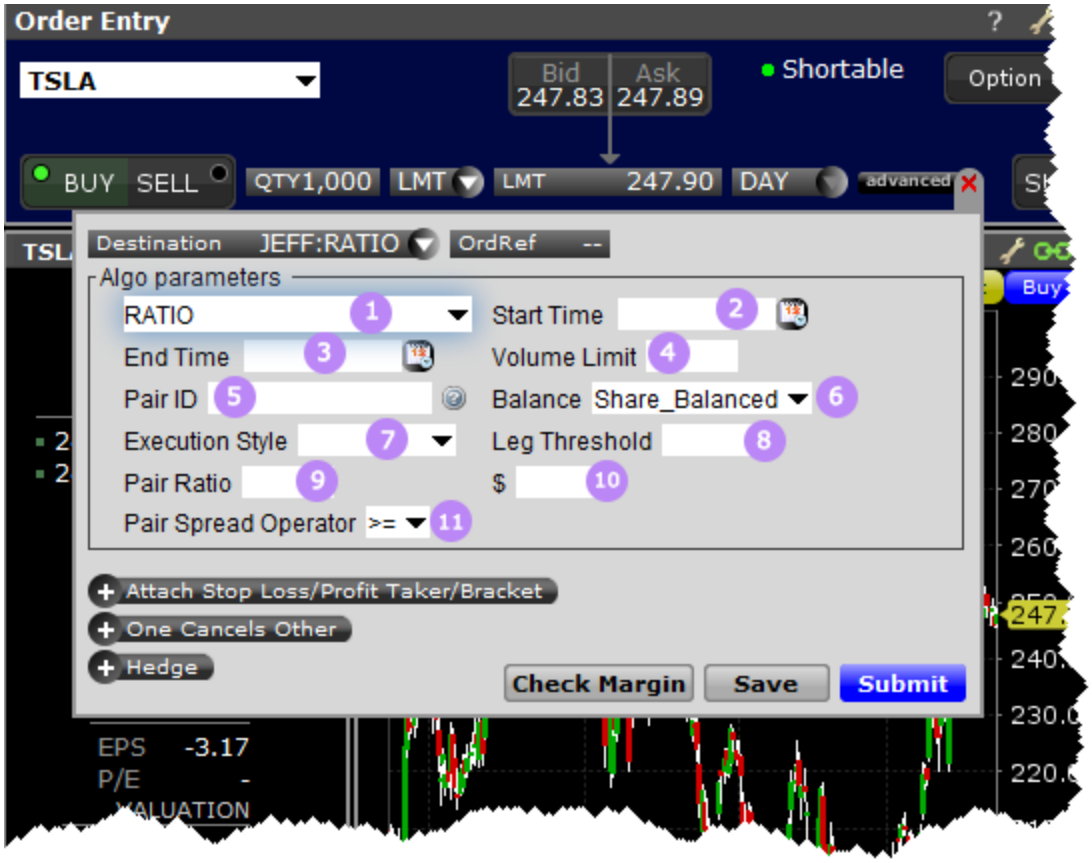
Number	Description
1	Select TR to choose the Net Return pairs algo.
2	(optional) Set a start time
3	(optional) Set an end time
4	Volume Limit - (optional) Max rate of volume
5	Pair ID (**required**) - Unique ID for the day. Must be unique per pair, per date. Specify on both legs of the pair. Limited to 28 characters.

Number	Description
6	Balance (optional) - Share Balanced Cash Balanced Ratio Balanced
7	Execution Style (optional) - Active TWAP Aggressive Custom
8	Leg Threshold - Expressed as a percentage by for values up to 99. Values of 100 or greater will be interpreted as a share amount.
9	Pair Benchmark (**required**) - PNC Open Arrival Price
10	Pair Spread ($) (optional) - Positive or negative values accepted.
11	Pair Spread Operator (**required**) - greater than or equal to; less than or equal to.

To use Jefferies algos, select JEFFALGO as the routing destination.

Jefferies Pairs - Ratio

Execute two stock orders simultaneously - use the Ratio algo to set up the pairs order.



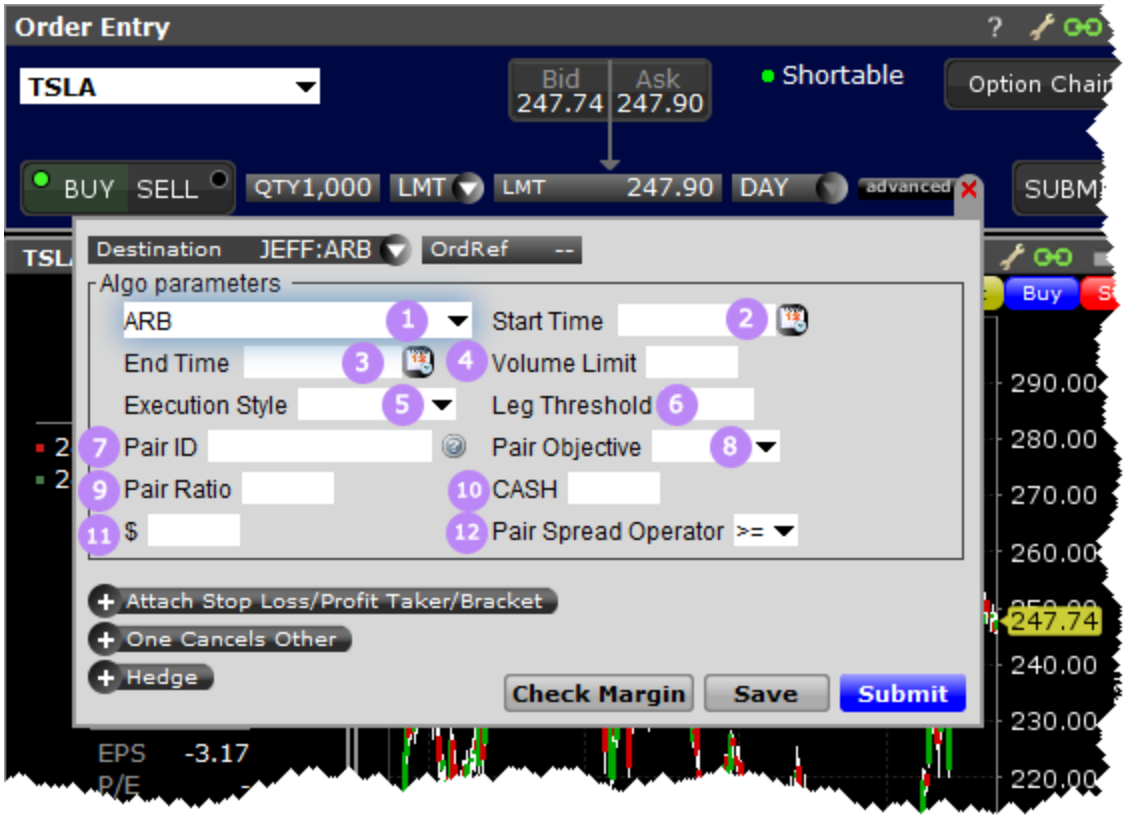
Number	Description
1	Choose the Ratio algo.
2	(optional) Set a start time
3	(optional) Set an end time
4	Volume Limit - (optional) Max rate of volume
5	Pair ID (**required**) - Unique ID for the day. Must be unique per pair, per date. Specify on both legs of the pair. Limited to 28 characters.
6	Balance (optional) - Share Balanced Cash Balanced Ratio Balanced

Number	Description
7	Execution Style (optional) - Active TWAP Aggressive Custom
8	Leg Threshold - Expressed as a percentage by for values up to 99. Values of 100 or greater will be interpreted as a share amount.
9	Pair Ratio (**required**) - Ratio per pair order.
10	Pair Spread ($) (optional) - Positive or negative values accepted.
11	Pair Spread Operator (**required**) - greater than or equal to; less than or equal to.

To use Jefferies algos, select JEFFALGO as the routing destination.

Jefferies Pairs - Risk Arb

Let's you execute two stock orders simultaneously. Allows you to setup, unwind or reverse a deal.



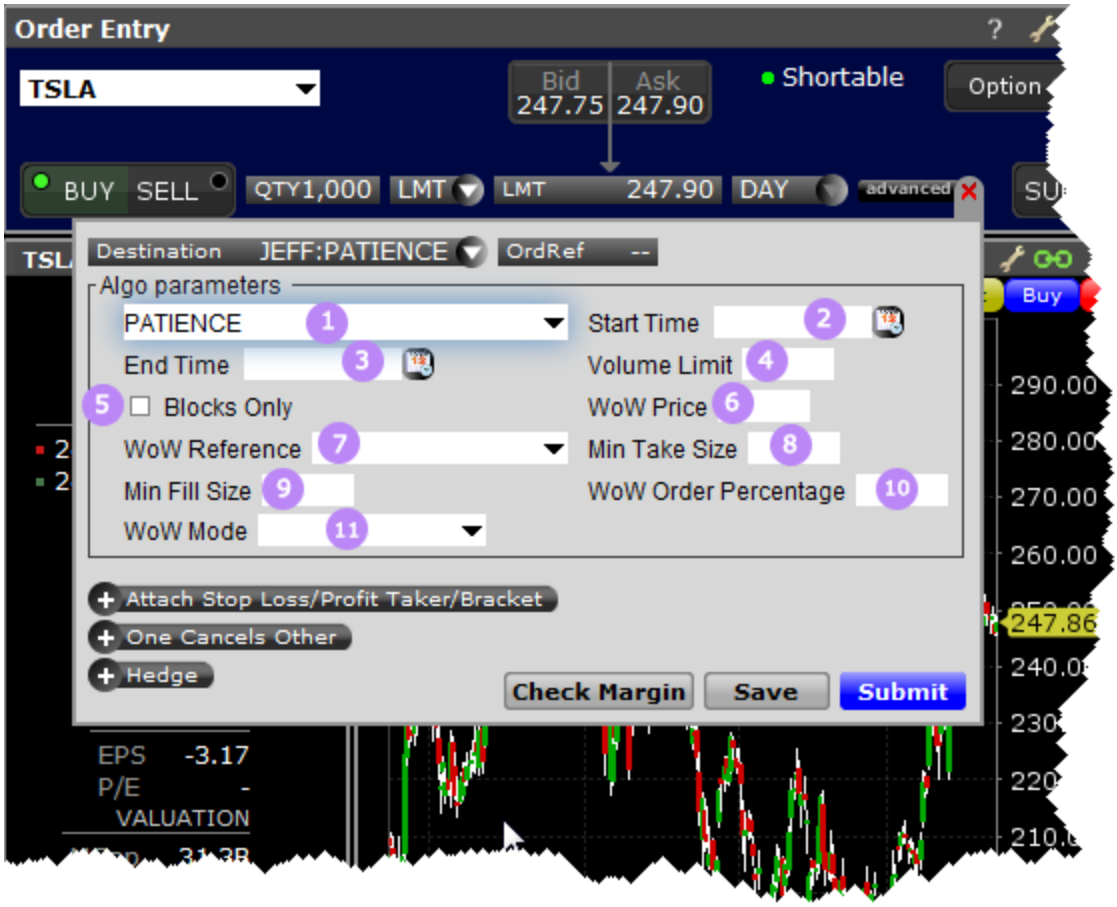
Number	Description
1	Select ARB to choose the Risk Arb pairs algo.
2	(optional) Set a start time
3	(optional) Set an end time
4	Volume Limit - (optional) Max rate of volume
5	Execution Style (optional) - Active TWAP Aggressive Custom
6	Leg Threshold - Expressed as a percentage by for values up to 99. Values of 100 or greater will be interpreted as a share

Number	Description
	amount.
7	Pair ID (**required**) - Unique ID for the day. Must be unique per pair, per date. Specify on both legs of the pair. Limited to 28 characters.
8	Pair Objective (optional) - Setup Unwind Reverse
9	Pair Ratio (**required**) - Ratio per pair order.
10	CASH (optional) - same ratio value is applied to both legs.
11	Pair Spread ($) (**required**) - Positive or negative values accepted.
12	Pair Spread Operator (**required**) - greater than or equal to; less than or equal to.

To use Jefferies algos, select JEFFALGO as the routing destination.

Jefferies Patience

Liquidity seeking algo targeted at illiquid securities.



Number	Description
1	Choose the algo.
2	(optional) Set a start time
3	(optional) Set an end time
4	Volume Limit - (optional) Max rate of volume
5	Blocks Only - Check to specify.
6	WoW Price (optional) Users must be able to modify this field on a Cxl/Replace or cancel the original entry. If this field has a value, user may specify BPS Arrival or Price. Price is the default behavior if WoW Reference is not submitted.

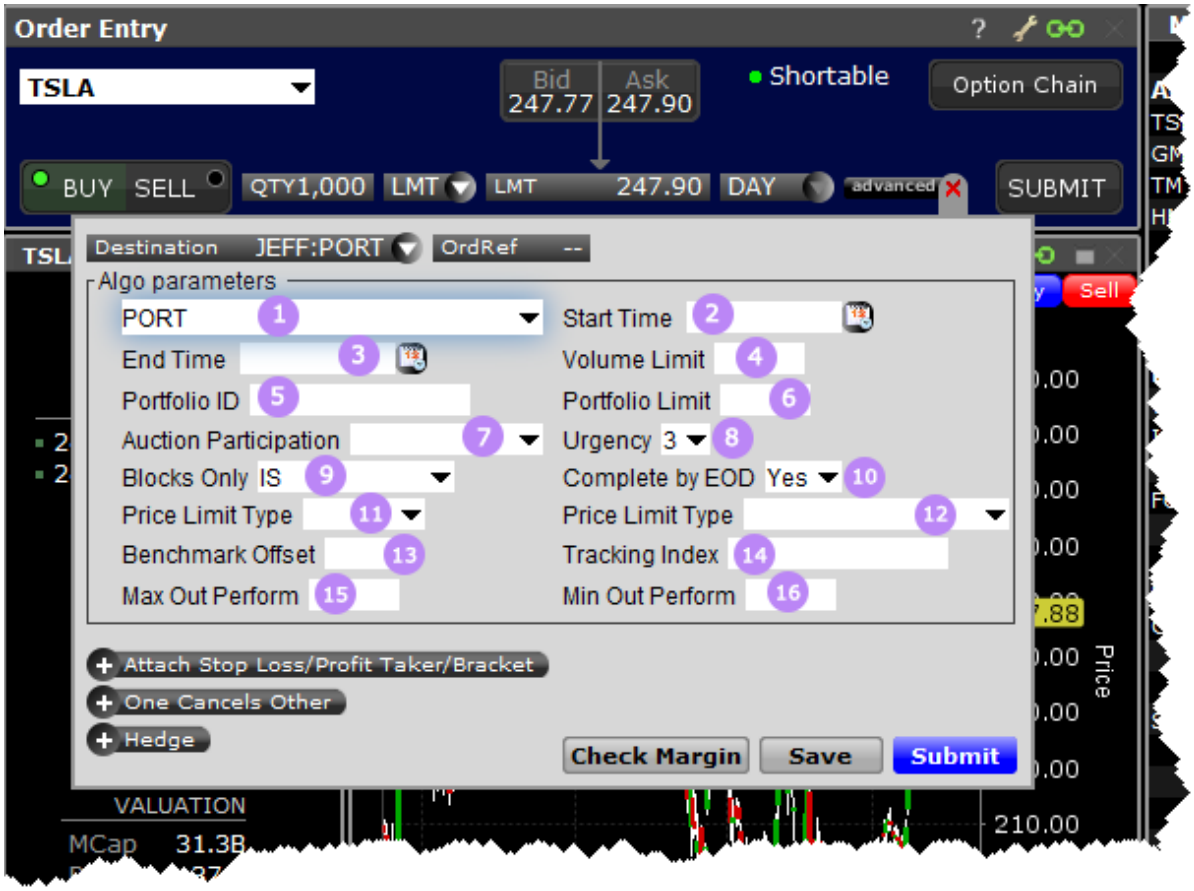
Number	Description
7	WoW Reference (optional)This field is used in con-junction with the WoW Price fields. If a user enters a value in the WoW Price field; they may specify BPS Arrival or Price. If WoW Price is not submitted, a “reference” can be submitted for processing. Users must be able to modify this field on a Cxl/Replace or cancel the original entry. Market Inside NBBO Price Arrival Price PNC Open BPS Arrival Price OPP Midpoint
8	Min Take Size - Specifies the minimum size to take. Will be rounded down to nearest lot size.
9	Min Fill Size - (optional) Specifies minimum number of shares per execution. This applies only to eligible dark pool fills.
10	WoW Order Percentage - (optional) spe-cified max percent of order WoW can act on. 5-100.
11	WoW Mode BLITZ

Number	Description
	DARKSeek Seek Passive Seek Active Seek Aggressive Volume 10% Volume 20% Volume 30% VWAP Day Custom 1 Patience

To use Jefferies algos, select JEFFALGO as the routing destination.

Jefferies Portfolio

Execute a group of stock orders according to user-defined input plus trading style.



Number	Description
1	Choose the algo.
2	(optional) Set a start time.
3	(optional) Set an end time.
4	Volume Limit - (optional) Max rate of volume.
5	Portfolio ID (optional) - Set a user ID.
6	Portfolio Limit (optional) – Positive or negative value indicating the number of basis points from the arrival price. Values from -10,000 to 10,000.
7	Auction Participation - (optional)

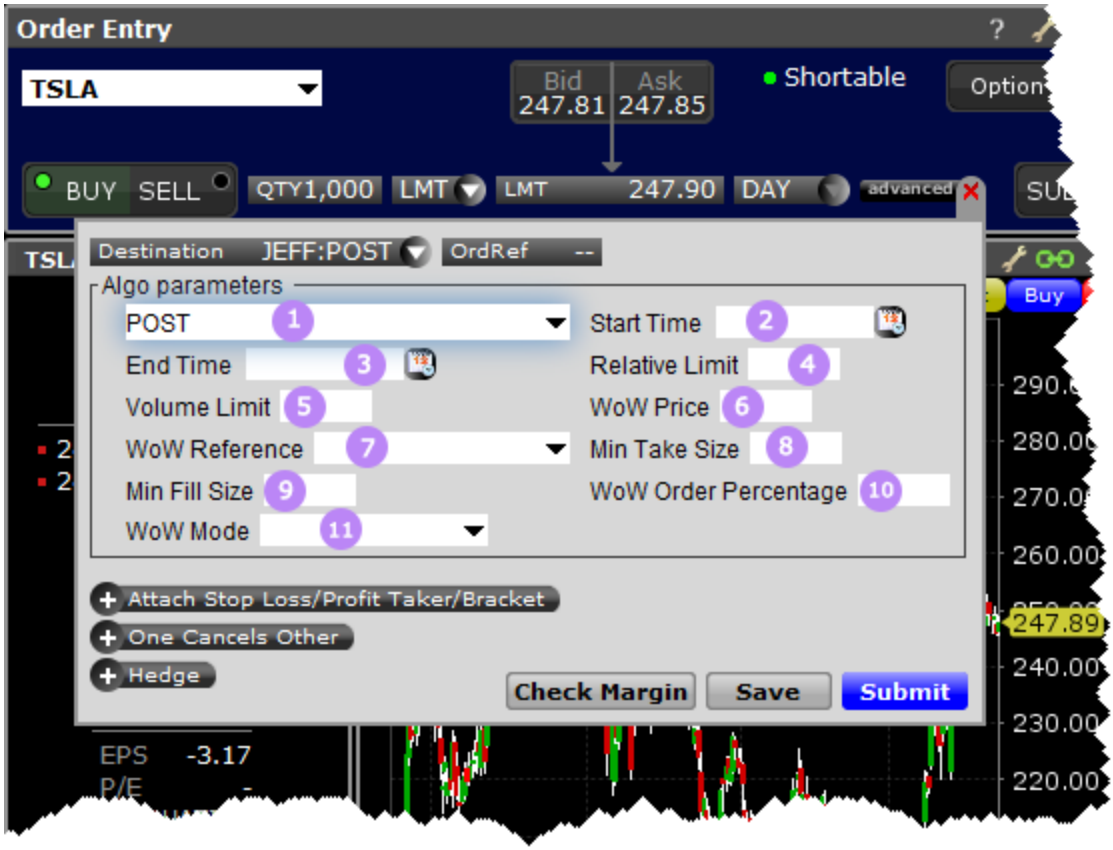
Number	Description
	Exclude Both Include Open Include Close Include Both
8	Urgency (optional) Passive, Active or Aggressive.
9	Blocks Only (optional) – Cash Balance Beta Neutral IS Dark Only Exec Balance
10	Complete by EOD (optional) – Define urgency to complete by the end of the trading day.
11	Price Limit Type (optional) – Fixed or Floating
12	Benchmark - (optional) Inside NBBO Price Arrival Price PNC Open
13	Benchmark Offset(optional) – Positive or negative value in basis points.
14	Tracking Index (optional) – User-specified text

Number	Description
15	Max Outperform (optional) - Positive or negative value in basis points.
16	Min Outperform (optional) - Positive or negative value in basis points.

To use Jefferies algos, select JEFFALGO as the routing destination.

Jefferies Post

Allows trading on the passive side of a spread.



Number	Description
1	Select the algo.
2	(optional) Set a start time
3	(optional) Set an end time

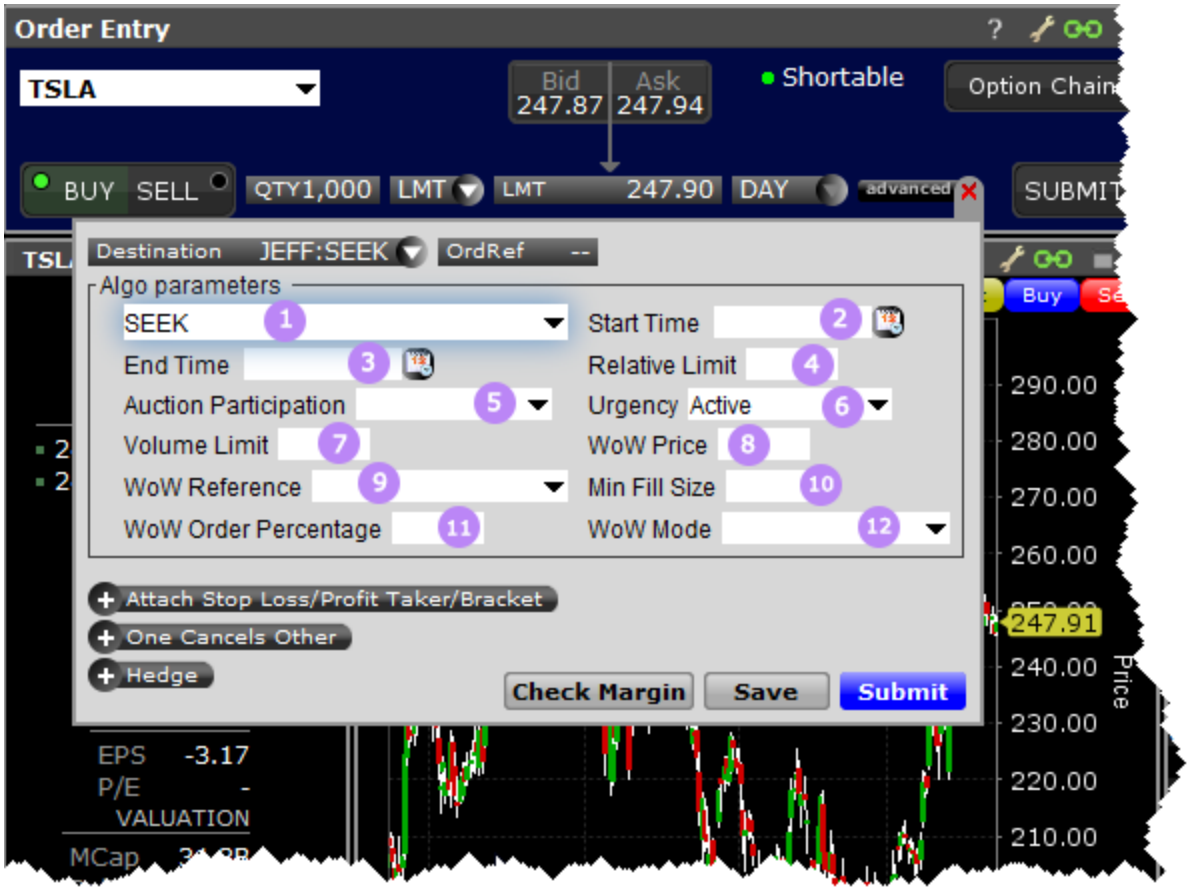
Number	Description
4	Relative Limit - (optional) Positive and Negative values are allowed. Creates a "soft" limit on the order as a price move from arrival price by the specified number of basis points. The strategy will use the Arrival Price after Market Open, the day's Opening price if the order is received before Market Open.
5	Volume Limit (optional) - The max rate of volume.
6	WoW Price (optional) Users must be able to modify this field on a Cxl/Replace or cancel the original entry. If this field has a value, user may specify BPS Arrival or Price. Price is the default behavior if WoW Reference is not submitted.
7	WoW Reference (optional)This field is used in con-junction with the WoW Price fields. If a user enters a value in the WoW Price field; they may specify BPS Arrival or Price. If WoW Price is not submitted, a "reference" can be submitted for processing. Users must be able to modify this field on a Cxl/Replace or cancel the original entry. Market Inside NBBO Price Arrival Price PNC Open

Number	Description
	BPS Arrival Price OPP Midpoint
8	Min Take Size (optional) - Specifies the minimum number of shares per execution when accessing displayed liquidity. Rounded down to closest lot size.
9	Min Fill Size - (optional) Specifies minimum number of shares per execution. This applies only to eligible dark pool fills.
10	WoW Order Percentage - (optional) specified max percent of order WoW can act on. 5-100.
11	WoW Mode (optional) BLITZ DARKSeek Seek Passive Seek Active Seek Aggressive Volume 10% Volume 20% Volume 30% VWAP Day Custom 1 Patience

To use Jefferies algos, select JEFFALGO as the routing destination.

Jefferies Seek

This strategy pursues best execution for illiquid securities by seeking out hidden liquidity from multiple sources, including hidden and displayed market centers.



Number	Description
1	Choose algo
2	(optional) Set a start time
3	(optional) Set an end time
4	Relative Limit - (optional) Positive and Negative values are allowed. Creates a "soft" limit on the order as a price move from arrival price by the specified number of

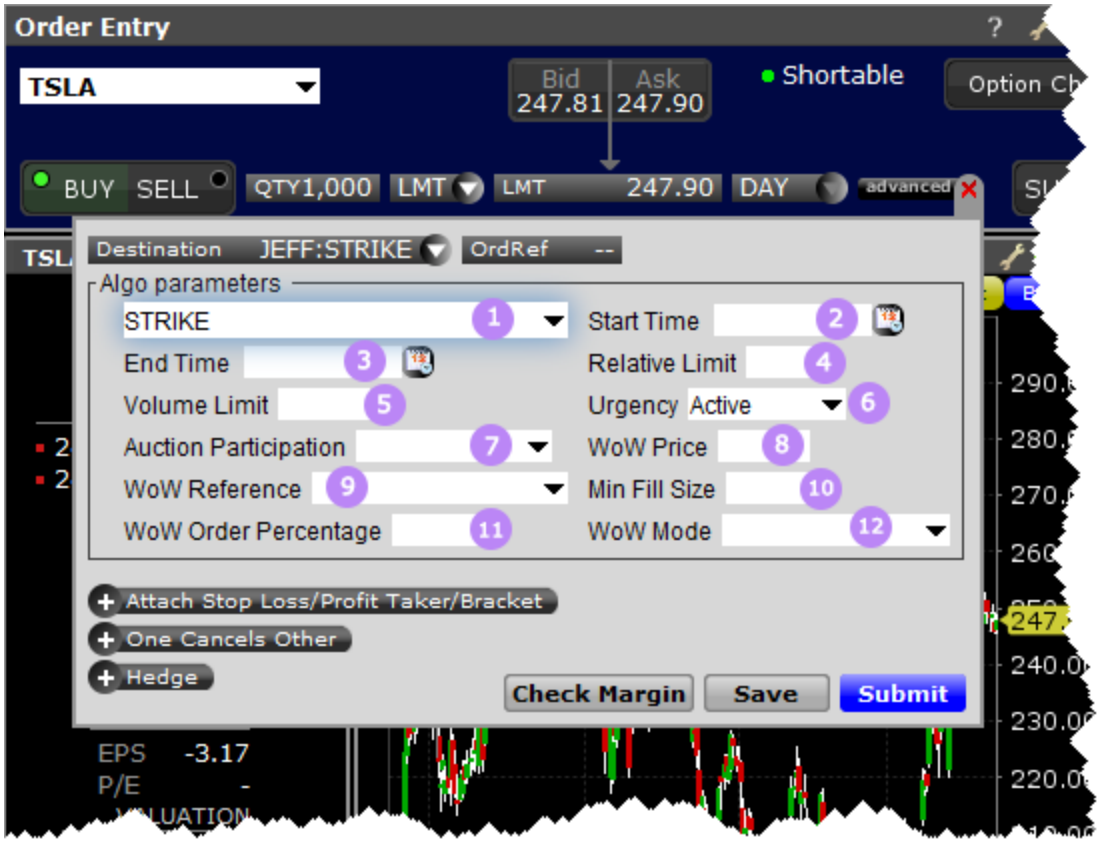
Number	Description
	basis points. The strategy will use the Arrival Price after Market Open, the day's Opening price if the order is received before Market Open.
5	Auction Participation - (optional) Exclude Both Include Open Include Close Include Both
6	Urgency (optional) Passive, Active or Aggressive.
7	Volume Limit - (optional) Max rate of volume
8	WoW Price (optional) Users must be able to modify this field on a Cxl/Replace or cancel the original entry. If this field has a value, user may specify BPS Arrival or Price. Price is the default behavior if WoW Reference is not submitted.
9	WoW Reference (optional)This field is used in con-junction with the WoW Price fields. If a user enters a value in the WoW Price field; they may specify BPS Arrival or Price. If WoW Price is not submitted, a "reference" can be submitted for processing. Users must be able to modify this field on a Cxl/Replace or cancel the original entry. Market Inside NBBO Price

Number	Description
	Arrival Price PNC Open BPS Arrival Price OPP Midpoint
10	Min Fill Size - (optional) Specifies minimum number of shares per execution. This applies only to eligible dark pool fills.
11	WoW Order Percentage - (optional) specified max percent of order WoW can act on. 5-100.
12	WoW Mode BLITZ DARKSeek Seek Passive Seek Active Seek Aggressive Volume 10% Volume 20% Volume 30% VWAP Day Custom 1 Patience

To use Jefferies algos, select JEFFALGO as the routing destination.

Jefferies Strike

This strategy seeks best execution in the user-designated time period, while minimizing market impact and volatility cost and tracking the arrival price.



Number	Description
1	Choose algo
2	(optional) Set a start time
3	(optional) Set an end time
4	Relative Limit - (optional) Positive and Negative values are allowed. Creates a "soft" limit on the order as a price move from arrival price by the specified number of basis points. The strategy will use the

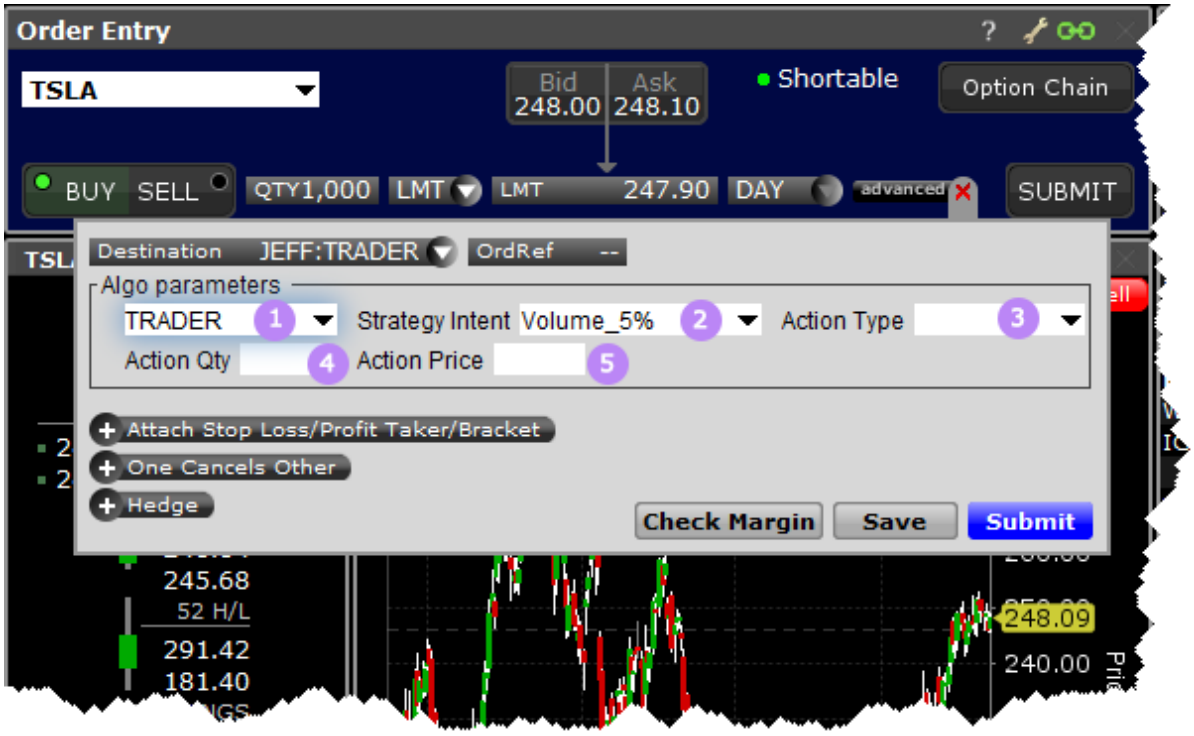
Number	Description
	Arrival Price after Market Open, the day's Opening price if the order is received before Market Open.
5	Volume Limit - (optional) Max rate of volume
6	Urgency (optional) Passive, Active or Aggressive.
7	Auction Participation - (optional) Exclude Both Include Open Include Close Include Both
8	WoW Price (optional) Users must be able to modify this field on a Cxl/Replace or cancel the original entry. If this field has a value, user may specify BPS Arrival or Price. Price is the default behavior if WoW Reference is not submitted.
9	WoW Reference (optional)This field is used in con-junction with the WoW Price fields. If a user enters a value in the WoW Price field; they may specify BPS Arrival or Price. If WoW Price is not submitted, a "reference" can be submitted for processing. Users must be able to modify this field on a Cxl/Replace or cancel the original entry. Market Inside NBBO Price Arrival Price

Number	Description
	PNC Open BPS Arrival Price OPP Midpoint
10	Min Fill Size - (optional) Specifies minimum number of shares per execution. This applies only to eligible dark pool fills.
11	WoW Order Percentage - (optional) specified max percent of order WoW can act on. 5-100.
12	WoW Mode BLITZ DARKSeek Seek Passive Seek Active Seek Aggressive Volume 10% Volume 20% Volume 30% VWAP Day Custom 1 Patience

To use Jefferies algos, select JEFFALGO as the routing destination.

Jefferies Trader

Change order parameters without cancelling and recreating the order. Workflow algo that lets you interactive with a working order and toggle between strategies with a single click.



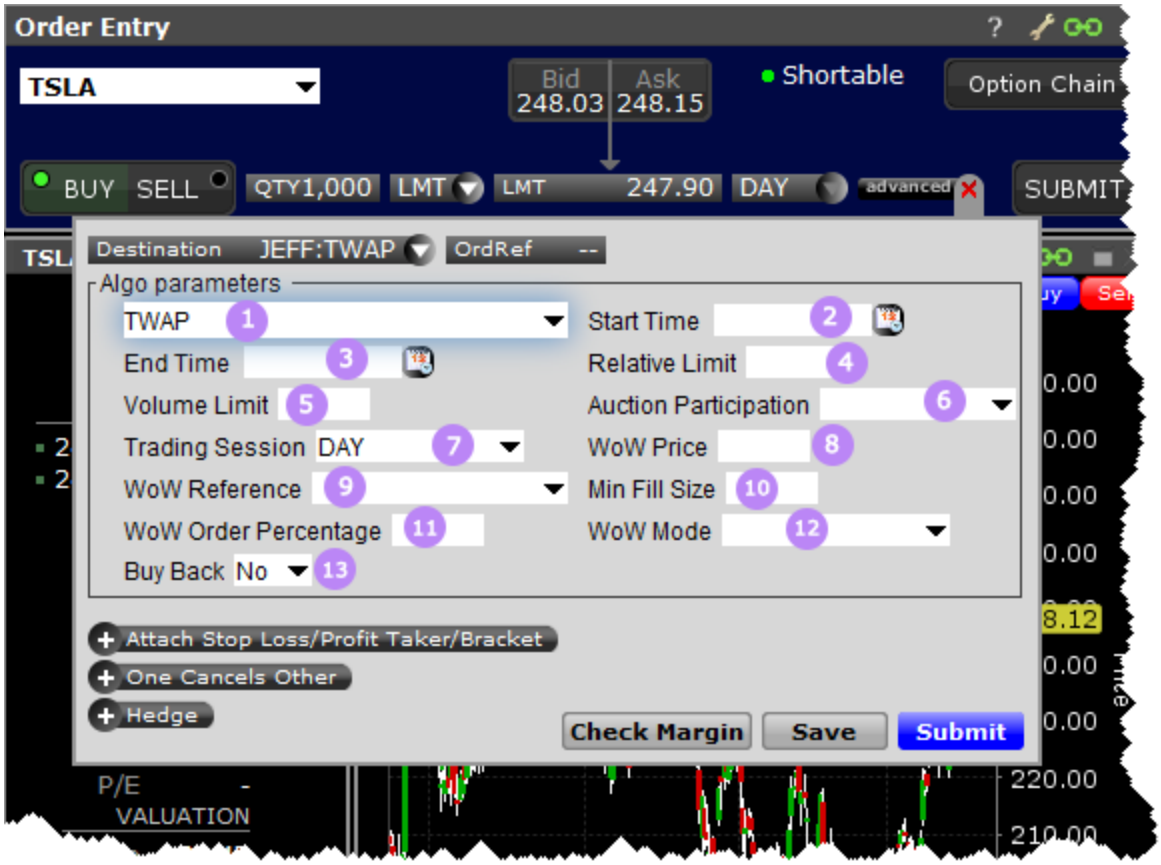
Number	Description
1	Choose the TRADER algo.
2	Strategy Intent (required): Volume 5% Volume 10% Volume 15% Volume 20% Volume 25% Volume 30% Volume 33% Volume 50% DARKSeek

Number	Description
	Seek Passive Seek Active Seek Aggressive BLITZ VWAP Day VWAP 1 Hour VWAP ½ Hr VWAP 10 Minutes Custom 1 Custom 2
3	Action Type (optional): Halt Resume Check Dark Take / Hit
4	Action Qty (optional) - Enter the number of shares. Not available if Action Type is "Halt" or "Resume."
5	Action Price - Enter the price. Not available if Action Type is "Halt" or "Resume."

To use Jefferies algos, select JEFFALGO as the routing destination.

Jefferies TWAP

This strategy spreads transactions evenly over the designated time period by slicing the total order quantity into smaller orders.



Number	Description
1	Choose algo
2	(optional) Set a start time
3	(optional) Set an end time
4	Relative Limit - (optional) Positive and Negative values are allowed. Creates a "soft" limit on the order as a price move from arrival price by the specified number of basis points. The strategy will use the Arrival Price after Market Open, the day's Opening price if the order is received before Market Open.
5	Volume Limit - (optional) Max rate of volume

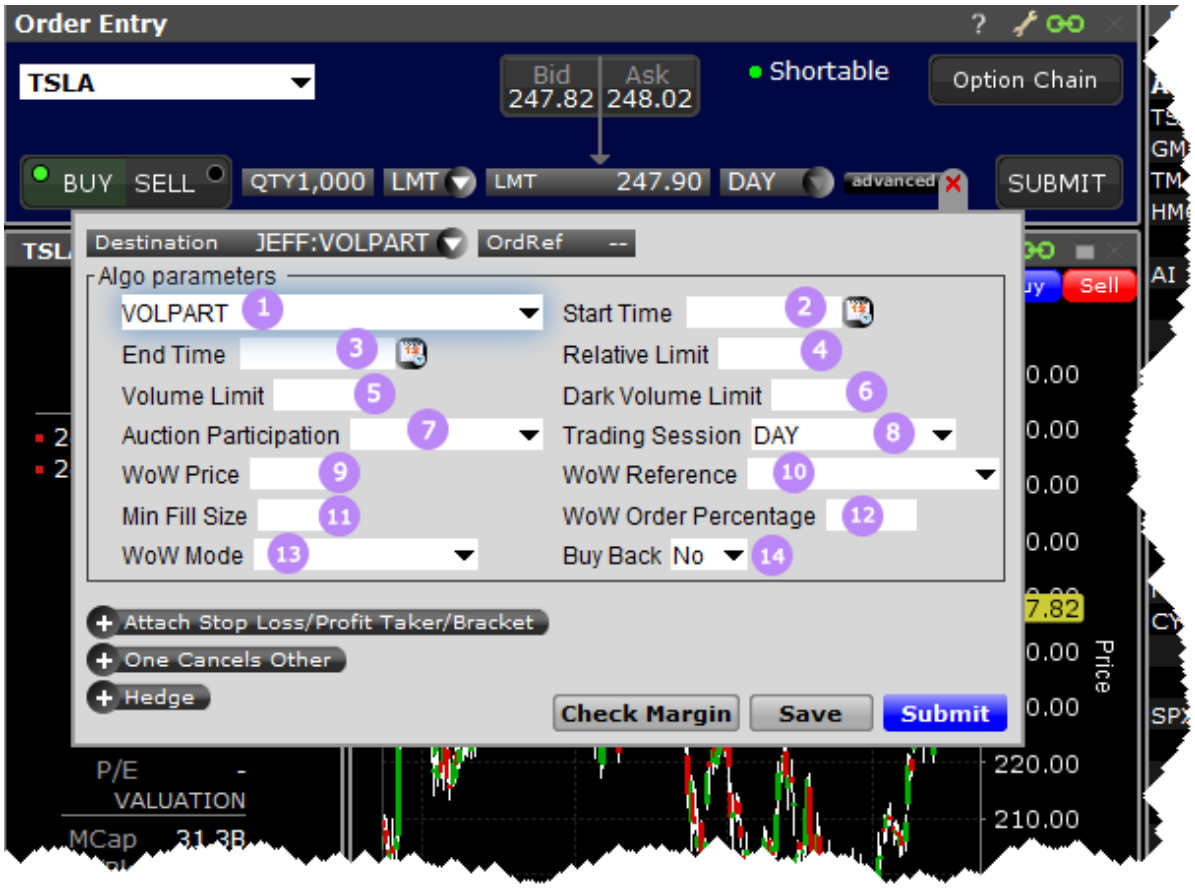
Number	Description
6	Auction Participation - (optional) Exclude Both Include Open Include Close Include Both
7	Trading Session (optional)– DAY, Pre Open or after hours.
8	WoW Price (optional) Users must be able to modify this field on a Cxl/Replace or cancel the original entry. If this field has a value, user may specify BPS Arrival or Price. Price is the default behavior if WoW Reference is not submitted.
9	WoW Reference (optional)This field is used in con-junction with the WoW Price fields. If a user enters a value in the WoW Price field; they may specify BPS Arrival or Price. If WoW Price is not submitted, a “reference” can be submitted for processing. Users must be able to modify this field on a Cxl/Replace or cancel the original entry. Market Inside NBBO Price Arrival Price PNC Open BPS Arrival Price

Number	Description
	OPP Midpoint
10	Min Fill Size - (optional) Specifies minimum number of shares per execution. This applies only to eligible dark pool fills.
11	WoW Order Percentage - (optional) specified max percent of order WoW can act on. 5-100.
12	WoW Mode BLITZ DARKSeek Seek Passive Seek Active Seek Aggressive Volume 10% Volume 20% Volume 30% VWAP Day Custom 1 Patience
13	Buy Back -(optional) Indicates that the algo should engage SEC Rule 10b-18 restrictions for Buy Back in US instruments. Also applies local market Buy Back rules (for non-US instruments). This field cannot be modified. Value Y or N.

To use Jefferies algos, select JEFFALGO as the routing destination.

Jefferies Volume Participation

This strategy allows the user to designate the percentage of stock to be executed during a specified period of time to keep in line with the printed volume. The impact of the trade is directly linked to the volume target you specify.



Number	Description
1	Choose algo
2	(optional) Set a start time
3	(optional) Set an end time
4	Relative Limit - (optional) Positive and Negative values are allowed. Creates a "soft" limit on the order as a price move from

Number	Description
	arrival price by the specified number of basis points. The strategy will use the Arrival Price after Market Open, the day's Opening price if the order is received before Market Open.
5	Volume Limit - (optional) Max rate of volume.
6	Dark Volume Limit – Max rate of volume for dark pool liquidity.
7	Auction Participation - (optional) Exclude Both Include Open Include Close Include Both
8	Trading Session –DAY, Pre Open, After hours.
9	WoW Price (optional) Users must be able to modify this field on a Cxl/Replace or cancel the original entry. If this field has a value, user may specify BPS Arrival or Price. Price is the default behavior if WoW Reference is not submitted.
10	WoW Reference (optional)This field is used in con-junction with the WoW Price fields. If a user enters a value in the WoW Price field; they may specify BPS Arrival or Price. If WoW Price is not submitted, a "reference" can be submitted for processing. Users

Number	Description
	must be able to modify this field on a Cxl/Replace or cancel the original entry. Market Inside NBBO Price Arrival Price PNC Open BPS Arrival Price OPP Midpoint
11	Min Fill Size - (optional) Specifies minimum number of shares per execution. This applies only to eligible dark pool fills.
12	WoW Order Percentage - (optional) specified max percent of order WoW can act on. 5-100.
13	WoW Mode BLITZ DARKSeek Seek Passive Seek Active Seek Aggressive Volume 10% Volume 20% Volume 30% VWAP Day

Number	Description
	Custom 1 Patience
14	Buy Back -(optional) Indicates that the algo should engage SEC Rule 10b-18 restrictions for Buy Back in US instruments. Also applies local market Buy Back rules (for non-US instruments). This field cannot be modified. Value Y or N.

To use Jefferies algos, select JEFFALGO as the routing destination.

Jefferies VWAP

This strategy automatically manages transactions to approximate the all-day or intra-day VWAP through a proprietary algorithm.

Number	Description
1	Choose algo
2	(optional) Set a start time
3	(optional) Set an end time
4	Relative Limit - (optional) Positive and Negative values are allowed. Creates a "soft" limit on the order as a price move from arrival price by the specified number of basis points. The strategy will use the Arrival Price after Market Open, the day's Opening price if the order is received before Market Open.
5	Volume Limit - (optional) Max rate of volume

Number	Description
6	Auction Participation - (optional) Exclude Both Include Open Include Close Include Both
7	Trigger Price (optional) Takes any positive value to trigger the algo. No maximum
8	WoW Price (optional) Users must be able to modify this field on a Cxl/Replace or cancel the original entry. If this field has a value, user may specify BPS Arrival or Price. Price is the default behavior if WoW Reference is not submitted.
9	WoW Reference (optional)This field is used in con-junction with the WoW Price fields. If a user enters a value in the WoW Price field; they may specify BPS Arrival or Price. If WoW Price is not submitted, a “reference” can be submitted for processing. Users must be able to modify this field on a Cxl/Replace or cancel the original entry. Market Inside NBBO Price Arrival Price PNC Open BPS Arrival Price

Number	Description
	OPP Midpoint
10	Min Fill Size - (optional) Specifies minimum number of shares per execution. This applies only to eligible dark pool fills.
11	WoW Order Percentage - (optional) specified max percent of order WoW can act on. 5-100.
12	WoW Mode BLITZ DARKSeek Seek Passive Seek Active Seek Aggressive Volume 10% Volume 20% Volume 30% VWAP Day Custom 1 Patience
13	Buy Back -(optional) Indicates that the algo should engage SEC Rule 10b-18 restrictions for Buy Back in US instruments. Also applies local market Buy Back rules (for non-US instruments). This field cannot be modified. Value Y or N.

To use Jefferies algos, select JEFFALGO as the routing destination.

Option Portfolio

Use the Option Portfolio to select, analyze and trade combinations of options on any US stock or index to achieve the user-specified values of the Greeks, including delta, gamma, vega and theta, or to compare cost/P&L for a contract or combo you would like to acquire with a simulated portfolio.

Save the Option Portfolio query to Risk Navigator to have orders generated when risk-based alarms are triggered.

Get Started **522**

Define and Submit the Query **525**

Constrain the Query Results **530**

Evaluate the Solution **531**

View What-if Risk in the IB Risk NavigatorSM **532**

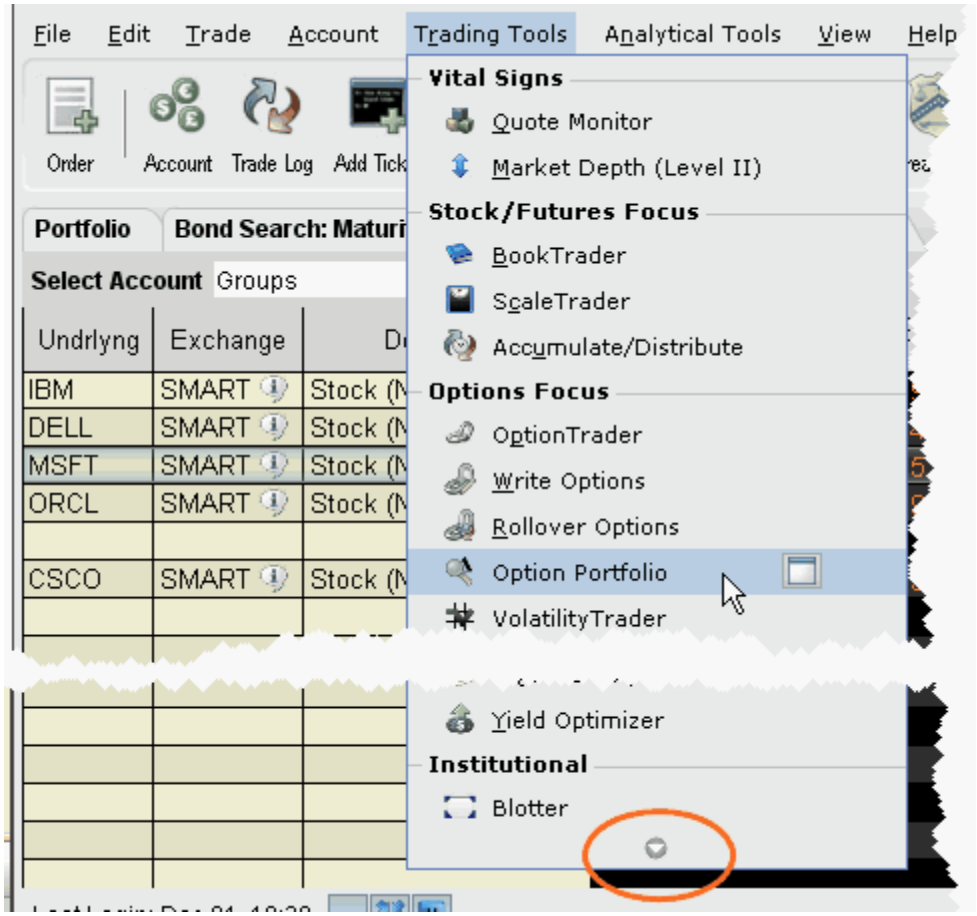
Get Started

The Option Portfolio window runs off a sophisticated back-end algorithm that mathematically optimizes an options portfolio using the defining criteria and constraints that you enter via TWSalong with relevant economic criteria.

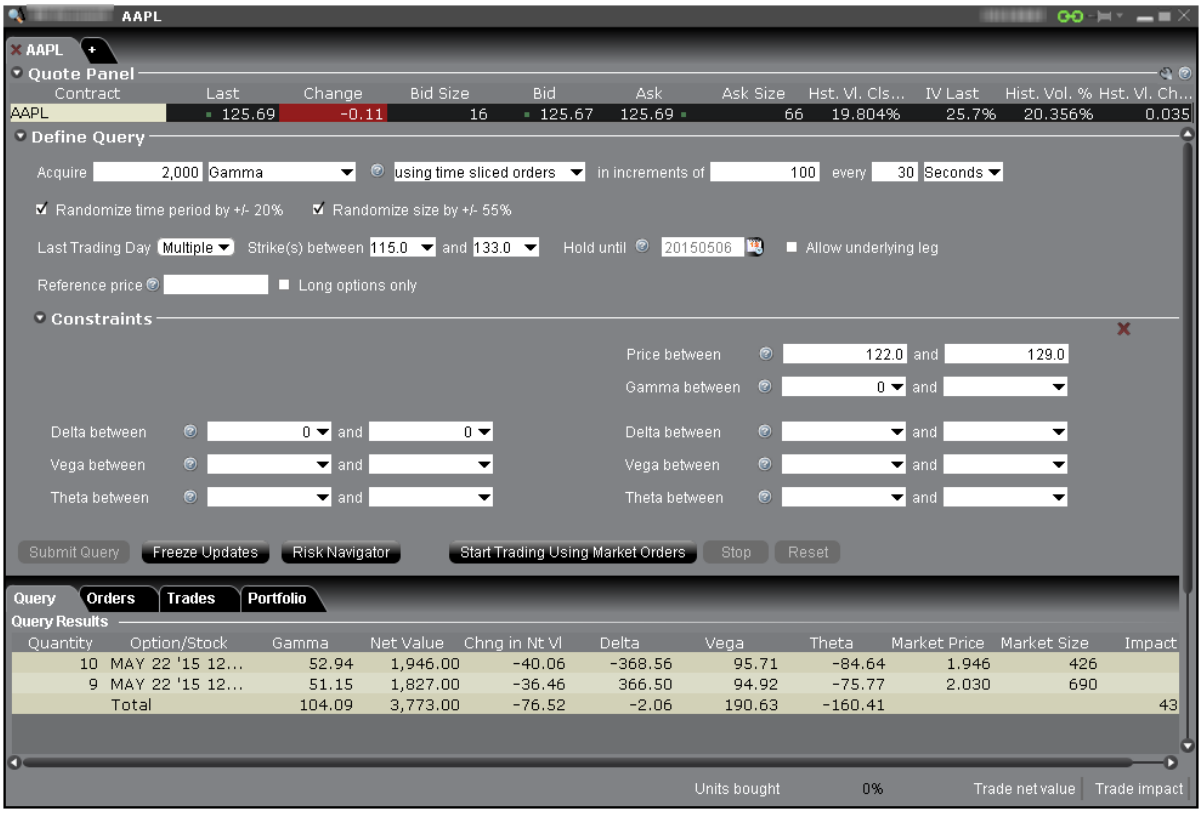
To open the Option Portfolio window

1. Select an underlying US stock or index on a trading page.
2. From the **Trading Tools** menu select *Option Portfolio*.

If you don’t see Option Portfolio in the tools list, expand the hidden items using the arrow at the bottom of the menu.



The Option Portfolio window opens and you're ready to define the query. To add a tab with another underlying to the Option Portfolio window, click the New Tab "+" icon.



The Option Portfolio algorithm works within the user-defined query constraints, and evaluates the comprehensive options market data (including bid and ask price and size) to minimize the sum of the following, and find the lowest cost solution:

Cost to execute, as represented by the bid/ask spread for each option in the Query Results list, specifically:

```
(ask - bid) x (contract multiplier) x quantity
```

summed over all orders in the Query Results list;

Commission charged to fully execute all orders in the Query Results list;

Cost to hold the Query Results list for a given period of time. This term is only relevant when the *Hold until* date is set to a value other then the current date. In this event, the holding cost is calculated as:

```
[(option value on "hold until" date) - (solution order price for
```

```
the option)] x (contract multiplier) x (signed quantity)
```

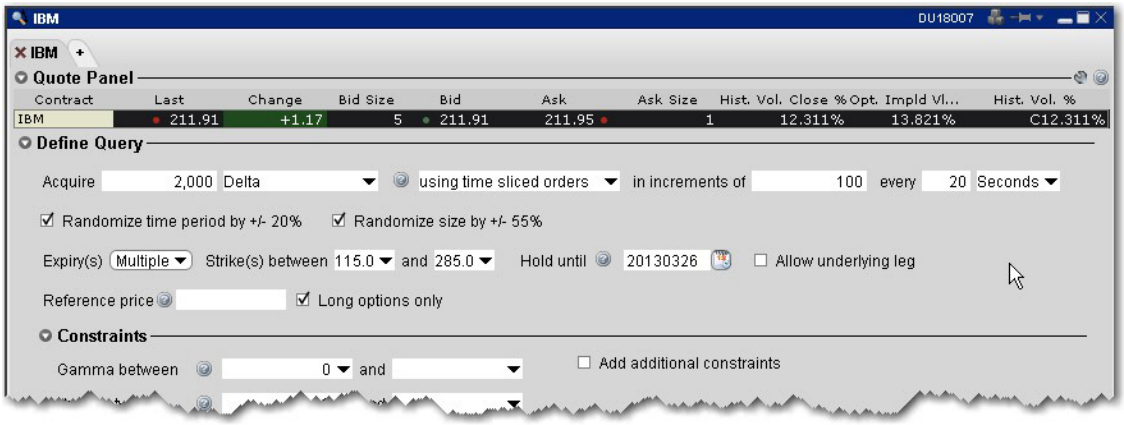
summed over all orders in the Query Results list.

The algorithm continues to work and reevaluates the solution in the Query Results list every 30 seconds until the user submits the order group for execution, freezes the updates to evaluate the solution in more detail, or changes the query criteria.

Next: Define and Submit the Query

Define and Submit the Query

Define the query by entering the quantity of the risk dimension you wish to acquire, and setting optional specifications such as time slicing and randomization, last trading day and strike range, and an underlying reference price range and *Hold until* date. You can also elect to create a Reference Portfolio and have the Option Portfolio query an optional portfolio with the same or better P&L.



To define a query

1. Select the desired objective, i.e. Acquire 2000 Delta...
2. For the greeks, enter the position quantity you'd like to acquire.

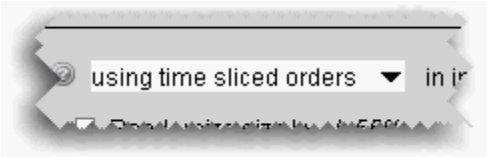
   The position quantity is equal to:

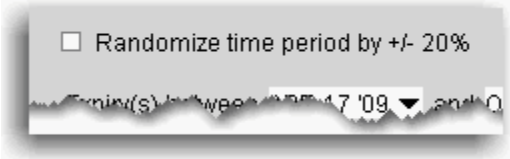
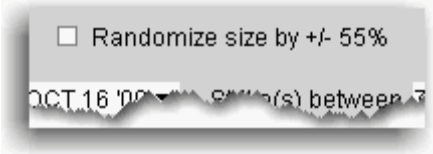
   greek value x position x multiplier

For example, 20 long call options with a delta of .4989 would show a position Delta of approximately 1000. The position Delta calculation is:

.4989 x 20 x 100 = 997.8

3. Define any optional query parameters.

Parameter	Description
Time-sliced orders	Select this option to acquire the total objective in smaller increments, with orders being submitted at user-defined time intervals of seconds, hours or minutes. 
Randomize time period by +/- 20%	When you check the *Randomize time* checkbox, the Option Portfolio randomly changes the user-defined time interval by any value up to as much as 20% in either direction. For example, an order with a time interval of 30 seconds might randomly be submitted at varying intervals of 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34

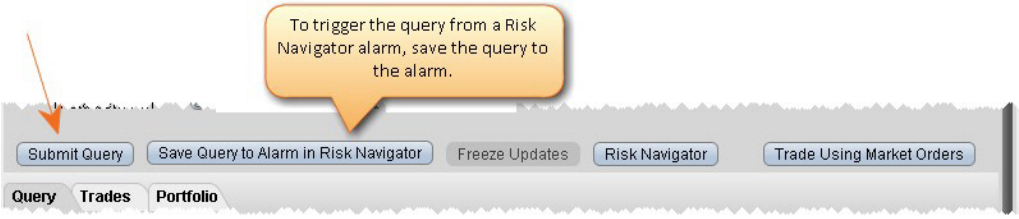
	35, 36 seconds. 
Randomize size by +/- 55%	When you check the Randomize size checkbox, the Option Portfolio randomly changes the user-defined size increment by any value up to as much as 55% in either direction. For example, an order using increments of 500 might randomly return orders with an objective anywhere from 275 up to 775. 
Range of Last Trading Days	Select the last trading day(s) you are willing to trade.

Strike Range	Select the range of strikes you are willing to trade.
Reference Price	

	By default, the midpoint of the bid/ask of the underlying price is used to calculate the objective. Enter a reference price if you prefer to use a value other than the midpoint of the underlying price. Note that an alternate reference price cannot be used if the *Price between* constraint is used.
Hold until	Enter a date if you want to hold the solution in the Query Results list until a specific date.
Long/Short options only	Checked by default. Constrains the solution to only include long or short option trades, as appropriate. For example, when buying or selling Delta, long options would be more appropriate to avoid the risk of being short options. The text will change based on the objective and signed quantity. When requesting short gamma, short vega or long theta, the text will

	read “short options only.”
Allow underlying leg	Check to allow a stock leg in the proposed solution list.

4. Add other constraints if needed (see Constrain the Query Results).
5. Submit the query by clicking the Submit Query button.



Next: Constrain the Query Results

Constrain the Query Results

Option Portfolio allows you to constrain the query results in the risk dimensions other than the objective dimension. So, if your goal is to achieve a specific Gamma position, you will be able to constrain the resulting Delta, Vega and Theta. The algorithm imposes the following default constraints:

	Constraints				
Obje		Delta	Gamma	Vega	Theta
	Delta		> 0	> 0	

c t i v e					
	Gamma	= 0			
	Vega	= 0			
	Theta	= 0			

For example, the default Delta constraint ensures that the Gamma and Vega of the Query Results solution are positive.

To override the system defaults, enter a value in one or multiple input fields and click *Submit Query*.

Next: Evaluate the Solution

Evaluate the Solution

Freeze updates to the query to evaluate the solution, and use the IB Risk NavigatorSM to see how implementing the option portfolio will affect your current risk profile.

To stop the algorithm from updating results

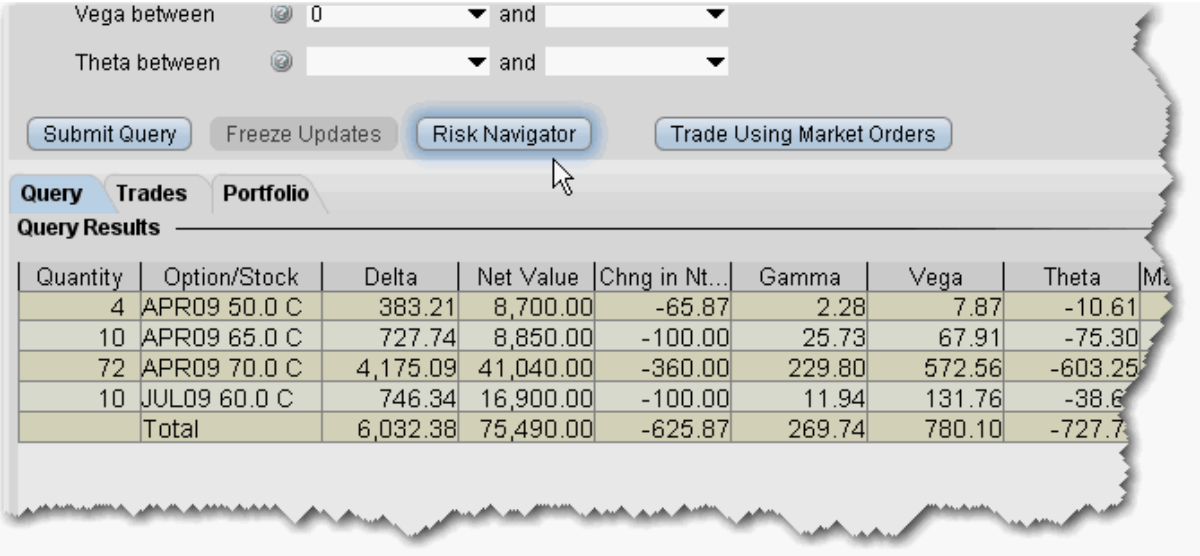
1. Click *Freeze Updates* to keep the algorithm from reevaluating and displaying new solutions.

Note that the data will continue to tick but the Query List will remain unchanged.

Next Step: View What-if Risk in the IB Risk NavigatorSM

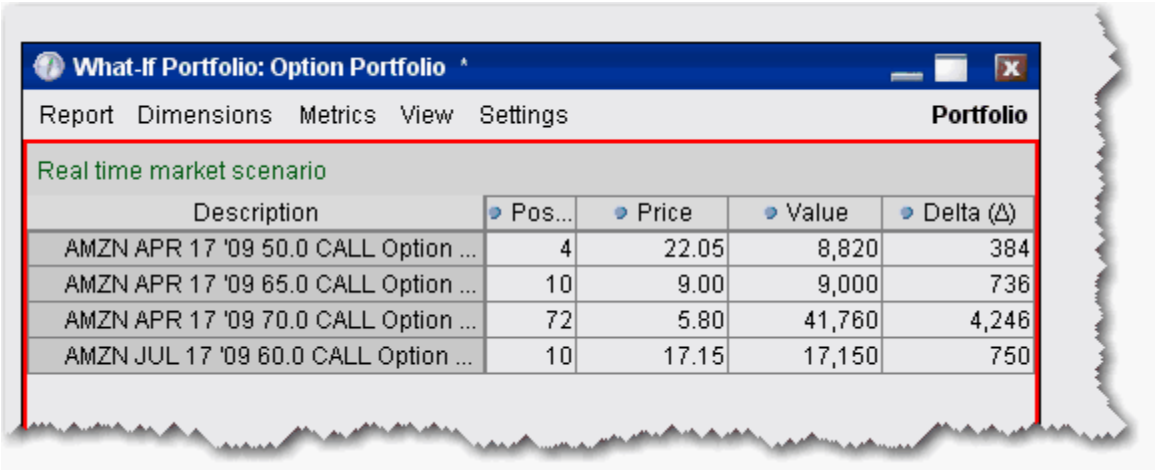
View What-if Risk in the IB Risk NavigatorSM

You can view the risk summary for the proposed Option Portfolio solution list in the IB Risk Navigator, and add your existing portfolio to the What-if to see how acquired Greek risk dimension will affect your existing risk profile.



Quantity	Option/Stock	Delta	Net Value	Chng in Nt...	Gamma	Vega	Theta	Ma
4	APR09 50.0 C	383.21	8,700.00	-65.87	2.28	7.87	-10.61	
10	APR09 65.0 C	727.74	8,850.00	-100.00	25.73	67.91	-75.30	
72	APR09 70.0 C	4,175.09	41,040.00	-360.00	229.80	572.56	-603.25	
10	JUL09 60.0 C	746.34	16,900.00	-100.00	11.94	131.76	-38.6	
	Total	6,032.38	75,490.00	-625.87	269.74	780.10	-727.7	

The above image is querying for a basket of trades to acquire 6,000 delta. We have elected to Freeze updates to the solution list and open the proposed list in the IB Risk Navigator. We click the Risk Navigator button, and within seconds the solution list opens in its own What-if Portfolio window, shown below:



Description	Pos...	Price	Value	Delta (Δ)
AMZN APR 17 '09 50.0 CALL Option ...	4	22.05	8,820	384
AMZN APR 17 '09 65.0 CALL Option ...	10	9.00	9,000	736
AMZN APR 17 '09 70.0 CALL Option ...	72	5.80	41,760	4,246
AMZN JUL 17 '09 60.0 CALL Option ...	10	17.15	17,150	750

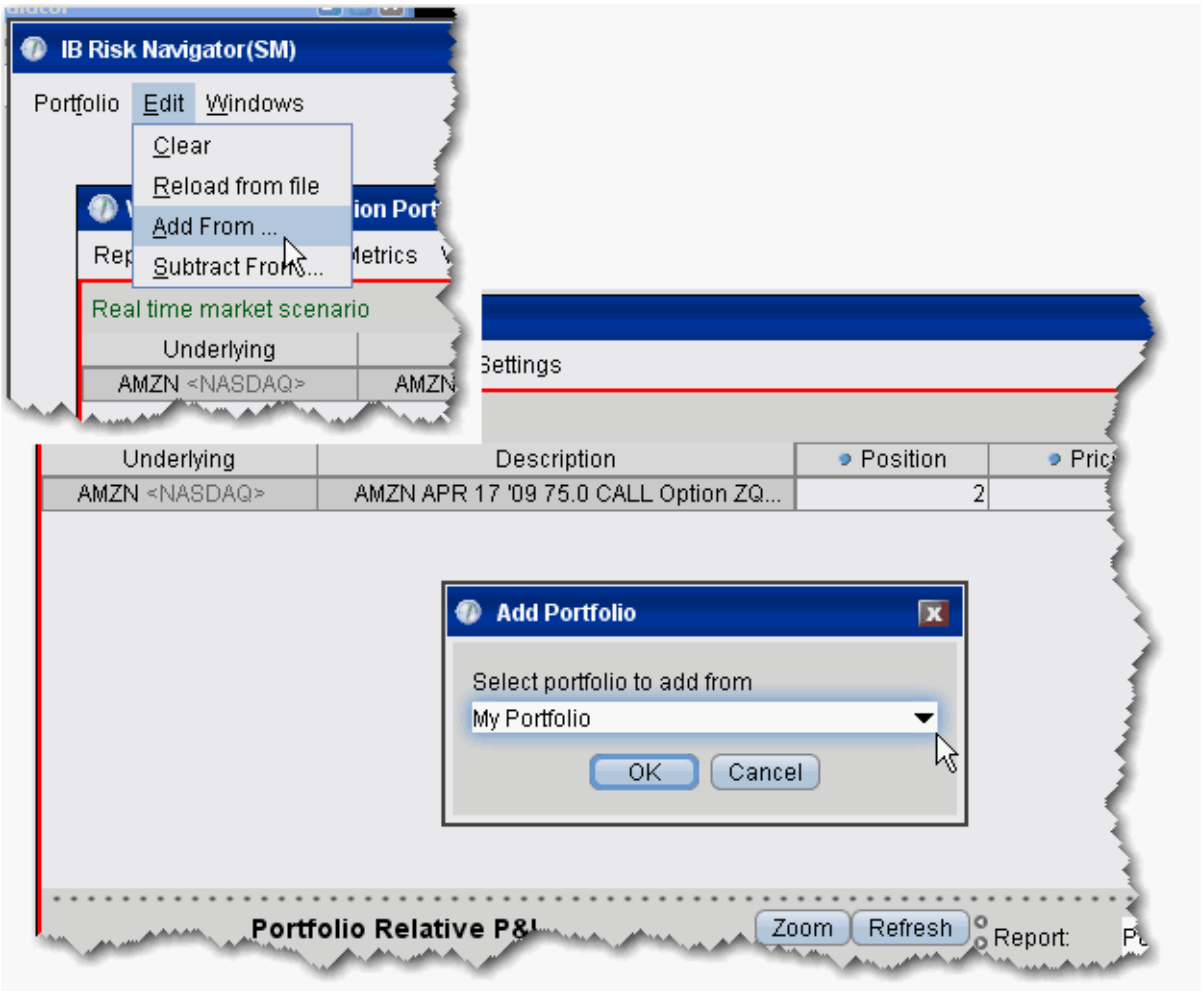
To view the solution list in Risk Navigator

1. Click the **Risk Navigator** button to open a What-if scenario that contains the Query Results list.

   The *What-if* is indicated by a red border around the portfolio, and is named “Option Portfolio.”

2. Select any Report or Measure to see the isolated risk profile for the list.

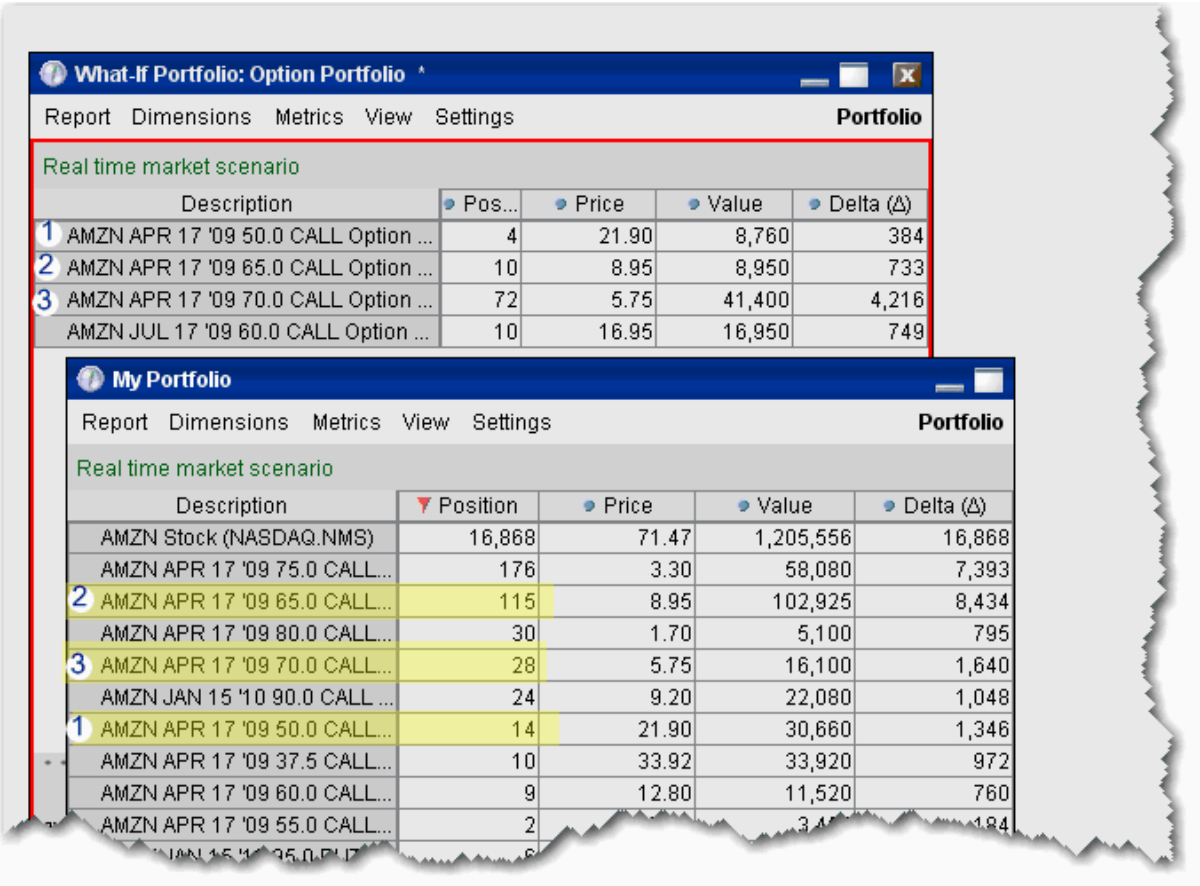
You can also view the proposed solution list integrated with your current portfolio risk profile. Simply add your portfolio to the What-if scenario from the Option Portfolio.



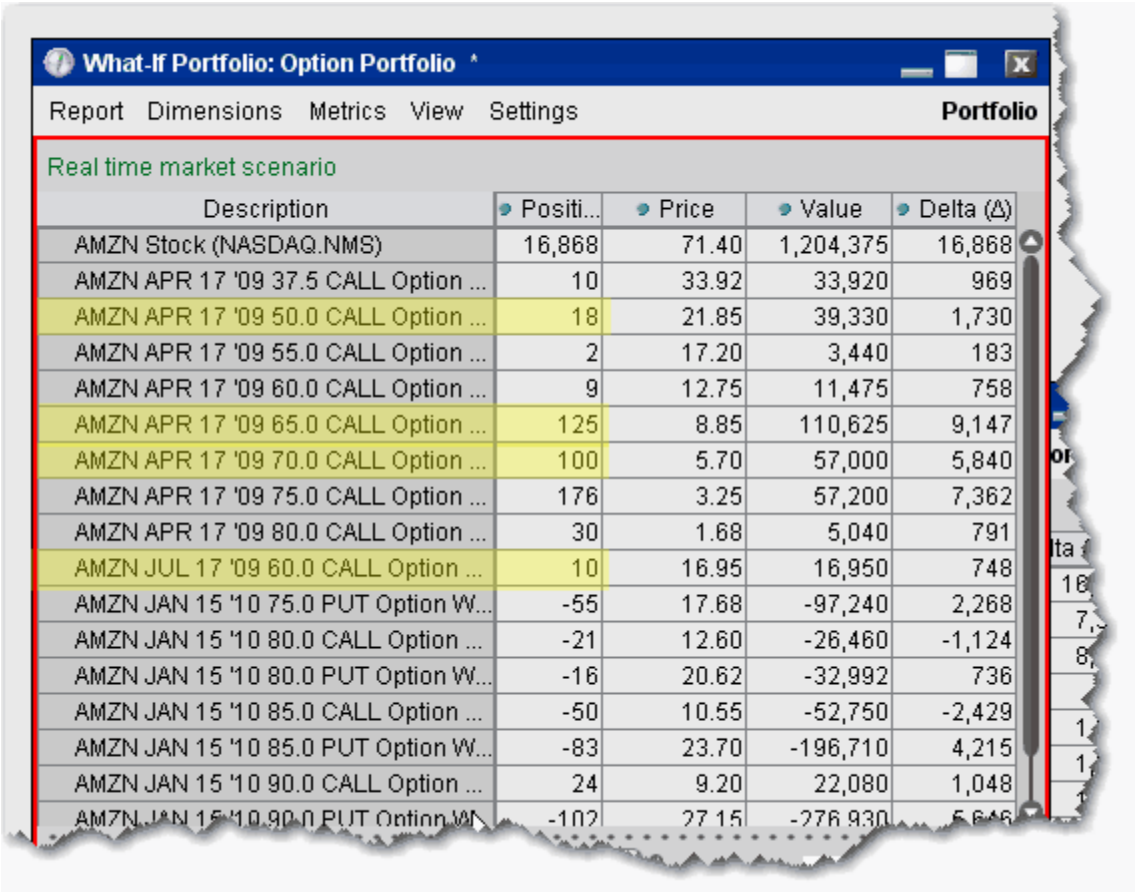
To add your portfolio to the What-if scenario

1. From the Edit menu of the IB Risk Navigator, select *Add From*.
2. Your actual portfolio, named My Portfolio, is the default selection. Click OK.If you have created other portfolios, you may select another from the list.
3. The positions in your portfolio are added to the What-if scenario from the Option Portfolio solution list.

Below you can see the What-if portfolio outlined in red, and below, your actual portfolio. The highlighted positions are common to both, but distinct at this point.



After you elect to Add your portfolio, the two sets of positions are summed in the new, integrated What-if Portfolio, shown below.



ScaleTrader

The ScaleTrader can help prevent increasingly deteriorating prices on large sized orders. Choose to create a simple scale order, a pair trade, or a multi-leg combo.

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About ScaleTrader

ScaleTrader is a flexible trading tool that implements a sophisticated trading algorithm, allowing you to scale into a large position without being subject to increasingly deteriorating prices, or to trade continually over a specified price range to capture a user-defined profit offset amount. ScaleTrader supports all products traded at IB except Mutual Funds.

ScaleTrader Summary and Status

Below the Scale chart, the Summary and Status sections give you more information on the current scale order.

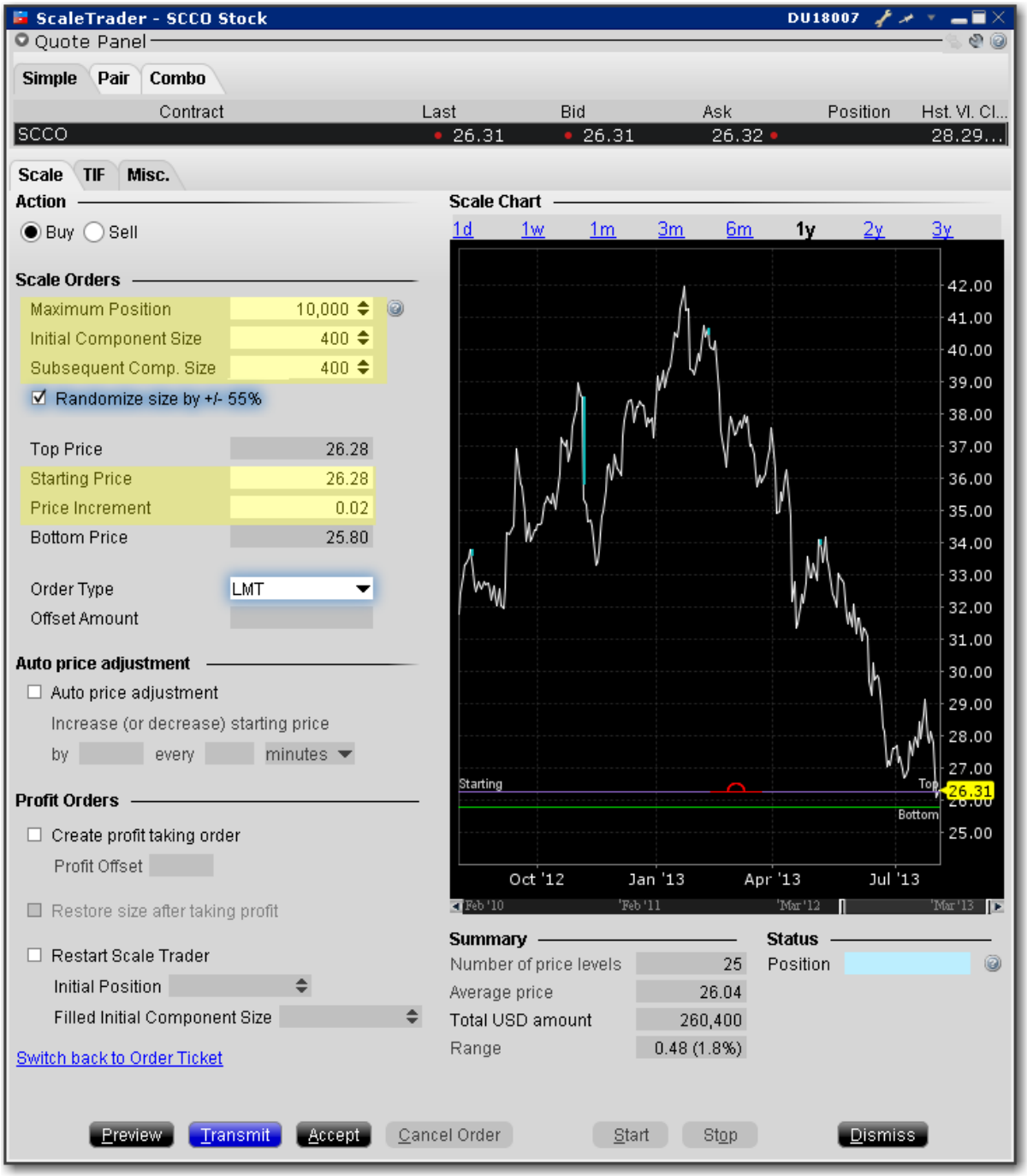
The **Summary** shows the number of price levels in your scale, the average price of the total order, the amount, and the range of the scale between the top and bottom prices.

The **Status** displays the displays the size of your filled position, and shows the latest Buy price and Sell price working for the active scale order.

Use the Start and Stop buttons to start and stop the algo. Use Dismiss to close the ScaleTrader.

Basic Scale Orders

ScaleTrader provides many “add ons” that allow you to customize your order based on your trading strategy. A basic scale order might involve simply scaling into or out of a position, with or without a profit trade.



To create a basic scale order

Select the action, Buy or Sell.

Maximum Position - Enter the total order size. Note that this value refers only to the position for this algo order. It does not take into account or affect any current position in the underlying that you may hold.

Initial Component Size - The initial component size refers to the number of units that will be submitted at the starting price, and is used in determining the number of components and price levels needed to achieve the Maximum Position. The component size must be entered in round lots.

If you do not enter a value in the Subsequent Comp. Size field, this value will be used for both initial and subsequent components

Subsequent Comp. Size - The number of units that will be submitted at subsequent price levels. Must be entered in round lots.

Starting Price - The price at which the initial component will be submitted. The starting price defaults to the ask, but can be changed directly in the field or by dragging the blue line in the scale chart.

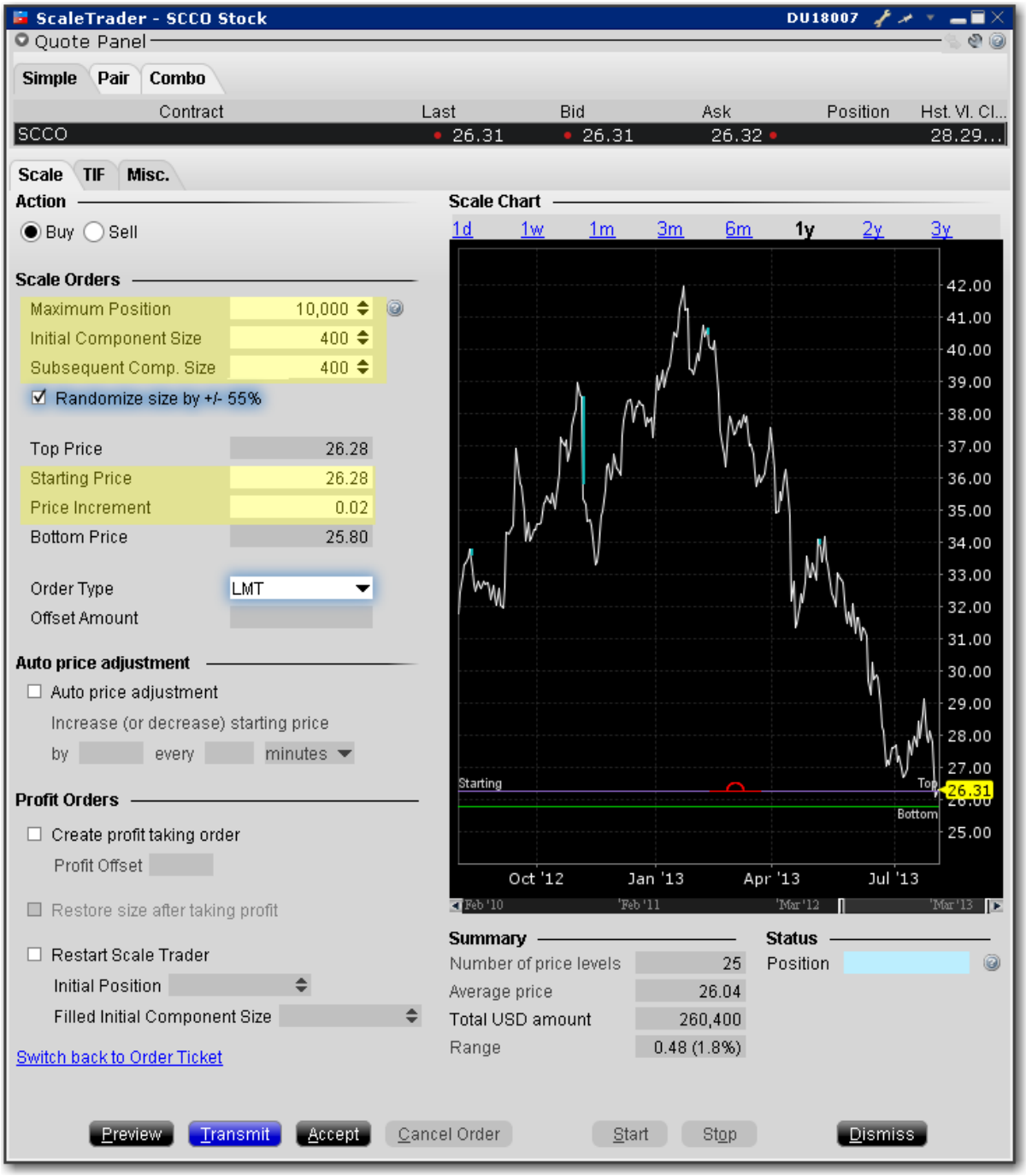
Price Increment - Used to define the price levels for each scale component. The increment will be subtracted from the last price level for a buy order, and added to the last price level for a sell order.

The number of components along with the Starting Price and Price Increment are used to calculate the Bottom Price, which is the lowest price at which any of the order components will be submitted. If you change the Bottom Price, the Price Increment is recalculated.

For an example of how a basic scale order like this one will behave, see Example 1: Basic Scale Order.

To view the progress of your scale order, use the View Scale Progress feature.

Example 1: Basic Scale Order



Data Assumptions:

Label	Value

NBBO	$26.31 - $26.32
Action	Buy
Total Order Size	10,000
Initial/Subsequent Component Size	400
Starting Price	$26.28
Price Increment	.02
Order Type	Limit
Time in Force	GTC (this is set on the Basic tab of the order ticket)

This is an order to buy 10000 shares scaled into 25 components of 400 shares each.

The first 400 share component is submitted as a buy limit order at the Starting Price of $26.28.

When the complete order fills, the next component of 400 shares is submitted at $26.26 (starting price - price increment).

If price movement results in this order becoming unmarketable, the remainder of the order is held.

Once the price level fills, the next component for 400 shares is submitted at $26.26 (last filled price level - price increment).

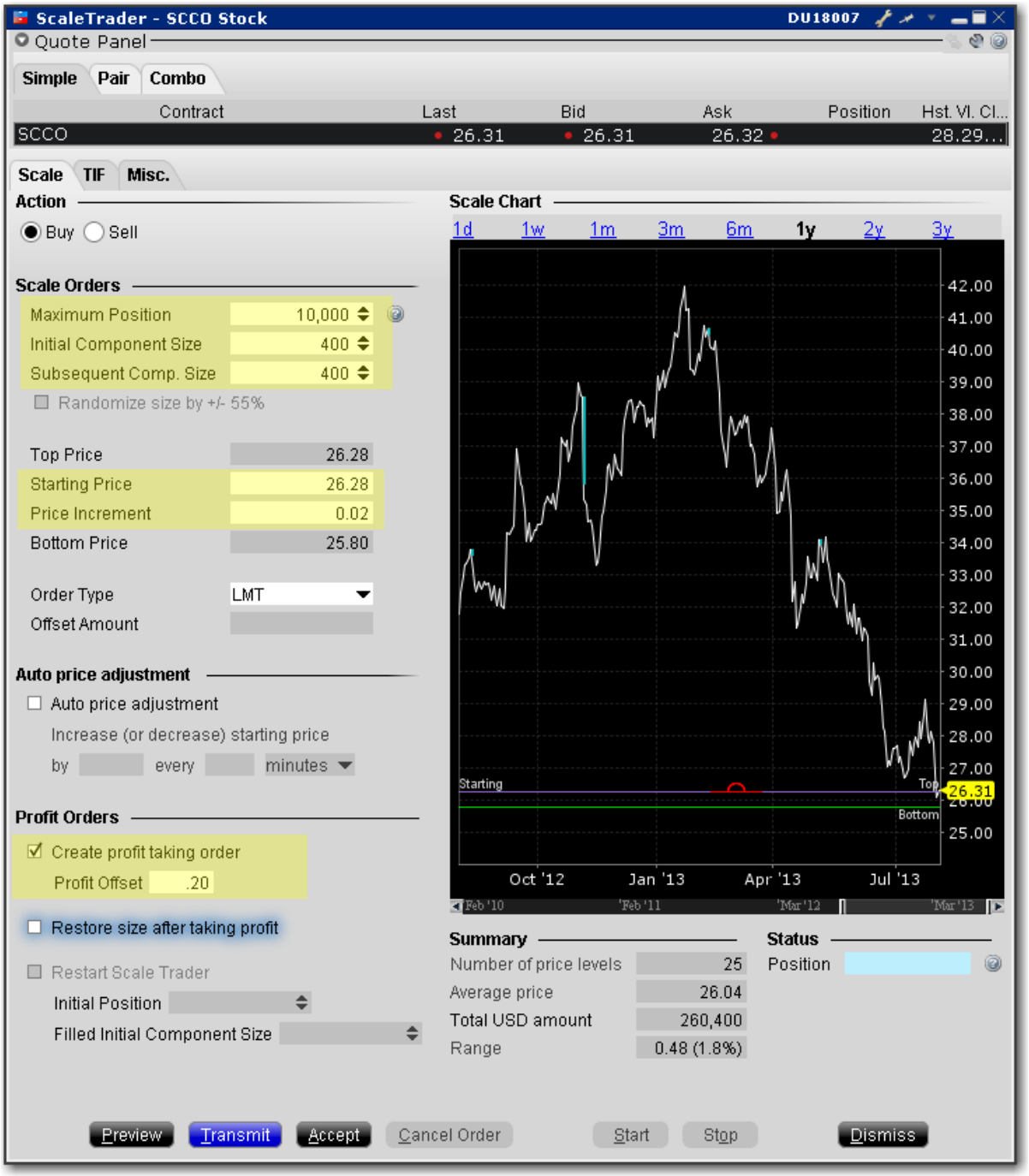
This pattern continues until all components have filled, or you cancel the order.

Basic Scale Orders topic.

Basic Scale with Profit Orders

ScaleTrader provides many “add ons” that allow you to customize your order based on your trading strategy. A basic scale order might involve simply scaling into or out of a position, with

or without a profit trade. The Profit taking orders are submitted against a filled order component at a specific price level, where the price is calculated using the component price level +/- the defined profit offset.



To create a basic scale with profit orders

Select the action, Buy or Sell.

Maximum Position - Enter the total order size. Note that this value refers only to the position for this algo order. It does not take into account or affect any current position in the underlying that you may hold.

Initial Component Size - The initial component size refers to the number of units that will be submitted at the starting price, and is used in determining the number of components and price levels needed to achieve the Maximum Position. The component size must be entered in round lots.

If you do not enter a value in the Subsequent Comp. Size field, this value will be used for both initial and subsequent components

Subsequent Comp. Size - The number of units that will be submitted at subsequent price levels. Must be entered in round lots.

Randomize Size - Check to help ensure the components are not easily detected in the market. Resulting component sizes will be plus or minus 55 percent rounded up or down to the nearest round lot. For a 400 component size, submitted sizes could be 200, 300, 400, 500 or 600.

The Randomize feature cannot be used with profit taker orders.

Starting Price - The price at which the initial component will be submitted. The starting price defaults to the ask, but can be changed directly in the field or by dragging the blue line in the scale chart.

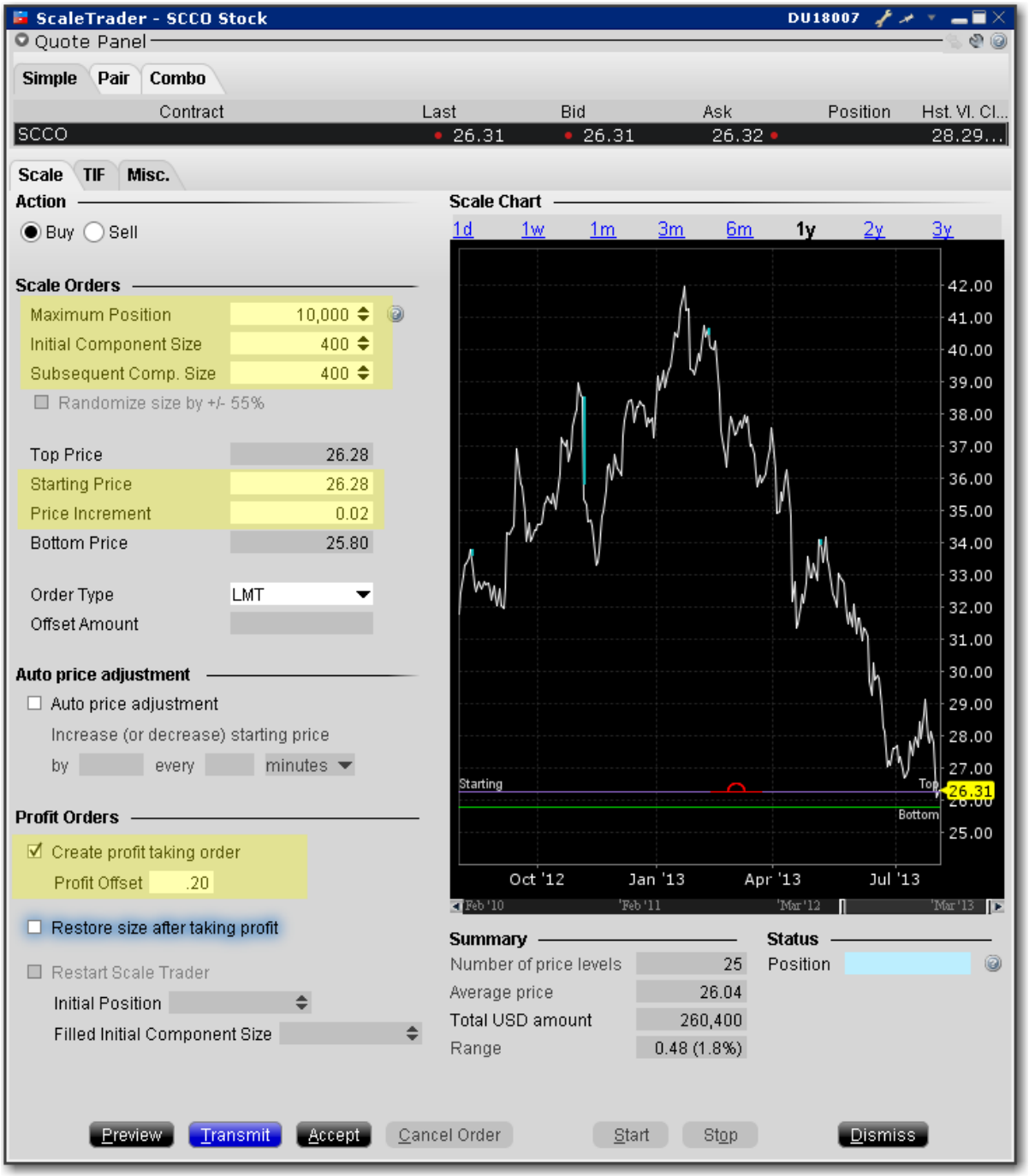
Price Increment - Used to define the price levels for each scale component. The increment will be subtracted from the last price level for a buy order, and added to the last price level for a sell order.

The number of components along with the Starting Price and Price Increment are used to calculate the Bottom Price, which is the lowest price at which any of the order components will be submitted. If you change the Bottom Price, the Price Increment is recalculated.

Check *Create profit taking order* and enter a profit offset amount.

For an example of how a basic scale order like this one will behave, see Example 2: Scale order with Profit-Taking Orders.

Example 2: Scale order with Profit-Taking Orders



Data Assumptions:

Label	Value
NBBO	$26.31 - $26.32
Action	Buy
Total Order Size	10,000
Initial/Subsequent Component Size	400
Starting Price	$26.28
Price Increment	.02
Order Type	Limit
Time in Force	GTC (this is set on the Basic tab of the order ticket)
Create profit taking order	Check to enable
Profit Offset	0.20

Like example 1, this is an order to buy 10000 shares scaled into 25 components of 400 shares each. In addition, we have instructed TWS to submit profit-taking sell orders against each order component, with a .20 profit offset. This means the profit orders will be submitted at the last filled price level plus the .20 cent offset.

The first 400 share component is submitted as a buy limit order at the Starting Price of $26.28. When the component order fills two things happen. The next component of 400 shares is submitted at $26.26 (component price - price increment), and a sell order is submitted for 400 shares at $26.48 (component price + profit offset).

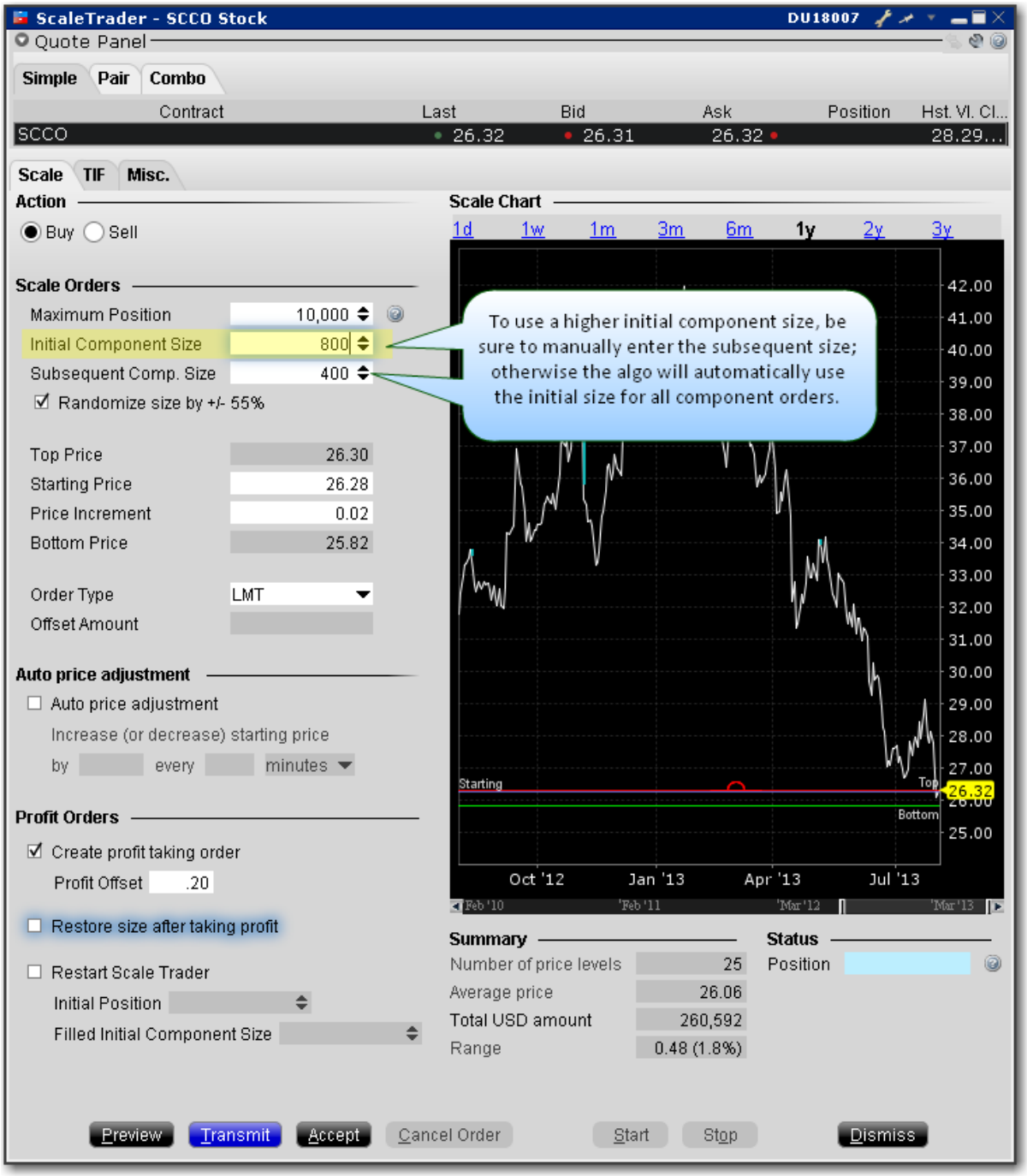
When the $26.26 price level fills, a sell order for 400 shares at $26.46 (component price + profit offset) is submitted. This pattern continues until all components have filled, or you cancel the order.

The order will be held if any parent component becomes unmarketable, but the profit orders can continue to work without holding up the order.

Basic Scale with Profit Orders topic.

Scale Profit Orders with Initial Component

ScaleTrader provides many “add ons” that allow you to customize your order based on your trading strategy. A basic scale order might involve simply scaling into or out of a position, with or without a profit trade. The Profit taking orders are submitted against a filled order component at a specific price level, where the price is calculated using the component price level +/- the defined profit offset. If you use a higher Initial Component size, the profit orders are submitted against a component size AS IF the components were submitted at the Starting Price + Price Increment.



To create a scale profit order with Initial Component

Select the action, Buy or Sell.

Maximum Position - Enter the total order size. Note that this value refers only to the position for this algo order. It does not take into account or affect any current position in the underlying that you may hold.

Initial Component Size - The initial component size refers to the number of units that will be submitted at the starting price, and is used in determining the number of components and price levels needed to achieve the Maximum Position. The component size must be entered in round lots.

If you do not enter a value in the Subsequent Comp. Size field, this value will be used for both initial and subsequent components

Subsequent Comp. Size - The number of units that will be submitted at subsequent price levels. Must be entered in round lots.

Randomize Size - Check to help ensure the components are not easily detected in the market. Resulting component sizes will be plus or minus 55 percent rounded up or down to the nearest round lot. For a 400 component size, submitted sizes could be 200, 300, 400, 500 or 600.

Starting Price - The price at which the initial component will be submitted. The starting price defaults to the ask, but can be changed directly in the field or by dragging the blue line in the scale chart.

Price Increment - Used to define the price levels for each scale component. The increment will be subtracted from the last price level for a buy order, and added to the last price level for a sell order.

The number of components along with the Starting Price and Price Increment are used to calculate the Bottom Price, which is the lowest price at which any of the order components will be submitted. If you change the Bottom Price, the Price Increment is recalculated.

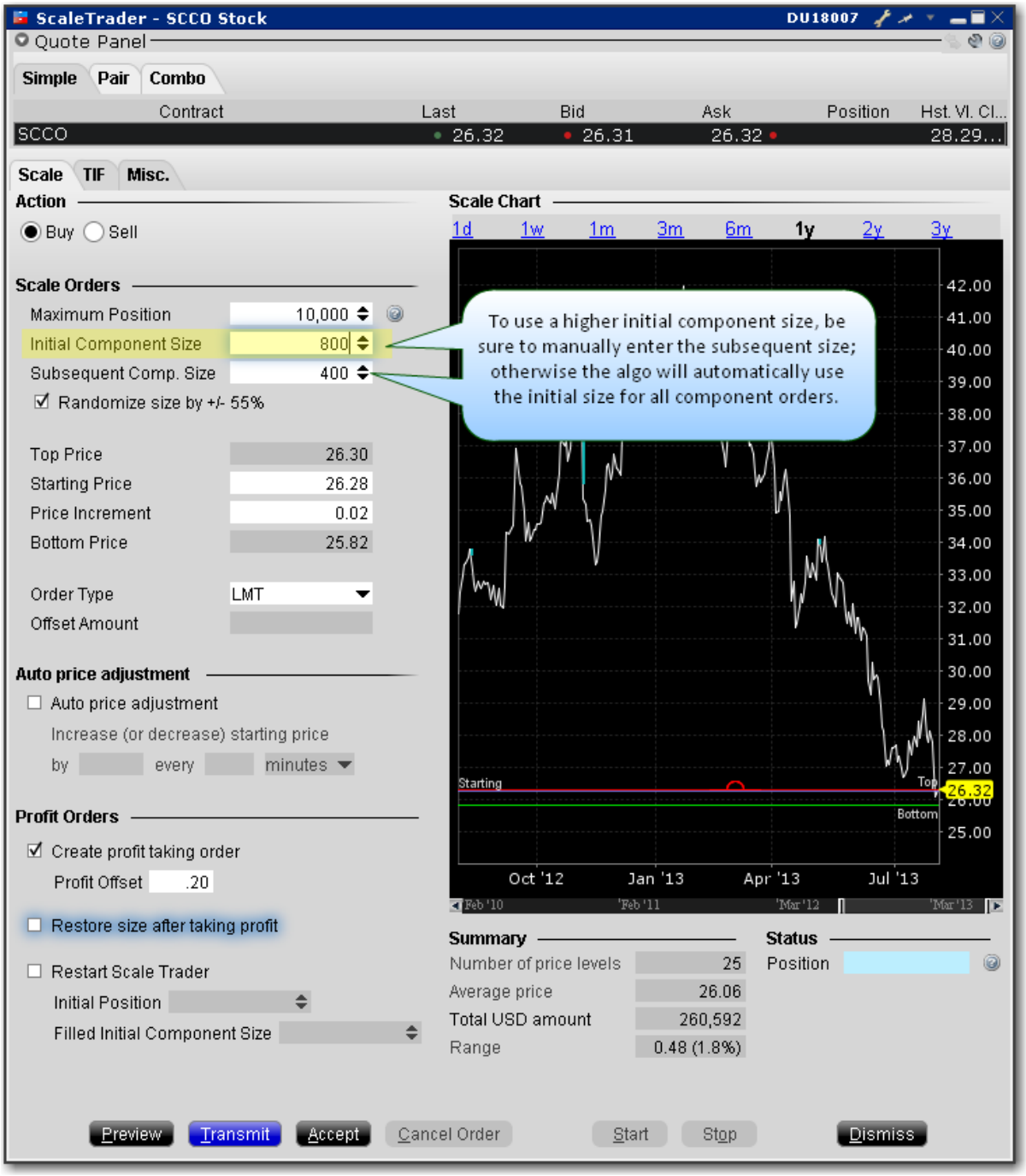
Check *Create profit taking order*, and enter the profit offset.

Once the price increment has been entered, the Top Price is calculated, and will be higher than the starting price by the price increment times the number of component sizes higher the initial price is compared to the subsequent component size. in the above example, the initial size is

one component size larger than the subsequent size, so the calculation is 1 x .02 = .02. The top price will be .02 (or one price increment) higher than the starting price.

For an example of how a scale profit order with a larger initial component will behave, see Example 3: Scale with Profit and Initial Component size.

Example 3: Scale with Profit and Initial Component size



Data Assumptions:

Label	Value

NBBO	$26.31 - $26.32
Action	Buy
Total Order Size	10,000
Initial Component Size	800
Subsequent Component Size	400
Starting Price	$26.28
Price Increment	.02
Order Type	Limit
Time in Force	GTC (this is set on the Basic tab of the order ticket)
Create profit taking order	Check to enable
Profit Offset	0.20

The difference between this order and the order in Example 2 is that the Initial Component Size is larger than the subsequent component size by one full size. This feature works in conjunction with the profit taking orders, which we have enabled at an offset of $.20.

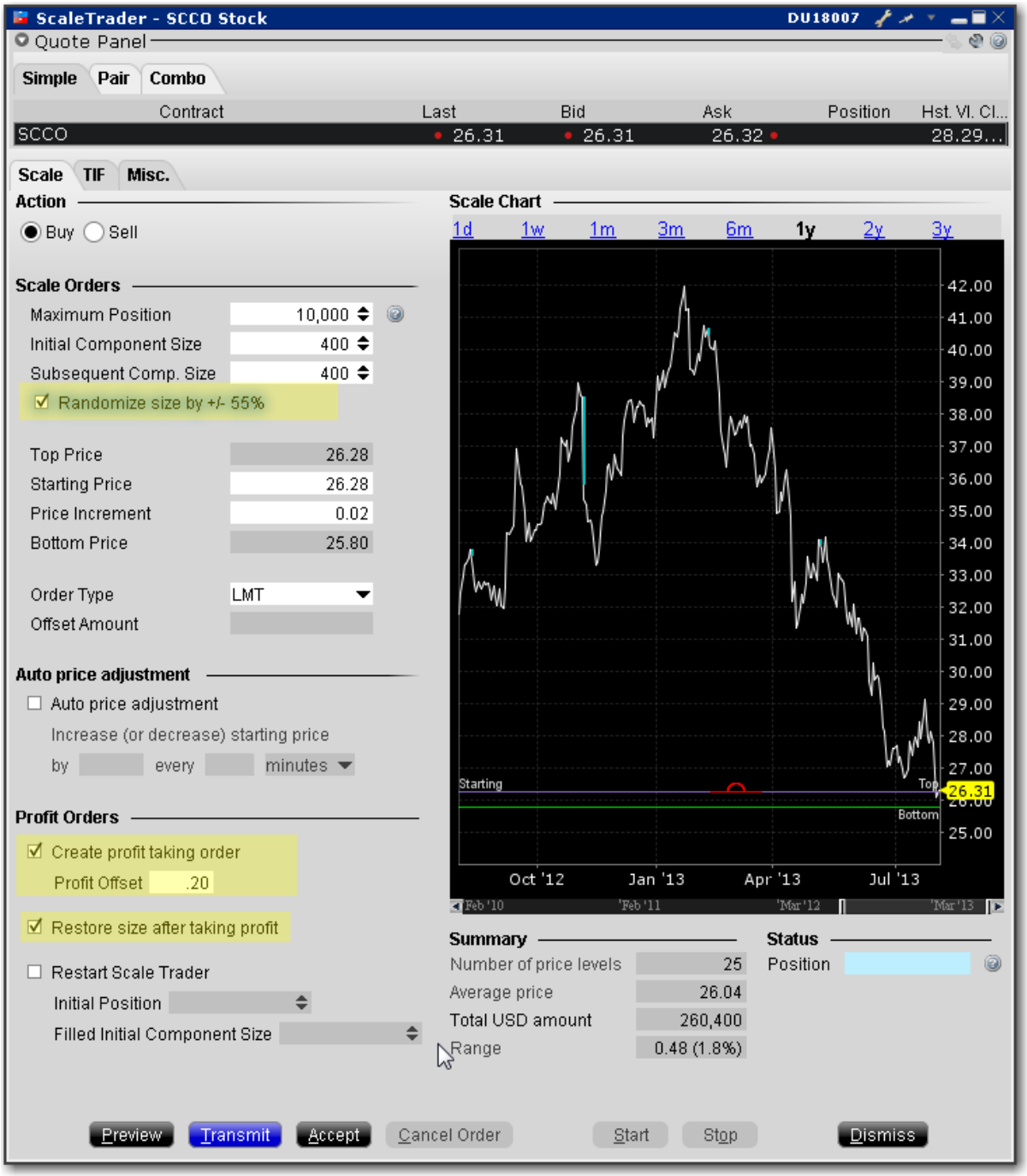
To understand the larger initial component, let's first look at the mechanics of using the same component size of 400 with the $.02 profit offset. In this case, a BUY order would be submitted at the starting price of $26.28 and after it fills, the profit SELL order would be submitted at the component price + profit offset, or $26.48. When this fills, you have bought at $26.28 and sold at $26.48 for a profit of $.20 per share.

Now let's look at the example above with the Initial Component of 800. TWS submits the first component as a BUY order for 800 at the Starting Price, or $26.28. But when this fills, the profit sell orders are submitted in Subsequent Component-sized lots AS IF the 800 shares were sent in as two BUY orders at $26.28 and $26.26, right up to the non-editable Top Price. So two sell orders for 400 shares each are submitted for $26.48 and $26.46. Once these fill, the subsequent 400-share components kick in for the remainder of the 10000-share order.

Scale Profit Orders with Initial Component topic.

Scale Profit with Restore Size

ScaleTrader provides many "add ons" that allow you to customize your order based on your trading strategy. If you elect to *Restore size after taking profit*, the algo will restore the size component at the last filled price level once the associated profit order has filled.



To create a scale profit order with Restore Size

Select the action, Buy or Sell.

Maximum Position - Enter the total order size. Note that this value refers only to the position for this algo order. It does not take into account or affect any current position in the underlying that you may hold.

Initial Component Size - The initial component size refers to the number of units that will be submitted at the starting price, and is used in determining the number of components and price levels needed to achieve the Maximum Position. The component size must be entered in round lots.

If you do not enter a value in the Subsequent Comp. Size field, this value will be used for both initial and subsequent components

Subsequent Comp. Size - The number of units that will be submitted at subsequent price levels. Must be entered in round lots.

Randomize Size - Check to help ensure the components are not easily detected in the market. Resulting component sizes will be plus or minus 55 percent rounded up or down to the nearest round lot. For a 400 component size, submitted sizes could be 200, 300, 400, 500 or 600.

Starting Price - The price at which the initial component will be submitted. The starting price defaults to the ask, but can be changed directly in the field or by dragging the blue line in the scale chart.

Price Increment - Used to define the price levels for each scale component. The increment will be subtracted from the last price level for a buy order, and added to the last price level for a sell order.

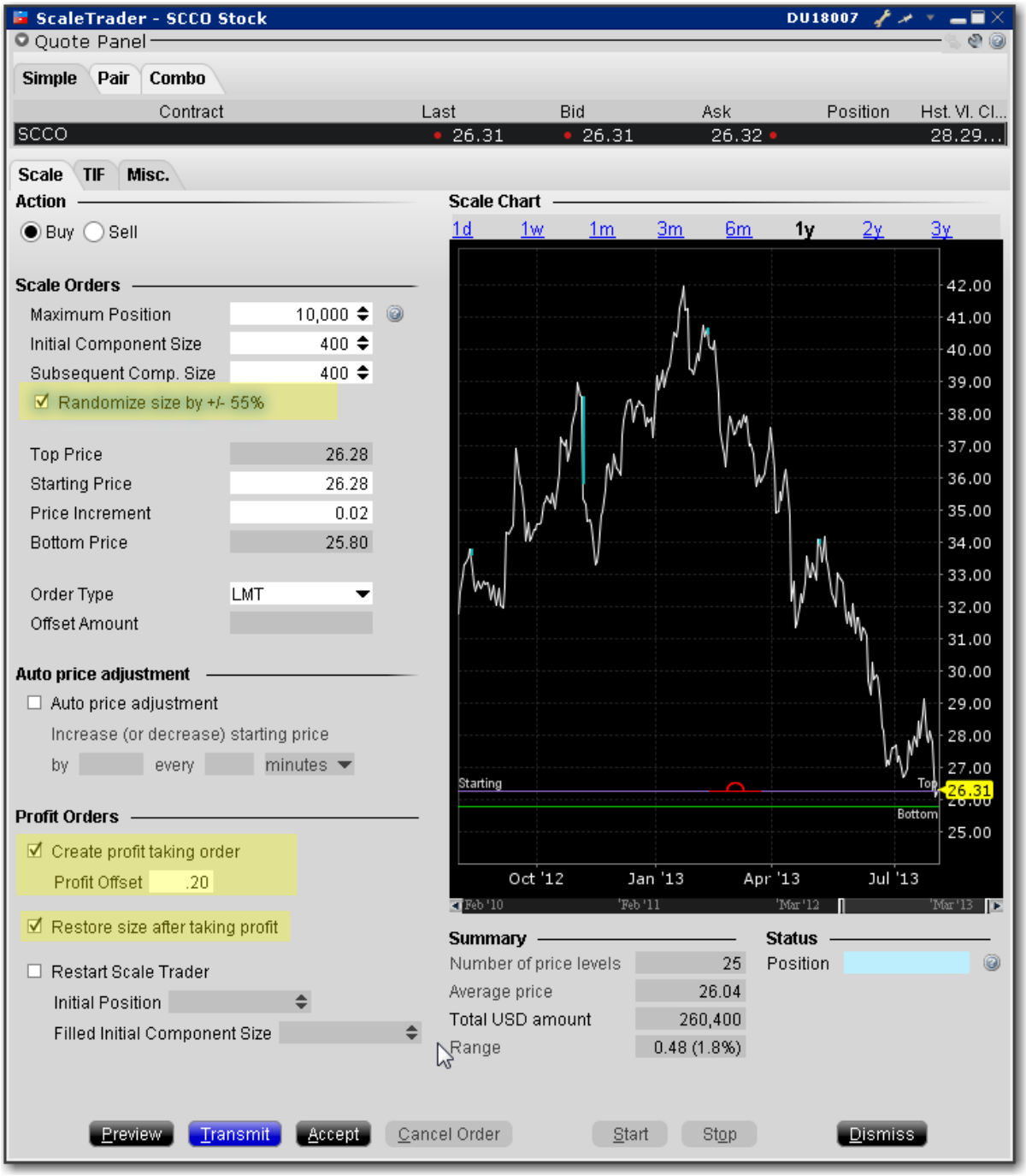
The number of components along with the Starting Price and Price Increment are used to calculate the Bottom Price, which is the lowest price at which any of the order components will be submitted. If you change the Bottom Price, the Price Increment is recalculated.

Check Create profit taking order and enter a profit offset amount.

Check *Restore size after taking profit*.

For an example of how the Restore size scale feature will behave, see Example 4: Scale order with Restore Size.

Example 4: Scale order with Restore Size



Data Assumptions:

Label	Value

NBBO	$26.31 - $26.32
Action	Buy
Total Order Size	10,000
Initial/Subsequent Component Size	400
Starting Price	$26.28
Price Increment	.02
Order Type	Limit
Time in Force	GTC (this is set on the Basic tab of the order ticket)
Create profit taking order	Check to enable
Profit Offset	0.20
Restore size after taking profit	Check to enable

The Restore Size feature restores the component size at a specific price level after the opposite side order for the price level fills.

In this example, the order is scaled into 25 components of 400 shares each.

The first 400-share component is submitted at $26.28. After this level fills, the next limit order for 400 is submitted at $26.26, and at the same time an opposite-side profit order is submitted for 400 at $26.48 (component price + profit offset).

Once the sell order fills at $26.48 taking the profit, the filled quantity of 400 is put back in to the original order at its same price level of $26.28, and the $26.26 price level component is canceled.

When using the *Restore size* feature, you may want to consider making the profit offset closer to the price increment to help ensure the orders fill.

Scale Profit with Restore Size topic.

Example 5: Restart ScaleTrader

Data Assumptions:

Label	Value
NBBO	$10.12 - $10.15
Action	Buy
Total Order Size	1000
Initial Component Size	100
Subsequent Component Size	100
Starting Price	$10.10
Price Increment	.02
Order Type	Limit
Time in Force	GTC (this is set on the Basic tab of the order ticket)
Create profit taking order	Enabled
Profit Offset	.03
Restore size after taking profit	Enabled

Restart ScaleTrader	Enabled
Initial Position	200

The *Restart* feature helps you resume a busted ScaleTrader order from the point of the bust. A bust results in a lost connection between the scale and profit order processes, leaving two independent scaled orders. You can cancel these orders and create a new ScaleTrader *Restart* order.

The Existing Position value of 200 tells ScaleTrader that two of the components have filled, at $10.10 and $10.08, respectively. It "restarts" the scale order beginning with the 3rd component. The first buy order is for 100, and is submitted at $10.06. The profit-taker orders are set up for all three components, 100 at $10.13, 100 at $10.11, and 100 at $10.09, which are submitted. When the sell order for 10.13 fills, the size is restored at the 10.10 price level.

The Existing Position feature is only available if the profit-taking order and Restore Size instructions are used.

Example 6: Restart ScaleTrader with Filled Initial Component Size

A busted scale order results in a lost connection between the scale and profit order processes, leaving only two independent scaled orders. The *Restart* instruction is designed to help you resume a cancelled or busted ScaleTrader order, starting from the point at which the scaled sequence left off. First, cancel the two separated scale orders. Next, create a new ScaleTrader *Restart* order by identifying your current position and telling ScaleTrader how much of the initial component size filled in the busted order. ScaleTrader will restart the order at the appropriate component and price level.

> **Note:** Note: The *Filled Initial Component Size* field only becomes active if the **Existing Position** value is less than the **Initial Component Size**.

Profit Offset: $0.02

Restore Size after taking profit: box checked on Order Ticket *Scale* tab

Restart ScaleTrader: box checked on Order Ticket *Scale* tab

Existing Position value: 500

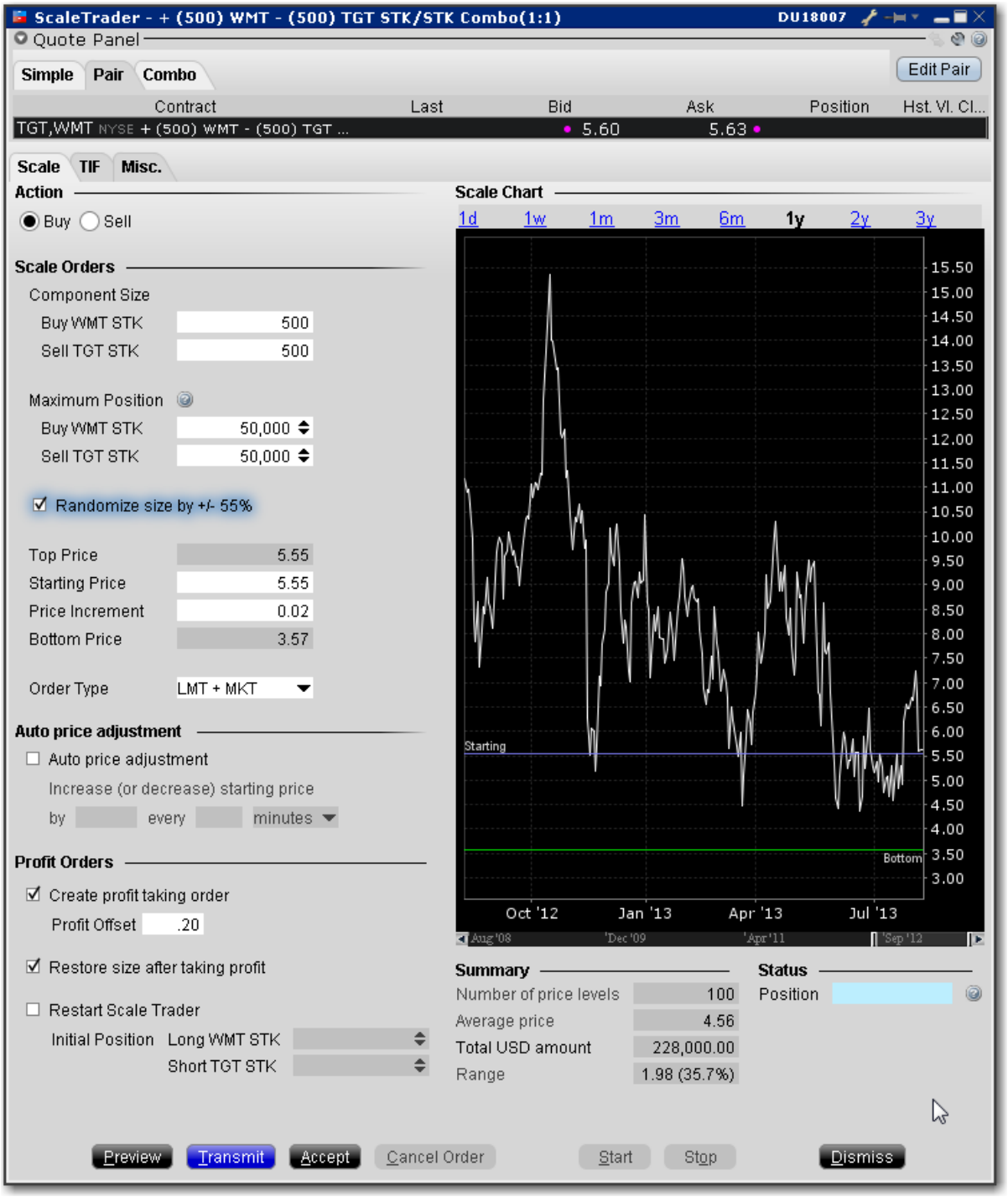
Filled Initial Component Size: 1200 (this value must be *greater than* or *equal to* the **Existing Position** value, up to a maximum of the **Initial Component Size**).

The Filled Initial Component Size of 1200 tells ScaleTrader that there is an unfilled quantity of 800 (of the 2000 Initial Component Size). The first buy order for 800 is submitted at $10.15, and profit-taker orders of 1000 and 200 are set at $10.17 and $10.18, respectively.

Activate the *Restart ScaleTrader* instruction using the checkbox on the *Scale* tab of the **Order Ticket**. This feature is only available if the profit-taking order and Restore Size instruction is used, and if the value in the Existing Position field is less than the Initial component size.

ScaleTrader for Pairs

A pair trade involves trading two stocks simultaneously, buying one and selling the other at predefined price differences. Usually, the two stocks selected have displayed a close price relationship in the past, or the relationship is dictated by fundamentals. When this relationship approaches a certain, extreme level, a position is established in which the relatively overvalued stock is sold short and the other one is bought for approximately equal dollar values. It is expected that eventually the relationship will return to a normal level, at which time the position is unwound at a profit.



Stock-stock pair combinations can only be traded as non-guaranteed. To help increase the chances that both legs will fill, stock-stock scale pairs can only be sent as:

LMT + MKT, where one or both legs are submitted as marketable limit orders when the combo becomes marketable. If only one leg fills, the second leg is resubmitted as a market order.

REL + MKT, where one or both of the legs are submitted as simulated relative orders (at the bid for a buy and at the ask for a sell). If only one leg fills, the second leg is resubmitted as a market order.

To create a scale stock pair trade based on price difference

Open the ScaleTrader.

> *From within Mosaic, use the New Window dropdown and select More Advanced Tools and then ScaleTrader.*
> *From within the Advanced Order Management quote monitor, use the **Trading Tools** menu.*

Select the **Pair** tab and click the *Edit Pair* button.

Create tickers for each of the stock-stock pair:

> *Enter the higher priced of the pair in the Buy line.*
> *Enter the lower priced (but relatively overvalued) of the pair in the Sell line.*

Choose price difference and click *Create*.

At this point you will be required to acknowledge that the combo is non-guaranteed.

The scale chart shows the price difference between the two contracts over time. The starting price illustrates the beginning level of price difference between the two contracts at which you want to submit an order.

Use the ScaleChart

The ScaleChart provides a visual method of modify the scale prices. Use the lines and handles in the chart to set the Starting Price and bottom price and have TWS calculate the price increment.

To move the prices, grab a line in the chart.

When you move the blue Starting Price line, the other lines move in the same increment.

When you move the Bottom Price line, the Price Increment is recalculated since the distance between the starting and bottom prices have changed. If the Initial Component is higher than the Subsequent Component size, the Top Price is also recalculated.

If you move the top price, the Initial Component Size, Price Increment and Bottom Size are all recalculated.

View Scale Progress

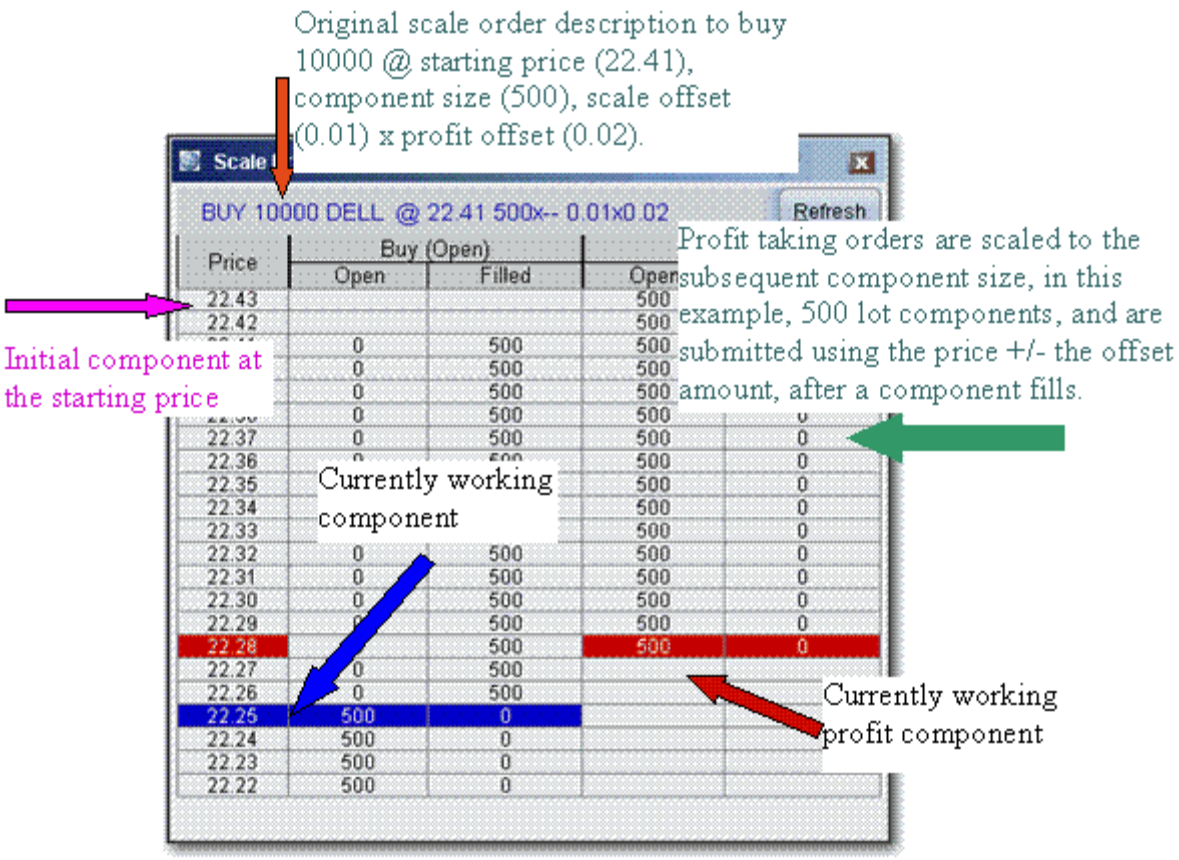
You can monitor the progress of your scale orders using the **Scale Progress** box.

To View Scale Progress

Right-click the scale order line and select *View Scale Progress*.

The Scale Progress Box

The **Scale Progress** box displays the complete scale price ladder, the Open/Filled component list for the parent scale order, and the Open/Filled component list for the child profit orders.



Scale Order Examples

The data assumptions in the table below are repeated for all examples, with other variables described as needed. These examples do not encompass all of the potential algorithmic results that would occur on partially filled component levels.

Example 1: Basic Scale Order

Example 2: Scale order with Profit-Taking Orders

Example 3: Scale with Profit and Initial Component size

Example 4: Scale order with Restore Size

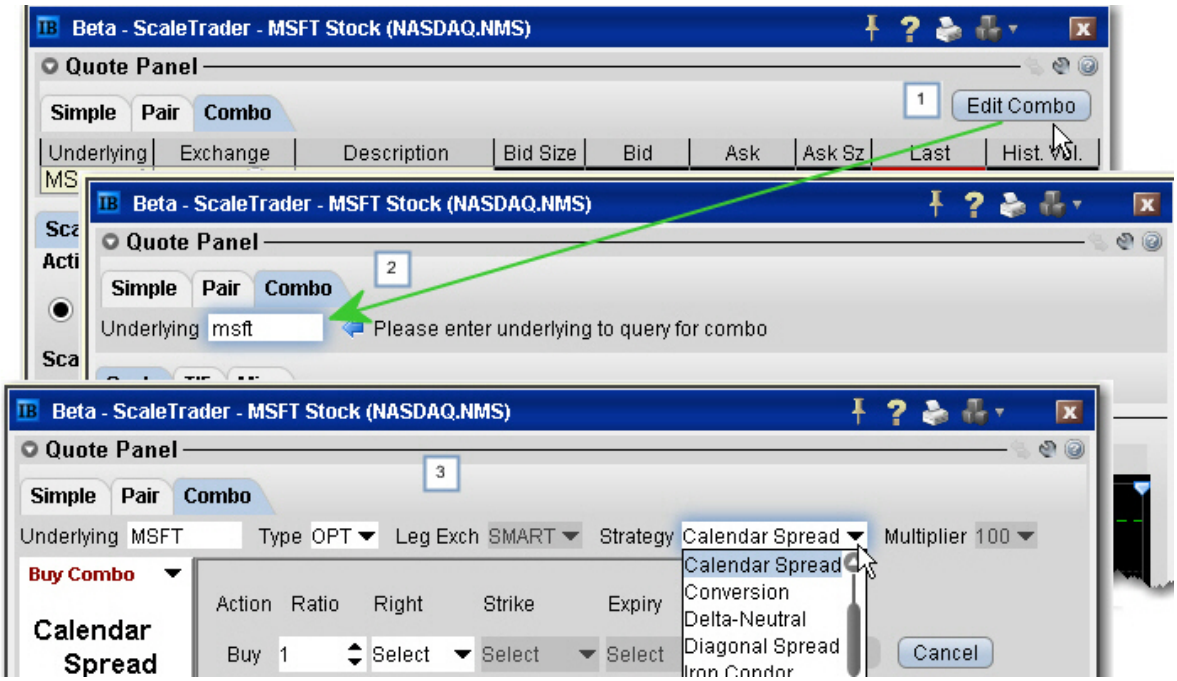
Example 5: Restart ScaleTrader

Example 6: Restart ScaleTrader with Filled Initial Component Size

Combo Orders

When using ScaleTrader for creating generic combination orders, note the following:

When you create a STK STK generic combo, the ratios are automatically simplified when you save the combo. This means that the combo you define in the Combo Selection box to Buy 300 XYZ and sell 700 ABC ends up on the ticker line as Buy 3 XYZ and Sell 7 ABC. Scale parameters such as *Total Order Size* and *Initial* and *Subsequent Component* sizes are expressed in terms of the total combo. For example, if you buy a generic STK STK combo defined as *Buy 10 DELL, Sell 1 IBM*, and set the Initial Component Size to 5, the first component order would be: Buy (5 x 10) DELL, Sell (5 x 1) IBM.



Guaranteed combination pairs including US stock-option and option-option pairs, and which can be traded from the Combo tab, can use the following order types:

LMT + LMT, where one or both legs are submitted as marketable limit orders when the combo becomes marketable. If one fills, the other is resubmitted as a limit order.
REL + LMT, where one or both of the legs are submitted as a simulated relative order (at the bid for a buy and at the ask for a sell). If only one leg fills, the second leg is resubmitted as a limit order.
LMT + MKT, where one or both legs are submitted as marketable limit orders when the combo becomes marketable. If only one leg fills, the second leg is resubmitted as a market order.
REL + MKT,where one or both of the legs are submitted as a simulated relative order (at the bid for a buy and at the ask for a sell). If only one leg fills, the second leg is resubmitted as a market order.

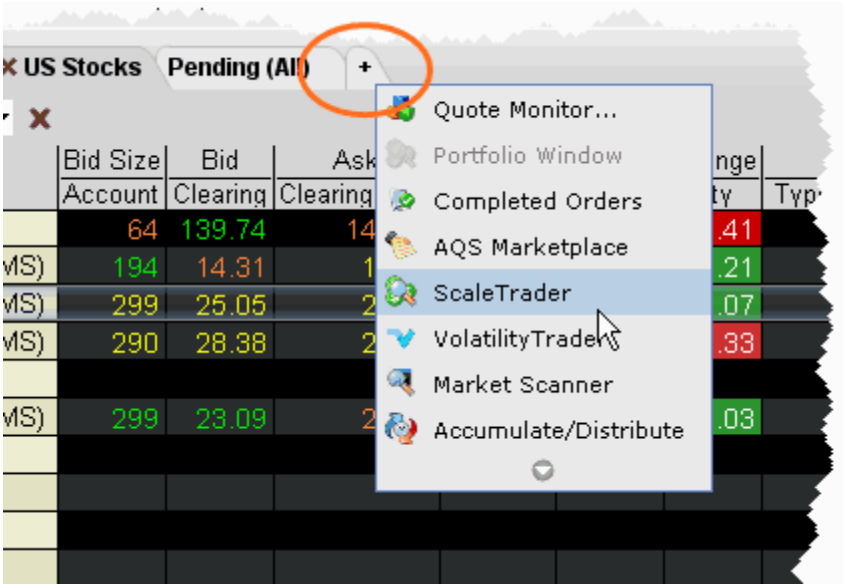
Use ScaleTrader for combination orders

1. Click the **Combo** tab in ScaleTrader.
2. If you opened ScaleTrader with an underlying selected, click the Edit Combo button; otherwise, enter an underlying and select from the combo type, including EFP, Futures Spread or Option Combo.
3. Use the ComboTrader box to define a strategy, and click *Create*.

You can monitor the progress of your scale orders by right-clicking on the order line and selecting View Scale Progress.

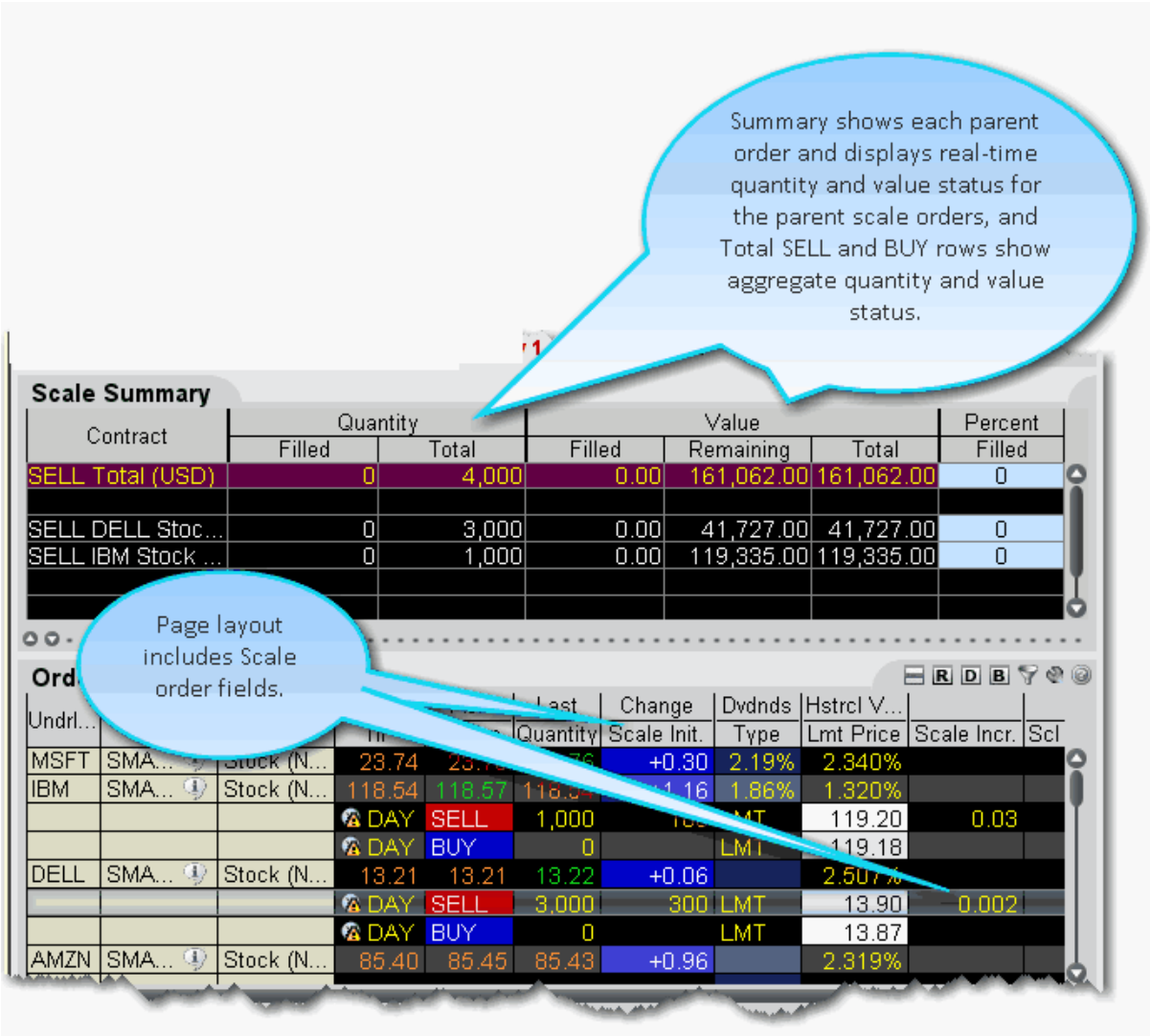
ScaleTrader Summary

Use the Scale Summary page to view real-time status of your scale orders, including filled and total quantity, filled, remaining, and total value, and the percent filled for each scale. The Scale Summary is a system-generated page with its own layout.



To create a Scale Summary

1. Use the right-click menu fromAdd Tab indicator and select *ScaleTrader*.


Summary shows each parent order and displays real-time quantity and value status for the parent scale orders, and Total SELL and BUY rows show aggregate quantity and value status.
Page layout includes Scale order fields.
Scale Summary
Contract
Quantity
Filled
Total
Value
Filled
Remaining
Total
Percent Filled
SELL Total (USD) 0 4,000 0.00 161,062.00 161,062.00 0
SELL DELL Stoc... 0 3,000 0.00 41,727.00 41,727.00 0
SELL IBM Stock ... 0 1,000 0.00 119,335.00 119,335.00 0
Undrl...
Last
Quantity
Change
Scale Init.
Dvdnds
Type
Hstrcl V...
Lmt Price
Scale Incr.
MSFT SMA... Stock (N... 23.74 +0.30 2.19% 2.340%
IBM SMA... Stock (N... 118.54 118.57 1.86% 1.320%
DAY SELL 1,000 119.20 0.03
DAY BUY 0 LMT 119.18
DELL SMA... Stock (N... 13.21 13.21 13.22 +0.06 2.507%
DAY SELL 3,000 300 LMT 13.90 0.002
DAY BUY 0 LMT 13.87
AMZN SMA... Stock (N... 85.40 85.45 85.43 +0.96 2.319%

5

Order Types

Discover more than 60 different order types including basic and advanced orders, algos, attributes and times in force.

Basic Order Types

Limit **571**

Limit if Touched **572**

Limit-On-Close **573**

Market **574**

Market if Touched **575**

Market-On-Close **575**

Market-to-Limit **576**

Stop **577**

Stop Limit **578**

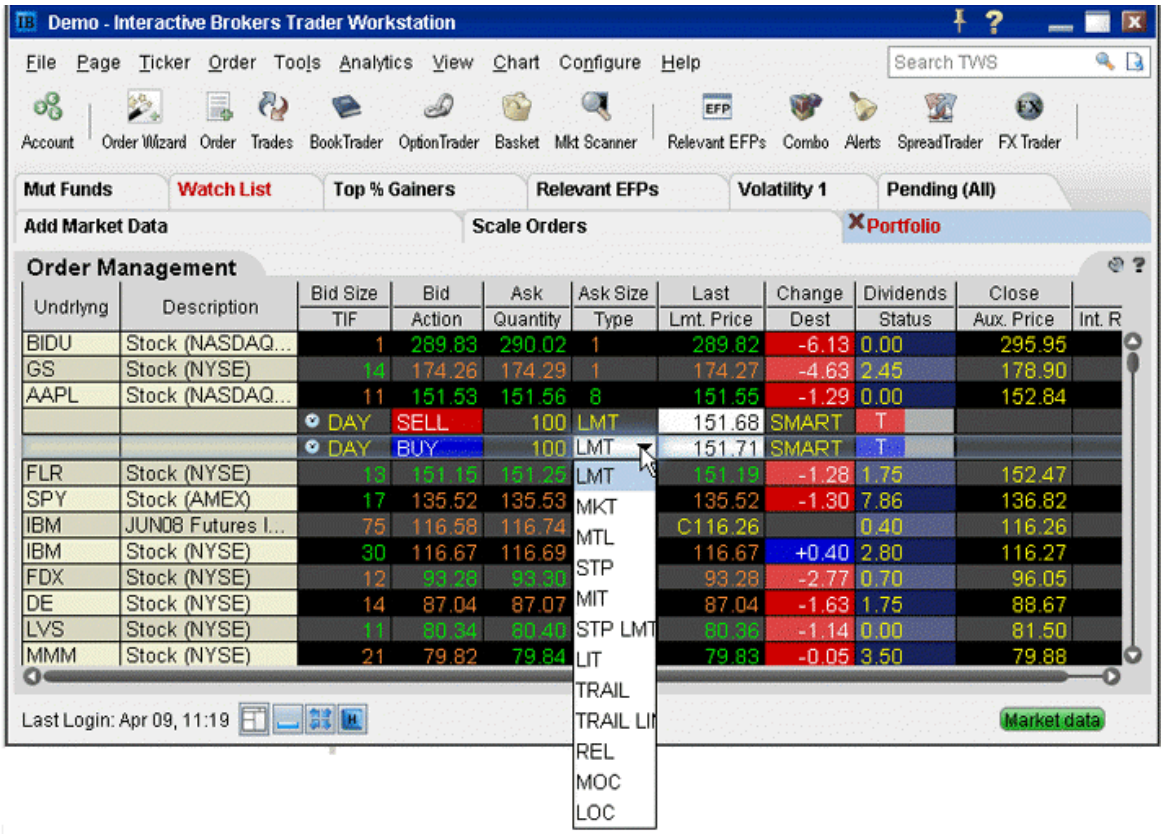
VWAP **579**

Limit

A limit order is an order to buy or sell a contract ONLY at the specified price or better.

To create a Limit order

1. Click the **Ask** price to create a BUY order, or the **Bid** price to create a SELL order.
2. In the *Type* field select LMT as the order type.
3. In the *Lmt Price* field, enter the price at which you want the order to execute.
4. To transmit the order, click the "T" in the Status field.



For a more detailed description of limit orders and the products and exchanges on which they're supported, visit the Order Types information page.

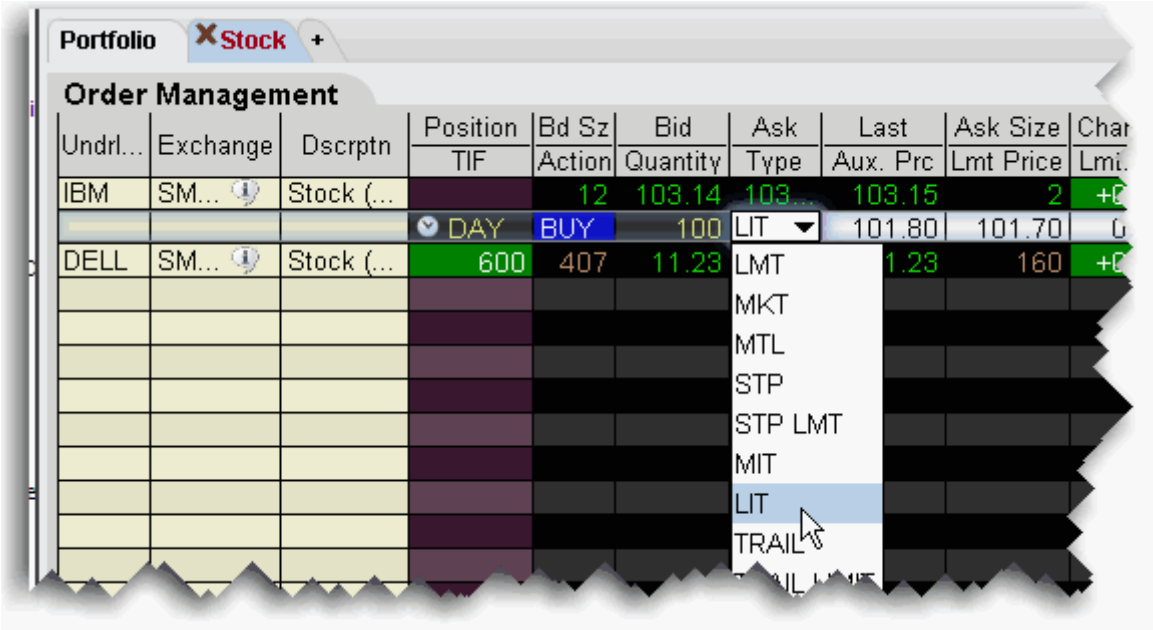
Limit if Touched

A limit if touched order is designed to buy (or sell) a contract below (or above) the market, at the limit price or better. The Aux. Price value is the trigger to submit the limit order at the specified limit price.

To create a Limit if Touched order

1. Click the **Ask** price to create a BUY order, or the **Bid** price to create a SELL order.
2. In the *Type* field select LIT as the order type.
3. In the *Lmt Price* field, enter the price at which you want the order to execute.

4. In the *Aux. Price* field, enter the "touched" price to trigger the order.
5. To transmit the order, click the "T" in the Status field.



For a more detailed description of Limit if Touched orders and the products and exchanges on which they're supported, visit the Order Types information page.

Limit-On-Close

An LOC (limit-on-close) order will fill at the closing price if that price is at or better than the submitted limit price. Otherwise, the order will be canceled.

To create an LOC order

1. Click the **Ask** price to create a BUY order, or the **Bid** price to create a SELL order.
2. In the *Type* field, select **LOC** as the order type.
3. To transmit the order, click the "T" in the Status field.

For a more detailed description of LOC orders, visit the Order Types information page.

Market

A market order is an order to buy or sell an asset at the bid or offer price currently available in the marketplace. When you submit a market order, you have no guarantee that the order will execute at any specific price.

To create a Market order

1. Click the **Ask** price to create a BUY order, or the **Bid** price to create a SELL order.
2. In the *Type* field select MKT as the order type.
3. To transmit the order, click the "T" in the Status field.

For a more detailed description of market orders, visit the Order Types information page.

Market if Touched

A market if touched order is designed to buy (or sell) a contract when the market goes below (or above) the current price. The Aux. Price value is the trigger to submit the market order.

To create a Market if Touched order

1. Click the **Ask** price to create a BUY order, or the **Bid** price to create a SELL order.
2. In the *Type* field select MIT as the order type.
3. In the *Aux. Price* field, enter the "touched" price to trigger the order.
4. To transmit the order, click the "T" in the Status field.

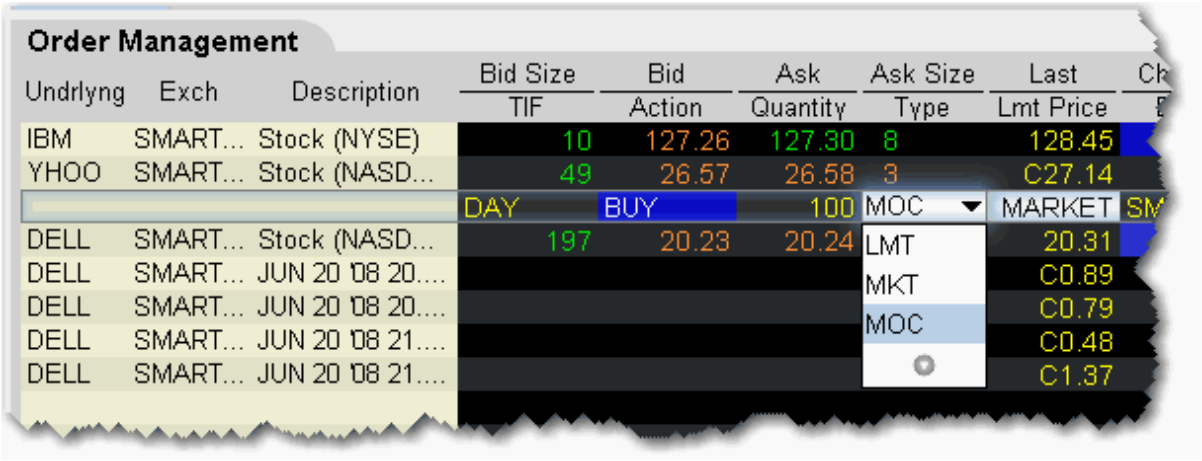
For a more detailed description of Market if Touched orders visit the Order Types information page.

Market-On-Close

An MOC (market-on-close) order will execute as a market order as close to the closing price as possible.

To create an MOC order

1. Click the **Ask** price to create a BUY order, or the **Bid** price to create a SELL order.
2. In the *Type* field, select **MOC** as the order type.
3. To transmit the order, click the "T" in the Status field.



For a more detailed description of MOC orders, visit the Order Types information page.

Market-to-Limit

A market-to-limit order is sent in as a market order to execute at the current best price. If the entire order does not immediately execute at the market price, the remainder of the order is re-submitted as a limit order with the limit price set to the price at which the market order portion of the order executed.

To create a market-to-limit order

1. Click the **Ask** price to create a BUY order, or the **Bid** price to create a SELL order.
2. In the *Type* field select **MTL** as the order type.
3. To transmit the order, click the "T" in the Status field.

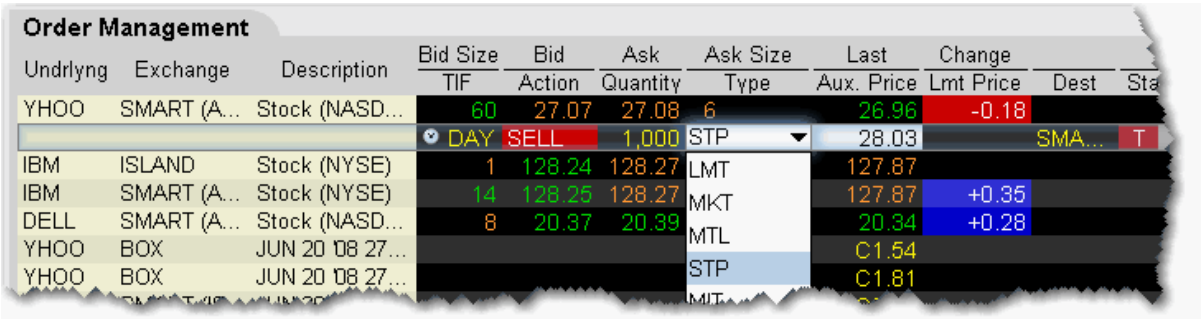
For a more detailed description of market-to-limit orders, visit the Order Types information page.

Stop

A Stop order becomes a market order to buy or sell securities or commodities once the specified stop price is attained or penetrated. A Stop order is not guaranteed a specific execution price.

To create a Stop order

1. Click the **Ask** price to create a BUY order, or the **Bid** price to create a SELL order.
2. In the *Type* field select **STP** as the order type.
3. Enter the Stop Election price in the *Aux. Price* field.
4. To transmit the order, click the "T" in the Status field.



For a more detailed description of stop orders, visit the Order Types information page.

Stop Limit

A Stop Limit order is similar to a stop order in that a stop price will activate the order. However, unlike the stop order, which is submitted as a market order when elected, the **stop limit** order is submitted as a limit order. Use the **Lmt Price** and **Aux. Price** fields on the trading screen to enter orders requiring multiple prices or values.

To enter a Stop Limit order

1. Click in the **Ask Price** field to initiate a BUY order, or the **Bid Price** field to initiate a SELL order.
2. Click in the *Type* field and select **STP LMT** as the order type.
3. Enter the Limit price in the *Lmt Price* field.
4. Enter the Stop Election price in the *Aux. Price* field.

Note: You can enable the system to automatically adjust the limit price if you change the stop price. To activate this feature, on the **Edit** menu select Global Configuration and then select *Order* in the left pane. Check *Auto-adjust limit price for STP LMT and LIT*

orders. The limit price will move based on the offset implied when you set the original limit and stop election prices.

For a more detailed description of stop limit orders, visit the Order Typesinformation page.

VWAP

VWAP (Volume-Weighted Average Price) orders are supported for large cap securities only. You can also use the non-guaranteed VWAP Algo.

To create a VWAP order

1. Click the **Ask** price to create a BUY order, or the **Bid** price to create a SELL order.
2. In the *Type* field select **VWAP** as the order type.
3. If desired, change the VWAP cut-off time using the TIF field.

By default, the VWAP is computed from the soonest cut-off time to the market close. To change, click the Time Entry calendar icon to select a new VWAP cut-off, or start, time. If none is selected, the soonest cut-off is used. In addition, you can modify the end time of the calculation using the *Expiry Time* field.

4. To transmit the order, click the "T" in the Status field.

Note: A transmitted VWAP order is accepted immediately and CANNOT BE CANCELLED.

VWAP orders are automatically routed.

For a more detailed description of VWAP orders, visit the Order Types information page.

Advanced Order Types

Includes pegged, relative, trailing orders and more.

Auto Trailing Stop **581**

Bracket **583**

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Conditional **585**

Funari Orders **587**

IBDARK Orders **588**

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Minimum Quantity **592**

NYSE Closing Auction D-Quote **593**

Passive Relative **594**

Pegged-to-Market **596**

Pegged to Midpoint **596**

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Trailing Stop **611**

Trailing Stop Limit **612**

Trailing Market if Touched **614**

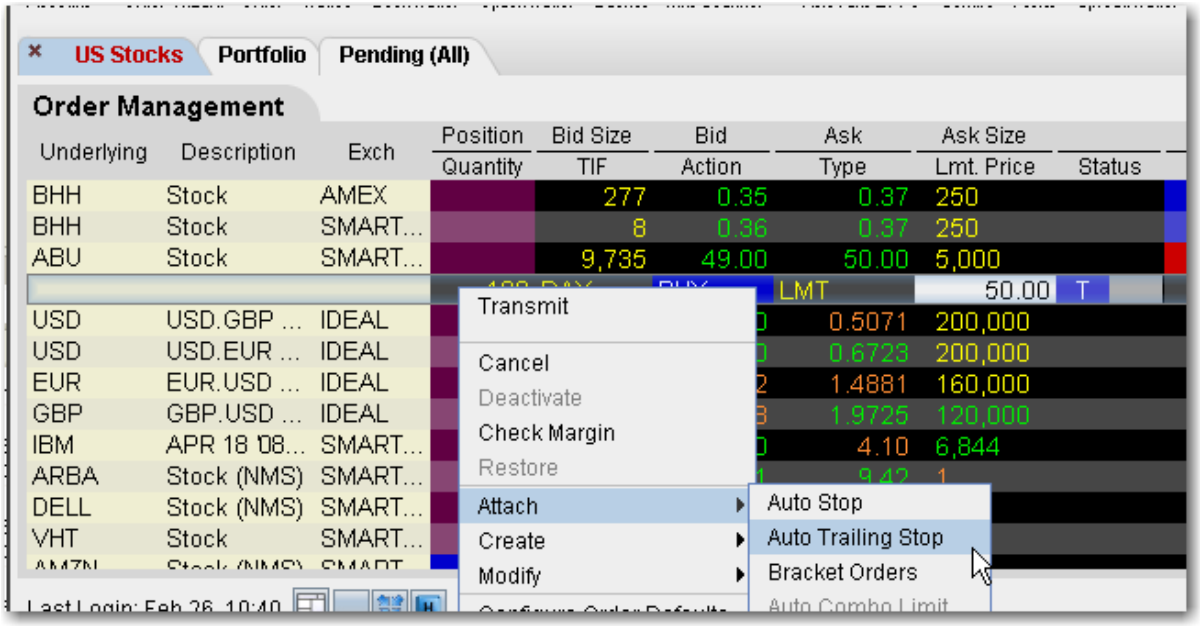
Trailing Limit if Touched **615**

Trailing Limit + Market **616**

Trailing Relative + Market **618**

Auto Trailing Stop

You can attach a trailing stop order to a limit order. The attached trailing stop order is automatically activated when the limit order is filled.



To attach an auto trailing stop

1. Right-click on a limit order and select **Attach**, then select *Auto Trailing Stop*.

   To modify the trailing amount, change the value in the **Aux. Price** field.

To change the default trailing amount used to calculate the stop election price, use the Order > Order Defaults page of Global Configuration.

2. When the limit order executes, the trailing stop order is submitted. The stop election price will be calculated using the (*parent order limit price + trailing amount)* for **Buy** orders, and the (*parent order limit price - trailing amount)* for **Sell** orders.

The relationship between the parent and attached order can be seen in the Trailing Key field. Related orders are assigned the same trailing key.

Bracket

Bracket orders are designed to limit your loss and lock in a profit by "bracketing" an order with two opposite-side orders. A BUY order is bracketed by a high-side sell limit order and a low-side sell stop (or stop-limit) order. A SELL order is bracketed by a high-side buy stop (or stop-limit) order and a low side buy limit order.

The order quantity for the bracketing orders is the same as that of the original order. By default, the amount off the current price to which a bracket order is set is 1.0. This offset amount can be manually changed on the order management line for a specific order, or you can modify the default offset amount using the Order Preset in **Global Configuration**.

In addition, if you display the **OCA Group** field on your order line, you will see that the two child bracket orders are automatically put into an OCA group. This means that when one of the orders executes, the other will automatically be cancelled.

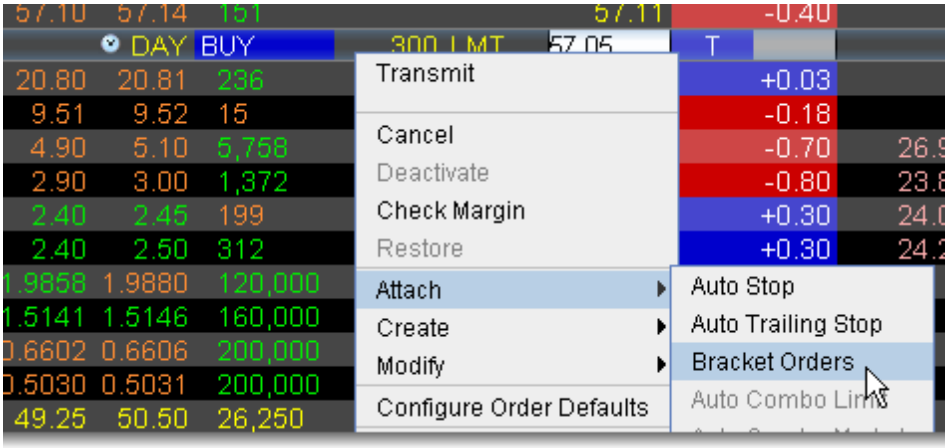
When including bracket orders in a basket, display the Key field in the BasketTrader to see the parent/child relationship between orders.

Note: If you attach a bracket to a working order, you will need to transmit the child orders manually. However, the system does recognize that the parent and child orders are designed to work as a bundled group, which you can see by the matching values in the

Trailing Key field if you display this field on your order line. If you attach a bracket to a working order and modify the parent, when you re-transmit the parent order the children are then transmitted automatically.

To create a Bracket order

1. Click the "Ask" or "Bid" price of an asset to create an Order Management line.
   Click the **Ask Price** to create a **Buy** order.
   Click the **Bid Price** to create a **Sell** order.



2. On the **right-click** menu, select Attach and then select *Bracket Orders*.
3. Verify that the order parameters are correct.
4. Transmit the order.

For more information on Bracket orders, visit the Order Types information page.

Box Top

A BOX TOP order is sent in as a market order to execute at the current best price. If the entire order does not immediately execute at the market price, the remainder of the order is re-submitted as a limit order with the limit price set to the price at which the market order portion of the order executed.

To create a BOX TOP order

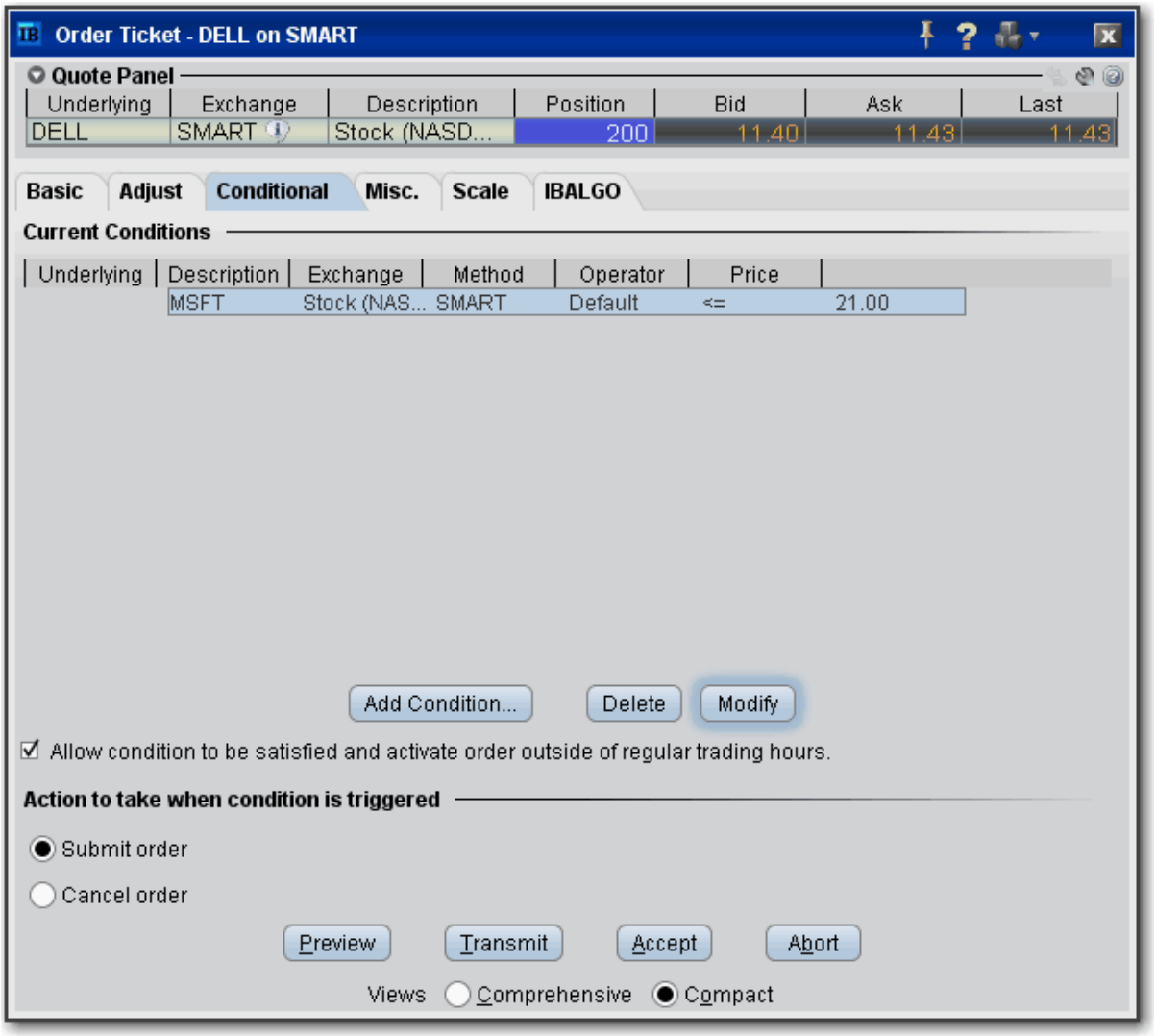
1. Click the **Ask** price to create a BUY order, or the **Bid** price to create a SELL order.
2. In the *Type* field select **BOX TOP** as the order type.
3. To transmit the order, click the "T" in the Status field.

Available for options routed to BOX.

For details on Box Top orders, visit the Order Types information page.

Conditional

A conditional order is an order that will automatically be submitted or cancelled ONLY IF specified criteria for one or more defined contracts are met. You can use stocks, options, futures or security indexes to trigger a conditional order.



To create a conditional order

1. Select an order line.
2. From the right-click menu, select *Modify* and then select *Condition*.
3. From the Conditional tab on the order ticket click **Add Condition**.
4. Enter contract information for the contingent asset in the Conditional Order box.
5. Enter the trigger information for the contingent asset:

Select the trigger method.

Select whether the price of the contingent asset should be less than or equal to (<=) or greater than or equal to (>=) the trigger price.
Enter the trigger price.

If you select the double bid/ask trigger method, the greater than or equal to operator (>=) will use the BID price and the less than or equal to operator (<=) will use the ASK price.

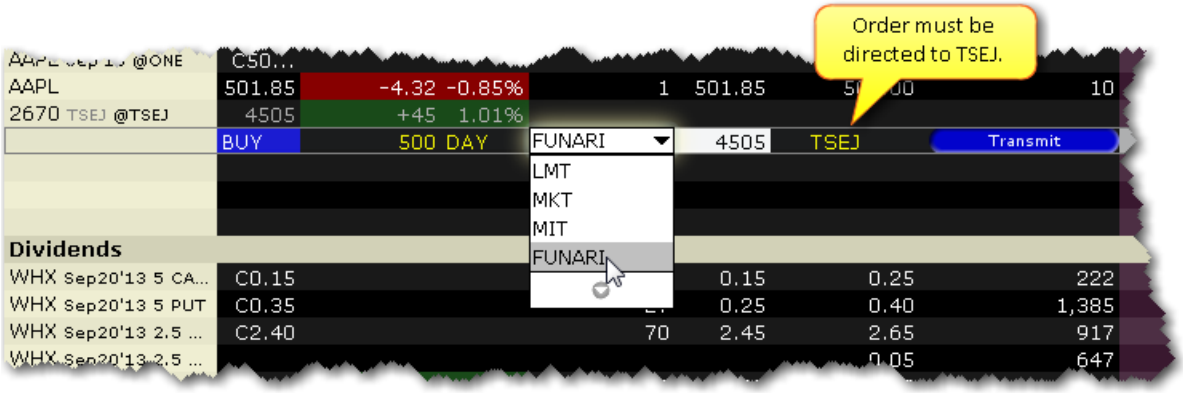
6. Click **OK**. The condition appears in the Current Conditions list.

To set multiple conditions, use the Add Condition button and click AND or OR in the Current Conditions area.

Field/Button	Description
Add Condition	Invokes the Conditional Order entry box.
Delete	Deletes the selected condition.
Modify	Opens the Conditional Order entry box for the selected condition to allow you to make changes.
Allow condition to be satisfied...	Lets the selected condition activate the order if it is satisfied outside of regular trading hours.
Action to take...	If selected conditional order is satisfied, you can elect to have the primary order submitted OR cancelled.

Funari Orders

A Funari order is submitted as limit order, with any remaining unfilled quantity resubmitted as a Market-On-Close order at the end of trading.



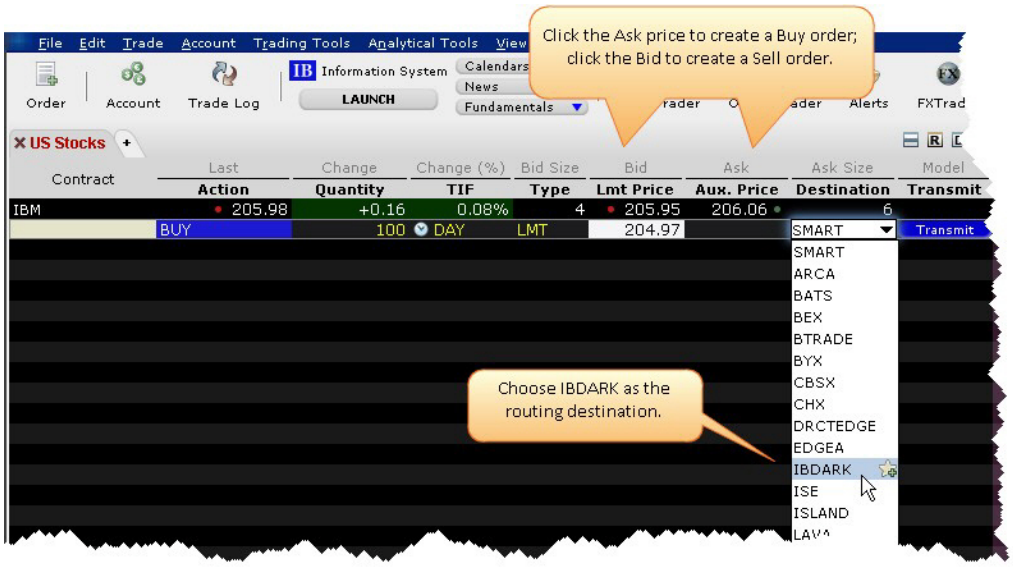
To create a Funari order

1. Click in the **Ask Price** field to initiate a BUY order, or the **Bid Price** field to initiate a SELL order.
2. In the **Dest**. field ensure that the destination is TSEJ.
3. Click in the **Type** field and select FUNARI as the order type.
4. Specify the limit price.

This order type is only available for stock orders direct-routed to the Tokyo Stock Exchange.

IBDARK Orders

Non-marketable U.S. stock orders routed to IBDARK are tagged "post only" and are held in IB's order book where incoming SmartRouted orders from other IB customers are eligible to trade against them.



To route an order to IBDARK

From the market data line of a US Stock, click the Bid to create a SELL order or the Ask to create a BUY order.

In the Destination field, select IBDARK.

Transmit the order.

For more information on how the IBDARK order works, see the IBDARK Order Type page.

Iceberg/Reserve

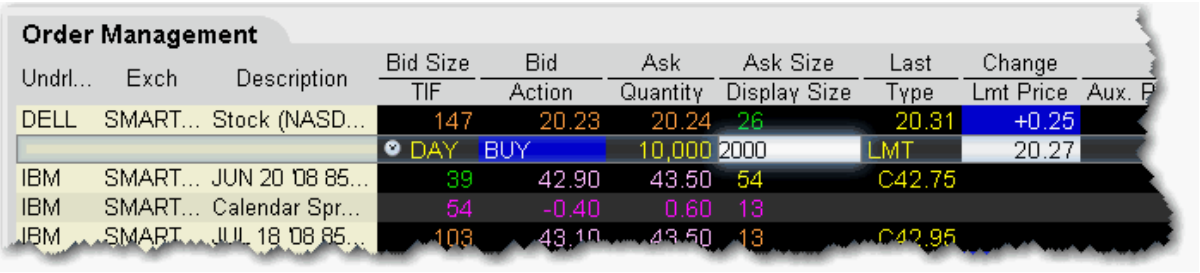
An Iceberg/Reserve order allows you to submit an order (generally a large volume order) while publicly disclosing only a portion of the submitted order at a time.

To create an Iceberg/Reserve order

1. Show the **Display Size** field on an order management line:

> *Hold your mouse over any order row field until the "+" sign appears to the left of the field title.*
> *Click the "+" sign to invoke the order fields dropdown list.*
> *In the Order Attributes list select Display Size.*

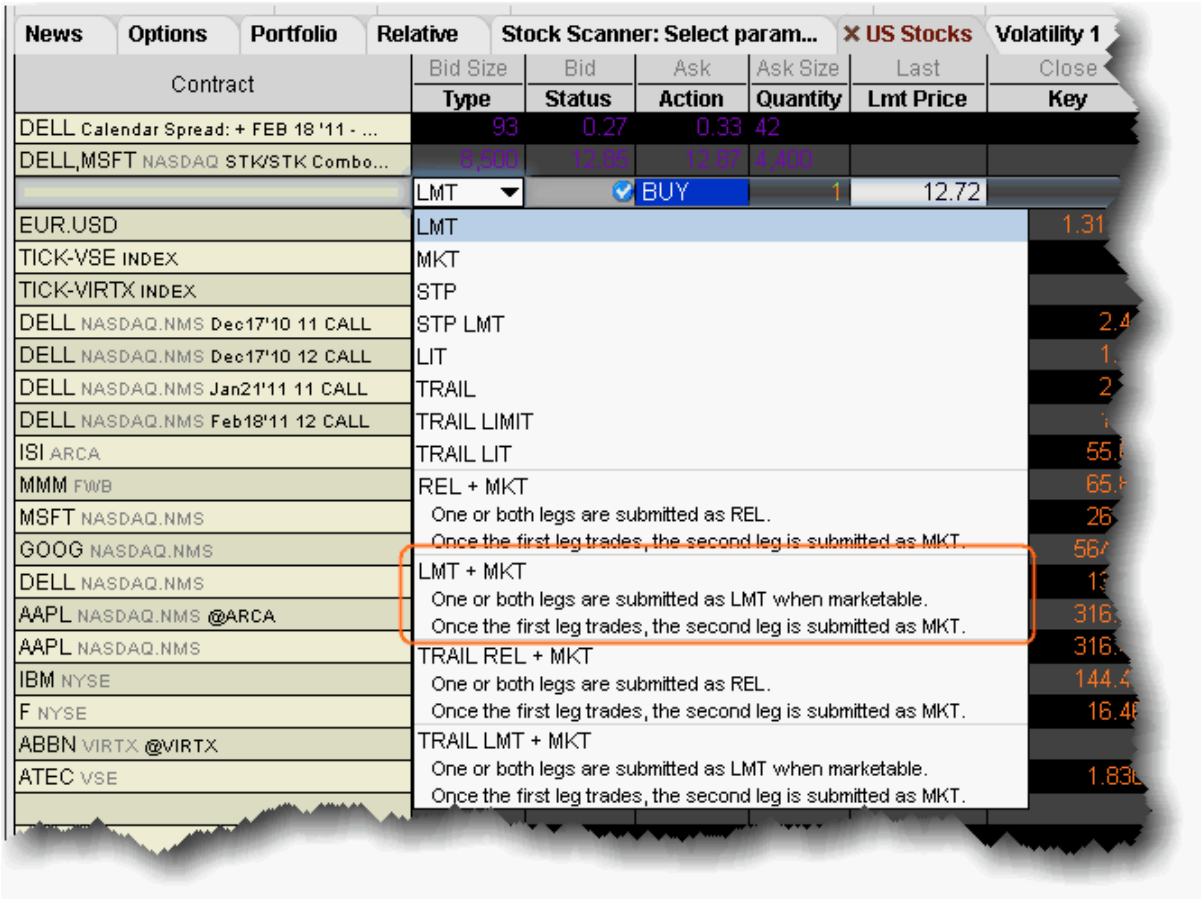
2. On the trading screen, create an order (click the **Ask Price** to create a BUY order, or the **Bid Price** to create a Sell order).
3. In the **Display Size** field, enter the quantity that you want publicly disclosed.



For a more detailed description of iceberg/reserve orders visit the Order Types information page.

Limit + Market

The LMT + MKT order type is available for certain multi-leg combinations, and when used with a non-guaranteed combination order it could help to increase the chances of all legs in the order being filled. Initially one or more legs are submitted as limit orders, but if the first leg fills or partially fills, the remaining legs are resubmitted as market orders.



To create a combination Limit + Market order

1. Create a Combination Order line on the Quote Monitor.
2. Click the Bid or Ask to create a Sell or Buy order line.
3. From the **Type** dropdown, select *LMT + MKT*.

When you select LMT + MKT, the limit price field becomes inactive and the Trigger Price field requires the combo price input.

Market with Protection

A Market with Protection order is sent in as a market order to execute at the current best price. If the entire order does not immediately execute at the market price, the remainder of the order is

re-submitted as a limit order, with the limit price set by the exchange to a price slightly higher/lower than the current best price.

To create a market with protection order

1. Click the **Ask** price to create a BUY order, or the **Bid** price to create a SELL order.
2. In the *Type* field select **MKT PRT** as the order type.
3. To transmit the order, click the red "T" in the Transmit field.

For a more detailed description of market with protection orders, visit the Order Types information page.

Minimum Quantity

Use the Minimum Quantity order attribute to ensure that the minimum specified number of units is filled for your order.

To create a Minimum Quantity order

1. Show the **Min Quantity** field: Hold your mouse over any field title until the "+" and "x" *Insert* and *Remove* icons appear. Click the "+ " to display the list of available fields. Note that if you hover your mouse over an order field, all available order fields are displayed. If you hover over a market data field, all available market date fields are displayed.

2. On the trading screen, create an order (click the **Ask Price** to create a BUY order, or the **Bid Price** to create a Sell order).
3. In the Min. Quantity field enter the minimum number of contracts that must be available for any part of the order to execute.

Available for bonds and Smart-routed options orders.

NYSE Closing Auction D-Quote

The D-Quote order provides greater flexibility, execution speed and enhanced representation during the NYSE closing auction.

To create a D-Quote order

1. Click the **Ask** price to create a BUY order, or the **Bid** price to create a SELL order.
2. In the Destination field, select NYSEFLOOR.
3. In the *Type* field, select **LMT** or **MKT** as the order type.

   Market orders will receive the closing print price.
   Limit orders will receive the closing print price if the order is priced at or better than the closing auction price.

4. To transmit the order, click the "T" in the Status field.

For a more detailed description of D-Quote orders, visit the Order Types information page.

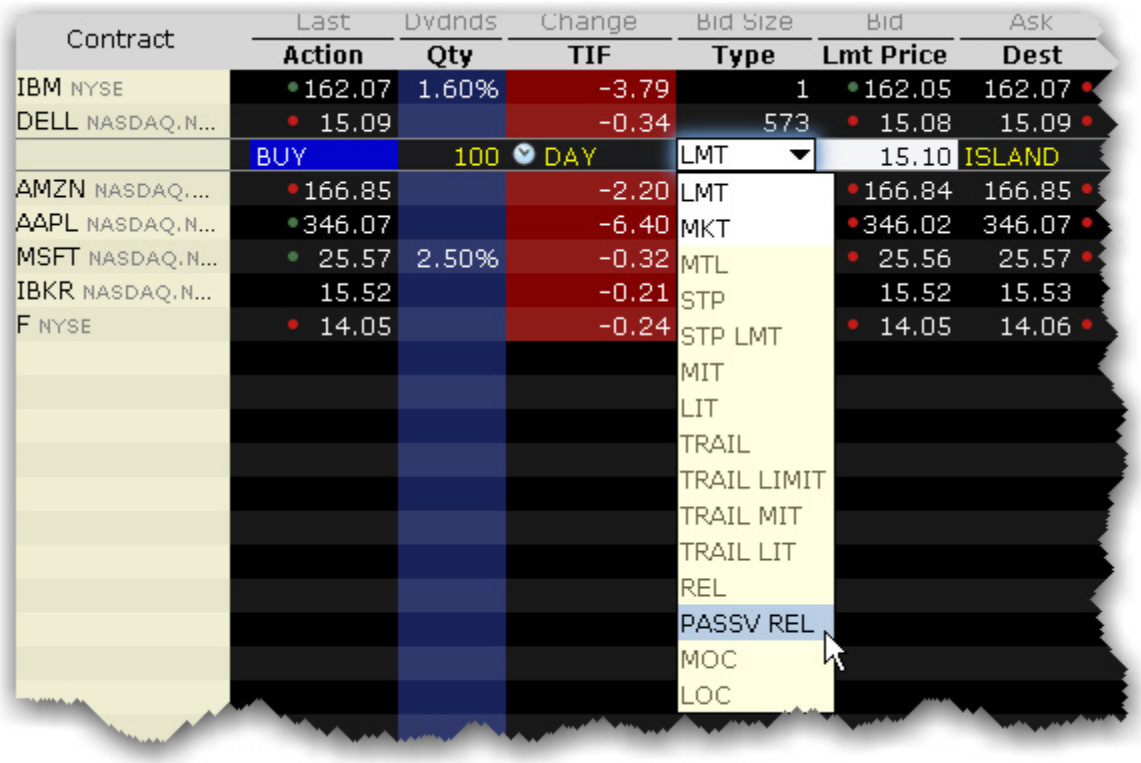
Passive Relative

The Passive Relative order submits a limit order at a less aggressive price than the National Best Bid and Offer (NBBO). Your price is automatically adjusted when the market moves. For a buy order, your bid is pegged to the NBB by a less aggressive offset amount*, and if the NBB moves up, your bid will also move up. For sales, your offer is pegged to the NBO by a less aggressive offset, and if the NBO moves down, your offer will also move down. In addition to the offset, you can define an absolute cap, which works like a limit price, and will prevent your order from being executed above or below a specified level.

For passive relative orders with a "0" offset, the order is submitted as a limit order at the best bid/ask, and will move up and down with the market to continue to match the inside quote.

> **Note:** If you have tooltips enabled, you can hold your mouse over the Limit price of the relative order and see the **current exchange price** for that order.

*The offset is the amount that will be subtraced from the best bid (for a buy order) and added to the best ask (for a sell order) to create the limit price at which the order will be submitted.



To enter a Passive Relative order

1. Click in the **Ask Price** field to initiate a BUY order, or the **Bid Price** field to initiate a SELL order.
2. Click in the **Type** field and select PASSV REL as the order type.
3. Enter the offset amount in the **Offset Price** field, or set a percent using the **Pct. Offset** field. If both fields have values the higher of the two will be used as the offset. To display the Pct. Offset field, hold your mouse over the Offset Price field until the “+” and “x” icons appear, and click the “+” icon. From the Prices category select Pct Offset.

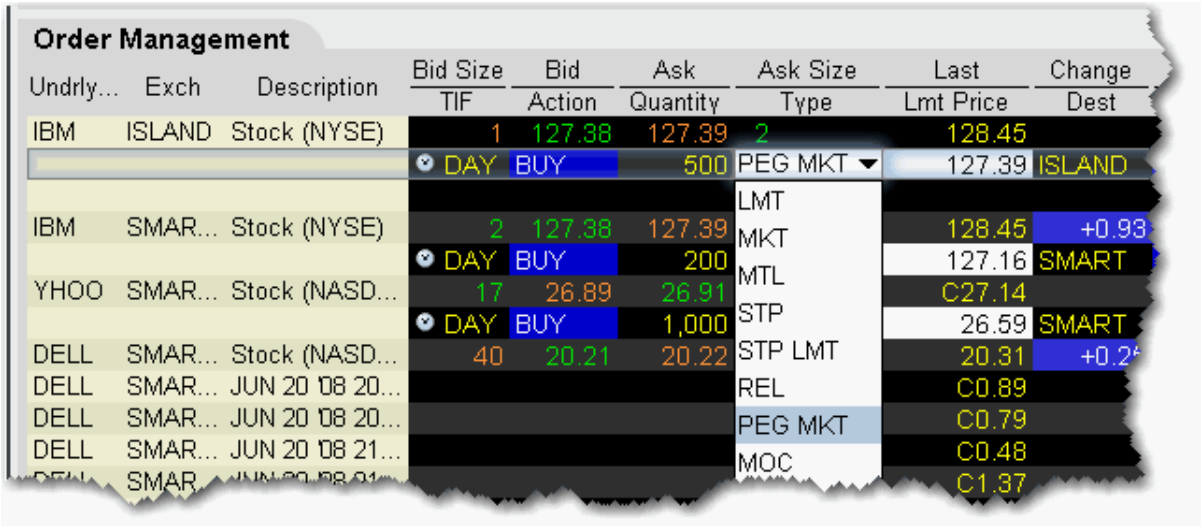
For a more detailed description of Passive Relative orders, visit the Order Types information page.

Pegged-to-Market

Submit an aggressive order that is pegged to buy on the best offer and sell on the best bid.

To create a Pegged-to-Market order

1. Click the **Ask** price to create a BUY order, or the **Bid** price to create a SELL order.
2. In the **Dest**. field ensure that the destination is Island.
3. In the **Type** drop-down select PEG MKT.
4. If desired, modify the offset amount in the **Aux. Price** field.
5. To transmit, click the "T" in the Status field.



Available for stock orders direct routed to Island.

For a more detailed description of pegged-to-market orders, visit the Order Types information page.

Pegged to Midpoint

Pegged to Midpoint orders seek to execute at the midpoint of the National Best Bid and Offer (NBBO). The order price adjusts automatically to peg the midpoint if the market moves. If the

market moves in the opposite direction, the order will execute.

The limit price acts as a price cap to prevent your order from being executed above or below a specified level.

To create a pegged to midpoint order

1. Click in the **Ask Price** field to initiate a BUY order, or the **Bid Price** field to initiate a SELL order.
2. In the **Dest**. field ensure that the destination is Island.
3. Click in the **Type** field and select PEG MID as the order type.

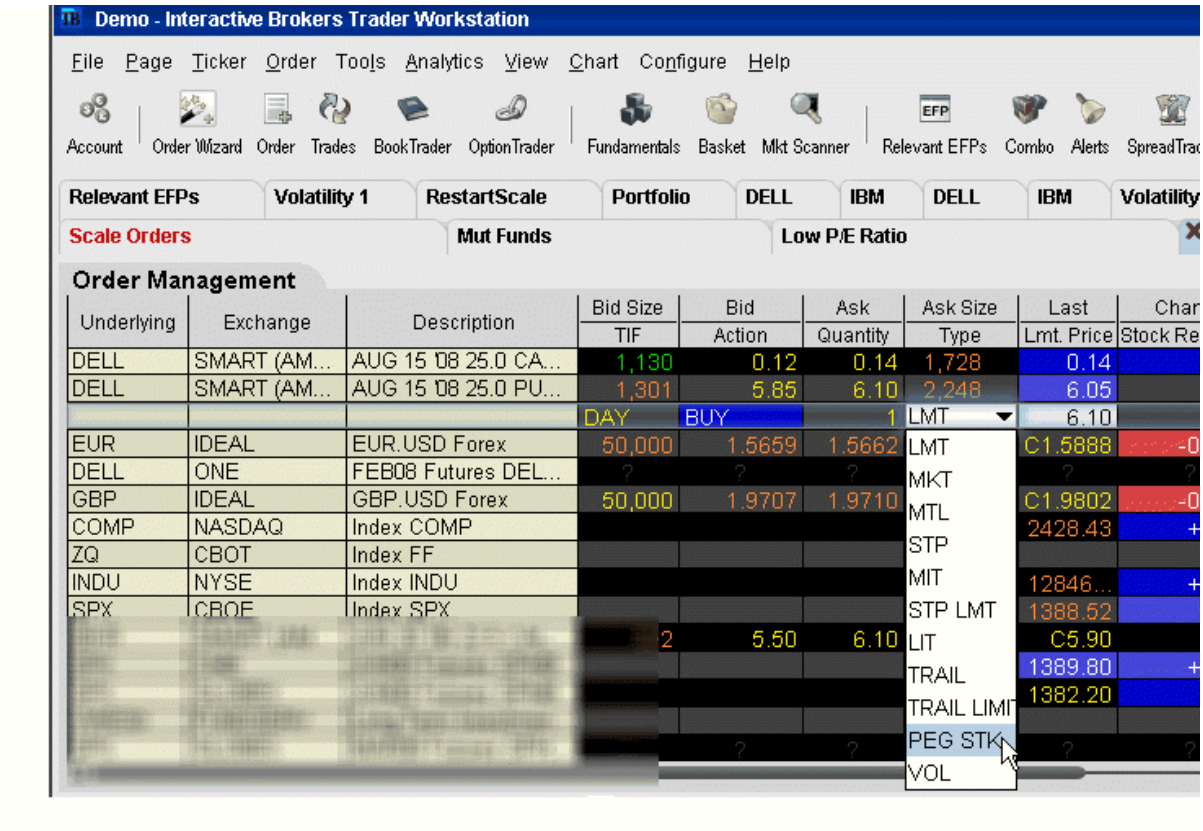
This order type is only available for US Equity orders direct-routed to Island.

For a more detailed description of pegged to midpoint orders, visit the Order Types information page.

Pegged to Stock

Sometimes referred to as *Relative to Stock*, a pegged to stock order specifies that the option price will adjust automatically relative to the stock price, using a calculated value based on data you enter.

> **Note:** A Pegged to Stock order direct-routed to BOX puts you in BOX's Price Improvement auction.



To create a Pegged to Stock order

1. Click the **Ask** price to create a BUY options order, or the **Bid** price to create a SELL options order.
2. Select PEG STK in the **Type** field. *Ensure that the supporting Pegged order fields are visible.*If you don't see PEG STK in the Type list, check to be sure that your option is routed to SMART (or an exchange that supports this order type). This order type is only valid for US Equity options.
3. In the **Delta** field, enter an absolute value which will be used as a percent, eg. "5" equals 5%.

   This percent value is signed positive for calls and negative for puts. This value is multiplied by the change in the underlying stock price, and the product is added to the starting price to determine the option price.

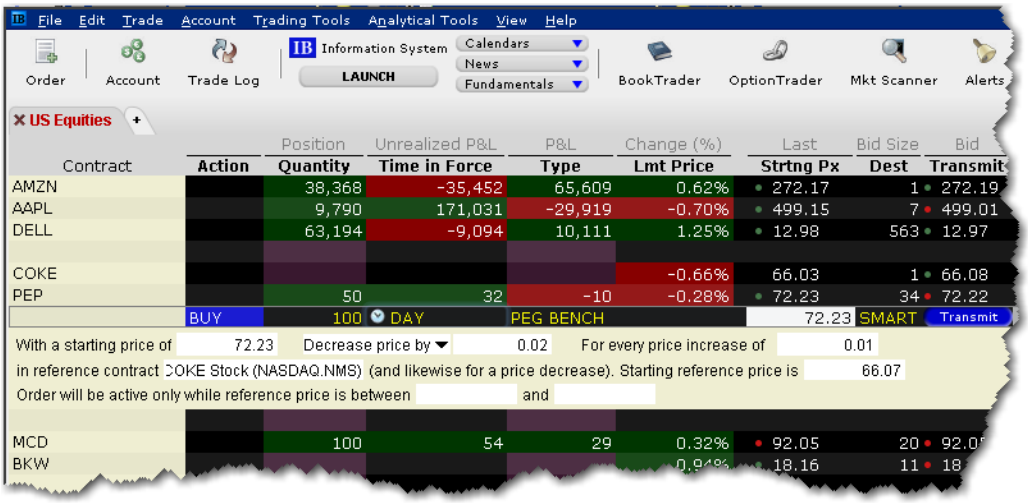
4. The Stock Reference Price used is the midpoint of the NBBO at the time of the order. You can change this value if desired.
5. Define an optional high/low stock range if desired. If the stock price moves outside of the range, your order will be canceled. Use the *Underlying Range (High)* and *Underlying Range (Low)* fields.
6. The Starting Price for the option order is the midpoint of the option NBBO at the time of the order. You can change this value if desired.

When you create a pegged to stock order using the Order Ticket, use the Basic tab to select the order type and set the Starting price. Use the Pegged tab to set the Stock Ref. price, the high and low underlying range limits, and the Delta value.

For more details and an example of a pegged-to-stock order, visit the Order Types information page.

Pegged to Benchmark

Similar to a Pegged to Stock order, a Pegged to Benchmark order specifies that the order price will adjust automatically relative to changes in the price of a user-specified reference asset. To determine whether the reference asset price has changed, the system monitors changes to the **Last** price for indexes, and changes to the **Bid** (for buy orders) and to the **Ask** (for sell orders).



To create a Pegged to Benchmark order

From the Quote Monitor, click the Bid for SELL order, click the Ask for a BUY order.

From the **Type** field in an order line select PEG BENCH.

Within the inline algo parameters you can define the following fields:

With a starting price of: Enter the price for the current order. By default the starting price for a Buy order = bid (at the time the order is created), for a Sell order = ask (at the time the order is created).
Decrease price by/Increase price by: Specify an offset by which the price will increase/-decrease in response to the same-direction movement in the price of the reference contract.
For every price decrease (or increase) of: Enter the reference contract price-change increment that will drive the increase/decrease of the order price.
in reference contract: Enter the underlying symbol for the reference contract.
Starting reference price is: You must enter a starting price for the reference contract. The reference price is the current bid (for a buy order) and the current ask (for a sell order).
Order will be active only while reference price is between: If desired, set a defining "valid" price range for the reference contract. If the price moves outside the defined range, the order will be canceled.

Click *Transmit* to send the order.

For an example of using an **All or None** order, visit the Order Types information page.

Price Improvement Auction

For options routed through BOX, you may elect to participate in the Price Improvement Auction to better your price.

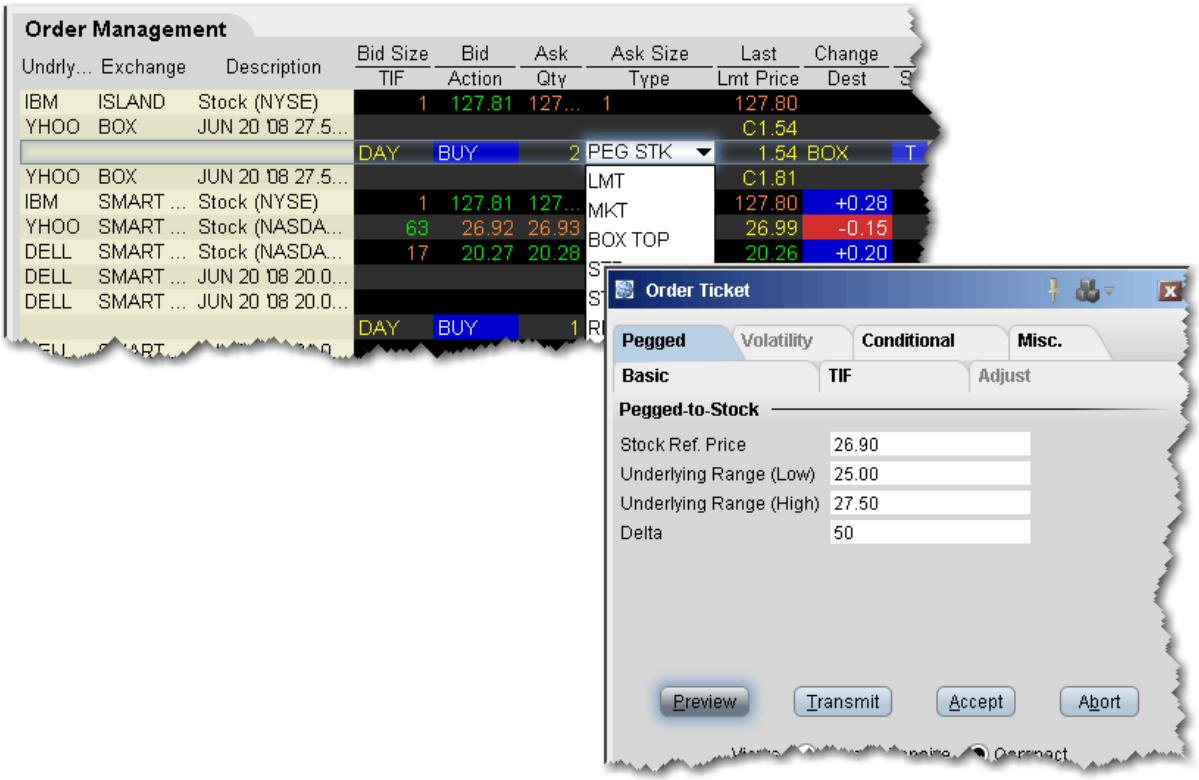
To submit a Price Improvement Auction order

1. Create an options order routed to BOX.
2. In the *Type* field, select either LMT, REL, or PEG STK.

   For Limit orders, enter the limit price in the *Lmt. Price* field in penny increments.

   For Relative orders, set a relative offset amount (in penny increments) in the *Aux. Price* field.

   For PEG STK orders, you enter the starting price in the *Aux. Price* field, the delta in the *Delta* field, the optional stock reference price in the *Stock Ref.* Price field, the low side of the optional stock range in the *Underlying Range (Low)* field, the high side of the optional stock range in the *Underlying Range (High)* field. Use the Order Ticket, or display these fields from the Order Columns tab in page layout.
3. Transmit the order by clicking the "T" in the Status field.



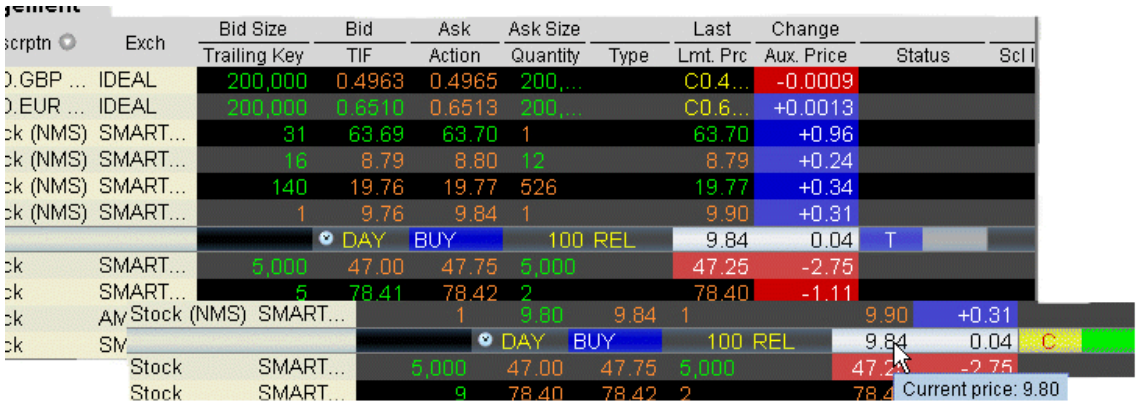
For a more detailed description of box auction orders, visit the Order Types information page.

Relative/Pegged-to-Primary

The relative order provides a means for traders to seek a more aggressive price than the National Best Bid and Offer (NBBO). By becoming liquidity providers, and placing bids or offers into the book that are more aggressive than what is currently quoted, traders increase their odds of execution. Quotes are automatically adjusted when other market participants become more aggressive. For a buy order, your bid is pegged to the NBB by a more aggressive offset amount*, and if the NBB moves up, your bid will also move up. For sales, your offer is pegged to the NBO by a more aggressive offset, and if the NBO moves down, your offer will also move down. In addition to the offset, you can define an absolute cap, which works like a limit price, and will prevent your order from being executed above or below a specified level.

For relative orders with a "0" offset, the order is submitted as a limit order at the best bid/ask, and will move up and down with the market to continue to match the inside quote.

> **Note:** If you have tooltips enabled, you can hold your mouse over the Limit price of the relative order and see the **current exchange price** for that order.



To enter a Relative order

1. Click in the **Ask Price** field to initiate a BUY order, or the **Bid Price** field to initiate a SELL order.
2. Click in the **Type** field and select REL as the order type.
3. Enter the offset amount in the **Aux. Price** field, or set a percent using the **Pct. Offset** field. If both fields have values the higher of the two will be used as the offset. To display the Pct. Offset field:

Hold your cursor over a field in the order row fields until the green "+" sign appears.
Click the "+" sign to show the list of order fields.
In the Price category, select Pct Offset. The field is added to the left of the selected field.

Note: If you submit a relative order with a percentage offset, you are instructing us to calculate an order price that is consistent with the offset, but that also complies with applicable tick increments. Therefore we will calculate the order price rounded to the appropriate tick increment (e.g., pennies for a U.S. stock trading at a price over $1.00). Buy orders will be rounded down to the nearest acceptable tick increment and sell orders will be rounded up.

You can modify the offset amount for several relative orders on the same trading page at one time. To do this, select multiple relative orders by holding the **Ctrl** key and clicking on each order. After you have selected all relative orders, right-click on one of the selected orders and select Modify. In the **Relative Order Modification** box, define an offset or percent offset amount and click OK. All selected orders will be changed.

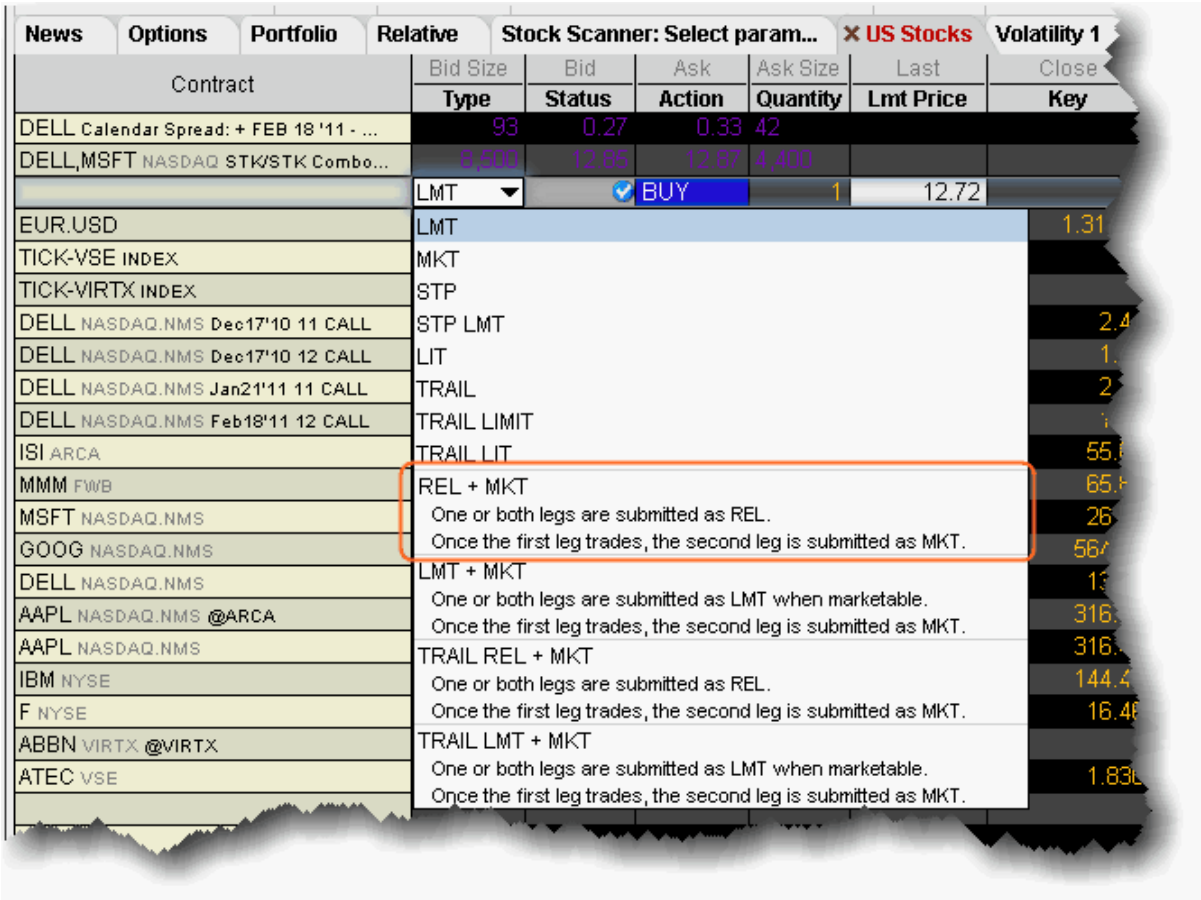
Please note that you can change the name of the *Relative* order to *Pegged-to-Primary* using the Settings page of the *Display* group in **Global Configuration**.

For a more detailed description of relative orders visit the Order Types information page.

*The offset is the amount that will be added to the best bid (for a buy order) and subtracted from the best ask (for a sell order) to create the limit price at which the relative order will be submitted.

Relative + Market

The REL + MKT order type is available for certain multi-leg combinations, and when used with a non-guaranteed combination order it could help to increase the chances of all legs in the order being filled. Although the order type uses the term "Relative," this refers to the behaviour of the limit order initially submitted, which is pegged to the bid for a buy and to the ask for a sell similiar to a Relative order, in an attempt to add rather than remove liquidity. Initially one or more legs are submitted as limit orders, but if the first leg fills or partially fills, the remaining legs are resubmitted as market orders.



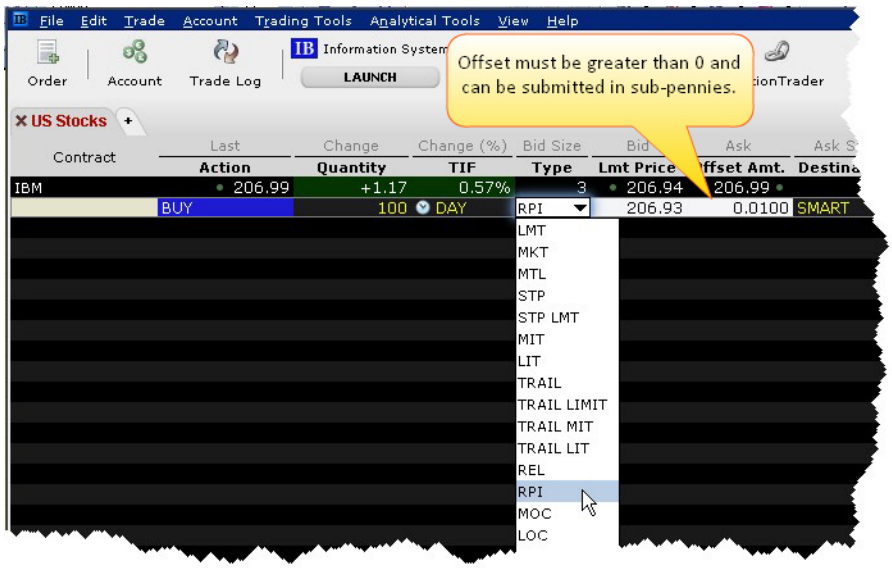
To create a combination Relative + Market order

1. Create a Combination Order line on the Quote Monitor.
2. Click the Bid or Ask to create a Sell or Buy order line.
3. From the **Type** dropdown, select *REL + MKT*.

When you select REL + MKT, the limit price field becomes inactive and the Trigger Price field requires the combo price input.

Retail Price Improvement Orders (RPI)

This order is similar to a Relative order, but requires an offset greater than zero (which may be submitted in sub-pennies). RPI orders are routed to a separate book at the NYSE to trade against qualified orders.



To submit an RPI order

Click the Ask price to create a Buy order or the Bid price to create a Sell order.

From the **Type** field, select *RPI*.

If you don't see RPI in the order type list, ensure that your Destination is set to SMART and that the stock is listed on either the NYSE or NASDAQ.

Specify an offset greater than zero.

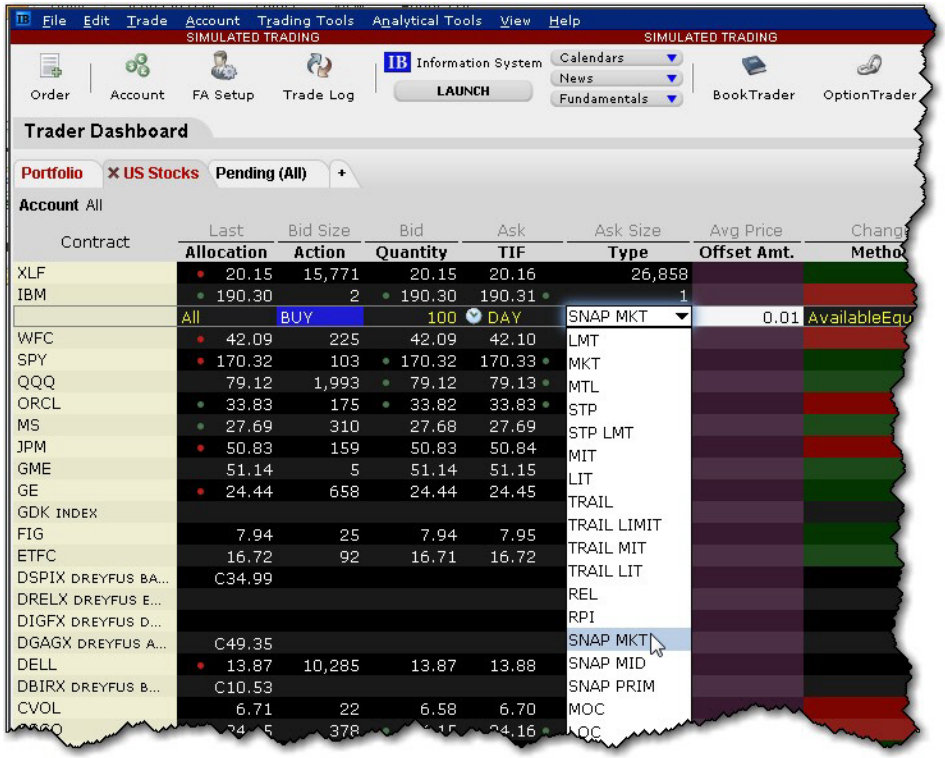
Transmit the order.

For more information, see the Order Types page on the website.

Snap to Market

The Snap to Market (SNAP MKT) order is similar to a pegged order, as the original order price is determined by the current bid/ask plus or minus an offset. But unlike the pegged order price, the "snap to" order price doesn't continue to peg as the price moves.

A Snap to Market BUY order snaps to the ask minus the offset, to set the order price. For a SELL order, it snaps to the bid plus the offset.



To create a Snap to Market order

Create a buy or sell order.

From the Type field select SNAP MKT.

Specify an offset amount that will be subtracted from the bid (for a buy order) to determine the limit price.

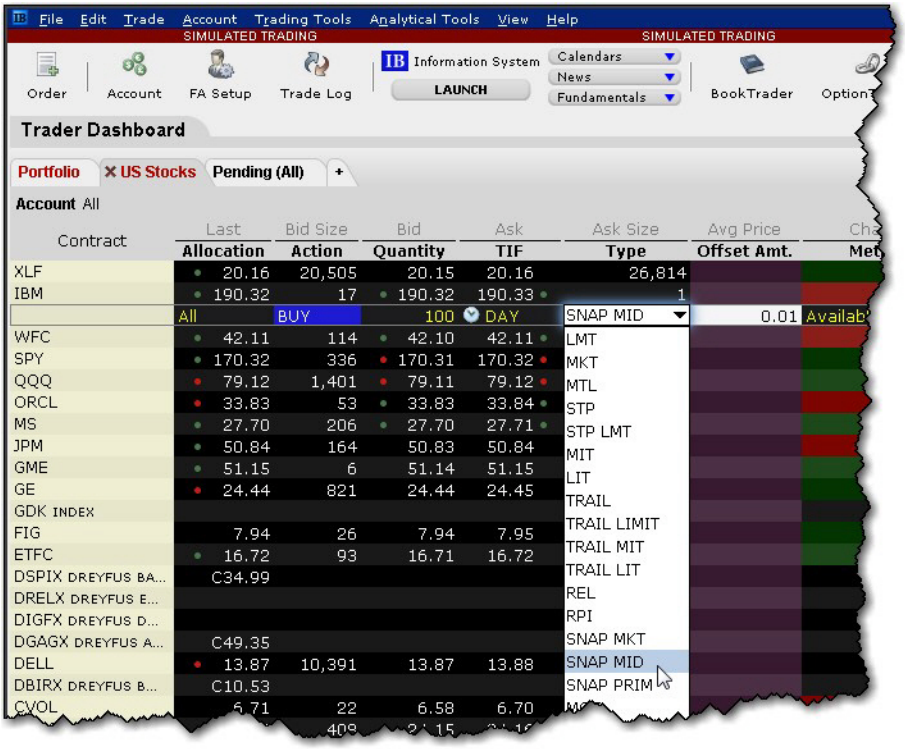
Transmit.

For a more detailed description of relative orders visit the Order Types information page.

Snap to Midpoint

The Snap to Midpoint (SNAP MID) order is similar to a pegged order, as the original order price is determined by the current bid/ask plus or minus an offset. But unlike the pegged order price, the "snap to" order price doesn't continue to peg as the price moves.

A Snap to Midpoint BUY order snaps to the midpoint of the bid/ask minus the offset to set the order price. For a SELL order, it snaps to the midpoint of the bid/ask plus the offset.



To create a Snap to Midpoint Order

Create a buy or sell order.

From the Type field select SNAP MID.

Specify an offset amount that will be subtracted from the midpoint of the bid/ask to determine the limit price.

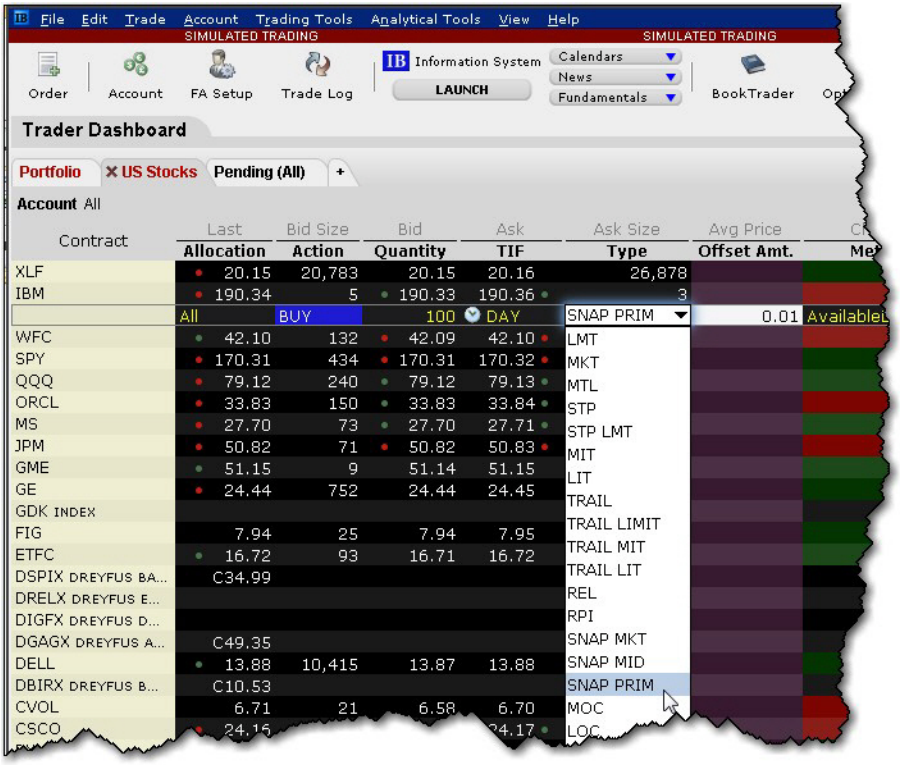
Transmit.

For a more detailed description of relative orders visit the Order Types information page.

Snap to Primary

The Snap to Primary (SNAP PRIM) order is similar to a pegged order, as the original order price is determined by the current bid/ask plus or minus an offset. But unlike the pegged order price, the "snap to" order price doesn't continue to peg as the price moves.

A Snap to Primary BUY order snaps to the bid plus the offset to set the order price. A SELL order snaps to the ask minus the offset.



To create a Snap to Primary Order

Create a buy or sell order.

From the Type field select SNAP PRIM.

Specify an offset amount that will be added to the bid (for a buy order) to determine the limit price.

Transmit.

For a more detailed description of relative orders visit the Order Types information page.

Stop Order with Protection

A Stop with Protection order is similar to a stop limit order. The order is submitted with a Stop Price. When the contract trades at the stop price the order triggers, and is submitted as a limit order at the exchange-defined "protection" limit price.

To create a stop with protection order

1. Click the **Ask** price to create a BUY order, or the **Bid** price to create a SELL order.
2. In the *Type* field select **STP PRT** as the order type.
3. Define the Stop Price.
4. Transmit by clicking the "Transmit" button.

For a more detailed description of stop orders with protection, visit the Order Types information page.

T + 2 Stock Settlement

Clients who write covered calls can elect to purchase shares that settle in T+2 to satisfy their delivery obligations, instead of using existing shares and potentially incurring a higher tax liability.

To specify T+2 for a US stock order, from the Destination field select TPLUS2 as the routing destination.

Trailing Stop

A trailing stop sell order sets the initial stop price at a fixed amount below the market price as defined by the Trailing Amount. As the market price rises, the sell stop price rises one-to-one with the market but always at the interval set initially by the trailing amount. If the stock price falls, the stop price remains the same. When the stop price is hit, a market order is submitted. Reverse this for a buy trailing stop order. This strategy may allow an investor to limit the maximum possible loss without limiting possible gain.

To create a trailing stop order

1. Click in the **Ask Price** to initiate a BUY order, or the **Bid Price** to initiate a SELL order.
2. Click in the **Type** field and select TRAIL from the dropdown list of order types.
3. Enter a value in the **Trailing Amt** field. This amount is used to calculate the initial Stop Price, and the amount by which you want the limit price to continue to trail the stop price. To change the absolute value to a percent of the best bid/ask, click in the field to initiate a dropdown arrow, and then choose *Amt* or *%*.

> ***Stop Price - This field is optional.*** *By default, the initial Stop Price is calculated as: market price - trailing amount. You can modify the stop price, but if it is lower*

than the calculated value, it will be discarded when the order is submitted. Note that the value you enter may display in the Stop Price field even if it is not used.
***Limit Price** - this value defaults to the current best bid/ask. The limit price will move with the trailing stop price based on the delta between the two prices (initial stop price - initial limit price = limit delta). If the limit price and stop price are equivalent, they will move together with a zero delta.*

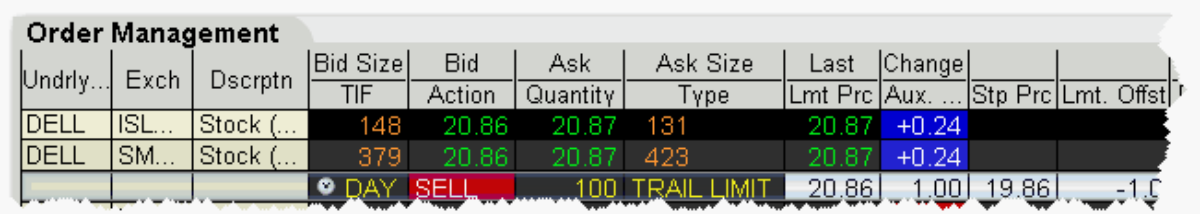
4. To transmit the order, click the "T" in the Status field.

For a more detailed description of Trailing Stop orders visit the Order Types information page.

Trailing Stop Limit

A trailing stop limit order lets you create a trailing stop order that works in conjunction with a dynamically-updating limit order. When the stop order triggers, a limit order is submitted at the last calculated price (instead of a market order which would be submitted with a regular trailing stop order).

The Trailing Stop Limit order uses four components: Stop price, Trail amount, Limit price, and Limit Offset.



To enter a trailing stop limit SELL order

1. Click in the **Bid Price** to initiate a SELL order.
2. Click in the **Type** field and select TRAIL LIMIT.

3. Display the **Stop Price** and **Lmt Offset** fields (Hold your mouse over any field title until the "+" and "x" *Insert* and *Remove* icons appear. Click the "+ " to display the list of available fields. Note that if you hover your mouse over an order field, all available order fields are displayed. If you hover over a market data field, all available market date fields are displayed.).
4. Enter values in the following fields:

   a. ***Trailing Amount (Aux Price)*** *(Trailing Amt) - This amount is used to calculate the initial Stop Price, and the amount by which you want the limit price to continue to trail the stop price. Use the dropdown to choose Amt or %. The trailing percent is calculated off the current best bid/ask. Note that you can define a default Trailing Amount in the Order Defaults Default Order Offset Amounts area.*
   b. ***Stop Price*** *- You must enter an initial stop price. Unlike a trailing stop order, the initial stop price is not automatically calculated by TWS when you transmit the order, since the stop price is needed to calculate the limit price or limit offset. The stop price is continually recalculated when the market price rises. If the initial stop price is higher than the (market price - trail amount) it will not be modified.*
   c. ***Limit Price OR Limit Offset*** *- The limit order piece of the trailing stop limit is submitted once the stop price is penetrated. While the market price and stop price continue to fall, the limit price is also recalculated using the limit offset, and moves with the stop price.*

      If you enter a limit offset, the limit price is calculated using (stop price - limit offset).

      If you enter a limit price, the limit offset is calculated using (stop price - limit price) when the order is submitted.

      If the limit price and stop price are equivalent, they will move together with no offset.

5. To transmit the order, click "T" Status field.

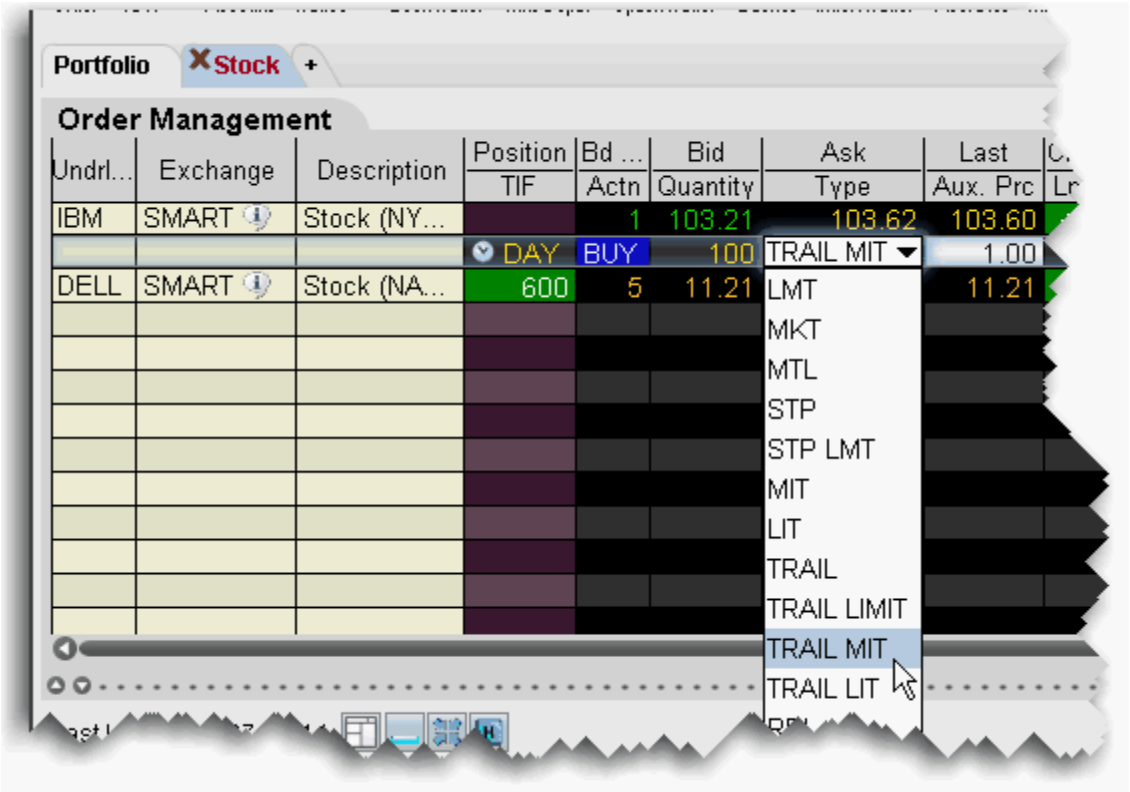
For a more detailed description and example of Trailing Stop Limit orders, visit the Order Types information page.

Trailing Market if Touched

A trailing market if touched is similar to a trailing stop order, except that the sell order sets the initial stop price at a fixed amount above the market price instead of below. As the market price falls, the stop trigger price falls by the user-defined trailing amount, but if the price rises, the stop price remains the same. When the stop trigger is touched, a market order is submitted. Reverse this for a buy trailing market if touched order.

To create a Trailing Market if Touched order

1. Click the **Ask** price to create a BUY order, or the **Bid** price to create a SELL order.
2. In the *Type* field select TRAIL MIT as the order type.
3. In the *Aux. Price* field, enter the trailing amount.
4. In the Stop Price field, enter the trigger price.
5. To transmit the order, click the "T" in the Status field.



For a more detailed description of relative orders visit the Order Types information page.

Trailing Limit if Touched

A trailing limit if touched is similar to a trailing stop limit order, except that the sell order sets the initial stop price at a fixed amount above the market price instead of below. As the market price falls, the stop trigger price falls by the user-defined trailing amount, but if the price rises, the stop price remains the same. When the stop trigger is touched, a limit order is submitted. Reverse this for a buy trailing limit if touched order.

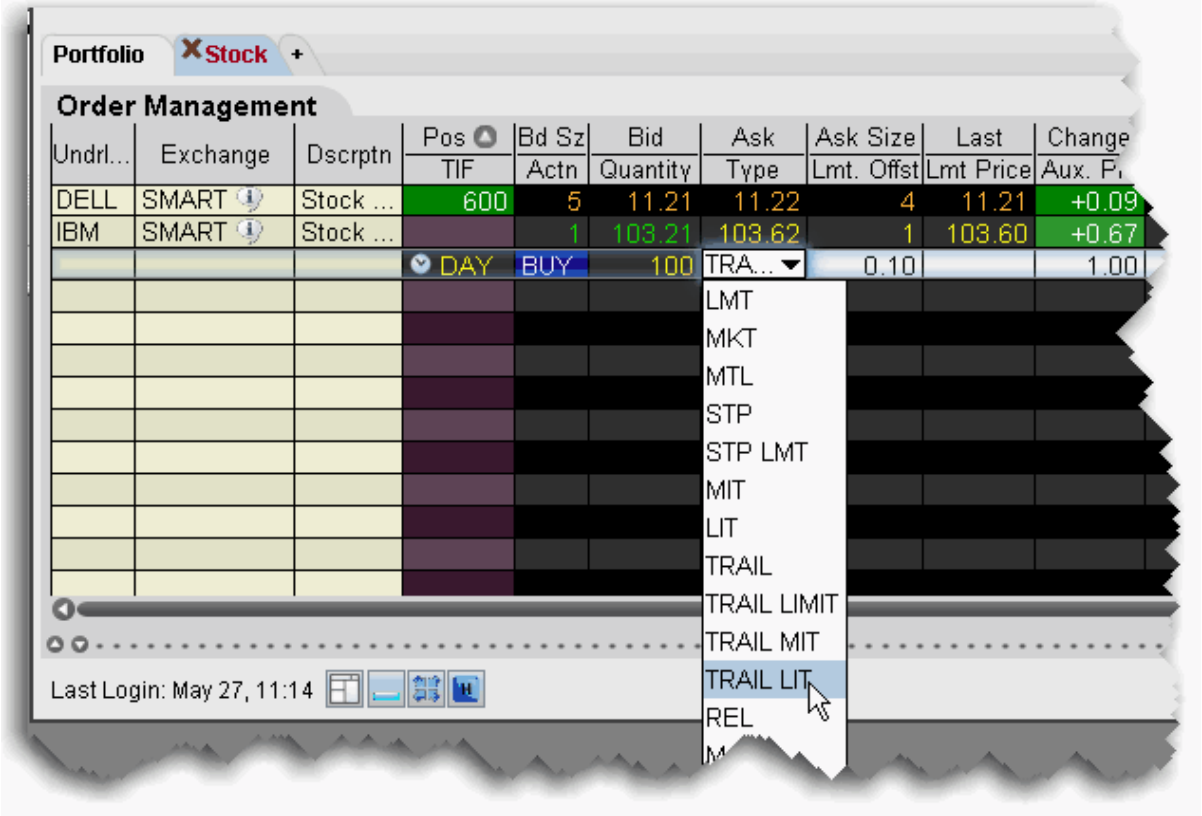
To create a Trailing Limit if Touched order

1. Click the **Ask** price to create a BUY order, or the **Bid** price to create a SELL order.
2. If not already visible, display the **Stop Price** and **Lmt Offset** fields (right-click in the column headers and select *Customize Layout*, then use the Order Columns tab to add fields).
3. Enter values in the following fields:

   a. ***Aux Price*** *(Trailing Amt) - This value is added to the bid price to continually recalculate the stop price, if the market price drops. Use the dropdown to choose Amt or %. The trailing percent is calculated off the current best bid/ask. Note that you can define a default Trailing Amount in the Order Defaults Default Order Offset Amounts area.*
   b. ***Stop Price*** *- You must enter an initial stop price. Unlike a trailing market if touched order, the initial stop price is not automatically calculated by TWS when you transmit the order, since the stop price is needed to calculate the limit price or limit offset. The stop price is continually recalculated when the market price falls. If the initial stop price is higher than the (market price - trail amount) it will not be modified.*
   c. ***Limit Price OR Limit Offset*** *- The limit order piece of the trailing stop limit is submitted once the stop price is penetrated. While the market price and stop price continue to fall, the limit price is also recalculated using the limit offset, and moves with the stop price.*

      If you enter a limit offset, the limit price is calculated using (stop price - limit offset).
      If you enter a limit price, the limit offset is calculated using (stop price - limit price) when the order is submitted.
      If the limit price and stop price are equivalent, they will move together with no offset.

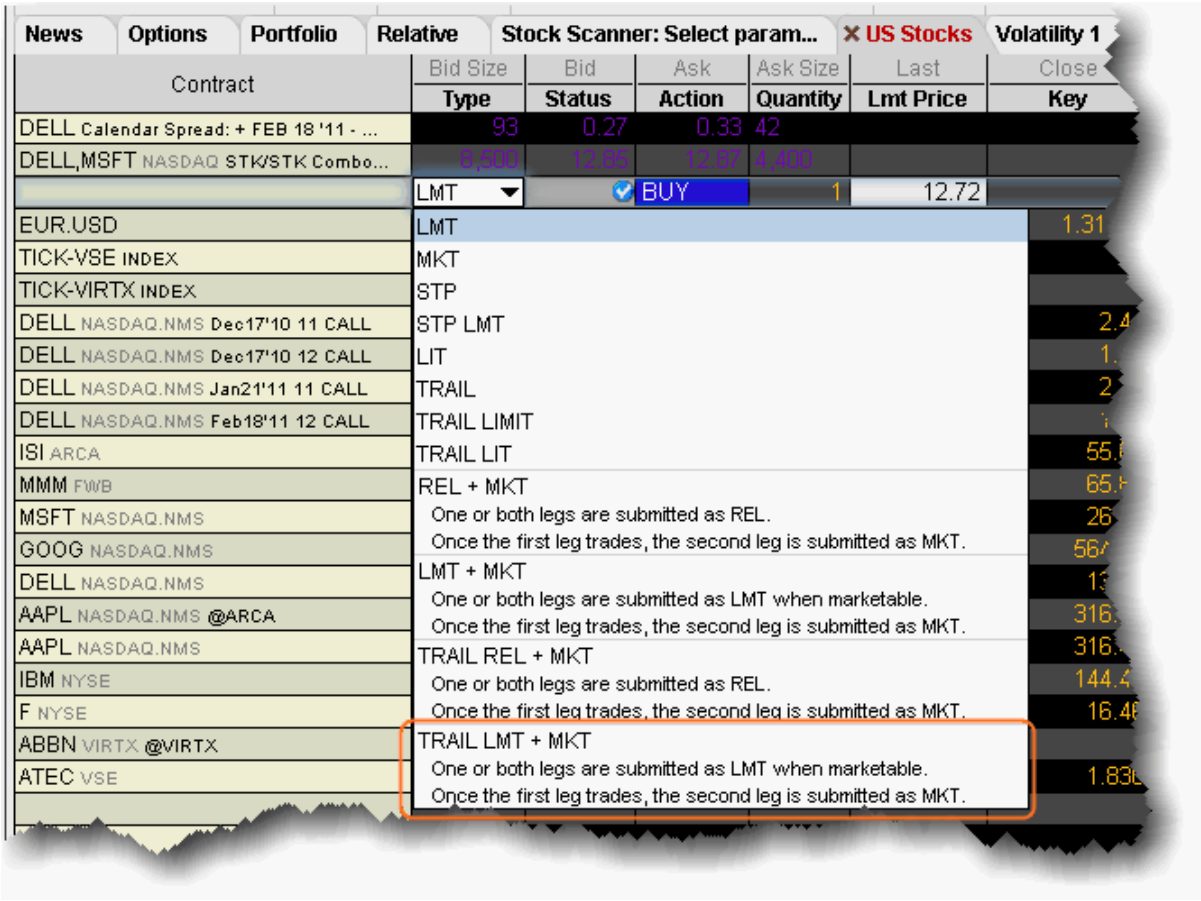
4. To transmit the order, click "T" Status field.



For a more detailed description of relative orders visit the Order Types information page.

Trailing Limit + Market

The TRAIL LMT + MKT order type is available for certain multi-leg combinations. You define the trailing amount, and when the order triggers it behaves the same as the Limit + Market order.



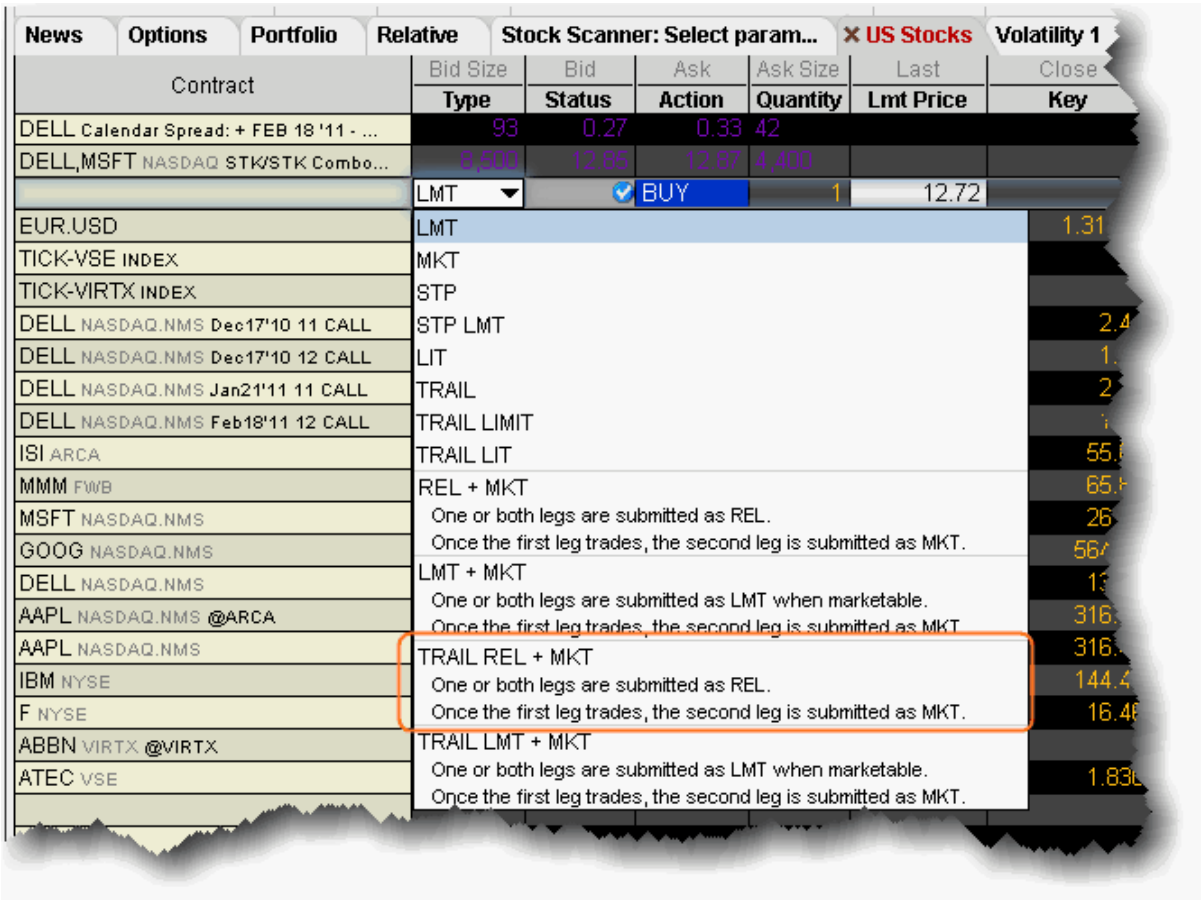
To create a combination Trailing Limit + Market order

1. Create a Combination Order line on the Quote Monitor.
2. Click the Bid or Ask to create a Sell or Buy order line.
3. From the **Type** dropdown, select *TRAIL LMT + MKT*.
4. Set or confirm the Trailing Amount and Trigger Price.

When you select TRAIL LMT + MKT, the limit price field becomes inactive and the Trigger Price field requires the combo price input.

Trailing Relative + Market

The TRAIL REL + MKT order type is available for certain multi-leg combinations. You define the trailing amount, and when the order triggers it behaves the same as the Relative + Market order.



To create a combination Trailing Relative + Market order

1. Create a Combination Order line on the Quote Monitor.
2. Click the Bid or Ask to create a Sell or Buy order line.
3. From the **Type** dropdown, select *TRAIL REL + MKT*.
4. Set or confirm the Trailing Amount and Trigger Price.

When you select TRAIL REL + MKT, the limit price field becomes inactive and the Trigger Price field requires the combo price input.

Attached Orders

Use attached orders to hedge a parent order. The attached hedge orders are considered child orders of the parent order, and are submitted one time when the parent order is submitted. These orders are not continuously updated.

Attach a Beta Hedge Order 619

Attach a Delta Hedge Order 620

Attach an FX Order 622

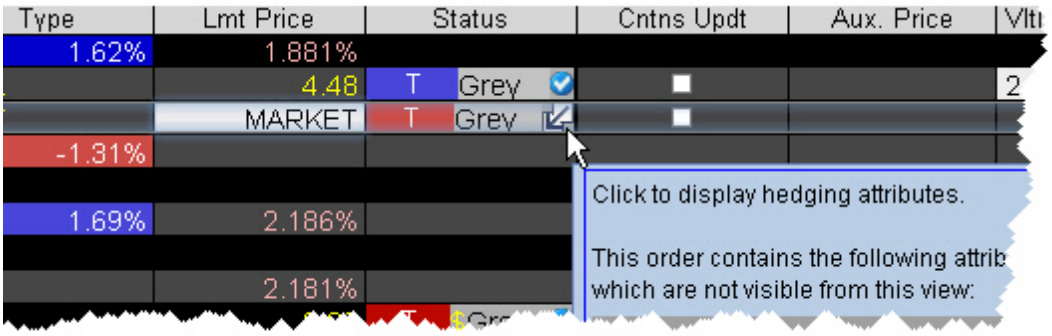
Attach a Pair Trade 623

Auto Combo Limit Order 624

Auto Combo Market Order 625

Attach a Beta Hedge Order

Attach a Beta Hedge order to hedge a stock order with an ETF.



To attach a beta hedge order

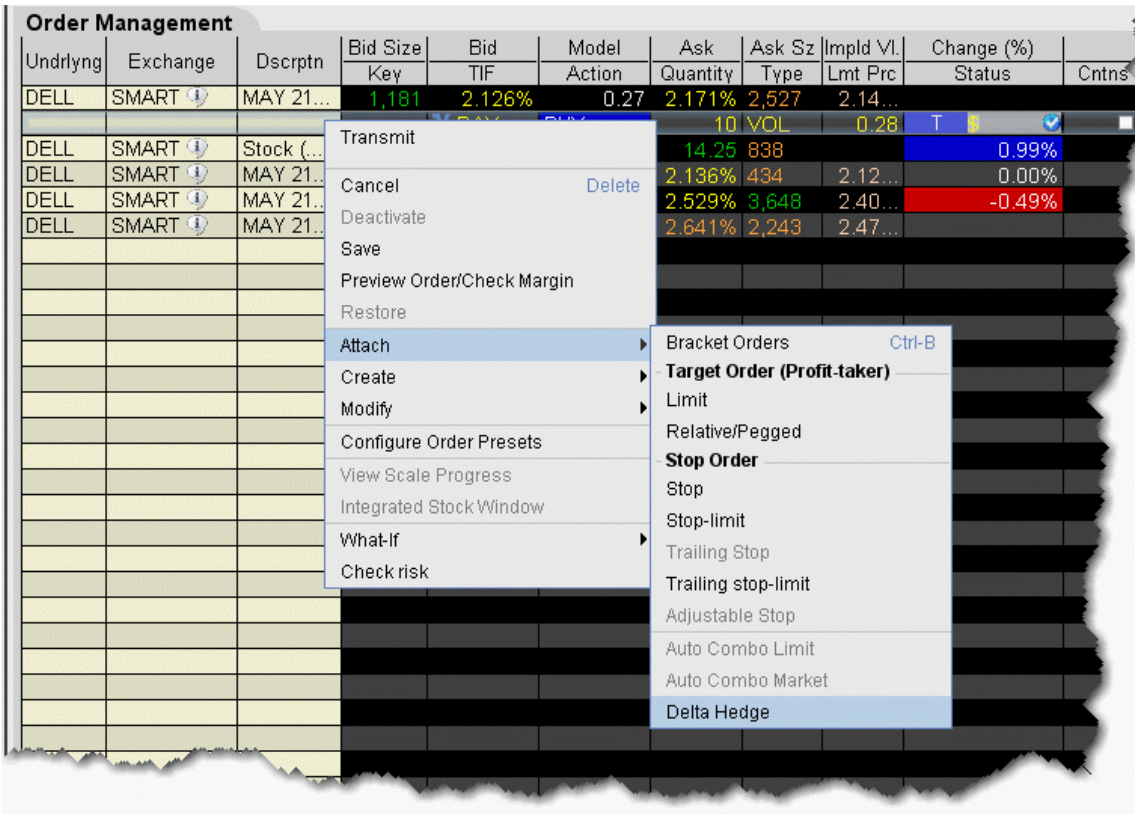
1. Create a buy or sell stock order.
2. Right-click in the order line, and select *Attach*, then select *Beta Hedge*.

3. Click the Attributes box in the Status field to show the hedge attributes on the inline editor.

4. Enter a hedging contract, generally an ETF. The system beta of the stock relative to the selected ETF is calculated and displayed next to the hedging contract.
5. Hold your mouse over the Beta icon to see the calculated estimated quantity of the hedging contract.
6. If desired, adjust the beta by entering a new value in the User Beta field. The quantity of the child hedge order is recalculated.
7. Click T to transmit the original order. The attached beta hedge is automatically transmitted.

Attach a Delta Hedge Order

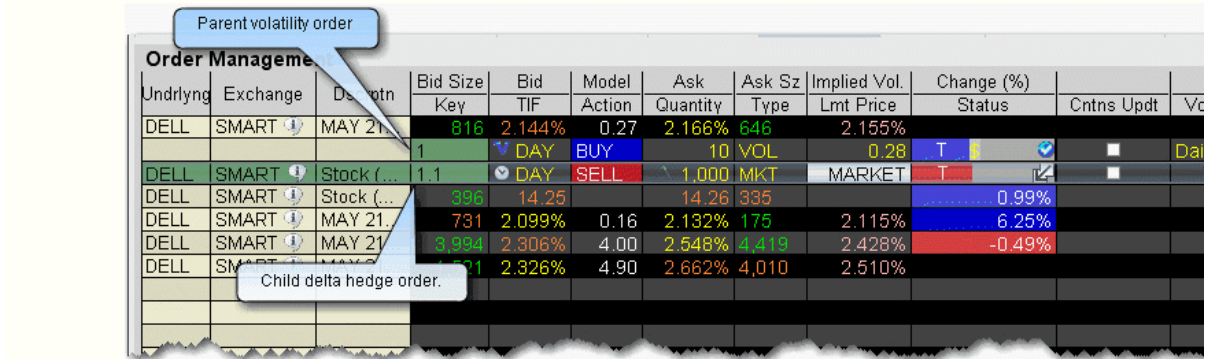
Attach a delta hedge order to an options order, and as an alternative to setting a hedge order attribute in the original Volatility order line.



To attach a Delta Hedge order

1. From the right-click menu, select *Attach* and then select *Delta Hedge*.

   A new linked delta hedge order line displays. The link between the parent and child orders is illustrated in the **Key** field.



2. Select an order type for the hedging order (Limit, Market or Relative).

Please note that when you attach a delta hedge order to a Volatility order with Continuous Update or to a Relative/Pegged-to-Stock order, the system will use the delta associated with the parent order instead of using the current delta of the option based on market data at the time of trade. For Volatility orders, this delta is calculated from the user-defined Implied Volatility specified at the time of the most recent order modification or price update. For Relative/Pegged-to-Stock orders, this is the delta specified by the user.

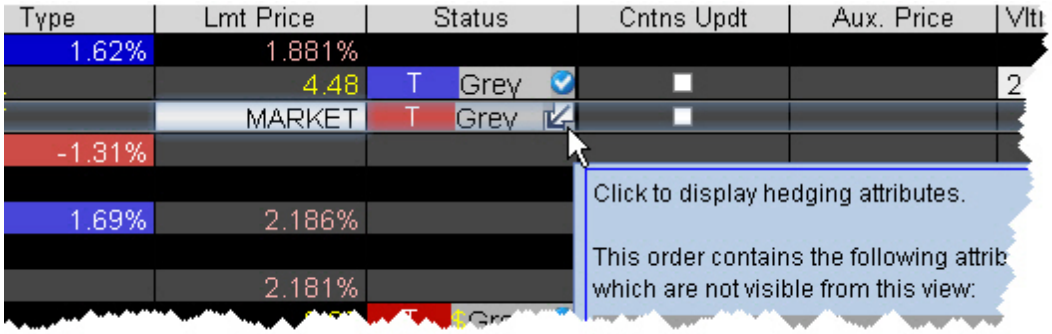
For a Limit delta hedge order, a snapshot of the stock bid/ask price is taken at the time the parent order fills, and the best available price is used as the limit price (best ask for a buy and best bid for a sell).

Attach an FX Order

You can elect to attach an FX Order in cases where you are buying a contract in a currency other than your base, and want to convert base currency to the currency of the contract to cover the cost of the trade.

To attach an FX Order

1. Create a buy order on a contract.
2. Right-click in the order line, and select *Attach*, then select *FX Order*.



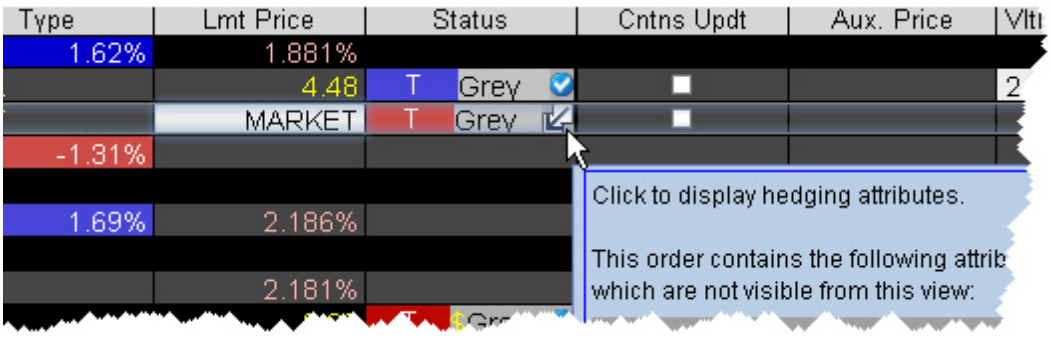
3. Click the Attributes box in the Status field to show the hedge attributes on the inline editor. The appropriate currency pair is displayed.

   Hold your mouse over the FX icon to see the calculated estimated quantity of the hedging contract.

4. Transmit the parent order. The attached fx order will sell your base currency and buy a quantity of the needed currency to cover the parent trade.

Attach a Pair Trade

The attached Pair Trade can be used to hedge one contract against another, generally in the same industry. Offset a price discrepancy between the two contracts with a ratio.



To attach a Pair Trade

1. Create a buy or sell stock order.
2. Right-click in the order line, and select *Attach*, then select *Pair Trade*.
3. Click the Attributes box in the Status field to show the hedge attributes on the inline editor.
4. Enter a contract to hedge the parent contract.

5. In the Hedging Ratio field, enter a value as a whole number or a decimal. This value is the first term in the ratio.

Hold your mouse over the Pair icon to see the calculated estimated quantity of the hedging contract based on the entered ratio. For example, if the parent order quantity is 500 and you enter a Hedge Ratio of 2, the estimated quantity of the hedge order will 1000, i.e. a 2:1 ratio.

Auto Combo Limit Order

Attach an opposite-side limit order to a complex multi-leg combination order. The limit price is determined using the Combo Order Preset values for the "Target Order." The attached order is a child order and will be linked to the parent order automatically with the OCA (one-cancels-other) tag. This order will be auto-submitted when the parent order fills.

To create an Auto Combo Limit order

From within the Classic TWS Interface, create a combination order and click the Ask to create a Buy order or the Bid to create a Sell order.

Use the right-click menu from the order line to select **Attach** and then *Auto Combo Limit*.

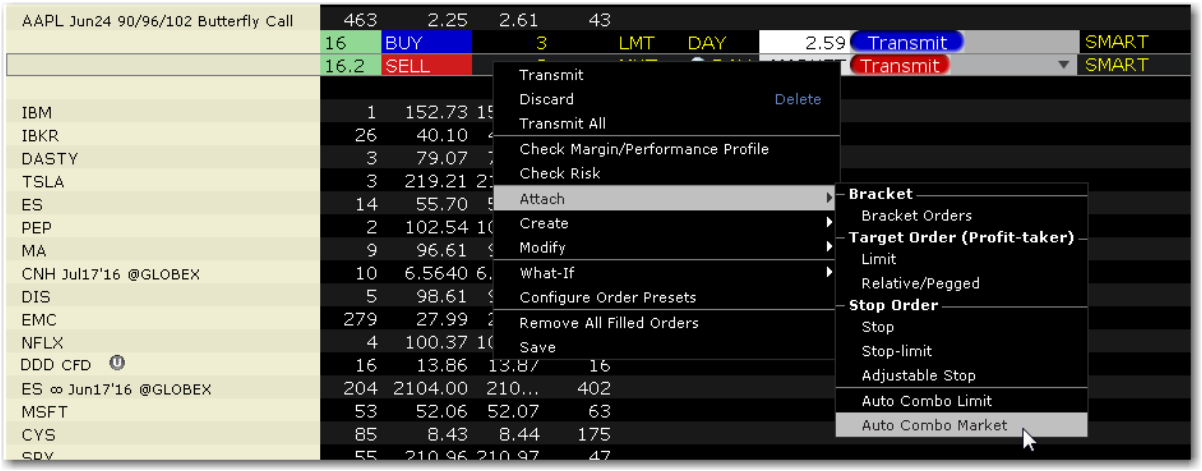
The child order is created below the original parent order, and the "Key" field is displayed to show the OCA relationship between the two orders.

If specified, the Limit price for the child order uses the "Target Order" limit price in the Combo Order Preset. Otherwise, it will use the Bid for a sell order or the Ask for a buy order. The limit price can be modified on a per-order basis.

Submit the parent order. When it fills, the auto combo limit order is automatically submitted.

Auto Combo Market Order

Attach an opposite-side market order to a complex multi-leg combination order. The attached order is a child order and will be linked to the parent order automatically with the OCA (one-cancels-other) tag. This order will be auto-submitted when the parent order fills.



To create an Auto Combo Market order

From within the Classic TWS Interface, create a combination order and click the Ask to create a Buy order or the Bid to create a Sell order.

Use the right-click menu from the order line to select **Attach** and then *Auto Combo Market*.

The child order is created below the original parent order, and the "Key" field is displayed to show the OCA relationship between the two orders.

Submit the original order. When it fills, the auto combo market order is automatically submitted.

Order Attributes

All or None (AON) **627**

Block **628**

Discretionary **628**

Hidden **630**

One Cancels Other **631**

One-Cancels-Other (OCO) **633**

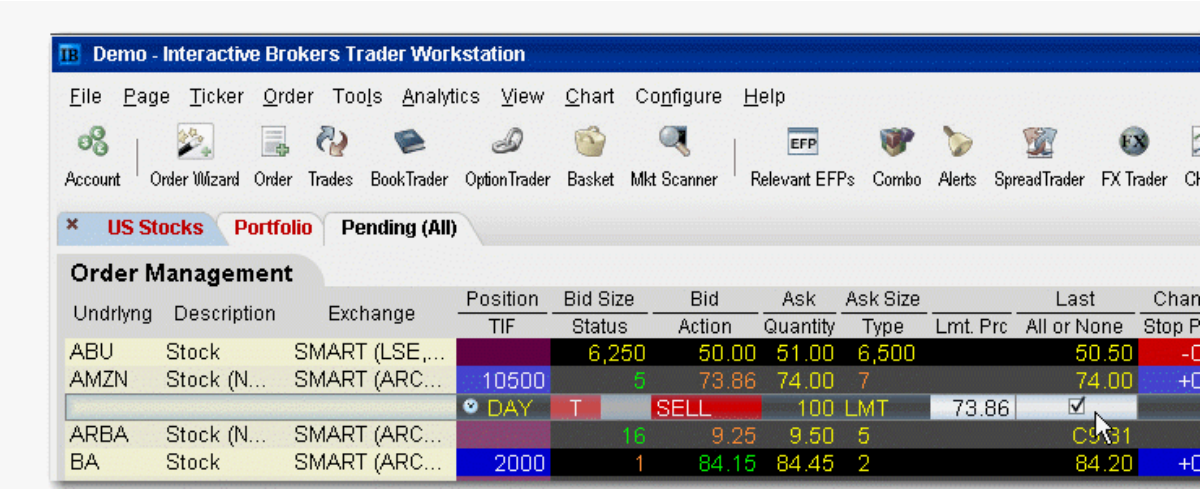
Sweep-to-Fill **634**

All or None (AON)

Mark an order as "all or none" to specify that the order not execute unless the entire order quantity is available and it can be filled in its entirety. This attribute can be applied to all order types.

To mark an order as All or None

1. Display the **All or None** field on your trading window:
   a. Hold your cursor over a field in the order row fields until the green “+” sign appears. Click the “+” sign to show the list of order fields.
   b. In the **Order Attributes** category, select *All or None*. The field is added to the left of the selected field.
   c. Highlight **All or None** and click the *Add* button.
2. Create an order (click the **Ask Price** to create a BUY order, or the **Bid Price** to create a Sell order).
3. Check the **All or None** checkbox to tag the order.



Note: You can also apply order attributes from the *Miscellaneous* tab on the Order Ticket.

For an example of using an **All or None** order, visit the Order Types information page.

Block

A block order is a high volume order that consists of a minimum of 50 contracts at a specific limit price.

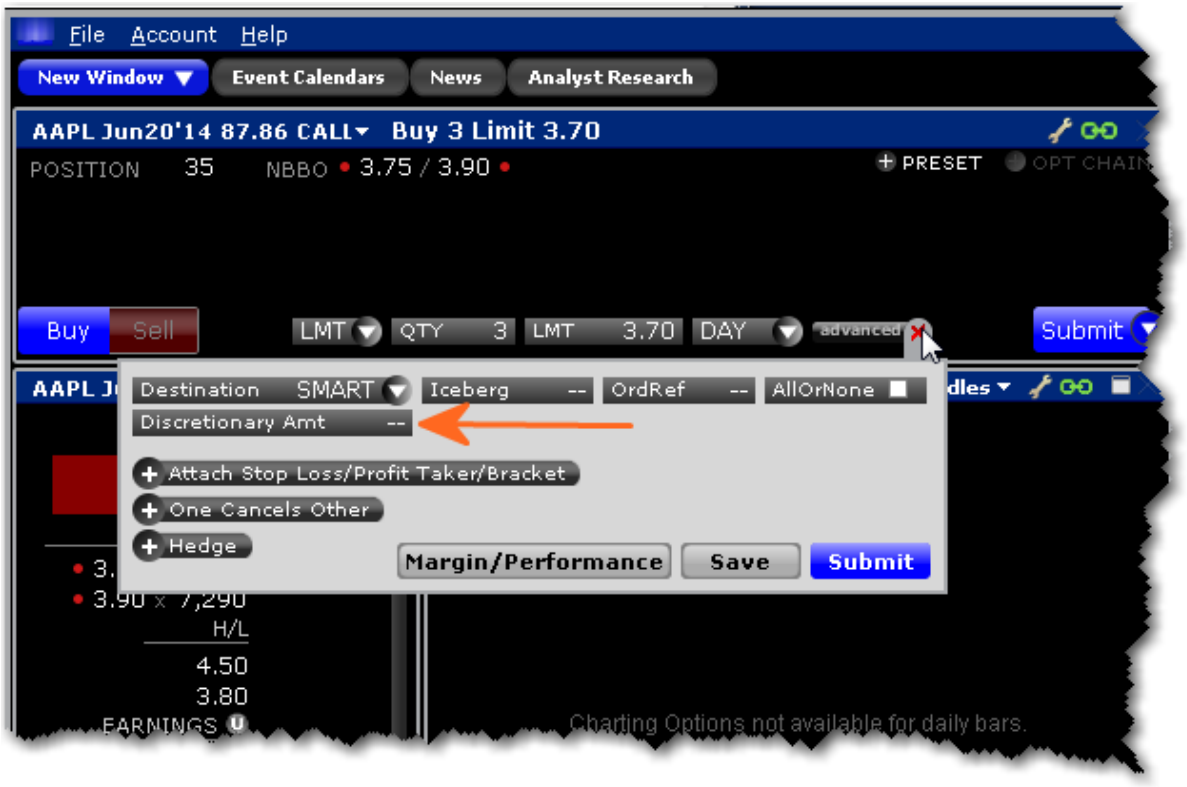
To submit a block order

1. Click the bid or ask price field on the option for which you want to submit a block order.
2. Check the Block Order attribute. To display the attribute:
   Hold you mouse over the Type field label until the green “+” sign appears.
   Click the “+” sign to display the field pick list, and from the Order Attributes section select Block Order.
3. In the *Exchange* field, select ISE.
4. In the *Price* field enter a limit price.
5. Click **Transmit** to send the order.

For more information, visit the Order Types information page.

Discretionary

A Discretionary Order attribute can be applied to any smart-routed order that uses a limit price. The defined discretionary amount is added to (for a buy) or subtracted from (for a sell) the limit price, and increases the price range over which the order is eligible to execute. Only the original limit price is displayed to the market.



To create a Discretionary order

From Mosaic:

Create the Buy or Sell order in the Order Entry panel.

Expand the "Advanced +" panel to display the *Discretionary Amt* button.

Click to make the field editable and enter the discretionary amount. To use 2 cents, enter .02.

Submit the order.

From Classic TWS:

1. Display the **Discretionary** field on an order management line:

> *Hold your cursor over a field in the order row fields until the green "+" sign appears.*
> *Click the "+" sign to show the list of order fields.*
> *In the **Prices** category, select Discretionary Amt. The field is added to the left of the selected field.*

2. Click the **Ask** price to create a BUY order, or the **Bid** price to create a SELL order.
3. Enter a discretionary amount in the *Discretionary Amt* field of the order line.
4. To transmit the order, click the "T" in the Status field.

For US options, you can elect to have the discretionary amount automatically set by TWS (when you specify a limit price somewhere between two price levels) by checking *Submit orders for nickel/dime priced options with price between price levels as Discretionary*. For details on how the discretionary amount is determined in these cases, see the Discretionary Order Handling page.

For more information on discretionary orders, visit theOrder Typesinformation page.

Hidden

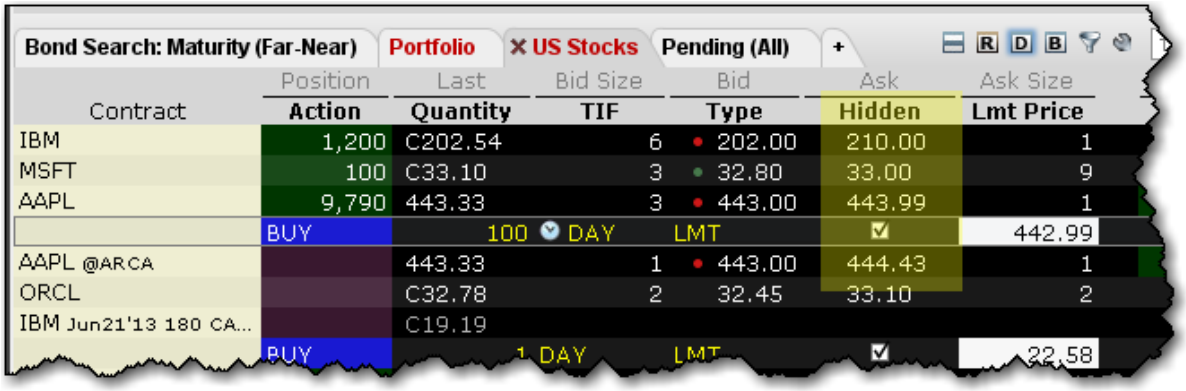
A Hidden order (generally a large volume order) shows no evidence of its existence in either the market data or the deep book.

To create a Hidden order

1. Display the **Hidden** field on an order management line:

> *Hold your cursor over a field in the order row fields until the green "+" sign appears.*
> *Click the "+" sign to show the list of order fields.*
> *In the Order Attributes category, select Hidden. The field is added to the left of the selected field.*

2. On the trading screen, create an order (click in the **Ask Price** to create a BUY order, or the **Bid Price** to create a Sell order).
3. Check the *Hidden* field.

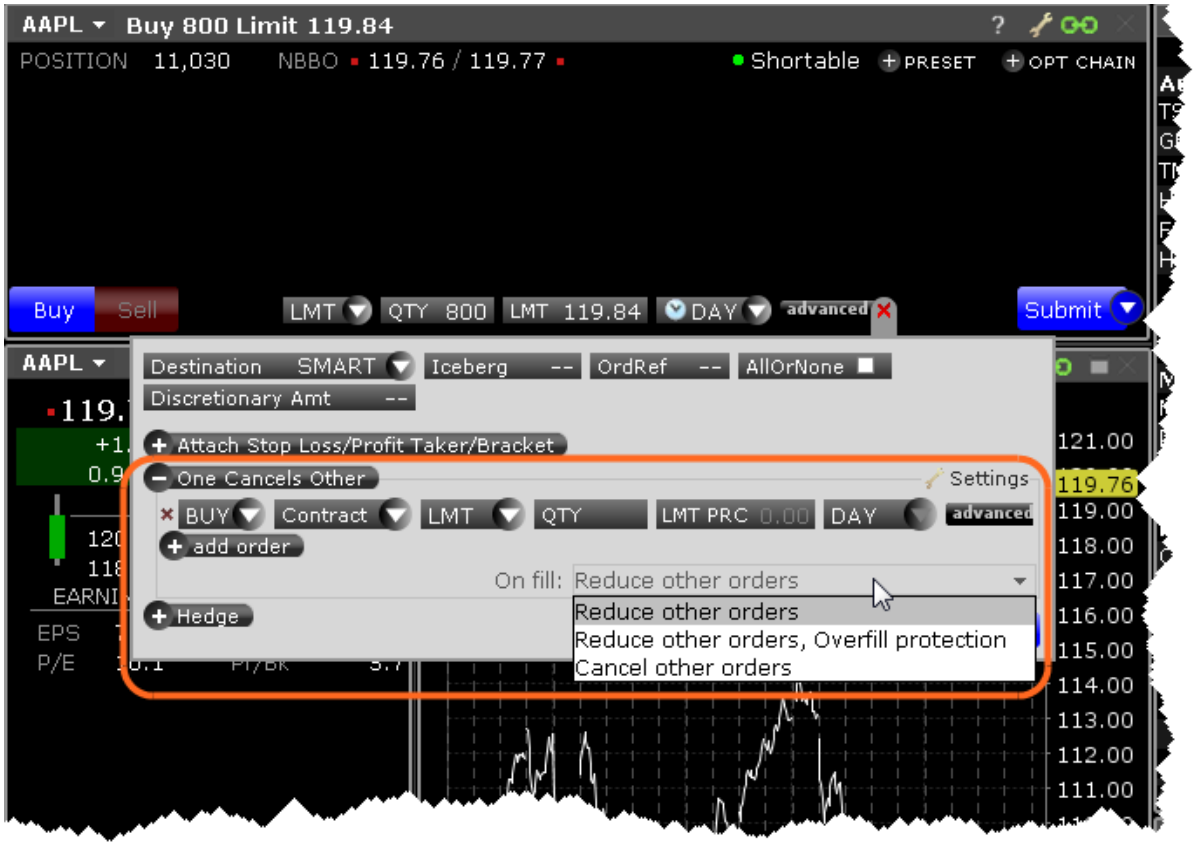


4. To transmit the order, click the "T" in the Status field.

For a more detailed description of hidden orders, visit the Order Types information page.

One Cancels Other

Attach dependent orders to a parent order and specify the order action when one group members fills.



Click "One Cancels Other" to expand the panel.

Change the order side if necessary. By default, the order side is the same as that of the original order.

Click "Contract" and enter the underlying.

Specify the order type, quantity, price and time in force.

To add more orders to the group, click *+Add Order* and follow steps 2 - 4 above.

If an order completely fills, other orders in the group are canceled. The *On Fill:* box instructs TWS what to do if an order in the group is partially filled. Use the drop down selector to choose the action:

a. ***Reduce other orders**: Reduces the quantity of other orders in the group by the partially filled quantity of the order.*

b. ***Reduce other orders, overfill protection***: *Reduces quantity of other orders in the in the group by the partially filled quantity of the order, and specifies that only one order at a time will be submitted to avoid multiple orders filling (overfill).*
c. ***Cancel other orders***: *All orders in the group will be canceled.*

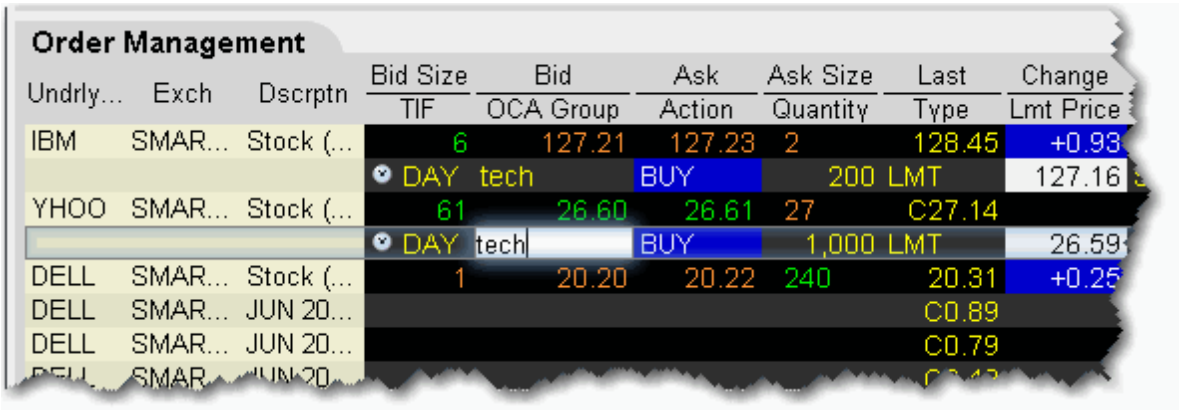
One-Cancels-Other (OCO)

For Mosaic orders, see One Cancels Other.

A One-Cancels-Other (OCO) order is a combination of separate orders that are worked in conjunction with one another in the marketplace. A customer enters orders as part of an OCO group, and when an order is executed, the remaining orders in the group are canceled. If an order is partially executed, the remaining orders in the group are reduced proportionately to the amount that was executed. If an order is canceled before execution, the remaining orders in the group are canceled.

To create an OCO order

1. Display the **OCO Group** order field: Hold your mouse over any field title until the "+" and "x" *Insert* and *Remove* icons appear. Click the "+ " to display the list of available fields. Note that if you hover your mouse over an order field, all available order fields are displayed. If you hover over a market data field, all available market date fields are displayed.
2. On the trading screen, create an order (click in the **Ask Price** to create a BUY order, or the **Bid Price** to create a Sell order).
3. Identify the order as part of an OCO group by entering a group name in the **OCO Group** field (you can use any descriptive name that you want).



4. Continue to create orders, and identify each as part of the group by entering the same name in the **OCA Group** field for each order you create.
5. After you have created all orders for a group, transmit the OCA order by clicking *Transmit All Orders on Page* on the **Trade> Transmit** menu.

   Note: Because the OCA procedure is an automated process, there is no guarantee that requested cancellations and modifications will reach the specific exchange before an order has been executed.

For a more detailed description of OCA orders visit the Order Types information page.

Sweep-to-Fill

A sweep-to-fill order identifies the best price and the exact quantity offered/available at the price, and transmits the corresponding portion of your order for immediate execution. It simultaneously identifies the next best price and quantity offered/available and submits the matching quantity of your order for immediate execution.

To create a sweep-to-fill order

1. Display the **Sweeps to Fill** field for an order management line: Hold your mouse over any field title until the "+" and "x" *Insert* and *Remove* icons appear. Click the "+ " to display the list of available fields. Note that if you hover your mouse over an order field, all available order fields are displayed. If you hover over a market data field, all available market date fields are displayed.

2. On the trading screen, click the **Ask Price** to create a BUY order, or the **Bid Price** to create a Sell order.
3. Check the *Sweep to Fill* field.
4. To transmit the order, click the "T" in the Status field.

For a more detailed description of sweep-to-fill orders, visit the Order Types information page.

Volatility Orders

Create orders that trade using volatility.

Pegged-to-Primary Volatility Order **636**

Pegged to Market Volatility Order **637**

Pegged to Midpoint Volatility Order **639**

Pegged to Surface Volatility Order **640**

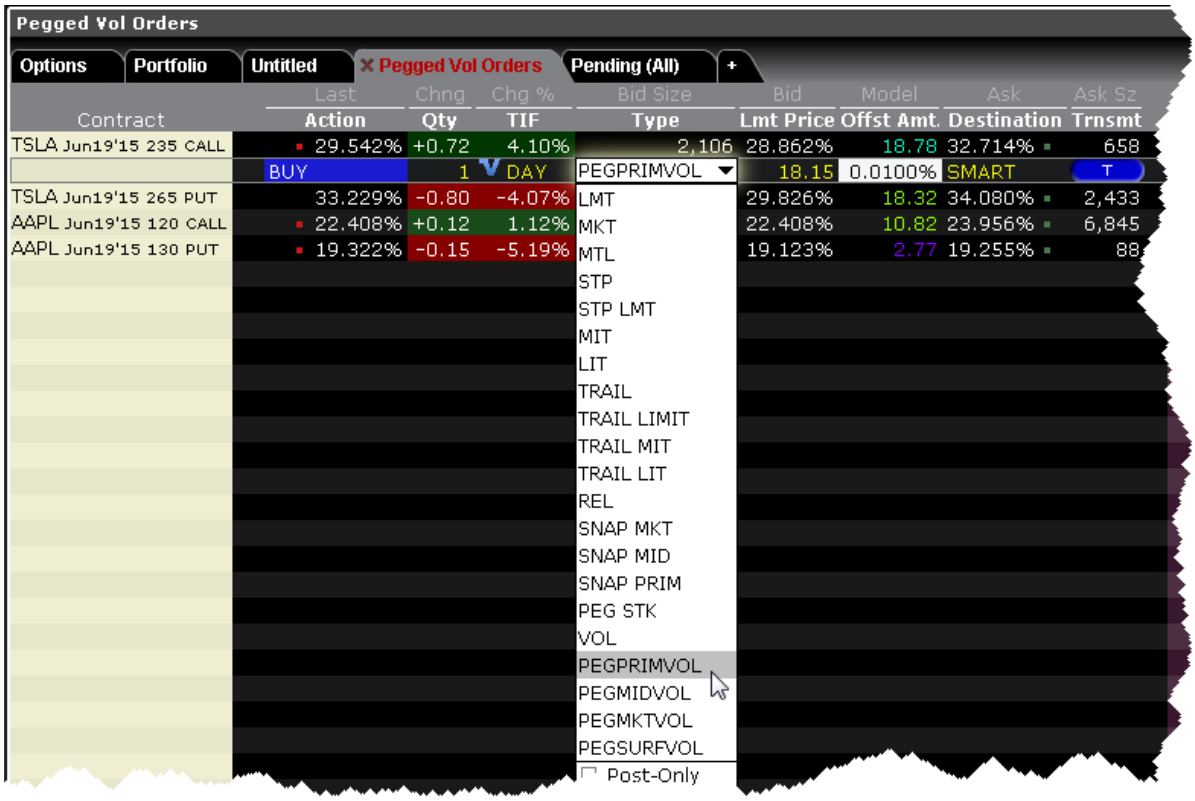
Volatility Trading **642**

Pegged-to-Primary Volatility Order

The Pegged to Primary volatility order for options pegs or matches the starting price of the order to the same side volatility, for example a buy order (for both puts and calls) will peg to the volatility bid and a sell order (for both puts and calls) will peg to the volatility ask.

This order allows a positive offset or no offset to the volatility.

To see bid/ask volatility instead of prices, open the VolatilityTrader from the Trading Tools menu.



To create a Pegged-to-Primary Volatility Order

From the ticker line for an option, click the bid volatility to create a sell order, or the ask volatility for a buy order.

From the Type field select PEGPRIMVOL.

Define the offset amount. Positive or no offset only. The offset makes the order more aggressive. For a buy order the offset is added to the bid. For a sell order the offset is subtracted from the ask.

Specify other order parameters as needed, including Continuous Update, Reference Price etc.

Click Transmit to submit the order.

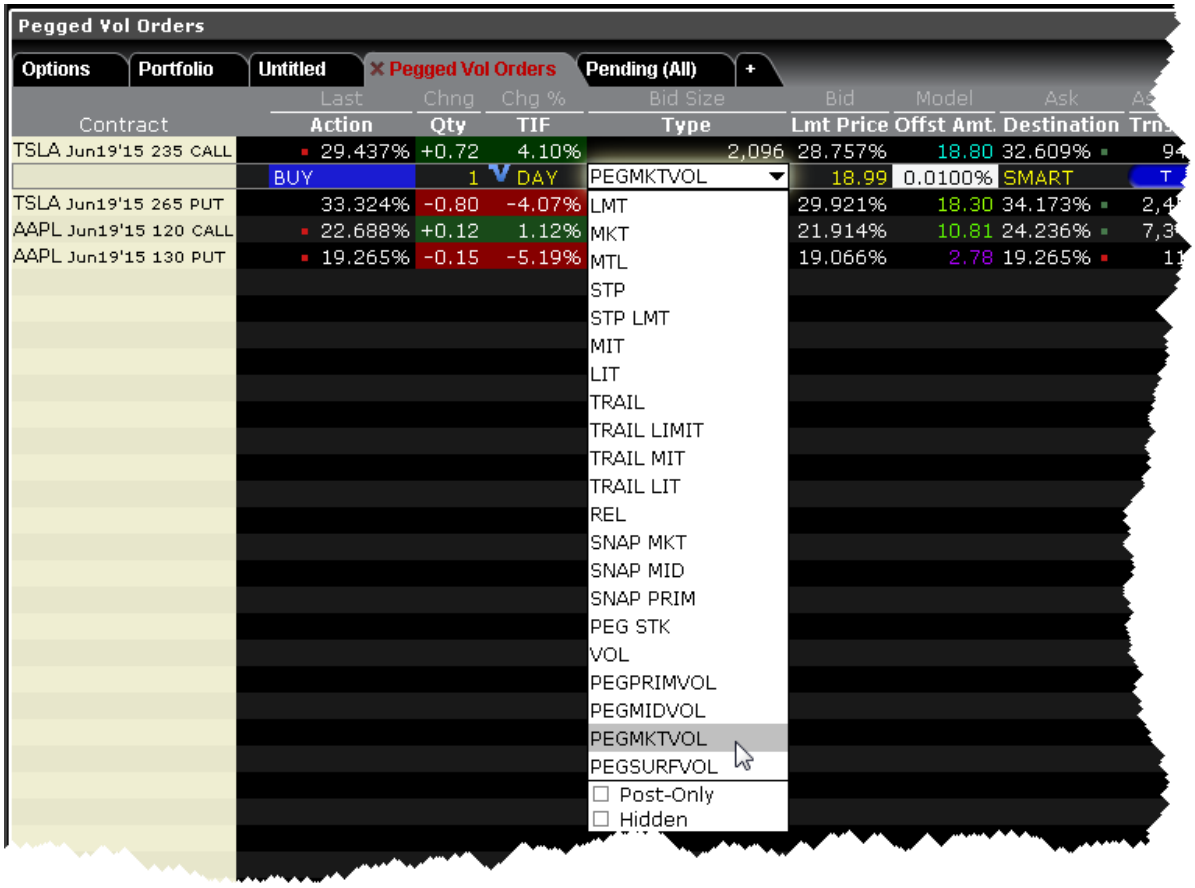
For a more detailed description of Pegged to Primary Volatility orders, visit the Order Types information page.

Pegged to Market Volatility Order

The Pegged to Market volatility order for options pegs or matches the starting price of the order to the opposite side volatility. For example a buy order (for both puts and calls) will peg to the volatility ask and a sell order (for both puts and calls) will peg to the volatility bid.

This order requires a positive offset to the volatility.

To see bid/ask volatility instead of prices, open the VolatilityTrader from the Trading Tools menu.



To create a Pegged to Market Volatility Order

From the ticker line for an option, click the bid volatility to create a sell order, or the ask volatility for a buy order.

From the Type field select PEGMKTVOL.

Define a positive offset amount. The offset makes the order less aggressive. For a buy order the offset is subtracted from the bid. For a sell order the offset is added to the bid.

Specify other order parameters as needed, including Continuous Update, Reference Price etc.

Click Transmit to submit the order.

For a more detailed description of Pegged to Market Volatility orders, visit the Order Types information page.

Pegged to Midpoint Volatility Order

The Pegged to Midpoint volatility order for options pegs or matches the starting price of the order to the midpoint of the bid/ask volatility, specifically the bid volatility + ask volatility/2.

This order allows a positive offset, negative offset or no offset to the volatility.

To see bid/ask volatility instead of prices, open the VolatilityTrader from the Trading Tools menu.

To create a Pegged to Midpoint Volatility Order

From the ticker line for an option, click the bid volatility to create a sell order, or the ask volatility for a buy order.

From the Type field select PEGMIDVOL.

Define the offset amount. Positive, negative or no offset all allowed. A positive offset makes the order less aggressive. For a buy order the offset is subtracted from the midpoint. For a sell order

the offset is added to the midpoint. A negative offset makes the order more aggressive. For a buy order the offset is added to the midpoint. For a sell order the offset is subtracted from the midpoint.

Specify other order parameters as needed, including Continuous Update, Reference Price etc.

Click Transmit to submit the order.

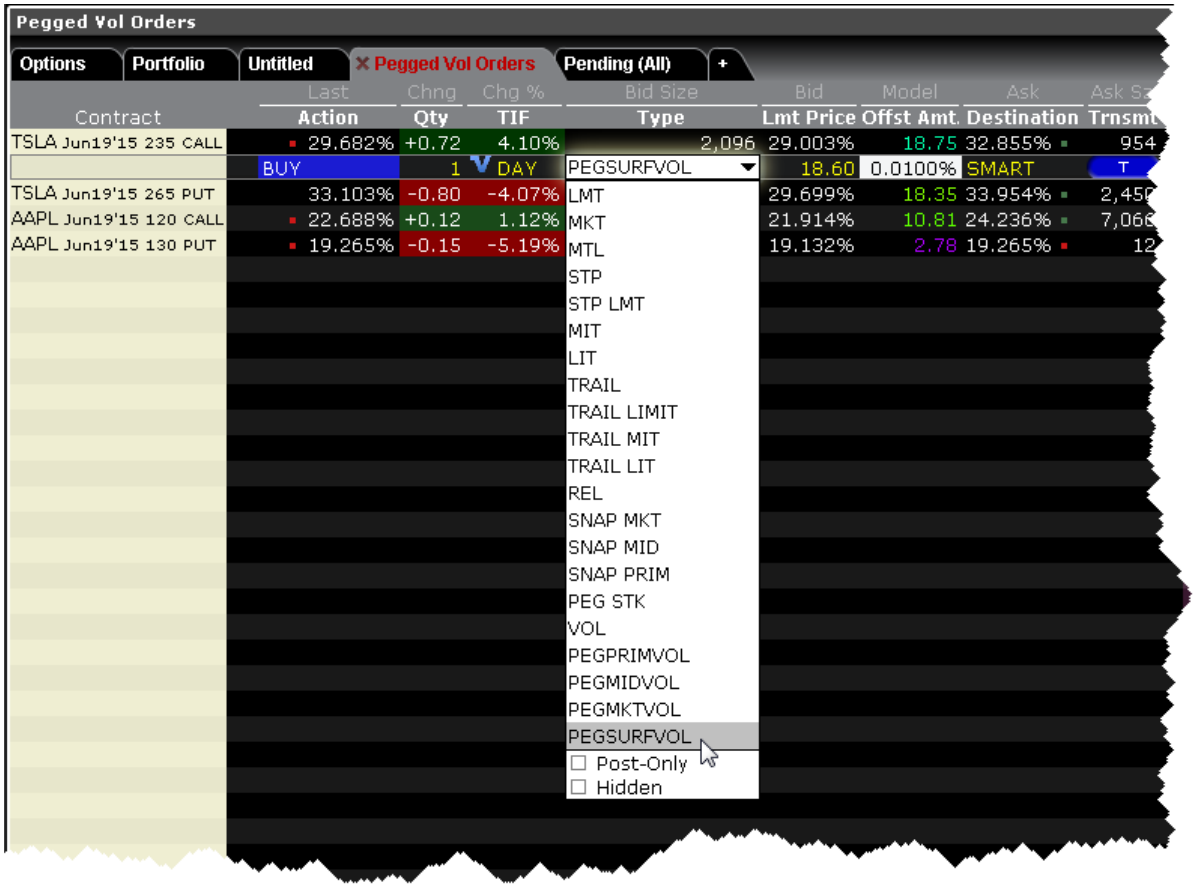
For a more detailed description of Pegged to Midpoint Volatility orders, visit the Order Types information page.

Pegged to Surface Volatility Order

The Pegged to Surface volatility order for options pegs or matches the starting price of the order to the implied volatility calculated by the Model Navigator, shown in the Model field below. Buy orders (for both puts and calls) will peg to the volatility bid and sell orders (for both puts and calls) to the volatility ask.

This order allows a positive, negative or no offset to the volatility.

To see bid/ask volatility instead of prices, open the VolatilityTrader from the Trading Tools menu.



To create a Pegged to Surface Volatility Order

From the ticker line for an option, click the bid volatility to create a sell order, or the ask volatility for a buy order.

From the Type field select PEGSURFVOL.

Define the positive or negative offset amount if desired. A positive offset makes the order less aggressive. For a buy order a positive offset is subtracted from the bid, and for a sell a positive offset is added to the ask. A negative offset makes the order more aggressive. For a buy order the negative offset is added to the bid and for a sell the negative offset is subtracted from the ask.

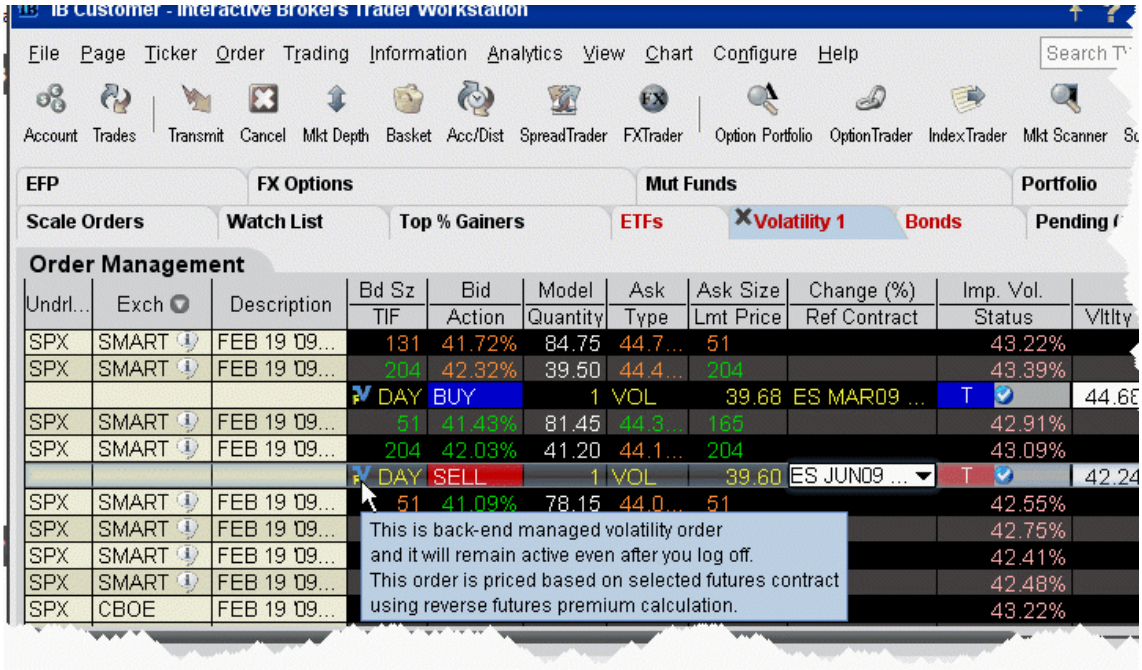
Specify other order parameters as needed, including Continuous Update, Reference Price etc.

Click Transmit to submit the order.

For a more detailed description of Pegged to Surface Volatility orders, visit the Order Types information page.

Volatility Trading

The VOL order type allows you to trade volatility, and provides ways to dynamically manage your options orders.



To trade Volatility

1. From the **Trading Tools** menu, select *Volatility Trader*. The fields used to define and dynamically manage volatility orders are on the new page.
2. Create market data lines. Note that Bid and Ask price fields display in volatility rather than as a dollar amount. Market data for stock tickers will still display the bid and ask price.
3. Select *Annual* or *Daily* volatility using the **Volatility Type** dropdown list.
4. Create an order by clicking the **Ask** volatility for a Buy order, or the **Bid** volatility for a Sell order. The order type defaults to VOL.

Note: You can use the VOL order type for equity options, index options and combination orders. Hold your cursor over the option's volatility to see the option price, based on that volatility.

Please note the following requirements for transmitting a VOL combination order:

Combo VOL orders must be Smart-routed.
All legs must be on the same underlying, and each leg must independently be eligible to use the VOL order type. For example, a BuyWrite order could not be sent as a VOL order since its stock leg would not allow this order type.
All VOL orders must be DAY orders.

You can elect to price a Smart-routed Index Option order using reverse futures premium calculations by selecting a futures contract from the Reference Contract field.

If you have changed the reference contract in the Model Navigator, VolatilityTrader will used the new contract as the default reference contract.

5. To have the workstation calculate a limit price for the option or combination order based on your volatility input, enter a value in the **Order Volatility** field. The value shown in the Imp Vol field is calculated via the Model Navigator.
6. To transmit the order, click the "T" in the **Transmit** field, or the *Transmit* icon on the trading toolbar.

Field	Description
Volatility	If desired, enter a volatility to use in calculating a limit price for the option. If blank, the calculation will use the volatility derived via Option Analytics.
Volatility Type	Select from Daily or Annual volatility.

Hedge Order Type	Select an order type. The application will send an order against the executed option trade to maintain a delta neutral position. Use the Hedge Aux. Price field to set a price for orders that require one. Note that for index options, you will need to select a futures contract for use in a hedge delta trade. Alternately, you can use the right-click menu to attach a Delta Hedge order and set the hedging attributes from the new order line. Please note that if you select Continuous Update, the system will use the delta associated with the parent order, which is calculated from the user-defined Implied Volatility specified at the time of the most recent order modification or price update, instead of using the current delta of the option based on market data at the time of trade. For a Limit delta hedge order, a snapshot of the stock bid/ask price is taken at the time the parent order fills, and the best available price is used as the limit price (best ask for a buy and best bid for a sell).
Hedge Aux. Price	Used in conjunction with the Hedge Order Type field. If you have selected an order type that requires you to define a price, for example a relative order, use this field to set the price.
Continuous Update	Check this selection to continuously update the price of the order if the price of the underlying instrument changes significantly. **Note that you can only check Continuous Update for three active orders at a time.** You will be subject to cancellation fees for order modifications that are made by the system when you have the Continuous Update mode enabled.
Reference Price Type	Elect to use the NBB (bid) when buying a call or selling a put; the NBO (ask) when selling a call or buying a put; or the average of the best Bid and Ask. This price is also used to compute the limit price sent to an

	exchange (whether or not Continuous Update is selected), and for stock range price monitoring.
Stock Price Monitoring	**Undrl. Range (Low)** - enter a low end acceptable stock price relative to the selected option order. If the price of the underlying instrument falls BELOW the lower stock range price, the option order will be cancelled. Merely touching the price does not cancel the order. **Undrl. Range (High)** - enter a high end acceptable stock price relative to the selected option order. If the price of the underlying instrument rises ABOVE the upper stock range price, the option order will be cancelled. Merely touching the watermark does not cancel the order.
Reference Contract	Used for smart-routed Index Option volatility orders. This field allows you to select the futures contract to use for calculating the implied volatility. To activate this feature, use the *Volatility and Analytics* page in **Global Configuration** and select*Price index options relative to futures contract*.

For a more detailed description of Trailing Stop orders visit the Order Types information page.

Times in Force

Specify a time in force to determine how long your order will continue to work in the market.

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Times in Force for Orders

The time in force for an order defines the length of time over which an order will continue working before it is canceled. We support many times in force which are described below.

> **Note:** The selections available for any order are valid based on the combined order type, exchange and product. Not all Times in Force are available for all orders.

DAY - A **Day** order is canceled if it does not execute by the close of the trading day. Unless otherwise specified, every order is a **Day** order.

GTC - A **Good-Til-Canceled** order will continue to work within the system and in the marketplace until it executes or is canceled. GTC orders will be automatically be cancelled under the following conditions:

If a corporate action on a security results in a stock split (forward or reverse), exchangwe for shares, or distribution of shares.

If you do not log into your IB account for 90 days.

At the end of the calendar quarter following the current quarter. For example, an order placed during the third quarter of 2011 will be canceled at the end of the first quarter of 2012. If the last day is a non-trading day, the cancellation will occur at the close of the final trading day of that quarter. For example, if the last day of the quarter is Sunday, the orders will be cancelled on the preceding Friday.

Orders that are modified will be assigned a new “Auto Expire” date consistent with the end of the calendar quarter following the current quarter.

Orders submitted to IB that remain in force for more than one day will not be reduced for dividends. To allow adjustment to your order price on ex-dividend date, consider using a Good-Til-Date/Time (GTD) or Good-after-Time/Date (GAT) order type, or a combination of the two.

Note: For market centers that do not accept "native" GTC orders, the order type is simulated by resubmitting the relevant order each business day upon opening of the market center.

OPG *- Use OPG to send a market-on-open (MOO) or limit-on-open (LOO) order.*

IOC *- Any portion of an* ***Immediate-or-Cancel*** *order that is not filled as soon as it becomes available in the market is canceled.*

GTD - A ***Good-Til-Date*** *order will remain working within the system and in the marketplace until it executes or until the close of the market on the date specified. When you select GTD as the time in force, both an Exp. Date and Exp. Time field is displayed on the order management line. Enter the date up until which you want the order to continue to work in the format YYYYMMDD. To set a time, enter the time in the format HH:MM(:SS). If desired, enter a time zone using an accepted three-letter acronym. Note that if you do not enter a specific time zone, the time zone to which your computer is set will be used.*

FOK *- If the entire* ***Fill-or-Kill*** *order does not execute as soon as it becomes available, the entire order is canceled.*

DTC *- A* ***Day 'Til Cancelled*** *order is similar to a day order, but instead of being cancelled and removed from the trading screen at the end of the day, the order is deactivated. This*

means that the order is cancelled AT THE EXCHANGE but remains on your trading screen to be re-transmitted whenever you click the Transmit button.

Fill/trigger outside RTH - When displayed, checking this option allows orders the flexibility to fill (and/or trigger in the case of stop and other trigger orders) both during regular hours and outside of regular trading hours.

> **Note:** This option may not be available for particular products that are not listed on an exchange. IBcustomers are solely responsible for ensuring that this parameter is available for the product involved.

Regular Trading Hours

You can trade many exchange-listed products outside of regular trading hours. To allow trading outside regular hours for all eligible products, ensure that the setting is enabled in all order presets.

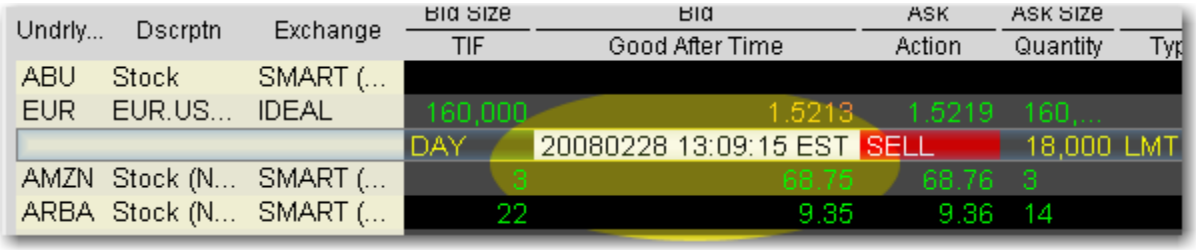
To enable outside trading hours in Order Presets

1. Display the Presets column if it is not displayed: Hold your mouse over any field title until the "+" and "x" *Insert* and *Remove* icons appear. Click the "+ " to display the list of available fields. Note that if you hover your mouse over an order field, all available order fields are displayed. If you hover over a market data field, all available market date fields are displayed.
2. Click in the Presets field on a ticker line and select *Configure* at the bottom of the drop-down list. The Preset for the current contract is displayed.
3. In the **Settings** area at the top of the Presets page, check *Allow order to be activated, triggered or filled outside of regular trading hours*.

When the Preset is active for the contract, the order will be eligible to trade outside of regular trading hours IF it is exchange-traded and eligible on the exchange.

Good After Time

A "good after time" order is held in the system and sent to the exchange on the date and time you enter.

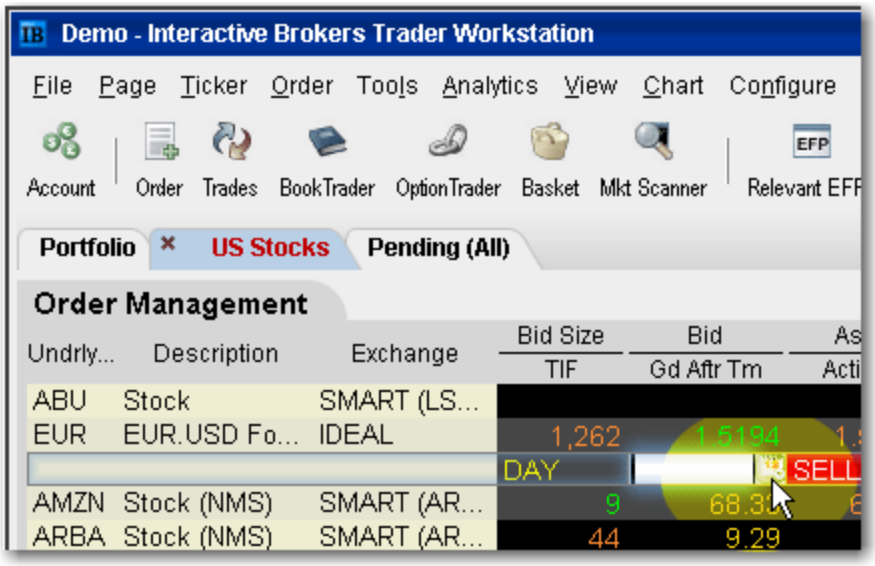


To create a "good after time" order

1. Display the **Start Time** field on an order management line:

> *Hold your cursor over a field in the order row fields until the green "+" sign appears.*
> *Click the "+" sign to show the list of order fields.*
> *In the Time in Force category, select Start Time. The field is added to the left of the selected field.*

2. On the trading screen, create an order (click in the **Ask Price** to create a BUY order, or the **Bid Price** to create a Sell order).



3. In the *Good After Time* field, click the Calendar icon to open the date/time setter.
4. Choose a month, year and day from the Date area, and a time and time zone from the Time area. Click OK.

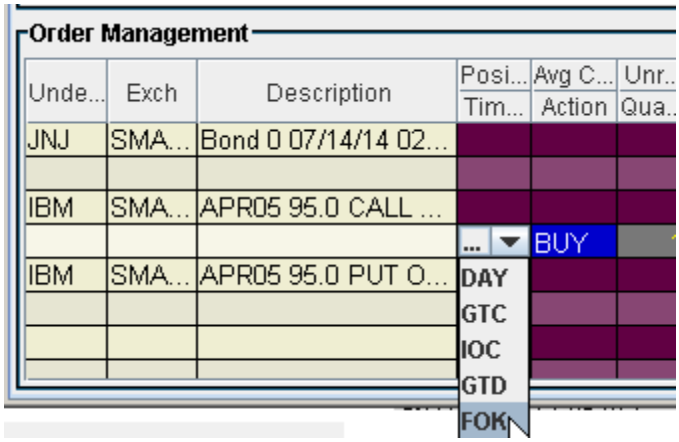
   Note that the time uses a 24-hour clock instead of "AM" and "PM."

5. Transmit the order. The order is held in the IB system until the time and date you set.

For a more detailed description of GAT orders and the products and exchanges supported, visit the Order Types information page.

Fill or Kill

A time in force for options orders, specifying that the order must execute immediately and in its entirety, or be canceled.



To apply the FOK time in force to order

1. Create an options order (click the **Ask Price** to create a BUY order, or the **Bid Price** to create a Sell order).
2. In the TIF field, select FOK.

If FOK is not displayed in the dropdown list, it is not applicable to the order your are creating.

3. Transmit the order by clicking the "T" in the status field.

For more information about Fill or Kill orders, visit the Order Types information page.

Auction

An auction order is submitted at the Calculated Opening Price (COP). If the order doesn't execute, it is resubmitted as a limit order at the COP or best bid/ask.

To create an auction order

1. Click the **Ask** price to create a BUY order, or the **Bid** price to create a SELL order. This action will open the **Order Ticket** window.
2. Select an order type in the Type field.

3. In the *Time in Force* field, select AUC (auction).
4. Transmit the order by clicking "T" in the Status field.

Available for limited products and exchanges, including futures on HKFE and stock on LSE, IBIS, and VSE.

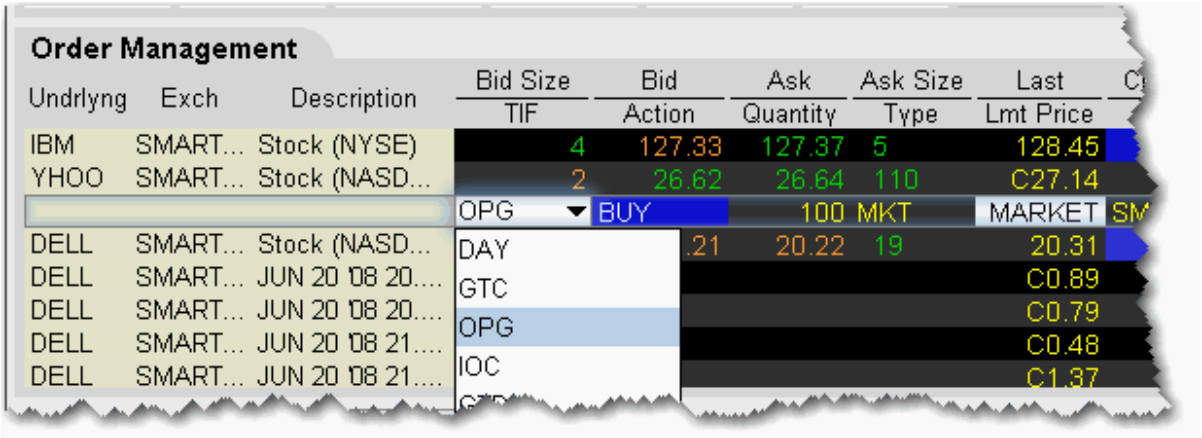
For a more detailed description of auction and other order types, visit the Order Types information page.

Market-on-Open

MOO (market-on-open) is a market order executed at the market's open at the market price.

To create a MOO order

1. Click the **Ask** price to create a BUY order, or the **Bid** price to create a SELL order.
2. In the *Type* field, select **MKT** as the order type.
3. In the *TIF* field, select **OPG** as the time in force.
4. To transmit the order, click the "T" in the Status field.



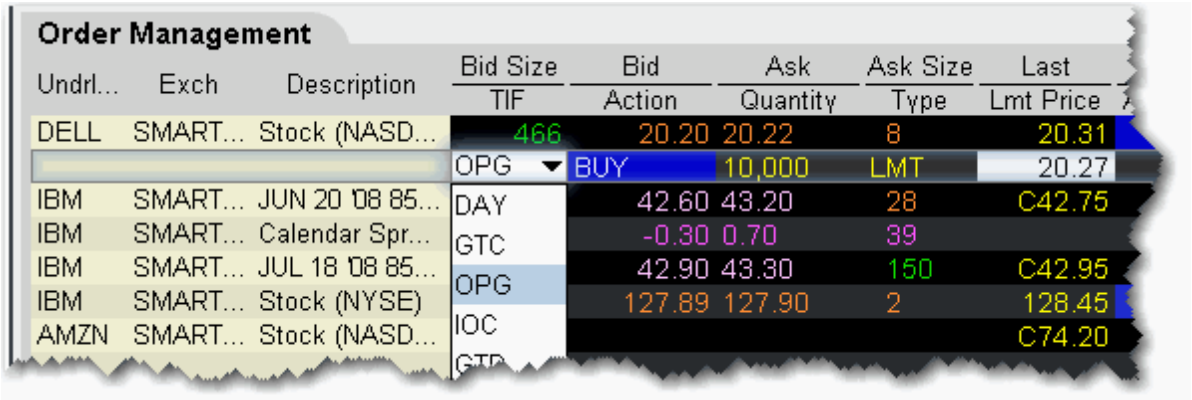
For a more detailed description of MOO orders visit the Order Types information page.

Limit-On-Open

A LOO (limit-on-open) order is a limit order executed at the market's open if the opening price is equal to or better than the limit price.

To create a LOO order

1. Click the **Ask** price to create a BUY order, or the **Bid** price to create a SELL order.
2. In the *Type* field, select **LMT** as the order type.
3. In the *TIF* field, select **OPG** as the time in force.
4. To transmit the order, click the "T" in the Status field.



For a more detailed description of LOO orders, visit the Order Types information page.

6

Classic TWS Quote Monitor

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Add a Quote Monitor

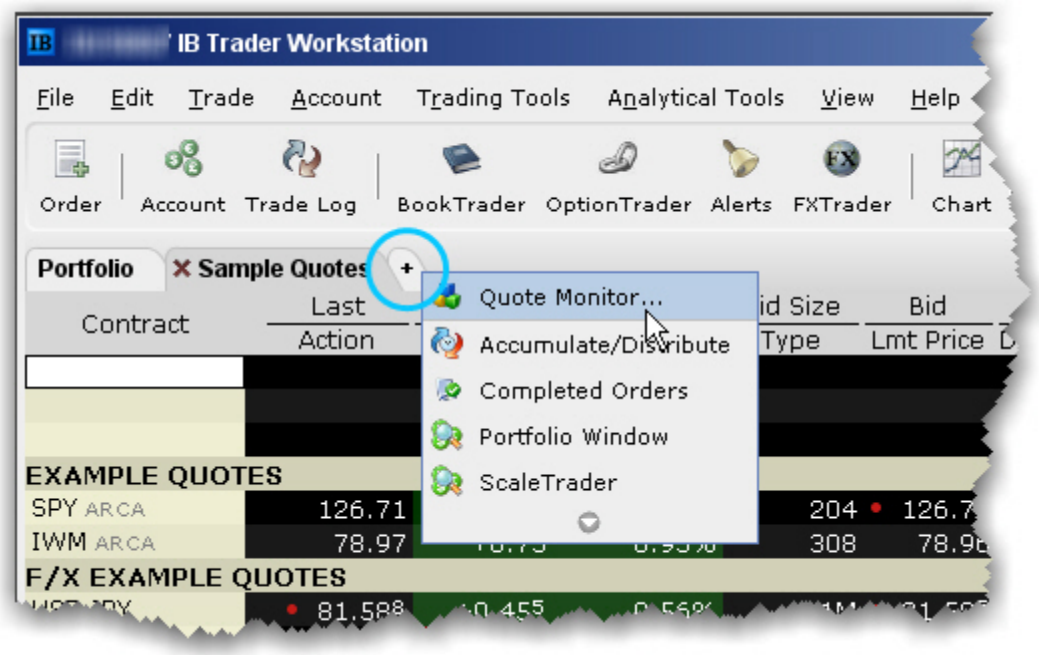
There is no limit to the number of Quote Monitors you can create in TWS. You can enter as many lines of market data as you want, but at any one time you will only be able to see 100 active market data lines at a time. For details, see Notes about Market Data use. Use the Quote Monitors to sort your assets by instrument type, exchange, or your own trading system categories. You can navigate through the tabbed pages without the mouse by using the *Ctrl* key along with the *Page Up* and *Page Down* keys.

To detach a page, simply click the tab and drag the page away from the tabset.

To create a new page, click the "+" sign and select Quote Monitor

To delete a page, click the X.

To rename a page, right-click the page title and select *Rename Page*.



You can also use a page-level feature called Quick Stock Entry, which will automatically complete a market data line for a stock using the set of order destinations you set up.

To add a Portfolio Page

You can create a system-maintained Quote Monitor that includes a data line for each position in your portfolio. Use the right-click menu from the “+” sign and select *Portfolio Window*. The portfolio page can only be created once.

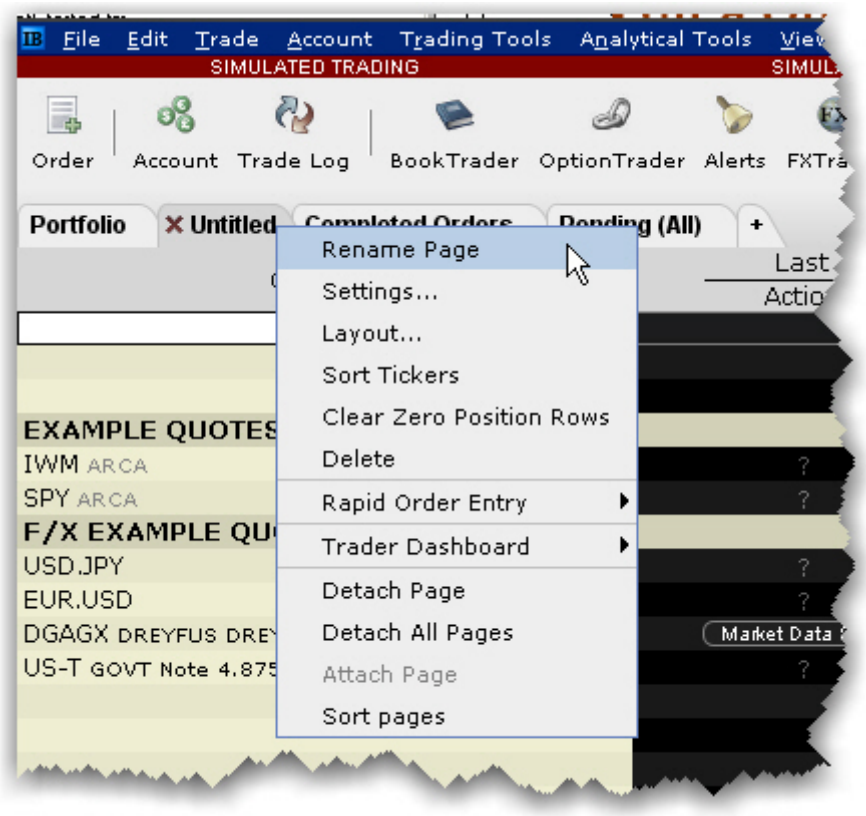
This creates a page with the same positions that are displayed in the Portfolio section of the Account window. Each time you take a position, the Portfolio page is automatically updated to include market data for the new position. When you zero out a position, the market data line remains on your Portfolio page. You can remove zero position tickers from this and other pages using the right-click menu on a page and selecting *Clear Zero Position Rows*.

Edit a Quote Monitor

Modify the page name and other settings, add or remove market data and order fields, and insert a market data line or a blank line in your Quote Monitor using the right-click menu or the **Request Ticker** dialog box.

See how to:

- Edit a page name and other settings
- Copy tickers to a new page
- Edit a page layout
- Insert a Market Data line between two existing lines
- Move, drag, and drop a Market Data line up or down on a page
- Delete a row
- Delete multiple rows
- Select contiguous rows
- Select non-contiguous rows
- Clear data from a row and leave an empty line
- Add a blank row (above the selected row)



To edit a page name and other settings

1. Right-click the page tab and select *Rename Page*.
2. Modify the page name or assigned layout and click **OK**.

   Note: The Pending page is a system page that displays all of your working orders. You cannot delete or rename the Pending page, but you can edit order parameters.

To copy tickers to a new page

1. On a populated Quote Monitor, click the first ticker row you want to copy.
2. Press and hold the shift key and click the last row you want to copy. This will select all rows including the first and last highlighted ticker rows.
3. Use the right-click menu to select *Copy*.

4. In the tabset of pages, click the “+” tab to create a new page.
5. Enter a page name and click OK.
6. Right-click in the top blank row of the new page and select *Paste*.

To edit a page layout

1. Right-click the page tab and select *Layout*.
2. Modify the desired characteristics and click **OK**.

Note: Before you modify the page layout be aware that you are not simply changing the look of the active page, you are modifying an applied layout which may also be associated with other pages.

To insert a Market Data line between two existing lines

Note: When you add a line, it is inserted ABOVE the selected line.

1. Click in a market data line. The new line will be inserted ABOVE this line.
2. Right click and select Insert Row.

To move, drag, and drop a Market Data line up or down on a page

1. Select the market data line you want to move by clicking in the line.
2. Click and hold the mouse in the selected line.
3. Drag the selected line up or down on the page.
4. Release the mouse to drop the line in its new position.

To Delete Lines on a Quote Monitor

You can delete lines from your Quote Monitor using the right-click menu.

Note: The delete command does not distinguish between deleting blank lines and deleting market data lines, and does not give you a warning before it deletes your data. Be certain you have only selected the lines you want to delete. Selected lines appear highlighted in dark grey across the Trading screen.

To delete a row

Right click in the line you want to delete and select *Delete Row*.

To delete multiple rows

1. Select the line(s) you want to delete by clicking the lines.
2. Right click and select *Delete Rows*.

To select contiguous rows

Click in the first line you want to delete, hold down the Shift key, and click in the last line to select a group of contiguous rows.

To select non-contiguous rows

Hold the Ctrl key and click each row.

To clear data from a row and leave an empty line

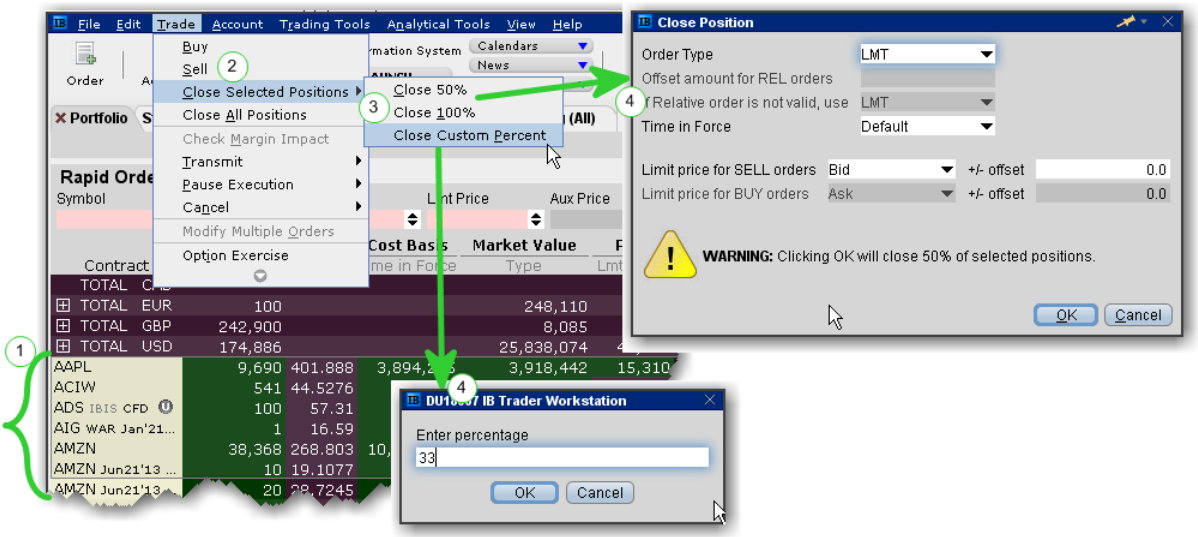
Right click in the line you want to delete and select *Clear Row*.

To add a blank row (above the selected row)

Right click in a line and select *Insert Row*.

Close All Positions

Accessed from the **Trade** menu, use the *Close Selected Positions* and *Close All Positions* commands to close a selected group of positions in your portfolio with a single action.



To close selected positions

Select the positions to close by holding down the Ctrl key and clicking the positions with your mouse .

From the **Trade** menu select *Close Selected Positions*.

Select a percentage to close.

a) Choose 50% or 100%,

b) Or elect to define a custom percent.

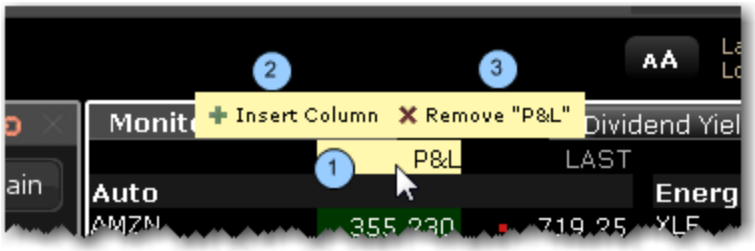
Specify and submit the order.

a) If you choose 50% or 100%, use the Close Position box to modify order parameters before submitting the order.

b) If you choose Close Customer Percent, enter the percentage in the field and click OK, then use the Close Position box to modify order parameters before submitting the order.

Add and Remove Fields

You can quickly add and remove fields from most windows by holding your mouse over the field name to invoke the insert/remove column commands.



To add or remove columns from a window

1. Hold your mouse over a field to invoke the quick insert/remove commands.
2. Click the “+” icon to insert a column to the left of the selected column. Pick from the drop-down picklist that appears when you click "Insert Column."
3. Click the “x” icon to remove the selected column from the window. You can re-add it at any time.

You can choose not to see these icons by deselecting the feature "Quickly insert/remove columns from column headers" from the **Display**>*Settings* page in Global Configuration.

Restore and Save Page Settings

To restore trading pages and tickers you had set up on a previous day, you can elect to restore the entire settings file, which includes all trading pages and their tickers.

> **Note:** Restoring a page file completely replaces all of your current trading pages with those from a previous day.

To restore settings

1. On the **File** menu, select *Open Settings File*.
2. In the **Open** dialog box, click on the day's file you want to use to replace the current set of pages and tickers.

To view the actual dates the files were saved, click the *Details* icon on the top right of the box.

1. Click *Open*. Your current trading pages and tickers are replaced with those in the file you selected.

Save Settings to the IB Server

When you are logging in you can check *Store settings on server.* This setting serves two purposes: it GETS the saved settings from the IBserver when you log in, and it SAVES any session changes to the IBserver when you log out.

If this feature is not checked, you will not have global access to your account settings from any internet machine.

To save your settings on the IB server

1. After you've logged in, from the **Edit** menu select Global Configuration.
2. On the **Lock and Exit** page, check *Use/store settings on server*.

To use global settings that have been saved on the IB server

In the Login box, check the *Store settings on server* box. This instructs TWS to go to the global server and use any settings you saved previously.

Organize Data on a Page

You can sort a page of market data lines alphabetically by underlying ticker symbol. Once you have sorted the lines, you cannot return to your original market data line order. Use drag-and-drop to rearrange the order of your trading pages within the tabset.

To alphabetically sort page tabs

1. Open the page you want to sort by ticker.
2. Right-click in the heading area of the page tab and select *Sort Tickers*.

To move a Quote Monitor within the pages tabset

1. Click on a page tab to select the page.
2. Click and hold the mouse, and drag the page left or right within the tabset.
3. Release the mouse to drop the page in its new location.

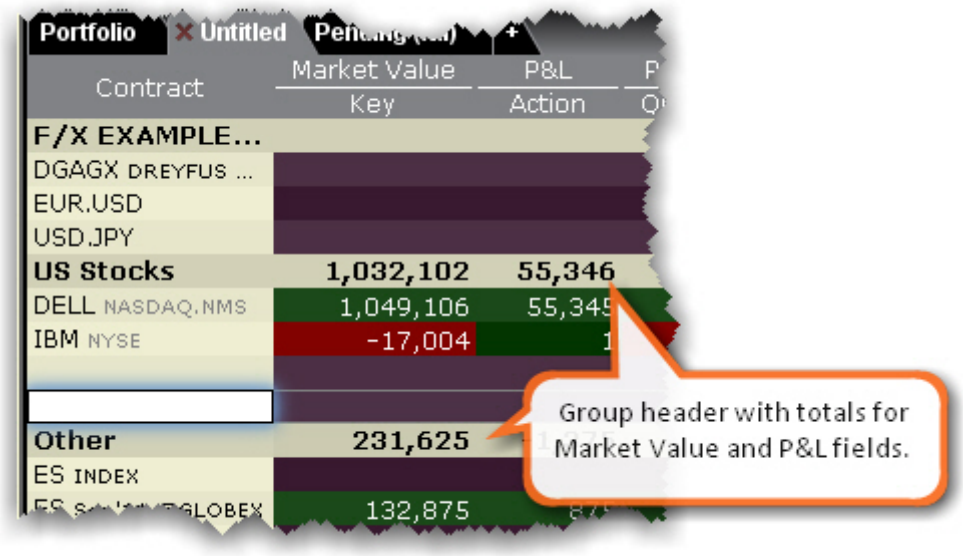
   Note: You cannot move the **Pending** page tab.

Create a Group Header

The Group Header row can be used to separate tickers into groups on a single Quote Monitor. The header keeps the group together if you choose to auto-sort on the page by column header. Additionally, if you drag the header to a Watchlist or another trading page, all tickers under the header will be dragged with it.

Additionally, several of the P&L columns, including the *Market Value*, *P & L*, *Realized P & L* and *Unrealized P & L* columns will be totaled for all positions within a group and the values displayed on the Group Header row.

> **Note:** A group includes all tickers under the Group Header until the next Group Header, regardless of blank lines.



To create a group header

1. Right-click in an empty market data line and select *Create Group Header*.
2. Enter a descriptive line of text or a title to appear in the row, and click OK.

Note: If you want to insert a header between a list of existing tickers, right-click on the ticker ABOVE WHICH you want to create the header row and select *Insert Row*. Then use the blank row to insert the header row.

Field Sorting

You can sort all fields by ascending and descending value (-15, -12, 10, 22) by clicking the field one or multiple. Additionally you can also sort many of the TWS fields by ascending or descending absolute value (10, -12, -15, 22 etc). You can change the sort type by clicking the field title multiple times to cycle through sort types in order (no sort, descending order, ascending order, descending by absolute value, ascending by absolute value) or by using the right-click menu. Each sort type is identified by an icon; ascending and descending use upward and downward pointing arrows respectively, and ascending and descending absolute value use upward and downward pointing arrows with border lines, respectively.

Fields that currently support the new sort types include the following: (new fields may be added)

%Change (used in Top % Gainers scan)
%Change Since Open (used in Top % Gainers Since Open scan)
%Gap (used in Top Close-To-Open % Gainers scan)
ImpVol %Change (used in Top Option Imp Vol % Gainers scan)
ImpVol vs Hist (used in High Option Imp Vol Over Historical scan)
Growth (used in High Growth Rate scan)
ROE (used in High Return On Equity scan)

Create the Portfolio Window

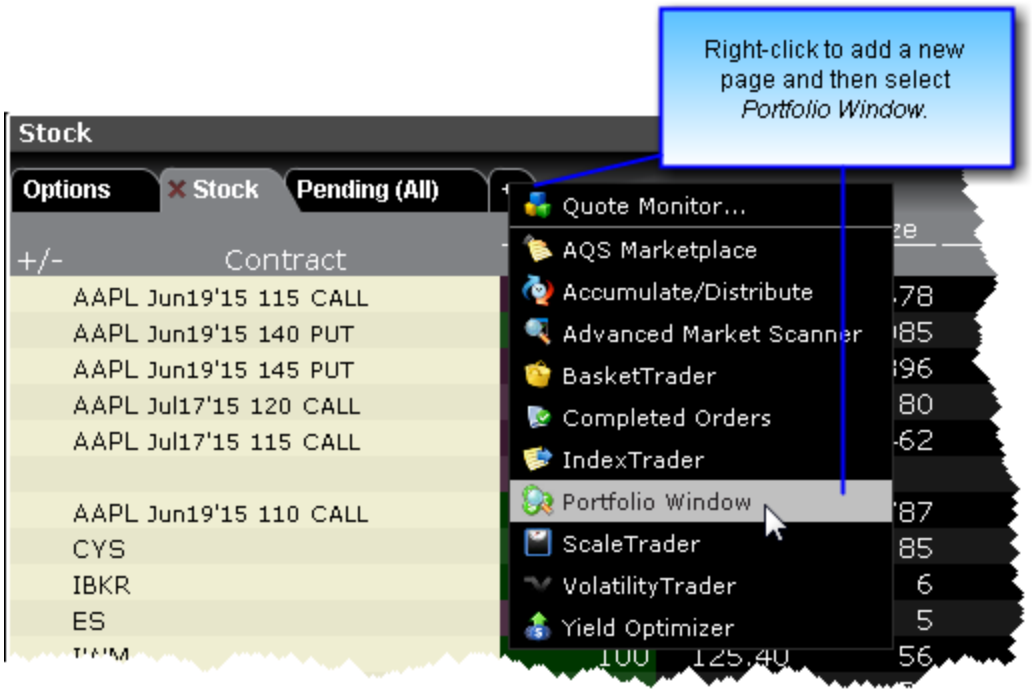
The Portfolio window is an automated trading page you can elect to create. It is based on the current content of your portfolio.

To create a Portfolio window

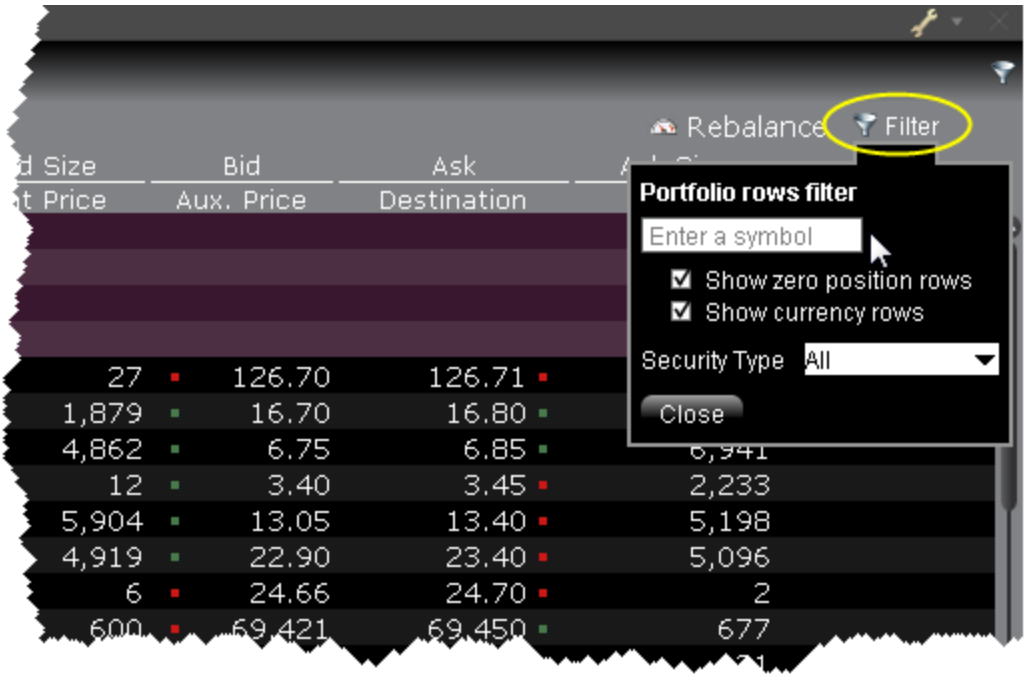
From Classic TWS - Right-click the "+" icon along the end of the tabset and select *Portfolio*

Window.

From Mosaic - In the Monitor section, click the "+" icon and select Portfolio.



Click the Filter icon to filter by symbol or security type. The content will be filtered out as you type.



Group By

Positions in the Portfolio page can be grouped by Security Type or Expiry using the right-click menu in the Contract field. You can also click the Contract field multiple times to change the grouping mode. The cycle allows you to group by:

Alphabetically (by contract name), ascending.

by Security Type, ascending

by Expiry, ascending

by Expiry, descending

by Expiry and Option Right, ascending

by Expiry and Option Right, descending

Additionally, when the portfolio is sorted and you hold your mouse over the Position or Market Value fields, the summary data totals for the sorted section displays the total position, total market value, and total cost basis.

The right-click menu offers additional features. Use the right-click from the P&L column to color-code these columns, customize the calculation, round values and more.

For information on configuring this page, see the **Portfolio Window** configuration topic.

View Margin Requirements for a Position

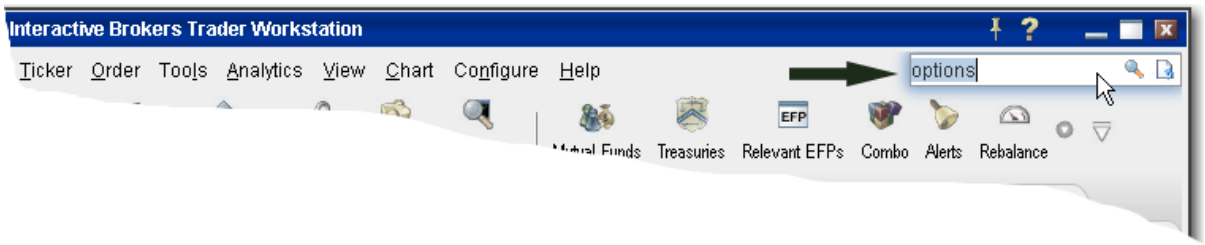
You can view the margin requirements on a specific position from the right-click Contract Info menu.

To view the margin impact on a position

From position, use the right-click menu to select Contract Info and then *Show Margin Impact*.

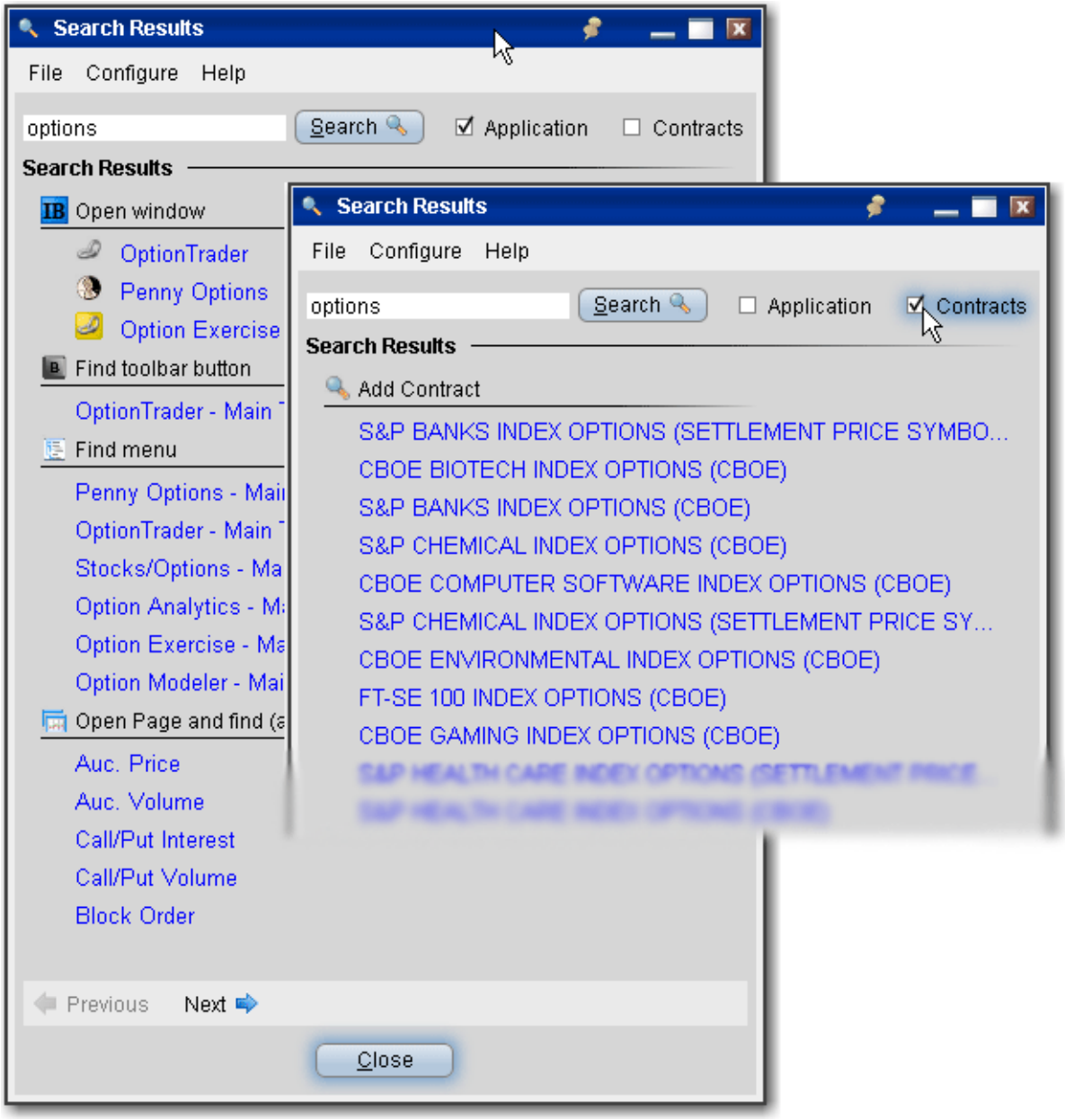
Use the Feature Search

The comprehensive **Search** returns a categorized list of application-related results with links that will open a window, add a column or display a feature. Use the **Search** to add contracts to your trading page based on search criteria.



To use the Search field

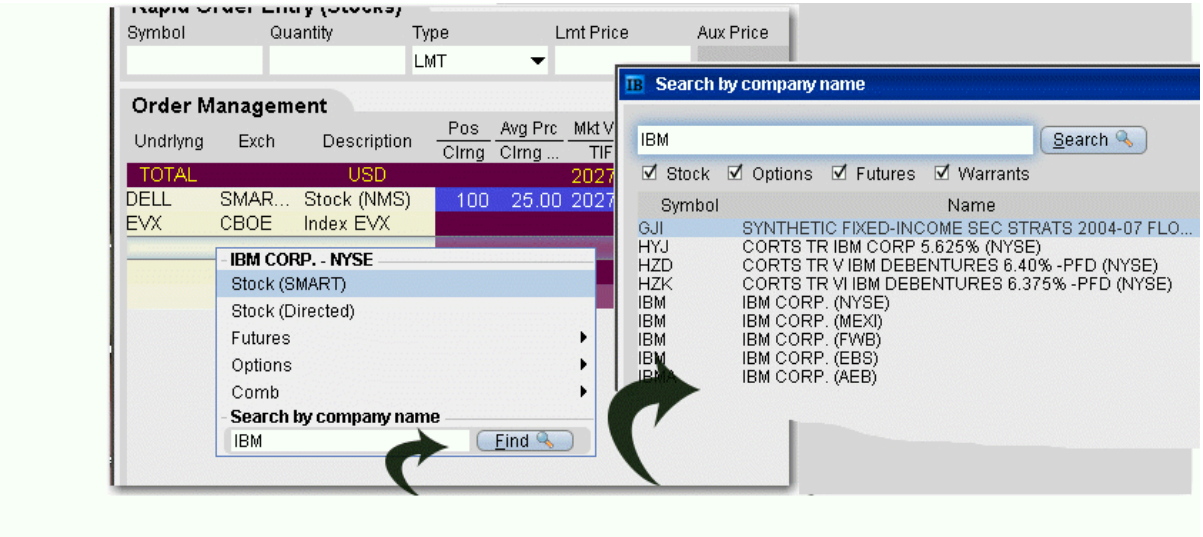
1. In the top right corner of a main Quote Monitor, enter a word or phrase in the Search field and hit *Enter*.
2. On the **Search Results** page, check *Application* to view all TWS-related occurrences of the search topic, and check *Contracts* to see all contracts with the search topic in the title.



Using the Search results

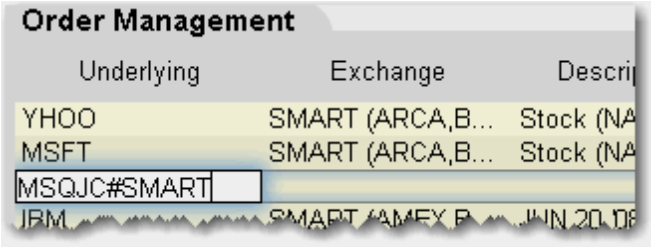
For application-related results, clicking a link will perform the search related action based on the results category. For example, if you clicked *OptionTrader* from the **Open Window** category, TWSwould open the OptionTrader window, or bring you to that window if it's already open.

For *Add Contract* results, clicking a link will open a ticker line on the last active trading page with the search item as the contract in focus. From this point you can either add the contract, or click the *Find* button to broaden your search by company name.



Use Quick Data

You can use market data shorthand to quickly request data for stock, options, futures and forex contracts.



Use Quick Data for Stocks

In the Contract field use the format *symbol* ***pipe*** *exchange*, as in:

IBM|SMART or DELL|ISLAND.

Note: For NASDAQ listed contracts, use ISLAND as the destination.

Use Quick Data for Options and Futures

Enter shorthand in the Contract field using the format *exchange symbol* ***pound sign*** *exchange* as in:

MSQJC#SMART (option) or

MSFT1CU8#ONE (future)

Use Quick Data for Forex

Enter an fx pair using the syntax xxx.yyy, for example EUR.USD.

Import Tickers from a File

You can populate a trading page with market data that you import from a comma-delimited .csv file or .txt file. Create the list using any word processing program and save the file with a .txt file extension, or in MS Excel and save as a .csv file.

To create file of ticker symbols to import

1. Create a file with the extension .txt, for example twsTickers.txt, or create a .csv file in Excel.
2. In the text file, create one comma-delimited line for each line of market data you want using the syntax described below. In Excel, create one row, using one cell for each field. Note that the first field designation is the line type: DES, SYM, and CON.

DES, UNDERLYING, SECTYPE, EXCHANGE, LASTTRADINGDAY, STRIKE, PUT/CALL, MULTIPLIER

SYM, SYMBOL, EXCHANGE

CON, CONID, EXCHANGE

The DES line type requires information or placeholders for information, with the strike, Put/Call and multiplier fields being optional. Format for the Last Trading Day is YYYYMM, or YYYYMMDD. All entries must be in caps. An example for an options contract XYZ would be:

DES, XYZ, OPT, ISE, 201509, 75, CALL,

A stock contract for symbol XYZ in this line type would look like this:

DES, XYZ, STK, SMART,,,,

where the commas are placeholders for fields you don't define for stocks.

Using the SYM line type for a stock would look like this:

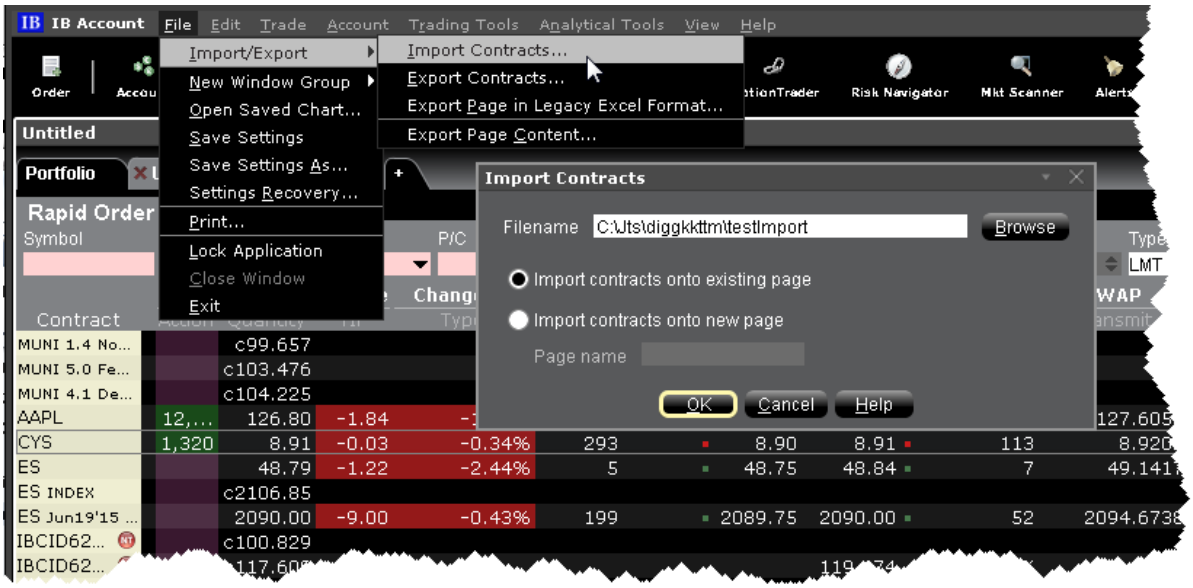
SYM, XYZ, SMART

Use the CON type to quickly enter contracts with a conid, for example

CON, 12348765, SMART

To import a file into Classic TWS

1. From the **File** menu, select *Import/Export* and then select *Import Contracts*.



2. Use the *Browse* button to find the file to import.
3. Specify where you want imported tickers to go, either onto an existing page or onto a new page.
4. Click OK.

To import a file into a Mosaic Watchlist

Right click in the Watchlist, and select *Import/Export* then *Import Contracts*.

Use the Browse button to find the file to import.

Click OK.

Imported contracts entered onto an existing page appear at the bottom of the active trading page or Watchlist.

Create TWS Color Grouping

Assign tools and tiles to a "color group" to link instrument selection actions. You assign a window to a group using the colored links on the top right of a window's title bar. All windows

with the same color link are part of the same group. When you change focus on one of the group's "Source" windows, all destination windows in the group reflect the change.

A window can be part of only one group at a time, but if you open multiple windows you can link each to a different color group. For example, you could open three different ISW windows and assign a different group to each, and then link these windows to three separate quote pages.

The window's designation is displayed in a mouse-over tooltip when you hover over the Group icon. A window can be a:

Source - this is a controlling window and can only SEND instructions.

Destination - this is a receiving window, and can only RECEIVE instructions from a window with Source privileges.

Source/Destination - this is a multi-tasking window which can both SEND instructions to and RECEIVE instructions from other windows in the group.

Create a linked color group

1. Click the "chain link" icon in the top right of a window's title bar and select a colored number from the dropdown list.
2. For windows that you want to include in this group, select the same group number/color from the Group list.

Watch a short video to see how to group tiles and tools in the Mosaic!

Transfer Login Authentication

Traders using TWS can pass off their login authentication to their mobileTWS device to allow them to trade on mobileTWS without going through the login process.

mobileTWS for iPhone, iPad and Android supports Read-Only Access, which allows mobileTWS users to view their IB account without logging in. Before trading access is granted the user will be required to complete the full account login on their mobile device.

If you are working at your desktop TWS and need to leave the office, you can transfer your account authentication over to mobileTWS, which saves you the effort of opening and logging into mobileTWS.

To transfer login authentication from TWS to mobileTWS

While logged into TWS, tap the mobileTWS icon on your mobile device.

In mobileTWS, at the message stating that another session exists, tap "OK."

In TWS, click *Transfer Authentication to Mobile Device* in the **Mobile Login Handoff** dialog.

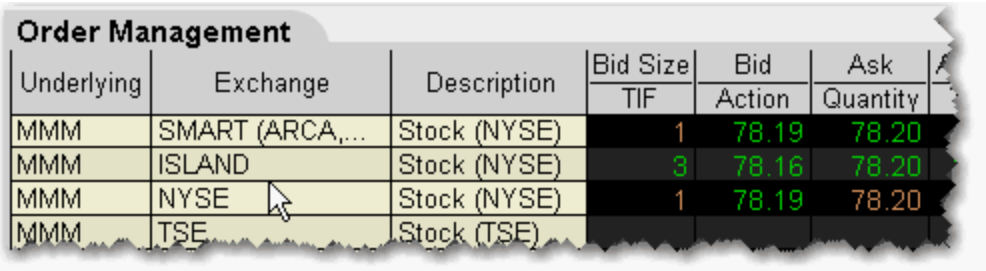
To keep your TWS desktop session logged in, click *Disconnect Mobile Device*.

You can now trade via mobileTWS.

Enable Quick Stock Entry

Quick Stock Entry is a page-level feature which automatically completes a market data line for a stock based on the underlying symbol you enter. When enabled, you simply enter the stock symbol, and TWS completes the ticker line.

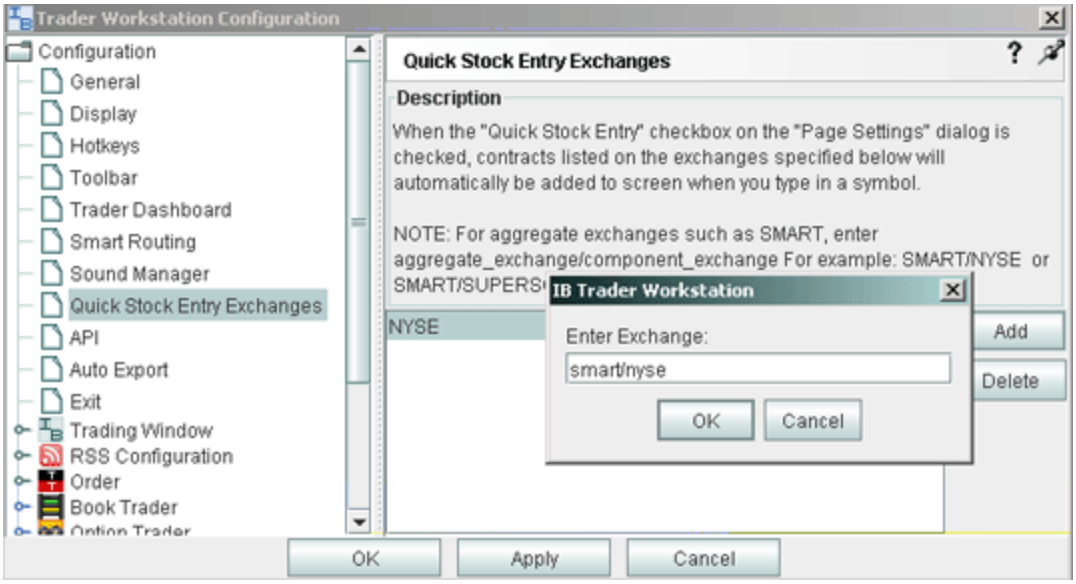
If you enable multiple exchanges, you will get a ticker line for all exchanges on which the symbol trades. For example, I activate NYSE, SMART/NYSE, ISLAND, and TSE. When I enter the ticker "MMM" I get four ticker lines, where MMM represents 3M on all but TSE, where it represents Minco Gold Corp.



Before you can use the Quick Stock Entry feature, you must:

Enable a trading page for Quick Stock Entry

Create a list of quick stock order destinations



To enable Quick Stock Entry

When you enable Quick Stock Entry for a page, the system assumes that you want to enter ONLY stock tickers on this page, and automatically completes a market data line with the appropriate order destination.

1. Open the page you want to enable for Quick Stock Entry.

We recommend that you identify the page as being enabled for Quick Stock Entry by naming it appropriately.

2. Right- click in the area of the page tab and select *Settings*.
3. In the **Page Settings** dialog box, select *Quick Stock/Bond Entry*.
4. Click the Quick Stock Entry Exchanges button to add recognized exchanges for quick stock entry support.

To add Quick Stock Entry Exchanges

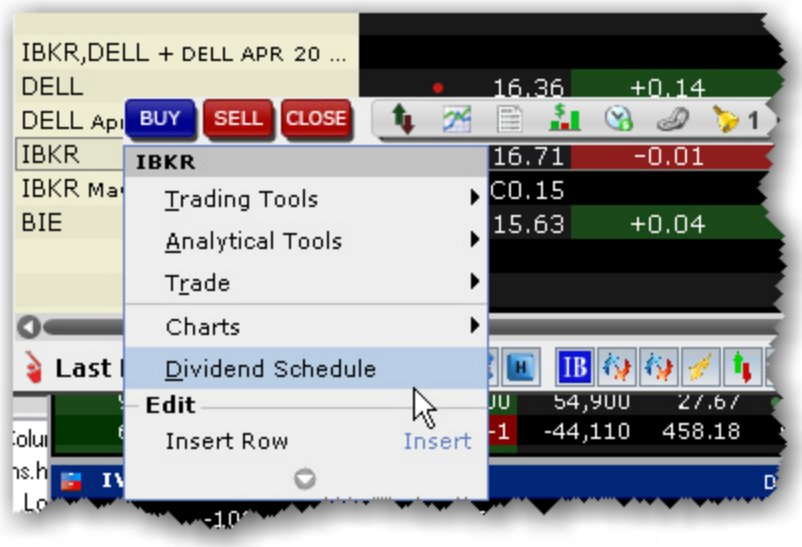
1. On the **Edit** menu, select *Global Configuration*.
2. In the left pane, select *Quick Stock/Bond Entry Exchanges*.
3. Click **Add.**
4. Enter a destination, for example ISLAND, and click OK.
5. Add as many order destinations as you would like to have available. You can add more destinations at any time.

   Note: To add SMART, you must also define the primary exchange, for example NYSE, or ISLAND (for NASDAQ stocks).

You can also use the syntax symbol|exchange to enter a stock ticker.

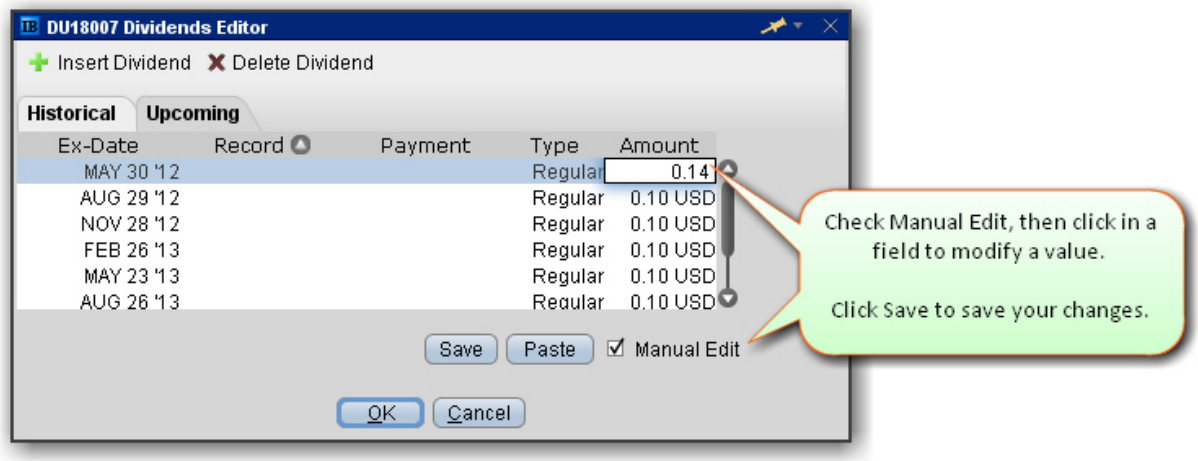
Edit Dividend Schedule

Use the Dividend Editor to manually create your own dividend schedule. IB provides an automatic "best guess" dividend payment schedule based on historical data for that asset.



To open the dividend editor

1. Right-click the ticker whose dividend schedule you want to edit.
2. Select *Dividend Schedule*.



To manually create a dividend schedule

1. Use the **Upcoming** tab.
2. Check the *Manual* Edit checkbox. The existing information remains as a starting point, but you can modify any fields, and add or remove dividends.
3. To insert or delete a line, click the *Insert Dividend* or *Delete Dividend* command.
4. Modify data on any line by clicking in a field and changing the value.

The Dividend Amount is a cash value.

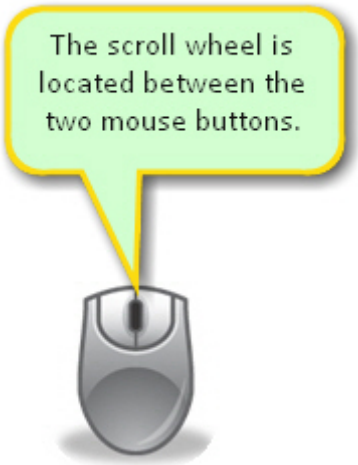
5. Click **Save** to apply your modified dividend schedule to the selected asset.

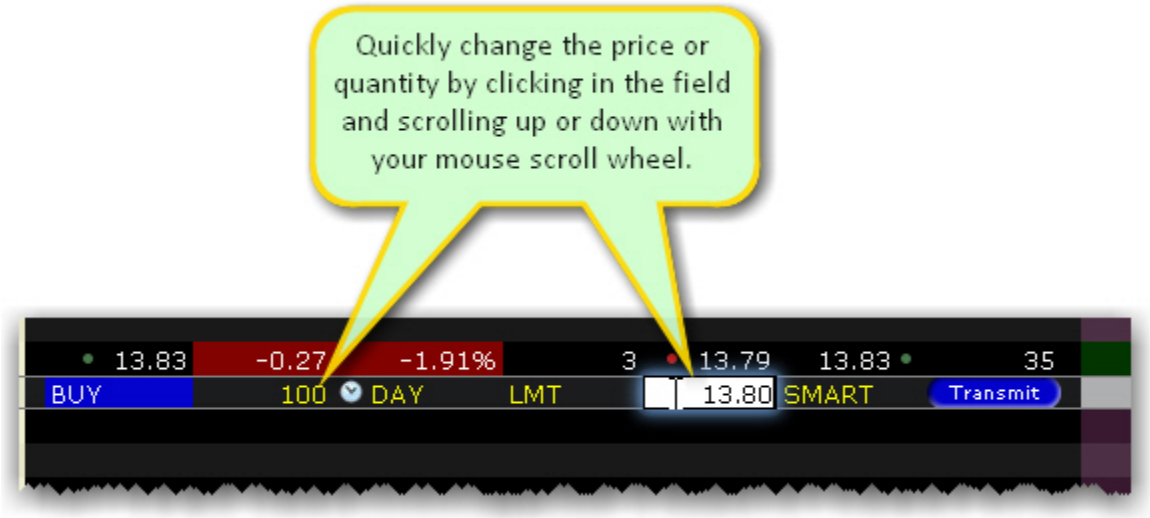
To paste dividends from a Word or Excel table

1. Create a five-column table in MS Word or MS Excel.
2. Enter data in the format of the existing table, with the Ex-Dividend Date in the first column and Dividend Amount in the second column of your table.
3. Select and copy the table.
4. From the **Upcoming** tab of the dividend editor, check *Manual Edit*.
5. Click the **Paste** button. The data from your external dividends table will replace the current dividends data.
6. Click Save to save your changes.
7. Click OK to save your data and exit the Dividends Editor.

Price and Size Wheels

You can quickly modify the price or size in an order row using the scroll-wheel on your mouse.





To modify price or size using the scroll wheel

1. Click in the **Quantity** or **Price** field in an order row.

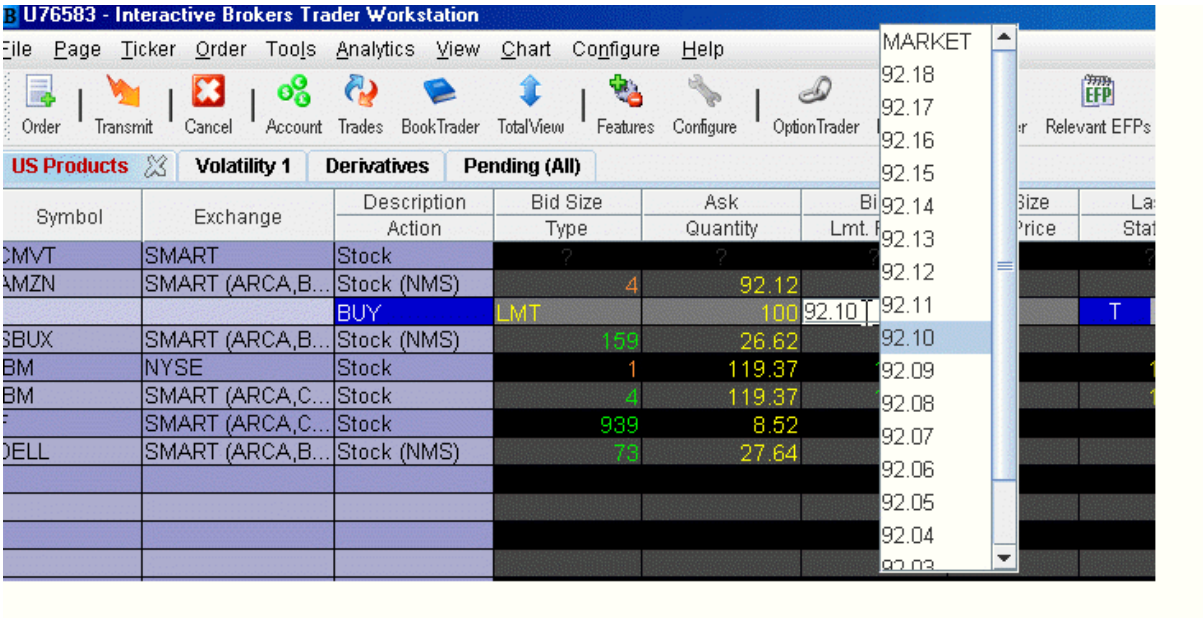
Scroll the wheel upward to increase the value.
Scroll the wheel downward to decrease the value.

The Price and Size Wands

The Price Wand and Size Wand help you to modify the order price and order quantity using just your mouse. Wands become active when you click and hold the mouse in the **Lmt Price** or **Quantity** field on an order line.

To use the price wand

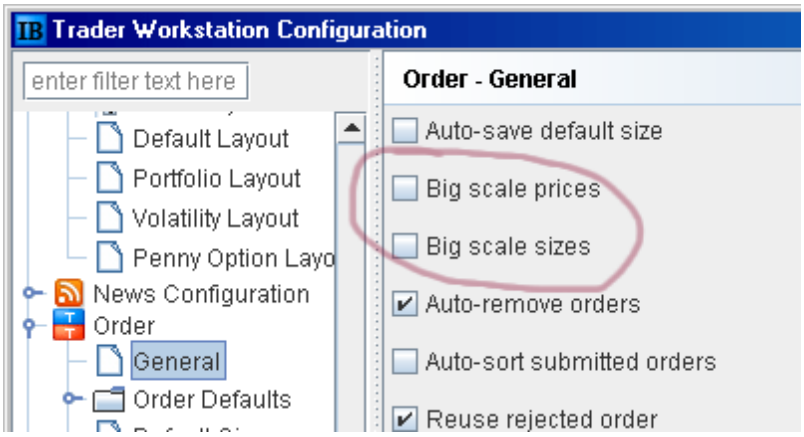
1. Create a Limit order. The **Lmt Price** field populates with the best bid or ask price.
2. Click and hold your mouse in the Lmt Price field to invoke the price wand.
3. Select a new limit price and release the mouse.



Note: The top of the wand ladder includes MARKET; the bottom is VWAP. These selections change your order type to a MARKET or VWAP order to use the market or vwap price.

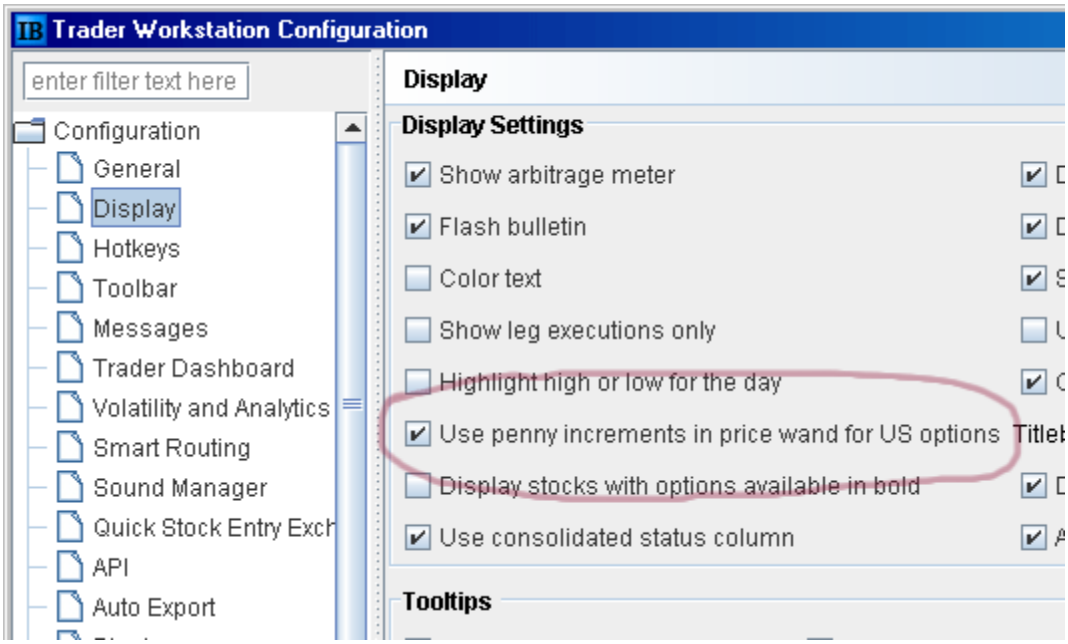
The prices in the wand ladder are created using the market price plus/minus the price increment.

To modify increments in a wand



1. On the **Edit** menu, select *Global Configuration*.
2. Expand the **Order** category in the left pane, and select *General*.
3. In the right panel, check *Big scale prices* or *Big scale sizes* to increase the price/size increment used in the wand.

To allow penny increments for US Options in Price wand

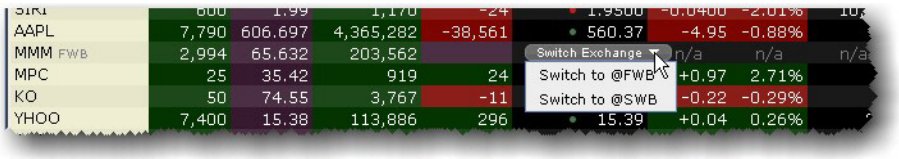


1. On the **Edit** menu, select *Global Configuration*.
2. In the Configuration category in the left pane, select *Display*.
3. Check the option to *Use penny increments in price wand for US options*.

Switch Exchange

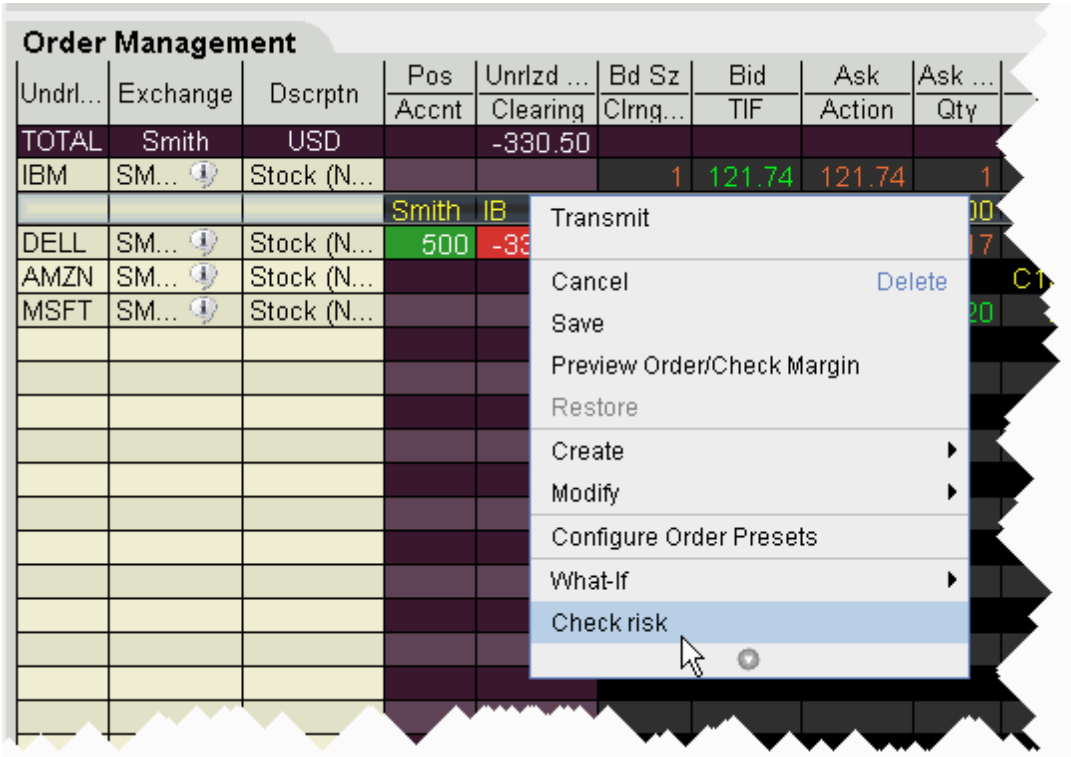
When you add a market data line to a Quote Monitor, you have the choice of directed exchange or SMART for the ticker's market data. For positions that display on the system-drive Portfolio page, this choice is made by TWS, and it may be the case that TWSuses an exchange to which you have no subscription. In this case there may be no data showing for certain positions on the Portfolio page.

The Switch Exchange button allows you to choose a subscribed exchange, enabling ticking data for the position from the Portfolio window.



Check Risk Pre-Order

Before you transmit an order, use the *Check Risk* feature to get a quick idea of how transmitting the order might affect your portfolio-relative P&L.



To check risk on an order

From an order line, right-click and select *Check Risk*.

The Risk NavigatorSM Portfolio Relative P&L chart displays both the current and potential P&L for your portfolio. You can also create and check risk on multiple orders.

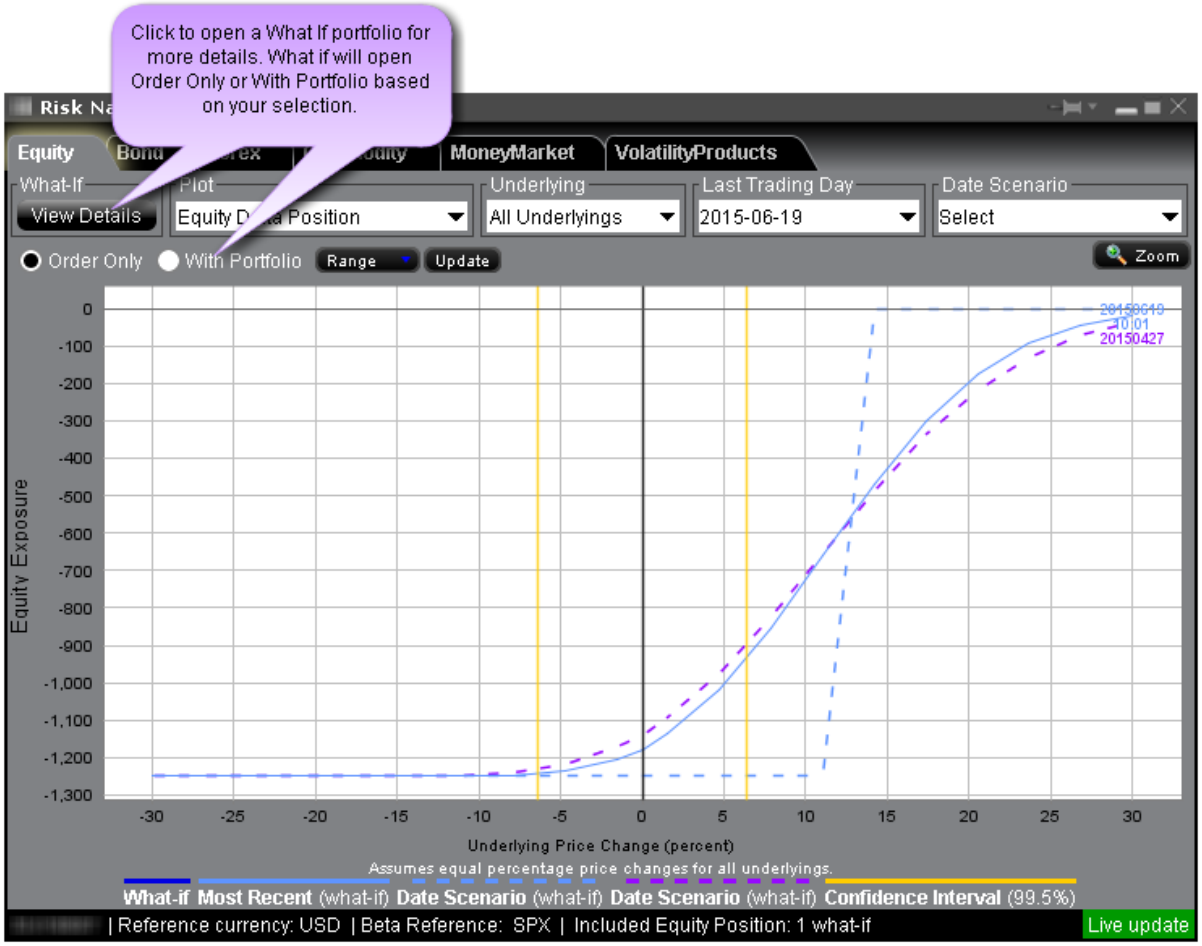
To check risk on multiple orders

1. Hold down the Ctrl key and click on each non-submitted order you want to include in the Check Risk P&L.
2. From the **Trade** menu, select *Check Risk*.

The Risk Navigator's Portfolio Relative P&L displays two lines: the red solid line shows your current portfolio relative P&L for all positions, and the blue dashed line shows the 'what-if' Portfolio Relative P&L including the order(s) you are considering.

You can also elect to use the Date Scenario, which shows the current portfolio P&L and the 'what-if' portfolio P&L at the selected Last Trading Day.

If you check the risk on a potential order for a contract in which you hold no current position, the number of 'what-if' positions will increase. If you check the risk on an order for a contract in which you currently hold a position, the 'what-if' position will not change, but the risk will increase or decrease the current position and still be reflected in the blue dashed line.



To view a complete What-If scenario in Risk Navigator comprised of all current positions plus whatever trades you are considering, ensure that "With Portfolio" is selected, and then click the *View Details* button in the top left corner.

View Futures Prices Term Structure

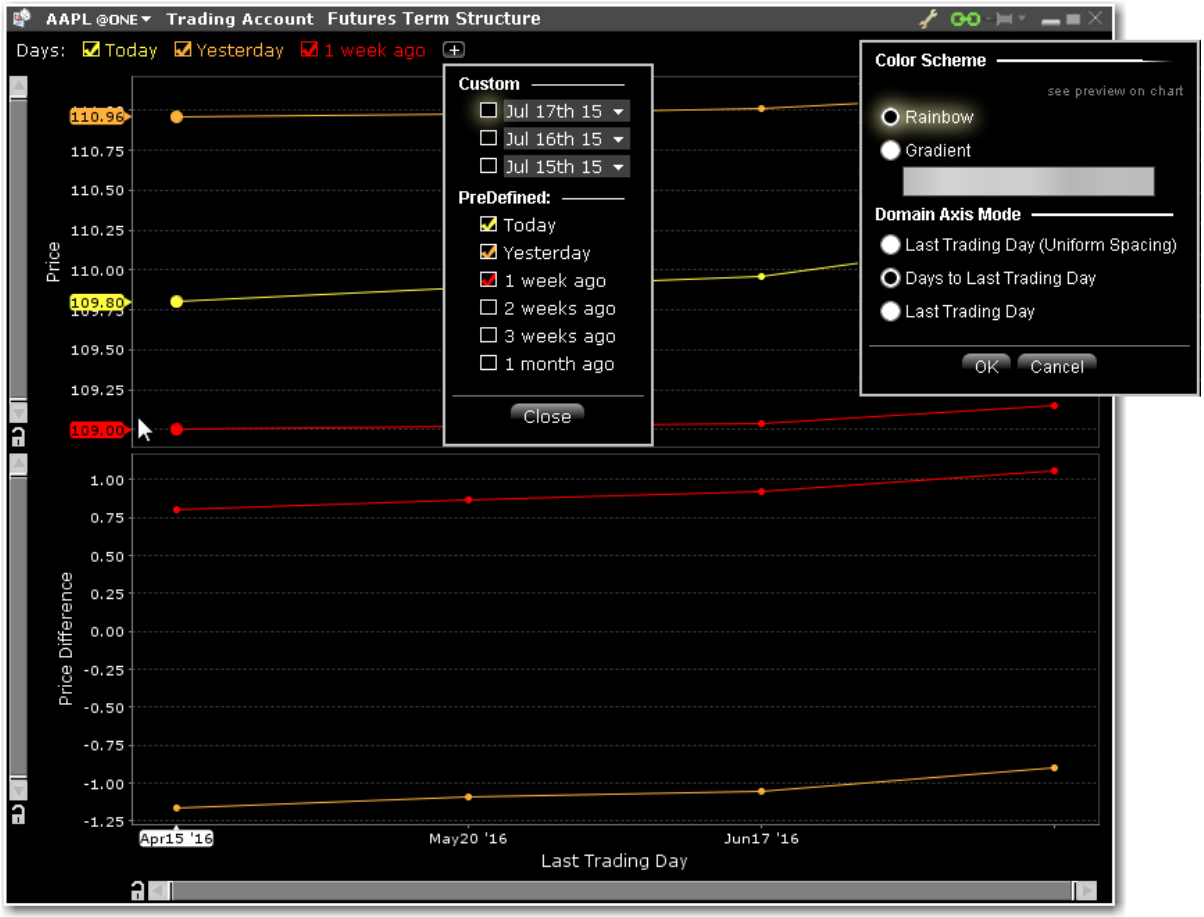
View the real-time and historical term structure of futures prices with the new Futures Term Structure window. This window displays a split chart that shows the real-time and historical settlement prices of the existing futures contracts for the given underlying (top chart) and the differences between the older settlement price curves and the most recent selected curve (bottom chart).

Use checkboxes at the top to view Today and/or Yesterday's previous close data. Click the "+" to add more data points.

Change the color scheme and the display and configuration of the horizontal axis using the "Configure" wrench icon in the top right corner.

Elect to show "uniform spacing" for last trading day, or to show Days to Last Trading Day.

Use the slider along the bottom frame to zoom, and use the right-click menu to show data tooltips.



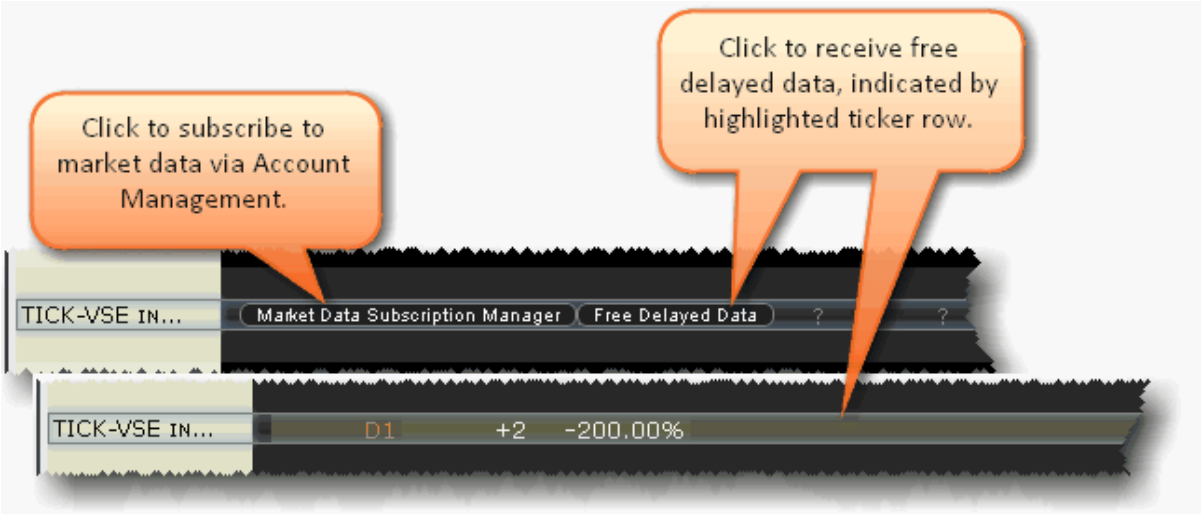
To view futures term structure

From the **New Window** drop down, select Advanced Tools and then select *Futures Term Structure*.

Enter a contract in the open entry field.

Receive Delayed Market Data

Customers have the option to receive delayed market data for contracts to which they do not currently hold market data subscriptions. You can elect to receive delayed data by clicking the *Free Delayed Data* button from a non-subscribed ticker row.



You can choose to trade with no data and not see the subscription and delay data buttons by turning off the prompts in Global Configuration.

To hide market data buttons

1. From the **Edit** menu, select *Global Configuration*.
2. In the left pane of Global Config, select **Display** and then select *Ticker Row*.
3. Check *Do not prompt for market data subscriptions*. Note that you must restart TWS for this change to take effect.

To re-enable market data buttons

1. From the **Edit** menu, select *Global Configuration*.
2. In the left pane of Global Config, select **Display** and then select *Ticker Row*.
3. Uncheck the “Do not prompt” box.

If you have subscribed to delayed data, but wish to remove it, click the *Reset Subscription* button.

Add Market Data using Class or Symbol

Add market data by entering the contract symbol or class as defined by the exchange on which it trades.

To add an options security definition directly to the trading screen

1. Click in an empty row in the **Contract** column.
2. Enter the security definition by contract class or contract symbol, and press **ENTER**. Use the formats in the table below.

Symbol Entry Formats		
contract class	@	exchange acronym
contract symbol	#	exchange acronym

To add a security definition using Request Ticker form

1. In symbol mode, click the **Add Ticker** icon on the Trading toolbar.
2. In the Instrument Type field select Option.
3. Select the Symbol Type.

If you select	Do this
Class	Enter the contract class symbol, exchange, expiration date and strike price, and select the right.
Contract	Enter the exchange local symbol and the exchange.

Note: If you add a market data line for a derivative instrument, TWS will ask if you want the underlying symbol added to the page. If you answer yes, it will be included at the bottom of the page (unless the underlying is already on the page).

Market Data Fields

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Market Data Fields

Introduction

To add or remove fields from your Quote Monitor or any tool, hold your mouse over a field until the "Insert" and "Remove" commands appear. If you hover over a Market Data field, the list will display the market data categories; if you hover over and order field, the list of order fields is displayed.

To add a field

Hold your mouse over a field to display the Insert and Remove selections.

Click the "+" sign to add a column.

Choose from the displayed list or categories and field columns to add a field to the right of the current field.

Contract Description

Column Name	Description
Category	A category within an industry in which the underlying can be categorized.
Company Name	Shows the company name for the underlying.
Contract	Provides the contract description including the underlying, primary exchange, and if not Smart, the directed exchange.
Data Source	Identifies the source of the top market data.
Days to Last Trad-ing Day	The number of calendar days remaining until the last trading day for the contract.
Description	Identifies the instrument type and other descriptive contract information.
Exchange	The market data exchange. If no other exchange is specified for order routing, this exchange is also where the contract will be routed. Select SMART order routing to route directly to the best available market.
Industry	The type of industry under which the underlying is categorized.
Issuer Country	The country issuing the stock.
Maturity	For bonds, the date when the bond matures.
Notes	An editable, unlimited text field where you can enter notes about

	the underlying, etc. When you mouse over the Notes text, it displays in a pop up box so you can read the entire note. Note: The **Notes** field is not editable on system-generated pages, since these pages (including the Pending page and Portfolio page) function differently from user-maintained pages. They are dynamically created and populated at the start of a TWS session and do not have the capability to save user-entered text.
Sector	The most detailed description of the industry under which the underlying company can be categorized.
Shortable	Uses colors to identify whether or not there is stock available for the customer to short it. Colors relay the following information: Red - No shares are available Dark Green - The system is trying to locate shares. Light Green - At least 1000 shares are available.
Symbol	Shows the exchange symbol for the contract.
Trading Currency	The trading currency of the asset.
Underlying	The underlying symbol for the contract. To toggle between underlying and symbol mode, on the **View** menu select the desired mode.
Upcoming IPO Date	The date the contract will begin to trade.

News

Column	Description

Name	
Net Social Sentiment	Shows the net number of Social Sentiment (by aheadsup.com) headlines per contract (# of positive - # of negative).
News Time	Displays the time and date of the latest contract-related news story. Rows use a color gradient to help differentiate latest from oldest stories at a glance. To view this field, you must activate the RSS News feed feature via the Feature Selector>Fundamental Analysis category.
News Title	Displays the title of the news story. To view this field, you must activate the RSS News feed feature via the Feature Selector>Fundamental Analysis category. For a deeper look at a story, double-click the title.
Social Sentiment Activity	Shows the total number of Social Sentiment (by aheadsup.com) headlines per contract.

Position and P & L

Column Name	Description
% of Market Value	Shows the market value of the contract as a percentage of the total market value of the account.
Avg Price	The average cost of the current position.
Cost Basis	The cost basis is calculated using the formula: average price x position x multiplier
Deliverable	For stocks, this is the value of the stock.

Value	For options and futures, this is the value of the underlying asset.
Long Market Value	The current total market value of all long positions in your portfolio.
Market Value	Equal to (position * market price).
P&L	Displays gains or losses. To modify the P&L calculation used, right-click the field and select or deselect *Include today's opening position in P&L calculation.* NOTE: When the closing price is not available, the average price is used for the P&L calculation. This occurrence is noted by an exclamation point (!) in the P&L field.
Position	Your current position in the selected contract.
Realized P&L	Calculates the realized profit and loss per position.
Short Market Value	The current total market value of all short positions in your portfolio.
Target %	The target percent of the contract as defined in the Rebalance window.
Unrealized	Calculates unrealized P&L for stocks, stock options and futures

P&L	options. Unrealized P&L is calculated using the formula: (current market price - average cost/share) x total number of shares The average cost per share is updated in realtime. This field is automatically added to the Trading window when the customer takes a position. Once removed it is not automatically added again.
Unrealized P&L Spinner	A graphic real-time representation of unrealized profit and loss, where the arrow color indicates whether your current unrealized P&L is positive (blue) or negative (red), the direction indicates whether the last price change was negative (pointing left) or positive (pointing right), and the length of the arrow represents the distance between the purchase/sale price and the last bid/ask.

Prices

Column Name	Description
After Hour Change	Price change after regular trading hours.
After Hour Change %	Price change after regular trading hours, displayed as a percentage.
Ask	The best ask price for a contract. This is the best price at which you could currently BUY.
Ask Size	The approximate depth of the current offer.
Bid	The best bid price for a contract. This is the best price at which you could currently SELL.

Bid Size	The approximate depth of the current bid.
Change	How much the current price has risen or declined from the previous day's closing price. If the price has declined, the background is red. If the price has risen, the background is blue. To toggle between dollar change and percent change, click the column title.
Change (%)	The percentage that the current price has risen or declined from the previous day's closing price. If the price has declined, the background is red. If the price has risen, the background is blue. To toggle between percent change and dollar change, click the column title.
Change Since Open	The change in price (by dollar value or percent) since the day's opening price. If the price has declined, the background is red. If the price has risen, the background is blue. To toggle between percent change and dollar change, click the column title.
Close	Displays the last available closing price for the asset. For US equities, we use corporate action processing to get the closing price. This means the close price is adjusted to reflect forward and reverse splits, and cash and stock dividends.
EXT	Requires a subscription to eSignal market data. The exchange where the contract has traded.
Gap	Displays the difference between the previous night's closing price and the day's opening price. You can toggle this display between showing the gap in currency units or percentage points (100% x Gap / Today's Open). To toggle the display, right-click the column title and select *Toggle Display*.
Halted	If trading for a contract has been halted, the field displays an

	exclamation point. Otherwise, the field remains blank.
Historical Volatility %	Shows the 30-day real-time historical volatility as a percentage.
Historical Volatility Change	The difference between the historical volatility as of yesterday's close, an the current historical volatility, shown as an absolute value and as a percentage.
Historical Volatility Close %	Hows the historical volatility based on the previous day's closing price, as a percentage.
Last	The last price at which the contract traded. A "C" in front of the last price indicates that this is the previous day's closing price. For forex, commodities and IB index CFDs, the "midpoint" value is displayed instead of the last.
Last ($)	The last price at which the contract traded, converted to US dollars. A "C" in front of the last price indicates that this is the previous day's closing price.
Last Quote Time	The time at which the contract was last quoted.
Last RTH Trade	Shows the last price at which the contract traded during regular trading hours.
Last Size	The number of units traded at the last size. If the last size is larger than the previous last size, the font is green. If it's smaller, the font is red.
Mark Price	The mark price is equal to the LAST price unless:

	Ask < Last - the mark price is equal to the ASK price. Bid > Last - the mark price is equal to the BID price.
Mid	The midpoint between the current bid and ask.
Month to Date Change	The difference between the current last price, and the closing price of the last day of the previous month.
Month to Date Change %	The difference between the current last price, and the closing price of the last day of the previous month, shown as a percentage.
Open	The opening price for the day.
Prior Close	The previous trading day's closing price.
Prior Month Close	The closing price of the last trading day of the previous month. This value is adjusted for corporate actions.
Prior Year Close	The closing price of the last trading day of the prior year. This value is adjusted for corporate actions.
RSI Colorful	Requires a subscription to eSignal market data. The Relative Strength Index compares the magnitude of recent losses to recent gains and relays that comparison in the form of a number that ranges from 0 to 100 where 0 indicates weaker performance. For quick reference, the background color is red if the RSI is less than 20, and green if the RSI is higher than 80.
RSI Numeric	Requires a subscription to eSignal market data. The Relative Strength Index compares the magnitude of recent losses to recent gains and relays that comparison in the form of a number that ranges from 0 to 100 where 0 indicates weaker performance.

Short Sale Restriction	If a short sale restriction is in effect for the contract, a special icon is displayed. Otherwise, the field is blank.
Spread	The difference between the current ask and bid.
Trade Time	Time of the last trade. The background color indicates the relative activity of a security compared with all other active contracts on your trading pages. The lighter background indicates more activity for the contract. Darker indicates that other securities are trading more actively.
Underlying Price	Displays the price of the underlying.
VWAP	The volume-weighted average price.
Y Close	Requires a subscription to eSignal market data. The previous trading day's last trade price.
Year to Date Change	The difference between the current Last price, and the last closing price of the previous year.
Year to Date Change %	The difference between the current Last price, and the last closing price of the previous year, shown as a percentage.

High/Low/Volume/History

To add High/Low/Volume/History columns to the Quote Monitor or other window, hold your mouse over an existing Market Data column heading and click the green "+" sign to insert column. From the displayed list select *High/Low/Volume/History* and click the field to add. To add multiple fields, use the right-click menu from the column header and select *Customize Layout*.

Option Imp Vol
Stock Plus
Stock Bo
Lmt Price
Status
Destination
Contract Description
News
Position and P&L
Prices
High/Low/Volume/History
ETFs
Futures
Options
Bonds
Greeks
Auction
Dividends
Fundamentals - Popular
Fundamentals - Analyst Rating
Fundamentals - Independent Ratings
Fundamentals - Per Share Data
Fundamentals - Statements/Balance Sheet
Fundamentals - Other
Order Presets
Stock Borrow/Loan
Graphic Prices
WSH Corporate Event Calendar
Short Selling
Technical Indicator
13 Week High
13 Week Low
26 Week High
26 Week Low
52 Week Fraction
52 Week High
52 Week Low
Average Closing Volume
Average Opening Volume
Average Option Volume
Average Volume
Average Volume ($)
Close 182 Days Ago
Close 273 Days Ago
Close 30 Days Ago
Close 60 Days Ago
Close 91 Days Ago
High
Low
Price - 1 week price percent change
Price - 13 week price percent change
Price - 4 week price percent change
Price - 52 week price percent change
Price Range
Price Range/Avg
Relative Volume
Relative Volume 3D
Short-Term Volume 10 Min
Short-Term Volume 3 Min
Short-Term Volume 5 Min
Trades
Trades/Min
Volume
Volume ($)
Volume Spinner
Volume/Min
Y High
Y Low
Y Volume
1,082 13.52
1,882 1.11
1,913 2.80
2,092 0.05
2,195 0.06
7,162 3.26
1M 7.7700⁴
c13.86

Column Name	Description
13 week high	The highest price for the past 13 weeks.
13 week low	The lowest price for the past 13 weeks.
26 week high	The highest price for the past 26 weeks.
26 week low	The lowest price for the past 26 weeks.
52 week fraction	Shows the (Last Price – 52 week low)/(52 week high – 52 week low). The closer the percentage is to 100%, the closer the current price is to the 52 week high.
52 week high	The highest price for the past 52 weeks.
52 week low	The lowest price for the past 52 weeks.
Average Closing Volume	The average closing trade volume for the past 90 days.
Average Opening Volume	The average opening trade volume for the past 90 days.
Average Option Volume	
Average Volume	The average daily trading volume over 90 days (multiply this value times 100).
Average Volume (%)	The average daily trading volume over 90 days (multiply this value times 100) shown as a percentage.
Close 182 Days Ago	Shows the closing price as of the last trading date 182 calendar days ago. Mouse over the value to see actual date of the data. Value is adjusted for corporate actions.

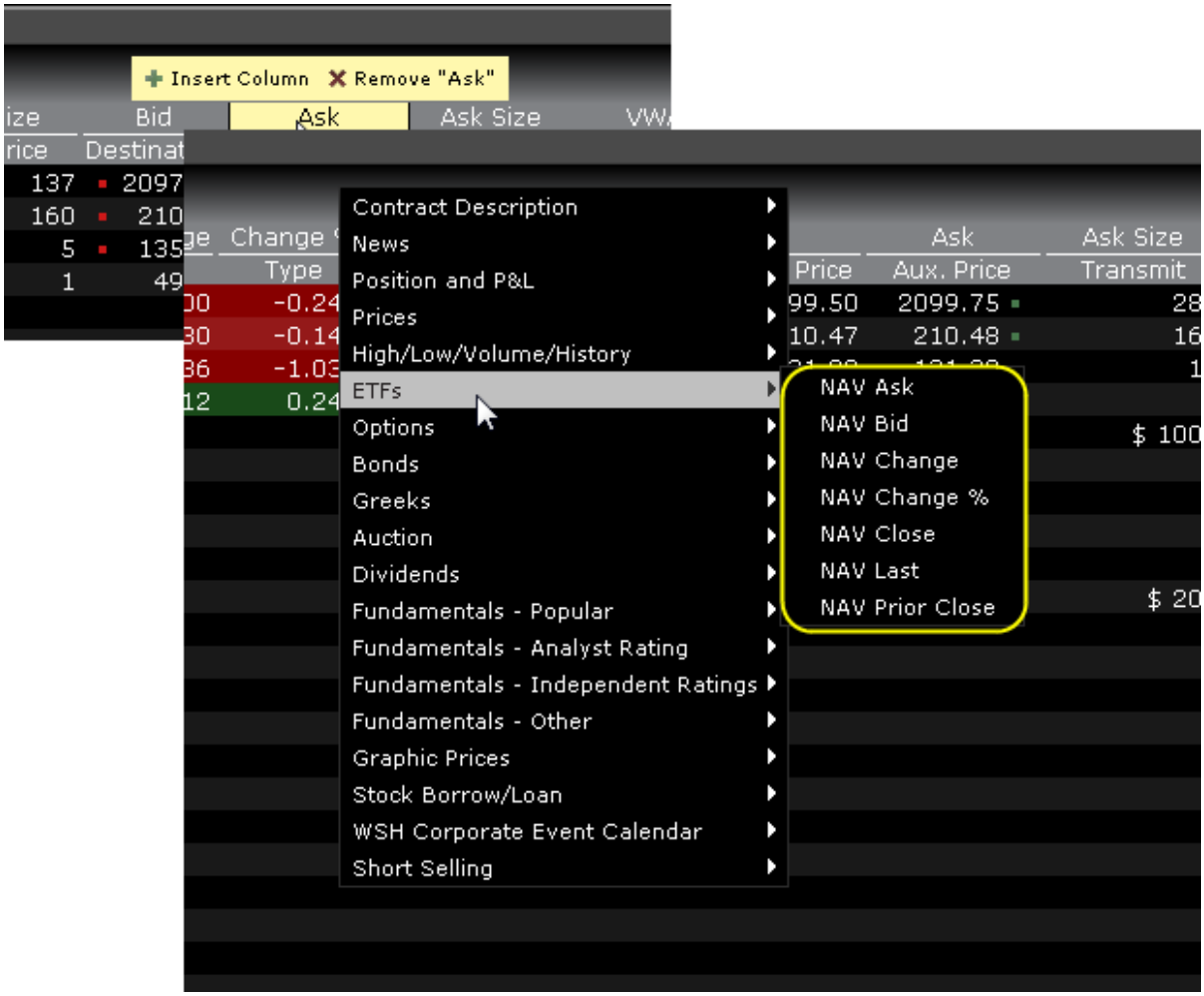
Close 273 Days Ago	Shows the closing price as of the last trading date 273 calendar days ago. Mouse over the value to see actual date of the data. Value is adjusted for corporate actions.
Close 30 Days Ago	Shows the closing price as of the last trading date 30 calendar days ago. Mouse over the value to see actual date of the data. Value is adjusted for corporate actions.
Close 60 Days Ago	Shows the closing price as of the last trading date 60 calendar days ago. Mouse over the value to see actual date of the data. Value is adjusted for corporate actions.
Close 91 Days Ago	Shows the closing price as of the last trading date 91 calendar days ago. Mouse over the value to see actual date of the data. Value is adjusted for corporate actions.
High	High price for the day for the selected contract.
Low	Low price for the day for the selected contract.
Price - 1 week price percent change	One week change in price expressed as a percent.
Price - 4 week price percent change	One week change in price expressed as a percent.
Price - 13 week price percent change	One week change in price expressed as a percent.
Price - 52 week price percent change	One week change in price expressed as a percent.

Price Range	The price range change: (Max(High, Close) - Min (Low, Close))
Price Range/Avg	Ratio of the price range (see above) divided by the historical volatility of the contract.
Relative Volume	Requires a subscription to eSignal market data. Compares today's volume with volume from the previous trading day. Indicator grows toward the right as today's volume increases.
Relative Volume 3D	Requires a subscription to eSignal market data. Compares today's volume with volume from the previous trading day. Indicator grows toward the right as today's volume increases.
Short-Term Volume 10 Min	The true volume over the past 10 minutes. Interpolation may be applied if necessary.
Short-Term Volume 3 Min	The true volume over the past 3 minutes. Interpolation may be applied if necessary.
Short-Term Volume 5 Min	The true volume over the past 5 minutes. Interpolation may be applied if necessary.
Trades	Trade count for the day.
Trades/Min	Trade count per minute.
Volume	Trading volume for the day for the selected contract.
Volume ($)	Trading volume for the day in USD.
Volume Spinner	A graphic representation of volume activity, where a blue bar representing 10,000 shares moves across the field from left to right. The faster the bar moves the higher the trading volume. A temporary color

	change indicates that the last sale was greater than 10,000 shares.
Volume/Min	Trading volume per minute.
Y High	Requires a subscription to eSignal market data. The highest price from the previous trading day.
Y Low	Requires a subscription to eSignal market data. The lowest price from the previous trading day.
Y Volume	Requires a subscription to eSignal market data. The trading volume from the previous trading day.

ETF Columns

To add ETF columns to the Quote Monitor or other window, hold your mouse over an existing Market Data column heading and click the green "+" sign to insert column. From the displayed list select *ETFs*.



Column Name	Description
NAV Ask	The ask price of the ETFs Net Asset Value, calculated based on the prices of the ETFs underlying securities.
NAV Bid	The bid price of the ETFs Net Asset Value, calculated based on the prices of the ETFs underlying securities.
NAV Change	The difference between the

	last price and the previous day's closing price f the ETFs Net Asset Value, calculated based on the prices of the ETFs underlying securities.
NAV Change%	The difference between the last price and the previous day's closing price f the ETFs Net Asset Value shown as a percentage, calculated based on the prices of the ETFs underlying securities.
NAV Close	Today's closing price of the ETFs Net Asset Value, calculated based on the prices of the ETFs underlying securities.
NAV Last	The last price of the ETFs Net Asset Value, calculated based on the prices of the ETFs underlying securities.
NAV Prior Close	Yesterday's closing price of the ETFs Net Asset Value, calculated based on the prices of the ETFs underlying securities.

Futures Columns

To add Futures columns to the Quote Monitor or other window, hold your mouse over an existing Market Data column heading and click the green "+" sign to insert column. From the displayed list select *Futures*.

Column Name	Description
Futures Open Interest	The total number of currently outstanding futures contracts.

Options

To add Options columns to the Quote Monitor or other window, hold your mouse over an existing Market Data column heading and click the green "+" sign to insert column. From the displayed list select *Options*.

Column Name	Description
Ask Exch	Identifies the options exchange(s) posting the best ask price on the options contract.
Bid-Exch	Identifies the options exchange(s) posting the best bid price on the options contract.
Call/Put Interest	Call option open interest/put option open interest.
Call/Put Volume	Call option volume/put option volume for the trading day.
Closing Implied Vol.	The implied volatility of the option on yesterday’s closing price.
Historical	Shows the historical volatility based on the previous day's clos-

Volatility Close %	ing price, as a percentage.
Imp Vol (%)	The implied volatility is based on the average of the best bid and offer for an option. This calculation is non-linear, and may not converge for low vega options. In such cases, no implied volatility estimate will be displayed.
Implied Vol/Historical Vol %	The ratio of the implied volatility over the historical volatility, expressed as a percentage.
Model	The option model price is calculated using the underlying price, interest rate, dividends and other data that you enter using the Option Model Editor.
Model IV %	The option model implied volatility expressed as a percentage.
Opt. Imp. Vol. Change	The absolute change in implied volatility between the current value and the value calculated using yesterday’s closing price.
Opt. Implied Vol	A prediction of how volatile an underlying will be in the future. The IB 30-day volatility is the at-market volatility estimated for a maturity thirty calendar days forward of the current trading day, and is based on option prices from two consecutive expiration months.
Opt. Volume	The total number of contracts traded over a specified time period.
Opt Volume Change %	Change in volume from the previous day's close as a percentage.
Option Open Interest	Charts the total number of options that were not closed.

Put/Call Interest	Put option open interest/call option open interest, for the trading day.
Put/Call Volume	Put option volume/call option volume for the trading day.
Time Value %	Shows the premium in excess of the option's intrinsic value as a percentage. Time Value = Option Bid - Intrinsic Value IV for Calls = max(stock price - strike, 0) IV for Puts = max(strike - stock price, 0)
Underlying Price	The price of the underlying contract for derivatives. Hold your mouse over the current price to also see the current bid/ask/last.

Bond Columns

The bond-related fields below can be added to your trading windows in TWS.

Column Name	Description
10 yr Hedge	The equivalent number of 10-year US Treasury bonds that would hedge one of the given bonds. It is the DVO1 of the given bond divided by the DV01 of the 10-year US Treasury bond.
Amount Outstanding	The amount of the bond outstanding as of the corporation's latest available balance sheet.
Ask Yield	The yield-to-worst. This is the lower of yield to maturity and yields to all calls. The yield is only shown if it is offered on the exchange.
Bid Yield	The yield-to-worst. This is the lower of yield to maturity and

	yields to all calls. The yield is only shown if it is offered on the exchange.
Bond Attributes	Bond attributes of last sale price which may include: Non-standard settlement date (normal settlement for bonds is T + 3), including C - cash trade ND - next day trade S# - seller's option Other Attributes W - weighted average trade A - after hours trade
Bond Short Name	Shows the actual text name of the bond for easier identification.
CUSIP	The cusip identifier.
Convexity	Duration is a reasonably good estimate of bond price movements upon small interest rate moves. However, it assumes that bond price moves linearly with interest rates, which is not true especially for larger rate moves. Convexity corrects duration for this non-linearity as follows: = ½ x Convexity x (Rate Move in decimals ^ 2) * 100 In Example 1, if the convexity is 8, the correction to duration would be: = ½ x 8 x (0.0050 ^ 2) * 100 = 0.01%

	Hence, the bond price would be expected to increase by: = 2.5% + 0.01% = 2.51% or: = 2.51% x 105 = 2.6355
Coupon	The interest rate used to calculate the amount you will receive annually, payable based on the Payment Frequency.
Current Ask Yield	The yield of the bond if it is purchased at the current offer.
Current Bid Yield	The yield of the bond if it is purchased at the current bid.
Duration (%)	Duration is a measure of bond price sensitivity to interest rate movements. It is defined as the percentage decrease (or increase) in the bond price in response to a 100 basis point upward (or downward) move in interest rates. Example 1: When the interest rates in the market fall by 50 basis points, a bond trading at 105 with a duration of 5 would be expected to appreciate by roughly: 5 x 50 / 100 = 2.5%. Note that for ordinary bonds, the price moves opposite to the interest rate. If the rates had increased by 50 basis points, the bond price would have declined by 2.5%.
Exchange Listed	Indicates whether or not the bond is listed.
Last Yield	The yield-to-worst. This is the lower of yield to maturity and yields to all calls. The yield is only shown if it is offered on the exchange.
Mark Yield	Implied yield of the bond if it is purchased at the current market

	price.
OAS	Options Adjusted Spread represents the basis point offset from the treasury zero rate curve that reproduces a bond's market price including the effects of any embedded options.
Payment Frequency	The bond payment frequency.
Ratings	The rating issued for the bond.
Value of BPS	The dollar value decrease in the price of a bond due to a 1 basis point, upward parallel shift in the yield curve. Commonly referred to as DV01. It is the duration times the bond price divided by 100.

Greeks Columns

To add Greeks columns to the Quote Monitor or other window, hold your mouse over an existing Market Data column heading and click the green "+" sign to insert column. From the displayed list select *Greeks*.

Column Name	Description
Delta	The ratio of the change in the price of the option to the corresponding change in the price of the underlying.
Gamma	The rate of change of Delta with respect to the underlying asset's price.
Portfolio Delta	Calculated as delta * position. A position delta that captures both the direction and the magnitude

	of the portfolio's sensitivity to an underlying by representing the degree and direction of change in the option price, based on a change in the price of the underlying.
Portfolio Gamma	Calculated as gamma * position. Helps you to assess directional risk by defining the speed at which the option's directional changes will occur, i.e. the rate of change of delta.
Portfolio Theta	Calculated as theta * position. Theta represents the portfolio's sensitivity to the passage of time by indicating that rate at which the market value of our portfolio will change with time. This metric calculation is based on the assumption that all other variables remain unchanged, including the underlying price, implied volatility and interest rate.
Portfolio Vega	Calculated as vega * position. Represents the portfolio's sensitivity to changes in implied volatility of the underlying, and shows the changed in the price of an option relative to a change in the implied volatility of the underlying. Generally long option positions benefit from rising (and suffer from declining) implied volatilities, while short options positions experience the opposite.
Theta	A measure of the rate of decline of the value of an option due to the passage of time.
Vega	The amount that the price of an option changes with a 1% change in volatility.

Auction

For Arca options orders.

Column Name	Description
Auc. Price	The price at which the auction would occur if no new orders were received and the auction were held now. The indicative price for the auction.
Auc. Volume	The number of shares that would trade if no new orders were received and the auction were held now.
Imbalance	The number of unmatched shares for the next auction; shows how many more shares are on one side of the auction than the other. Green indicates an imbalance on the buy side (more buy orders), red indicates an imbalance on the sell side (more sell orders).
Imbalance %	The number of unmatched shares for the next auction divided by the average daily volume, and expressed as a percentage. Green indicates an imbalance on the buy side (more buy orders), red indicates an imbalance on the sell side (more sell orders).
Reg. Imbalance	Imbalance used to determine which at-the-open or at-the-close orders can be entered following the publishing of the regulatory imbalance. Green indicates a buy-side regulatory imbalance, red indicates a sell-side regulatory imbalance.
Reg Imbal-ance %	The regulatory imbalance divided by the average daily volume and expressed as a percentage. Green indicates a buy-side regulatory imbalance, red indicates a sell-side regulatory imbalance.

Dividend Columns

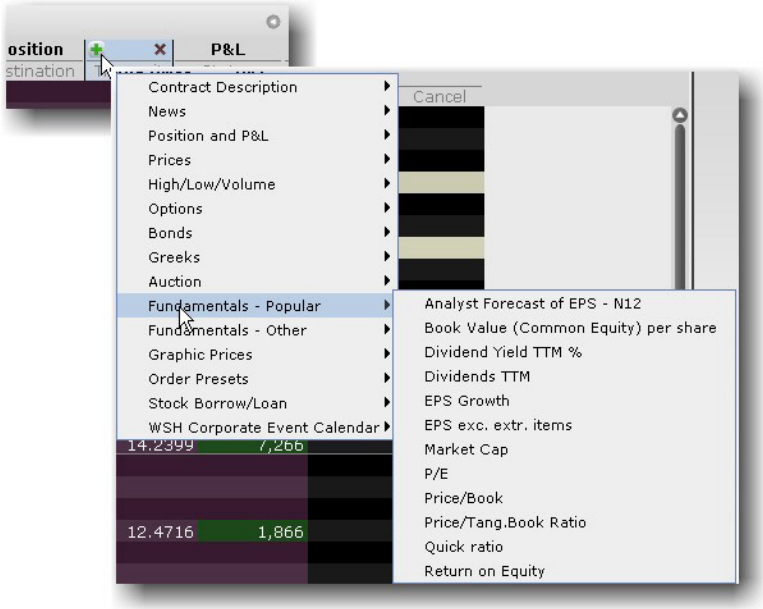
To add Dividends columns to the Quote Monitor or other window, hold your mouse over an existing Market Data column heading and click the green "+" sign to insert column. From the displayed list select *Dividends*.

Column Name	Description
Dividend Amount	Shows the amount of the upcoming dividend
Dividend Date	Displays the dividend ex-date.
Dividend Yield %	The total expected dividend payments per share over the next twelve months divided by the current price, and expressed as a percentage. For derivatives, shows the expected total dividend payments up until the last trading day.
Dividend Yield TTM%	The total dividend payments per share over the past twelve months divided by the current price, and expressed as a percentage.
Dividends	The total expected dividend payments per share, over the next twelve months. Hold your mouse over this value

	to see the expected payment schedule.
Dividends TTM	The total dividend payments per share, over the past twelve months.

Fundamentals Popular

To add Popular Fundamentals columns to the Quote Monitor or other window, hold your mouse over the Market Data column next to where you want to include the column, and click the green "+" sign to display the list of available columns.



To add multiple columns, right-click the column header and select *Customize Layout*.

Column Name	Description
Analyst Forecast of EPS - N12	Provides the analyst forecast estimate of EPS for the next twelve months.

Book Value (Common Equity) per share	Defined as the Common Shareholder's Equity divided by the Shares Outstanding at the end of the most recent interim period. Book Value is the Total Shareholder's Equity minus Preferred Stock and Redeemable Preferred Stock.
EPS Growth	This growth rate is the compound annual growth rate of *Earnings Per Share* over the last 5 years, excluding *Extraordinary Items* and *Discontinued Operations*. NOTE: If the value for either the most recent year or the year furthest out is zero or negative, the growth rate cannot be calculated and 'NA' (Not Available) will display.
EPS excluding extraordinary items	This is the Adjusted Income Available to Common Stockholders for the trailing twelve months divided by the trailing twelve month Diluted Weighted Average Shares Outstanding.
Insider Percent Owned	The percentage of the security's shares owned by company insiders.
Insider Shares Owned	The number of the security's shares owned by company insiders.
Inst. Percent Held	The percentage of the security's shares owned by an institution.
Inst. Shares Held	The number of the security's shares owned by an institution.

Market Cap	Calculated by multiplying the current price by the current number of outstanding shares.
P/E	This ratio is calculated by dividing the current Price by the sum of the Diluted Earnings Per Share from continuing operations BEFORE Extraordinary Items and Accounting Changes, over the last four interim periods.
Price/Book	This is the Current Price divided by the latest interim period Book Value Per Share.
Price/Tang. Book Ratio	The current price divided by the latest interim period *Tangible Book Value per Share*. Tangible Book Value per Share is the book value minus Goodwill and intangible Assets, divided by the Shares Outstanding at the end of the interim period.
Quick Ratio	Also known as the Acid Test Ratio, this value is defined as Cash plus Short Term Investments plus Accounts Receivable for the most recent interim period divided by the Total Current Liabilities for the same period. NOTE: This item is Not Available (NA) for banks, insurance companies and other companies that do not distinguish between current and long term assets and liabilities.
Return on Equity %	This value is the Income Available to Common Stockholders for the trailing twelve months divided by the Average Common Equity, and is expressed as a percentage. Average Common Equity is calculated by adding the Common Equity for the five most recent quarters and dividing by five.

Fundamentals - Analyst Ratings

To add Fundamentals - Analyst Ratings columns to the Quote Monitor or other windows, hold your mouse over an existing Market Data column heading and click the green "+" sign to insert column. From the displayed list select *Fundamentals - Analyst Ratings*.

All fields require a subscription to Thomson Reuters. If you do not subscribe, you will not see these fields.

Column Name	Description
Analyst Target/Price Disparity %	A measure of the difference between the last price of a stock and the average analyst target price of the stock.

	Data provided by Thomson Reuters.
Average Price Target	The current average of ratings analysts covering the stock. *Data provided by Thomson Reuters.*
Average Rating	An opinion given by an analyst to clients on whether or not the stock is worth buying. *Data provided by Thomson Reuters.*
Num of Analyst Ratings	Number of analysts currently covering the stock. *Data provided by Thomson Reuters.*
Num of Targets	Number of analysts publishing the"target" stock price. *Data provided by Thomson Reuters.*

Fundamentals - Independent Ratings

View individual ratings issued by various subscription-based research providers. Rankings are also available in Portfolio Builder in the Investment Strategy section.

To add *Independent Ratings* columns to the Quote Monitor or other windows, hold your mouse over an existing Market Data column heading and click the green "+" sign to insert column. From the displayed list select *Fundamentals - Independent Ratings*.

Only those research providers to which you subscribe will be displayed. If you have no research subscriptions, the Fundamentals - Independent Ratings section will not be displayed.

Fundamentals Other

To add Other Fundamentals columns to the Quote Monitor or other window, hold your mouse over the Market Data column next to where you want to include the column, and click the green "+" sign to display the list of available columns.

Column Name	Description
Beta	The measure of a company's common stock price volatility relative to the market. Not calculated if less than 40 months of pricing is available. Reuters Beta is the slope for the 60 month regression line of the percentage price change of the stock relative to the percentage price change of the local index.

Book Value (tangible) per share	This is the interim Tangible Book Value divided by the Shares Outstanding at the end of the most recent interim period. Tangible Book Value is the Book Value minus Goodwill and Intangible Assets for the same period.
Cash Flow per share	This value is the trailing twelve month Cash Flow divided by the trailing twelve month Average Shares Outstanding. Cash Flow is defined as the sum of Income After Taxes minus Preferred Dividends and General Partner Distributions plus Depreciation, Depletion and Amortization.
Cash per share	This is the Total Cash plus Short Term Investments divided by the Shares Outstanding at the end of the most recent interim period. NOTE: This does NOT include cash equivalents that may be reported under long term assets.
Current Enterprise Value	The sum of Market Capitalization and Net Debt for the most recent fiscal period. Reported only for Industrial, Utility and Banking companies.
Current ratio	This is the ratio of Total Current Assets for the most recent interim period divided by Total Current Liabilities for the same period. NOTE: This item is Not Available (NA) for Banks, Insurance companies and other companies that do not distinguish between current and long term assets and liabilities.
Dividend Yield - 5 year average	The average of the dividend yield for the past 60 months.
Dividend per share	The average of the Annual Dividends per share for the

- 5 year average	past 60 months.
EBITD	Earnings Before Interest, Taxes, Depreciation and Amortization - (EBITDA) is EBIT for the trailing twelve months plus the same period's Depreciation and Amortization expenses (from the Statement of Cash Flows). NOTE: This item is only available for Industrial and Utility companies.
EPS Change TTM %	This is the percent change in the trailing twelve month EPS as compared to the same trailing twelve month period one year ago. It is calculated as the trailing twelve month EPS minus the trailing twelve month EPS one year ago divided by the trailing twelve month EPS one year ago, multiplied by 100. NOTE: If either value has a negative value, the resulting value will be Not Meaningful (NM).
EPS Change Y/Y %	This value is calculated as the most recent interim period EPS minus the EPS for the same interim period one year ago divided by the EPS for the same interim period one year ago, multiplied by 100. NOTE: EPS must be positive for both periods. If either EPS value is negative, the result in Not Meaningful (NM).
EPS Normalized	This is the Normalized Income Available to Common Stockholders for the most recent annual period divided by the same period's Diluted Weighted Average Shares Outstanding.
Earnings before taxes	Also known as Pretax Income and Earnings Before Taxes, this is Total Revenue for the most recent TTM

	period minus Total Expenses plus Non-operating Income (Expenses) for the same period.
Earnings before taxes Normalized	This is the Income Before Tax number excluding the impact of all unusual/one-time/special charges items for the most recent annual period.
Free Cash Flow - TTM	The TTM Cash from operations minus Capital Expenditures and Dividends paid from the same period. Calculated using the Quarterly Statement of Cash Flows.
Free Cash Flow per share - TTM	The trailing 12 month Free Cash Flow divided by the trailing twelve month Average Shares Outstanding, found on the income statement.
Gross margin %	This value measures the percent of revenue left after paying all direct production expenses. It is calculated as the trailing 12 months Total Revenue minus the trailing 12 months Cost of Goods Sold divided by the trailing 12 months Total Revenue and multiplied by 100. NOTE: This item is only available for Industrial and Utility companies.
High Price	The highest price at which the stock traded over the past 12 months. It may be an intraday high.
Inventory turnover - TTM	Measures how quickly the inventory is sold. Calcuated as: Cost of Goods Sold for the trailing twelve months divided by the Average Inventory. (Average Inventory is inventory for the five most recent quarters/5). Not a meaningful value (NM) for banks and insurance companies.

LT debt/equity	This ratio is the Total Long Term Debt for the most recent interim period divided by Total Shareholder Equity for the same period.
Low Price	The lowest price at which the stock traded over the past 12 months. May be an intra-day low.
Net Debt, LFI	The sum of all short term debt, notes payable, long term debt, minority interest and preferred equity minus total cash and equivalent and short term investments for the most recent interim period. Only reported for industrial, utility and banking companies.
Net Income Available to Common, Normalized	This is the annual dollar amount accruing to common shareholders for dividends and retained earnings excluding the impact of all unusual/one-time/special charges items.
Net income available to common	This is the trailing twelve month dollar amount accruing to common shareholders for dividends and retained earnings. Income Available to Common Shareholders is calculated as trailing twelve month Income After Taxes plus Minority Interest and Equity in Affiliates plus Preferred Dividends, General Partner Distributions and US GAAP Adjustments. NOTE: Any adjustment that is negative (i.e.. Preferred Stock Dividends) would be subtracted from Income After Taxes.
Net Income/Employee - TTM	The Income after Taxes for the past 12 months divided by the number of employees of the last reported fiscal year.
Net Interest Cover-	Also "Times Interest Earned" this is the ratio of Earnings

age - TTM	before interest and taxes for the trailing 12 months divided by the trailing 12 months' Interest Expense, Net. NOTE: Not meaningful (NM) for banks and insurance, and if TTM Interest Expense, Net is less than or equal to 0.
Net Profit Margin %	Also known as Return on Sales, this value is the Income After Taxes for the trailing twelve months divided by Total Revenue for the same period and is expressed as a percentage. NOTE: Most Banks and Finance companies do not report revenues when they announce their preliminary quarterly financial results in the press. When this happens, the trailing twelve month value will not be available (NA).
Operating margin %	This value measures the percent of revenues remaining after paying all operating expenses. It is calculated as the trailing 12 months Operating Income divided by the trailing 12 months Total Revenue, multiplied by 100. Operating Income is defined as Total Revenue minus Total Operating Expenses.
P/E Normalized	This is the Current Price divided by the latest annual Normalized Earnings Per Share value.
Payout ratio	This ratio is the percentage of the Primary/Basic Earnings Per Share Excluding Extraordinary Items paid to common stockholders in the form of cash dividends during the trailing twelve months.
Pretax margin %	This value represents Income Before Taxes for the most recent fiscal year expressed as a percent of Total Rev-

	enue for the most recent fiscal year.
Pretax margin - TTM	The trailing twelve months' Income Before Taxes, expressed as a percentage of total revenue for the same period.
Price to Cash Flow per share	This is the current Price divided by Cash Flow Per Share for the trailing twelve months. Cash Flow is defined as Income After Taxes minus Preferred Dividends and General Partner Distributions plus Depreciation, Depletion and Amortization.
Price to Free Cash Flow per share - TTM	This is the current Price divided by trailing twelve months' Free Cash Flow Per Share. Free Cash Flow is calculated from the Statement of Cash Flows as a Cash from Operations minus Capital Expenditures and Dividends paid.
Price to sales	This is the current Price divided by the Sales Per Share for the trailing twelve months. If there is a preliminary earnings announcement for an interim period that has recently ended, the revenue (sales) values from this announcement will be used in calculating the trailing twelve month revenue per share. NOTE: Most Banks and Finance companies do not report revenues when they announce their preliminary interim financial results in the press. When this happens, the trailing twelve month values will not be available (NA) until the complete interim filing is released.
Receivables	Ratio of total revenue for the trailing 12 months divided

turnover - TTM	by Average Accounts Receivables. Not meaningful (NM) for banks.
Relative (S&P 500) price percent change - YTD	The percent change in price since the close of the last trading day of the previous year, as compared to the change in the price of the S&P 500 during that same period.
Return on average assets	This value is the Income After Taxes for the trailing twelve months divided by the Average Total Assets, expressed as a percentage. Average Total Assets is calculated by adding the Total Assets for the five most recent quarters and dividing by five.
Return on investment %	This value is the trailing twelve month Income After Taxes divided by the average Total Long Term Debt, Other Long Term Liabilities and Shareholders Equity, expressed as a percentage.
Revenue	This is the sum of all revenue (sales) reported for all operating divisions for the most recent TTM period. NOTE: Most banks and Insurance companies do not report revenues when they announce their preliminary quarterly financial results in the press. When this happens, the quarterly value will not be available (NA).
Revenue Change TTM %	This is the percent change in the trailing twelve month Sales as compared to the same trailing twelve month period one year ago. It is calculated as the trailing twelve month Sales minus the trailing twelve month Sales one year ago divided by the trailing twelve month Sales one year ago, multiplied by 100.

Revenue Change Y/Y %	This value is calculated as the most recent interim period Sales minus the Sales for the same interim period 1 year ago divided by the Sales for the same interim period one year ago, multiplied by 100.
Revenue growth rate %	The Five Year Revenue Growth Rate is the annual compounded growth rate of Revenues over the last five years.
Revenue/Employee - TTM	The trailing twelve months' total sales divided by the number of employees at the end of the last reported fiscal year.
Revenue/share	This value is the trailing twelve month Total Revenue divided by the Average Diluted Shares Outstanding for the trailing twelve months. NOTE: Most Banks and Insurance companies do not report revenues when they announce their preliminary quarterly financial results in the press. When this happens, the trailing twelve month values will not be available (NA).
Total debt/total equity	This ratio is Total Debt for the most recent interim period divided by Total Shareholder Equity for the same period. NOTE: This is not meaningful (NM) for banks.
Volume	This is the daily average of the cumulative trading volume for the last ten days.

Stock Borrow/Loan

Column	Description
Auction Borrow	This value represents the best rate quoted to lend the

	underlying, and is the percentage of the total collateral you will receive (without interest) for lending the contract, in addition to the collateral you receive based on the price of the underlying. Hold your mouse over the value to see the Total Rate (interest - borrow fee). Click the Auction Borrow field to create a Lend order.
Auction Borrow Size	The volume of shares being bid for at the Auction Borrow rate.
Auction Lend	This value represents the best rate quoted to borrow the underlying, and is the percentage of the total collateral you must put up for borrowing the contract. The borrow fee is in addition to the collateral you pay based on the price of the underlying. Hold your mouse over the fee to see the Total Rate (interest - borrow fee). Click the Auction Lend field to create a Borrow order.
Auction Lend Size	The volume of shares available to borrow at the Auction Lend rate.
Auction Price	Indicative price for the next auction.
Auction Volume	The total number of shares available for the next auction.
Private Locate	The number of shares available to short.

Graphic Prices

Column Name	Description

Ask Spinner	A red bar whose placement in the field represents the cents in the current best Ask price, relative to a dollar. A bar in the center of the field indicates that the cents value in the Ask price is close to $.50. A bar toward the left indicates that the cents value is closer to zero, and to the right indicates that it's approaching one dollar.
Bid Spinner	A green bar whose placement in the field represents the cents in the current best Bid price, relative to a dollar. A bar in the center of the field indicates that the cents value in the Bid price is close to $.50. A bar toward the left indicates that the cents value is closer to zero, and to the right indicates it's approaching one dollar.
Candlestick	A graphic representation of the direction and magnitude of price change. The wide end of the arrow represents the opening price, and the narrow end represents the last price. An arrow pointing to the right indicates that the price is higher than the previous close, and an arrow pointing to the left indicates that the price has dropped from the previous close. A brighter shade indicates a greater magnitude of price change.
Graphic Change	A graphic representation of the difference between the last price and the previous day's closing price. The arrow is centered in the field, and colored green if the last price is higher than the close, and colored red if it's lower. The longer the arrow the wider the difference between the two prices. The field accommodates graphing changes up to $2.00 below and $2.00 above the close.
Last Spinner	A magenta bar whose placement in the field represents the cents in the current Last price relative to a dollar. A bar in the

	center of the field indicates that the cents value in the Last price is close to $.50. A bar toward the left indicates that the cents value is closer to zero, and to the right indicates that it's approaching one dollar.
RSI	Requires a subscription to eSignal market data. The Relative Strength Index compares the magnitude of recent losses to recent gains and relays that comparison in the form of a number that ranges from 0 to 100 where 0 indicates weaker performance. For quick reference, the indicator shows a red bar if the RSI is less than 50, and a green bar otherwise. Bar size and color hue change based on the RSI value.
RSI Scaled	Requires a subscription to eSignal market data. The Relative Strength Index compares the magnitude of recent losses to recent gains and relays that comparison in the form of a number that ranges from 0 to 100 where 0 indicates weaker performance. The scaled version uses values from 20 to 80. For quick reference, the indicator shows a red bar if the RSI is less than 50, and a green bar otherwise. Bar size and color hue change based on the RSI value.
Range	A graphic comparison of the last price to the day's high and low. The indicator starts in the center of the field and moves toward the left (in red) as the last price approaches the day's low, and to the right (in green) as the last price approaches the day's high. If the last price equals the low or high, the bar changes color. You can elect to view the Range in three visual different modes, basic Range, Range 3D, and Range 3D Alert. Only the last shows a color change when the price equals the high or low.
Smart Spinner	A graphic representation of the cents in the current price relative

	to a dollar. If you hold a short position, the bar is red and represents the cents in the Ask price. If you hold a long position, the bar is green and represents the cents in the Bid price. For contracts in which you hold no position, the bar is gray, and represents the cents in the Last price. A bar in the center of the field indicates that the cents value in the price is close to $.50. A bar toward the left indicates that the cents value is closer to zero, and to the right indicates that it's approaching one dollar.

Wall Street Horizon Corporate Event Calendar

To add WSH columns to the Quote Monitor or other window, hold your mouse over an existing Market Data column heading and click the green "+" sign to insert column. From the displayed list select *WSH Corporate Event Calendar*.

Column Name	Description
Dividend Amount (WSH)	Shows the amount of the upcoming dividend
Dividend Date (WSH)	Displays the dividend ex-date.
Recent Analyst Meeting	Date and time of the most recent analyst meeting.
Recent Earnings	Date and time of the most recent earnings/earnings call event.
Recent Misc Event	Date and time of the most recent shareholder meeting, presentation or other event.
Upcoming Analyst	Date and time of the next

Meeting	scheduled analyst meeting.
Upcoming Earnings	Date and time of the next scheduled earnings/earnings call event.
Upcoming Event	Shows the next major upcoming company event.
Upcoming Event Date	Shows the date of the next major upcoming company event.
Upcoming Misc Event	Date and time of the next shareholder's meeting, presentation or other event.

Short Selling Fields

To add Short Selling columns to the Quote Monitor or other window, hold your mouse over an existing Market Data column heading and click the green "+" sign to insert column. From the displayed list select *Short Selling*.

Column Name	Description
Days to cover	Calculated as the aggregate short interest for the month divided by the average daily share volume traded between short interest settlement dates. Also known as "short interest ratio."
Fee rate	Interest rate charted on bor-

	rowed shares.
Rebate rate	Fed funds or other currency-relevant Benchmark rate minus the interest rate charged on borrowed shares.
Shares short	The total number of shares of a security that have been sold short by customers and securities firms that have not been repurchased to settle outstanding short positions in the market; the net short positions outstanding in the stock as of the settlement date.
Short % of Float	Percentage of short interest shares to float shares outstanding. Percentage of Float % = short interest/float shares x 100.
Short Interest Change	The percentage that the short interest shares have changed compared to the previous period.
Short Outstanding Ratio	Percent of short interest to total shares outstanding.
Shortable Shares	The number of shares

	available for shorting.

Technical Indicator Columns

To add Technical Indicator columns to the Quote Monitor or other window, hold your mouse over an existing Market Data column heading and click the green "+" sign to insert column. From the displayed list select *Technical Indicator*.

Column Name	Description
EMA (100)	100-period Exponential Moving Average.
EMA (100) Crossover	100-period Exponential Moving Average crossover, shown as a percentage.
EMA (20)	20-period Exponential Moving Average.
EMA (20) Crossover	20-period Exponential Moving Average crossover, shown as a percentage.
EMA (20)/EMA (200)	20-period Exponential Moving Average over 200-period Exponential Moving Average, shown as a percentage.
EMA (200)	200-period Exponential Moving Average.
EMA (200) Crossover	200-period Exponential Moving Average crossover, shown as a percentage.

EMA (50)	50-period Exponential Moving Average.
EMA (50) Crossover	50-period Exponential Moving Average crossover, shown as a percentage.
MACD	Moving Average Convergence/Divergence.
MACD Histogram	Moving Average Convergence/Divergence histogram.
MACD Signal Line	Moving Average Convergence/Divergence signal.
PPO	Percent of Price Oscillator, shown as a percentage.
PPO Histogram	Percent of Price Oscillator histogram, shown as a percentage.
PPO Signal Line	Percent of Price Oscillator signal line, shown as a percentage.
Price/EMA (100)	1:1 ratio of price to 100-period Exponential Moving Average.
Price/EMA (20)	1:1 ratio of price to 20-period Exponential Moving Average.
Price/EMA (200)	1:1 ratio of price to 200-period Exponential Moving Average.
Price/EMA (50)	1:1 ratio of price to 50-period Exponential Moving Average.

Order Management Fields

Order Management Fields **742**
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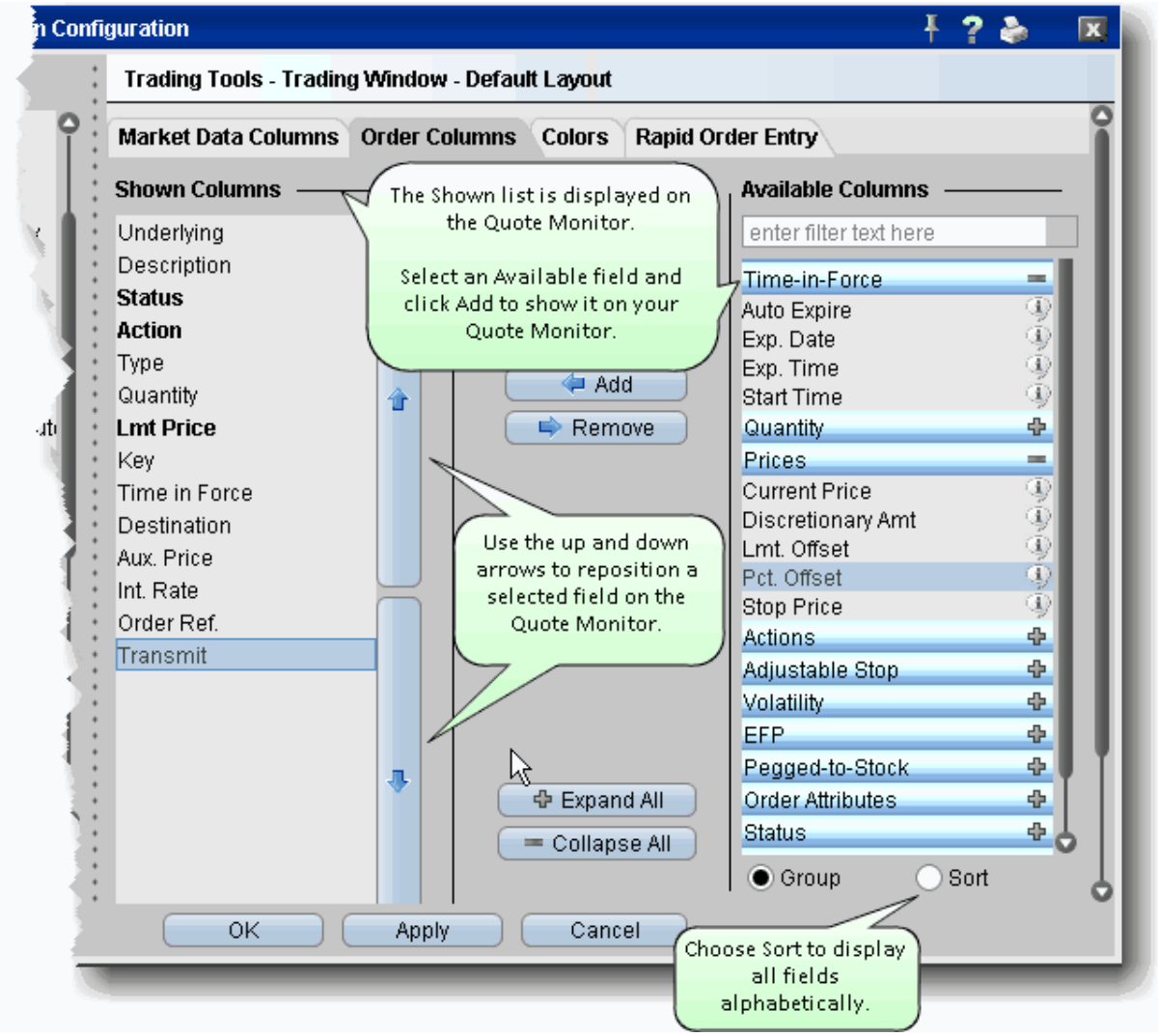
Order Management Fields

Customized Layout

To add or remove fields from your Quote Monitor, right-click on any field label and select Customize Layout. In the list of Order Management columns, move the desired field from the Available to the Shown list to display, or from the Shown list to the Available list to hide. You can modify the layout of fields per page, or globally using a page layout that is applied to multiple Quote Monitors.



Changes to a page layout are automatically applied to any pages that already use the layout.

- Mandatory Columns
- Contract Descriptions
- Time in Force Columns
- Quantity Columns
- Price-based Columns
- Actions Columns
- Adjustable Stop Columns

Volatility Columns
EFP Columns
Pegged to Stock Columns
Order Attributes Columns
Status Columns
Scale Order Columns

Mandatory Columns

The columns below are always displayed on an order line in the trading window.

Column Name	Description
Shown Columns (mandatory columns that cannot be removed)	
Action	The order action. BUY or SELL.
Type	The order type.
Quantity	The number of units in your order.
Lmt. Price	The limit price for order types to which this price applies, including Limit, Stop Limit, and Relative orders.
Aux. Price	This field reflects the *Election* price for Stop and Stop Limit orders, and the *Offset Amount* for Relative and Trailing Stop orders. You can set these auxiliary amounts in the Default Order Settings box.
Basis Points	Used with futures EFPs. The basis point value is equal to the implied interest rate x 100.
Status	The order status. See Guide to System Colors for details.

Contract Descriptions

Column	Description

Name	
Contract Description	
Description	Identifies the instrument type and other descriptive contract information.
Exchange	The market data exchange. If no other exchange is specified in the Destination field, this is also the destination to which the contract will be routed. Select SMART order routing to route directly to the best available market.
Symbol	The exchange symbol for the contract.
Underlying	Shows the underlying symbol. Note that if you want a single Underlying field on the trading window with no order field below it, check the Underlying field for both market data and order management.

Time in Force Columns

Column Name	Description
Time in Force	
Exp. Date	For GTD orders. Keeps the order active until the close of market on the date you enter. Date format is YYYY/MM/DD.
Exp. Time	For GTD orders. Keeps the order active until the time on the date you enter in the *Exp. Date* field.
Good After Time	Activates the order after the specified time has elapsed.

Time in Force	The time span over which your order remains active. By default, the time in force is day, which means any part of your order that has not executed by the time the market closes will be cancelled by the system.

Quantity Columns

Column Name	Description
Quantity	
Display Size	Enter a display size to create an iceberg order.
Min Quantity	Enter the minimum acceptable quantity that must be available for the order to execute.
Quantity Type	Used in conjunction with Quantity Value field to automatically calculate order quantity based on your instructions.
Quantity Value	Used in conjunction with Quantity Type field to automatically calculate order quantity based on your instructions.
Total Qty	The total quantity of the original order.

Price-based Columns

Column Name	Description
Prices	
Current Price	The current working price of an order at the exchange.
Discretionary	Enter a discretionary amount with a limit order to create a

Amt	discretionary order.
Lmt Offset.	Used for trailing stop limit orders to determine the limit price for the contract.
Pct. Offset	Creates an offset price based on a percentage off the best bid or ask. Use a decimal value between 0 - 1.
Stop Price	The Election price for Stop and Stop Limit orders, and the initial stop price for trailing stop and trailing stop limit orders.

Actions Columns

Column Name	Description
Actions	
Cancel	Click to cancel the order.
Transmit	Click to send the order to the order destination.

Adjustable Stop Columns

Column Name	Description
Adjustable Stop	
Adj Order Type	The order price submitted when the trigger price is hit on a stop, stop limit, trailing stop or trailing stop limit order.
Adj Stop Lmt Price	The initial limit price for the adjusted stop limit or trailing stop limit order.
Adj Stop Price	The new stop price for the adjusted order.

Adj Trailing Amnt	The new trailing amount for a trailing stop or trailing stop limit order.
Trigger Price	The price that triggers the one-time adjustment of a stop, stop limit, trailing stop or trailing stop limit order.

Volatility Columns

Column Name	Description
Continuous Update	If checked, the option limit price is automatically updated based on significant movement in the price of the underlying. Also used for EFPs.
Hedge Aux Price	If needed, enter the auxiliary price for a delta neutral order type that requires another price field.
Hedge Order Type	Define an order type for a delta neutral trade. This will be submitted in conjunction with dynamic management of your volatility orders.
Reference Price Type	For dynamic volatility orders. Choose the average of the NBBO, or the bid or ask price to be used as the reference price.
Undrl. Range (High)	The optional low-end value of a stock range for Volatility orders. If the price of the underlying falls below this value, the order is cancelled.
Undrl. Range (Low)	The optional high-end value of a stock range for Volatility orders. If the price of the underlying rises above this value, the order is cancelled.

Volatility	Displays volatility for the option at a specific strike price.
Volatility Type	Select either Annual or Daily implied volatility calculation for VOL orders.

EFP Columns

Column Name	Description
EFP	
Continuous Update	For EFPs. If checked, the limit price is automatically recalculated based on movement in the basis points.
Int. Rate	For EFPs.

Pegged to Stock Columns

Column Name	Description
Pegged-to-Stock	
Delta	Used for pegged to stock orders. This value is used as a percent, and is multiplied by the change in the underlying price. this value is added to the starting price to determine the price for a call option.
Stock Ref Price	An optional value used for Pegged to Stock option orders. If left blank, the NBBO midpoint is used. This value is subtracted from the current NBBO midpoint to determine a change in the stock price.
Undrl Range (High)	The optional high-end value of a stock range for Pegged to Stock orders. If the price of the underlying rises above this value, the order is cancelled.

Undrl Range (Low)	The optional low-end value of a stock range for Pegged to Stock orders. If the price of the underlying falls below this value, the order is cancelled.

Order Attributes Columns

Column Name	Description
Order Attributes	
All or None	Marks the order as AON, to ensure the order will not execute unless/until the entire quantity is available.
Block	Mark your high-volume limit order as a block order. You may want to consider using ScaleTrader for large volume orders.
Consider Cost	If checked, Smart router will consider trade costs, including commissions, when deciding where to route your order.
Hidden	Check to create a hidden order.
Hide Pennies	For US Options orders in pennies, hides the pennies from the market.
ISE Order Type	For Midpoint Match orders on the ISE Stock Exchange, select from two order types. A *Standard* order is entered as a market or limit order but is not displayed to the trading community. Standard orders support the Immediate or Cancel (IOC) order attribute. An SOI (Solicitation of Interest) order broadcasts the symbol to ISE MPM users. These orders have a minimum order quantity of 2000.

Non-Guaranteed	Check to indicate that you will take all the risk for partially executed smart-routed spread orders.
OCA Group	Allows you to create a one-cancels-all advanced order group without opening the Order Ticket window.
Open/Close	Specifies whether the order is to open (or increase) a position, or close (or decrease) a position.
Add Liquid-ity	If checked, this feature attempts to improve the price on the combo by providing liquidity on at least one leg of a two-legged combo by submitting one leg of a marketable combo one tick below the market for that leg. Leaving this feature enabled may result in the combo order not executing.
Origin	The customer type from which the order originated. Mainly used for institutional accounts.
Preserve Time Priority	Check to keep your order in the queue regardless of incurred exchange fees.
Shareholder	A tag used by large shareholders who trade Canadian products.
Sweep to Fill	Check to create a sweep-to-fill order.
Soft Dollars	Use the dropdown list to select the soft dollar tier for the order. This field is only visible for accounts that have soft dollar functionality enabled.
Trigger Method	Displays a dropdown field with a list of all available Trigger Methods. This allows you to select a new method on a per-order basis.

Status Columns

Column Name	Description
Status	
Destination	The routing destination.
Key	System-created key to identify bundled limit, bracket and trailing stop orders.
Trade Price	The price at which the order or portion of the order executed.

Scale Order Columns

Column Name	Description
Scale Orders	
Scale Incr.	This amount is used to calculate the per-unit price of each component in the scale ladder. Note that the price increment cannot be negative.
Scale Init	Set the initial component size for the scaled order.
Scale Profit Offset	A value in this field instructs TWS to submit profit-taking orders, and defines the minimum amount of profitability you will accept to exit a position. ScaleTrader will submit an opposite-side profit order against the original order, using the limit price of the parent component plus/minus the profit offset. For example, if you submit a 10,000 share BUY limit order at $65.00 with a component size of 1000, and enter $15.00 as the **Scale Profit Offset**, as soon as the

	first component executes, TWSwill submit a 1000 share SELL limit order at $80.00.
Scale Sub	Set the subsequent component size for the scaled order. If you leave this field blank, ScaleTrader uses the initial component size.

Trade Bonds

Trade Smart-routed US Corporate bonds, US Treasury bonds, notes and bills, and US Municipal bonds.

Trade US Corporate Bonds **753**

Trade Treasuries **755**

Trade US Municipal Bonds **756**

Trade US Corporate Bonds

Use the US Corporate Bonds scanner to find contracts to add to your trading page.

Undrlyng	Description	Exchange / Key	Ratings / TIF	Bid Size / Strt Tm	Bid / Exp. Time	Ask / Action	Ask Size / Quantity	Ask Y / Typ
IBM	Stock (NYSE)	SM...		11	128.80	129.23	10	
MSFT	Stock (NASDAQ.NMS)	SM...		6	25.08	25.10	23	
F	Stock (NYSE)	SM...		527	11.46	11.47	27	
US Corporate Bonds								
TSG	Bond 7 7/20 08/01/11 785905...	SMART	CAA1	$100K	101.500	103.500	$20K	3.8
MSFT	Bond 2 19/20 06/01/14 59491...	SMART	AAA	$500K	104.354	104.607	$25K	1.7

Add corporate bonds market data to your trading page

1. Enter an underlying symbol and hit enter, then select the *Bond* instrument from the selection list.
2. In the Contract Selection box, use the Maturity date, Issue Date and Coupon filter lists to narrow your display choices.
3. Select the contract(s) from the right pane and click **OK**.

If you want to add multiple contracts with different maturities, click **Add** instead of OK. This will add the selected contracts to your trading screen and then allow you to select a different maturity date and add more contracts. Click OK to close the box.

Market data for the bond is displayed on the trading page. The following information is noted in the Description field of the market data line:

Instrument type - For treasuries. Labeled as bond, note, or bill.
Coupon - the interest rate used to calculate the amount you will receive as interest payments over the course of a year.
Maturity date - the date on which the issuer must repay the face value of the bond.
CUSIP number - a nine-character ID for a specific security.
Bond rating - Identifies the credit rating of the issuer. A higher credit rating generally indicates a less risky investment. The bond ratings are from Moody's and S&P, respectively.

Note: To see contract details, double-click on a market data line.

Trade corporate bonds

1. Click the Ask to create a BUY order; click the Bid to create a SELL order.
2. Click “T” to transmit the order.

   Note: Place a non-marketable limit order that meets or exceeds the best quote and your order will be included in the market data shown to other IB customers.

Trade Treasuries

Once you have subscribed to bond market data via Account Management, you can enter data and trade t-bonds, t-bills and t-notes.

To trade treasuries

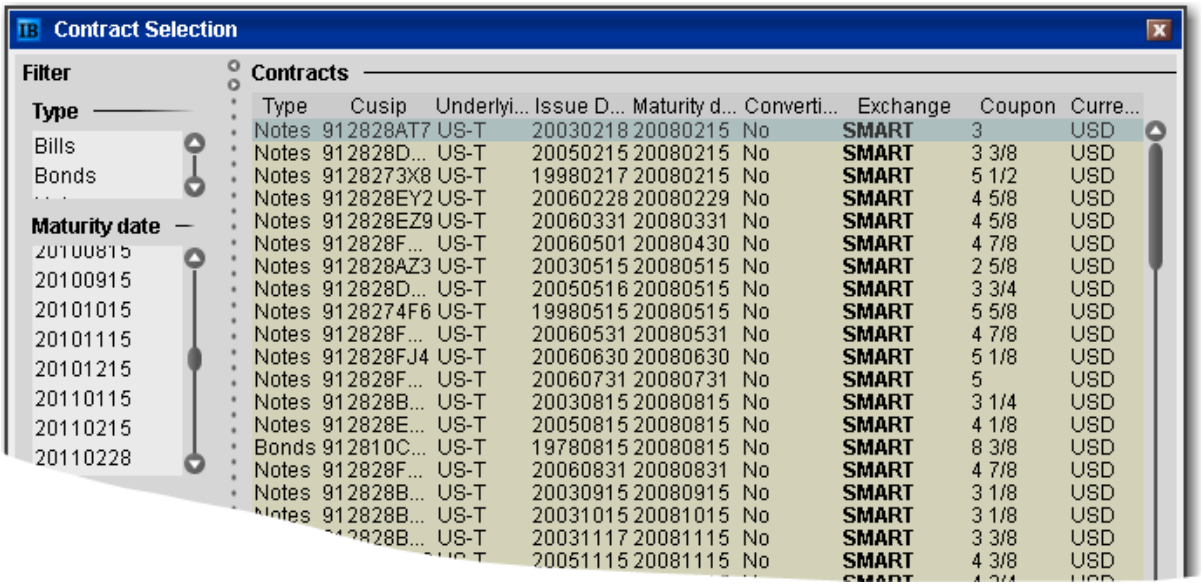
1. Add market data for treasuries
   1. Click the **Treasuries** icon on the Trading toolbar, or use the **Edit** menu and select *Treasury Bond Selector*.

   2. In the Contract Selection box, use the Type list in the left pane to choose Bills, Bonds or Notes.

   3. Filter your contracts using the Maturity date, Issue Date and Coupon filter lists.

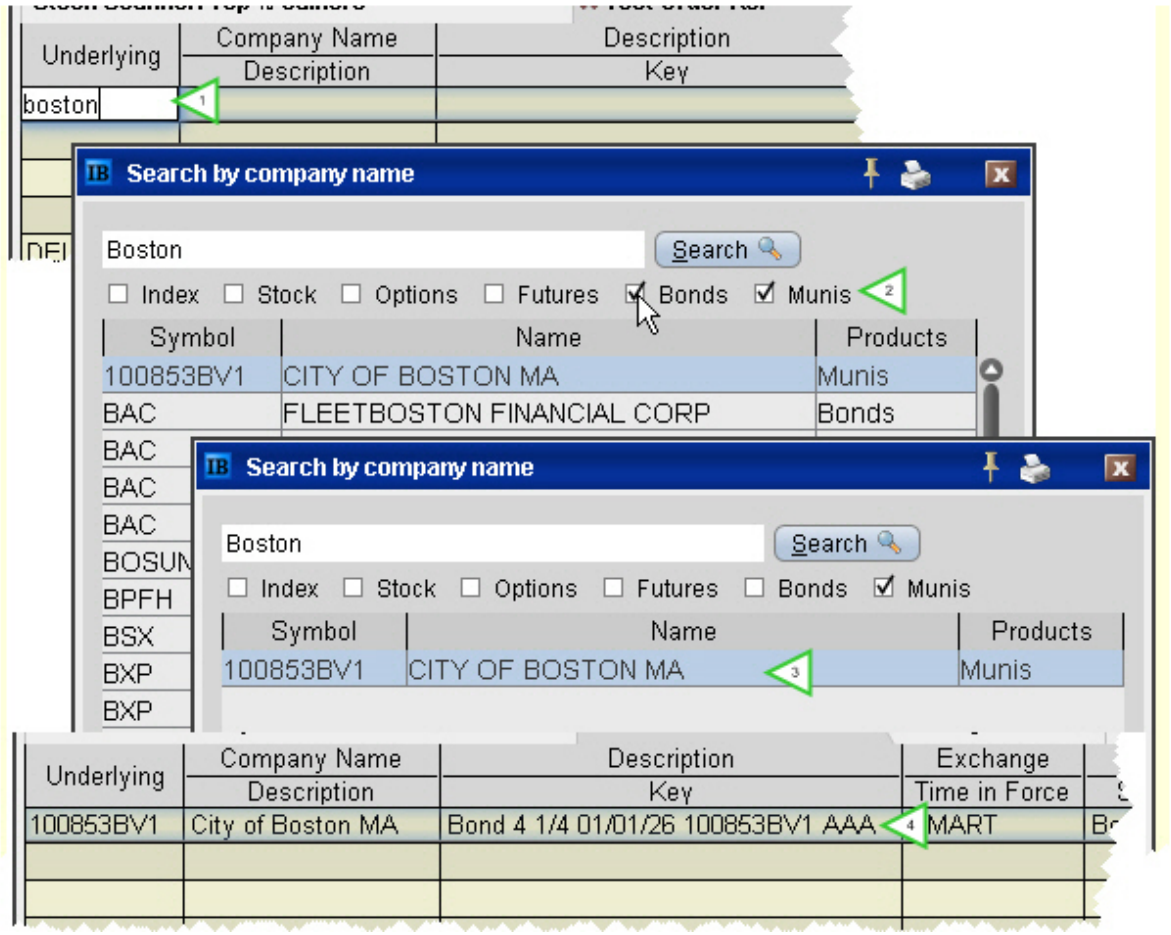
   4. Select the contract(s) from the right pane and click **OK**.

   If you want to add multiple types of treasuries to your screen, click **Add** instead of OK. This will add the selected contracts to your trading screen and then allow you to select a different type and add more contracts. Click OK to close the box. to your trading page.
2. Click the Ask to create a BUY order, click the Bid to create a SELL order.



Trade US Municipal Bonds

US residents can trade municipal bonds in TWS



Add muni bond market data to your trading page

1. In the **Underlying** field, enter the municipality name, for example *Boston*.
2. From the list of results, uncheck all asset types except munis.
3. Select the muni bond(s) from the remaining results and click OK.
4. The muni data is added to your trading window.

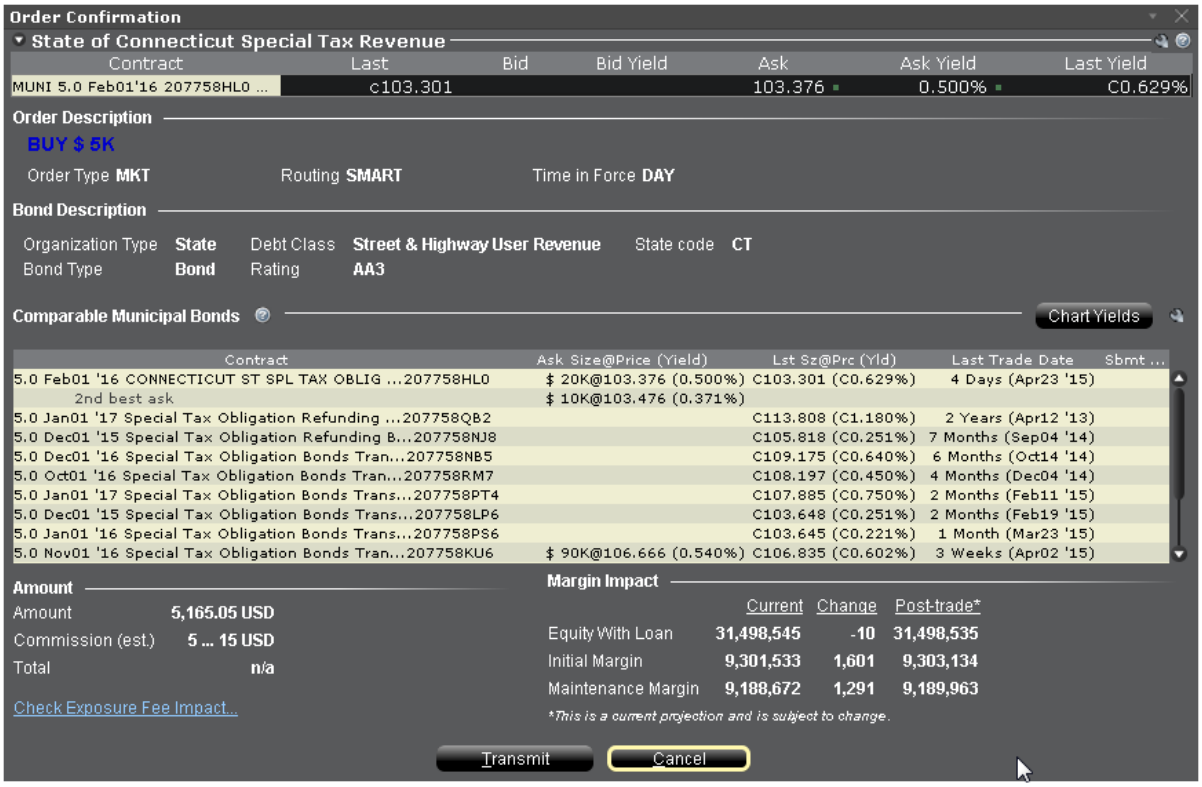
Note: Add the **Company Name** field to your page layout to see the municipality name. The Underlying field only displays the CUSIP.

Trade muni bonds

1. Click the Ask to create a BUY order; click the Bid to create a SELL order.
2. Click “T” to transmit the order.
3. In the Comparable Bonds screen, submit an RFQ, compare your bond to others that are comparable, and transmit your order.

Notes on Comparable Bonds

MSRB Rule G-18 requires each broker, dealer and municipal securities dealer, when executing a transaction in municipal securities for or on behalf of a customer, to make a reasonable effort to obtain a price for the customer that is fair and reasonable in relation to prevailing market conditions. Since IB customers enter orders to buy and sell municipal bonds into an automated system, the system is designed to provide the relevant information regarding each security that a customer is considering trading.



IB's Best Execution policy is designed to attempt to get two or more quotes for each customer transaction. Because the municipal securities market may be extremely illiquid, two quotes may not be available for a specific security and the currently available quotes may not reflect the

best possible price. Therefore, in addition to providing the customer with quotes and comparable prices for the specific bond chosen by the customer, IB provides quotes and prices for comparable bonds as a comparison and also provides a facility to place a request for a quote (RFQ) on a specific bond that the customer selects. After reviewing and evaluating the prices for comparable securities, in addition to the specific security that they have requested, customers can transmit an order for the municipal bond of their choice.

To qualify as “comparable” to your target bond for price comparison, a bond must meet all of the following criteria:

- It must have the same organization type, bond type, debt class and rating as the target bond.
- It must have identical watch list status as the target bond (either “none”, or “marked for upgrade” or “marked for downgrade”).
- The difference between the target bond's coupon rate and the associated bond's rate must be 50 basis points or less.
- The difference in maturity date between the target bond and the associated bond must be one year or less.

Trade Mutual Funds

Choose a fund and trade from the trading window or the Order Ticket.

Before you can trade funds, you must upgrade your trading permissions. To access Account Management, on the **Account** menu select *Account Management Home*. Under **Trading Access** select *Trading Configuration.* In the Trading Permissions section of the page, check **Mutual Funds**.

To trade a fund

1. Add fund contracts to your trading window.
   a. Click the **Mutual Funds** icon from the trading toolbar, or from the **Edit** menu select *Mutual Fund Selector*.
   b. In the **Contract Selection** box, select a fund family in the left pane, and then choose the contract(s) you want to trade in the right pane. Click OK.

Data for funds only appears in the Last or Close price fields. Mutual funds are accumulated throughout the day and transmitted to the funds at 15:59 for pricing.

2. From the trading window, click the *Bid* field for a sell order and the *Ask* field for a buy order.

> *For a Sell order, enter the number of shares you want to sell in the Quantity field. For a Buy order, enter a dollar value in the price field. The number of shares purchased is calculated after the funds are priced.*

3. Click “T” to transmit your order.

Buy orders are entered in dollars. Sell orders can only be entered in shares. Mutual funds can only be submitted as Market orders as they are priced once per day after the market closes.

For more details on mutual funds and to access electronic prospectuses, see the Funds product page.

Trade FX from the Trading Window

If you have a multi-currency margin account, you can trade domestic and foreign securities and currencies from the same account.

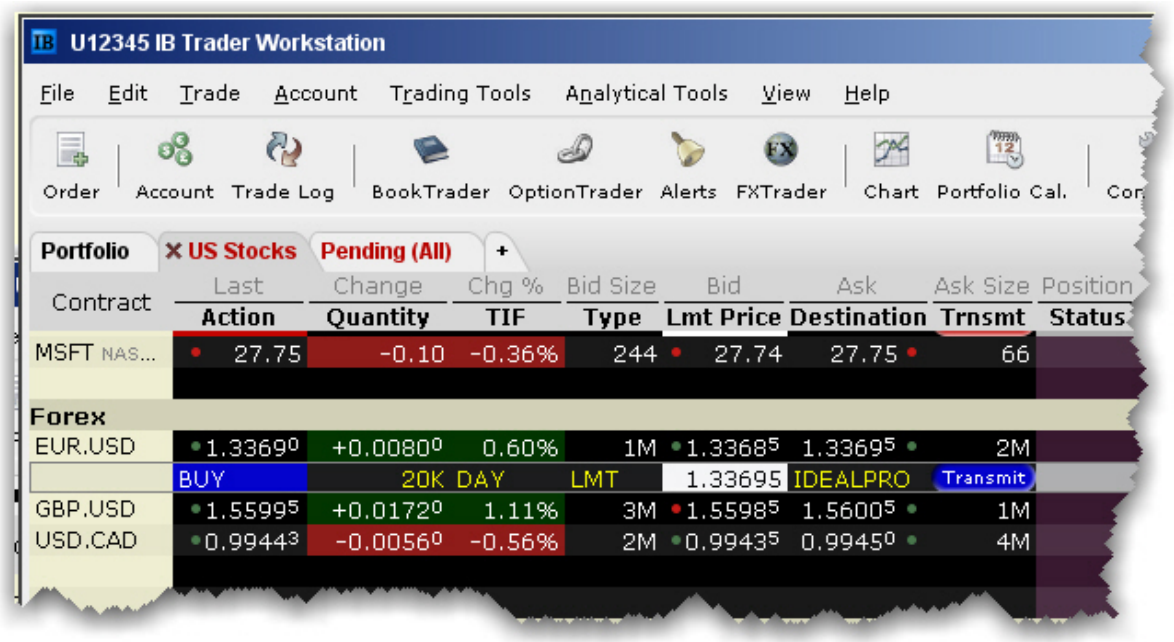
To use FXTrader for trading FX, see the FXTrader topic.

To trade FX from the trading window

1. Add a market data line using the traded currency pair.

   To add a primary pair, simply enter the symbol using the syntax xxx.yyy, for example EUR.USD.

2. Select the instrument type Forex, and choose the trading currency.



Example 1

If you want to buy/sell a specific amount of GBP, set up the market data line by entering the symbol GBP (as the transaction currency) and selecting Forex as the instrument type. In the

Contract Selection box, choose USD as the Currency (settlement currency) from the list in the right pane. Or simply enter GBP.USD. You will then receive the quote GBP.USD, with the Bid: 1.5598 Ask: 1.5600. This means that GBP 1 = USD 1.56XX

To buy GBP 10,000, click on the ask and enter 10,000 as the quantity of GBP that you wish to buy. You will pay $1.5600 for each GBP.

To sell GBP 10,000, click on the bid and enter 10,000 as the quantity of GBP that you wish to sell. You will receive $1.5598 for each GBP.

Example 2

If you want to buy/sell a specific amount of USD, set up the market data line by entering the symbol USD (as the transaction currency) and selecting Forex as the instrument type. In the Contract Selection box, choose GBP as the Currency (settlement currency) from the list in the right pane. You will then receive the quote USD.GBP, with the Bid: 0.5950 Ask: 0.6230. This means that USD 1 = GBP 0.62XX

To buy USD 10,000, click on the ask and enter 10,000 as the quantity of USD that you wish to buy. You will pay GBP 0.6230 for each USD. Thus, you will pay GBP 6,230.

To sell USD 10,000, click on the bid and enter 10,000 as the quantity of USD that you wish to sell. You will receive GBP 0.5950 for each USD. Thus, you will receive GBP 5,950.

For more details, see the Forex Products pages on the IB website.

7

Realtime Activity Monitoring

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The Account Window

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The Account Window

The Account window lets you monitor every aspect of your account activity. We present "key" account values as the default when you first open the Account window (this default view is shown in the illustration below). The account window conveys in real-time the funds you have available for additional trades and current margin projections.

To open the Account window

From the Mosaic Monitor tile, select the Portfolio tab and click the Account button in the upper right corner.

The Account screen is divided into the following sections:

Balances, which shows your account balances for securities, commodities and in total. These balances don't include margin requirements.

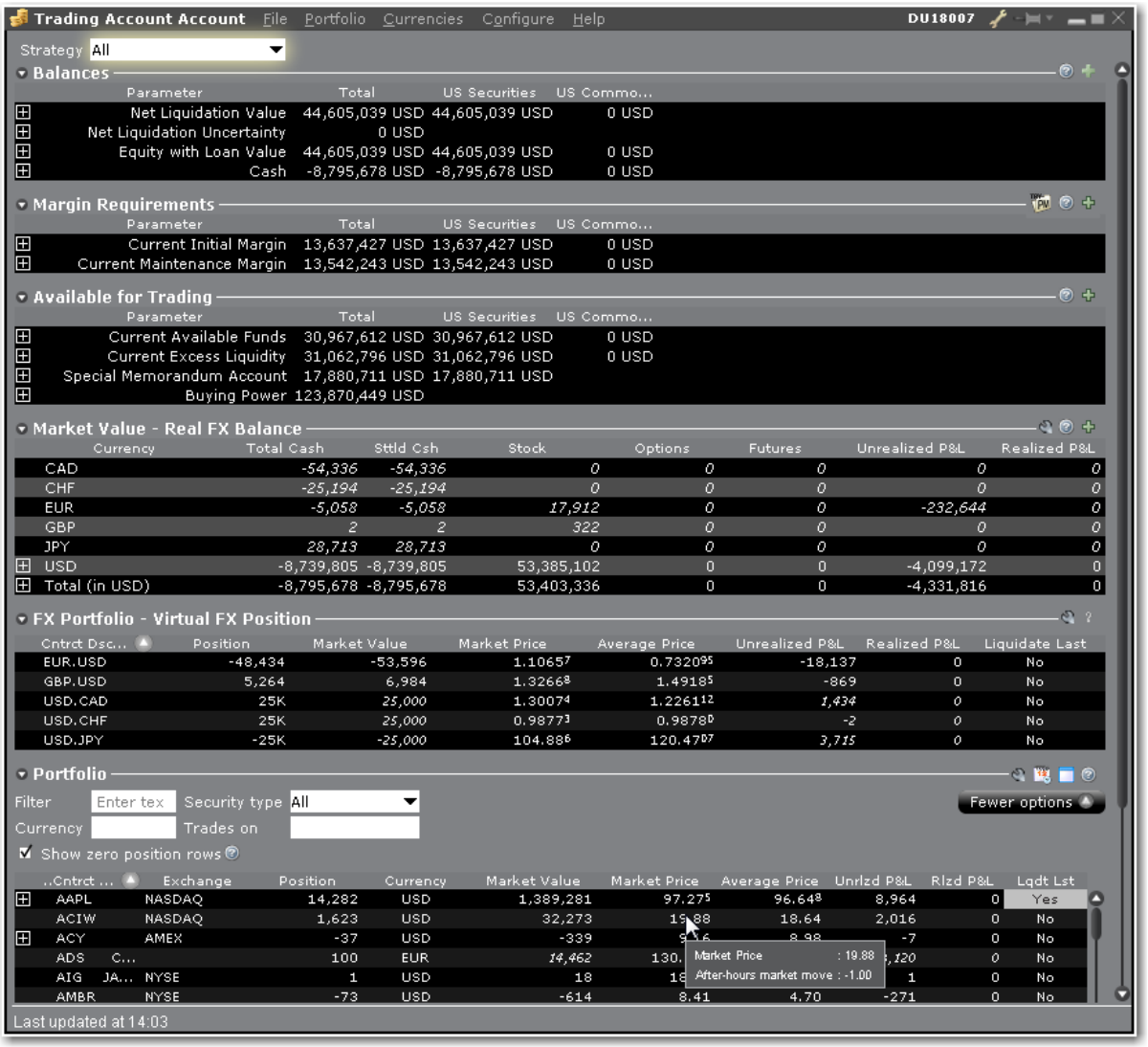
Margin Requirements, which shows your current initial and maintenance margin requirements based on your current positions. *Customers under the Reg T margin model can compare their current margin to current projected requirements under the Portfolio Margin model by clicking the Try PM icon.*

Available for Trading, which tells you what you have for additional trades and cushion before liquidation, based on your balance information and margin requirements.

Market Value - Real FX Position, which shows the total value of all positions, sorted by currency.

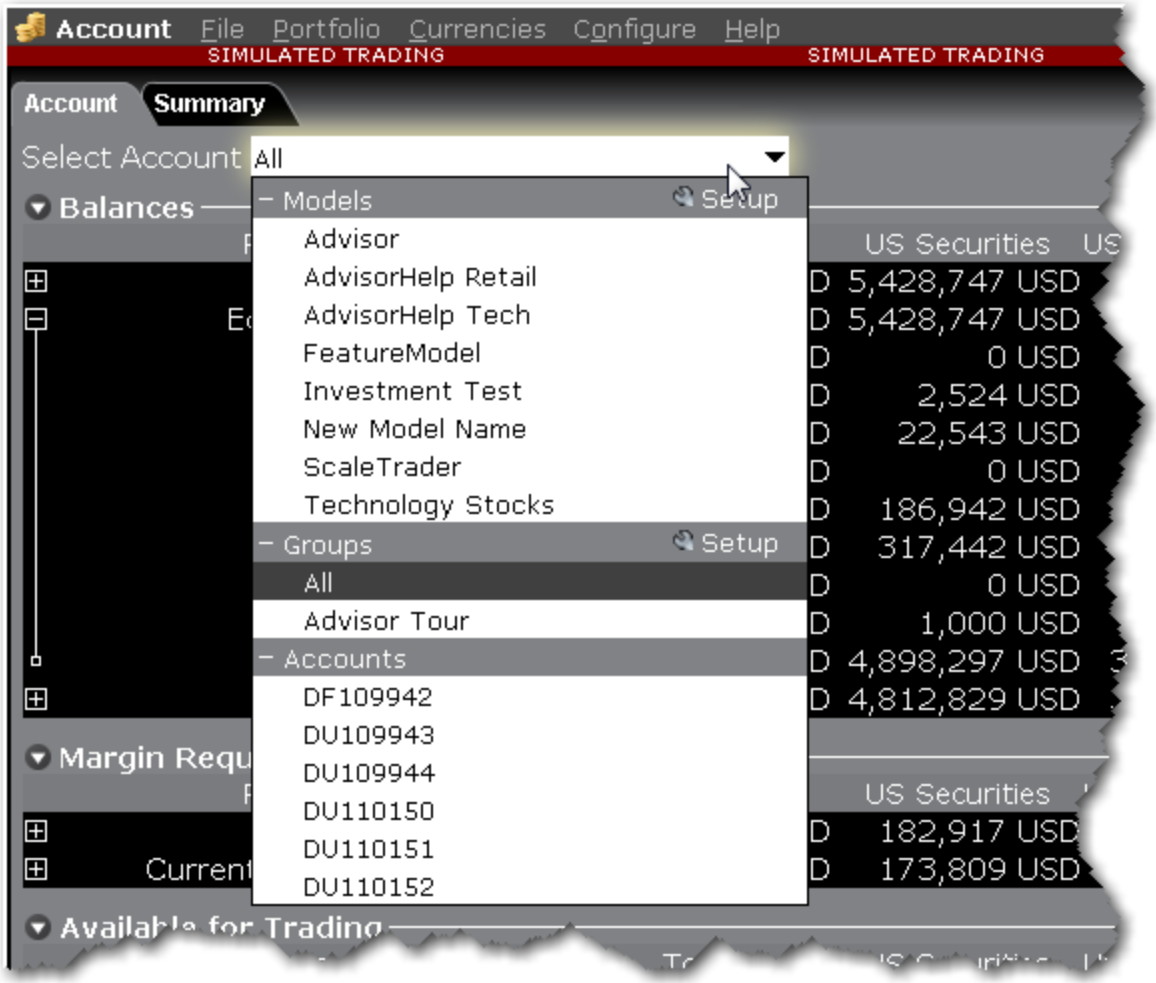
FX Portfolio - Virtual FX Position, which shows activity for currency pair trades only. The value in the Position field only reflects trades executed in the FX market. Please note that these may not reflect real-time FX positions, since non-base currency conversions may also be included.

Portfolio, which lists all current positions sorted by underlying, and displays the total current market value for each position.

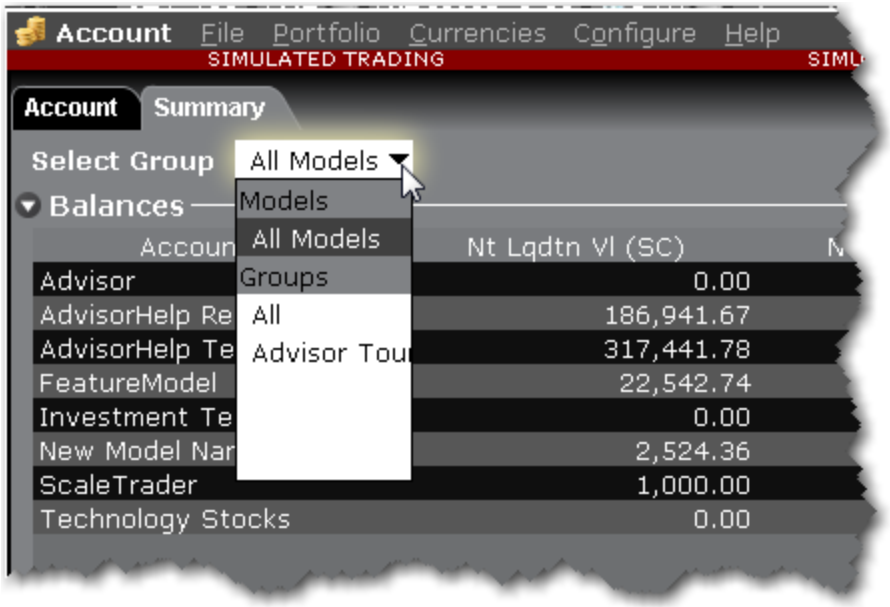


Advisors and other multi-client account holders will see a drop-down selection on the *Account* and *Summary* tabs to select either an individual account or an account group.

On the Account page, elect to display account information for All accounts, any individual account including the Master, or a user-defined Account Group, which includes a subset of accounts (in the image below, **Advisor Tour** is a user-defined account group).



On the Summary page, choose to view the account summary for Models, Groups or ALL.



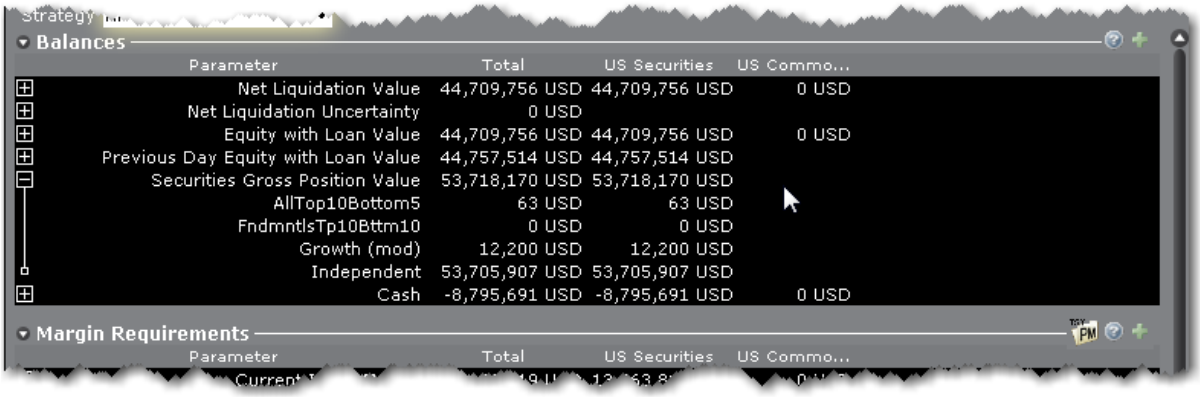
Advisors can also print the summary page by selecting *Print Summary* from the **File** menu.

Balances

The Balances section shows your account balances for securities, commodities and in total. These balances don't include margin requirements.

To view all *Balances* values, expand the section using the green plus (+) sign. To customize this view to show only the values you want to see, put a check next to these parameters and click the green minus (-) sign to contract the section.

If you have strategies or models, view them by expanding a line, or use the drop-down selector to view values only for a selected model/strategy.



Values in the Balances section include:

Parameter	Securities	Commodities
Net Liquidation Value	Total cash value + stock value + securities options value + bond value + fund value.	Total cash value (which includes futures P&L) + commodities options value.
Net Liquidation Uncertainty (957 and higher)	Displays the uncertainty of the Net Liquidating Value associated with after-hours price changes.	
Equity with Loan Value	**Cash Account:** Settled Cash. **Margin Account:** Total cash value + stock value + bond value + fund value + European & Asian options value.	**Cash Account:** Total cash value + commodities option value - futures maintenance margin requirement + minimum (0, futures P&L). **Margin Account:** Total cash value + commodities option value - futures maintenance margin requirement.
Previous Day Equity with Loan Value	Marginable Equity with Loan Value as of 16:00 ET the previous day.	Not applicable.
Reg T Equity with Loan Value	**Cash Account:** Settled Cash. **Margin Account:** Total cash value + stock value + bond value + fund value + non-U.S. & Canadian securities	**Cash Account:** Total cash value + commodities option value - futures maintenance margin

	options value + accrued interest + accrued dividend.	requirement + minimum (0, futures P&L). **Margin Account:** Total cash value - futures maintenance margin requirement.
Special Memorandum Account If this values falls below zero at the end of the trading day, positions will be liquidated.	A special account associated with a Reg T Margin account that is maintained for the purpose of applying Federal Regulation T initial margin requirements at the end of the trading day. Max ((EWL - US initial margin requirements)*, (Prior Day SMA +/- change in day's cash +/- US initial margin requirements** for trades made during the day.)) *calculated end of day under US Stock rules, regardless of country of trading. **at the time of the trade	Not applicable.
Securities Gross Position Value (GPV)	Equals the sum of the absolute value of all positions except cash, index futures and US treasuries. Value of a position is price * size * multiplier	
Cash	Settled cash + sales at the time of trade + futures P&L	Settled cash + sales at the time of trade + futures P&L

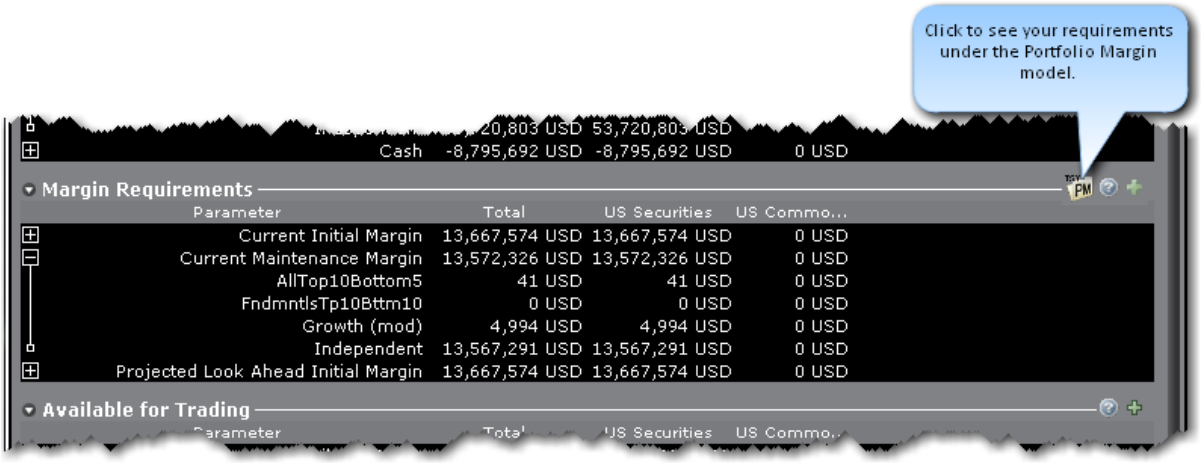
Settled Cash	Cash recognized at the time of settlement - purchases at the time of trade - commissions - taxes - fees. Stock Settlement: Trade date + 3 days Options Settlement: Trade date + 1 day	Same as for Securities. Futures Settlement: Trade date + 1 day
Accrued Interest	Interest that has accumulated but has not been paid or charged.	Same as for Securities.
Dividend Payables	*Dividends in Lieu* that must be paid by the holder of a short position.	

Margin Requirements

Use real-time margin monitoring to see your current margin requirements at a glance, and to understand the margin implications of any transaction before you transmit an order.

To view real-time margin requirements

1. From the **Account** menu, select *Account Window*.
2. The Account Information window shows your account details, including the current market value and portfolio.
3. Use the *Margin Requirements* section to monitor your margin.



To check projected margin requirements under the Portfolio Margin model, click the *Try PM* icon. Portfolio Margin uses a risk-based model that may result in lower margin for balanced portfolios with hedging positions. Existing customers can upgrade to a Portfolio Margin account via Account Management.

See how to check your margin requirements before you submit an order using the Check Margin feature.

Margin Warning

To help you stay on top of your margin requirements, we provide pop-up messages and color-coded account information to notify you that you are approaching a serious margin deficiency. TWS will highlight the row whose value is in the distress state. The colors on your account screen tell you the following:

Yellow - You have only a 5% cushion above the margin requirement.

If your account equity moves rapidly from a greater than 5% cushion to a margin violation, your positions may be liquidated without you receiving a yellow warning.

Orange - Your margin cushion is depleted and you have a short time to enter into margin-reducing trades before your positions are liquidated. At this point you will not be able to enter into any trades that might increase your margin.

Red - Your positions will shortly start to be liquidated as necessary to bring your account back within the margin limits.

The following table defines the fields available in the Margin Requirements section.

Parameter	Securities Account	Commodities Account
Reg T Margin	**Initial margin requirements calculated under** US Regulation T rules.	**Initial margin requirements calculated under** US Regulation T rules.
Current	Initial margin requirement in the	Initial margin requirement in the

Initial Margin	base currency of the account. The initial margin requirement is what is required to open a new position.	base currency of the account. The initial margin requirement is what is required to open a new position.
Post-Expiry Margin @ Open (predicted)	Provides a projected "at expiration" margin value based on the soon-to-expire contracts in your portfolio. Value displays at expiration and are highlighted in red. All other times the value is "0". The projected value in this field includes the anticipated account value including the expiring contract. To see just the projected margin and excess liquidity value for the expiring contract, double click the entry.	Provides a projected "at expiration" margin value based on the soon-to-expire contracts in your portfolio. Value displays at expiration and are highlighted in red. All other times the value is "0". The projected value in this field includes the anticipated account value including the expiring contract. To see just the projected margin and excess liquidity value for the expiring contract, double click the entry.
Current Maintenance Margin	Maintenance margin requirement in the base currency of the account. This is the value required to maintain your current positions.	Maintenance margin requirement in the base currency of the account. This is the value required to maintain your current positions.
Projected Look Ahead Initial Margin	Projected initial margin requirement as of next period's margin change in the base currency of the account.	Projected initial margin requirement as of next period's margin change in the base currency of the account based on current margin requirements, which are subject to change. This value depends on

		when you are viewing your margin requirements. If it is 3:00 pm ET, the next calculation you're looking ahead to is after the close, or the Overnight Initial Margin. If it's 3:00 am ET, the next calculation will be at the market's open.
Projected Look Ahead Maintenance Margin	Projected maintenance margin requirement as of next period's margin change, in the base currency of the account.	Maintenance margin requirement as of next period's margin change in the base currency of the account based on current margin requirements, which are subject to change. This value depends on when you are viewing your margin requirements. If it is 3:00 pm ET, the next calculation you're looking ahead to is after the close, or the Overnight Initial Margin. If it's 3:00 am ET, the next calculation will be at the market's open.
Projected Overnight Initial Margin	Projected overnight initial margin requirement in the base currency of the account.	Overnight initial margin requirement in the base currency of the account based on current margin requirements, which are subject to change.
Projected Overnight Maintenance	Projected overnight maintenance margin requirement in the base currency of the account.	Overnight maintenance margin requirement in the base currency of the account based on current

Margin		margin requirements, which are subject to change.

Please see the Margin Overview page on the IB website for details on margin calculations and soft-edge margining.

Available for Trading

The Available for Trading values show you the state of your account at a glance. Your Available Funds tells you if you can put on a trade. Your Excess Liquidity tells you whether you have sufficient cushion to maintain your current positions, your Buying Power tells you how much you have at your disposal including your equity and IB's margin.

To view all *Available for Trading* values, expand the section using the green plus (+) sign. To customize this view to show only the values you want to see, put a check next to these parameters and click the green minus (-) sign to contract the section.

If you have strategies or models, view them by expanding a line, or use the drop-down selector to view values only for a selected model/strategy.

The following table defines the fields available in the *Available for Trading* section.

Parameter	Securities Account	Commodities Account
Current Available Funds	Equity with Loan Value - Initial margin.	Net Liquidation Value - Initial Margin

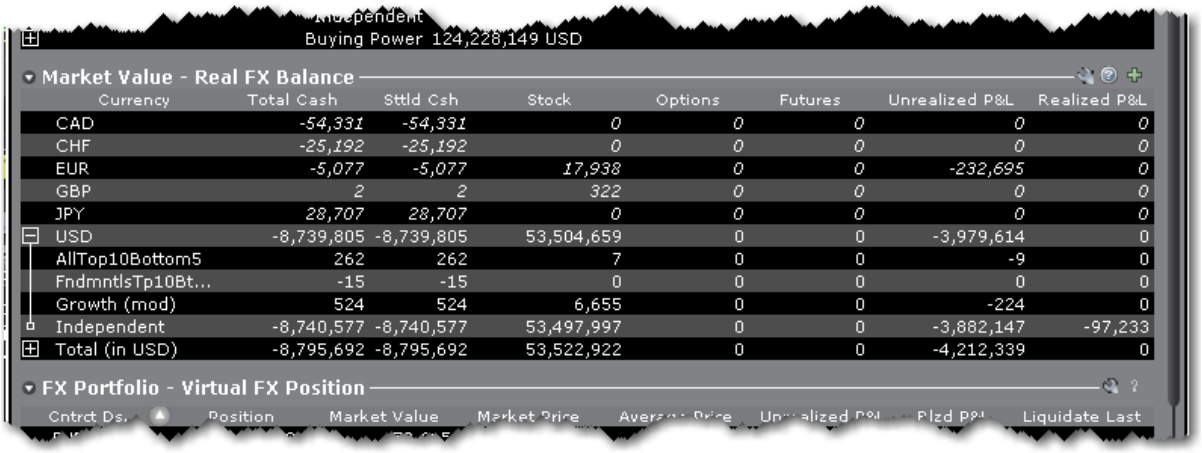
	This value tells what you have available for trading.	
Current Excess Liquidity	This value shows your margin cushion, before liquidation. Equity with Loan Value - Maintenance margin.	Net Liquidation value - Maintenance margin.
Post-Expiry Excess (predicted)	Provides a projected "at expiration" excess liquidity value based on the soon-to-expire contracts in your portfolio. Value displays at expiration and are highlighted in red. All other times the value is "0". The projected value in this field includes the anticipated account value including the expiring contract. To see just the projected margin and excess liquidity value for the expiring contract, double click the entry.	Provides a projected "at expiration" excess liquidity value based on the soon-to-expire contracts in your portfolio. Value displays at expiration and are highlighted in red. All other times the value is "0". The projected value in this field includes the anticipated account value including the expiring contract. To see just the projected margin and excess liquidity value for the expiring contract, double click the entry.
Special Memorandum Account	Line of credit created when the market value of securities in a Reg. T account increase in value. See the Knowledge Base for details.	N/A
Look Ahead Available Funds	This value reflects your available funds at the next margin change. The next change is displayed in the *Look Ahead Next Change*	Net Liquidation value - Look ahead Initial margin.

	field. Equity with loan value - look ahead initial margin.	
Look Ahead Excess Liquidity	Equity with loan value - look ahead maintenance margin.	Net Liquidation value - look ahead maintenance margin.
Overnight Available Funds	Same as during regular trading hours.	Net Liquidation value - Overnight Maintenance margin
Overnight Excess Liquidity	Same as during regular trading hours.	Net Liquidation value - Overnight Maintenance margin.
Buying Power	**Cash Account**: Minimum (Equity with Loan Value, Previous Day Equity with Loan Value)-Initial Margin **Standard Margin Account**: Minimum (Equity with Loan Value, Previous Day Equity with Loan Value) - Initial Margin *4	Not applicable for futures.
Leverage	Gross Position Value/Net Liquidation.	Same.
Look Ahead Next Change	Shows you when the next margin period will begin.	Same.
Day Trades Left	Number of day trades still available for 4-day pattern day trader period.	Not applicable for futures.

Market Value - Real FX Position

The Market Value section shows you total value for all assets sorted by currency. Accounts with the ability to transfer between brokers will also have an *In Transit* tab to monitor DVPs and other position transfers.

If you have strategies or models, view them by expanding a line, or use the drop-down selector to view values only for a selected model/strategy.



The following table defines the fields in the Market Value section. Note that not all available fields are displayed in the above image.

Parameter	Description
Currency	Open positions are grouped by currency.
Total Cash	Cash recognized at the time of trade + futures P&L. This value reflects real-time current FX positions, including: • Trades executed directly through the FX market • Trades executed as a result of automatic IB conversions, which occur when you trade a product in a non-base currency, • Trades deliberately executed to close non-base currency positions using the FXCONV destination.

Settled Cash	Total cash that has settled + futures P&L.
Accrued Interest	Reflects the current month's accrued debit and credit interest to date, updated daily.
Stock	Real-time mark-to-market value of stock.
Options	Real-time mark-to-market value of securities options.
Futures	Real-time change in futures value since last settlement.
FOPs	Real-time mark-to-market value of futures options.
Funds	Current funds balance.
Exchange Rate	The currency exchange rate to the base currency.
Net Liquidation Value	Total cash value + stock value + options value + bond value.
Unrealized P&L	The difference between the current market value of your open positions and the average cost, or **Value - Average Cost**.
Realized P&L	Shows your profit on closed positions, which is the difference between your entry execution cost and exit execution cost, or **(execution price + commissions to open the position) - (execution price + commissions to close the position)**.

FX Portfolio - Virtual FX Position

This section is designed to show activity for currency pair trades for FX traders so that they can track average cost and running P&L on their currency trades. However the "Position" value may reflect the sum of trades executed in the FX market along with currency conversions to change non-base funds into your base currency.

Consequently these “virtual” positions do not necessarily reflect an actual cash balance in any currency.

For actual, real-time currency balance, check the *Total Cash* field of the Market Value section.

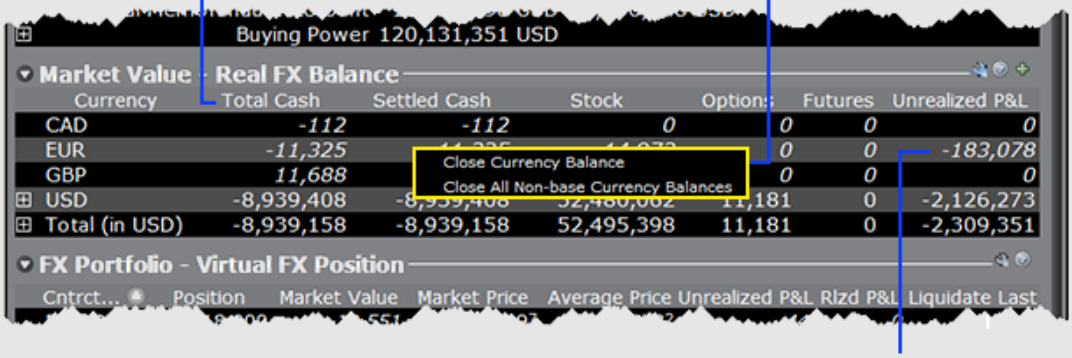
To avoid having currency conversions reflected in this panel, use the FXCONV destination on the order line.

When the FX Portfolio panel is displayed, currency positions will also be displayed in the trading window. To remove currency positions from display, condense the FX Portfolio panel by clicking the arrow to the left of the panel title.

Monitor Currency Balances and Virtual FX Positions

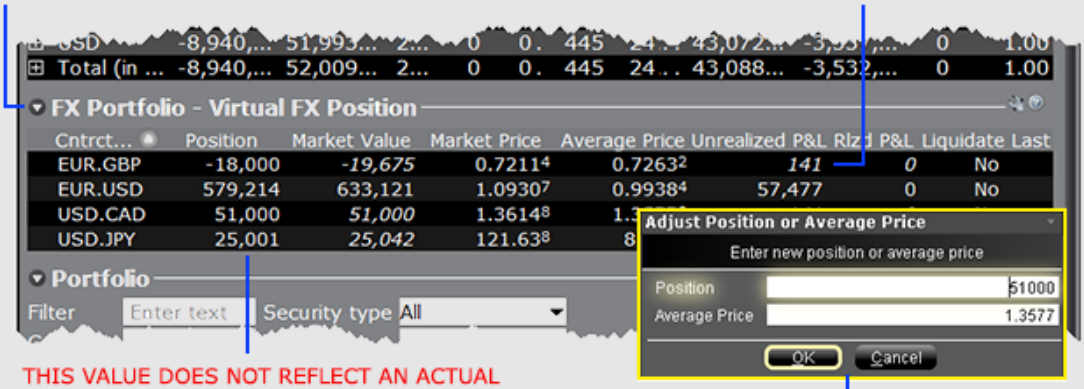
Total Cash displays actual currency balances in real time resulting from FX trades, currency conversions, and residual cash from trades made in a non-base currency

Right-click a currency line to close out a balance, or choose to close all non-base balances



If the *FX Portfolio - Virtual FX Position* panel is expanded, currency pair positions will be shown in TWS; if condensed (click down arrow) these positions will not be shown in TWS

Italicized values indicate that they are being shown in your base currency, for display purposes, per the selected checkbox in the Display > Ticker Row section of Global Configuration



THIS VALUE DOES NOT REFLECT AN ACTUAL CASH BALANCE IN ANY CURRENCY.

The value represented by the virtual FX Position expresses the relationship between two currencies in a contract-style view designed for FX traders, which allows tracking of average cost along with a running P&L.

To zero out or modify a virtual FX position (for example to remove an inadvertent currency conversion) right-click and select *Adjust Position or Average Price*, enter the new value(s) and click OK

Orders routed to FXCONV are considered currency conversions to exchange one currency for another, and are not reflected in the *Virtual FX Position* panel

FX pairs trades routed to the default IDEALPRO exchange are reflected in the *Virtual FX Position* panel

Watch a short video that explains our dual FX display.

Parameter	Description
Contract description	Symbol and description.
Exchange	An exchange on which the pair trades. This may not be the executing exchange for the trade.
Position	The sum of trades executed in the FX market for the selected currency pair.
Unsettled Position	Unsettled currency trades.
Currency	Currency used to buy/sell the FX pair.
Market Value	(Position) x (market price).
Market Price	Real-time price of the position.
Average Price	Average price per contract.
Unrealized P&L	The difference between the trade price and the market price times position, including commission. *Example*: BUY 20,000 EUR.USD @ 1.54390

	Trade Price = 1.54390 Market Price (current price) = 1.54385 1.54390 – 1.54385 = .00005 .00005 X 20,000 = 1 + 2.5 commission = -3.50 Unrealized P&L
Realized P&L	Realized profit & loss for the pair.
Liquidate Last	Last liquidation "Yes" or "No" tag. If set to "Yes" this position will be put at the end of the queue to liquidate last in the case of margin requirements. To set, use the right-click menu on the desired position. Note: While customers have the opportunity to pre-request the order of liquidation in the event of a margin deficiency in their account, such requests are not binding on IB. In the event of a margin deficiency in customer's account, IB retains the right, in its sole discretion, to determine the assets to be liquidated, the amount of assets liquidated, as well as the order and manner of liquidation. Customers are encouraged to consult the IB Customer Agreement and the IB Disclosure of Risks of Margin Trading for further information.

TWS FX Dual Presentation

In TWS, IB presents currency/FX position data in two different areas of the account window. We separate out your actual currency values, which may result from FX trades, conversions, or trading products in another currency, from your direct FX pair trading activity.

Market Value - Real FX Balances

Your account's actual currency balances are shown in the Market Value – Real FX Balances section of the account window.

FX Portfolio - Virtual FX Position

The FX Portfolio section displays your FX trading activity in currency pairs that is helpful for FX Traders as it allows tracking of a running P&L and average cost. But, it may also reflect “indirect” FX currency conversions designed to close out a non-base currency balance. This view MAY NOT reflect your actual cash balance in any currency. To manage actual currency positions, refer to the Market Value - Real FX Balances section of the account window.

Automated FX Transaction Decision

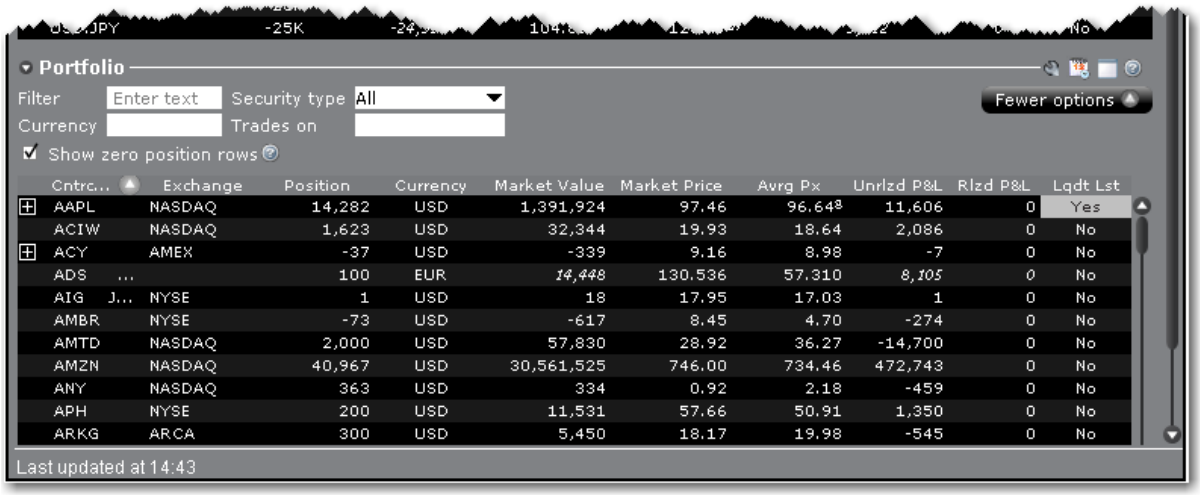
When you submit an FX order, TWS will attempt to identify whether you want an FX pair trade or a currency conversion, based on your positions and balances, and will ask you how you want the currency trade to be considered. If you elect “Currency Conversion,” TWS will create the order to reflect this objective. You submit the order manually, and when the order fills your virtual position in the FX Portfolio section will not be affected. Previously, conversions would affect the virtual position and your only option was to manually adjust the position and cost to negate the completed conversion.

If you prefer to let TWS make this determination without displaying the confirmation box, check *Let TWS make this determination automatically in the future* at the bottom of the confirmation box. When you activate this feature, FX trades will display FXCONV as the Destination. You can change the destination on a per-order basis by selecting IDEALPRO. To enable the message again, activate it from the Messages section of Global Configuration. Note that the order will not be transmitted automatically.

Portfolio

The Portfolio section shows the current value of each position and allows you to mark any position to be liquidated last in the event of a margin call. Accounts with the ability to make transfers between brokers will also have an *In Transit* tab to monitor DVPs and other position transfers.

Please note that TWS displays all FA customer positions in the Account window on a net/aggregate basis.



Cntrc...	Exchange	Position	Currency	Market Value	Market Price	Avrg Px	Unrlzd P&L	Rlzd P&L	Lqdt Lst
AAPL	NASDAQ	14,282	USD	1,391,924	97.46	96.648	11,606	0	Yes
ACIW	NASDAQ	1,623	USD	32,344	19.93	18.64	2,086	0	No
ACY	AMEX	-37	USD	-339	9.16	8.98	-7	0	No
ADS ...		100	EUR	14,448	130.536	57.310	8,105	0	No
AIG J...	NYSE	1	USD	18	17.95	17.03	1	0	No
AMBR	NYSE	-73	USD	-617	8.45	4.70	-274	0	No
AMTD	NASDAQ	2,000	USD	57,830	28.92	36.27	-14,700	0	No
AMZN	NASDAQ	40,967	USD	30,561,525	746.00	734.46	472,743	0	No
ANY	NASDAQ	363	USD	334	0.92	2.18	-459	0	No
APH	NYSE	200	USD	11,531	57.66	50.91	1,350	0	No
ARKG	ARCA	300	USD	5,450	18.17	19.98	-545	0	No

Fields in the Portfolio section include:

Parameter	Description
Filter - Enter a symbol to filter out all other positions from the Portfolio display.	
Security Type - Elect to see all or only one security type.	
Currency - Enter a currency to filter out all other currencies from the Portfolio display.	
Trades on - Enter an exchange or market center to filter out all others from the Portfolio display.	
Show Zero Position Rows - displays a line for all traded contracts even if the position was closed out.	
Contract description	Symbol and description.
Position	Quantity of long/short shares or contracts.
Currency	Currency of the contract.
Market Value	(Position) x (market price).

Market Price	Real-time price of the position.
Average Price	Average cost of stock and securities options opening positions, including commissions. Note: Right click and select *Show all values in base currency* to have TWS convert all non-base currency position values for display in your base currency. Converted values are displayed in *italics* for easy identification.
Unrealized P&L	(Market value of positions) - (average cost).
Realized P&L	(Market value of positions since close of period*) - (average cost for these positions). *Cut-off times for determining realized P&L for transactions are as follows: • 20:30 ET for securities • Two periods for futures: 17:30 ET and 7:10 ET
Liquidate Last	Last liquidation "Yes" or "No" tag. If set to "Yes" this position will be put at the end of the queue to liquidate last in the case of margin requirements. To set, use the right-click menu on the desired position. Note: While IB provides customers the opportunity to pre-request the order of liquidation in the event of a margin deficiency in their account, such requests are not binding on IB. In the event of a margin deficiency in customer's IB account, IB retains the right, in its sole discretion, to determine the assets to be liquidated, the amount of assets liquidated, as well as the order and manner of liquidation. Customers are encouraged to consult the IB Customer

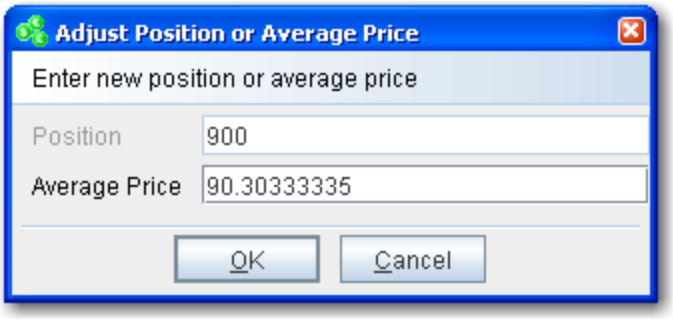
	Agreement and the IB Disclosure of Risks of Margin Trading for further information.

The Right-click Portfolio Menu

If you select an asset in the Portfolio section and click your right mouse button, you will have access to the following menu items.

Parameter	Description
Sort by Security Type	Sort positions alphabetically by security type.
Sort by Current Page	Sort positions based on their location on a trading page.

Order	
Trade	• Buy - Creates a buy order on the trading page for the selected contract. • Sell - Creates a sell order on the trading page for the selected contract. • Close Position - Transmits an appropriately sized opposite-side order to close our the position. • Close All Positions - Transmits multiple opposite-side orders to close out all positions in your portfolio. • Close Portion of Positions - In the text entry box that pops up, enter the percentage which will be used to calculate the size of each position's opposite-side order transmitted.
Transfer	For transfer-capable accounts - initiates a DVP/RVP, CMTA or other transfer.
Create Ticker	Creates a market data line for the contract on the main trading screen.
Adjust Position or Average Price	Only active for Forex positions. Use this feature to enter a hypothetical "new" position and "new" average cost. This feature does not modify your forex positions but lets you create a "what-if" to see total P&L including positions you may hold elsewhere.
Adjust Average Price	Displayed for all products except cash. Select a position and choose Adjust Average Price. Use the dialog box to enter a new position or change the average price to include transfers and corporate actions.

	
Set Liquidate Last	Last liquidation "Yes" or "No" tag. If set to "Yes" this position will be put at the end of the queue to liquidate last in the case of margin requirements. To set, use the right-click menu on the desired position. Note: While IB provides customers the opportunity to pre-request the order of liquidation in the event of a margin deficiency in their account, such requests are not binding on IB. In the event of a margin deficiency in customer's IB account, IB retains the right, in its sole discretion, to determine the assets to be liquidated, the amount of assets liquidated, as well as the order and manner of liquidation. Customers are encouraged to consult the IB Customer Agreement and the IB Disclosure of Risks of Margin Trading for further information.
Unset Liquidate Last	Removes the "Liquidate Last" designation for a position.
Create Portfolio	Creates a trading page called *Portfolio* that includes market data lines for all tickers in your Portfolio.

Page	

The Trade Log

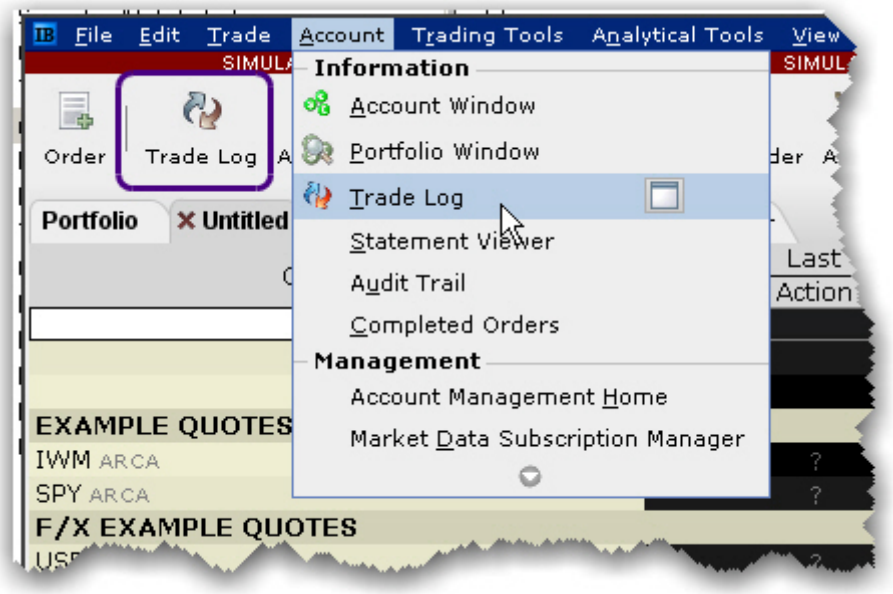
The Trade Log **791**

Trades Summary **797**

The Trade Log

Introduction

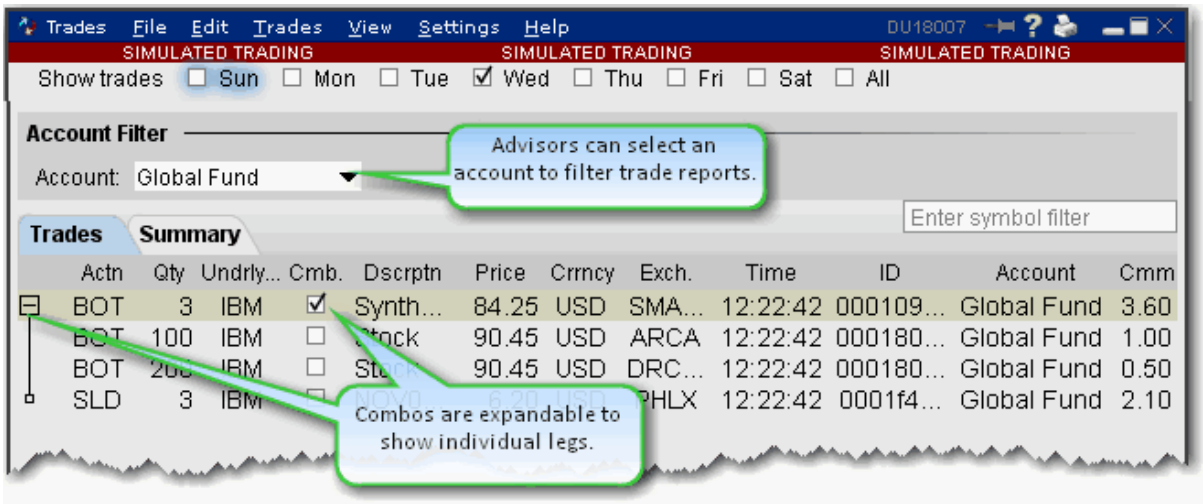
The Trade Log displays reports for daily executions including those completed during after-hours trading.



To see trades

Click the Trade Log icon on the trading toolbar, or from the **Account** menu select *Trade Log*.

Trades Tab



The Trades window has two tabs: *Trades* and *Summary*. Advisors and other multi-client account holders have the option to see trade activity for *All* accounts, an individual account (including the Master) or any user-defined *Account Group*. The account group “Global Fund” is selected in the image above.

To add or remove columns from the Trades tab

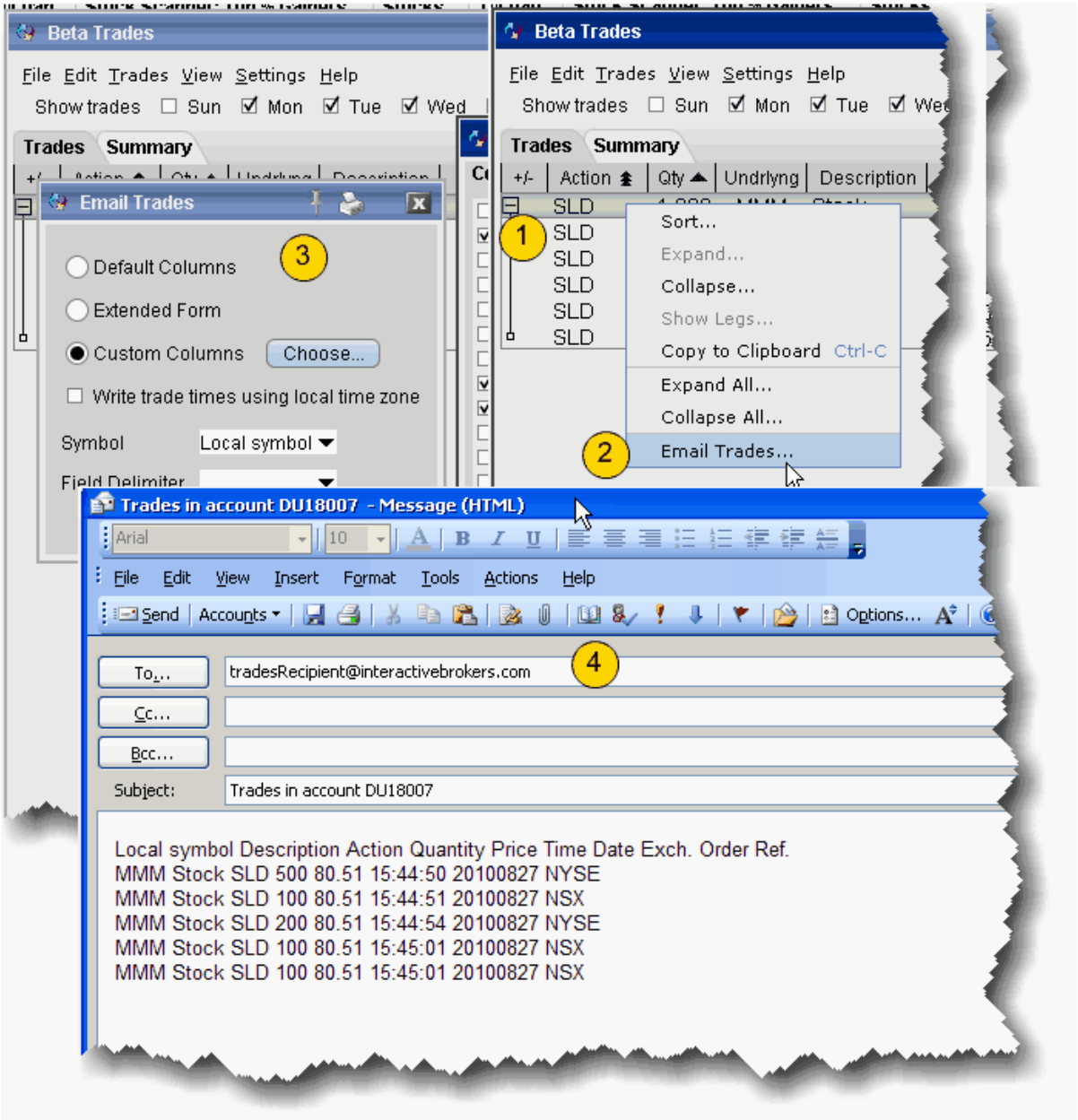
1. Right-click in any column heading and select *Layout*.
2. Check the columns you want to include; uncheck columns you want to hide.

Column Name	Description
Action	The action, either Bought (Bot) or Sold (SLD)
Quantity	The number of units in the trade.
Underlying	The underlying symbol.
Comb	If checked, identifies the trade as a combo trade. Use the “+” sign to expand the combo and view individual legs.

Description	The contract description.
Price	The current market price per unit.
Currency	The currency in which the position is held.
Exchange	The exchange that executed the order.
Date	The execution date.
Time	The execution time.
Order ID	The order ID.
Order Ref	The order reference number as defined by the user on the Order Ticket. For basket orders, this field contains the name of the basket to which the order belongs.
Commissions	Commission charged on the trade.
VWAP Time	For VWAP orders, the time at which the order executed.
Comment	Displays comments relative to the order.
Account	Identifies the beneficial account number.
Confirm	Valid only for Linkage customers.
Submitter	Identifies the order submitter.
Yield	The yield-to-worst. This is the lower of yield to maturity and yields to all calls. The yield is only shown if it is offered on the exchange.
The text along the bottom of the window describes the sort order of fields on the **Trades** tab.	

Email Trade Reports

You can select a group of trades and email them from your default email client. Customize the mail settings to include specific fields and use different delimiters (these separate the data in the list and may need to be changed based on how the recipient intends to use the list).



To email trades

1. From the Trades tab, select the trades you would like to email.
   To select a group of contiguous trades, click on the first trade, hold down the Shift key and click on the last trade in the group.
   To select a group of non-contiguous trades, press and hold the Ctrl key while you click on the desired trade lines.
2. Right-click the trades or group of trades and select *Email trades*.
3. In the configuration box, choose the column layout and other settings for the email.
   Default Columns shows the columns that are on your trades window.
   Extended Form includes all available columns.
   Custom Columns allows you to select the columns to include in the email.
4. Enter the email address(es) of the recipient(s) and send your trade reports.

Export Trade Reports

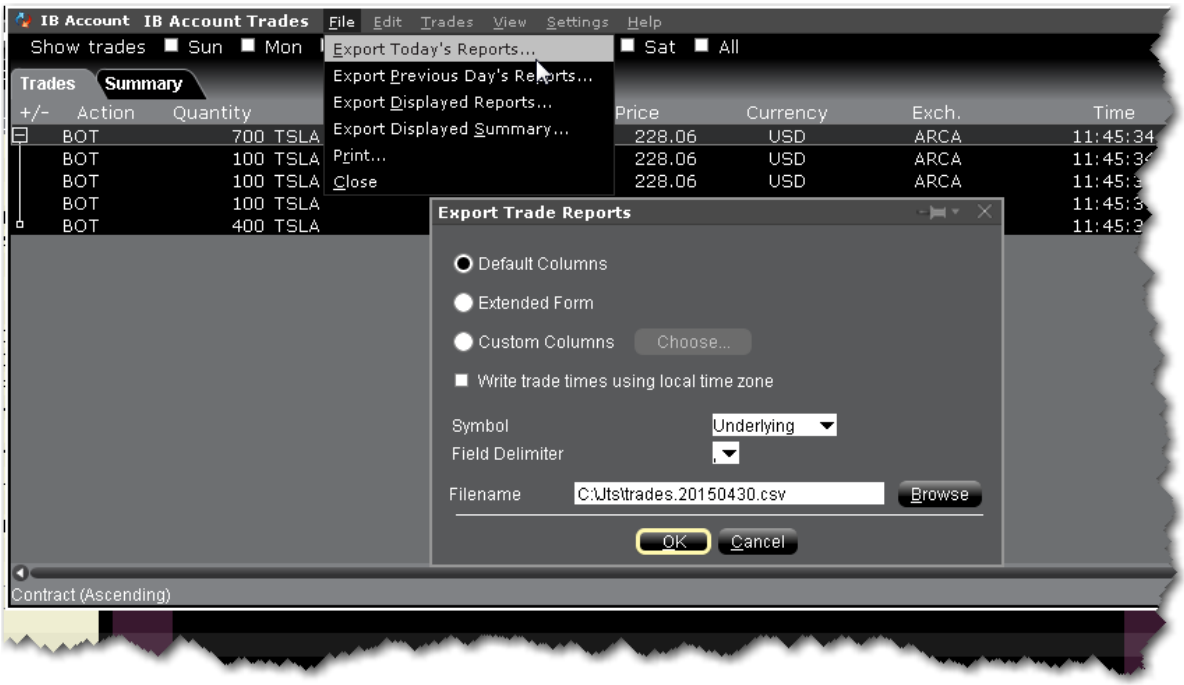
You can export today's and previous days' execution reports to a file which you can then view using MS Excel or another outside application.

To export trade reports

From within Classic TWS:

1. Click the Trade Log icon on the Trading toolbar to open the Trades window.
2. On the **File** menu, select *Export Today's* (or *Previous Day's*) *Reports*.

3. If applicable, select the day's report and click OK.



Default columns will include basic trade report columns in the exported version.

Check *Extended Form* to include the type, expiry, strike, right and premium currency fields on the exported report.

Check *ID* to include the ID field on the report

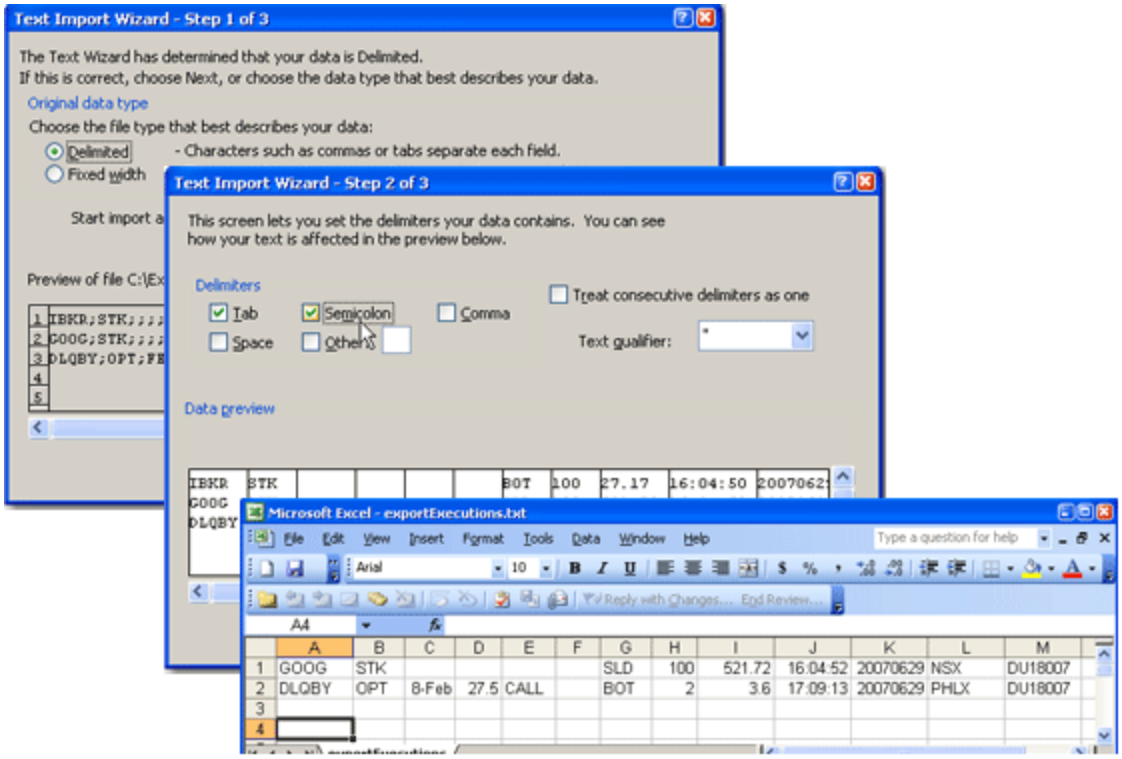
Check *Add Volatility Link* to include the volatility calculation (for Volatility orders).

4. In the Symbol dropdown choose Underlying, Local Symbol or both.
5. If desired, changed the field delimiter (which separates each entry) from a comma to something else. Most users will not need to touch this field.
6. In the **Filename** field, enter the location and filename you want to assign to the report. Note that the report will be saved as a text (.txt) file.
7. Click OK to save the report to an outside directory.

You can open your exported report in a spreadsheet by performing a few simple steps.

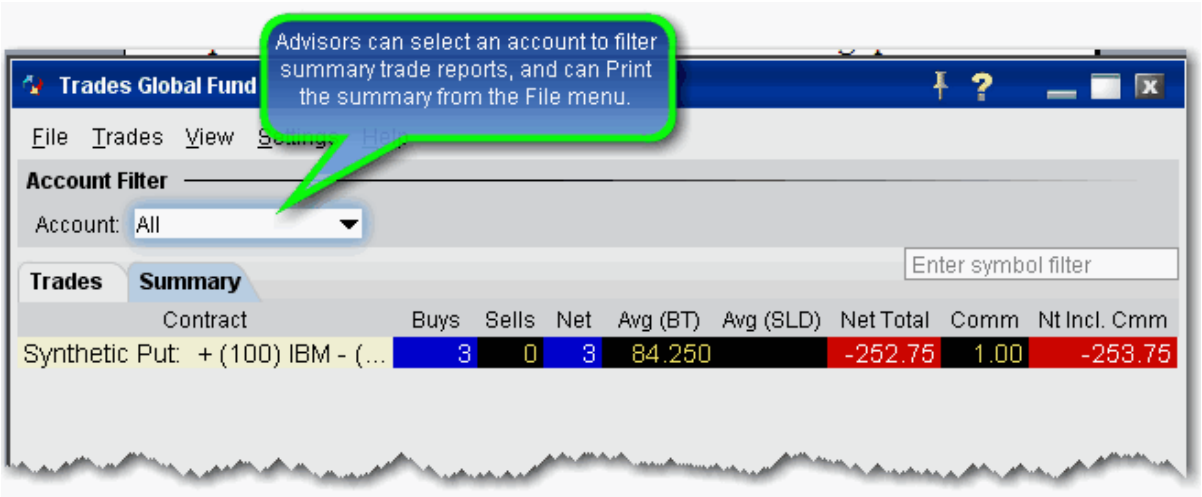
To open your trade report in Excel

1. Open MS Excel and click **File** > *Open*.
2. In the **Files of type** dropdown, select *All Files (*.*)*.
3. Find the location of the .txt executions file you want to open.
4. In the Text Import Wizard, use **Delimited** as the file type and click *Next*.
5. Select **Semicolon** as the delimiter and click *Next*.
6. Leave the column data format as **General** and click *Finish*.



Trades Summary

The Summary tab displays execution information by contract. To view executions, click the **Trades** icon on the trading toolbar.

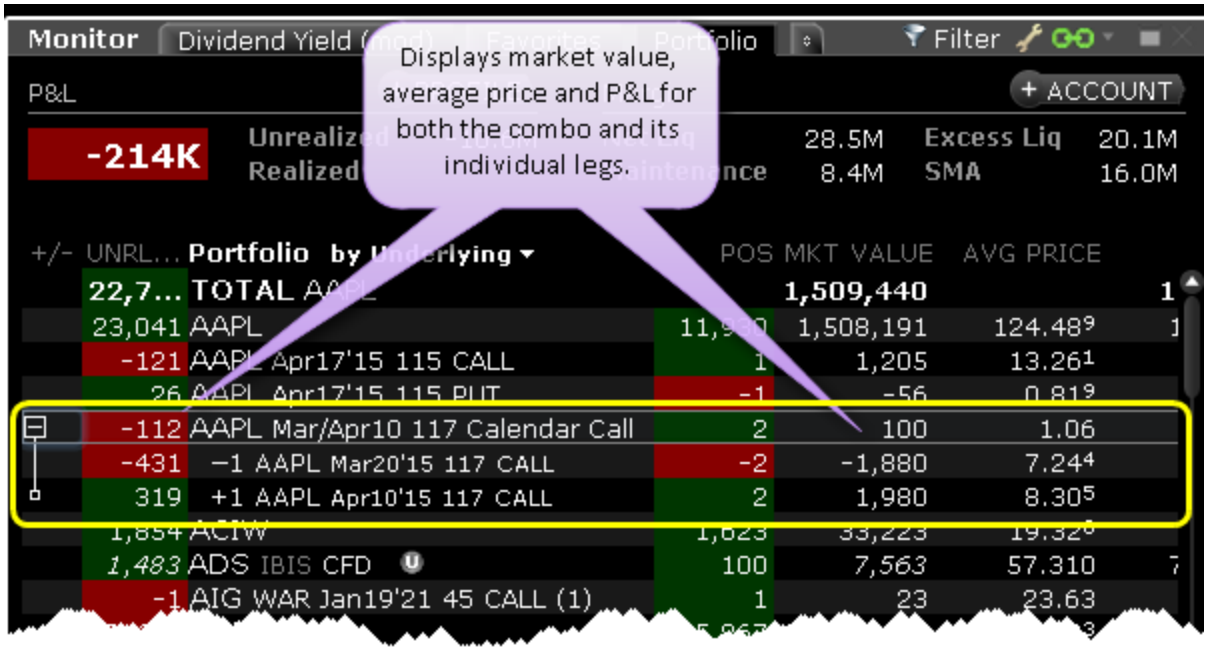


To add/remove columns

1. Right-click on any column heading and select *Customize Layout*.
2. In the **Available Columns** list, select a column and click **Add** to move it into the **Shown Columns** list.

Single-Line Complex Positions

View spread and other complex multi-leg positions as a single line entry in your portfolio and in the Account Information window. The position will be identified by the named strategy (Calendar, Box etc) when applicable. View individual legs using the drill-down "+" sign next to the complex position title.



You can see the net market value, average price, and realized/unrealized P&L for the position along with the value for each individual leg.

Complex positions that share a leg on different sides will not display as the two opposite legs will cancel each other out.

If you trade an option that effectively closes out one leg of a complex position, the complex position is dissolved and the remaining legs display as single option positions.

You can close out the entire complex multi-leg position using the right-click Trade>Close Selected Position command.

Several tools may not reflect this Complex Position display, including Rebalance, Option Rollover and Option Exercise.

This display is not supported in the API.

The trade Summary tab on the Activity panel will reflect a trade that closes the position for one leg. Hold your mouse over the trade for a description of the canceled trade in which the complex position is transferred to a single option trade (or group of trades if the position comprised more than two original legs).

To turn off the complex order display (and show only individual legs), from Global Configuration select Display>Ticker Row and then select Hide complex positions. To re-enable this display, select Group legs into complex positions.

Profit and Loss

You can see P&L on the trading screens and in the Account window. Quickly add and remove fields to and from your Quote Monitor.

Position - shows your position in the instrument.

Market Value - equal to the position * market price.

Avg Price - the average price is calculated by dividing your cost (execution price + commission) by the quantity of your position. This value is then used to determine your unrealized P&L. *Right-click the field name and select Configure Precision to specify additional decimal places that will display as superscript.*

P&L - Shows your profit and loss for the current day. You can elect to show New Position P&L displayed as **P&L (N)** which is only for transactions executed today, or Daily P&L which includes all open positions plus the New Position P&L.

Daily P&L Calculation: *positionNow * priceNow - positionAtMidnight * priceAtMidnight + netAmountTraded*

To toggle the P&L calculation between **New** and **Daily**, right-click the field name and check or uncheck *Include today's opening position in P&L calculations*.

Unrealized P&L - the difference between the current market value and the average price of your position.

Select "Display Both" from the right-click menu to show the unrealized P&L as both a value and a percentage off the initial investment.

Realized P&L - show your profit or loss on closed positions, which is the difference between your entry execution cost (execution price + commissions to open the position) and exit execution cost (execution price + commissions to close the position).

Cost Basis - (the current position x average price).

To display New Position P&L

Right click the **P&L** field.

Uncheck *Include today's opening position in P&L calculation.* The field heading will display **P&L (N)** to indicate it's for new positions only.

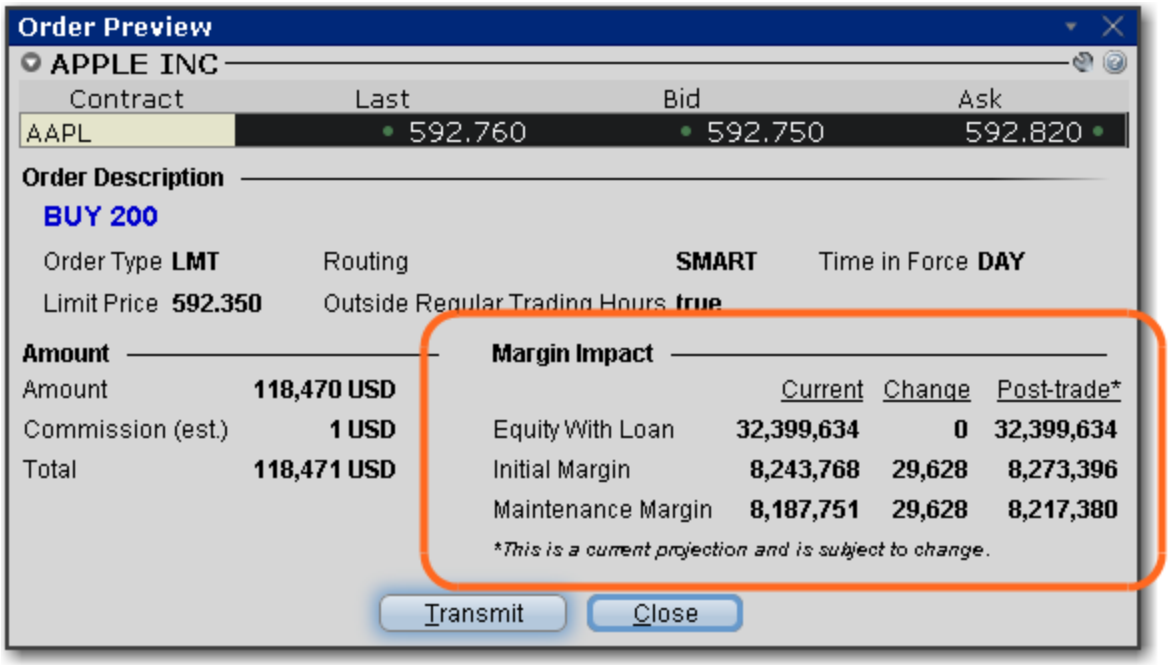
To display Daily P&L

Right click the P&L field.

Check *Include today's opening position in P&L calculation.* The field label will read **P&L**.

Check Margin Pre-Order

See the potential margin impact for an order using the Check Margin feature.



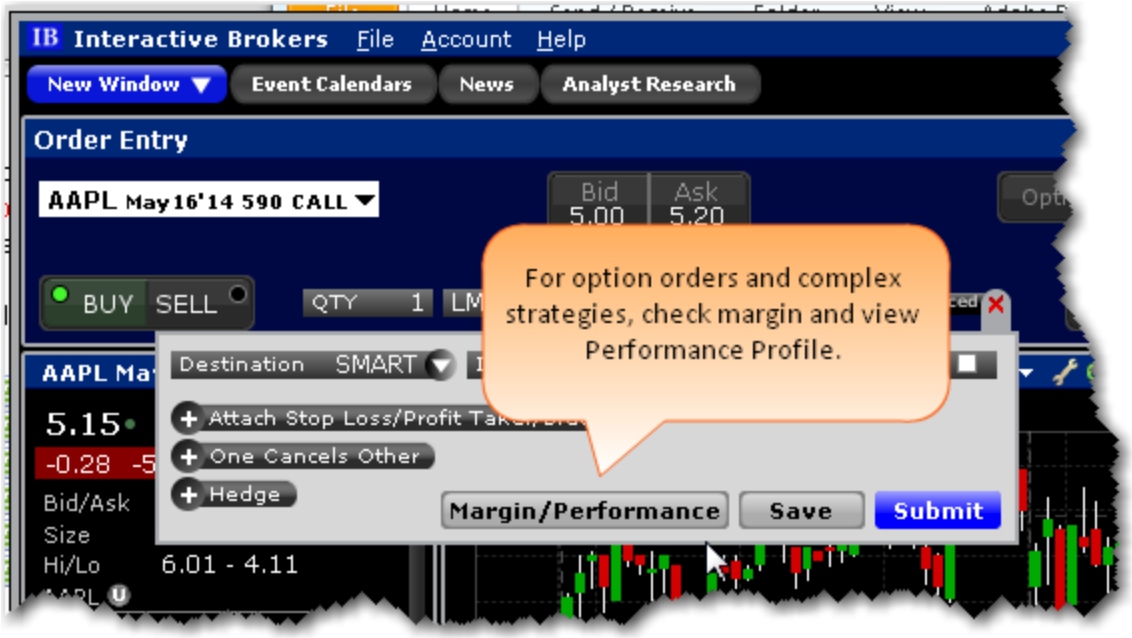
To preview margin impact

You can get to the Preview Margin page several ways:

From within the Order Entry panel or any trading tool, click the Advanced icon and then select *Margin* (in the case of option orders, the button is labeled *Performance/Margin*.)
From an order line in Classic TWS, use the right-click menu and select *Check Margin*.

View the order details before you transmit, including commissions, margin impact and the order description.

Click *Transmit* to send the order from the Preview window, or Close to modify before sending. to send the order from the Preview window, or *Close* to modify before sending.



Performance Profile

The Performance Profile helps demonstrate the key performance characteristics of an option or complex option strategy.

It comprises:

An enhanced Quote Details window that show the Return/Risk Profit Probability and the potential Max Return and Max Loss;

A Performance Graph that shows the P&L (or any of the Greeks) as a function of the underlying price;

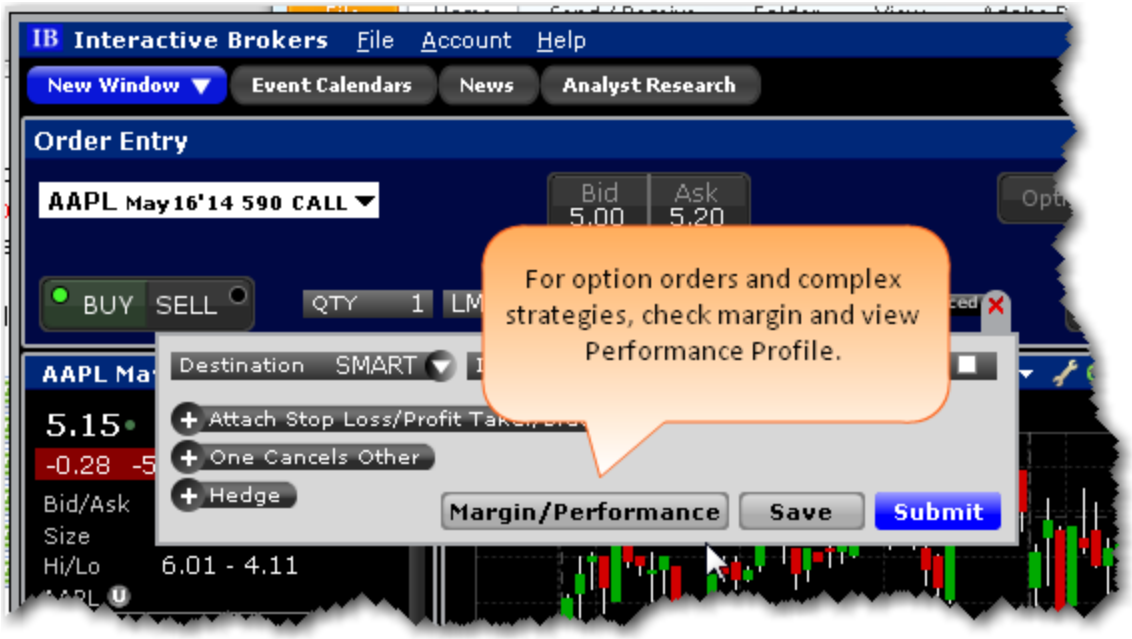
The Scenarios window, which displays the effects of a change in underlying price on the P&L, the Greeks, and the volatility of a position.

To open the Performance Profile

You can open the option **Performance Profile** tool several ways:

From within the Order Entry panel or any trading tool, click the **Advanced** icon and then select *Performance/Margin.*

From an order line in Classic TWS, use the right-click menu and select *Check Margin/Performance Profile.*



Understanding Performance Probability

Understanding System Colors

The application uses colored text and backgrounds to convey information about market movement, order destination, and order status. Colors are used on all screens that send and receive data, including the Trading screen, the Market Depth window and the Arbitrage Meter. The meaning of the text colors is consistent throughout the screens. Information on system colors is sorted into the following sections:

Text Colors **806**

Background colors on a Market Data Line **807**

Background colors on an Order Management Line **808**

Order Status Colors **808**

Text Colors

Colored text on the screen's black background is used to represent up and down movement of price and quantity, and order destination information.

Color	Description
YELLOW	YELLOW indicates no change in size or price.
GREEN	GREEN indicates an upward movement in size or price.
ORANGE	ORANGE (or red) indicates a downward movement in size or price.
PURPLE	For options, the price displayed in PURPLE indicates that the best price is not executing automatically at one or more of the exchanges displayed.
MAGENTA	MAGENTA - For inter-market spread orders, indicates the implied price of the order.
BLUE	LIGHT BLUE indicates that this was the last price at which the contract traded.
Med Blue	MEDIUM BLUE indicates that the quote is not currently tradable.

The page tab text changes color from black to RED to indicate that the page displays an asset for which an order has been transmitted.

Background colors on a Market Data Line

Color	Description
	DARK GRAY across the entire Market Data line indicates that the line is selected.

The Change field line uses a background color to represent up and down market movement.

Color	Description
	The Change column identifies the degree and direction of change in the asset's current price from the prior day's closing price. A RED background in the Change field indicates that the change for the day is negative.
	A GREEN background in the Change field indicates that the change for the day is positive.
	This PALE RED indicates that trading has been halted on the underlying.

Note: Change for the day figures are based on 4 P.M. Eastern Time (ET) prior day closing prices.

Background colors on an Order Management Line

Color	Description
	A BLUE background in the Action field indicates a BUY action.
	A RED background in the Action field indicates a SELL action.
	LIGHT BROWN across the entire Order Management line indicates that you have modified a working order but have not yet re-transmitted the order.

Order Status Colors

The color in the Status field of an order management line indicates the status of your order.

Color	Description
	LIGHT GRAY indicates that you are in the process of creating an order and you have not yet transmitted it.
	LIGHT BLUE indicates that you have transmitted your order, but have not yet received confirmation that it has been accepted by the order destination.

	PALE PURPLE indicates that an order has been accepted by the system (simulated orders) or an exchange (native orders) but that currently the order is not working, due to system, exchange or other issues. When the order becomes active, the order status color will change appropriately.
	PURPLE indicates that the order has been suspended and is awaiting customer action. Component size is larger than the account can support. Please modify the component size or add funds to your account.
	DARK BLUE indicates that an order has been accepted by the system (simulated orders) or an exchange (native orders) and that this order has yet to be elected. The order status remains DARK BLUE until the election criteria are met. At that time the order is triggered, and the order status color will change appropriately. Prior to TWS 919, dark blue was also displayed for native stops that were at the exchange but hadn't been triggered. Beginning with TWS919, native stops at the exchange, both triggered and untriggered, display green.
	GREEN indicates that your order has been accepted and is working at the destination. When you display the *Shortable* market data column, this color indicates that at least 1000

	shares are available to sell short.
	DARK GREEN is used in the *Shortable* column and indicates that this contract can be sold short but that at the moment there are no shares available for short sale, and that the system is searching for shares.
	LIGHT GREEN is used by the Blotter to indicate that a ticket has been accepted by the trader.
	PINK indicates that you have sent a request to cancel the order but have not yet received cancel confirmation from the order destination. At this point, your order is not confirmed canceled. You may still receive an execution while your cancellation request is pending.
	ORANGE indicates that a cancellation request has been accepted by the system but that currently the request is not being recognized, due to system, exchange or other issues. At this point, your order is not confirmed canceled. You may still receive an execution while your cancellation request is pending.

	RED indicates that the balance of your order has been confirmed canceled by the system. This could occur unexpectedly when the destination has rejected your order.
In the *Shortable* column, RED indicates that no shares are available for short sale. Once the order is confirmed canceled, the Order Management line will disappear from your trading screen after 30 seconds. Please see the Customer Agreement for further information on order confirmation and order cancellation.	
	MAROON indicates that an attached simulated order type has been accepted by the system and has yet to be elected. The order is held in the IBsystem (and the status remains MAROON) until the election criteria are met. At that time the order is transmitted to the order destination specified and the order status color will change appropriately.

Alerts and Notifications

The application uses colored text and backgrounds to convey information about market movement, order destination, and order status. Colors are used on all screens that send and receive data, including the Trading screen, the Market Depth window and the Arbitrage Meter. The meaning of the text colors is consistent throughout the screens. Information on system colors is sorted into the following sections:

Set Time Alerts **812**

Set Price Alerts **814**

Set Margin Cushion Alerts **815**

Set P&L Alerts **817**

Set Percentage Change Alerts **819**

Set Volume Alerts **821**

Set Trade Alerts **823**

Set up a Rebate Rate in Percent Alert **825**

Create a Shortable Shares Alert **827**

Assign Actions to Alerts **829**

Set Price Movement Alarms **829**

Set Volume Change-activated Alarm **831**

Set Time Alerts

Set up an alert that triggers at a specific time/date.

The **Alerts** window is composed of two sections. The first is the *Conditions* area, where you define the conditions which must be met to activate the alert. The second is the *Actions* area, where you define the action that will occur when the conditions are met. Create alerts based on price movement, time and date, trading volume or the state of your margin cushion. Alert actions include sending a notification such as a pop-up message on your trading screen, an email or a text message, or initiating an order, specifically a buy or sell order.

To set a Time alert

1. Right-click an instrument from your Portfolio, Quote Monitor, Watchlist or other window.
2. At the end of the quick-trade button bar, click the "Alert" bell icon.
3. In the **Configure Price Condition** box, click *Advanced Settings* in the bottom right corner.
4. Begin to set the alert conditions by selecting *Time* in the *Choose Condition* section of the **Create Condition** box, then click *Next*.
5. In the **Operator** field, choose from "greater than or equal to" or "less than or equal to."
6. In the **Time** field, enter the value that will be acted on by the operator defined above, and click the *Finish* button.
7. To define multiple conditions, select *And* or *Or* from the Logic drop-down list, and add another contract on the next line following the above steps 3 - 7.

Your alert conditions are described in the **Preview** box at the bottom right of the window.

Now specify the action(s) that the alert will trigger. You can select from email, SMS, pop-up message and audio alerts, and elect to have an order triggered.

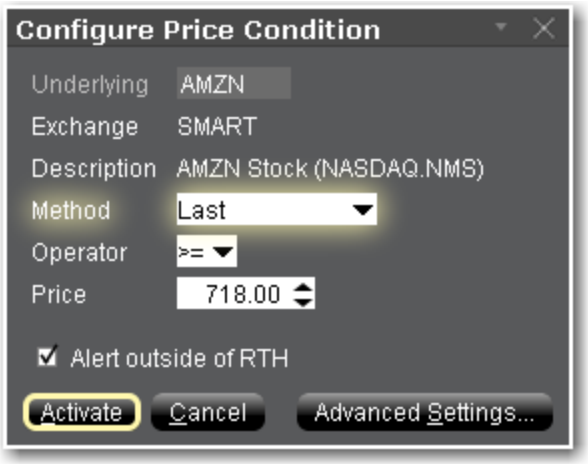
Alerts Duration

By default, the alert will remain active until you cancel it. You can elect to have the alert remain active through a specific date and time by selecting Alert active until... and setting a date in the format YYYYMMDD hh:mm:ss.

If you want the condition(s) to be able to trigger outside regular trading hours, check the "**Allow condition to be satisfied...**" box.

Set Price Alerts

The **Alerts** window is composed of two sections. The first is the *Conditions* area, where you define the conditions which must be met to activate the alert. The second is the *Actions* area, where you define the action that will occur when the conditions are met. Create alerts based on price movement, time and date, trading volume or the state of your margin cushion. Alert actions include sending a notification such as a pop-up message on your trading screen, an email or a text message, or initiating an order, specifically a buy or sell order.



By default, the Alerts window opens to a Price alert.

To set a Price alert

1. Right-click an instrument from your Portfolio, Quote Monitor, Watchlist or other window.
2. At the end of the quick-trade button bar, click the "Alert" bell icon.
3. In the **Configure Price Condition** box, select a trigger method from the **Method** drop-down.
4. In the **Operator** field, choose from "greater than or equal to" or "less than or equal to."
5. In the **Price** field, enter the value that will be acted on by the operator defined above, and click the *Finish* button.
6. To allow the alert to trigger outside of Regular Trading Hours, check the Alert outside of RTH checkbox.
7. For more options such as alert Duration and Actions, click Advanced Settings. Otherwise, click *Activate*.

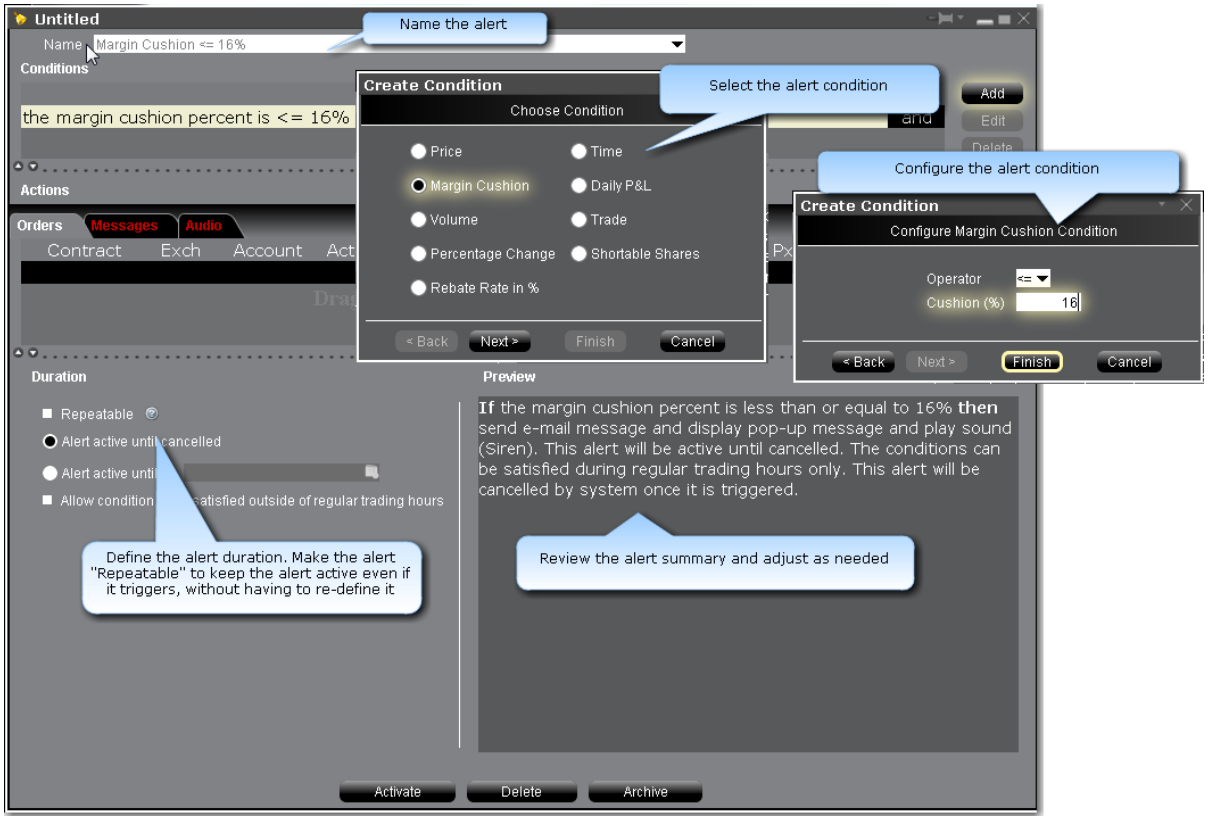
Set Margin Cushion Alerts

The **Alerts** window is composed of two sections. The first is the *Conditions* area, where you define the conditions which must be met to activate the alert. The second is the *Actions* area, where you define the action that will occur when the conditions are met. Create alerts based on price movement, time and date, trading volume or the state of your margin cushion. Alert actions include sending a notification such as a pop-up message on your trading screen, an email or a text message, or initiating an order, specifically a buy or sell order.

Margin Alerts

Margin Cushion alerts are based on the status of an IB-calculated "margin cushion" derived using current values from your account. You can find these values on the Account screen. The margin cushion is calculated as follows:

(Equity with Loan Value - Maintenance Margin)/Net Liquidation Value



To set a Margin Cushion alert

From Mosaic

1. Right-click an instrument from your Portfolio, Watchlist or other window.
2. At the end of the quick-trade button bar, click the "Alert" bell icon.
3. In the **Configure Price Condition** box, click *Advanced Settings* in the bottom right corner.
4. Begin to set the alert conditions by selecting *Margin Cushion* in the *Choose Condition* section of the **Create Condition** box, then click *Next*.
5. In the **Operator** field, choose from "greater than or equal to" or "less than or equal to."
6. In the **Cushion (%)** field, enter the value that will be acted on by the operator defined above, and click the *Finish* button.
7. To define multiple conditions, select *And* or *Or* from the Logic drop-down list, and add another contract on the next line following the above steps 3 - 7.

From Classic TWS

1. On the **Analytical Tools menu** select *Alerts*.
2. Click the *New* button, and enter a descriptive title in the *Name* box. The <unnamed> tab takes the name you enter.
3. Define an asset in the *Conditions* area by dragging and dropping one from your trading screen, or click the *Add* button.
4. Begin to set the alert conditions by selecting *Margin Cushion in the Choose Condition section* of the **Create Condition** box, then click *Next*.
5. In the **Operator** field, choose from "greater than or equal to" or "less than or equal to."
6. In the **Cushion (%)** field, enter the volume value that will be acted on by the operator defined above, and click the *Finish* button.
7. To define multiple conditions, select *And* or *Or* from the Logic drop-down list, and add another contract on the next line following the above steps 3 - 7.

Your alert conditions are described in the **Preview** box at the bottom right of the window.

Now specify the action(s) that the alert will trigger. You can select from email, SMS, pop-up message and audio alerts, and elect to have an order triggered.

Alerts Duration

Allow the alert to remain active even after it has triggered by selecting the "Repeatable" box.

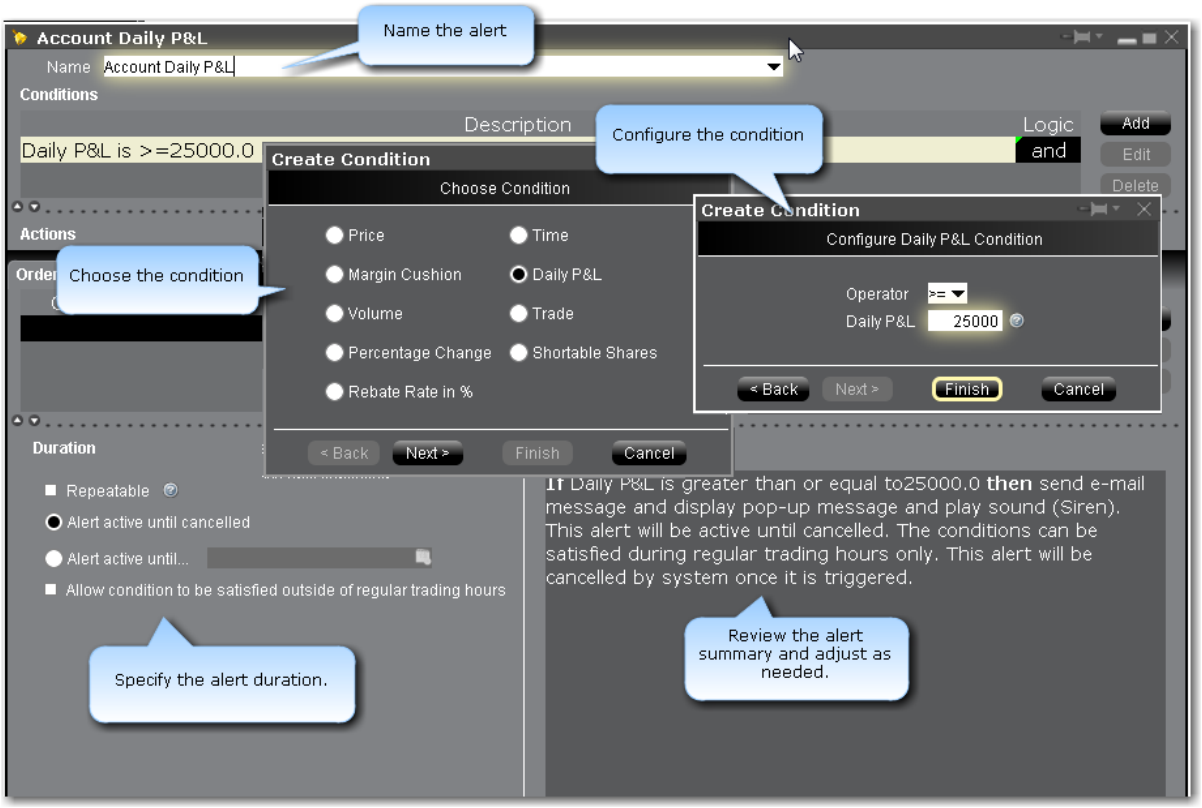
By default, the alert will remain active until you cancel it. You can elect to have the alert remain active through a specific date and time by selecting Alert active until... and setting a date in the format YYYYMMDD hh:mm:ss.

If you want the condition(s) to be able to trigger outside regular trading hours, check the "**Allow condition to be satisfied...**" box.

Set P&L Alerts

The **Alerts** window comprises two sections. The first is the *Conditions* area, where you define the conditions which must be met to activate the alert. The second is the *Actions* area, where you define the action that will occur when the conditions are met. Create alerts based on price movement, time and date, trading volume or the state of your margin cushion. Alert actions

include sending a notification such as a pop-up message on your trading screen, an email or a text message, or initiating an order, specifically a buy or sell order.



To set a Daily P&L alert

From Mosaic

1. Right-click an instrument from your Portfolio, Watchlist or other window.
2. At the end of the quick-trade button bar, click the "Alert" bell icon.
3. In the **Configure Price Condition** box, click *Advanced Settings* in the bottom right corner.
4. Begin to set the alert conditions by selecting *Daily P&L* in the *Choose Condition* section of the **Create Condition** box, then click *Next*.
5. In the **Operator** field, choose from "greater than or equal to" or "less than or equal to."
6. In the **Daily P&L** field, enter the value that will be acted on by the operator defined above, and click the *Finish* button.
7. To define multiple conditions, select *And* or *Or* from the Logic drop-down list, and add another contract on the next line following the above steps 3 - 7.

From Classic TWS

1. On the **Analytical Tools menu** select *Alerts*.
2. Click the *New* button, and enter a descriptive title in the *Name* box. The <unnamed> tab takes the name you enter.
3. Define an asset in the *Conditions* area by dragging and dropping one from your trading screen, or click the *Add* button.
4. Begin to set the alert conditions by selecting *Daily P&L in the Choose Condition section* of the **Create Condition** box, then click *Next*.
5. In the **Operator** field, choose from "greater than or equal to" or "less than or equal to."
6. In the **Daily P&L** field, enter the volume value that will be acted on by the operator defined above, and click the *Finish* button.
7. To define multiple conditions, select *And* or *Or* from the Logic drop-down list, and add another contract on the next line following the above steps 3 - 7.

Your alert conditions are described in the **Preview** box at the bottom right of the window.

Now specify the action(s) that the alert will trigger. You can select from email, SMS, pop-up message and audio alerts, and elect to have an order triggered.

Alerts Duration

By default, the alert will remain active until you cancel it. You can elect to have the alert remain active through a specific date and time by selecting Alert active until... and setting a date in the format YYYYMMDD hh:mm:ss.

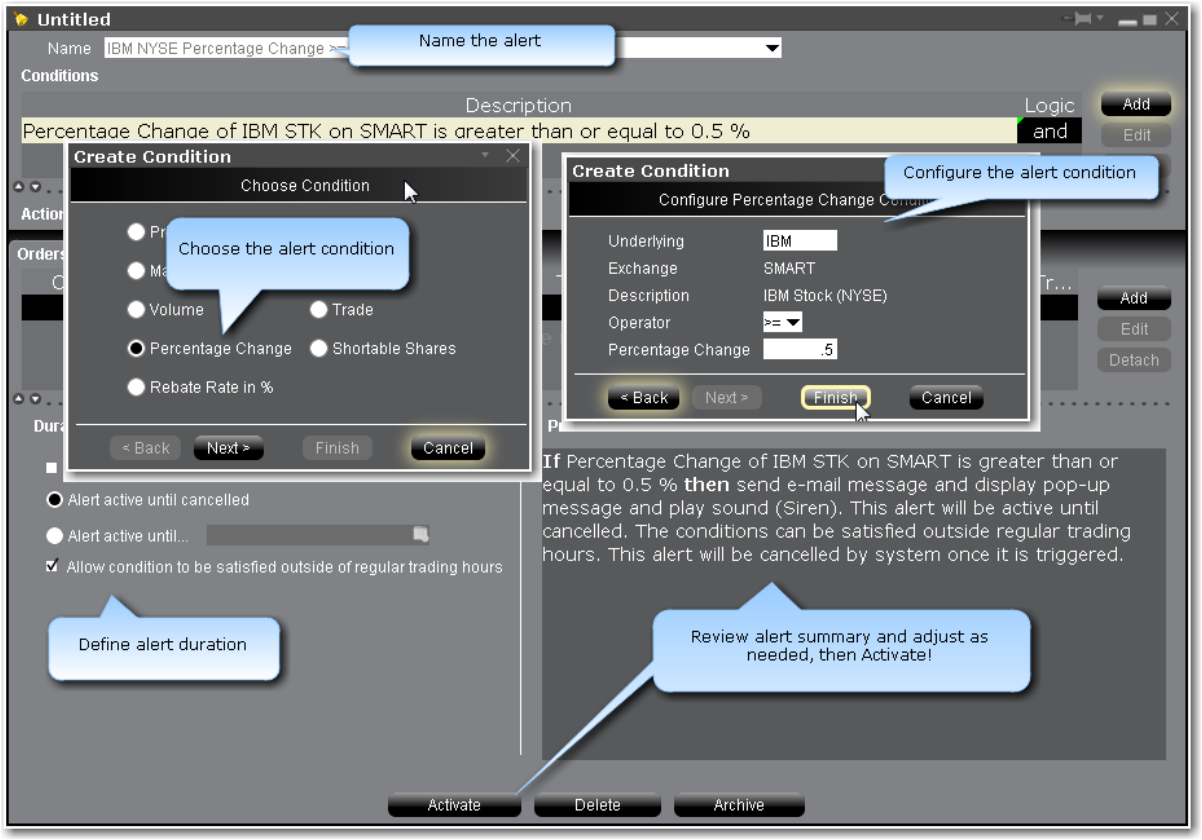
If you want the condition(s) to be able to trigger outside regular trading hours, check the "**Allow condition to be satisfied...**" box.

Set Percentage Change Alerts

Set up an alert that triggers if the price of an instrument changes by plus/minus the specified percentage.

The **Alerts** window is composed of two sections. The first is the *Conditions* area, where you define the conditions which must be met to activate the alert. The second is the *Actions* area,

where you define the action that will occur when the conditions are met. Create alerts based on price movement, time and date, trading volume or the state of your margin cushion. Alert actions include sending a notification such as a pop-up message on your trading screen, an email or a text message, or initiating an order, specifically a buy or sell order.



To set up a Percentage Change alert

1. Right-click an instrument from your Portfolio, Quote Monitor, Watchlist or other window.
2. At the end of the quick-trade button bar, click the "Alert" bell icon.
3. In the **Configure Price Condition** box, click *Advanced Settings* in the bottom right corner.
4. Begin to set the alert conditions by selecting *Percentage Change* in the *Choose Condition* section of the **Create Condition** box, then click *Next*.
5. Modify the instrument if needed, then in the **Operator** field, choose from "greater than or equal to" or "less than or equal to."

6. In the **Percentage Change** field, enter the value that will be acted on by the operator defined above, and click the *Finish* button.
7. To define multiple conditions, select *And* or *Or* from the Logic drop-down list, and add another contract on the next line.

Your alert conditions are described in the **Preview** box at the bottom right of the window.

Now specify the action(s) that the alert will trigger. You can select from email, SMS, pop-up message and audio alerts, and elect to have an order triggered.

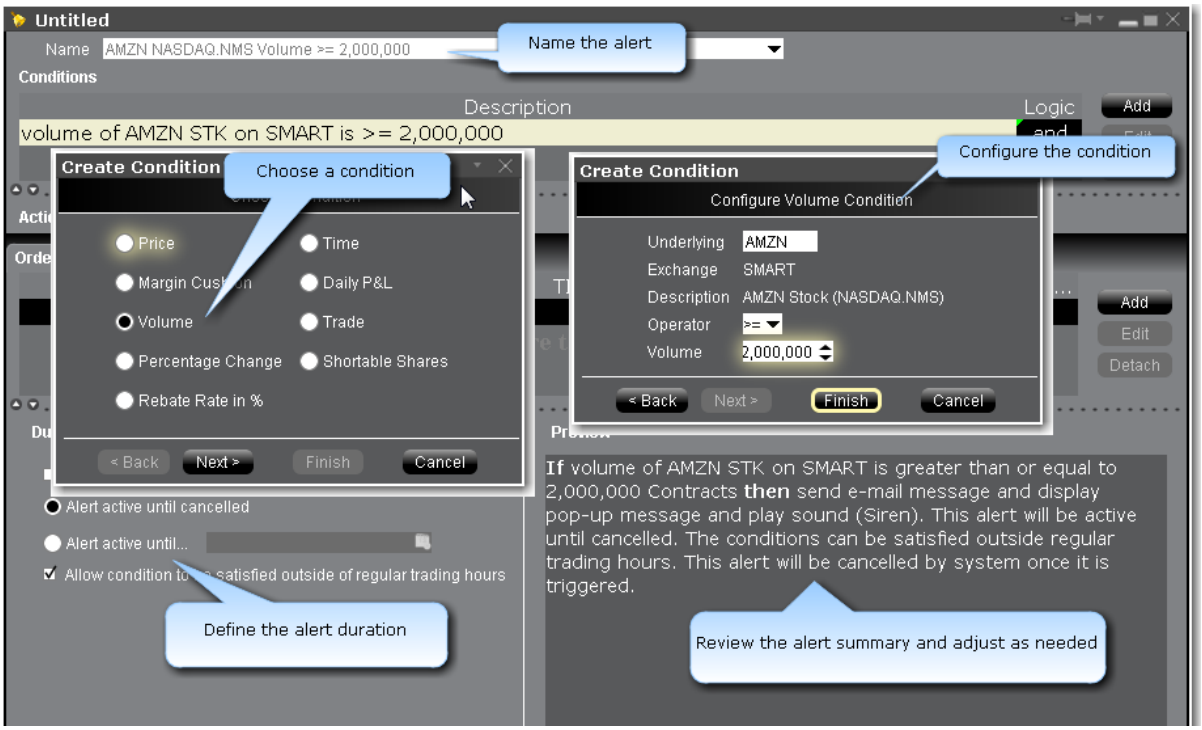
Alerts Duration

By default, the alert will remain active until you cancel it. You can elect to have the alert remain active through a specific date and time by selecting Alert active until... and setting a date in the format YYYYMMDD hh:mm:ss.

If you want the condition(s) to be able to trigger outside regular trading hours, check the "**Allow condition to be satisfied...**" box.

Set Volume Alerts

The **Alerts** window is composed of two sections. The first is the *Conditions* area, where you define the conditions which must be met to activate the alert. The second is the *Actions* area, where you define the action that will occur when the conditions are met. Create alerts based on price movement, time and date, trading volume or the state of your margin cushion. Alert actions include sending a notification such as a pop-up message on your trading screen, an email or a text message, or initiating an order, specifically a buy or sell order.



To set a volume alert

From Mosaic

1. Right-click an instrument from your Portfolio, Watchlist or other window.
2. At the end of the quick-trade button bar, click the "Alert" bell icon.
3. In the **Configure Price Condition** box, click *Advanced Settings* in the bottom right corner.
4. Begin to set the alert conditions by selecting *Volume* in the *Choose Condition* section of the **Create Condition** box, then click *Next*.
5. On the *Configure Volume Condition* page, enter an underlying if you have a blank field and select the rest of the instrument description parameters including instrument type and exchange.
6. In the **Operator** field, choose from "greater than or equal to" or "less than or equal to."
7. In the **Volume** field, enter the volume value that will be acted on by the operator defined above, and click the *Finish* button.
8. To define multiple conditions, select *And* or *Or* from the Logic drop-down list, and add another contract on the next line following the above steps 3 - 7.

From Classic TWS

1. On the **Analytical Tools menu** select *Alerts*.
   If you're already in the Alerts box, click the **Alerts** tab to gain access to the *New* button. Continue with Step 2 below.
2. Click the *New* button, and enter a descriptive title in the *Name* box. The <unnamed> tab takes the name you enter.
3. Define an asset in the *Conditions* area by dragging and dropping one from your trading screen, or click the *Add* button.
4. Begin to set the alert conditions by selecting *Volume* in the *Choose Condition* section of the **Create Condition** box, then click *Next*.
5. On the *Configure Volume Condition* page, enter an underlying if you have a blank field and select the rest of the instrument description parameters including instrument type and exchange.
6. In the **Operator** field, choose from "greater than or equal to" or "less than or equal to."
7. In the **Volume** field, enter the volume value that will be acted on by the operator defined above, and click the *Finish* button.
8. To define multiple conditions, select *And* or *Or* from the Logic drop-down list, and add another contract on the next line following the above steps 3 - 7.

Your alert conditions are described in the **Preview** box at the bottom right of the window.

Now specify the action(s) that the alert will trigger. You can select from email, SMS, pop-up message and audio alerts, and elect to have an order triggered.

Alerts Duration

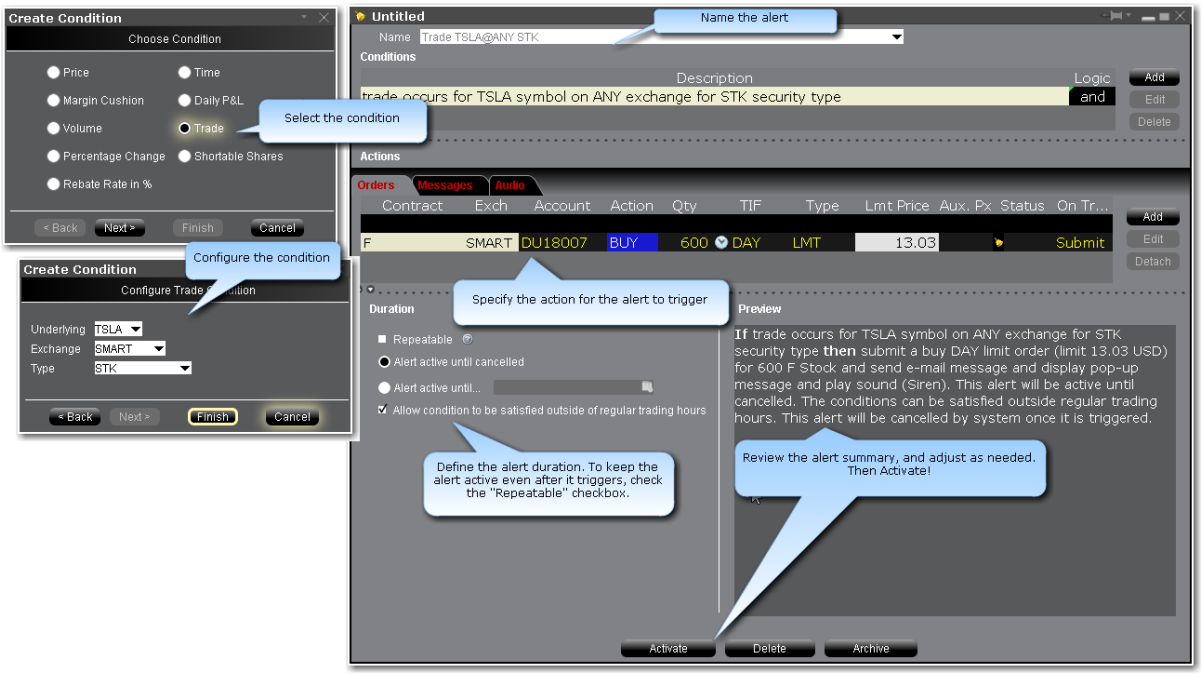
By default, the alert will remain active until you cancel it. You can elect to have the alert remain active through a specific date and time by selecting Alert active until... and setting a date in the format YYYYMMDD hh:mm:ss.

If you want the condition(s) to be able to trigger outside regular trading hours, check the "**Allow condition to be satisfied...**" box.

Set Trade Alerts

Set up an alert that triggers when the specified instrument is traded.

The **Alerts** window is composed of two sections. The first is the *Conditions* area, where you define the conditions which must be met to activate the alert. The second is the *Actions* area, where you define the action that will occur when the conditions are met. Create alerts based on price movement, time and date, trading volume or the state of your margin cushion. Alert actions include sending a notification such as a pop-up message on your trading screen, an email or a text message, or initiating an order, specifically a buy or sell order.



To set a Trade alert

1. Right-click an instrument from your Portfolio, Quote Monitor, Watchlist or other window.
2. At the end of the quick-trade button bar, click the "Alert" bell icon.
3. In the **Configure Price Condition** box, click *Advanced Settings* in the bottom right corner.
4. Begin to set the alert conditions by selecting *Trade* in the *Choose Condition* section of the **Create Condition** box, then click *Next*.
5. Modify the Underlying, Exchange and Type values if needed and click the *Finish* button.
6. To define multiple conditions, select *And* or *Or* from the Logic drop-down list, and add another contract on the next line.

Your alert conditions are described in the **Preview** box at the bottom right of the window.

Now specify the action(s) that the alert will trigger. You can select from email, SMS, pop-up message and audio alerts, and elect to have an order triggered.

Alerts Duration

Allow the alert to remain active even after it has triggered by selecting the "Repeatable" box.

By default, the alert will remain active until you cancel it. You can elect to have the alert remain active through a specific date and time by selecting Alert active until... and setting a date in the format YYYYMMDD hh:mm:ss.

If you want the condition(s) to be able to trigger outside regular trading hours, check the "**Allow condition to be satisfied...**" box.

Set up a Rebate Rate in Percent Alert

Set up an alert that triggers if the rebate rate on a specified instrument greater than, less than or equal to the user-defined rate percent.

The **Alerts** window is composed of two sections. The first is the *Conditions* area, where you define the conditions which must be met to activate the alert. The second is the *Actions* area, where you define the action that will occur when the conditions are met. Create alerts based on price movement, time and date, trading volume or the state of your margin cushion. Alert actions include sending a notification such as a pop-up message on your trading screen, an email or a text message, or initiating an order, specifically a buy or sell order.

To set up a Rebate Rate % alert

1. Right-click an instrument from your Portfolio, Quote Monitor, Watchlist or other window.
2. At the end of the quick-trade button bar, click the "Alert" bell icon.
3. In the **Configure Price Condition** box, click *Advanced Settings* in the bottom right corner.
4. Begin to set the alert conditions by selecting *Rebate Rate* in the *Choose Condition* section of the **Create Condition** box, then click *Next*.
5. Modify the instrument if needed, then in the **Operator** field, choose from "greater than or equal to" or "less than or equal to."
6. In the **Rebate Rate in %** field, enter the value that will be acted on by the operator defined above, and click the *Finish* button.
7. To define multiple conditions, select *And* or *Or* from the Logic drop-down list, and add another contract on the next line.

Your alert conditions are described in the **Preview** box at the bottom right of the window.

Now specify the action(s) that the alert will trigger. You can select from email, SMS, pop-up message and audio alerts, and elect to have an order triggered.

Alerts Duration

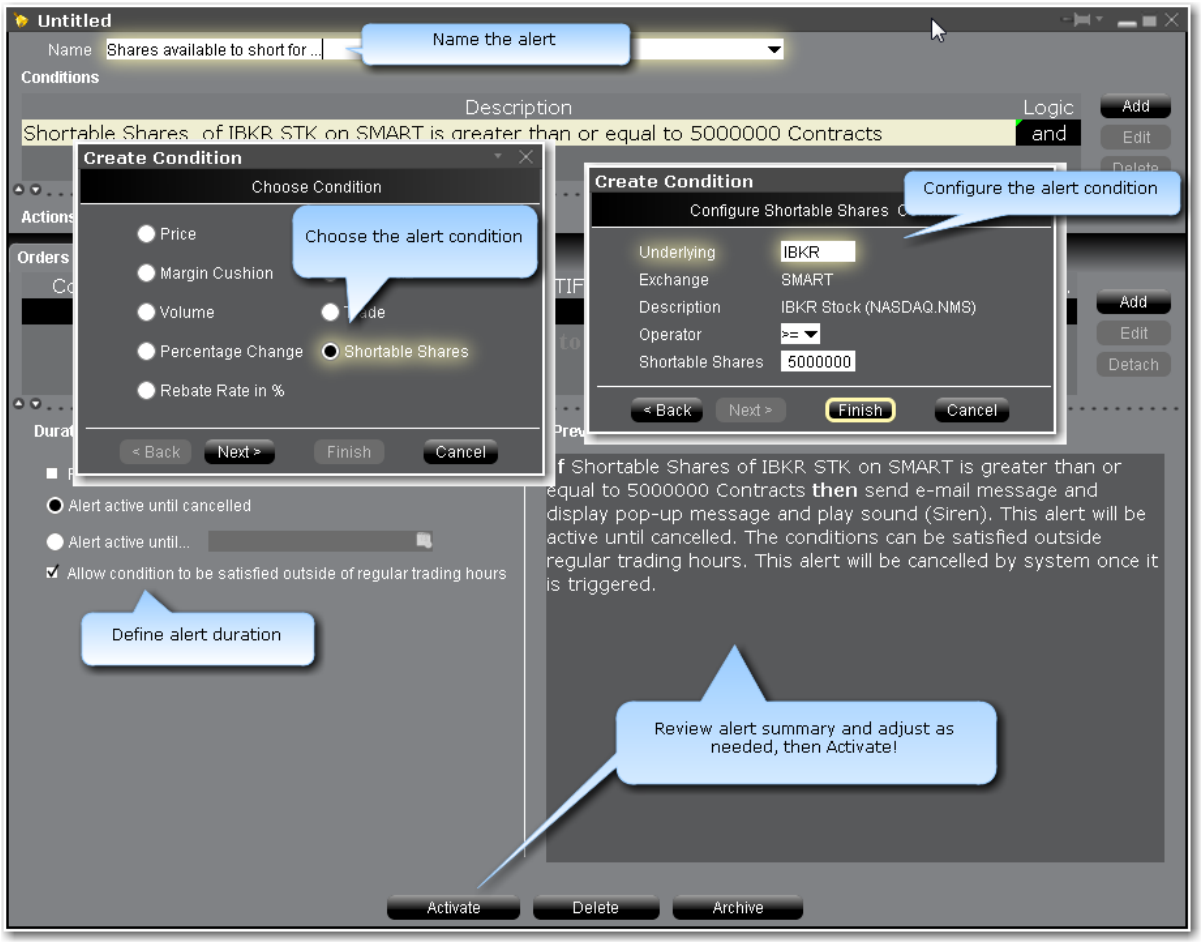
By default, the alert will remain active until you cancel it. You can elect to have the alert remain active through a specific date and time by selecting Alert active until... and setting a date in the format YYYYMMDD hh:mm:ss.

If you want the condition(s) to be able to trigger outside regular trading hours, check the "**Allow condition to be satisfied...**" box.

Create a Shortable Shares Alert

Set up an alert that triggers if a specified number of shares of a certain instrument become available to short.

The **Alerts** window is composed of two sections. The first is the *Conditions* area, where you define the conditions which must be met to activate the alert. The second is the *Actions* area, where you define the action that will occur when the conditions are met. Create alerts based on price movement, time and date, trading volume or the state of your margin cushion. Alert actions include sending a notification such as a pop-up message on your trading screen, an email or a text message, or initiating an order, specifically a buy or sell order.



To set up a Shortable Shares alert

1. Right-click an instrument from your Portfolio, Quote Monitor, Watchlist or other window.
2. At the end of the quick-trade button bar, click the "Alert" bell icon.
3. In the **Configure Price Condition** box, click *Advanced Settings* in the bottom right corner.
4. Begin to set the alert conditions by selecting *Shortable Shares* in the *Choose Condition* section of the **Create Condition** box, then click *Next*.
5. Modify the instrument if needed, then in the **Operator** field, choose from "greater than or equal to" or "less than or equal to."
6. In the **Shortable Shares** field, enter the value that will be acted on by the operator defined above, and click the *Finish* button.
7. To define multiple conditions, select *And* or *Or* from the Logic drop-down list, and add another contract on the next line.

Your alert conditions are described in the **Preview** box at the bottom right of the window.

Now specify the action(s) that the alert will trigger. You can select from email, SMS, pop-up message and audio alerts, and elect to have an order triggered.

Alerts Duration

By default, the alert will remain active until you cancel it. You can elect to have the alert remain active through a specific date and time by selecting Alert active until... and setting a date in the format YYYYMMDD hh:mm:ss.

If you want the condition(s) to be able to trigger outside regular trading hours, check the "**Allow condition to be satisfied...**" box.

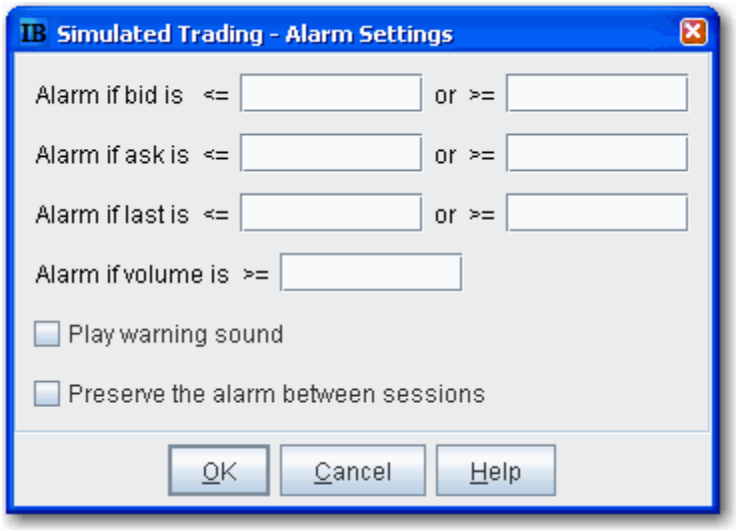
Assign Actions to Alerts

Assign Message Action to Alerts
Assign Order Action to Alerts
Assign Audio Action to Alerts
Assign Sounds to Events

Set Price Movement Alarms

For any asset, you can set a price-triggered alarm that goes off when the selected price hits the trigger value. You can use values in the **Bid**, **Ask** and/or **Last** price fields as the triggers. The price field and page title turn red and start to blink when your price has been reached. You can also set an audio alarm that notifies you by beeping.

> **Note:** Each line of market data with an attached price-activated alarm will always take up one live market data line whether the page is open (active) or closed. You can only receive market data for a limited number of live market data lines (usually 40).



When you log off, any alarms you have set will be shut off unless you choose to preserve them between sessions. To do this, select *Preserve the alarm between sessions* when you set the alarm.

To set a price movement alarm

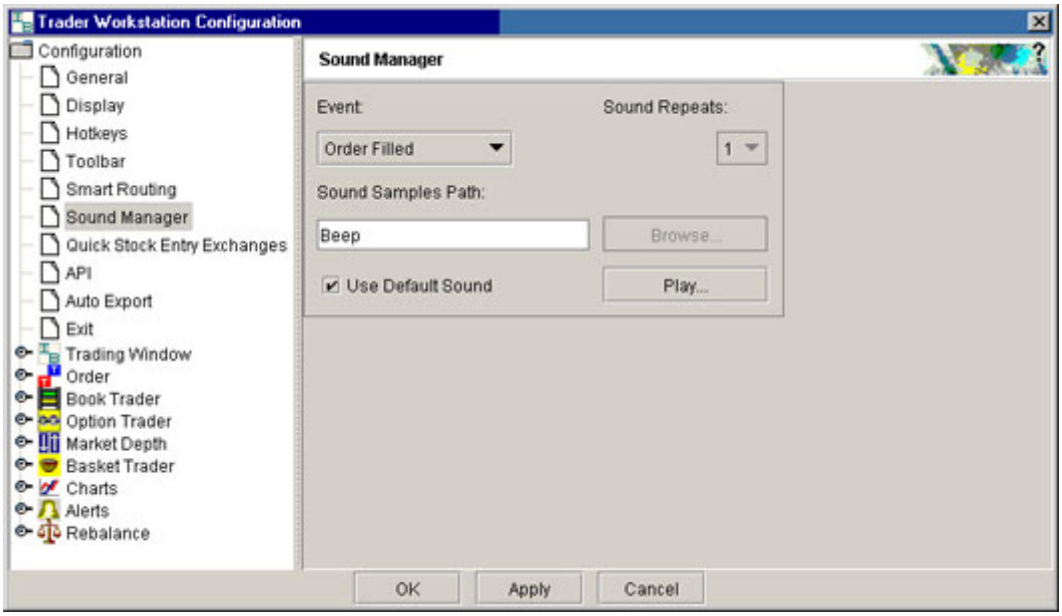
1. Select the asset for which you want to set an alarm.
2. Right click and select *Analytical Tools*, then select *Set Alarm.*
3. In the **Alarm Settings** window, enter a "less than" and/or "greater than" price in any or all of the bid, ask and last price entry fields.
4. To set a volume activated alarm, enter a trigger amount in the **Alarm if volume is greater than** field.
5. To add a beeping sound to the visual alarm, select **Play warning sound**.

Example: If you enter a price of $40.15 in the second field on the top row, **Alarm if bid is greater than**, your alarm will trigger when the bid price for the selected asset is greater than or equal to $40.15. Put a price of $40.00 in the first field (Alarm is bid is less than) and the alarm will trigger is the bid is equal to or falls below that price.

The default background color for all fields that have an alarm set is murky green. You can modify the background color by using the Layout editor.

To shut off an activated price movement alarm

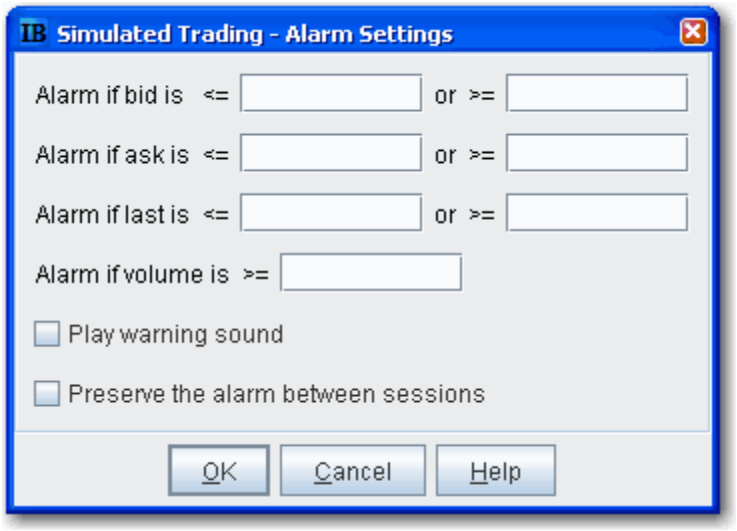
Click in the market data line of the asset that has the alarm.



Set Volume Change-activated Alarm

For any asset, you can set a volume change-triggered alarm that goes off when the volume for the selected asset rises by the amount you define. The **Volume** field and page title turn red and start to blink when the volume has increased by your set amount. You can also set an audio alarm that notifies you by beeping.

> **Note:** Each line of market data with an attached alarm will always take up one live market data line whether the page is open (active) or closed. You can only receive market data for a limited number of live market data lines (usually 40).



When you log off,. any alarms you have set will be shut off unless you choose to preserve them between sessions. To do this, select *Preserve the alarm between sessions* when you set the alarm.

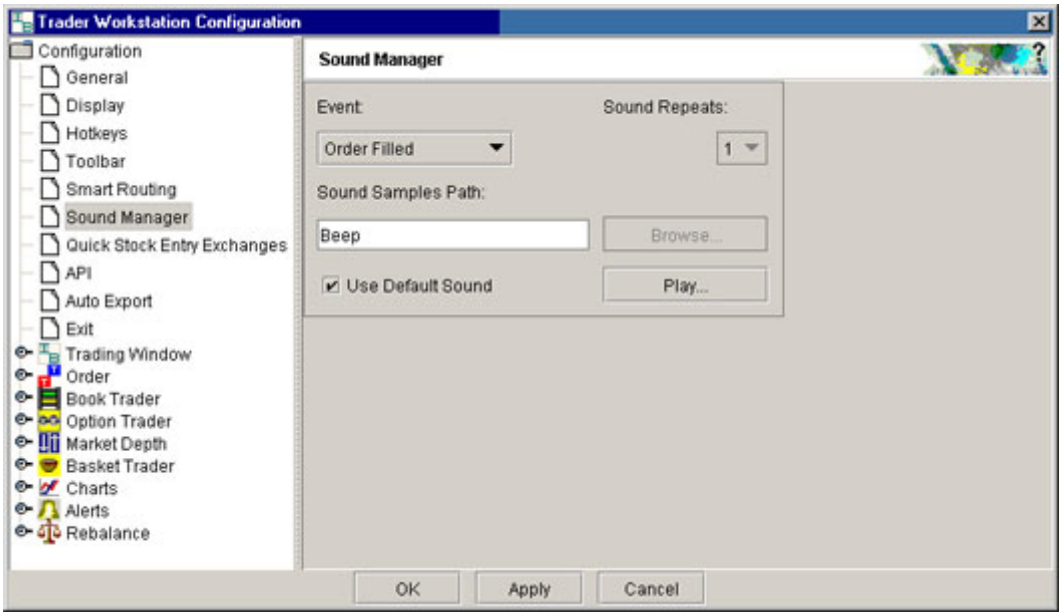
To set a volume change alarm

1. Select the asset for which you want to set an alarm.
2. Right-click and select *Analytical Tools*, then select *Set Alarm.*
3. In the **Alarm Settings** window, enter a trigger amount in the **Alarm if volume is greater than** field.
4. To add a beeping sound to the visual alarm, check **Play warning sound**.

If you have the Volume field displayed on your trading screen, you will see the default background color on market data lines that have alarms set is murky green. You can modify the background color by using the Layout editor.

To shut off an activated volume increase alarm

Click in the market data line of the asset that has the alarm.



Note: To hear sounds other than a beep on your computer, you must have a sound card installed.

Other Realtime Activity Tools

Pending Orders Page **833**

Trader Dashboard **836**

Bulletins and System Status **837**

Audit Trails **839**

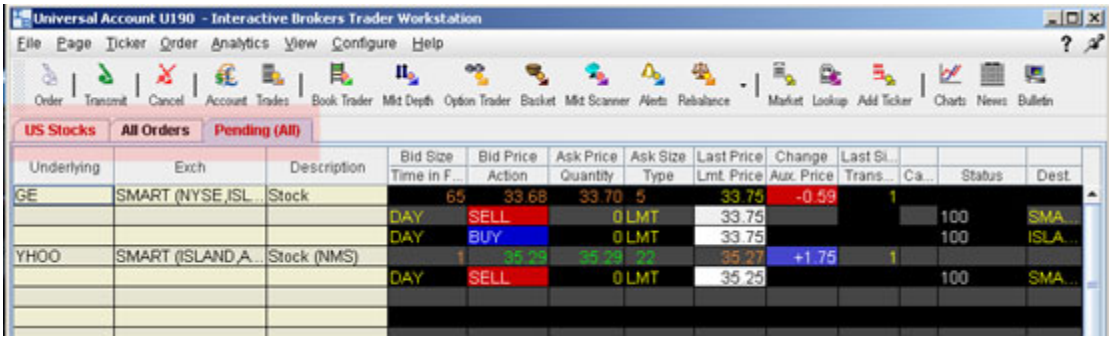
Best Price for Options using SmartRoutingSM **840**

Pending Orders Page

You can view working orders on the **Pending** page, as well as on any trading page that displays the instrument. Once an order has been executed, it is removed from the Pending page

and the execution report is displayed in the Trade log. If you have orders pending when you log in, the Pending page is automatically displayed for your review.

You can view positions on the Pending page by displaying the Positions column using the Page Layout.



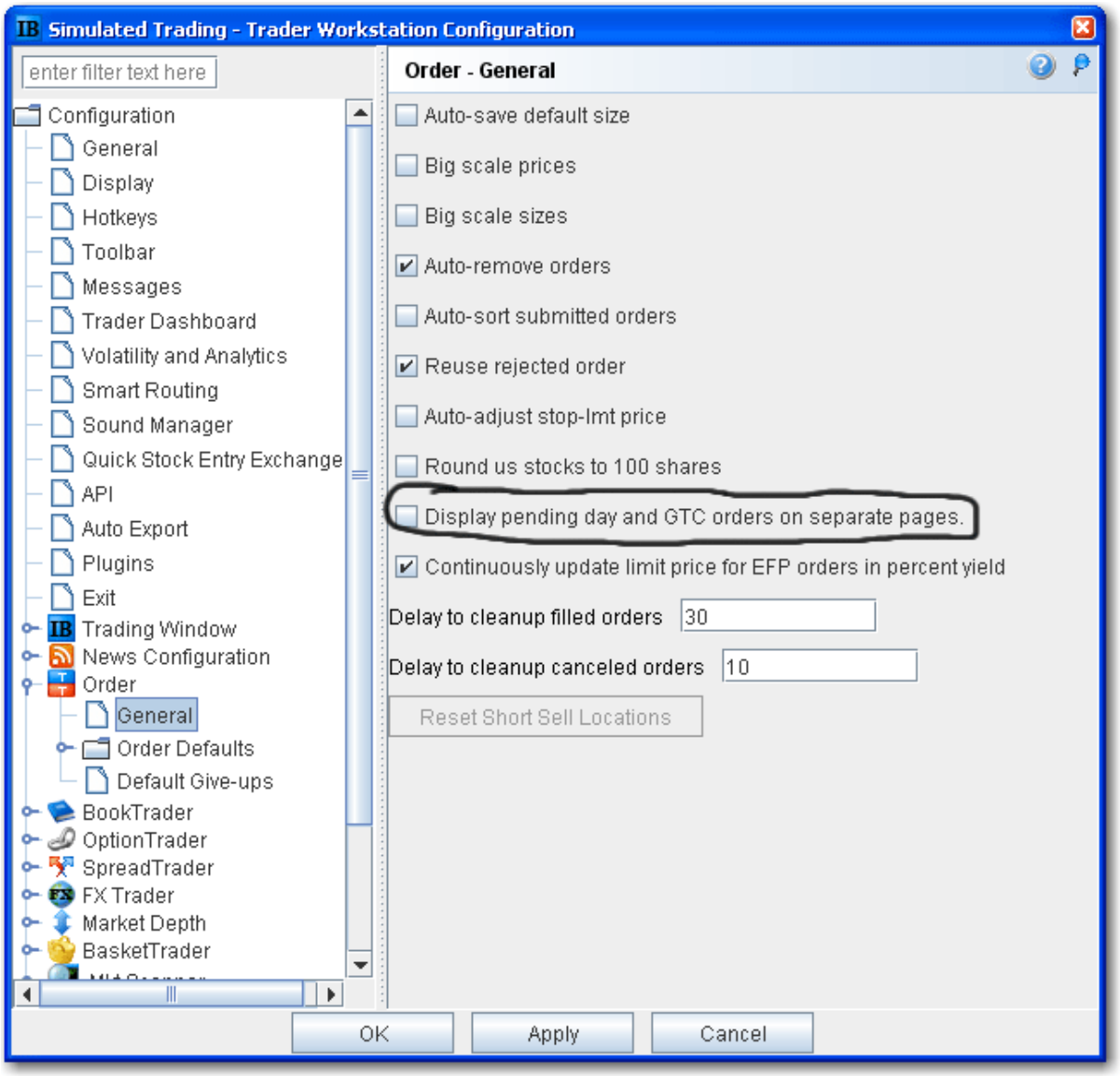
To view pending orders

On the Trading screen, click the Pending tab. When orders are working, the Pending tab title, along with the title of the page on which the asset is displayed, is red.

You can also elect to display GTC orders on a separate Pending page from other orders.

To separate Pending order pages for GTCs

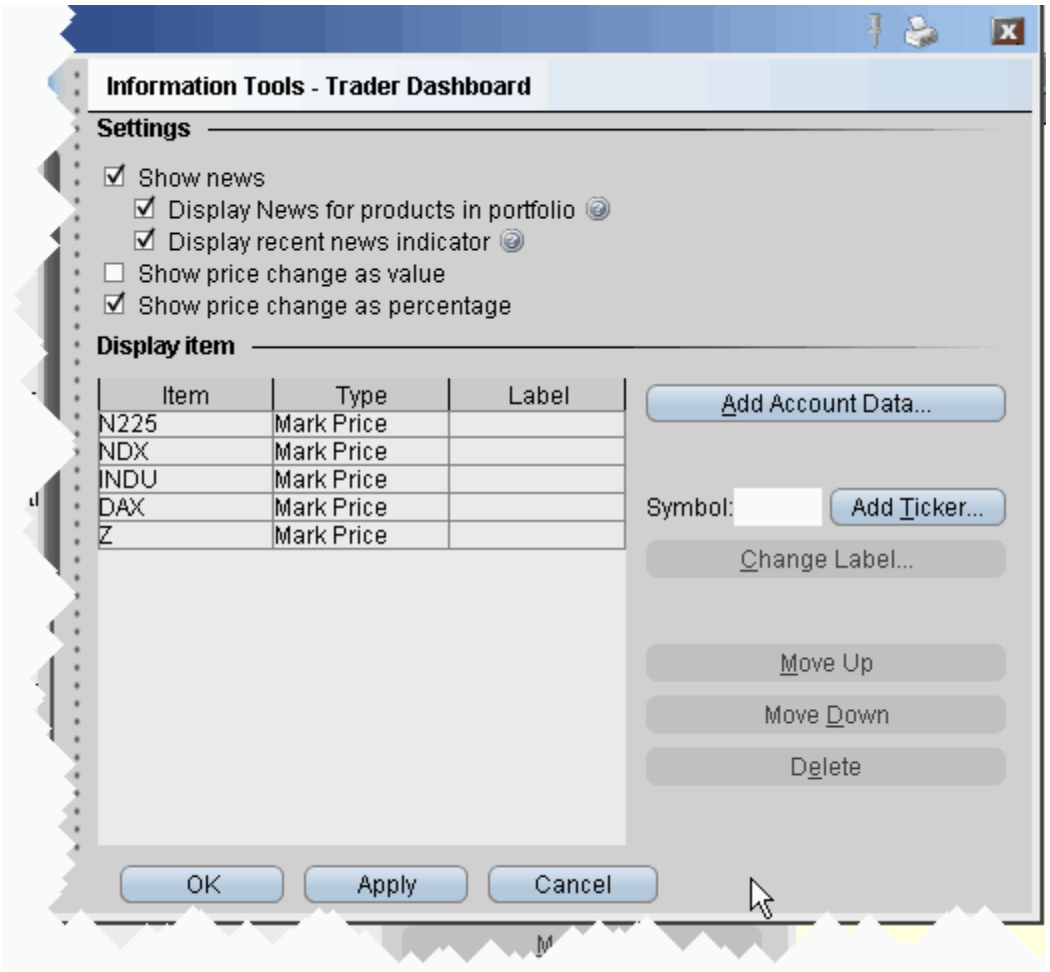
1. On the **Edit menu** select *Global Configuration*.
2. In the left pane, select **Order**, then select *General*.
3. In the right panel, check *Display pending day and GTC orders on separate pages*.



Note: You can manage working orders from the Pending page, but you cannot create an order or add a new market data line. You can also modify conditions for a conditional order from the **Pending** page.

Trader Dashboard

The real-time Trader Dashboard is an optional tool that can be displayed at the top of the pages tabset. This customizable panel allows you to monitor data fields from your Account Information window, keep abreast of the most recent activity for specific contracts, and view current real-time news headlines for products in your portfolio and for any tickers you are watching.



To configure the Trader Dashboard

1. On the **Edit** menu, select *Global Configuration*.
2. In the left pane, click *Trader Dashboard*.

3. Use checkboxes in the right pane to set the following:

   Check *Show news* to display news headlines for any products in your portfolio and to alert you to recent news on any tickers you elect to display.

   To see only portfolio-relevant news, check *Display News for products in portfolio* only.

   To only see indicators of recent news next to individual tickers that you are watching, check *Display recent news indicator* only.

   Check *Show price change in percentage* to view the last price and price change values as percentages in ticker lines.

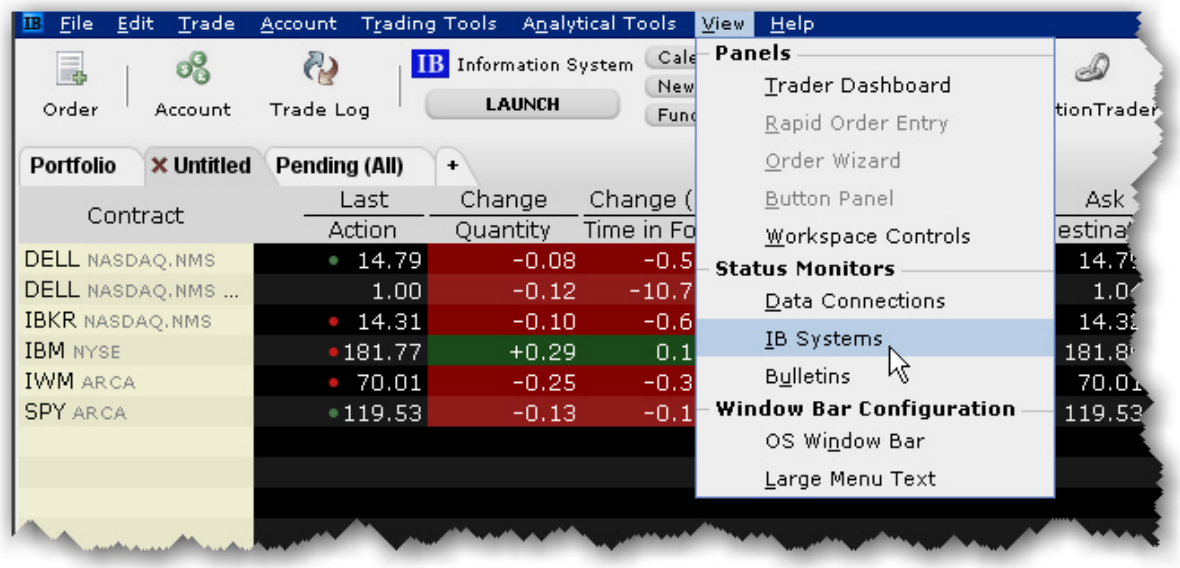
   Check Show price change in value to view the last price change as an absolute value.
4. Click the **Add Account Data** button, and scroll down the list. Double-click each Account field that you want to add to the dashboard. Each field you double-click is added to the *Display Item* list on the configuration pane. Click OK to close the *Add* box.

   The descriptions for Account Information fields are in the Account Information topic.
5. To add a last price/price change field for an instrument, enter the underlying in the *Symbol* field and click **Add Ticker,** then define the contract parameters just as you do when you add market data to the trading page. The last price/price change displays in red to indicate downward movement and blue to indicate upward movement.
6. Click **OK**. The **Trader Dashboard** is displayed at the top of your trading window, just above the pages tabset.

You can change the display name for selected dashboard fields using the Change Label feature.

Bulletins and System Status

Notices concerning exchange issues, system problems and other trading information are announced through bulletins and system status reports. Bulletins are announced by a flashing red "Bulletin" notification along the top of the Menu bar.



To read the current bulletin

Click the flashing red "Bulletin" notification.

To review bulletins

Click the Bulletin icon on the toolbar, or

From the **View** menu, select *Bulletins*.

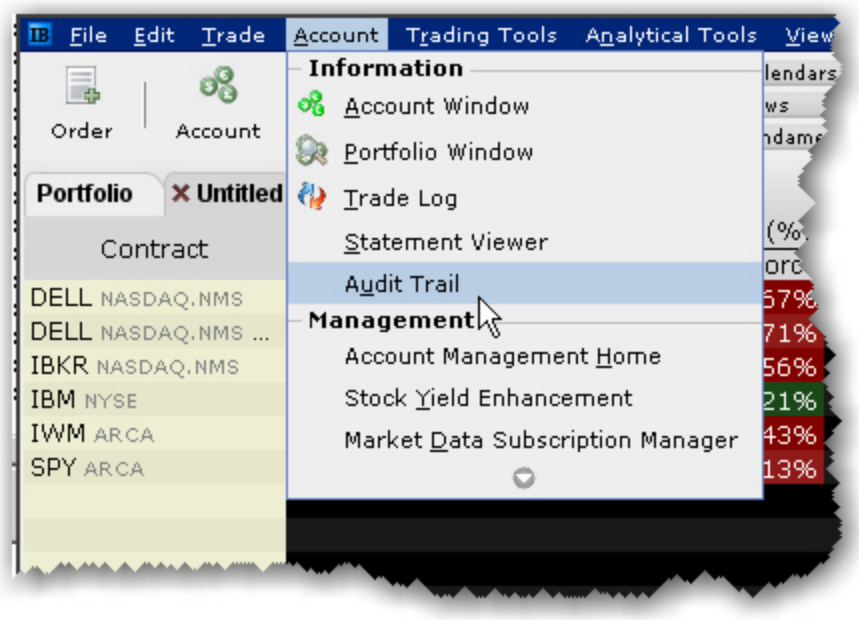
Note: You can move and resize the **Bulletins** window (which opens when you perform any of the above actions) so that it doesn't block out the critical information on your trading screen. The system saves your settings and will always open the window to the size and location you specify.

To see the system status from the website

From the **View** menu, select IB Systems.

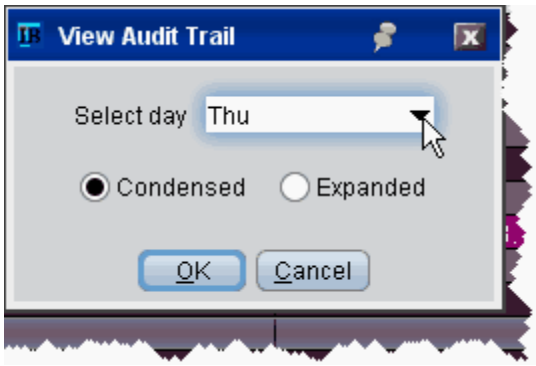
Audit Trails

This feature creates a file of daily trading activity that you can view from your browser. An audit file is created each day, and is named using the day of the week. Each week, the existing daily files are overwritten by the new files using the same name. You can rename these daily files if you want to save them.



To view an Audit Trail

1. From the **Account** menu, select*Audit Trail.*
2. Select a day up to 5 days back.
3. Choose *Condensed* or *Expanded* form, and click OK.



Best Price for Options using SmartRoutingSM

Option traders who use SmartRouting can see which exchange(s) are offering the best bid and ask price. This information is displayed in the Bid Exch and Ask Exch fields on the Market Data line. Each exchange is represented by a single alpha character as defined in the table below. If multiple exchanges show an identical "Best" price offering, then multiple alpha characters are displayed. For example, if "ACP" is displayed in the Bid Exch column of a market data line, it means that AMEX, CBOE, and PSE are all offering the identical highest bid price (shown in the Bid Price column) for the option. Valid exchange abbreviations are:

Acronym	Exchange
A	AMEX
B	BOX
C	CBOE
I	ISE
P	PSE
X	PHLX
BT	BATS
W	CBOE2

Exchange abbreviations are always displayed in yellow. The **Bid Price** and **Ask Price**, **Bid Size** and **Ask Size** colors convey the following information:

Color	Description
YELLOW	YELLOW indicates no change in price or size.

GREEN	GREEN indicates an upward movement in price or size.
ORANGE	ORANGE (or red) indicates a downward movement in price or size.
PURPLE	PURPLE indicates that the best price is not executing automatically at any of the exchanges displayed.

SmartRouting does not guarantee that your order will execute at the best displayed price. We display prices in purple to illustrate that some exchanges are not automatically executing at the best price, and that your order might execute at a different price. However, the availability of automatic execution updates with every tick.

> **Note:** ISE always executes automatically, but may not always be offering the best price and may slow down their execution times in a fast market.

For more details on order routing and Smart Order routing, see the Customer Agreement on the IB website.

8

Price Risk Analytics

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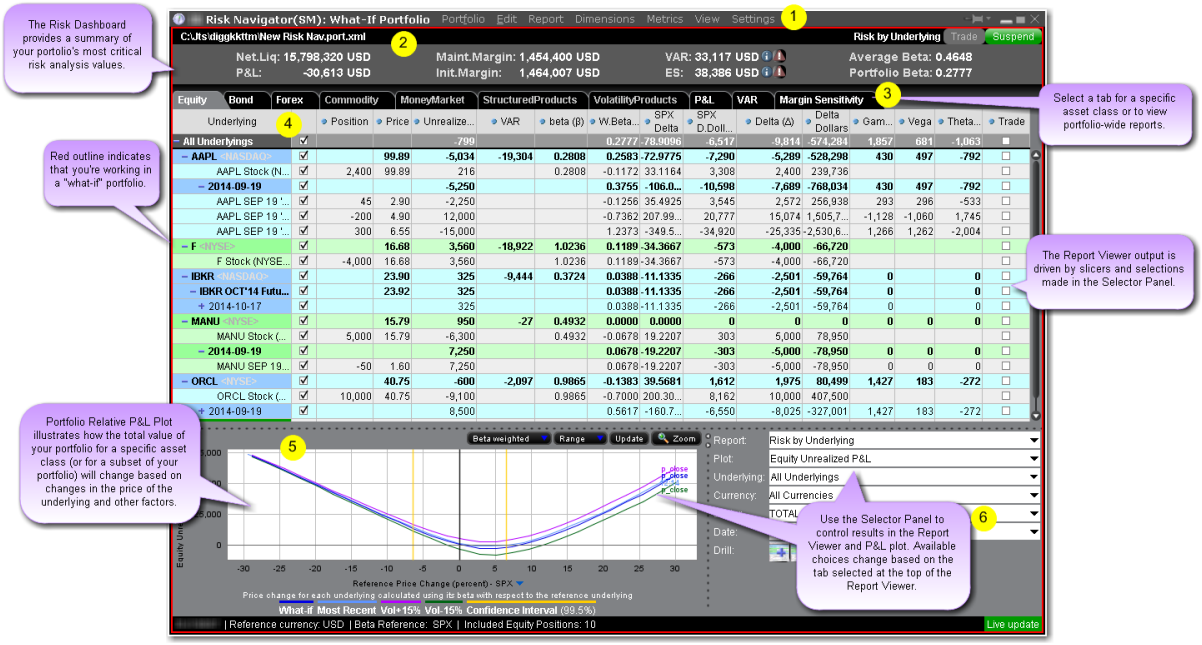
Understanding the Risk Navigator Interface

Sections of the Risk Navigator interface are described below.

1. The title bar shows the portfolio name and type, and displays the menus.
2. The Risk Dashboard provides a snapshot view of key account metrics. It is always displayed at the top of the interface above the Report Viewer regardless of the selected tab.
3. The tabset list provides easy navigation between asset types and information sets.
4. The Report Viewer displays data that is driven by selections in the Report Selector. It can be customized by adding and removing fields, resizing columns and resorting. The Report Viewer for each tab operates independently of all others; changes made to the Report Viewer for one tab are not reflected in viewers for other tabs. This means you will need to add desired fields to each Report Viewer.
5. The Portfolio Relative P&L Graph illustrates how the value of your portfolio (or of the selected sub portfolio) will change based on percent changes in the price of the underlying.
6. The Report Selector controls the output displayed in the Report Viewer and in the P&L Graph. Available selections in the drop down

lists vary based on the selected tab. For example, reports displayed for the **Equity** tab may not be relevant in the **Bond** tab.



Open the Risk Navigator

The Risk Navigator℠ shows your portfolio risk for multiple asset classes, and allows you to:

View and assess specific risk slices of your portfolio, such as risk by position, risk by underlying, and risk by industry.

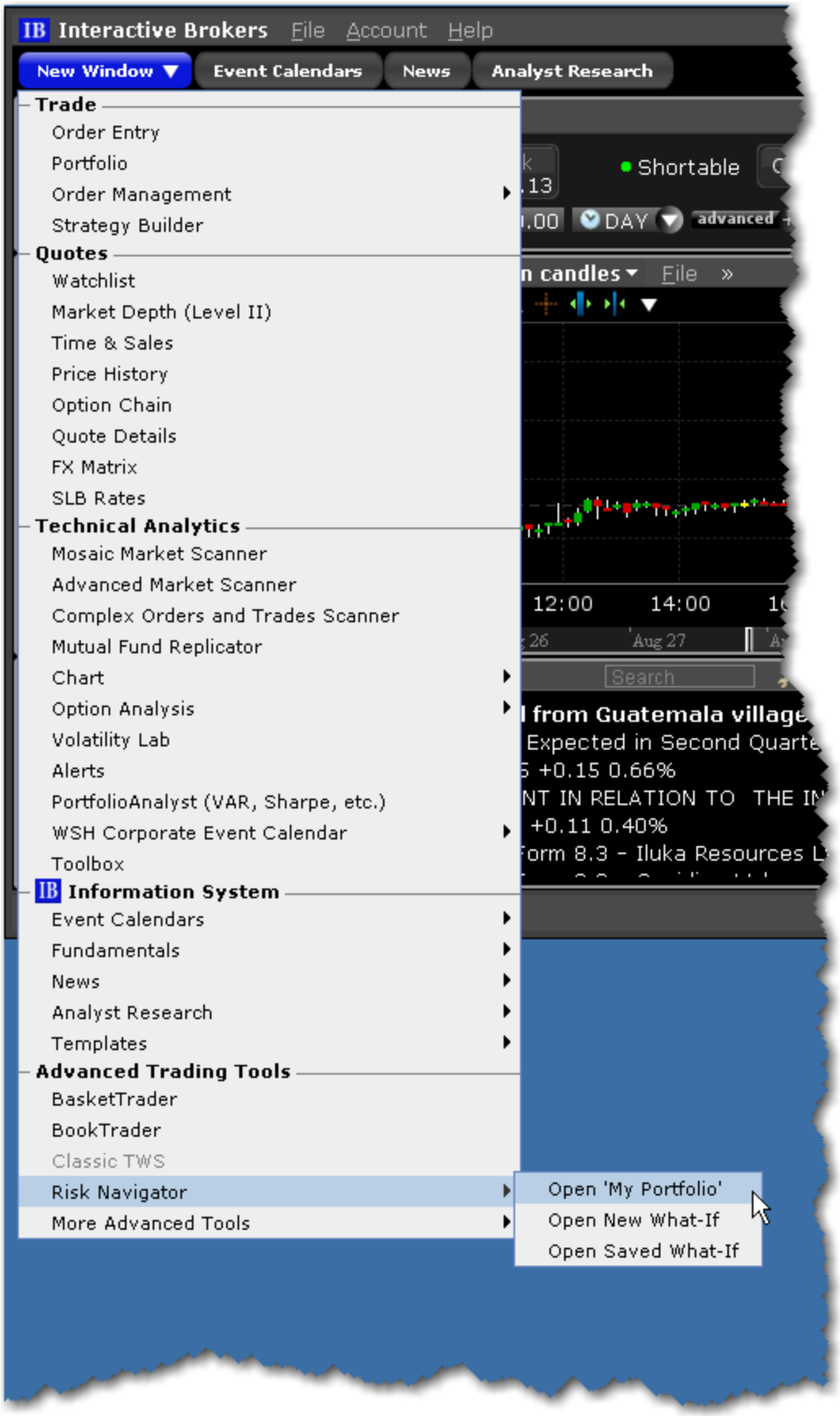
View the greek contract and position risk dimensions for each report.

Assess Value at Risk and check Margin Sensitivity.

Measure your portfolio P&L (from close-to-close) by Price Change/Volatility Change, and measure exposure and the greek position dimensions by Underlying/Maturity.

Hypothetically modify your portfolio to test different risk scenarios before making actual changes.

Much more!


Interactive Brokers File Account Help
New Window
Event Calendars
News
Analyst Research
Trade
Order Entry
Portfolio
Order Management
Strategy Builder
Quotes
Watchlist
Market Depth (Level II)
Time & Sales
Price History
Option Chain
Quote Details
FX Matrix
SLB Rates
Technical Analytics
Mosaic Market Scanner
Advanced Market Scanner
Complex Orders and Trades Scanner
Mutual Fund Replicator
Chart
Option Analysis
Volatility Lab
Alerts
PortfolioAnalyst (VAR, Sharpe, etc.)
WSH Corporate Event Calendar
Toolbox
Information System
Event Calendars
Fundamentals
News
Analyst Research
Templates
Advanced Trading Tools
BasketTrader
BookTrader
Classic TWS
Risk Navigator
More Advanced Tools
Open 'My Portfolio'
Open New What-If
Open Saved What-If
Shortable
DAY
advanced
candles
File
12:00
14:00
Aug 27
Search

To open Risk Navigator

From Mosaic - From the **New Window** drop down select *Risk Navigator* and then elect to open:

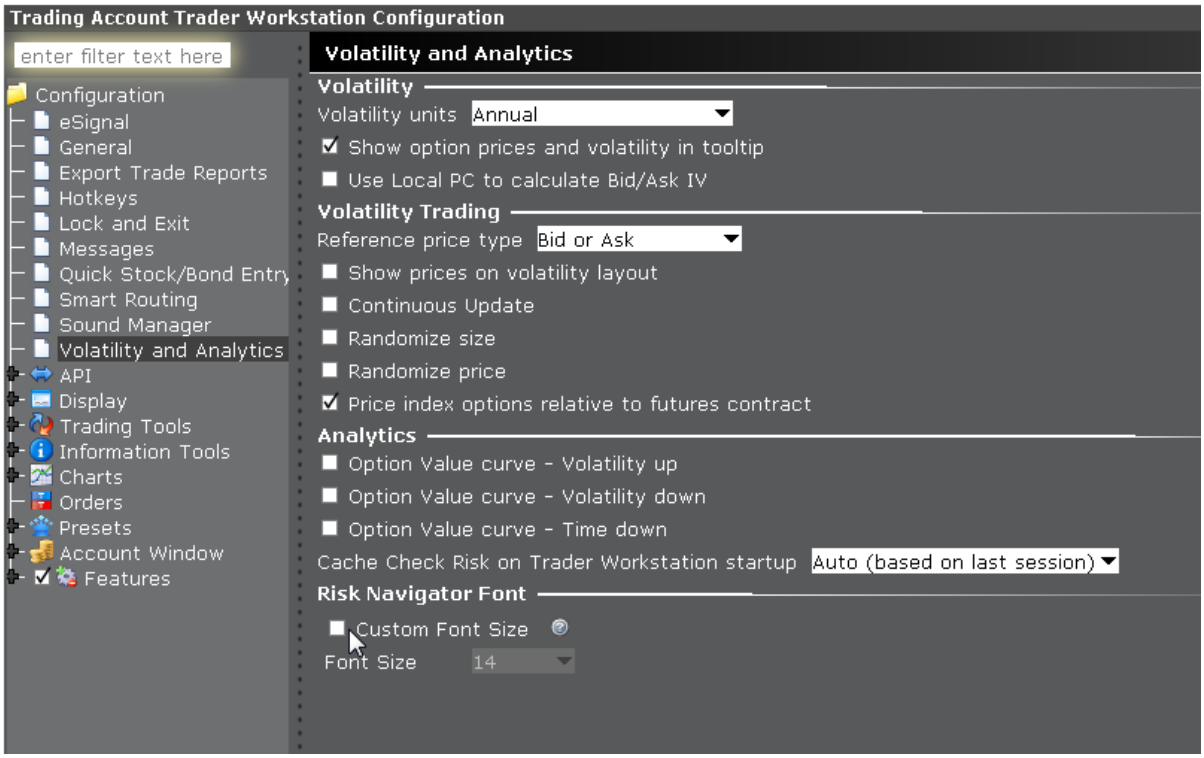
My Portfolio: This uses your actual live portfolio.
New What-If: Opens a new hypothetical test portfolio. You can elect to fill the what-if with a copy of your current portfolio, or start with a blank frame and add positions manually.
Saved What-If: Invokes the **Open** file dialog box to the default directory of saved what-if portfolios you may have created in the past.

From Classic TWS - From the **Analytical Tools** menu select *Risk Navigator*.
NOTE: If you don't see Risk Navigator in the list (in the Portfolio category), use the expand arrow at the bottom of the list to display this choice.

IB Risk Navigator report data refreshes automatically every 10 seconds, and immediately whenever an order executes, for all reports except the *Measure by Price Change and Volatility Change*. This report uses prices from the close of the previous business day and calculates market outcome risk by advancing the time parameter to the close of the next business day.

Change Font Size

By default, the Risk Navigator inherits its font and size from TWS, but you can change the font size in Risk Navigator from the Volatility and Analytics page in Global Configuration.



To change the font in Risk Navigator

Click the Configuration "wrench" icon in the Risk Navigator title bar and select Configure Font.

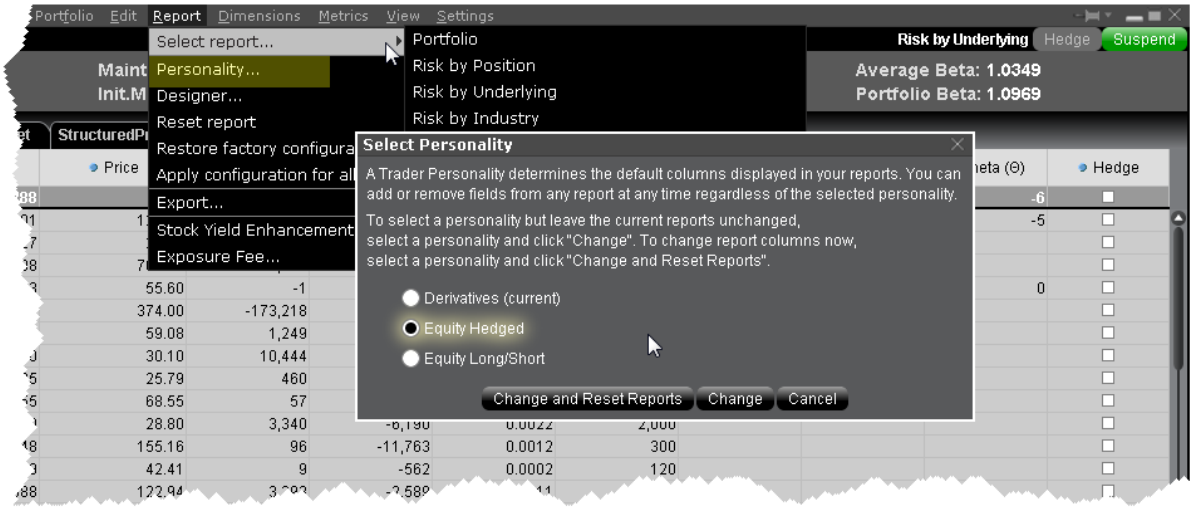
From the Risk Navigator Font section of the Volatility and Analytics configuration page, check **Custom Font Size** and enter a size.

Click OK.

Risk Navigator Trader Personalities

To help make the default report fields more relevant for traders, Risk Navigator provides a "personality" selector to drive the selection of fields on each report. You can add or remove fields from reports at any time. To modify a single report, work directly in that report. To configure multiple reports, use the Report Designer.

To choose a personality, from the **Report** menu select *Personality*.

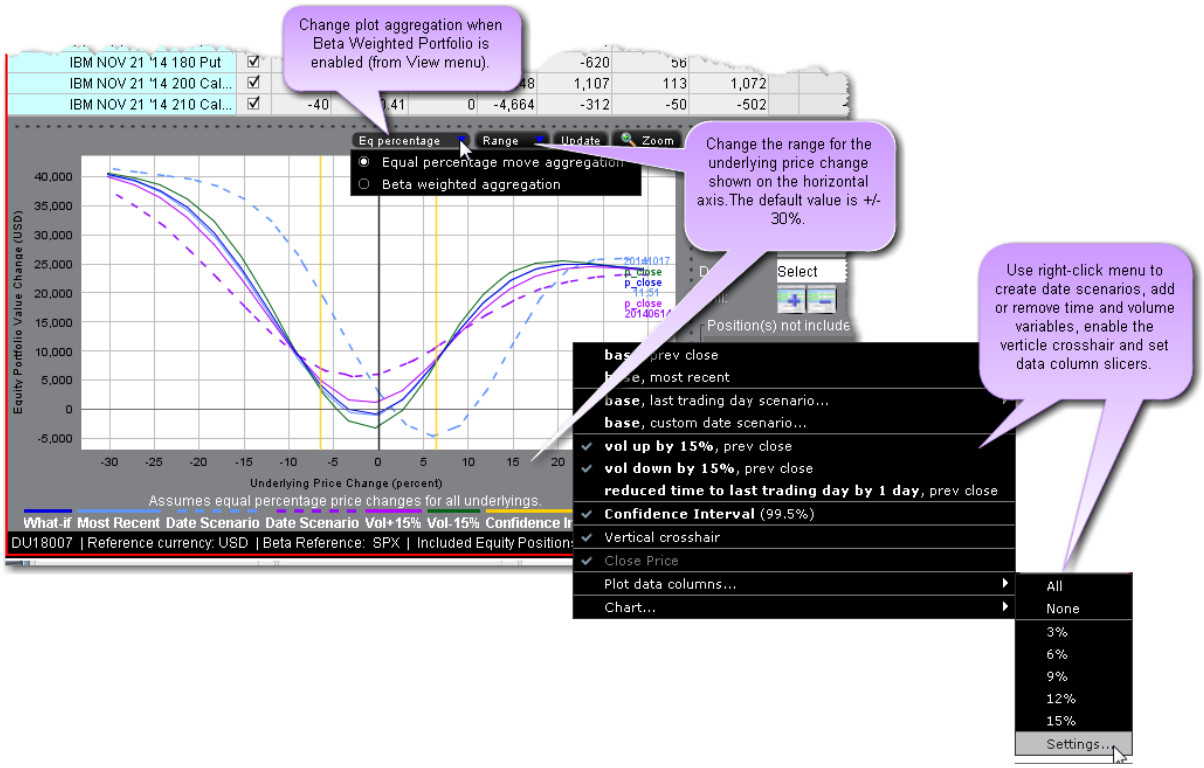


You can select a personality and have all reports changed by clicking *Change and Reset Reports*. To keep your reports set up as is, select a personality and click *Change*. You can then modify the field layout on a report-by-report basis using the *Reset Report* command on the **Report** menu.

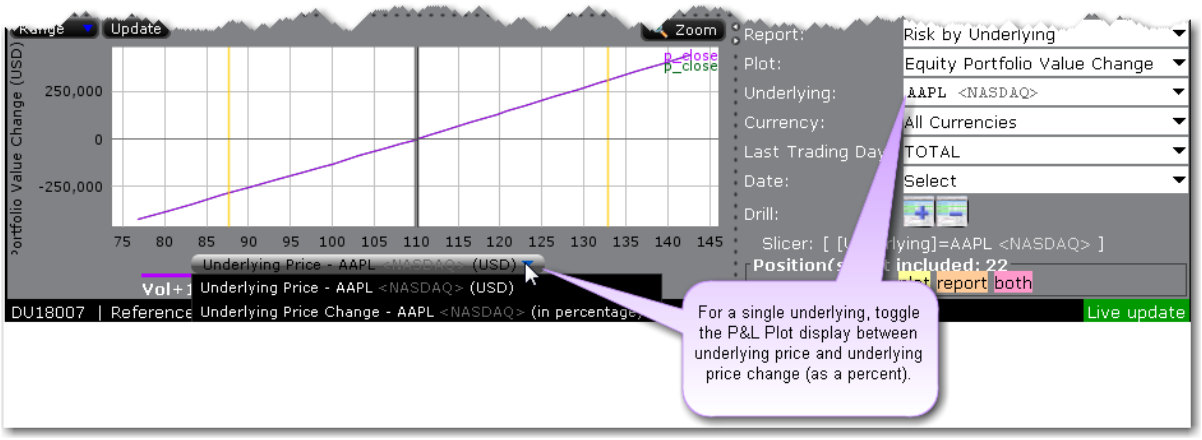
To see the fields that are included by default in each personality, see the Fields per Report for Trader Personalities topic.

Portfolio Relative P&L Graph

The **Portfolio Relative P&L** graph illustrates how the total value of your portfolio for a specific asset class (or a subset of your portfolio) will change, based on a percent change in the price(s) of the underlying(s). Available settings may change based on the asset class displayed.



The image above shows the portfolio relative P&L for an equity portfolio, based on the value **All Underlyings** selected from the *Underlying* list in the **Report Selector**.



For a single underlying, you can toggle between showing the absolute price or showing the underlying price change as a percent. Click the price label below the horizontal price axis to select a display type.

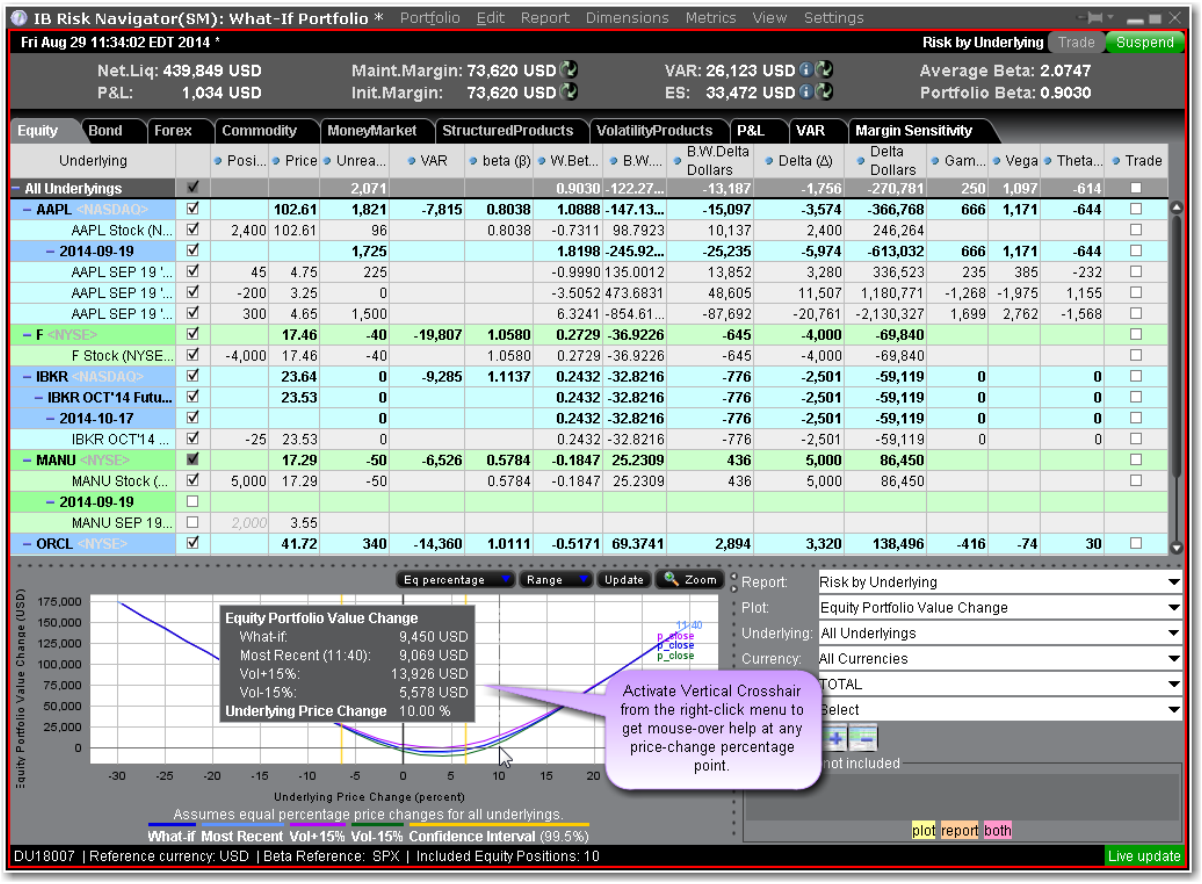
Note that for leveraged ETFs, the Risk Navigator moves them by their target performance ratio in the aggregated P&L graph. For example, for an index and its triple inverse ETF, to the +10% P&L it adds the index P&L at 10% to the ETF P&L at -30%. When either one is plotted individually, it shows their own P&L, but it shows the index on a +/-30% range and the ETF on a +/-90% range. Risk Navigator

Beta analysis in IB Risk Navigator allows the investor to view the P&L plot differently. In its default format "Equal Percentage," the P&L plot assumes a same percentage move for all underlying portfolio pieces. When Beta Weighted Aggregation is selected, the underlying price scenario includes beta weighted price changes. Beta explains the performance of a stock over and above that associated only with the performance of the market itself.

The **Confidence Interval**, shown within the yellow vertical lines, illustrates the worst-case loss over a one-day period with a default 99.5% confidence level. Use the *Confidence* subcommand on the **Settings** menu to toggle between 95%, 99% and 99.5% confidence levels. Turn the Confidence Level brackets on or off using the *Confidence Interval* command on the right-click menu.

Use the *Vol-up by 15%**, *Vol-down by 15%** and *reduced time to expiry by 1 day* checkboxes in the right-click menu to view the plot under different scenarios to help you visualize the volatility and time risk in your option positions. While you can elect to display the base P&L using both the previous day’s closing price and the most recent dynamic price, the volatility and time variables are always based on the previous close.

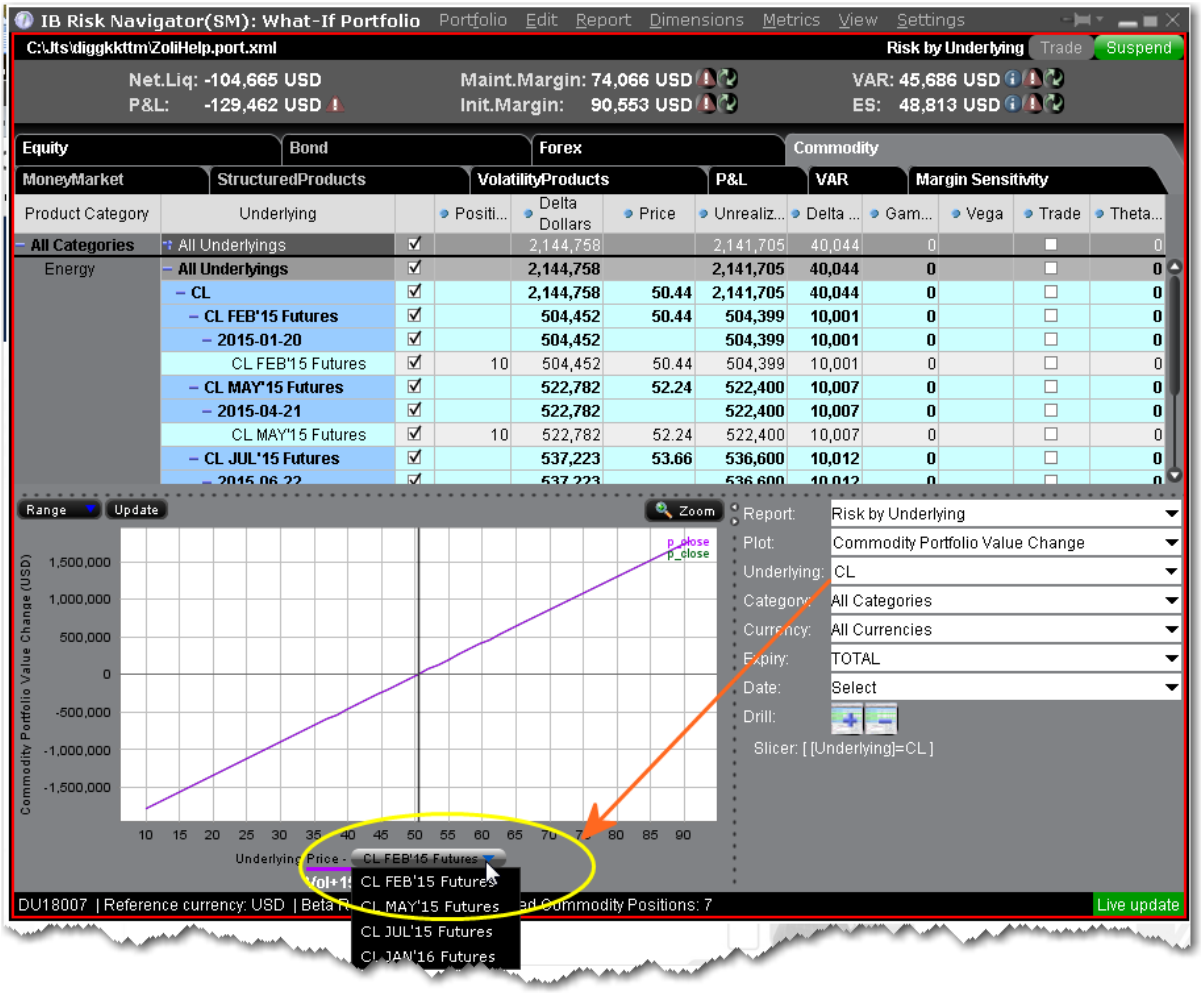
*The Vol Up and Vol Down commands increase/decrease projected volatility in relative percent change. Relative percent change is calculated by multiplying the current implied volatility by 15%, and adding/subtracting this value to/from the current implied volatility. For example, if the current implied volatility of an option is 10%, a 15% relative increase would result in an implied volatility of 11.5%, calculated as follows: 10 + (10 * 0.15) = 11.5% . If the current implied volatility of an option is 42.45%, a 15% relative decrease would result in an implied volatility of 36.082%, calculated as follows: 42.45 - (42.45 * 0.15) = 36.082%.



When the Vertical Crosshair is activated on the P&L graph using the right-click menu, you will get mouse-over help at any price-change percentage point.

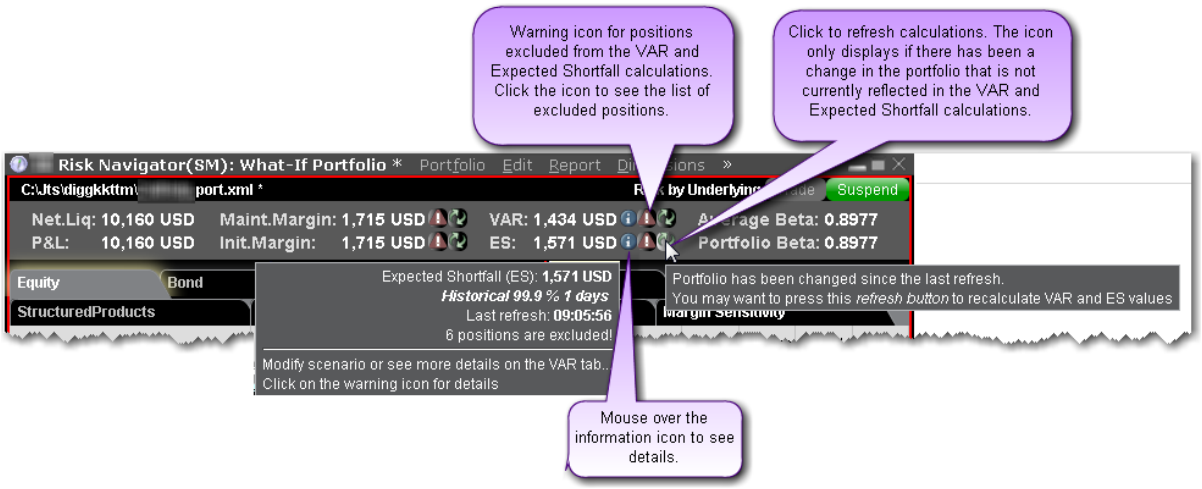
For Bonds, the P&L plot is based on the interest rate change.

In cases where the index price is invalid for futures/futures options, the graph provides a drop-down selector with available expirations to use for the reference price. Ensure that the "Underlying" field in the report selector has only one contract selected.



Risk Dashboard

The Risk Dashboard is pinned along the top of the product tabsets, and is available for what-if as well as active portfolios. The values are calculated on demand for what-if portfolios. The dashboard provides at-a-glance account information including:



Dashboard Field	Description
Net Liquidation	The total Net Liquidation value for the account. This value is taken from the Total Net Liquidation Value field in the Account Information window.
P&L	The total daily P&L for the entire portfolio. This value is taken from the "All Contracts" level of the Risk Navigator **P&L** tab in the *P&L for the Day* field.
Maintenance Margin	Total current maintenance margin. Use this to see margin for a hypothetical what-if portfolio as well as for your current portfolio. This value is taken from the Margin Requirements section in the Account Information window.
Initial Margin	Total initial margin requirements. Use this to see margin for a hypothetical what-if

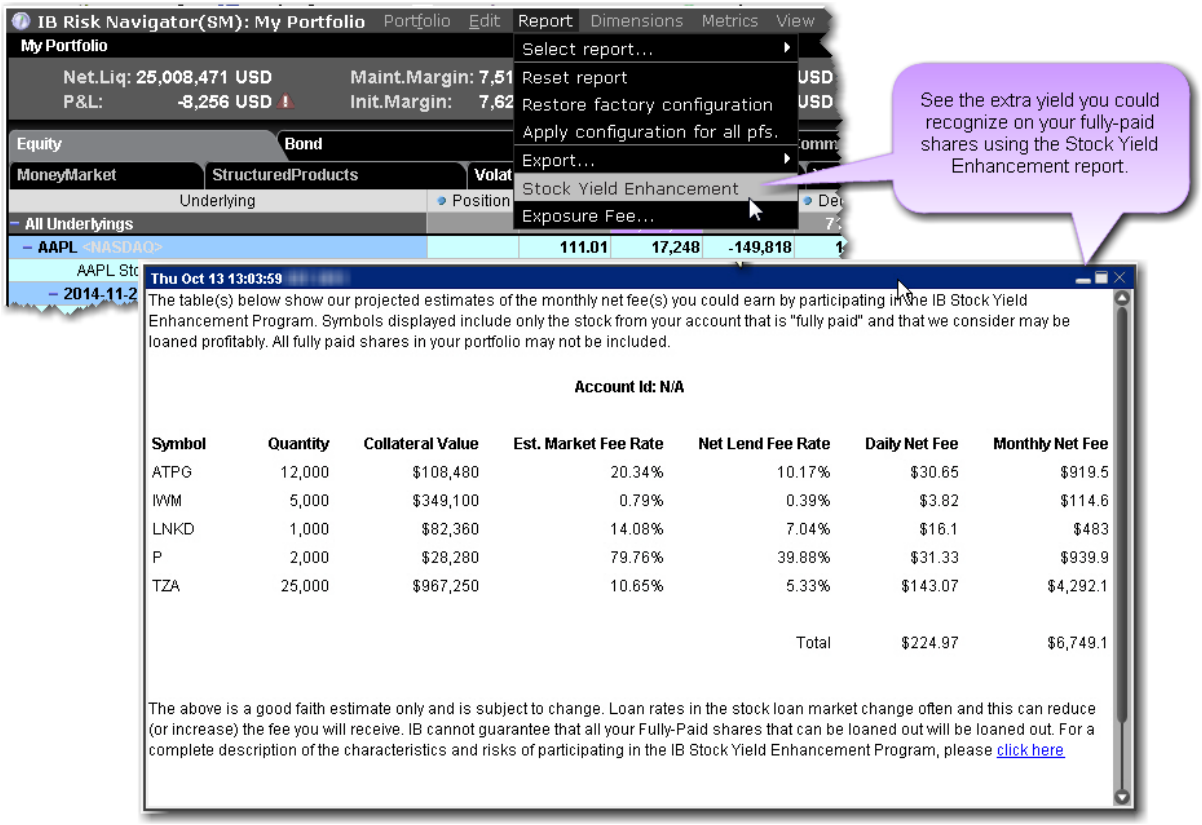
	portfolio as well as for your current portfolio. This value is taken from the Margin Requirements section in the Account Information window.
VAR	Shows the Value at Risk for the entire portfolio. VAR is a measure of the largest anticipated loss over a specified time period and confidence level, where the confidence level provides the probability that the VAR measure will not be exceeded.
Expected Shortfall (ES)	Expected Shortfall (average value at risk) is the expected return of the portfolio in the worst case; the average of all losses which are greater or equal than VaR.
Average Beta	The sum of the raw beta (the beta on the underlying) beta across the entire portfolio divided by the number of positions.
Portfolio Beta	The sum of the weighted beta for all positions. This sum is also reflected in the top total row of the Weighted Beta column.

To hide or display the dashboard

From the **View** menu, select *Risk Dashboard*.

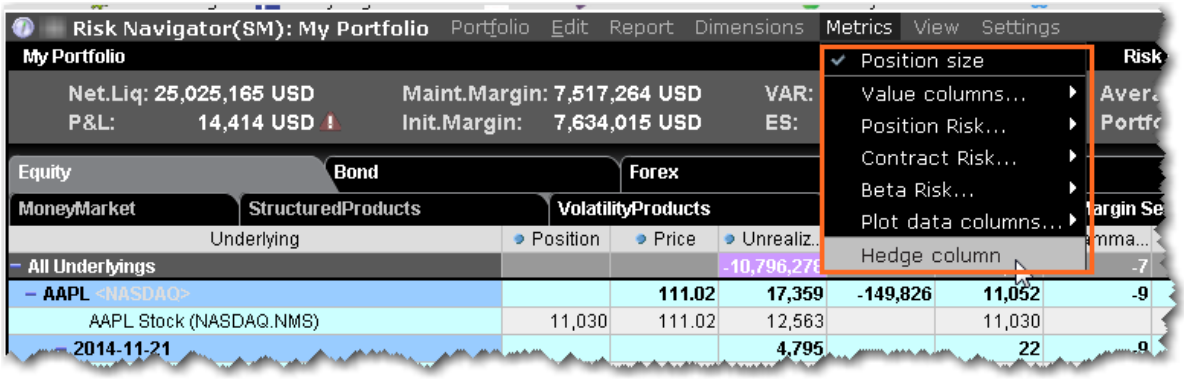
Stock Yield On Demand

The Stock Yield Enhancement Program allows you to earn extra income on the fully-paid shares of stock held in your account. You can find out what your potential extra earned income would be at any time using the Stock Yield report.



Create a Basket Hedge Order

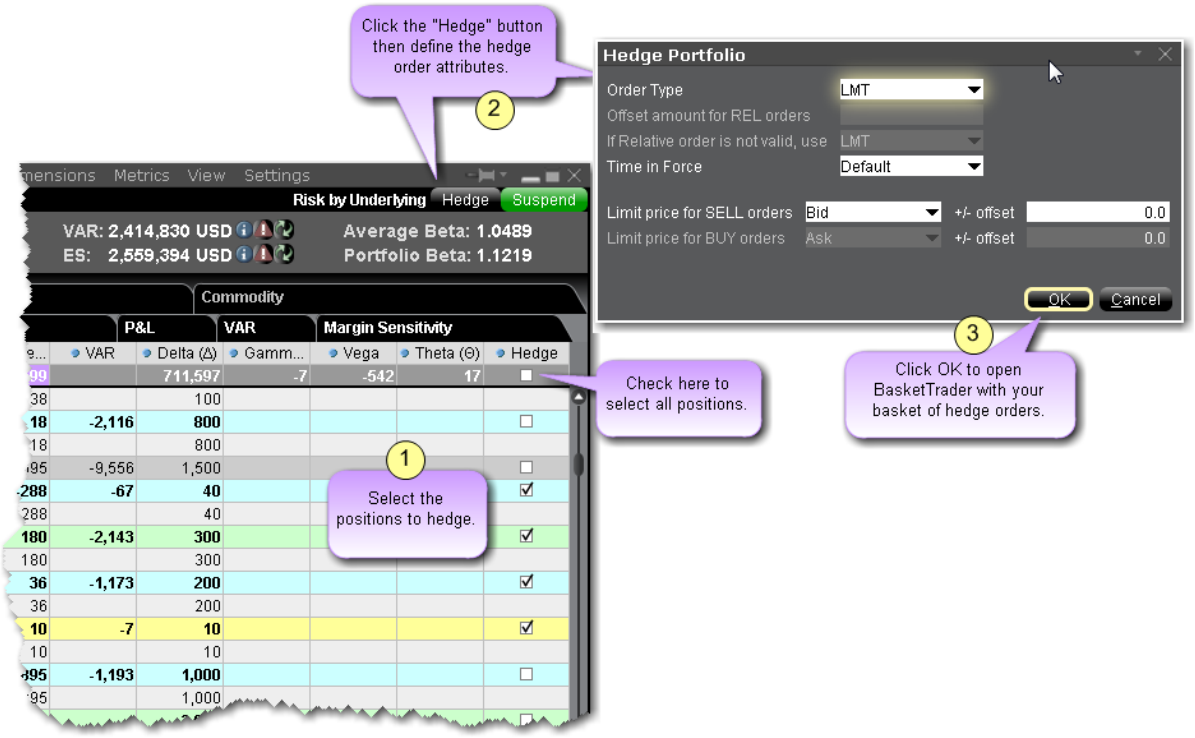
Display the Hedge metric on the Risk by Underlying and Risk by Industry reports to create a basket of delta hedge orders.



To create a basket hedge

1. Display the *Hedge column* from the **Metrics** menu.

If the feature is grayed out on the Metrics menu, it's not supported for that report. The Hedge checkbox functions at the aggregated level, and is only available in reports with a collapsible contract dimension, i.e. Risk by Underlying, Risk by Industry, Risk by Country, Plot Data by Underlying etc.



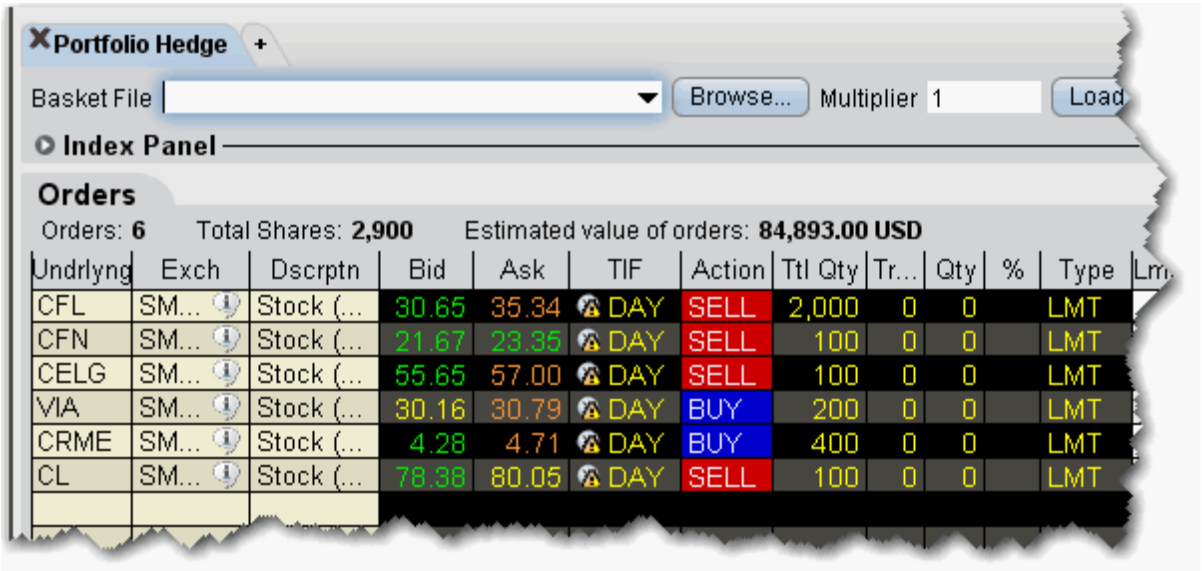
2. Enable the checkbox in the Hedge column of an underlying for all subportfolios whose deltas you want to hedge.

   To select all subportfolios, use the checkbox in the *All Underlyings* top row.

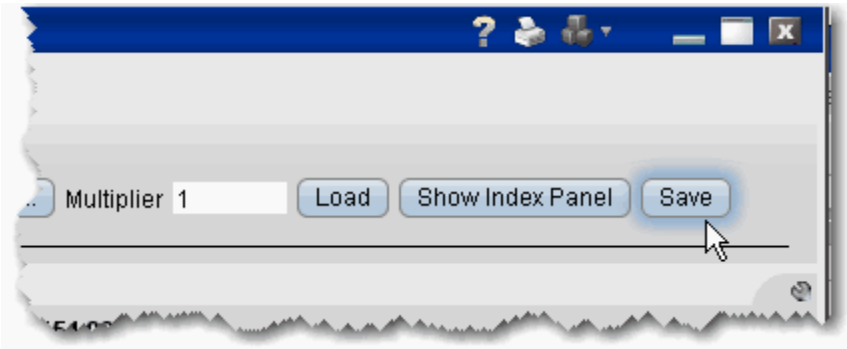
3. When all contracts are selected, click the **Hedge** button in top right corner of the report.
4. Define the hedge order attributes and click OK:

   Pick the order type (Limit, Market or Relative).

   If you selected the Relative order type, define the relative offset amount
5. The BasketTrader opens, and the legs of the order reflect the subportfolios you selected in the Risk Navigator.



The Total Quantity for each leg is identical to the delta for the subportfolio, with the Action set to the opposite side; if the delta is positive, the leg becomes a SELL order. If the delta is negative, the leg becomes a BUY order.



You can save the basket for later use by clicking the **Save** button at the top right of the basket.

For more information on using basket orders, see the BasketTrader topic.

Upload a Portfolio

You can import your portfolio into IB Risk Navigator using a .csv Excel spreadsheet. Positions are imported into a hypothetical What-if. Once imported, you can create orders from the What-If

to add the imported positions to your actual portfolio.

You can also create a what-if and quickly populate it with your existing portfolio all from within the Risk Navigator.

To create a .cvs file to import

Create an Excel spreadsheet.

Create a header row that contains the field headings. Field headings can be in any order. Valid header row field titles include (but are not limited to):

```
Action - Buy, Sell
Quantity - 1, 100, etc.
Symbol - Underlying symbol
TimeInForce - DAY, GTC etc.
SecType - stk, opt, fut etc.
OrderType - LMT, MKT etc
LmtPrice
Exchange - SMART, NYSE etc
RoutingStrategy - SMART MaxRebate etc.
Currency
LastTradingDayOrContractMonth - 201506
Strike - 129, 56 etc
Right - Call, Put
DivPrt (dividend protected - for futures)
CUSIP
ISIN
```

For each position you want to import, create a single row of parameters. Ensure that field values match the field label in the header row. For example, don't put the symbol "IBKR" in a field under the SecType field or the import will be rejected.

If the order does not require a specific field value, that cell should be left blank.

Save the spreadsheet with a .csv extension, making note of where you save it.

To import a .csv portfolio file into Risk Navigator

Open the IB Risk Navigator.

a. From Mosaic, use the **New Window** dropdown.
b. From Classic TWS, use the **Analytical Tools** menu.

From the **Portfolio** menu select *Import*.

Navigate to the .csv file or enter the file name in the *File Name* field and click **Open**.

The imported orders are opened in a new What-If portfolio. Note that both Maintenance and Initial margin values are displayed for the portfolio in the Risk Dashboard. If you have multiple asset types, use the tabset to display risk for each type.

Increase Memory Size for TWS

Advanced users who manage large portfolios (over 500 stock or 100 options positions) or who simultaneously use more than 15 chart windows may need to manually increase the amount of memory allotted to TWS to accommodate the higher demands needed by both TWS and the Risk Navigator to handle this kind of heavy load.

Modifying the memory size requires that you open, edit and save the tws.vmoptions file.

Find the tws.vmoptions File

Standard Download: If you downloaded standard TWS software (Latest, Beta or stable) you will find this file in the Jts folder which is typically in the `C:\` directory on Windows/Linux machines, and in `~/` on the Mac.

If you didn't specifically find and download the Offline TWS, you are using the standard TWS software.

For example, you will likely find the file in `C:\Jts\tws.vmoptions` (Windows and Linux) and in `~/Jts/tws.vmoptions` (Mac).

Offline Download: If you downloaded the Offline TWS software, you will find this file in a sub directory of the Jts folder, named for the build version you downloaded.

For example, if you installed Offline TWS Latest when the latest version was 955.4, you will likely find the file in `C:\Jts\955\tws.vmoptions` (Windows and Linux) and in `~/Jts/tws-955.vmoptions` (Mac).

Edit the tws.vmoptions File

Open the file, and find the line that looks like: `-Xmx768m`. This defines the memory size currently being used by TWS. In this example, it is 768 MB.

Modify the size (in MB). We recommend not to go above 2 GB (or 2000 MB) as this will likely degrade your machine's overall performance.

Move this memory size line BELOW the line that says: `### keep on update`. Otherwise, the setting will revert to the default value when the version is updated.

The body of the file will look something like the below when you're done (note the highlighted lines at the bottom of the file):

```
#
# This file contains VM parameters for Trader Workstation.
# Each parameter should be defined in a separate line and the
# last line must be followed by a line feed. No leading or
# trailing whitespaces are allowed in the same line, where a
# parameter is defined.
#
# Lines starting with a '#' character are treated as comments
# and ignored. Additionally, if a line contains a
# '### keep on update' string, all parameters defined below will
# be preserved on update.
#

# maximum Java heap size


# preferred channel for updates ("stable", "latest", "beta")
-Dchannel=latest

-Dinstaller.uuid=f465fd1a-f982-4e52-8a60-861446b30d10
-DvmOptionsPath=C:\Jts\tws.vmoptions
-Dsun.java2d.noddraw=true
-Dswing.boldMetal=false
-Dsun.locale.formatasdefault=true
-Djnlp.twslaunch.jars=jts4launch.latest.jar;total.latest.jar
-Djnlp.twslaunch.start=twslaunch.latest.jar
-Djnlp.twslaunch.codebase=https://download2.interactivebrokers.com/installers/tws/latest/

### keep on update

-Xmx1500m
```

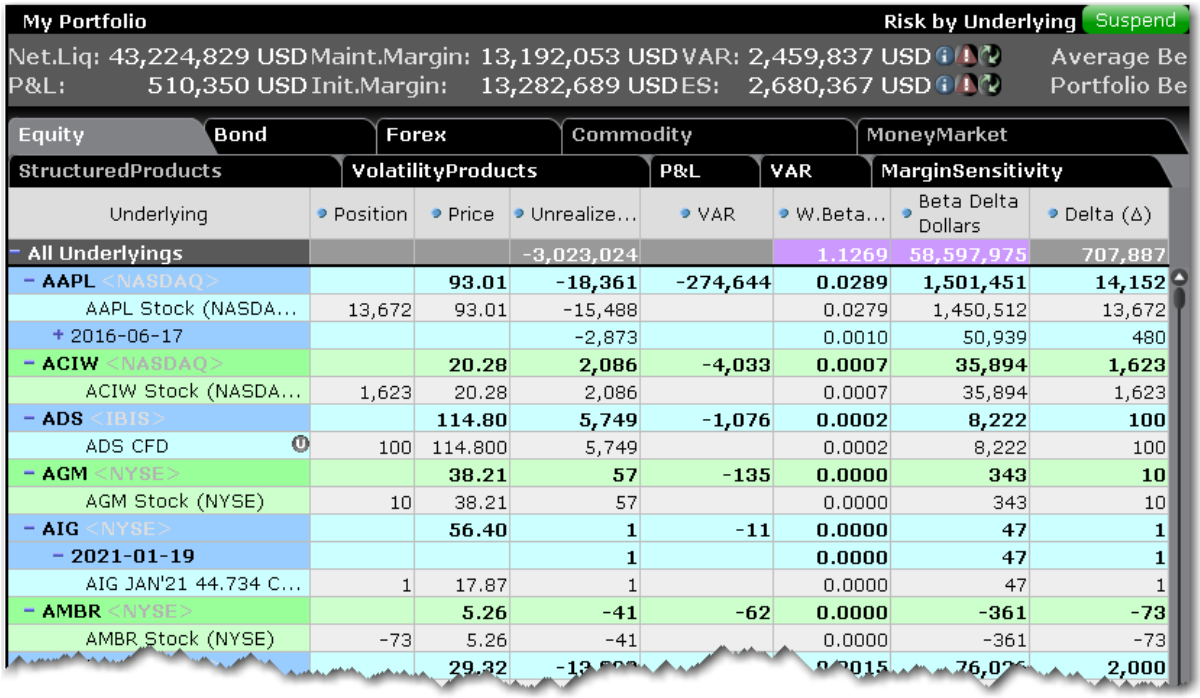
Save the file.

Risk Navigator Products and Tabs

Positions within each "product tab" are grouped by asset class, and the Report Viewer displays only those reports available for a specific tab. Product categories are presented on different tabs

Equity Tab

All non-bond positions that cannot be clearly categorized into the other tabs are put into the equity tab. The following reports are available for products on the Equity tab:



Underlying	Position	Price	Unrealize...	VAR	W.Beta...	Beta Delta Dollars	Delta (Δ)
All Underlyings			-3,023,024		1.1269	58,597,975	707,887
AAPL <NASDAQ>		93.01	-18,361	-274,644	0.0289	1,501,451	14,152
AAPL Stock (NASDA...	13,672	93.01	-15,488		0.0279	1,450,512	13,672
2016-06-17			-2,873		0.0010	50,939	480
ACIW <NASDAQ>		20.28	2,086	-4,033	0.0007	35,894	1,623
ACIW Stock (NASDA...	1,623	20.28	2,086		0.0007	35,894	1,623
ADS <IBIS>		114.80	5,749	-1,076	0.0002	8,222	100
ADS CFD	100	114.800	5,749		0.0002	8,222	100
AGM <NYSE>		38.21	57	-135	0.0000	343	10
AGM Stock (NYSE)	10	38.21	57		0.0000	343	10
AIG <NYSE>		56.40	1	-11	0.0000	47	1
2021-01-19			1		0.0000	47	1
AIG JAN'21 44.734 C...	1	17.87	1		0.0000	47	1
AMBR <NYSE>		5.26	-41	-62	0.0000	-361	-73
AMBR Stock (NYSE)	-73	5.26	-41		0.0000	-361	-73
		29.32	-13		0.0015	76,0	2,000

Portfolio Report

Use the **Portfolio** report to view risk and exposure for all positions in your portfolio. You can view totals for specific risk measures (where applicable) in the Risk by Underlying report.

My Portfolio

Report Dimensions Metrics View Settings Port

Underlying	Description	Po...	Price	Value	P&L	Exp...	Delta...	Gamma...	Vega	Theta.
ADBE...	ADBE JAN 16 '09 45.0 ...	-10	3.40	-3,400	743	-18,346	-456	-34	-162	
AA	AA JAN 18 '08 30.0 PU...	-20	0.10	-200	-160	4,928	141	-73	-20	3
<NYSE>	AA APR 18 '08 30.0 PU...	-10	1.05	-1,050	-307	7,306	210	-37	-54	1
AAPL...	AAPL JAN 16 '09 300.0 ...	-20	11.80	-23,600	1,136	-99,978	-529	-7	-1,274	8
ABT ...	ABT FEB 15 '08 47.5 P...	-10	0.10	-100	-32	2,733	49	-17	-21	
ACIW...	ACIW Stock (NMS)	1,500	16.62	24,930	-1,995	24,930	1,500			
ADCT	ADCT JAN 18 '08 15.0 ...	-25	0.85	-2,125	-1,080	20,925	1,437	-585	-28	5
<NASDAQ	ADCT JAN 18 '08 17.5 ...	-25	3.00	-7,500	-2,018	31,014	2,130	-250	-17	4
ADI <...	ADI JAN 18 '08 30.0 PU...	-15	0.95	-1,425	-648	27,219	925	-355	-34	3
AEIS	AEIS JAN 18 '08 17.5 P...		5.50		-2,029					
<NASDAQ	AEIS JAN 18 '08 20.0 P...		8.00		-2,028					
	AEIS Stock (NMS)		11.56		-1,243					
AIG	AIG JAN 18 '08 60.0 PU...	-10	4.50	-4,500	-1,007	46,137	825	-67	-29	3
<NYSE>	AIG JAN 18 '08 65.0 PU...	-5	9.10	-4,550	-679	27,206	487	-10	-4	
ALL <...	ALL JAN 18 '08 55.0 PU...	-20	3.80	-7,600	-514	97,858	1,918	-117	-19	1

To view the Portfolio report

1. On the **Analytical Tools** menu, select *IB Risk Navigator*.
2. In the **Report Viewer**, select *Portfolio* in the **Report** dropdown.
3. Use the Underlying and Measure dropdown lists to define your report criteria.

Use the Metrics menu to display available risk metrics.

Risk by Position Report

The **Risk by Position** report displays risk measures calculated for each position, by underlying.

My Portfolio

Report Dimensions Metrics View Settings Risk by Pos

Underlying	Expiry	Strike	Right	Asset	Pos...	Price	P&L	Exposure	Delta...	Gamma...	Vega	Theta
KFT <...	20080118	30	P	OPT	-20	0.19	-34	9,003	338	-266	-27	
FSS	20080215	37	P	OPT	-63	4.25	-2,879	50,569	6,144	-263	-7	
<NYSE>		15	P	OPT	-20	0.10	-14	8,132	257	-260	-28	
WPP ...	20080118	12.5	P	OPT	-25	2.80	-1,455	32,156	2,185	-256	-16	
VSH ...	20080118	15	P	OPT	-20	2.00	-564	11,763	1,033	-218	-91	
STM	20080118	12.5	P	OPT	-15	0.79	-536	26,321	577	-212	-52	
<NYSE>		17.5	P	OPT	-35	4.15	-2,125	35,745	3,369	-211	-11	
BAC	20080118	22.5	P	OPT	-20	2.25	-1,064	39,069	1,921	-201	-7	
<NYSE>		45	P	OPT	-20	1.55	-1,264	40,976	966	-198	-68	1
	20080118	45	P	OPT	-45	0.20	-360	17,474	354	-198	-68	
INFY	20080118	45	P	OPT	-10	0.40	-132	10,126	329	-194	-22	
<NASDAQ	20080118	42.5	P	OPT	-15	0.50	-123	20,768	449	-189	-48	
INTU	20080118	12.5	P	OPT	-25	0.20	-80	12,942	301	-180	-45	
<NASDAQ	20080118	7.5	P	OPT	-24	3.90	-1,097	13,375	2,233	-178	-4	
	20080118	30	P	OPT	-10	1.67	-587	23,919	771	-174	-19	
DOW	20080118	40	P	OPT	-10	0.20	-157	5,444	230	-172	-15	
<NYSE>				OPT	-20	0.15	-214	10,683	284	-171	-35	
	20080118	10	P	OPT	-46	5.60	-1,182	30,195	4,467	-171	-5	

To view the Risk by Position report

1. On the **Analytical Tools** menu, select*Risk Navigator*.
2. In the **Report Viewer**, select *Risk by Position* in the Report dropdown.
3. Use the Underlying and Measure lists to define your report criteria.

If you elect to view metrics for only a single underlying, the report will not display the *Underlying* column as shown above.

Use the Metrics menu to display available risk metrics.

Risk by Underlying Report

The **Risk by Underlying** report is designed to open by default when you open the IB Risk Navigator℠. This report displays portfolio metrics across all asset classes and provides drill-down depth control for each underlying.

My Portfolio

Report Dimensions Metrics View Settings Risk by Unde

Underlying	Position	Price	P&L	Exposure	VAR	Delta (Δ)	Gamma...	Vega	Thet
All Underlyings			-269,079	8,343,217					5,8
ADBE <NASDAQ>			443	-19,646	-1,887	-480	-34	-165	
2009-01-16			443	-19,646		-480	-34	-165	
ADBE JAN 16 '09 45.0 C...	-10	3.90	443	-19,646		-480	-34	-165	
AA <NYSE>			-217	9,868	-1,113	278	-87	-67	
2008-01-18			-60	3,282		93	-53	-15	
AA JAN 18 '08 30.0 PUT...	-20	0.10	-60	3,282		93	-53	-15	
2008-04-18			-157	6,586		186	-34	-52	
AA APR 18 '08 30.0 PUT...	-10	0.85	-157	6,586		186	-34	-52	
AAPL <NASDAQ>			1,286	-101,646	-11,322	-530	-7	-1,294	
ABT <NYSE>			-32	2,942	-183	53	-21	-22	
ACIW <NASDAQ>			-1,500	25,455	-3,574	1,500			
ADCT <NASDAQ>			-2,535	52,878	-7,998	3,607	-867	-43	
ADI <NYSE>			-498	24,902	-3,674	840	-345	-35	

To view the Risk by Underlying report

1. On the **Analytical Tools** menu, select *Risk Navigator*.
2. In the **Report Viewer**, select *Risk by Underlying* in the Report dropdown.
3. Use the Underlying and Measure lists to define your report criteria.

Use the Metrics menu to display available risk metrics.

Risk by Industry Report

The **Risk by Industry** report sorts your portfolio by industry. This report displays values on all levels of detail, from individual positions to totals per industry sector.

My Portfolio

Report Dimensions Metrics View Settings Risk by Indu

Industry	Underlying	Pos...	P&L	Expo...	VAR	Delta...	Gamma...	Vega	Theta...
− All Industries	+ All Underlyings		-326,581	8,453,395					5,80
+	+ All Underlyings		-1,403	29,914					
− Basic Materials	+ All Underlyings		-20,428	276,076					17
− Chemicals	− All Underlyings		-11,848	102,180					7
	− DOW <NYSE>		-1,542	56,460	-4,320	1,496	-339	-418	7
	− 2008-01-18		-214	10,401		276	-162	-34	4
	DOW JAN 18 '08 35....	-20	-214	10,401		276	-162	-34	4
	+ 2008-03-20		-514	20,443		542	-116	-114	2
	+ 2009-01-16		-814	25,616		679	-61	-270	
	− GGC <NYSE>		-10,306	45,720	-6,495	9,000	0	0	
	GGC Stock	8,000	-8,998	40,640		8,000			
	− 2008-01-18		-1,308	5,080		1,000	0	0	
	GGC JAN 18 '08 15....	-10	-1,308	5,080		1,000	0	0	
Chemicals-...	+ All Underlyings		-11,848	102,180					7
+ Forest Produ...	+ All Underlyings		-8,064	161,284					6

To view the Risk by Industry report

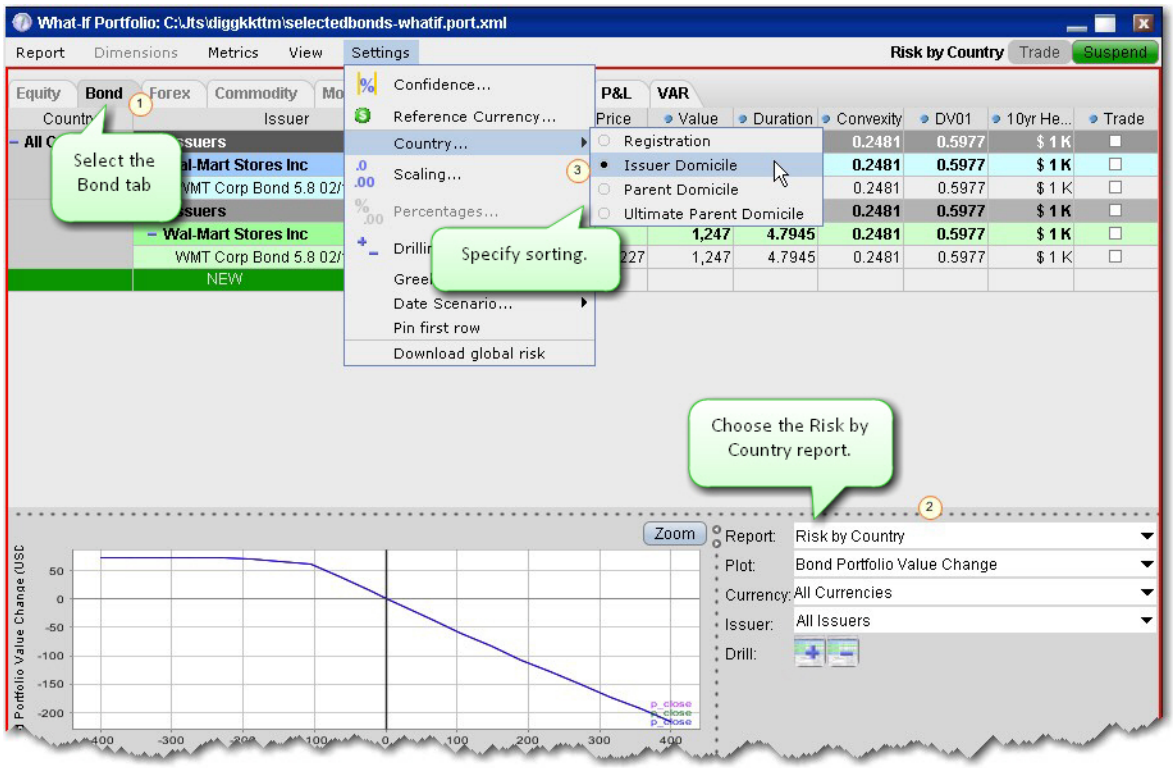
1. On the **Analytical Tools** menu, select *Risk Navigator*.
2. In the **Report Viewer**, select *Risk by Industry* in the Report dropdown.

You can drill down several levels within an **Industry** category, and then drill down in the *Underlying* field for that category to see all underlyings in the industry, and then all derivatives of the underlying. To drill down to a deeper level of detail, click the plus "+" sign. A minus "-" sign indicates that you have drilled down to the deepest level of detail. Click the "-" sign to go up a level.

Use the Metrics menu to display available risk metrics.

Risk by Country Report

The Risk by Country report sorts positions by country-related attributes that you specify from the Risk Navigator Settings menu.



To run the Risk by Country report

From the Risk Navigator main window, select the **Bond** tab.

In the Report field, select *Risk by Country*.

From the **Settings** menu, specify the Country sort criteria:

Registration - This is the country where the bond was issued.

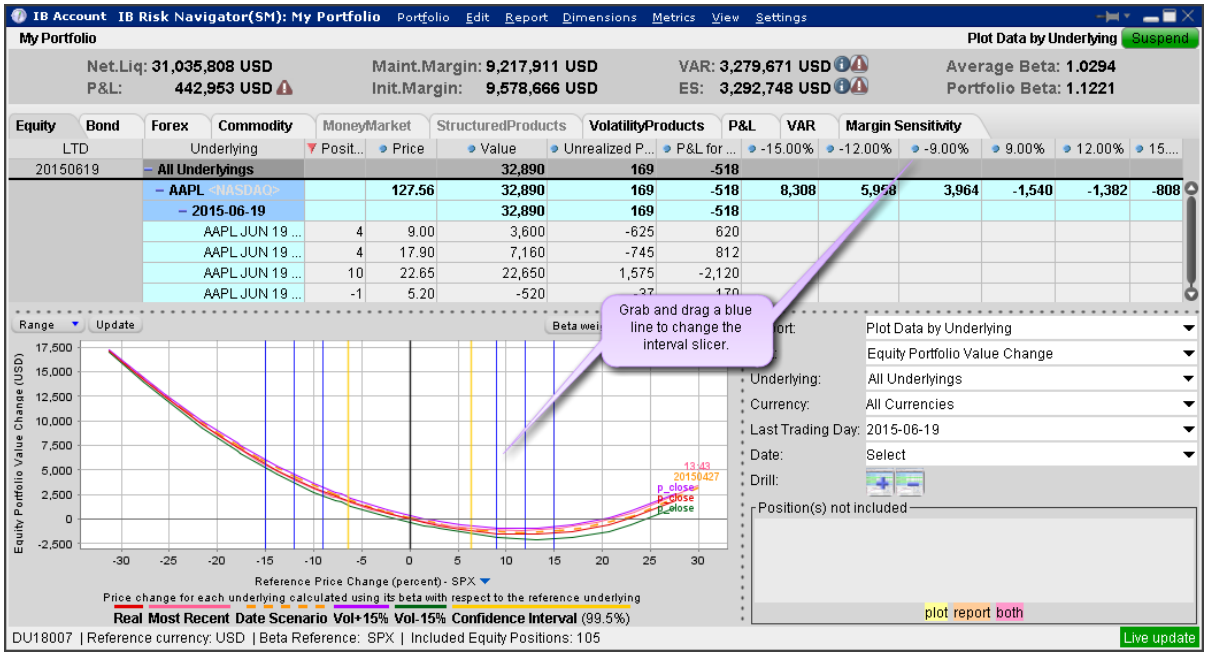
Issuer Domicile - The domicile of the bond issuer.

Parent Domicile - The domicile of the parent company of the bond issuer.

Ultimate Parent Domicile - The domicile of the ultimate parent company of the bond issuer.

Plot Data by Underlying

Select this report to view values for the symmetric data slicers in the P&L Plot. By default the slicers are spaced at +/- 3%, 6%, 9%, 12% and 15%.



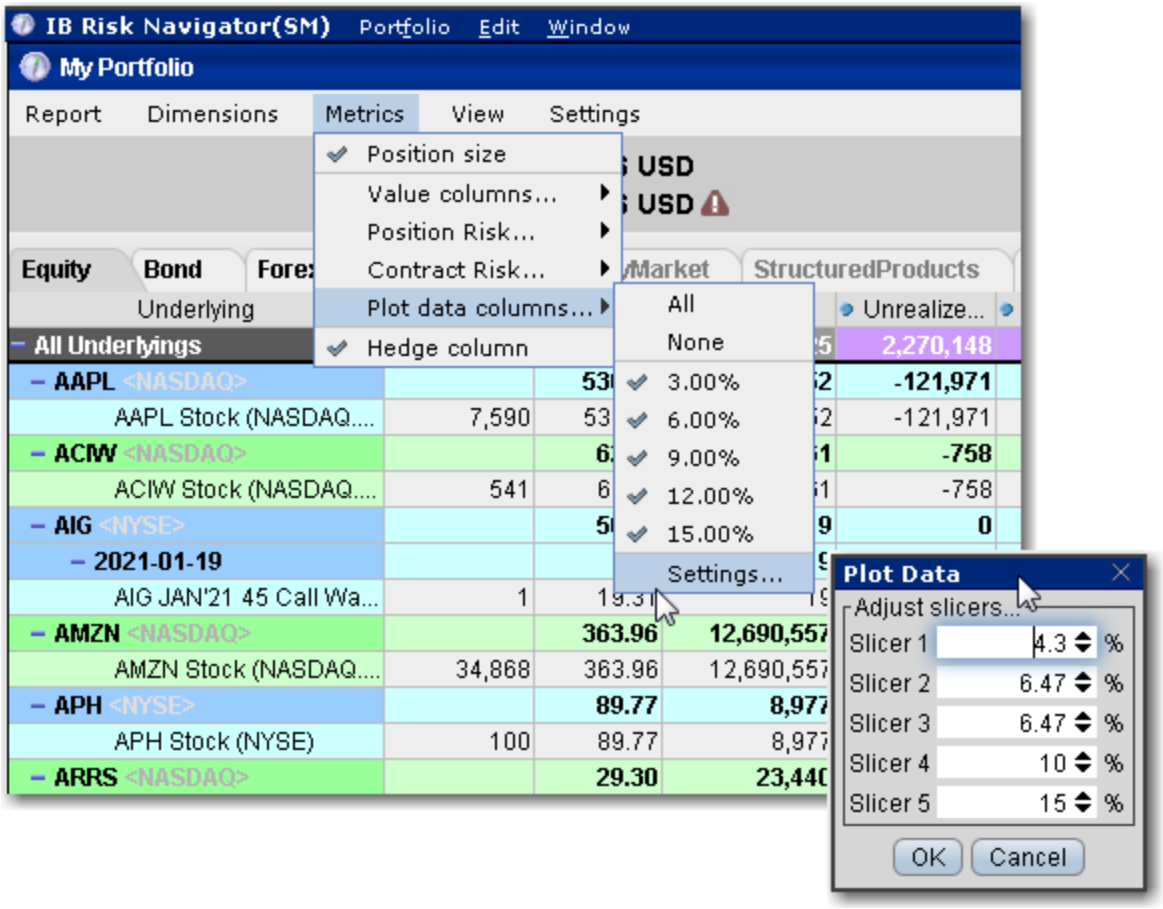
If you have the crosshair activated in the P&L plot using the right-click menu, when you hold your mouse over a line in the plot its value is displayed.

To open the Plot Data by Underlying report

Open the Risk Navigator

> a. *From Mosaic - Use the New Window drop down and select Risk Navigator from the* ***Advanced Trading Tools*** *category.*
> b. *From Classic TWS - Use the* ***Analytical Tools*** *menu and select Risk Navigator from the Portfolio category.*

From the Report drop down list, select *Plot Data by Underlying*.



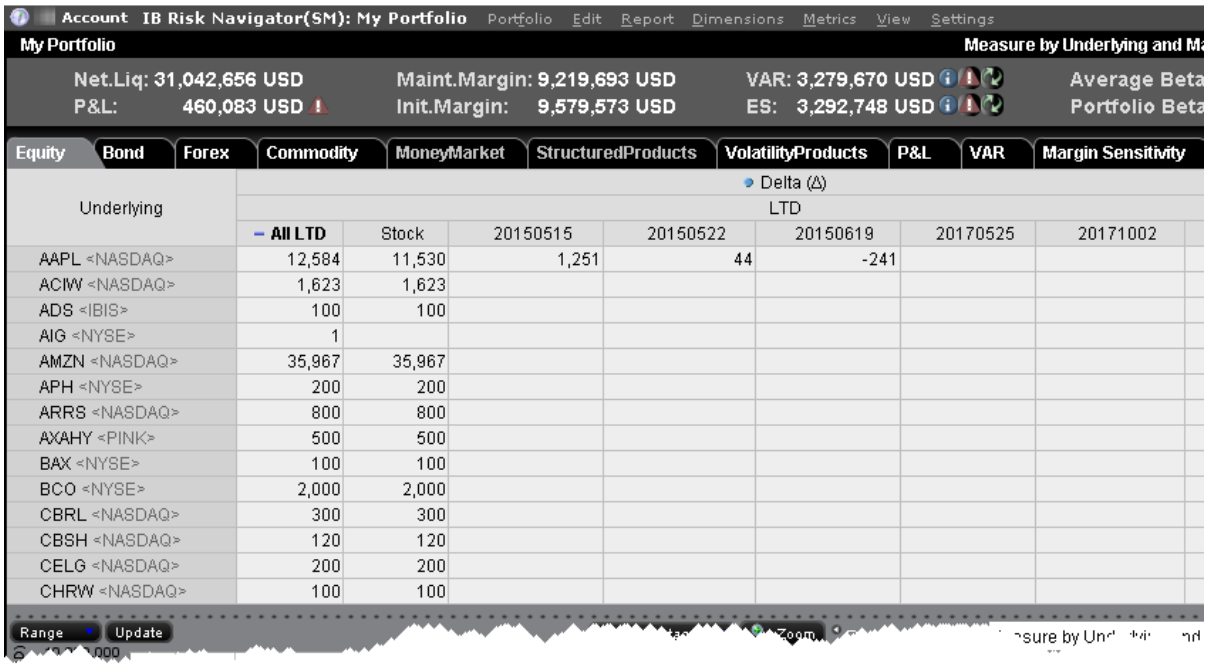
To change the interval between plot slicers

From within the plot, drag any of the blue slicer lines in an out to change the interval. Note that the corresponding negative/positive line will also adjust.

Using the menu, from the **Metrics** menu select P*lot data columns* and then select *Settings*.

Measure by Underlying and Maturity

The **Measure by Underlying and Maturity** matrix displays risk by measure for all underlyings, sorted by Last Trading Day. The measure, which you selected in the *Measure* dropdown of the **Report Selector**, is displayed along the top of the matrix. The Last Trading Day fields display the sum of all positions (*measures)* for the given underlying/LTD.



To view the Measure by Underlying and Maturity report

On the **Analytical Tools** menu, select *Risk Navigator*.

In the **Report Viewer**, select *Measure by Underlying and Maturity* in the Report dropdown.

Use the Metrics menu to display available risk metrics.

Measure by Price Change and Volatility Change

This report uses the Risk FactorySM system to calculate the theoretical price and a set of risk measures for each position in your portfolio in each of the market outcome scenarios noted in the bulleted list below, and measures the market outcome for the relative portfolio Delta, Gamma, Vega, and Theta.

You must "Download global risk" from the Settings menu to populate this report.

All other reports in the Risk Navigator use real-time data in their calculations, but values in this report are calculated using the underlying and derivative prices on the *close of the previous business day,* at multiple positive, negative, and zero percent change scenarios in the underlying price, volatility and interest rate.

Scenarios for each value are:

Underlying price scenarios: -30%, -20%, -10%, unchanged, +10%, +20%, +30%

Volatility scenarios: -30%, -15%, unchanged, +15%, +30%

Interest rate scenarios: -100 bp, -50 bp, unchanged, +50 bp, +100 bp

The scenarios advance the time parameter to the close of the next business day, and the values in the table reflect the scenarios applied to the measure you picked in the Report Selector. Although 175 market outcome scenarios (7x5x5) are calculated for each contract, you can only view a flat slice of these values at one time, due to the limitations imposed by our 2-dimensional display capabilities.

Underlying	Price Change	Volatility Change			
		-30 %	-15 %	0 %	15 %
+ All Underlyings	-30 %	-4,730,957	-4,773,076	-4,824,439	-4,884,713
	-20 %	-2,585,188	-2,659,792	-2,745,050	-2,839,113
	-10 %	-916,083	-1,008,120	-1,111,525	-1,224,808
	0 %	217,837	128,566	24,714	-91,065
	10 %	841,684	761,808	668,438	563,650
	20 %	1,121,760	1,054,148	975,035	885,565
	30 %	1,194,136	1,139,635	1,074,885	1,000,621

To view the Measure by Price Change and Volatility Change report

1. From the Risk Navigator **Report Viewer**, select *Measure by Price Change and Volatility Change* in the Report dropdown.
2. From the **Settings** menu, select *Download global risk*.
3. Use the **Dimensions**>*Scenario Risk Matrix* menu to change the row and column values to view different scenarios.

You can apply market scenarios to other IB Risk Navigator reports using the drill through feature.

Portfolio Statistics Report

The **Portfolio Statistics** report shows two summary tables: one for all Stock and Futures positions, and one for all Options positions.

The **Stock** and **Future** summaries shows all long positions, all short positions, the net and gross units, and their corresponding total value.

The **Option/Warrant** summary shows all long calls, long puts, the sum of both calls and puts, and the total value; all short calls, short puts, the sum of both calls and puts, and the total value; the net units for calls, puts, the sum of both and the total net value; and gross units for calls, puts the sum of both, and the corresponding net value.

The Cash balance summary shows you total in base, and all cash totals for currencies in your portfolio.

The Opaque Positions list displays positions for which risk cannot be calculated. While these positions are not included in any risk reports, the market value is included in the *Portfolio Value* version of the P&L graph.

Stock

	Shares	Value
Long	373,088	10,004,316.45
Short	200	7,125.00
Net	372,888	9,997,191.45
Gross	373,288	10,011,441.45

Future

	Shares	Value
Long	0	0.00
Short	1	65,420.00
Net	-1	-65,420.00
Gross	1	65,420.00

Option/Warrant

	Calls	Puts	Both	Value
Long	75	0	75	46,905.00
Short	0	0	0	0.00
Net	75	0	75	46,905.00
Gross	75	0	75	46,905.00

Cash balance

Currency	Value
Total (in USD)	**-5,644,536.72**
CAD	-61,323.34
CHF	-17.23
EUR	-88,331.28
GBP	-25,830.32
JPY	-261.59
USD	-5,426,685.15

Opaque positions (not included in risk reports)

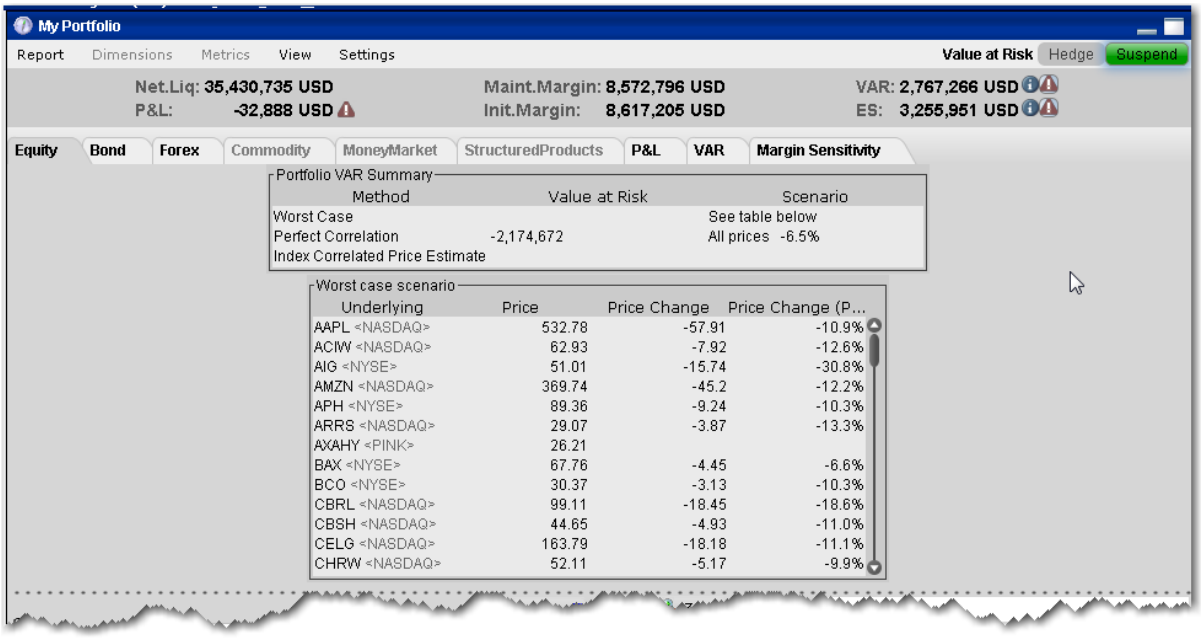
	Contracts	Value
Total	9	931,439.89

To view the Portfolio Statistics report

1. On the **Analytical Tools** menu, select *Risk Navigator*.
2. In the **Report Viewer**, select *Portfolio Statistics* in the Report dropdown.

Value at Risk Report

The **Value at Risk** report shows the greatest loss that a portfolio will sustain over a one-day period, with either 95%, 99.5% or 99.5% confidence. VAR is calculated using three different methods, each with different assumptions about correlations of the underlying assets in the portfolio. This report is only available in the Equity tab and is calculated in real-time using the P&L plot data. To see VAR for you entire portfolio, use the VAR tab.



Worst Case -Calculates the worst case price movement between the selected confidence interval for each underlying independently. Note that the VAR column in the Risk by Underlying report contains the same values.

Perfect Correlation - Assumes each underlying in your portfolio moves perfectly correlated with the S&P 500, and calculates the worst case price movement between the confidence interval of SPX.

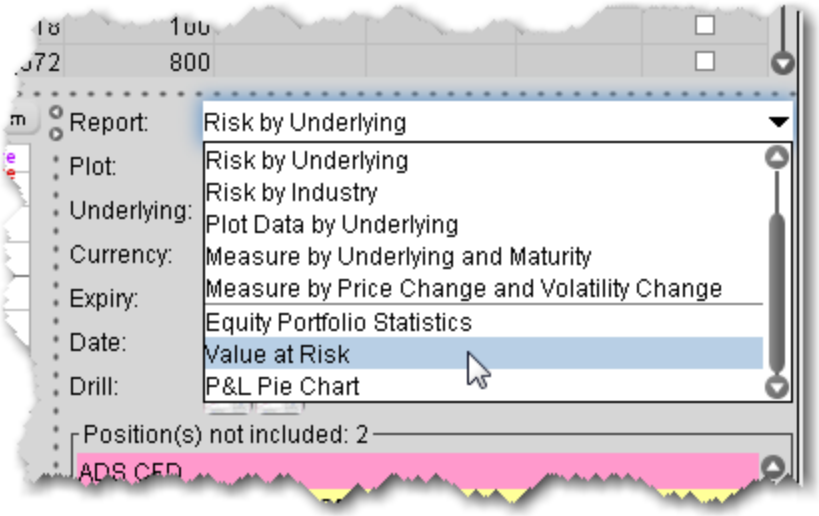
Index Correlated Price Estimate - Assigns a correlation (Beta) to each underlying in your portfolio to the S&P 500 (used as a reference index), and then looks for the worst loss within its adjusted confidence level.

To view the VAR report

Open the Risk Navigator.

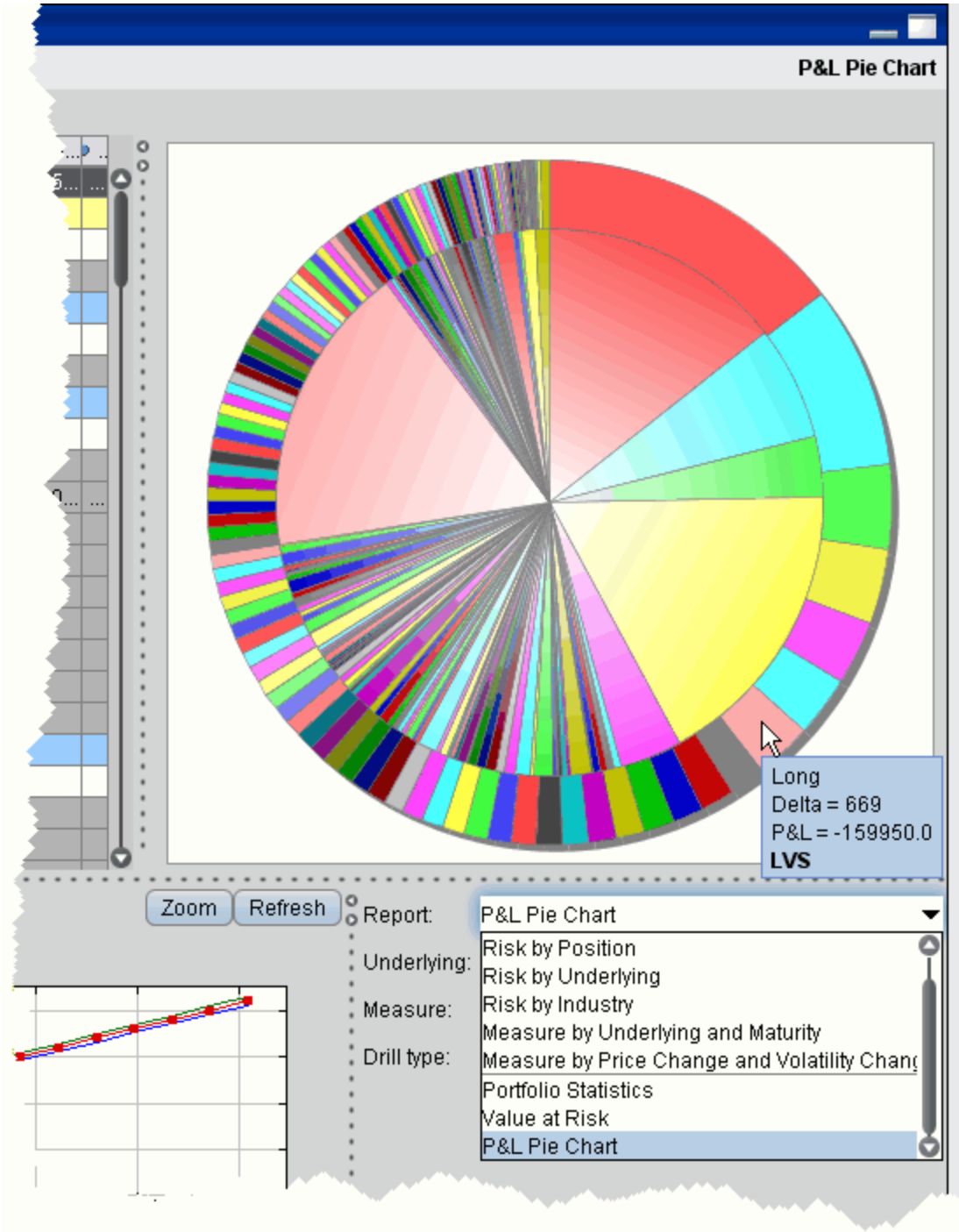
a. *From Mosaic - Use the New Window drop down and select Risk Navigator from the* ***Advanced Trading Tools*** *category.*
b. *From Classic TWS - Use the* ***Analytical Tools*** *menu and select Risk Navigator from the Portfolio category.*

From the Report field, select Value at Risk.



P&L Pie Chart

The P&L Pie Chart shows the position Delta and P&L for all positions in your portfolio relative to the total portfolio. Use default color coding to see losing positions in red, profiting positions in green and neutral positions in blue, or change the coloring to display each position using a different color.

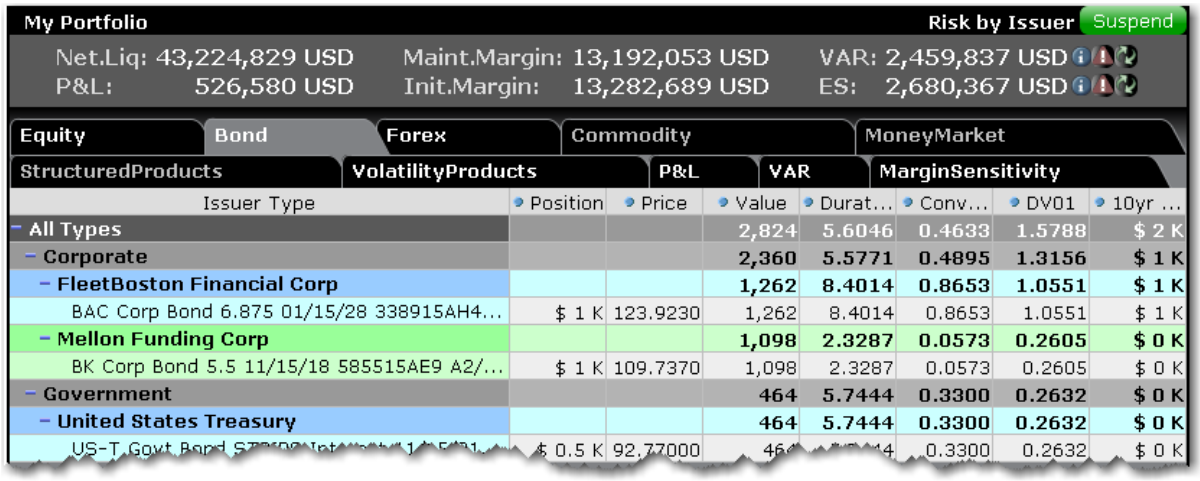


To view the P&L Pie Chart

1. On the **Analytical Tools** menu, select *Risk Navigator*.
2. In the **Report Selector**, select *P&L Pie Chart* from the *Report* dropdown.

Bond Tab

All bill, bond and note positions can be found on the Bond tab. The following reports are available for bonds:



Issuer Type	Position	Price	Value	Durat...	Conv...	DV01	10yr ...
All Types			2,824	5.6046	0.4633	1.5788	$ 2 K
Corporate			2,360	5.5771	0.4895	1.3156	$ 1 K
FleetBoston Financial Corp			1,262	8.4014	0.8653	1.0551	$ 1 K
BAC Corp Bond 6.875 01/15/28 338915AH4...	$ 1 K	123.9230	1,262	8.4014	0.8653	1.0551	$ 1 K
Mellon Funding Corp			1,098	2.3287	0.0573	0.2605	$ 0 K
BK Corp Bond 5.5 11/15/18 585515AE9 A2/...	$ 1 K	109.7370	1,098	2.3287	0.0573	0.2605	$ 0 K
Government			464	5.7444	0.3300	0.2632	$ 0 K
United States Treasury			464	5.7444	0.3300	0.2632	$ 0 K
US-T Govt Bond [illegible]	$ 0.5 K	92.77000	[illegible]	[illegible]	0.3300	0.2632	$ 0 K

Risk by Position Report

The **Risk by Position** report displays risk measures calculated for each position, by underlying.

My Portfolio

Report Dimensions Metrics View Settings Risk by Pos

Underlying	Expiry	Strike	Right	Asset	Pos...	Price	P&L	Exposure	Delta...	Gamma...	Vega	Theta
KFT <...	20080118	30	P	OPT	-20	0.19	-34	9,003	338	-266	-27	
FSS	20080215	37	P	OPT	-63	4.25	-2,879	50,569	6,144	-263	-7	
<NYSE>		15	P	OPT	-20	0.10	-14	8,132	257	-260	-28	
WPP ...	20080118	12.5	P	OPT	-25	2.80	-1,455	32,156	2,185	-256	-16	
VSH ...	20080118	15	P	OPT	-20	2.00	-564	11,763	1,033	-218	-91	
STM	20080118	12.5	P	OPT	-15	0.79	-536	26,321	577	-212	-52	
<NYSE>		17.5	P	OPT	-35	4.15	-2,125	35,745	3,369	-211	-11	
BAC	20080118	22.5	P	OPT	-20	2.25	-1,064	39,069	1,921	-201	-7	
<NYSE>		45	P	OPT	-20	1.55	-1,264	40,976	966	-198	-68	1
	20080118	45	P	OPT	-45	0.20	-360	17,474	354	-198	-68	
INFY	20080118	45	P	OPT	-10	0.40	-132	10,126	329	-194	-22	
<NASDAQ	20080118	42.5	P	OPT	-15	0.50	-123	20,768	449	-189	-48	
INTU	20080118	12.5	P	OPT	-25	0.20	-80	12,942	301	-180	-45	
<NASDAQ	20080118	7.5	P	OPT	-24	3.90	-1,097	13,375	2,233	-178	-4	
	20080118	30	P	OPT	-10	1.67	-587	23,919	771	-174	-19	
DOW	20080118	40	P	OPT	-10	0.20	-157	5,444	230	-172	-15	
<NYSE>				OPT	-20	0.15	-214	10,683	284	-171	-35	
	20080118	10	P	OPT	-46	5.60	-1,182	30,195	4,467	-171	-5	

To view the Risk by Position report

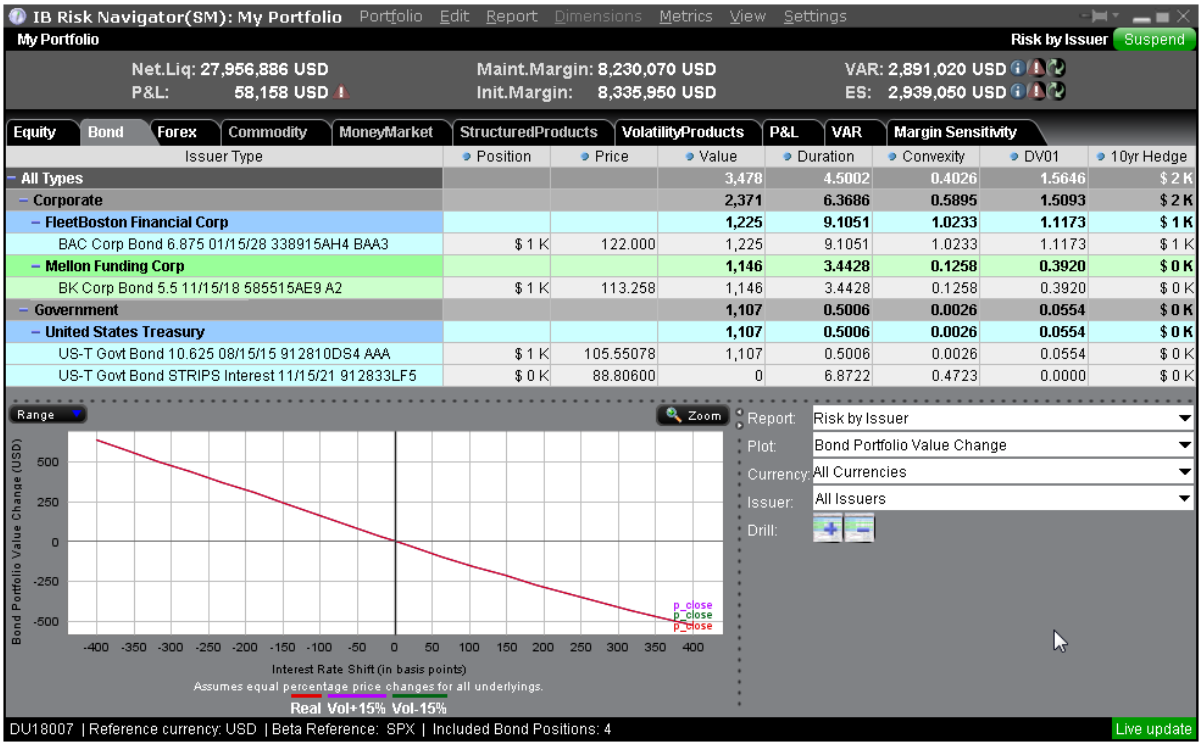
1. On the **Analytical Tools** menu, select*Risk Navigator*.
2. In the **Report Viewer**, select *Risk by Position* in the Report dropdown.
3. Use the Underlying and Measure lists to define your report criteria.

If you elect to view metrics for only a single underlying, the report will not display the *Underlying* column as shown above.

Use the Metrics menu to display available risk metrics.

Risk by Issuer

Sorts bonds by issuer.



To view the Risk by Issuer Report

From within Risk Navigator, select the Bond tab.

In the **Report** drop down, select *Risk by Issuer*.

Risk by Industry Report

The **Risk by Industry** report sorts your portfolio by industry. This report displays values on all levels of detail, from individual positions to totals per industry sector.

My Portfolio

Report Dimensions Metrics View Settings Risk by Indu

Industry	Underlying	Pos...	P&L	Expo...	VAR	Delta...	Gamma...	Vega	Theta...
– All Industries	All Underlyings		-326,581	8,453,395					5,80
+	+ All Underlyings		-1,403	29,914					
– Basic Materials	+ All Underlyings		-20,428	276,076					17
– Chemicals	– All Underlyings		-11,848	102,180					7
	– DOW <NYSE>		-1,542	56,460	-4,320	1,496	-339	-418	7
	– 2008-01-18		-214	10,401		276	-162	-34	4
	DOW JAN 18 '08 35....	-20	-214	10,401		276	-162	-34	4
	+ 2008-03-20		-514	20,443		542	-116	-114	2
	+ 2009-01-16		-814	25,616		679	-61	-270	
	– GGC <NYSE>		-10,306	45,720	-6,495	9,000	0	0	
	GGC Stock	8,000	-8,998	40,640		8,000			
	– 2008-01-18		-1,308	5,080		1,000	0	0	
	GGC JAN 18 '08 15....	-10	-1,308	5,080		1,000	0	0	
Chemicals-...	+ All Underlyings		-11,848	102,180					7
+ Forest Produ...	+ All Underlyings		-8,064	161,284					6

To view the Risk by Industry report

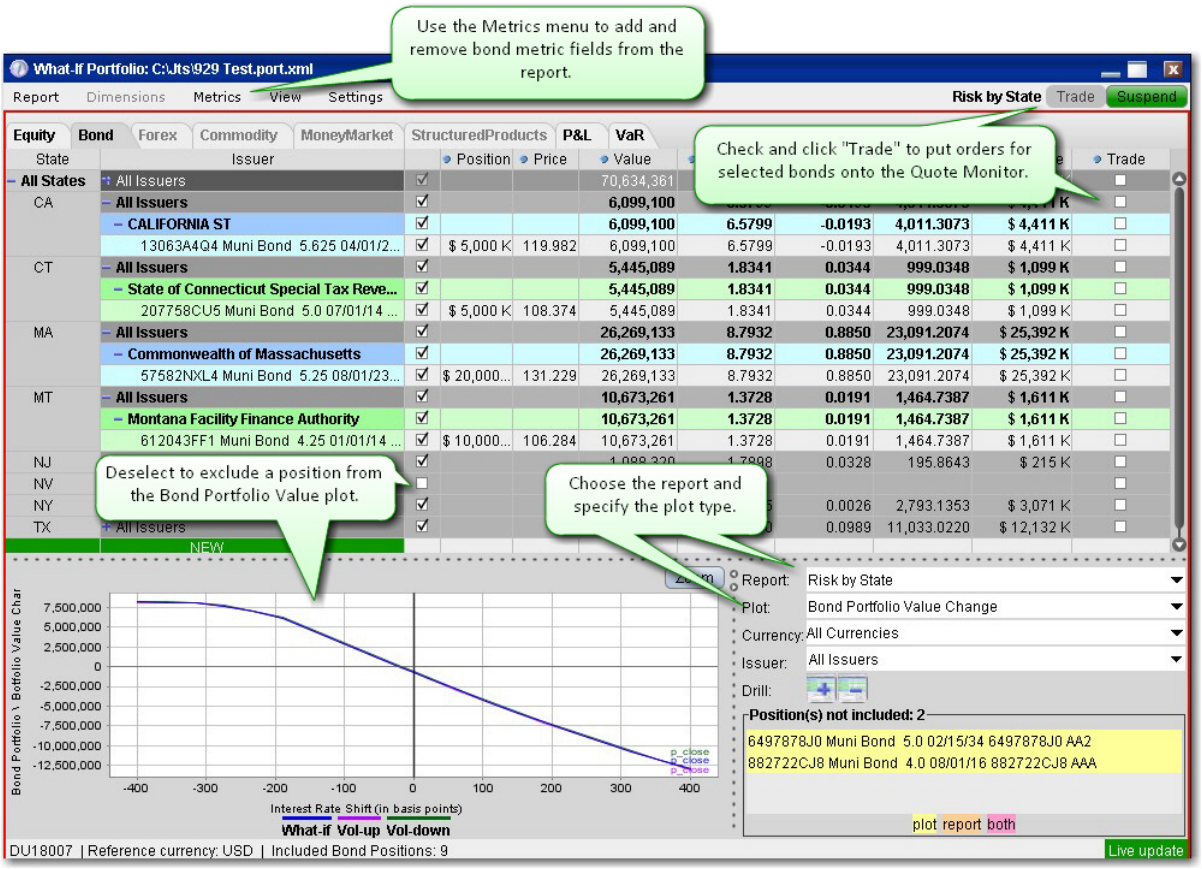
1. On the **Analytical Tools** menu, select *Risk Navigator*.
2. In the **Report Viewer**, select *Risk by Industry* in the Report dropdown.

You can drill down several levels within an **Industry** category, and then drill down in the *Underlying* field for that category to see all underlyings in the industry, and then all derivatives of the underlying. To drill down to a deeper level of detail, click the plus "+" sign. A minus "-" sign indicates that you have drilled down to the deepest level of detail. Click the "-" sign to go up a level.

Use the Metrics menu to display available risk metrics.

Risk by State Report

The Risk by State report sorts muni bonds by state.



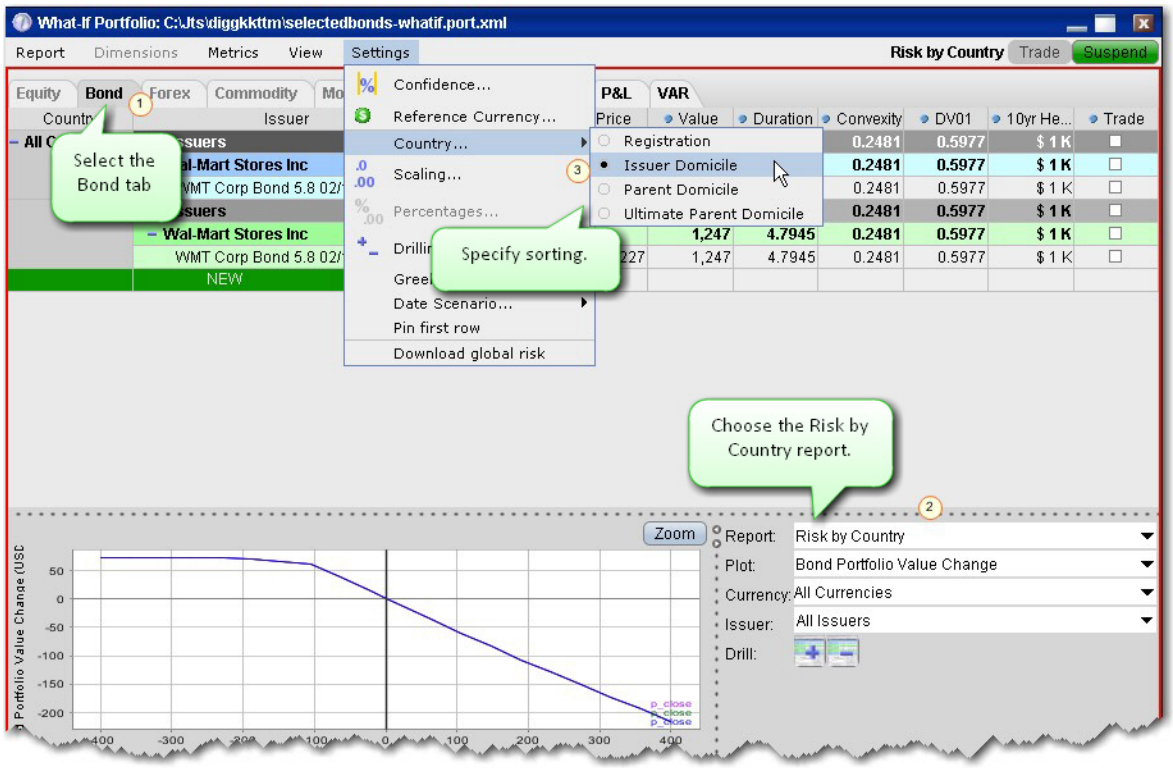
To run the Risk by State report

From the Risk Navigator main window, select the **Bond** tab.

In the Report field, select *Risk by State*.

Risk by Country Report

The Risk by Country report sorts positions by country-related attributes that you specify from the Risk Navigator Settings menu.



To run the Risk by Country report

From the Risk Navigator main window, select the **Bond** tab.

In the Report field, select *Risk by Country*.

From the **Settings** menu, specify the Country sort criteria:

Registration - This is the country where the bond was issued.

Issuer Domicile - The domicile of the bond issuer.

Parent Domicile - The domicile of the parent company of the bond issuer.

Ultimate Parent Domicile - The domicile of the ultimate parent company of the bond issuer.

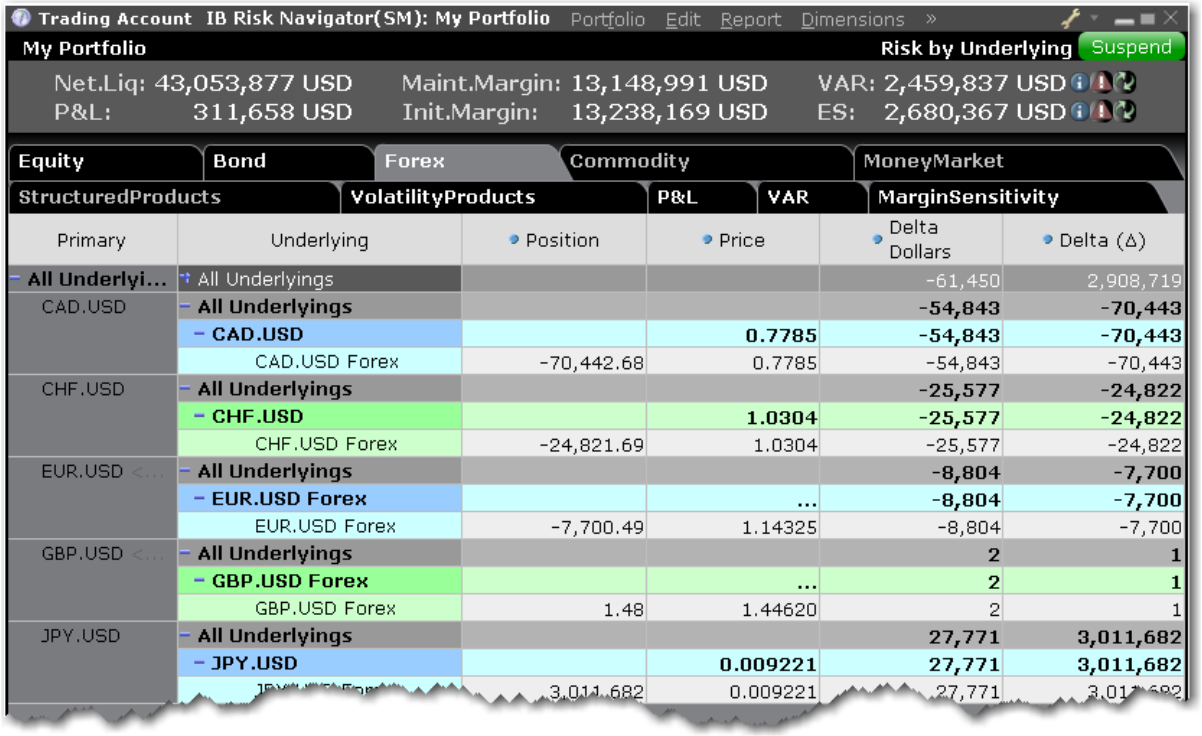
Forex Tab

This page displays ultimate underlyings of the cash contract class, indexes categorized as "Foreign Exchange Index" and any linked ETFs (each underlying is mapped to an FX contract). Presented positions are grouped by the primary Forex underlying contract.

Note: All FX underlyings (EUR/USD, EUR/JPY etc) are decompressed into one or two primary FX contracts with the reference currency as denominator, for example CHF/GBP is decompressed to (CHF/USD) / (GBP/USD), if the reference currency is USD. The primary FX contract prices are assumed to move in tandem, either with the same percentage or in the same direction but with different volatilities. All of the subportfolio ultimate underlying moves are composed from these primary FX moves.

Real FX positions are not supported in the Risk Navigator, but the cash balance of a currency is translated into a Forex position. The denominator of the forex contract is the current portfolio reference currency. E.g a cash balance of 1120.23 EUR is translated into 1120.23 EUR/USD forex position assuming USD is the portfolio reference currency.

The following portfolio reports are available for forex products:



Portfolio Report

Use the **Portfolio** report to view risk and exposure for all positions in your portfolio. You can view totals for specific risk measures (where applicable) in the Risk by Underlying report.

My Portfolio

Report Dimensions Metrics View Settings Port

Underlying	Description	Po...	Price	Value	P&L	Exp...	Delta...	Gamma...	Vega	Theta.
ADBE...	ADBE JAN 16 '09 45.0 ...	-10	3.40	-3,400	743	-18,346	-456	-34	-162	
AA	AA JAN 18 '08 30.0 PU...	-20	0.10	-200	-160	4,928	141	-73	-20	3
<NYSE>	AA APR 18 '08 30.0 PU...	-10	1.05	-1,050	-307	7,306	210	-37	-54	1
AAPL...	AAPL JAN 16 '09 300.0 ...	-20	11.80	-23,600	1,136	-99,978	-529	-7	-1,274	8
ABT ...	ABT FEB 15 '08 47.5 P...	-10	0.10	-100	-32	2,733	49	-17	-21	
ACIW...	ACIW Stock (NMS)	1,500	16.62	24,930	-1,995	24,930	1,500			
ADCT	ADCT JAN 18 '08 15.0 ...	-25	0.85	-2,125	-1,080	20,925	1,437	-585	-28	5
<NASDAQ	ADCT JAN 18 '08 17.5 ...	-25	3.00	-7,500	-2,018	31,014	2,130	-250	-17	4
ADI <...	ADI JAN 18 '08 30.0 PU...	-15	0.95	-1,425	-648	27,219	925	-355	-34	3
AEIS	AEIS JAN 18 '08 17.5 P...		5.50		-2,029					
<NASDAQ	AEIS JAN 18 '08 20.0 P...		8.00		-2,028					
	AEIS Stock (NMS)		11.56		-1,243					
AIG	AIG JAN 18 '08 60.0 PU...	-10	4.50	-4,500	-1,007	46,137	825	-67	-29	3
<NYSE>	AIG JAN 18 '08 65.0 PU...	-5	9.10	-4,550	-679	27,206	487	-10	-4	
ALL <...	ALL JAN 18 '08 55.0 PU...	-20	3.80	-7,600	-514	97,858	1,918	-117	-19	1

To view the Portfolio report

1. On the **Analytical Tools** menu, select *IB Risk Navigator*.
2. In the **Report Viewer**, select *Portfolio* in the **Report** dropdown.
3. Use the Underlying and Measure dropdown lists to define your report criteria.

Use the Metrics menu to display available risk metrics.

Risk by Position Report

The **Risk by Position** report displays risk measures calculated for each position, by underlying.

My Portfolio

Report Dimensions Metrics View Settings Risk by Pos

Underlying	Expiry	Strike	Right	Asset	Pos...	Price	P&L	Exposure	Delta...	Gamma...	Vega	Theta
KFT <...	20080118	30	P	OPT	-20	0.19	-34	9,003	338	-266	-27	
FSS	20080215	37	P	OPT	-63	4.25	-2,879	50,569	6,144	-263	-7	
<NYSE>		15	P	OPT	-20	0.10	-14	8,132	257	-260	-28	
WPP ...	20080118	12.5	P	OPT	-25	2.80	-1,455	32,156	2,185	-256	-16	
VSH ...	20080118	15	P	OPT	-20	2.00	-564	11,763	1,033	-218	-91	
STM	20080118	12.5	P	OPT	-15	0.79	-536	26,321	577	-212	-52	
<NYSE>		17.5	P	OPT	-35	4.15	-2,125	35,745	3,369	-211	-11	
BAC	20080118	22.5	P	OPT	-20	2.25	-1,064	39,069	1,921	-201	-7	
<NYSE>		45	P	OPT	-20	1.55	-1,264	40,976	966	-198	-68	1
	20080118	45	P	OPT	-45	0.20	-360	17,474	354	-198	-68	
INFY	20080118	45	P	OPT	-10	0.40	-132	10,126	329	-194	-22	
<NASDAQ	20080118	42.5	P	OPT	-15	0.50	-123	20,768	449	-189	-48	
INTU	20080118	12.5	P	OPT	-25	0.20	-80	12,942	301	-180	-45	
<NASDAQ	20080118	7.5	P	OPT	-24	3.90	-1,097	13,375	2,233	-178	-4	
	20080118	30	P	OPT	-10	1.67	-587	23,919	771	-174	-19	
DOW	20080118	40	P	OPT	-10	0.20	-157	5,444	230	-172	-15	
<NYSE>				OPT	-20	0.15	-214	10,683	284	-171	-35	
	20080118	10	P	OPT	-46	5.60	-1,182	30,195	4,467	-171	-5	

To view the Risk by Position report

1. On the **Analytical Tools** menu, select*Risk Navigator*.
2. In the **Report Viewer**, select *Risk by Position* in the Report dropdown.
3. Use the Underlying and Measure lists to define your report criteria.

If you elect to view metrics for only a single underlying, the report will not display the *Underlying* column as shown above.

Use the Metrics menu to display available risk metrics.

Risk by Underlying Report

The **Risk by Underlying** report is designed to open by default when you open the IB Risk Navigator℠. This report displays portfolio metrics across all asset classes and provides drill-down depth control for each underlying.

My Portfolio

Report Dimensions Metrics View Settings Risk by Unde

Underlying	Position	Price	P&L	Exposure	VAR	Delta (Δ)	Gamma...	Vega	Thet
All Underlyings			-269,079	8,343,217					5,8
ADBE <NASDAQ>			443	-19,646	-1,887	-480	-34	-165	
2009-01-16			443	-19,646		-480	-34	-165	
ADBE JAN 16 '09 45.0 C...	-10	3.90	443	-19,646		-480	-34	-165	
AA <NYSE>			-217	9,868	-1,113	278	-87	-67	
2008-01-18			-60	3,282		93	-53	-15	
AA JAN 18 '08 30.0 PUT...	-20	0.10	-60	3,282		93	-53	-15	
2008-04-18			-157	6,586		186	-34	-52	
AA APR 18 '08 30.0 PUT...	-10	0.85	-157	6,586		186	-34	-52	
AAPL <NASDAQ>			1,286	-101,646	-11,322	-530	-7	-1,294	
ABT <NYSE>			-32	2,942	-183	53	-21	-22	
ACIW <NASDAQ>			-1,500	25,455	-3,574	1,500			
ADCT <NASDAQ>			-2,535	52,878	-7,998	3,607	-867	-43	
ADI <NYSE>			-498	24,902	-3,674	840	-345	-35	

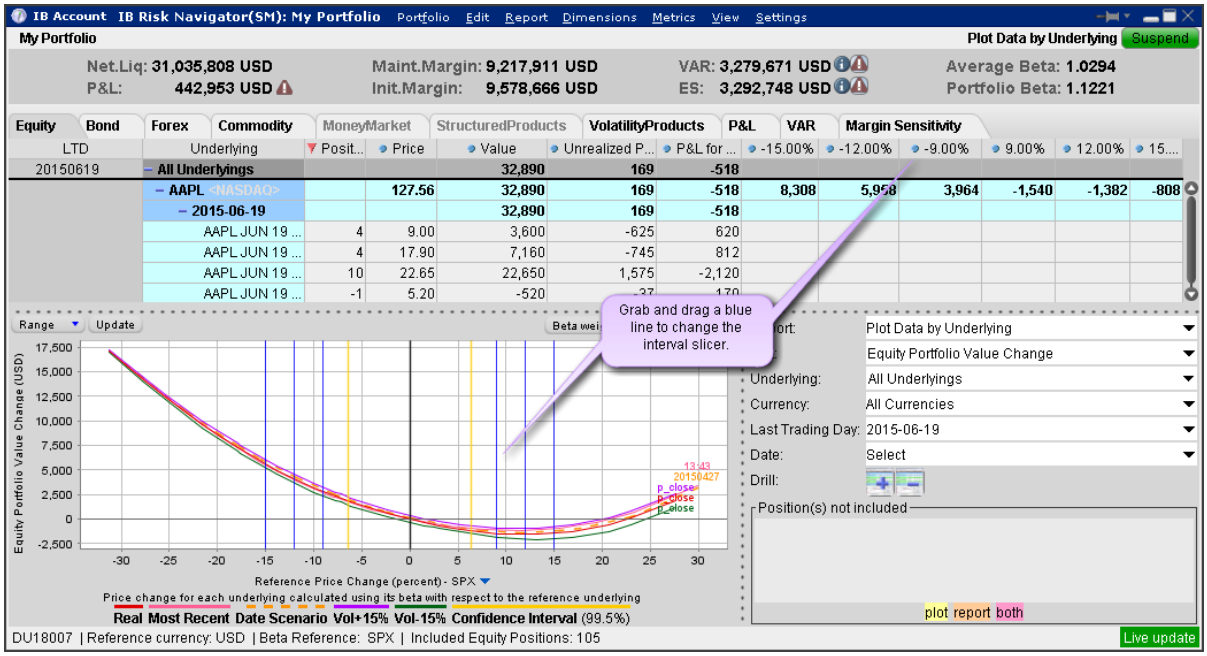
To view the Risk by Underlying report

1. On the **Analytical Tools** menu, select *Risk Navigator*.
2. In the **Report Viewer**, select *Risk by Underlying* in the Report dropdown.
3. Use the Underlying and Measure lists to define your report criteria.

Use the Metrics menu to display available risk metrics.

Plot Data by Underlying

Select this report to view values for the symmetric data slicers in the P&L Plot. By default the slicers are spaced at +/- 3%, 6%, 9%, 12% and 15%.



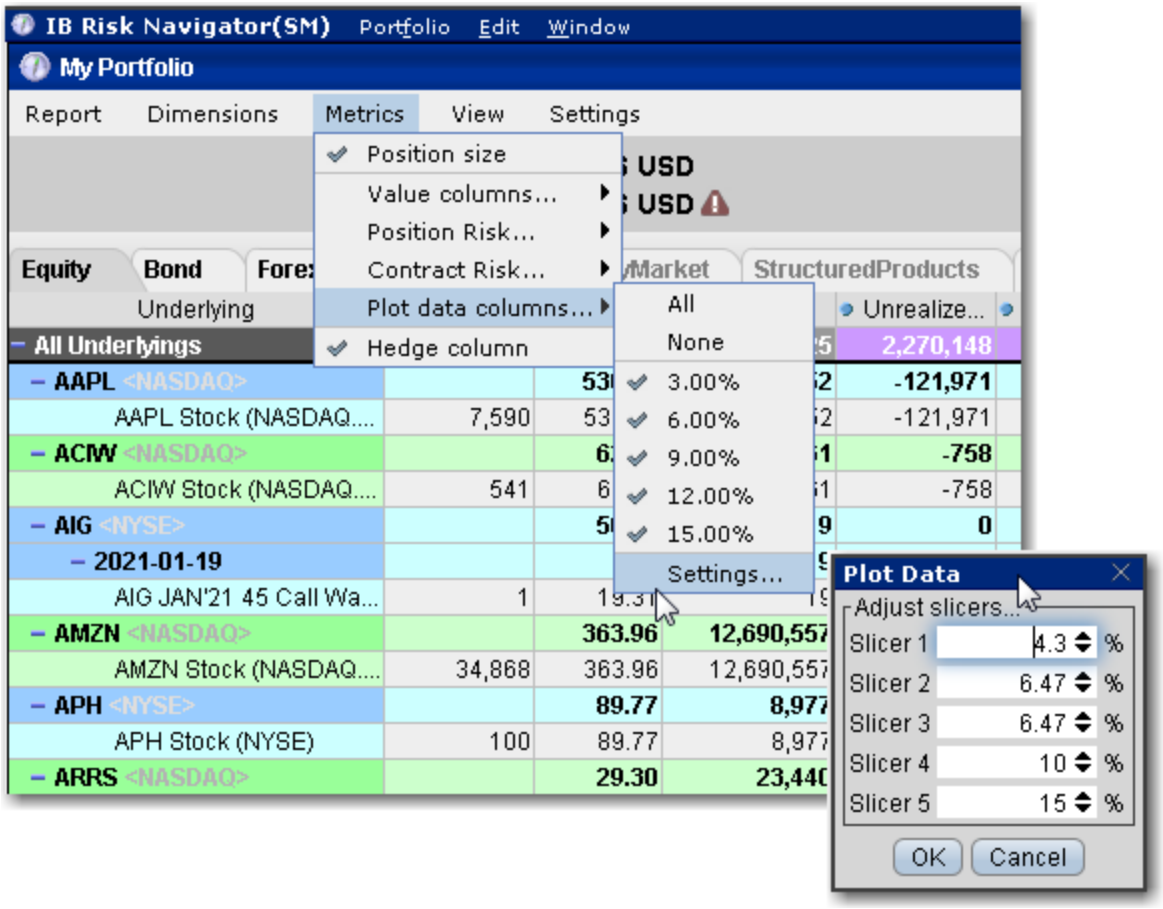
If you have the crosshair activated in the P&L plot using the right-click menu, when you hold your mouse over a line in the plot its value is displayed.

To open the Plot Data by Underlying report

Open the Risk Navigator

> a. *From Mosaic - Use the New Window drop down and select Risk Navigator from the* ***Advanced Trading Tools*** *category.*
> b. *From Classic TWS - Use the* ***Analytical Tools*** *menu and select Risk Navigator from the Portfolio category.*

From the Report drop down list, select *Plot Data by Underlying*.



To change the interval between plot slicers

From within the plot, drag any of the blue slicer lines in an out to change the interval. Note that the corresponding negative/positive line will also adjust.

Using the menu, from the **Metrics** menu select P*lot data columns* and then select *Settings*.

Portfolio Statistics Report

The **Portfolio Statistics** report shows two summary tables: one for all Stock and Futures positions, and one for all Options positions.

The **Stock** and **Future** summaries shows all long positions, all short positions, the net and gross units, and their corresponding total value.

The **Option/Warrant** summary shows all long calls, long puts, the sum of both calls and puts, and the total value; all short calls, short puts, the sum of both calls and puts, and the total value;

the net units for calls, puts, the sum of both and the total net value; and gross units for calls, puts the sum of both, and the corresponding net value.

The Cash balance summary shows you total in base, and all cash totals for currencies in your portfolio.

The Opaque Positions list displays positions for which risk cannot be calculated. While these positions are not included in any risk reports, the market value is included in the *Portfolio Value* version of the P&L graph.

Stock

	Shares	Value
Long	373,088	10,004,316.45
Short	200	7,125.00
Net	372,888	9,997,191.45
Gross	373,288	10,011,441.45

Future

	Shares	Value
Long	0	0.00
Short	1	65,420.00
Net	-1	-65,420.00
Gross	1	65,420.00

Option/Warrant

	Calls	Puts	Both	Value
Long	75	0	75	46,905.00
Short	0	0	0	0.00
Net	75	0	75	46,905.00
Gross	75	0	75	46,905.00

Cash balance

Currency	Value
Total (in USD)	**-5,644,536.72**
CAD	-61,323.34
CHF	-17.23
EUR	-88,331.28
GBP	-25,830.32
JPY	-261.59
USD	-5,426,685.15

Opaque positions (not included in risk reports)

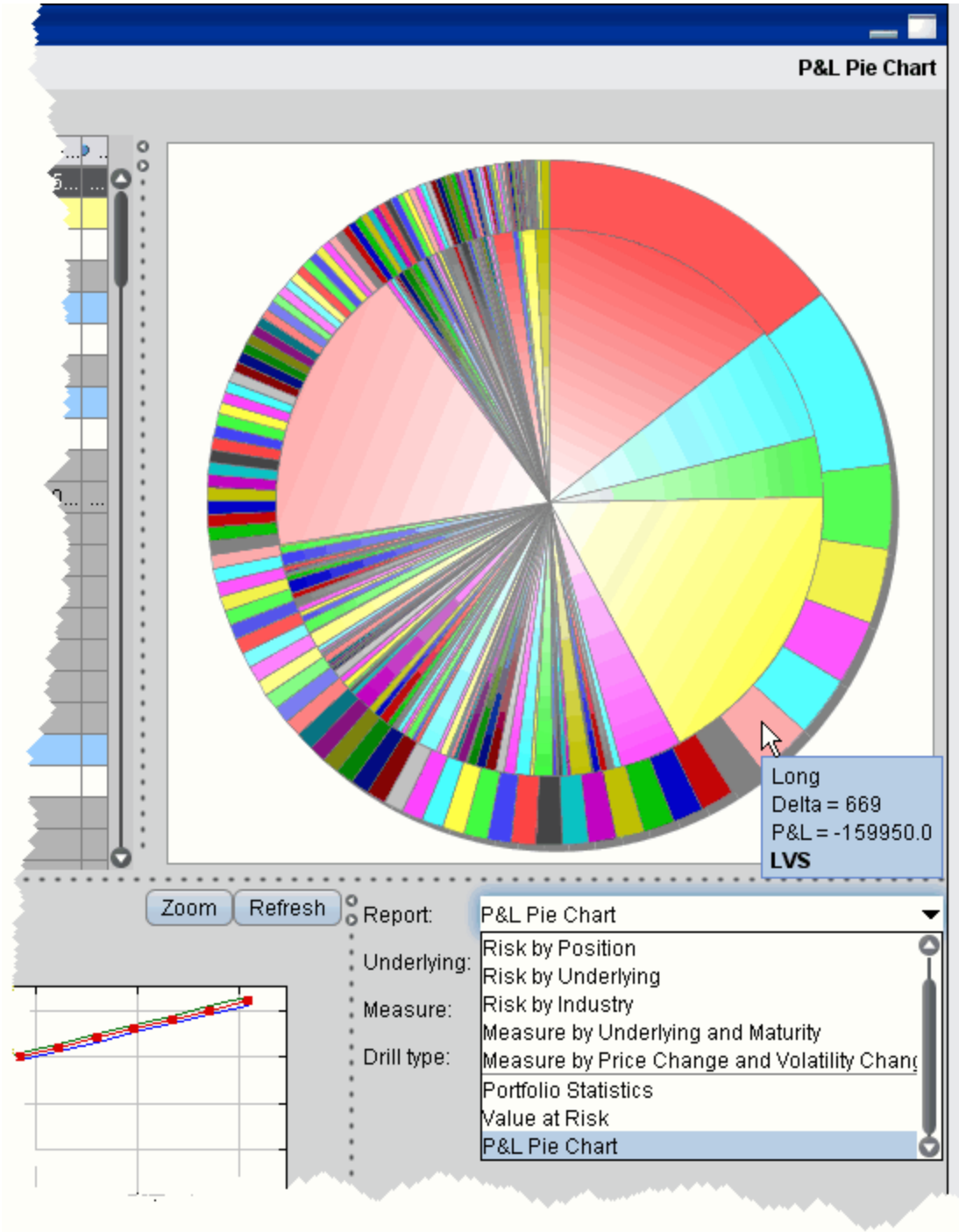
	Contracts	Value
Total	9	931,439.89

To view the Portfolio Statistics report

1. On the **Analytical Tools** menu, select *Risk Navigator*.
2. In the **Report Viewer**, select *Portfolio Statistics* in the Report dropdown.

P&L Pie Chart

The P&L Pie Chart shows the position Delta and P&L for all positions in your portfolio relative to the total portfolio. Use default color coding to see losing positions in red, profiting positions in green and neutral positions in blue, or change the coloring to display each position using a different color.



To view the P&L Pie Chart

1. On the **Analytical Tools** menu, select *Risk Navigator*.
2. In the **Report Selector**, select *P&L Pie Chart* from the *Report* dropdown.

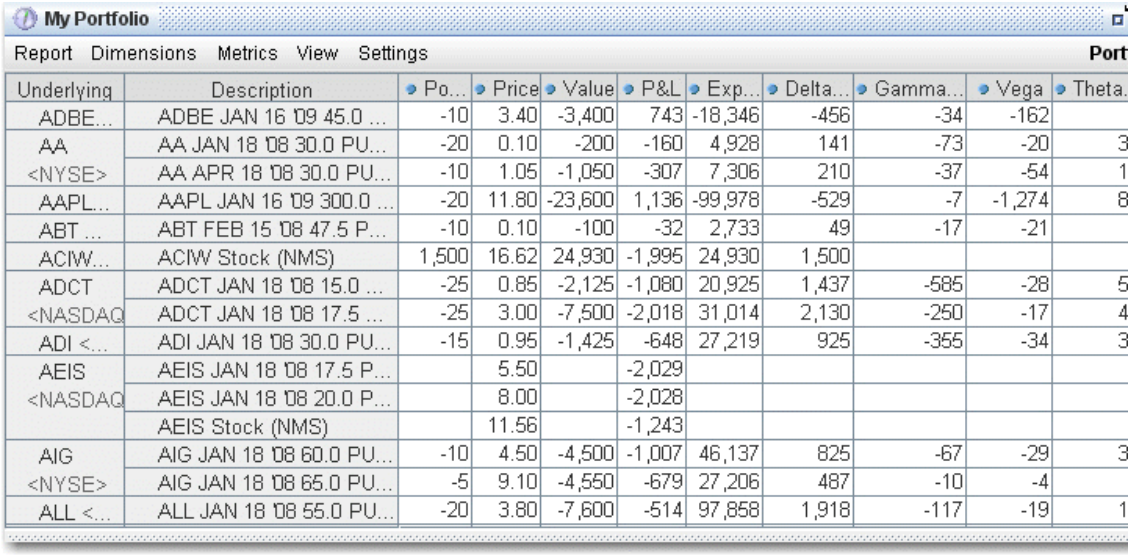
Commodity Tab

The Commodity Tab displays contracts with an ultimate underlying categorized as "Commodity" or "Commodity Index." Commodity positions are grouped by product category.

The following reports are available for your portfolio's commodity products:

Portfolio Report

Use the **Portfolio** report to view risk and exposure for all positions in your portfolio. You can view totals for specific risk measures (where applicable) in the Risk by Underlying report.


My Portfolio

Report Dimensions Metrics View Settings Port

Underlying	Description	Po...	Price	Value	P&L	Exp...	Delta...	Gamma...	Vega	Theta.
ADBE...	ADBE JAN 16 '09 45.0 ...	-10	3.40	-3,400	743	-18,346	-456	-34	-162	
AA	AA JAN 18 '08 30.0 PU...	-20	0.10	-200	-160	4,928	141	-73	-20	3
<NYSE>	AA APR 18 '08 30.0 PU...	-10	1.05	-1,050	-307	7,306	210	-37	-54	1
AAPL...	AAPL JAN 16 '09 300.0 ...	-20	11.80	-23,600	1,136	-99,978	-529	-7	-1,274	8
ABT ...	ABT FEB 15 '08 47.5 P...	-10	0.10	-100	-32	2,733	49	-17	-21	
ACIW...	ACIW Stock (NMS)	1,500	16.62	24,930	-1,995	24,930	1,500			
ADCT	ADCT JAN 18 '08 15.0 ...	-25	0.85	-2,125	-1,080	20,925	1,437	-585	-28	5
<NASDAQ	ADCT JAN 18 '08 17.5 ...	-25	3.00	-7,500	-2,018	31,014	2,130	-250	-17	4
ADI <...	ADI JAN 18 '08 30.0 PU...	-15	0.95	-1,425	-648	27,219	925	-355	-34	3
AEIS	AEIS JAN 18 '08 17.5 P...		5.50		-2,029					
<NASDAQ	AEIS JAN 18 '08 20.0 P...		8.00		-2,028					
	AEIS Stock (NMS)		11.56		-1,243					
AIG	AIG JAN 18 '08 60.0 PU...	-10	4.50	-4,500	-1,007	46,137	825	-67	-29	3
<NYSE>	AIG JAN 18 '08 65.0 PU...	-5	9.10	-4,550	-679	27,206	487	-10	-4	
ALL <...	ALL JAN 18 '08 55.0 PU...	-20	3.80	-7,600	-514	97,858	1,918	-117	-19	1

To view the Portfolio report

1. On the **Analytical Tools** menu, select *IB Risk Navigator*.
2. In the **Report Viewer**, select *Portfolio* in the **Report** dropdown.
3. Use the Underlying and Measure dropdown lists to define your report criteria.

Use the Metrics menu to display available risk metrics.

Risk by Position Report

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My Portfolio

Report Dimensions Metrics View Settings Risk by Pos

Underlying	Expiry	Strike	Right	Asset	Pos...	Price	P&L	Exposure	Delta...	Gamma...	Vega	Theta
KFT <...	20080118	30	P	OPT	-20	0.19	-34	9,003	338	-266	-27	
FSS	20080215	37	P	OPT	-63	4.25	-2,879	50,569	6,144	-263	-7	
<NYSE>		15	P	OPT	-20	0.10	-14	8,132	257	-260	-28	
WPP ...	20080118	12.5	P	OPT	-25	2.80	-1,455	32,156	2,185	-256	-16	
VSH ...	20080118	15	P	OPT	-20	2.00	-564	11,763	1,033	-218	-91	
STM	20080118	12.5	P	OPT	-15	0.79	-536	26,321	577	-212	-52	
<NYSE>		17.5	P	OPT	-35	4.15	-2,125	35,745	3,369	-211	-11	
BAC	20080118	22.5	P	OPT	-20	2.25	-1,064	39,069	1,921	-201	-7	
<NYSE>		45	P	OPT	-20	1.55	-1,264	40,976	966	-198	-68	1
	20080118	45	P	OPT	-45	0.20	-360	17,474	354	-198	-68	
INFY	20080118	45	P	OPT	-10	0.40	-132	10,126	329	-194	-22	
<NASDAQ	20080118	42.5	P	OPT	-15	0.50	-123	20,768	449	-189	-48	
INTU	20080118	12.5	P	OPT	-25	0.20	-80	12,942	301	-180	-45	
<NASDAQ	20080118	7.5	P	OPT	-24	3.90	-1,097	13,375	2,233	-178	-4	
	20080118	30	P	OPT	-10	1.67	-587	23,919	771	-174	-19	
DOW	20080118	40	P	OPT	-10	0.20	-157	5,444	230	-172	-15	
<NYSE>				OPT	-20	0.15	-214	10,683	284	-171	-35	
	20080118	10	P	OPT	-46	5.60	-1,182	30,195	4,467	-171	-5	

To view the Risk by Position report

1. On the **Analytical Tools** menu, select*Risk Navigator*.
2. In the **Report Viewer**, select *Risk by Position* in the Report dropdown.
3. Use the Underlying and Measure lists to define your report criteria.

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Use the Metrics menu to display available risk metrics.

Risk by Underlying Report

The **Risk by Underlying** report is designed to open by default when you open the IB Risk Navigator℠. This report displays portfolio metrics across all asset classes and provides drill-down depth control for each underlying.

My Portfolio

Report Dimensions Metrics View Settings Risk by Unde

Underlying	Position	Price	P&L	Exposure	VAR	Delta (Δ)	Gamma...	Vega	Thet
All Underlyings			-269,079	8,343,217					5,8
ADBE <NASDAQ>			443	-19,646	-1,887	-480	-34	-165	
2009-01-16			443	-19,646		-480	-34	-165	
ADBE JAN 16 '09 45.0 C...	-10	3.90	443	-19,646		-480	-34	-165	
AA <NYSE>			-217	9,868	-1,113	278	-87	-67	
2008-01-18			-60	3,282		93	-53	-15	
AA JAN 18 '08 30.0 PUT...	-20	0.10	-60	3,282		93	-53	-15	
2008-04-18			-157	6,586		186	-34	-52	
AA APR 18 '08 30.0 PUT...	-10	0.85	-157	6,586		186	-34	-52	
AAPL <NASDAQ>			1,286	-101,646	-11,322	-530	-7	-1,294	
ABT <NYSE>			-32	2,942	-183	53	-21	-22	
ACIW <NASDAQ>			-1,500	25,455	-3,574	1,500			
ADCT <NASDAQ>			-2,535	52,878	-7,998	3,607	-867	-43	
ADI <NYSE>			-498	24,902	-3,674	840	-345	-35	

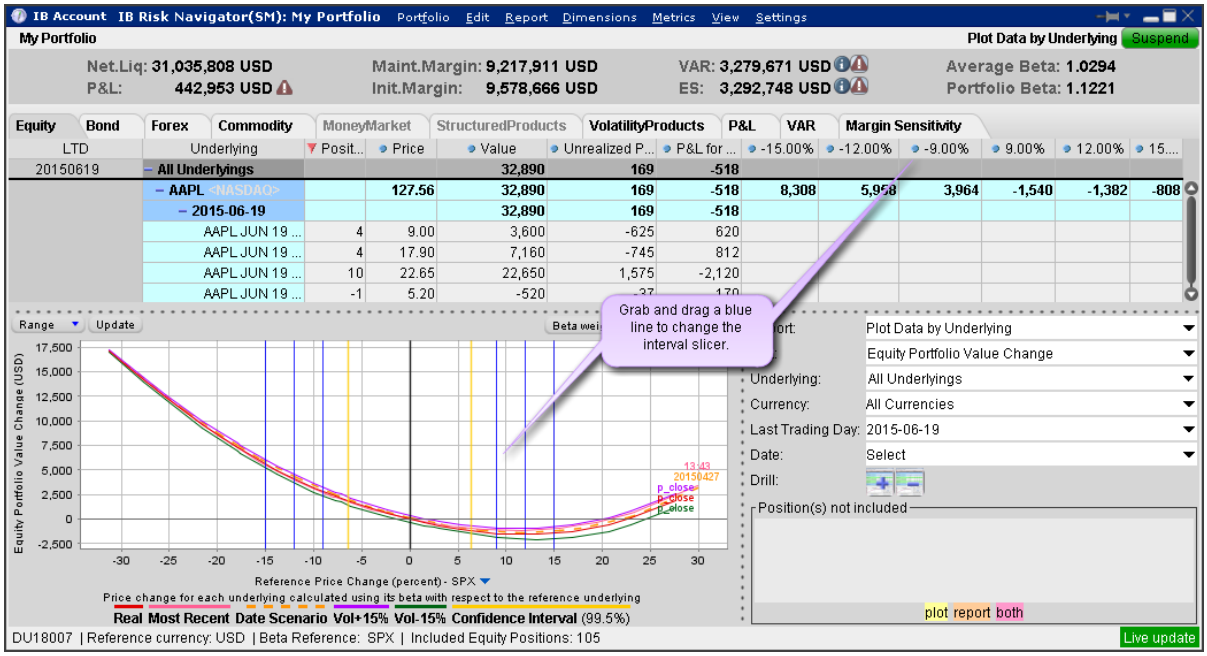
To view the Risk by Underlying report

1. On the **Analytical Tools** menu, select *Risk Navigator*.
2. In the **Report Viewer**, select *Risk by Underlying* in the Report dropdown.
3. Use the Underlying and Measure lists to define your report criteria.

Use the Metrics menu to display available risk metrics.

Plot Data by Underlying

Select this report to view values for the symmetric data slicers in the P&L Plot. By default the slicers are spaced at +/- 3%, 6%, 9%, 12% and 15%.



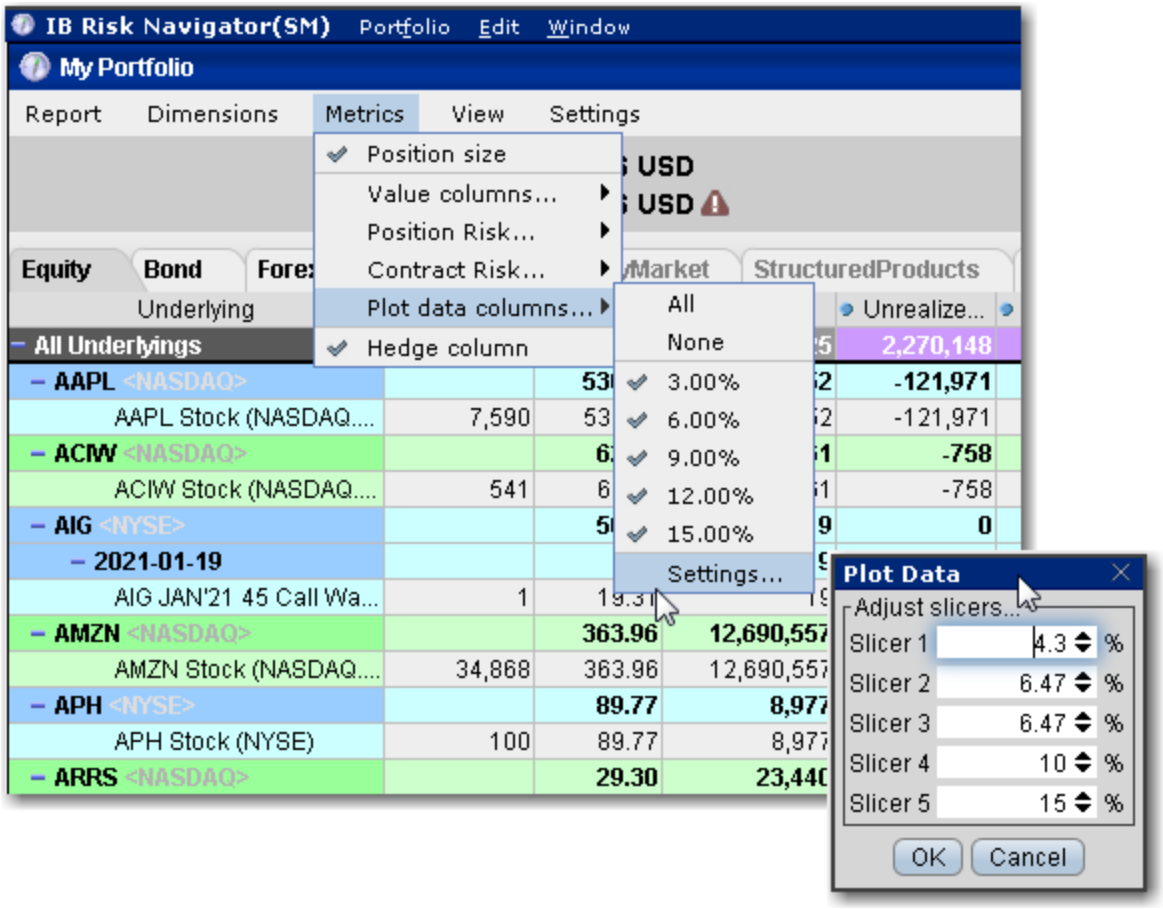
If you have the crosshair activated in the P&L plot using the right-click menu, when you hold your mouse over a line in the plot its value is displayed.

To open the Plot Data by Underlying report

Open the Risk Navigator

> a. *From Mosaic - Use the New Window drop down and select Risk Navigator from the* ***Advanced Trading Tools*** *category.*
> b. *From Classic TWS - Use the* ***Analytical Tools*** *menu and select Risk Navigator from the Portfolio category.*

From the Report drop down list, select *Plot Data by Underlying*.



To change the interval between plot slicers

From within the plot, drag any of the blue slicer lines in an out to change the interval. Note that the corresponding negative/positive line will also adjust.

Using the menu, from the **Metrics** menu select P*lot data columns* and then select *Settings*.

Portfolio Statistics Report

The **Portfolio Statistics** report shows two summary tables: one for all Stock and Futures positions, and one for all Options positions.

The **Stock** and **Future** summaries shows all long positions, all short positions, the net and gross units, and their corresponding total value.

The **Option/Warrant** summary shows all long calls, long puts, the sum of both calls and puts, and the total value; all short calls, short puts, the sum of both calls and puts, and the total value;

the net units for calls, puts, the sum of both and the total net value; and gross units for calls, puts the sum of both, and the corresponding net value.

The Cash balance summary shows you total in base, and all cash totals for currencies in your portfolio.

The Opaque Positions list displays positions for which risk cannot be calculated. While these positions are not included in any risk reports, the market value is included in the *Portfolio Value* version of the P&L graph.

Stock

	Shares	Value
Long	373,088	10,004,316.45
Short	200	7,125.00
Net	372,888	9,997,191.45
Gross	373,288	10,011,441.45

Future

	Shares	Value
Long	0	0.00
Short	1	65,420.00
Net	-1	-65,420.00
Gross	1	65,420.00

Option/Warrant

	Calls	Puts	Both	Value
Long	75	0	75	46,905.00
Short	0	0	0	0.00
Net	75	0	75	46,905.00
Gross	75	0	75	46,905.00

Cash balance

Currency	Value
Total (in USD)	**-5,644,536.72**
CAD	-61,323.34
CHF	-17.23
EUR	-88,331.28
GBP	-25,830.32
JPY	-261.59
USD	-5,426,685.15

Opaque positions (not included in risk reports)

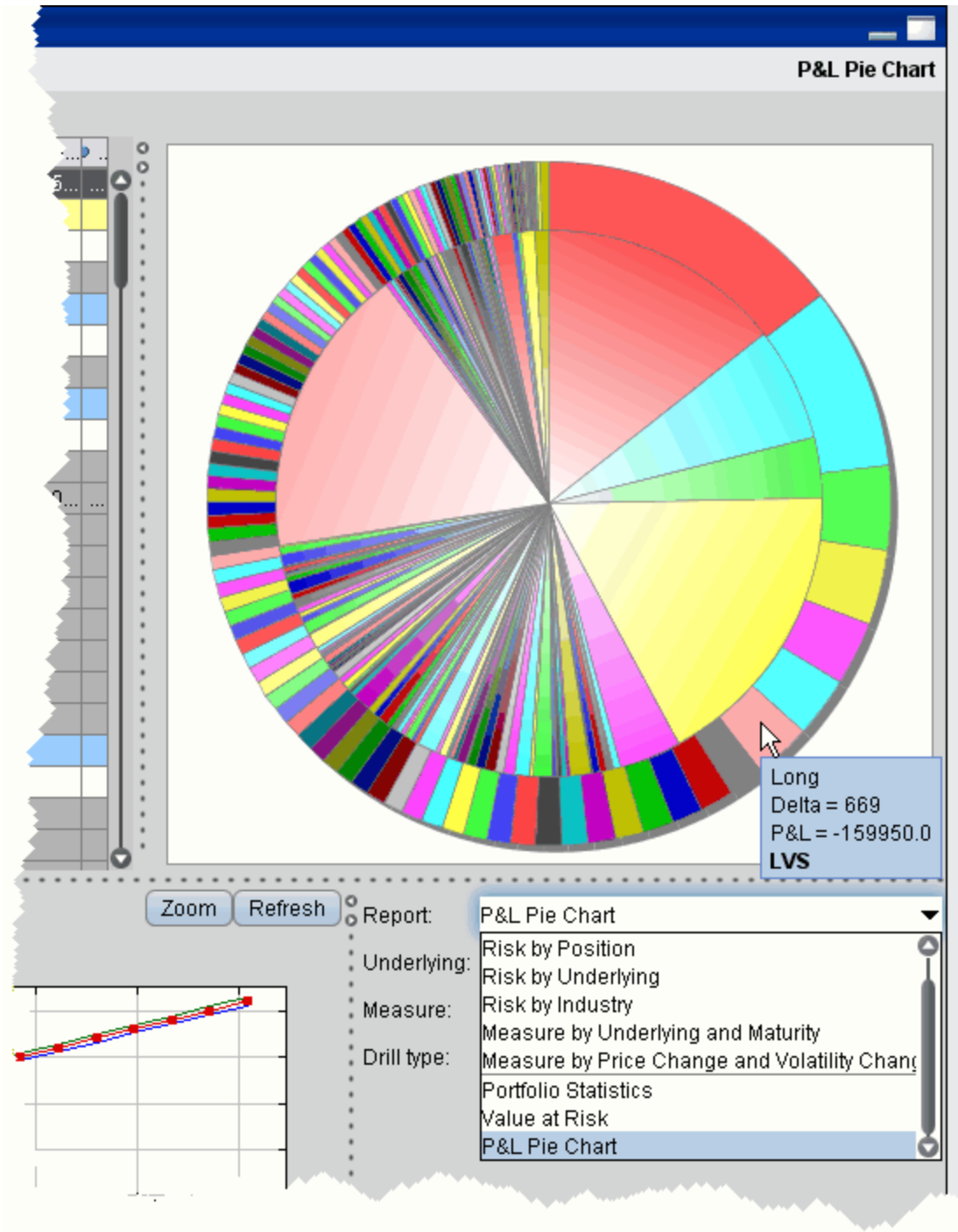
	Contracts	Value
Total	9	931,439.89

To view the Portfolio Statistics report

1. On the **Analytical Tools** menu, select *Risk Navigator*.
2. In the **Report Viewer**, select *Portfolio Statistics* in the Report dropdown.

P&L Pie Chart

The P&L Pie Chart shows the position Delta and P&L for all positions in your portfolio relative to the total portfolio. Use default color coding to see losing positions in red, profiting positions in green and neutral positions in blue, or change the coloring to display each position using a different color.



To view the P&L Pie Chart

1. On the **Analytical Tools** menu, select *Risk Navigator*.
2. In the **Report Selector**, select *P&L Pie Chart* from the *Report* dropdown.

Money Market Tab

The Money Market tab display ultimate underlyings categorized as Financial Index" or "Financial Notional". The product categories of FUT and FOP are either "Fixed Income" or "Money Market." Money Market positions are grouped by currency.

The following reports are available for Money Market products in your portfolio:

Portfolio Report

Use the **Portfolio** report to view risk and exposure for all positions in your portfolio. You can view totals for specific risk measures (where applicable) in the Risk by Underlying report.

My Portfolio

Report Dimensions Metrics View Settings Port

Underlying	Description	Po...	Price	Value	P&L	Exp...	Delta...	Gamma...	Vega	Theta.
ADBE...	ADBE JAN 16 '09 45.0 ...	-10	3.40	-3,400	743	-18,346	-456	-34	-162	
AA	AA JAN 18 '08 30.0 PU...	-20	0.10	-200	-160	4,928	141	-73	-20	3
<NYSE>	AA APR 18 '08 30.0 PU...	-10	1.05	-1,050	-307	7,306	210	-37	-54	1
AAPL...	AAPL JAN 16 '09 300.0 ...	-20	11.80	-23,600	1,136	-99,978	-529	-7	-1,274	8
ABT ...	ABT FEB 15 '08 47.5 P...	-10	0.10	-100	-32	2,733	49	-17	-21	
ACIW...	ACIW Stock (NMS)	1,500	16.62	24,930	-1,995	24,930	1,500			
ADCT	ADCT JAN 18 '08 15.0 ...	-25	0.85	-2,125	-1,080	20,925	1,437	-585	-28	5
<NASDAQ	ADCT JAN 18 '08 17.5 ...	-25	3.00	-7,500	-2,018	31,014	2,130	-250	-17	4
ADI <...	ADI JAN 18 '08 30.0 PU...	-15	0.95	-1,425	-648	27,219	925	-355	-34	3
AEIS	AEIS JAN 18 '08 17.5 P...		5.50		-2,029					
<NASDAQ	AEIS JAN 18 '08 20.0 P...		8.00		-2,028					
	AEIS Stock (NMS)		11.56		-1,243					
AIG	AIG JAN 18 '08 60.0 PU...	-10	4.50	-4,500	-1,007	46,137	825	-67	-29	3
<NYSE>	AIG JAN 18 '08 65.0 PU...	-5	9.10	-4,550	-679	27,206	487	-10	-4	
ALL <...	ALL JAN 18 '08 55.0 PU...	-20	3.80	-7,600	-514	97,858	1,918	-117	-19	1

To view the Portfolio report

1. On the **Analytical Tools** menu, select *IB Risk Navigator*.
2. In the **Report Viewer**, select *Portfolio* in the **Report** dropdown.
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Risk by Position Report

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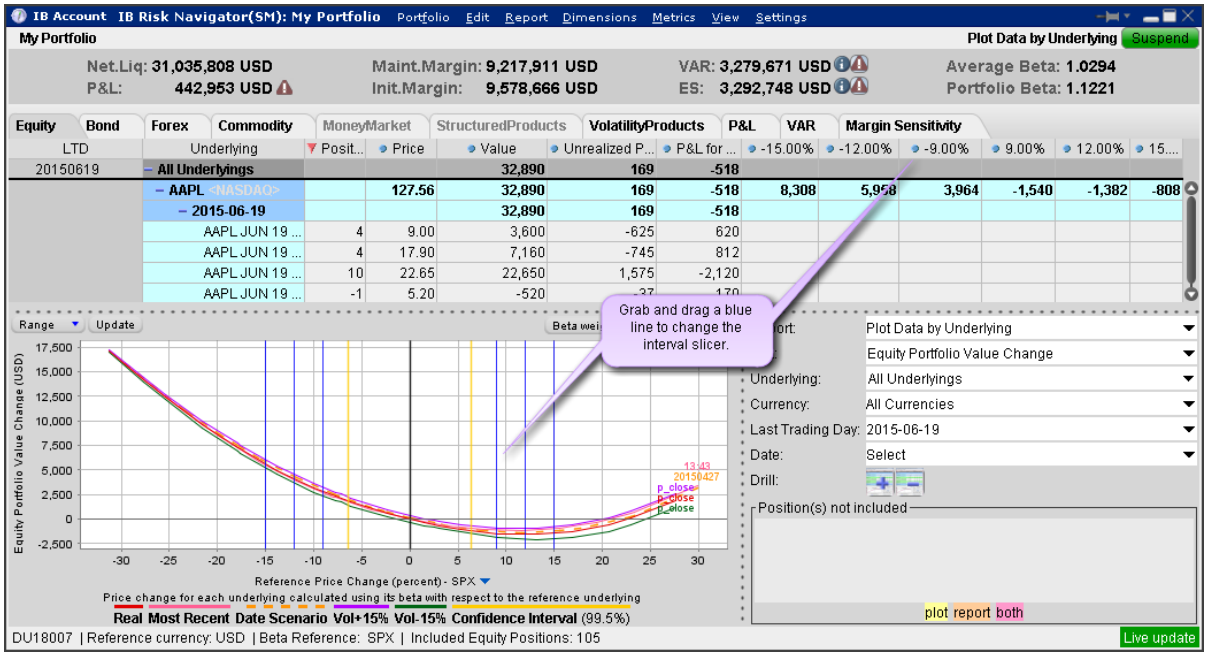

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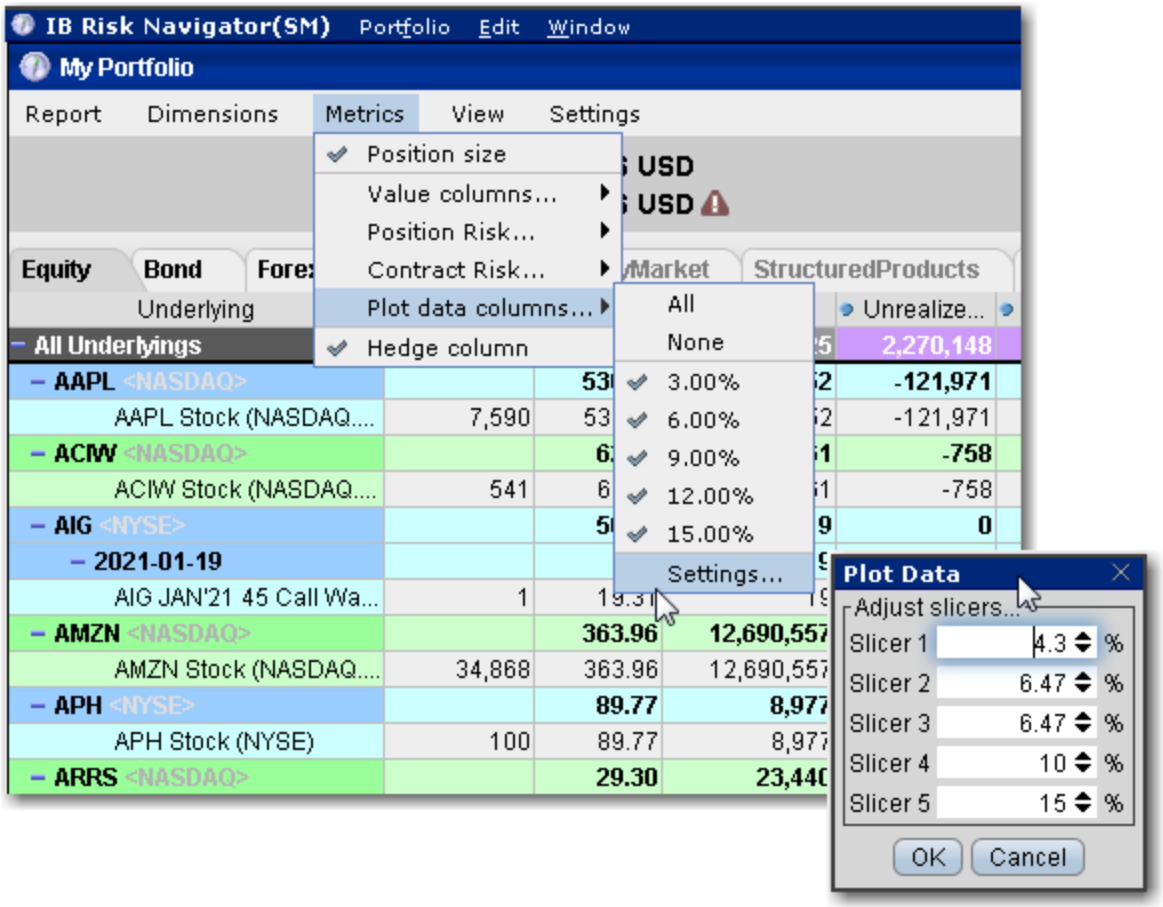

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	Calls	Puts	Both	Value
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Currency	Value
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Opaque positions (not included in risk reports)

	Contracts	Value
Total	9	931,439.89

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P&L Pie Chart

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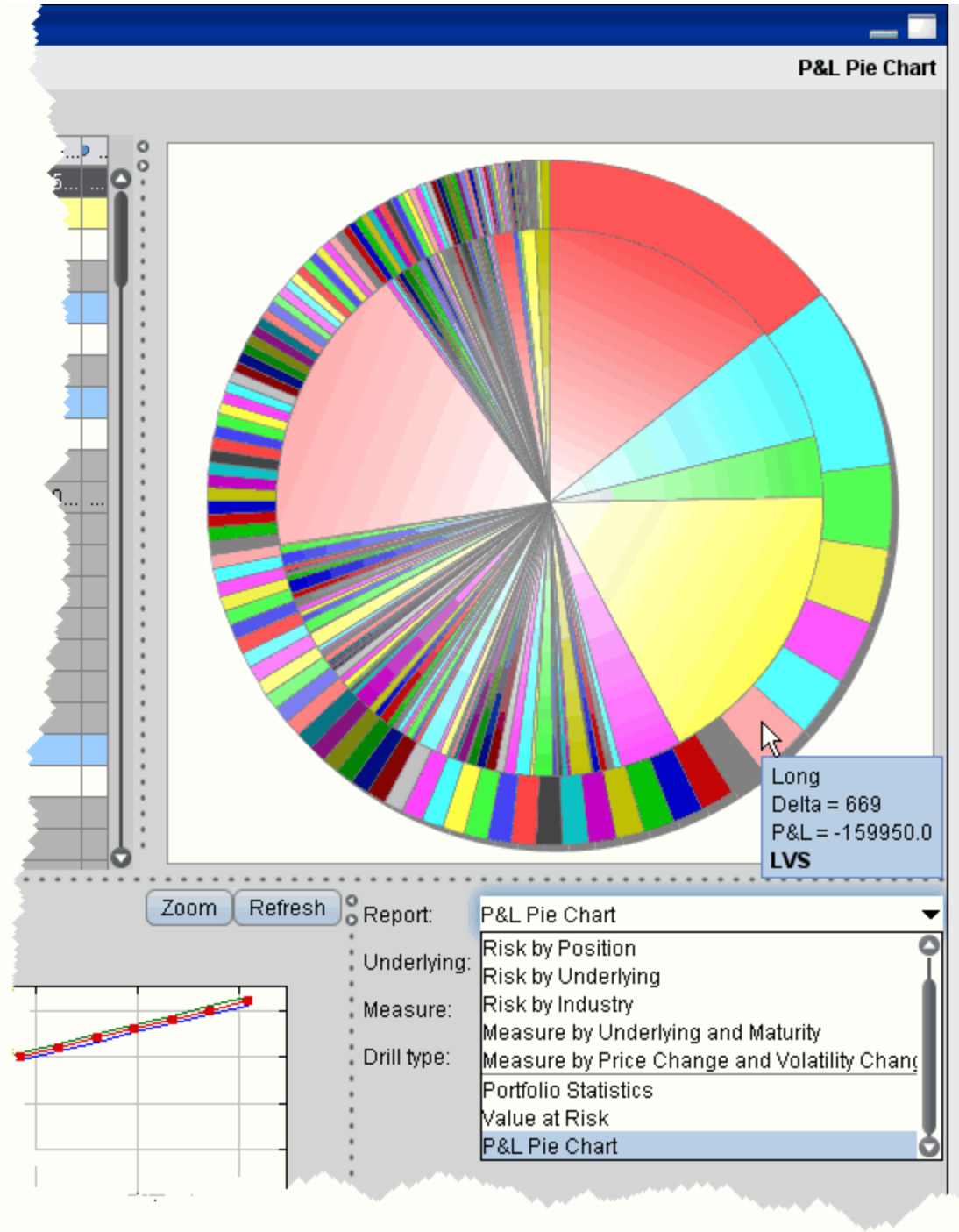

To view the P&L Pie Chart

1. On the **Analytical Tools** menu, select *Risk Navigator*.
2. In the **Report Selector**, select *P&L Pie Chart* from the *Report* dropdown.

Structured Products Tab

Structured products are partially supported in Risk Navigator, and are presented with only the position size, price and P&L without any additional calculated risk measures.

The following reports are available for structured products in your portfolio:

Portfolio Report

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My Portfolio

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2. In the **Report Viewer**, select *Portfolio* in the **Report** dropdown.
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Use the Metrics menu to display available risk metrics.

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<NYSE>		45	P	OPT	-20	1.55	-1,264	40,976	966	-198	-68	1
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To view the Risk by Position report

1. On the **Analytical Tools** menu, select*Risk Navigator*.
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My Portfolio

Report Dimensions Metrics View Settings Risk by Unde

Underlying	Position	Price	P&L	Exposure	VAR	Delta (Δ)	Gamma...	Vega	Thet
All Underlyings			-269,079	8,343,217					5,8
ADBE <NASDAQ>			443	-19,646	-1,887	-480	-34	-165	
2009-01-16			443	-19,646		-480	-34	-165	
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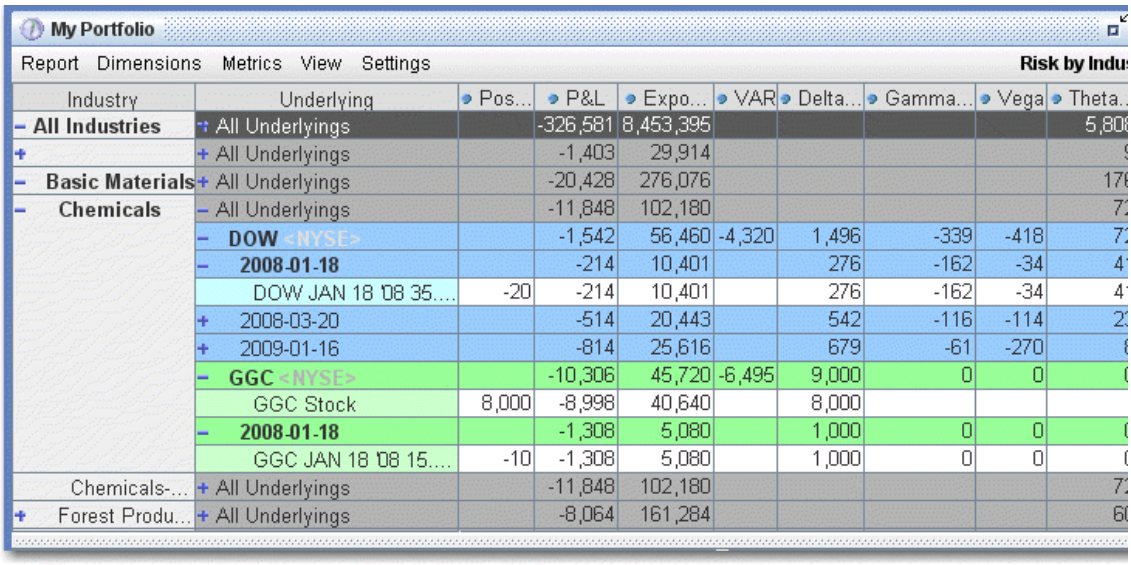

Industry	Underlying	Pos...	P&L	Expo...	VAR	Delta...	Gamma...	Vega	Theta...
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+	All Underlyings		-1,403	29,914					
Basic Materials	All Underlyings		-20,428	276,076					17
Chemicals	All Underlyings		-11,848	102,180					7
	DOW <NYSE>		-1,542	56,460	-4,320	1,496	-339	-418	7
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	GGC <NYSE>		-10,306	45,720	-6,495	9,000	0	0	
	GGC Stock	8,000	-8,998	40,640		8,000			
	2008-01-18		-1,308	5,080		1,000	0	0	
	GGC JAN 18 '08 15....	-10	-1,308	5,080		1,000	0	0	
Chemicals-...	All Underlyings		-11,848	102,180					7
Forest Produ...	All Underlyings		-8,064	161,284					6

To view the Risk by Industry report

1. On the **Analytical Tools** menu, select *Risk Navigator*.
2. In the **Report Viewer**, select *Risk by Industry* in the Report dropdown.

You can drill down several levels within an **Industry** category, and then drill down in the *Underlying* field for that category to see all underlyings in the industry, and then all derivatives of the underlying. To drill down to a deeper level of detail, click the plus "+" sign. A minus "-" sign indicates that you have drilled down to the deepest level of detail. Click the "-" sign to go up a level.

Use the Metrics menu to display available risk metrics.

Portfolio Statistics Report

The **Portfolio Statistics** report shows two summary tables: one for all Stock and Futures positions, and one for all Options positions.

The **Stock** and **Future** summaries shows all long positions, all short positions, the net and gross units, and their corresponding total value.

The **Option/Warrant** summary shows all long calls, long puts, the sum of both calls and puts, and the total value; all short calls, short puts, the sum of both calls and puts, and the total value;

the net units for calls, puts, the sum of both and the total net value; and gross units for calls, puts the sum of both, and the corresponding net value.

The Cash balance summary shows you total in base, and all cash totals for currencies in your portfolio.

The Opaque Positions list displays positions for which risk cannot be calculated. While these positions are not included in any risk reports, the market value is included in the *Portfolio Value* version of the P&L graph.

Stock

	Shares	Value
Long	373,088	10,004,316.45
Short	200	7,125.00
Net	372,888	9,997,191.45
Gross	373,288	10,011,441.45

Future

	Shares	Value
Long	0	0.00
Short	1	65,420.00
Net	-1	-65,420.00
Gross	1	65,420.00

Option/Warrant

	Calls	Puts	Both	Value
Long	75	0	75	46,905.00
Short	0	0	0	0.00
Net	75	0	75	46,905.00
Gross	75	0	75	46,905.00

Cash balance

Currency	Value
Total (in USD)	**-5,644,536.72**
CAD	-61,323.34
CHF	-17.23
EUR	-88,331.28
GBP	-25,830.32
JPY	-261.59
USD	-5,426,685.15

Opaque positions (not included in risk reports)

	Contracts	Value
Total	9	931,439.89

To view the Portfolio Statistics report

1. On the **Analytical Tools** menu, select *Risk Navigator*.
2. In the **Report Viewer**, select *Portfolio Statistics* in the Report dropdown.

Volatility Products

The following reports are available for Volatility Products in your portfolio:

Volatility Products Tab

Volatility products, including derivatives on the widely recognized volatility indexes and funds such as ETFs, may help traders gain exposure to the volatility of several instruments including equity indexes, single stocks and other underlying instruments. Risk Navigator presents volatility in percentage terms, and allows users to choose between annualized and daily volatility.

The volatility indexes, published daily by exchanges, are specific measures of the implied volatility of certain underlying products. Documentation for the computation methodology of these measures can be found on the various exchange websites.

Notable examples of some of these volatility indexes are below, with the equity index, ETF or single stock whose volatility these indexes measure in parentheses:

VIX (SPX)
V2TX (STOXX)
NKVI (N225)
GVZ (GLD)
VXXLE (XLE)
VXAPL (AAPL)

The indexes are quoted in annual percentage terms, except for a small number of interest-rate related indexes which are quoted in basis point terms. For example, VIX is the annualized percentage volatility of SPX; a VIX of 1 means an SPX volatility of 0.01 or 1%. Consider a VIX call with VIX-delta equal to 0.8. It would appreciate by 0.8 x 1 = 0.8 if VIX were to increase by 1. This is equivalent to saying that the value of the VIX call will rise by 0.8 when the SPX volatility goes up by 1%, and that the VIX call has an SPX-vega of 0.8. (Vega is defined in Risk Navigator as the derivative value change due to a 1% change in the underlying price.)

Generally , a portfolio that has VIX-delta risk can be viewed as having SPX-vega risk. The following formula provides the translation between the delta risk of the volatility index and the

vega risk of the underlying it measures. The volatility index-specific scaling factor below captures the quotation convention of each index

Vega(underlying) = Delta(derivative of volatility index) x (volatility index-specific scaling factor) x 0.01

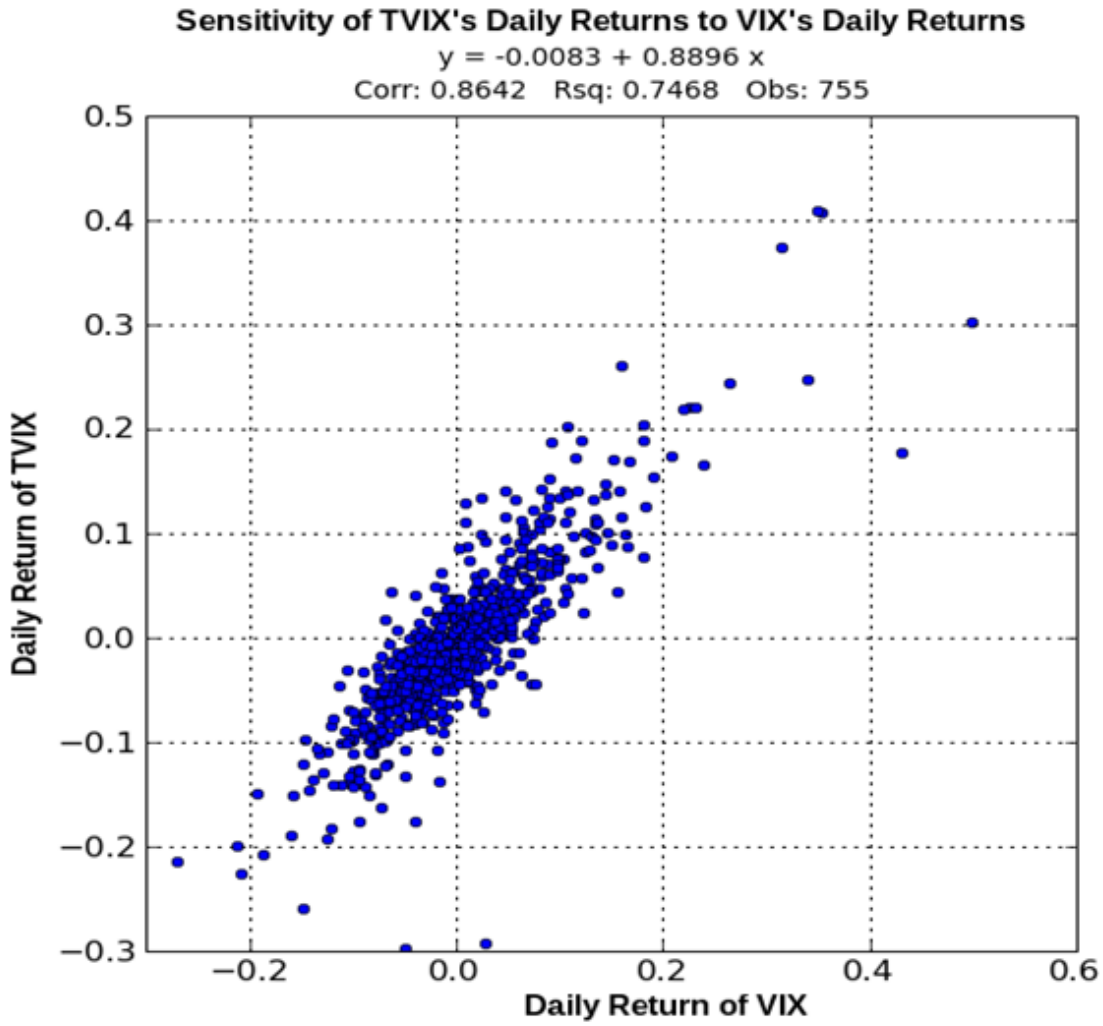
ETFs are designed to provide exposure to some targeted volatility indexes. Unlike a single-volatility index derivative position, these funds are portfolios of volatility index derivative positions with various expiries in different proportions. This creates a directional or inverse exposure to the volatility indexes.

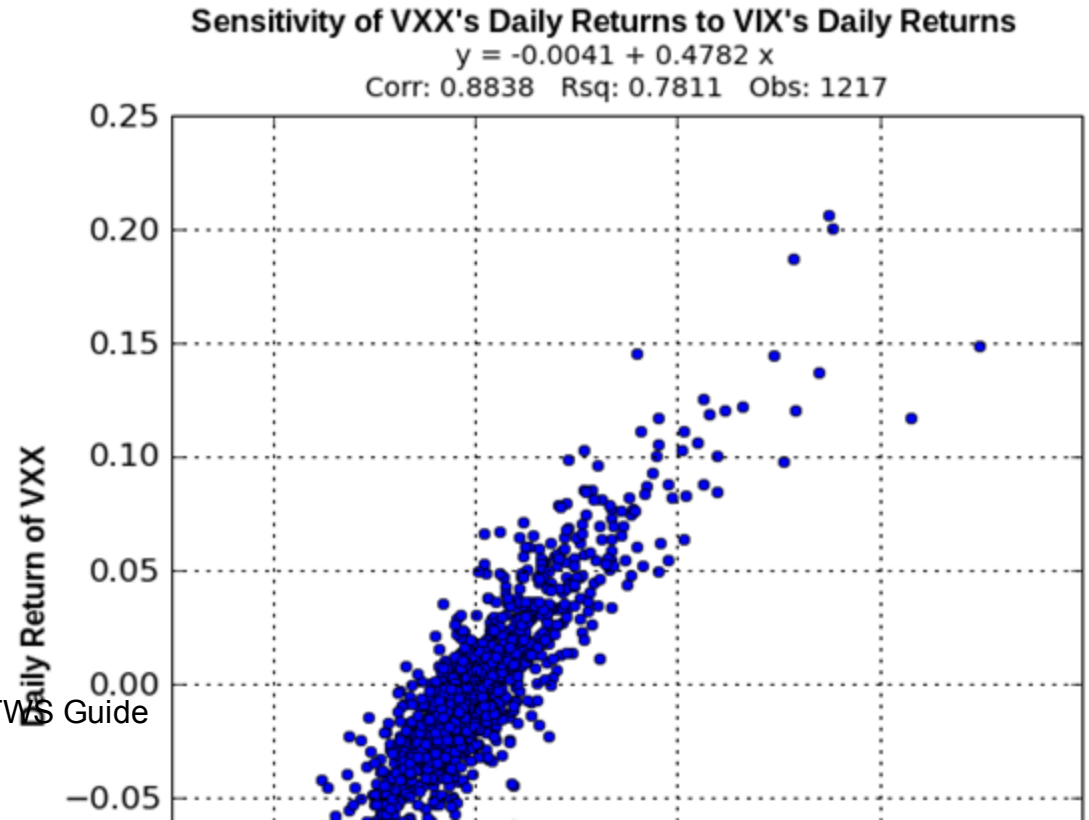
Below are some examples of these ETFs with the targeted volatility indexes for which they provide exposure in parentheses:

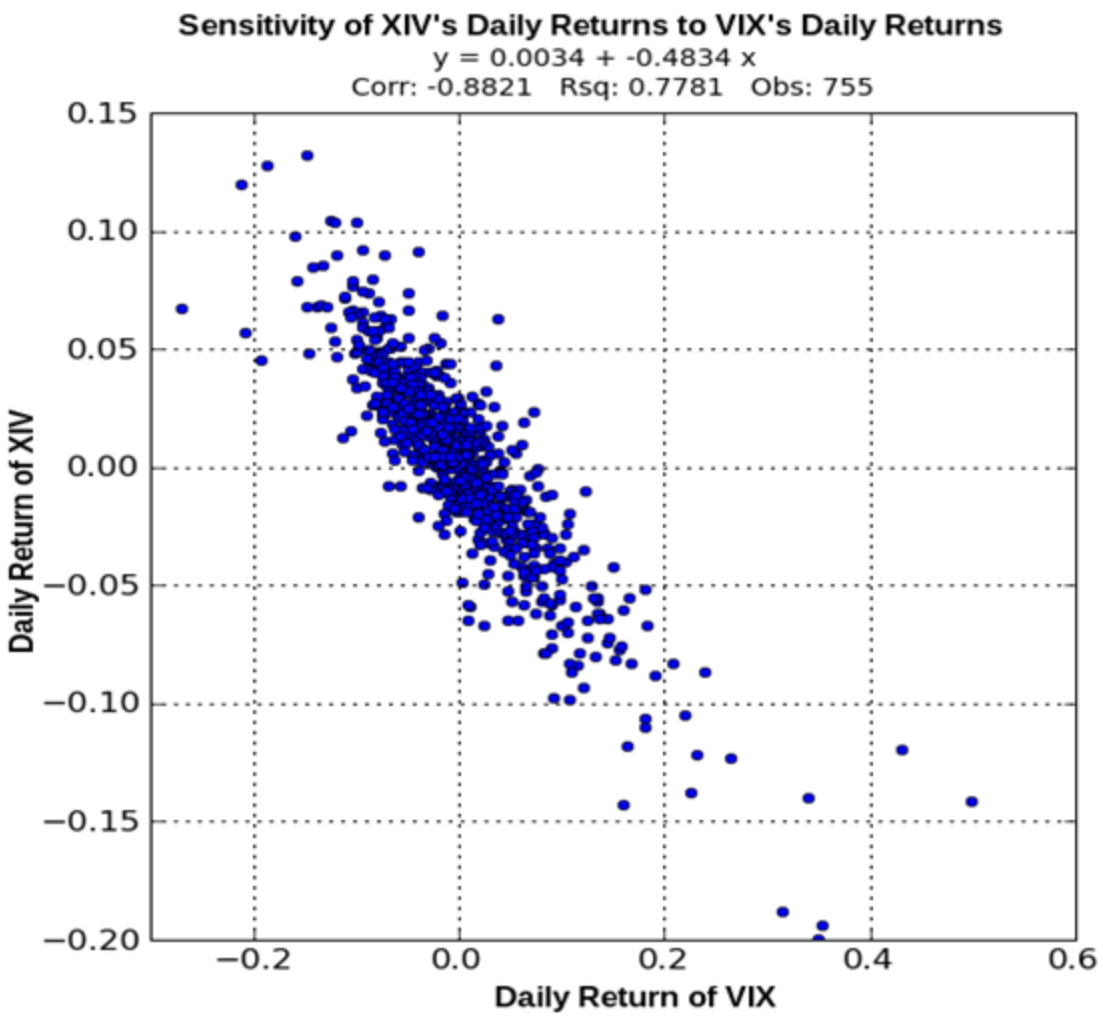
XIV -VELOCITYSHARES INV VIX SH-TM: (VIX)
VXX - IPATH S&P 500 VIX S/T FU ETN: (VIX)
TVIX - VELOCITYSHARES 2X VIX SH-TRM : (VIX)

The relationship between the prices of these funds and the volatility indexes are entirely statistical in nature due to the fact that composition of these funds could be opaque, tracking errors exist, and fund portfolios are dynamically constructed with periodic rebalancing and rollovers near expiration dates of derivatives.

The price sensitivity of these funds to the volatility index is best explored by regressing the daily returns of each fund on the daily returns of the volatility index it targets. The images below show the regression results using the daily closing prices since 2006. These results suggest that the daily returns of ETFs are strongly correlated with those of the volatility indexes. The slope coefficient expresses the sensitivity of the fund's daily return to the Volatility Index's daily return.


Sensitivity of TVIX's Daily Returns to VIX's Daily Returns
y = -0.0083 + 0.8896 x
Corr: 0.8642 Rsq: 0.7468 Obs: 755
Daily Return of TVIX
Daily Return of VIX
0.5
0.4
0.3
0.2
0.1
0.0
−0.1
−0.2
−0.3
−0.2
0.0
0.2
0.4
0.6


Sensitivity of VXX's Daily Returns to VIX's Daily Returns
y = -0.0041 + 0.4782 x
Corr: 0.8838 Rsq: 0.7811 Obs: 1217
Daily Return of VXX
0.25
0.20
0.15
0.10
0.05
0.00
−0.05



Owning a volatility-targeting fund is equivalent to owning a portfolio whose value is sensitive to the volatility of a targeted underlying index. The fund's sensitivity to the volatility index can be translated to the Vega of the underlying as follows.

Vega(Underlying)

= (Sensitivity of the fund's return to Volatility Index return) x (Current Fund price / Current Volatility Index) x (Volatility Index-specific scaling factor) x 0.01

= (Sensitivity of the fund's price movement to Volatility Index price movement) x (Volatility Index-specific scaling factor) x 0.01

While the “Sensitivity of the fund's price movement to Volatility Index price movement” was estimated from historical prices, some users may express a different view than historical data

would suggest. We provide the flexibility for them to specify their own override on the "Sensitivity Editor".

Relationship between the Equity/Commodity tabs and the Volatility Products tab on Risk Navigator:

Three portfolio value curves are displayed on the Equity/Commodity tab:

A) at the current volatility

B) if the volatility is increased by 15%

C) if the volatility is decreased by 15%

The portfolio value difference on the Equity/Commodity tab between A and B on the Equity/Commodity tab is equal to the portfolio value difference on the Volatility Products tab between the current level and the 15%-up level of the volatility index. A similar description applies to the portfolio value curve C.

Aggregation of Volatility Products on the Volatility Products tab

Volatility products are aggregated by the volatility indexes that they are sensitive to. For example, VXX, XIV, and VIX options are sensitive to VIX. There is a drop-down list showing all the volatility indexes that volatility products within the portfolio are sensitive to. When the user selects a particular volatility index, Risk Navigator will aggregate the price scans of only those volatility products that are sensitive to this volatility index, and ignore the rest. When the entire portfolio is sensitive to only one volatility index, that index is selected by default.

Portfolio Report

Use the **Portfolio** report to view risk and exposure for all positions in your portfolio. You can view totals for specific risk measures (where applicable) in the Risk by Underlying report.

My Portfolio

Report Dimensions Metrics View Settings Port

Underlying	Description	Po...	Price	Value	P&L	Exp...	Delta...	Gamma...	Vega	Theta.
ADBE...	ADBE JAN 16 '09 45.0 ...	-10	3.40	-3,400	743	-18,346	-456	-34	-162	
AA	AA JAN 18 '08 30.0 PU...	-20	0.10	-200	-160	4,928	141	-73	-20	3
<NYSE>	AA APR 18 '08 30.0 PU...	-10	1.05	-1,050	-307	7,306	210	-37	-54	1
AAPL...	AAPL JAN 16 '09 300.0 ...	-20	11.80	-23,600	1,136	-99,978	-529	-7	-1,274	8
ABT ...	ABT FEB 15 '08 47.5 P...	-10	0.10	-100	-32	2,733	49	-17	-21	
ACIW...	ACIW Stock (NMS)	1,500	16.62	24,930	-1,995	24,930	1,500			
ADCT	ADCT JAN 18 '08 15.0 ...	-25	0.85	-2,125	-1,080	20,925	1,437	-585	-28	5
<NASDAQ	ADCT JAN 18 '08 17.5 ...	-25	3.00	-7,500	-2,018	31,014	2,130	-250	-17	4
ADI <...	ADI JAN 18 '08 30.0 PU...	-15	0.95	-1,425	-648	27,219	925	-355	-34	3
AEIS	AEIS JAN 18 '08 17.5 P...		5.50		-2,029					
<NASDAQ	AEIS JAN 18 '08 20.0 P...		8.00		-2,028					
	AEIS Stock (NMS)		11.56		-1,243					
AIG	AIG JAN 18 '08 60.0 PU...	-10	4.50	-4,500	-1,007	46,137	825	-67	-29	3
<NYSE>	AIG JAN 18 '08 65.0 PU...	-5	9.10	-4,550	-679	27,206	487	-10	-4	
ALL <...	ALL JAN 18 '08 55.0 PU...	-20	3.80	-7,600	-514	97,858	1,918	-117	-19	1

To view the Portfolio report

1. On the **Analytical Tools** menu, select *IB Risk Navigator*.
2. In the **Report Viewer**, select *Portfolio* in the **Report** dropdown.
3. Use the Underlying and Measure dropdown lists to define your report criteria.

Use the Metrics menu to display available risk metrics.

Risk by Position Report

The **Risk by Position** report displays risk measures calculated for each position, by underlying.

My Portfolio

Report Dimensions Metrics View Settings Risk by Pos

Underlying	Expiry	Strike	Right	Asset	Pos...	Price	P&L	Exposure	Delta...	Gamma...	Vega	Theta
KFT <...	20080118	30	P	OPT	-20	0.19	-34	9,003	338	-266	-27	
FSS	20080215	37	P	OPT	-63	4.25	-2,879	50,569	6,144	-263	-7	
<NYSE>		15	P	OPT	-20	0.10	-14	8,132	257	-260	-28	
WPP ...	20080118	12.5	P	OPT	-25	2.80	-1,455	32,156	2,185	-256	-16	
VSH ...	20080118	15	P	OPT	-20	2.00	-564	11,763	1,033	-218	-91	
STM	20080118	12.5	P	OPT	-15	0.79	-536	26,321	577	-212	-52	
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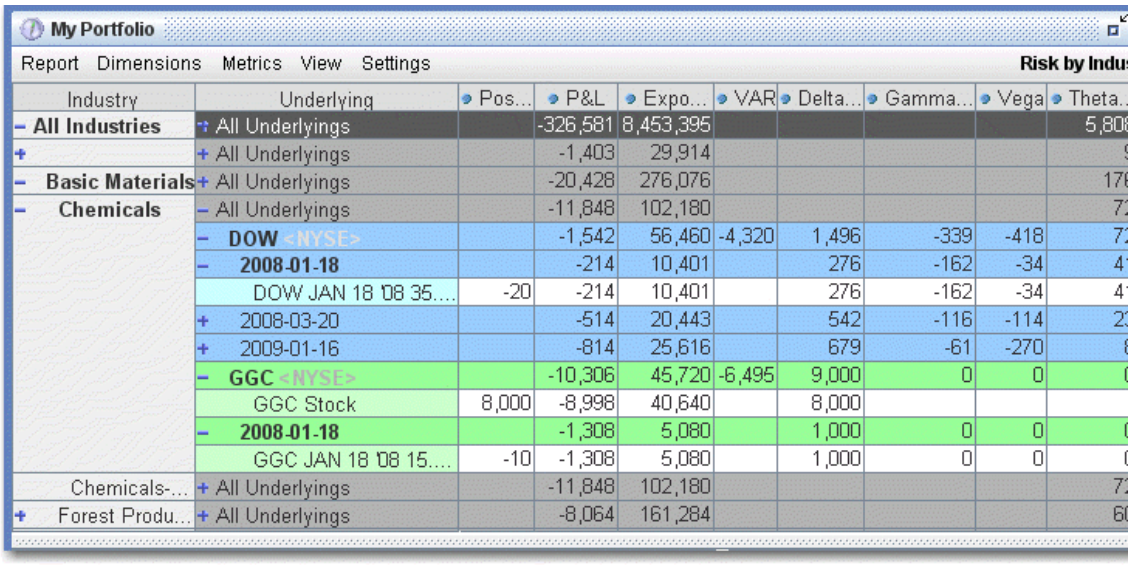

Industry	Underlying	Pos...	P&L	Expo...	VAR	Delta...	Gamma...	Vega	Theta...
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2. In the **Report Viewer**, select *Risk by Industry* in the Report dropdown.

You can drill down several levels within an **Industry** category, and then drill down in the *Underlying* field for that category to see all underlyings in the industry, and then all derivatives of the underlying. To drill down to a deeper level of detail, click the plus "+" sign. A minus "-" sign indicates that you have drilled down to the deepest level of detail. Click the "-" sign to go up a level.

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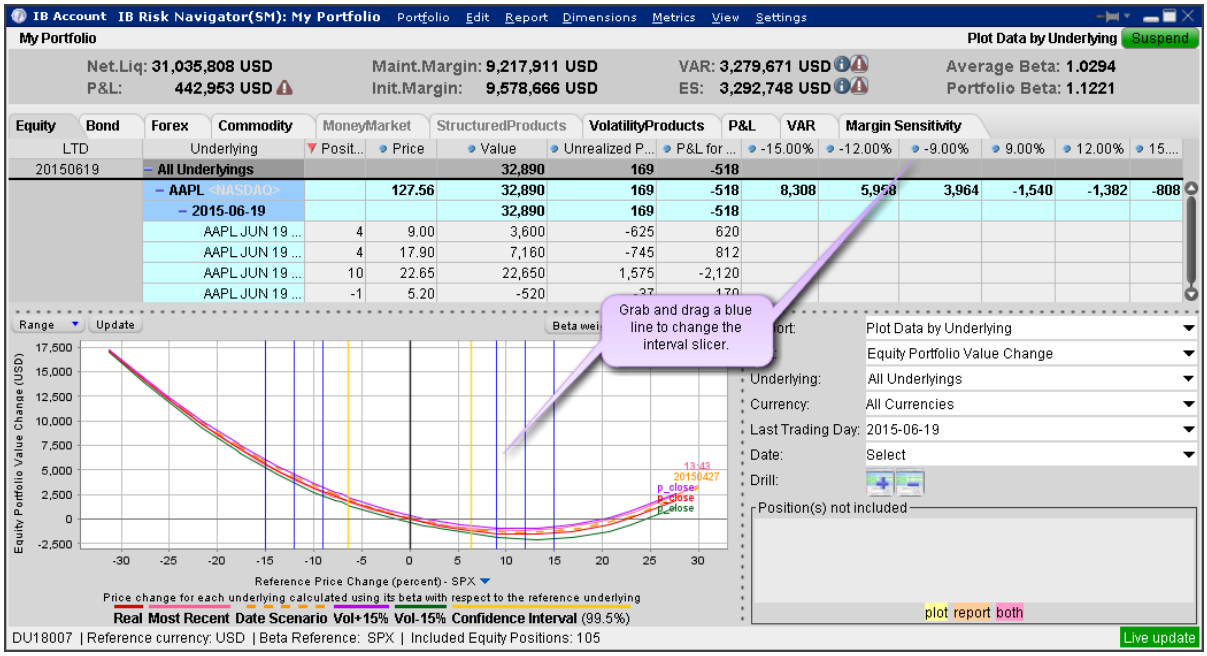
Plot Data by Underlying

Select this report to view values for the symmetric data slicers in the P&L Plot. By default the slicers are spaced at +/- 3%, 6%, 9%, 12% and 15%.



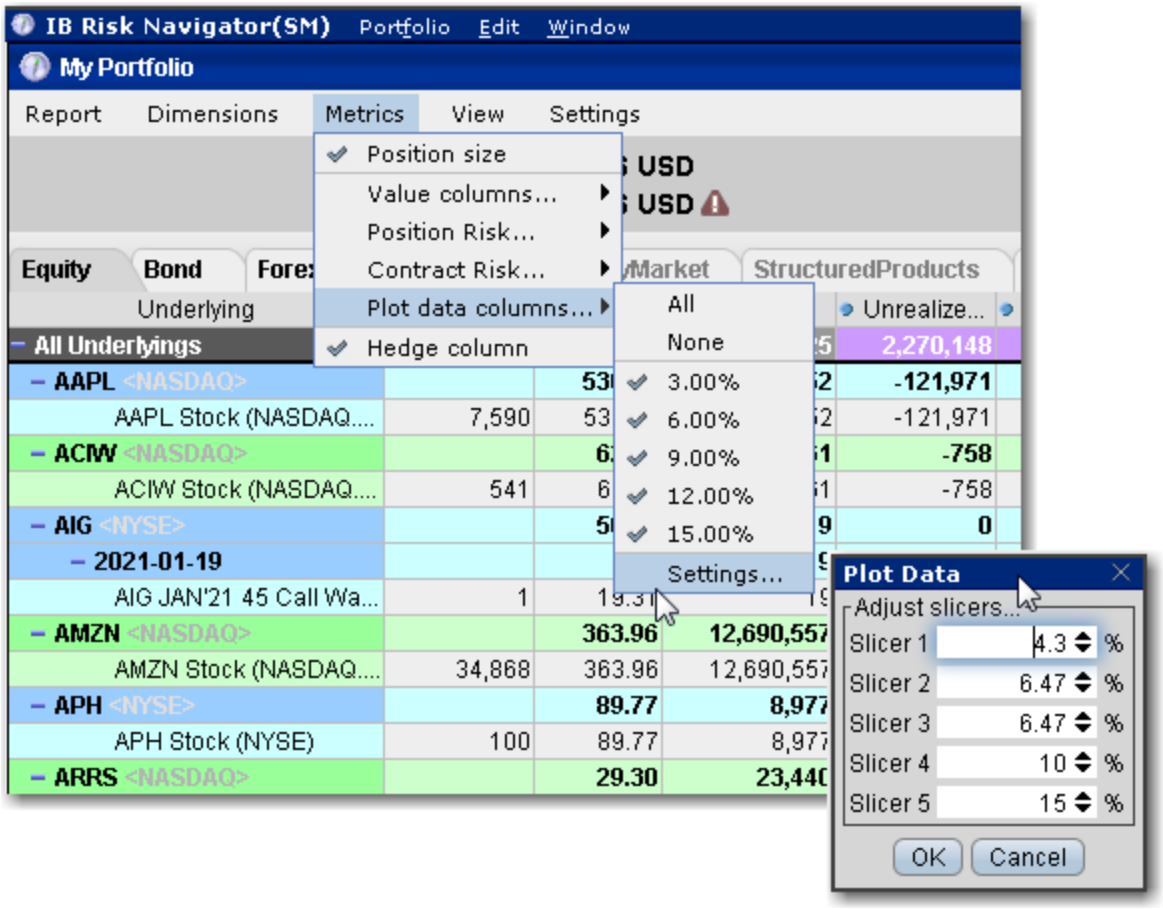
If you have the crosshair activated in the P&L plot using the right-click menu, when you hold your mouse over a line in the plot its value is displayed.

To open the Plot Data by Underlying report

Open the Risk Navigator

> a. *From Mosaic - Use the New Window drop down and select Risk Navigator from the* ***Advanced Trading Tools*** *category.*
> b. *From Classic TWS - Use the* ***Analytical Tools*** *menu and select Risk Navigator from the Portfolio category.*

From the Report drop down list, select *Plot Data by Underlying*.



To change the interval between plot slicers

From within the plot, drag any of the blue slicer lines in an out to change the interval. Note that the corresponding negative/positive line will also adjust.

Using the menu, from the **Metrics** menu select P*lot data columns* and then select *Settings*.

Portfolio Statistics Report

The **Portfolio Statistics** report shows two summary tables: one for all Stock and Futures positions, and one for all Options positions.

The **Stock** and **Future** summaries shows all long positions, all short positions, the net and gross units, and their corresponding total value.

The **Option/Warrant** summary shows all long calls, long puts, the sum of both calls and puts, and the total value; all short calls, short puts, the sum of both calls and puts, and the total value;

the net units for calls, puts, the sum of both and the total net value; and gross units for calls, puts the sum of both, and the corresponding net value.

The Cash balance summary shows you total in base, and all cash totals for currencies in your portfolio.

The Opaque Positions list displays positions for which risk cannot be calculated. While these positions are not included in any risk reports, the market value is included in the *Portfolio Value* version of the P&L graph.

Stock

	Shares	Value
Long	373,088	10,004,316.45
Short	200	7,125.00
Net	372,888	9,997,191.45
Gross	373,288	10,011,441.45

Future

	Shares	Value
Long	0	0.00
Short	1	65,420.00
Net	-1	-65,420.00
Gross	1	65,420.00

Option/Warrant

	Calls	Puts	Both	Value
Long	75	0	75	46,905.00
Short	0	0	0	0.00
Net	75	0	75	46,905.00
Gross	75	0	75	46,905.00

Cash balance

Currency	Value
Total (in USD)	**-5,644,536.72**
CAD	-61,323.34
CHF	-17.23
EUR	-88,331.28
GBP	-25,830.32
JPY	-261.59
USD	-5,426,685.15

Opaque positions (not included in risk reports)

	Contracts	Value
Total	9	931,439.89

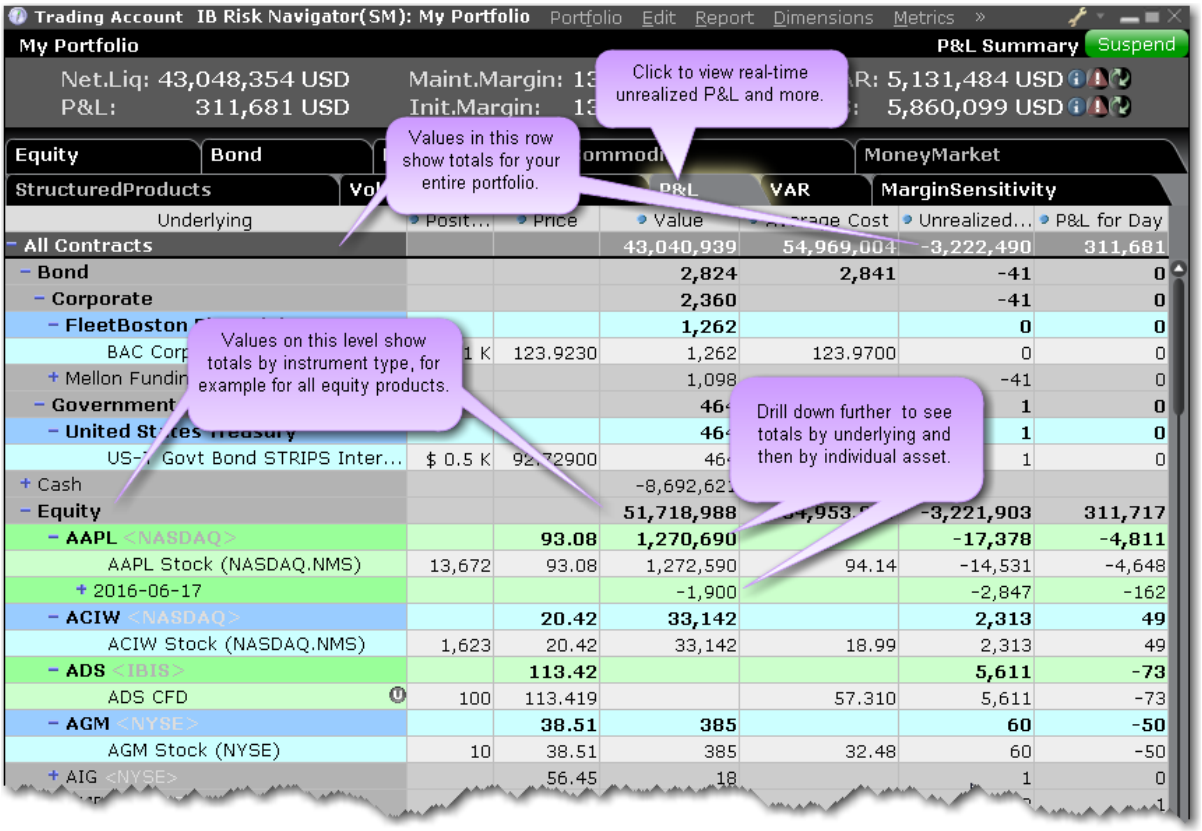
To view the Portfolio Statistics report

1. On the **Analytical Tools** menu, select *Risk Navigator*.
2. In the **Report Viewer**, select *Portfolio Statistics* in the Report dropdown.

P&L Summary

The P&L Summary report displays profit and loss values for all contracts in your portfolio. The display is sorted by asset type, and includes the total P&L for your portfolio, totals by asset class, and the current P&L for each asset.

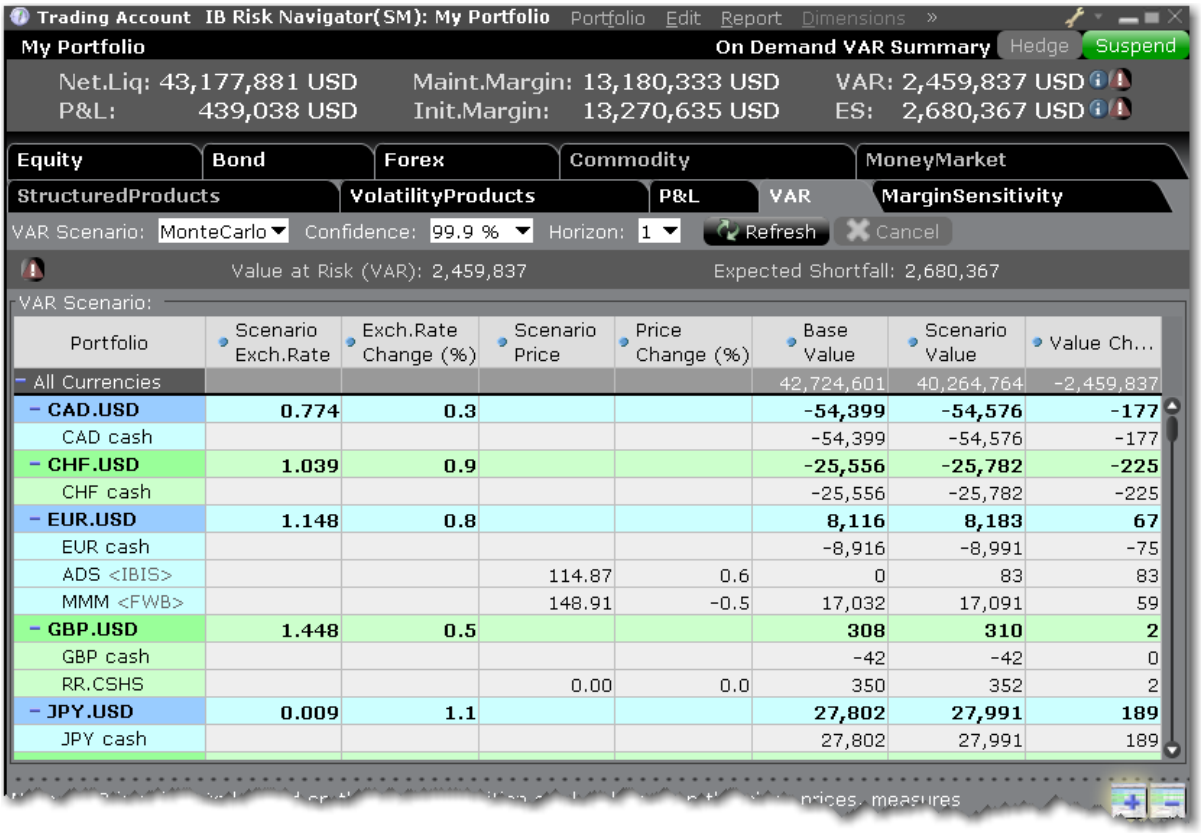
To view the P&L, click the **P&L** tab.



On Demand VaR

The Value at Risk represents the expected loss under normal market conditions, over a specific time horizon and based on the percent probability as defined by the confidence level. This is a theoretical value and does not represent the potential worst-case loss scenario.The On Demand VaR report calculates VaR for the entire portfolio. The report calculates VaR at the subportfolio level and aggregates it at the currency and portfolio levels. On Demand VaR is also

available for What-If portfolios. Hold your mouse over the column names inside the report for more information.



Portfolio	Scenario Exch.Rate	Exch.Rate Change (%)	Scenario Price	Price Change (%)	Base Value	Scenario Value	Value Ch...
All Currencies					42,724,601	40,264,764	-2,459,837
CAD.USD	0.774	0.3			-54,399	-54,576	-177
CAD cash					-54,399	-54,576	-177
CHF.USD	1.039	0.9			-25,556	-25,782	-225
CHF cash					-25,556	-25,782	-225
EUR.USD	1.148	0.8			8,116	8,183	67
EUR cash					-8,916	-8,991	-75
ADS <IBIS>			114.87	0.6	0	83	83
MMM <FWB>			148.91	-0.5	17,032	17,091	59
GBP.USD	1.448	0.5			308	310	2
GBP cash					-42	-42	0
RR.CSHS			0.00	0.0	350	352	2
JPY.USD	0.009	1.1			27,802	27,991	189
JPY cash					27,802	27,991	189

To use the On Demand VaR report

From the Risk Navigator main window, select the VaR tab.

Select the VaR Scenario:

> *Historical - Uses past data to estimate price.*
> *Monte Carlo - Implements a model for price estimation.*

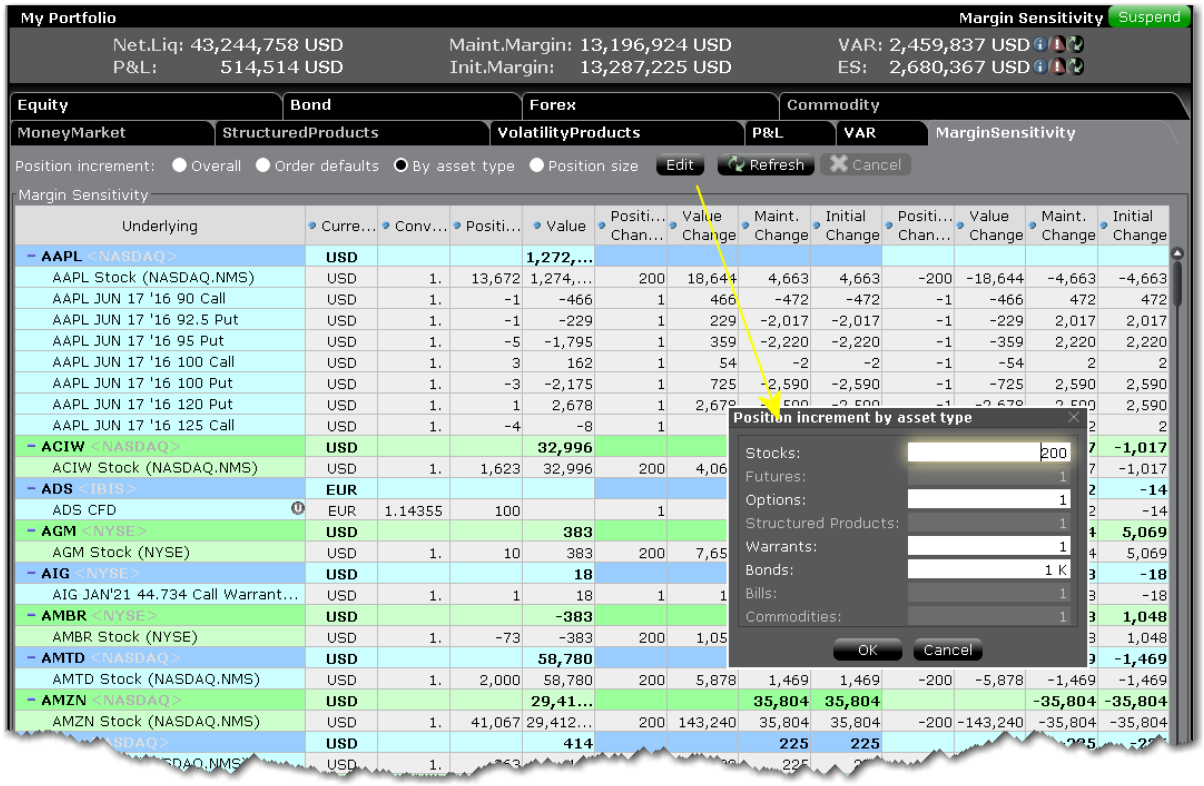
Specify the confidence level.

100% is only available in the Historical scenario.

Specify the time horizon in days.

Margin Sensitivity

The Margin Sensitivity report, accessed from the report tabset next to the VAR report, shows you the margin impact to your portfolio of a specific increase and decrease in your positions or a group of positions.



Once the position change is specified, the report shows the initial and maintenance margin sensitivity for both position increase and position decrease. Along the top of the report is the Control Panel which is used to specify how to modify the positions in your portfolio. The method is set to "Order defaults" by default.

Overall - Uses the value you set in the entry field. If this radio button is selected, enter the change amount for all positions in your portfolio in the enterable field.

Order defaults - uses the Order Quantity default specified in the order presets, based on asset type. If the stock default quantity is 500 and the option default order quantity is 5, all stock positions will display margin impact on + and - 500, and all option positions will show impact for + and - 5 contracts.

By asset type - Use the Edit box to enter the change value for each asset type.

Position Size - Changes the current position by the current position size. A stock position of 7200 will show margin impact for a position of 14,400, and 0 (+7200 and -7200).

In the bottom right corner you can change the display from "All Underlyings" to a specific underlying, and you can change the way the report is displayed by selecting "Margin Sensitivity by Underlying."

Risk Navigator Reports

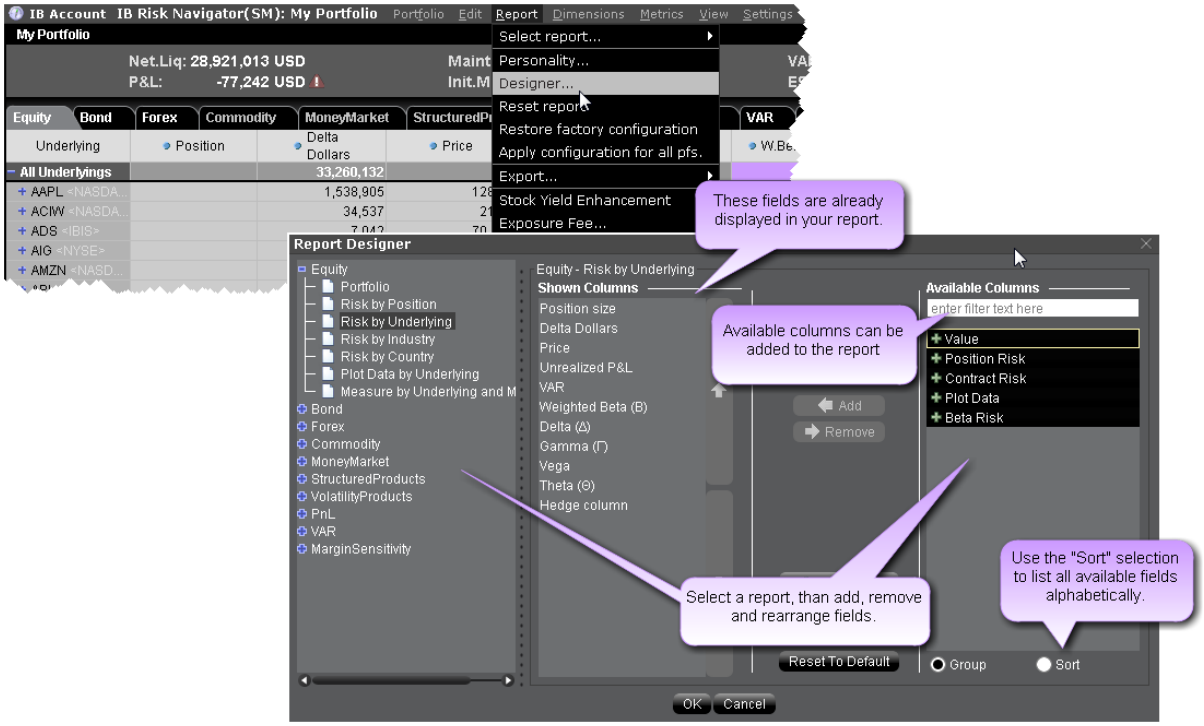
Risk Navigator Reports

Report	Find on These Product Tabs
Portfolio Report	Equities, FX, Commodities, MoneyMarket, Structured Products, Volatility Products
Risk by State Report	Bonds
Risk by Issuer	Bonds
Risk by Country Report	Equities, Bonds
Risk by Position Report	Equities, Bonds, FX, Commodities, MoneyMarket, Structured Products, Volatility Products
Risk by Underlying Report	Equities, FX, Commodities, MoneyMarket, Structured Products, Volatility Products
Plot Data by Underlying	Equities, FX, Commodities, MoneyMarket, Volatility Products
Risk by Industry Report	Equities,Bonds, Structured Products, Volatility Products
Measure by Underlying and Maturity	Equities
Measure by Price Change	Equities

Report	Find on These Product Tabs
and Volatility Change	
Portfolio Statistics Report	Equities, FX, Commodities, MoneyMarket, Structured Products, Volatility Products
Value at Risk Report	Equities
P&L Pie Chart	Equities, FX, Commodities, MoneyMarket

Report Designer

Use the Risk Navigator Report Designer to quickly and easily configure all reports from a single window. Because the Risk Navigator reports are separate and unique, adding a field to one report does not add the field to all. The designer allows you to add fields to your reports without opening and modifying each report individually.

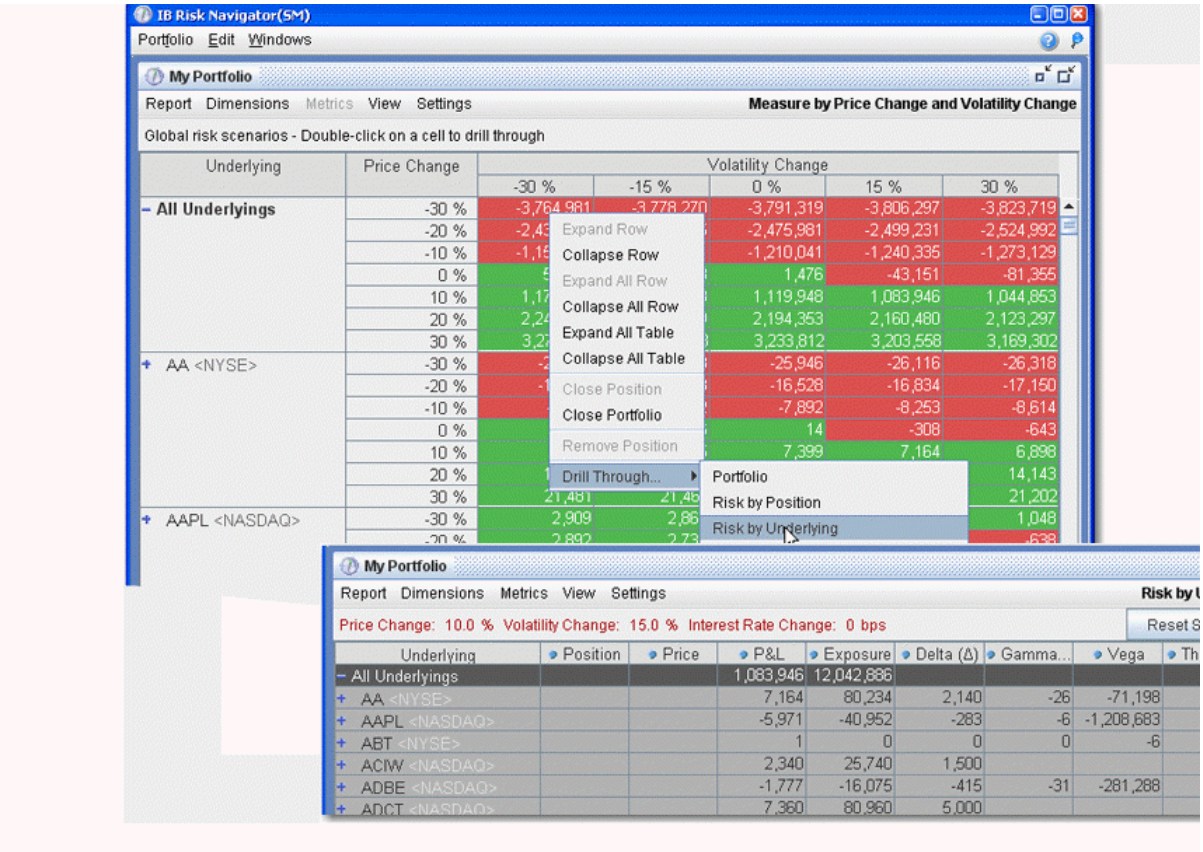


To open the Report Designer

From the Risk Navigator **Report** menu, select *Designer*.

Market Scenario Drill Through

You can apply a market outcome scenario (calculated in the Measure by Price Change and Volatility Change report) to any of the other risk reports using the drill through command on the right-click menu.



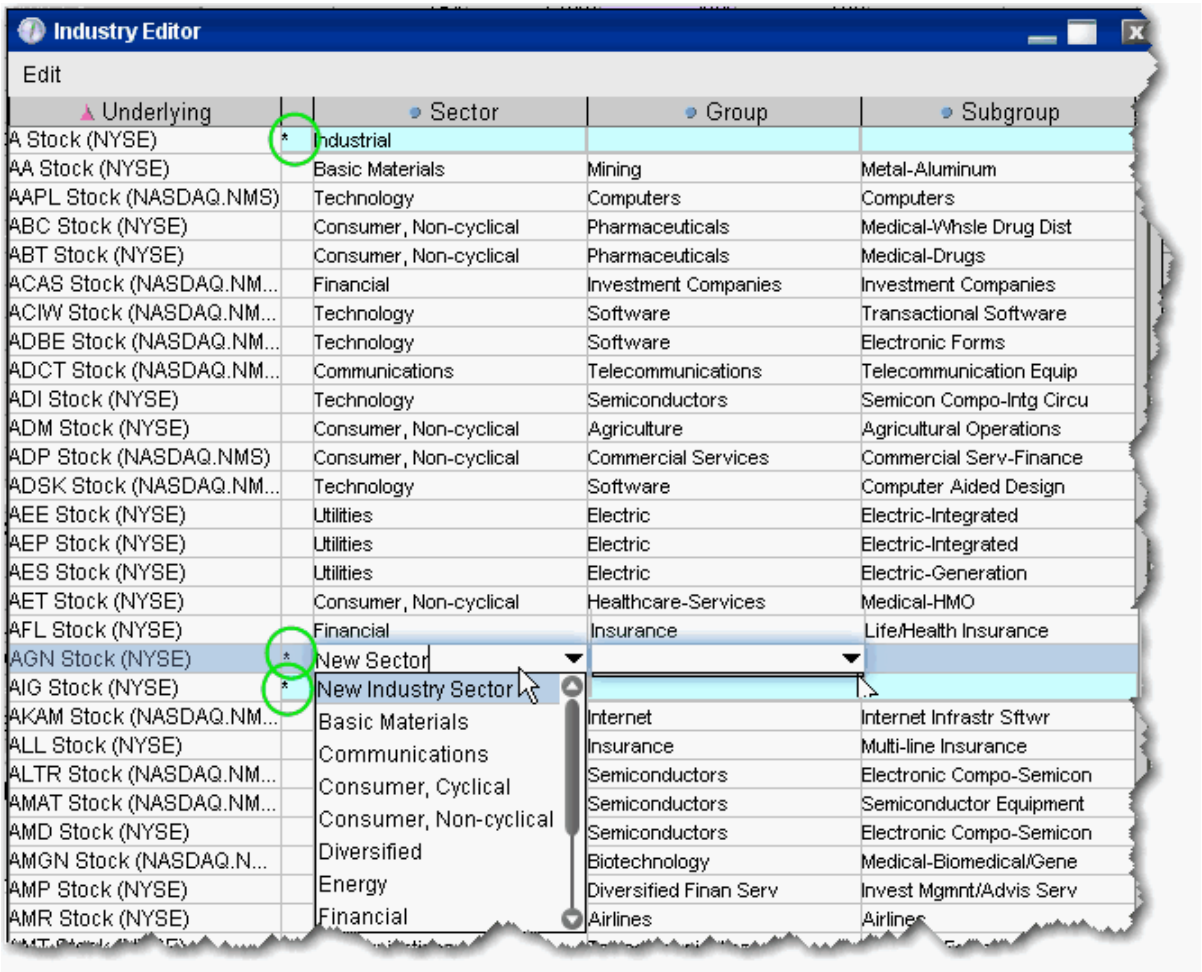
To apply market outcome scenarios to other reports

1. Select a market outcome scenario by clicking in a cell at the intersection of the x-axis and y-axis scenarios.
2. Use the right-click menu to select **Drill Through**, and then select a report.
3. The chosen report is displayed with the applied market outcome scenario you selected described at the top of the report.

When you are viewing the market outcome scenarios via the drill-through feature, all of the values on the report reflect this hypothetical scenario, and therefore do not reflect actual, real-time risk. To reset the report to real-time, click the **Reset Scenario** button on the top right.

Use the Industry Editor

You can modify the default industry groups shown in the Risk by Industry report using the Industry Editor. The editor allows you to assign an underlying to a different group, assign the underlying to multiple industry groups, and create new industry sectors, groups and sub-groups.



To use the Industry Editor

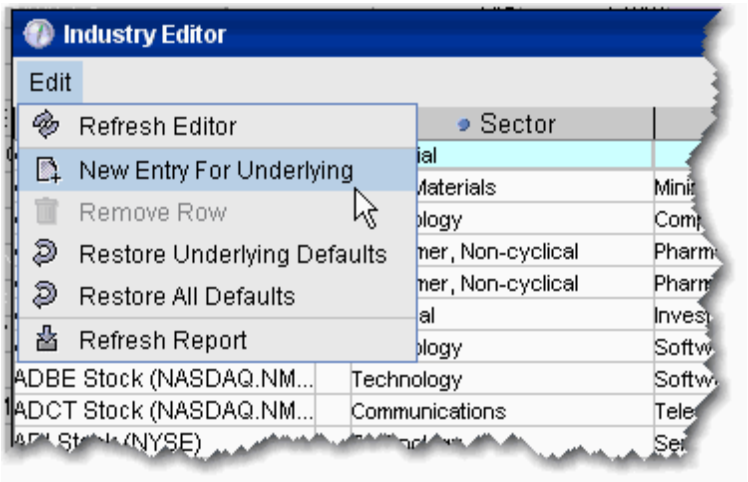
From the Risk Navigator **Edit** menu select *Edit industry groups*. The Sector, Group and Sub-group fields become editable when you click in them.

An asterisk appears next to any underlying whose sector, group or subgroup have been edited.

To assign an underlying to a different sector, group or subgroup

Click the appropriate field in the underlying row and select a different entry.

To add the underlying to multiple groups



1. Use the Industry Editor **Edit** menu to select *New Entry for Underlying*. A second line is created for the underlying.
2. Click the appropriate field to display the dropdown list and select a different entry. You now have two lines for the underlying with two different industry selections.

To add a new industry

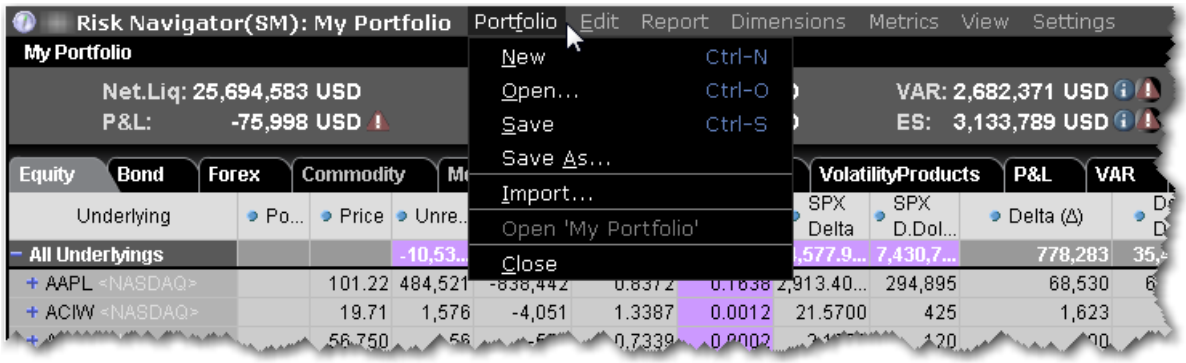
1. Select an underlying, and use the Industry Editor **Edit** menu to select *New Entry for Underlying*.
2. Enter the name of the new industry in the blank field. You now have two different lines for the underlying with two different industry selections.
3. To remove the original, right-click the row and select *Remove Row*.

You must also enter anew **Group** and **Subgroup** for the new industry. This new entry will now be available in the selection list for all underlyings.

Risk Navigator Menus

Risk Navigator Portfolio Menu

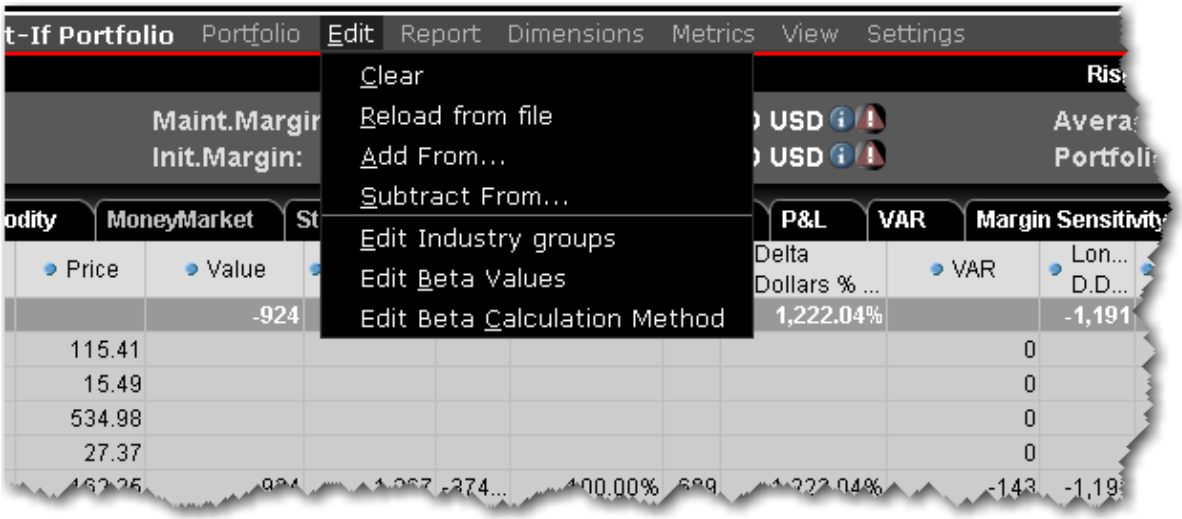
Open your portfolio or create a new hypothetical What-if portfolio.



Field	Description
New	Create a new what-if portfolio.
Open	Open an existing what-if portfolio.
Save	Save the active portfolio.
Save As	Save the active portfolio in a new directory or with a different name.
Import	Import a .csv file as a new portfolio.
Open 'My Port-folio'	Only available from within a What if. This command opens your actual portfolio in the Risk Navigator.
Close	Closes the portfolio.

Risk Navigator Edit Menu

Edit a what-if portfolio, and tools for any portfolio from the Edit menu.

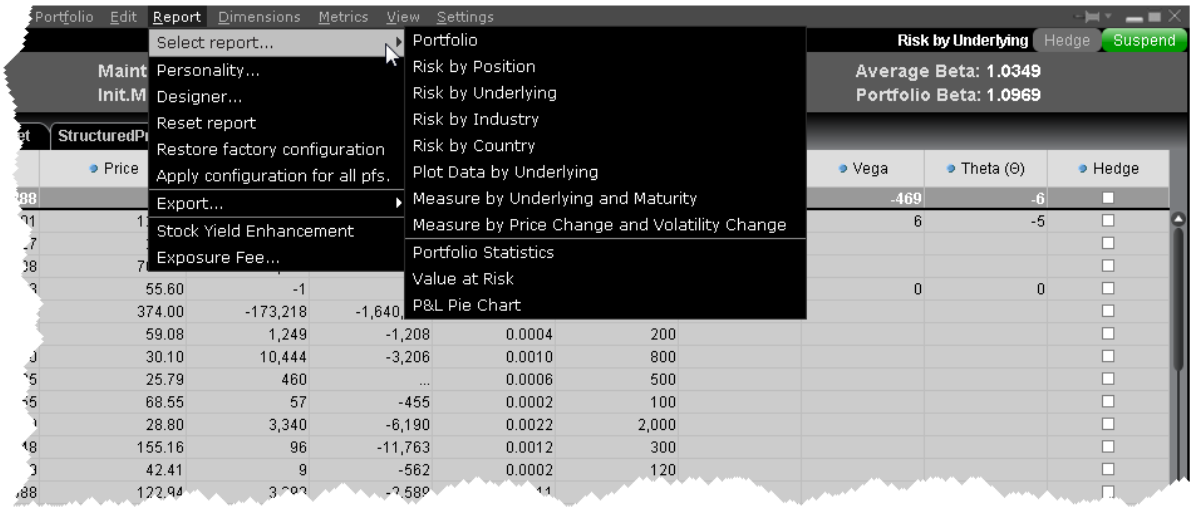


Field	Description
Clear	Available from What-If Only: Complete clears all data including underlyings and positions from the what-if portfolio.
Reload from file	Available from What-If Only: Replaces current what-if data with position data from a selected file.
Add From...	Available from What-If Only: Adds all positions from a selected file. Note that if you currently have a position in the what-if and also in the file from which you are adding, the position quantity will be the sum of both positions.
Subtract From...	Available from What-If Only: Subtracts the positions from the selected file from your what-if. For example, if the what if does not include aapl, but the portfolio you're using to "Subtract From" includes a long 500 position in aapl, the what-if position quantity will be: 0 - 500 = -500 (it subtracts the position quantity). If your what-if includes a long 1000 position in aapl and you subtract the long 500 position, the position

Field	Description
	quantity will be: 1000 - 500 = 500.
Edit Industry groups	Opens the Industry Editor.
Edit Beta Values	Manually edit beta values with the Manual Beta Editor.
Edit Beta Calculation Method	Opens the Beta Calculation Editor.

Risk Navigator Report Menu

Select, configure and export Risk Navigator reports.

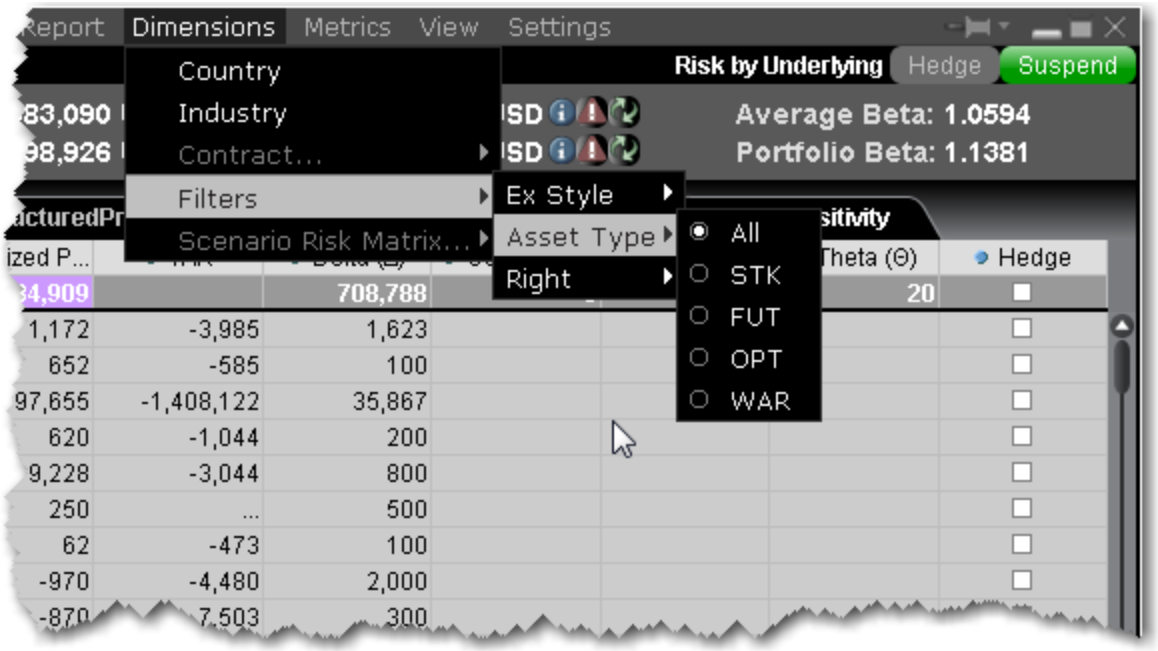


Field	Description
Select report	Open a report. This is the same list that is available from the selector in the bottom right panel of the Risk Navigator.
Personality	Select a "trading personality" that is used to determine the fields that appear in certain reports. rader

Field	Description
	Personalities include Derivatives, Equity Hedged, and Equity Long/Short. Existing customers can choose to
Designer	
Reset report	Returns the open report layout to the default original. This action will remove any added fields, column sizing, manual entries etc.
Restore factory configuration	This command restores all reports to the default original layout.
Apply configuration for all portfolios (pfs)	Select this command to apply your changes to all reports. For example, if you add the Beta Weighting field to the open report, use this command to add the same field to all reports that support it.
Export	Let's you export your portfolio to and.xls or .csv file format to open in Excel.
Stock Yield Enhancement	Displays the Stock Yield Enhancement report within Account Management. This provides an estimate on the potential yield available to you if you loan out shares of stock that you fully own.
Exposure fee	Displays the Daily Exposure Fee imposed for having a very high worst-case loss risk exposure. Displays the Daily Exposure Fee imposed for having a very high worst-case loss risk exposure.

Risk Navigator Dimensions Menu

Define parameters and filters for reports.

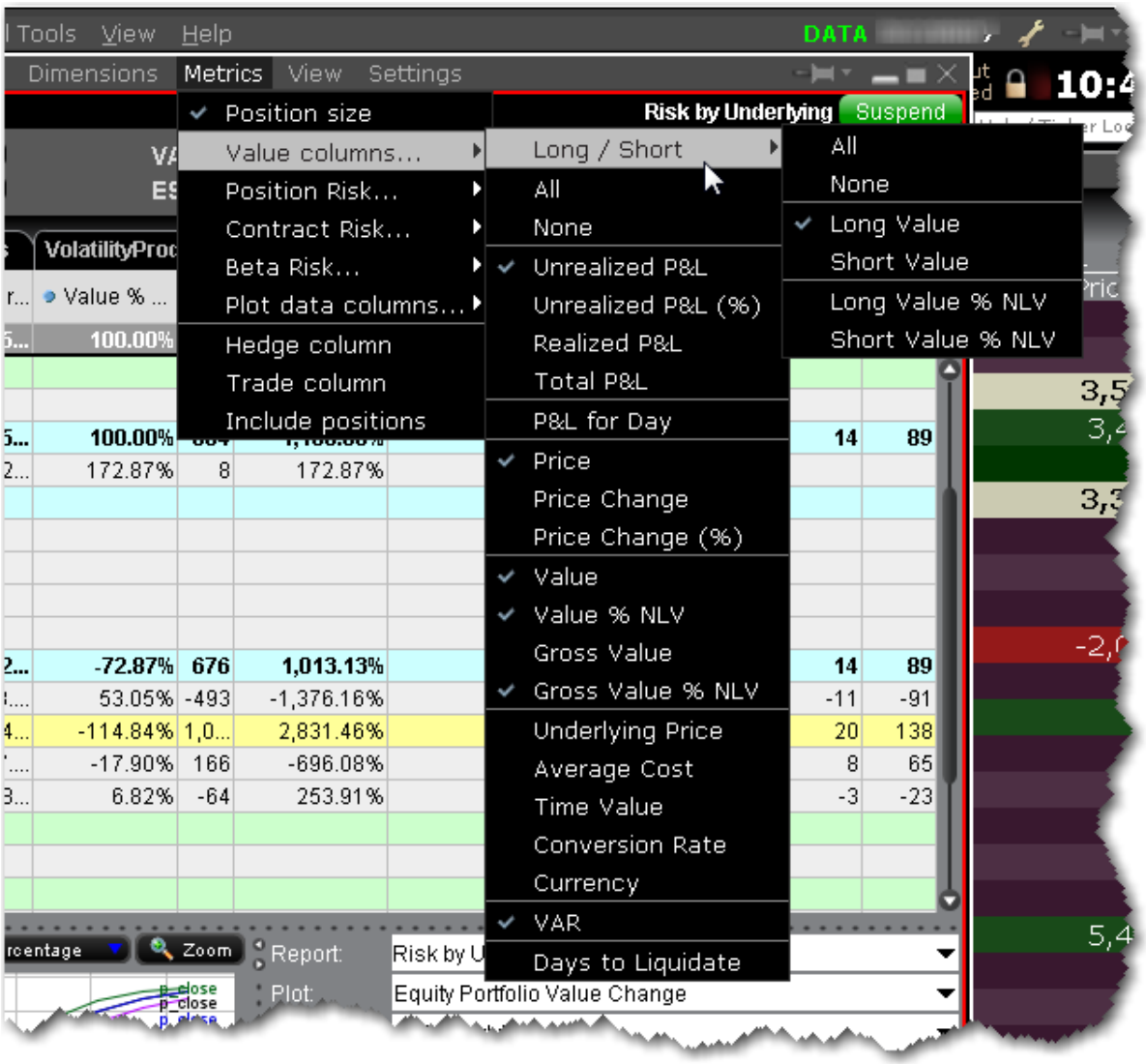


Field	Description
Country	Add the Country field to the report.
Industry	Add the Industry field to the report.
Contract	Modify the Contract field details by adding or removing details such as expiry, right, issuer etc. Only fields valid for the active report are displayed.
Filters	Filter the display by specifying the expiration style, asset type or right to show.
Scenario Risk Matrix	When the Measure by Price Change and Volatility Change report is displayed, specify the matrix values for columns, rows and the slicer.

Report Metrics

The Risk Navigator **Metrics** menu is context-sensitive, and allows you to select applicable metrics for each report.

Not all menu commands are available for all reports. For example, the Portfolio Analysis columns are only available in the P&L Summary.



Metrics	Description
Size columns...	
Position size	Select *Position size* to display your (signed) position in the contract. A short position is depicted by a "-" minus sign. Choose "None" to remove the Position field from your report.
Value columns...	
Long/Short	These columns provide aggregated values for all long and all

	short positions.
All	Selects all available value columns to include in the report.
None	De-selects all columns.
Unrealized P&L (%)	(Market value of positions) - (average cost) (Market value of positions) - (average cost) shown as a percentage.
Realized P&L	(Market value of positions since close of period*) - (average cost for these positions). *Cut-off times for determining realized P&L for transactions are as follows: • 20:30 ET for securities • Two periods for futures: 17:30 ET and 7:10 ET
Total P&L	The "unrealized" Average Cost P&L is shown in total, per underlying, and for each position.
P&L for Day	(current price - prior day's closing price) x (total number of outstanding shares) + (New Position calculation for all new positions)
Price	The current market price of one unit of the contract.
Price Change	The difference between the last price, and the closing price on the previous trading day.
Price Change %	The percentage difference between the last price, and the closing price on the previous trading day.
Value	Current market value of the position. Position x Multiplier x Price

Value % NLV	The ratio of the current value to the total net liquidity of the portfolio. For CFDS and futures: The ratio of the Daily P&L to the total net liquidity of the portfolio.
Gross Value	The current gross market value of the position.
Gross Value % NLV/GMV	The current gross market value of the position as a percentage of the total New Liquidation Value (or Gross Market Value) of the portfolio.
Underlying Price	The price of the underlying (in cases where position is a derivative).
Average Cost	The average price you paid (cost) per unit.
Time Value	The (price) x (position).
Conversion Rate	Displays the rate used to convert non-base positions into the base currency.
Currency	The currency of the position.
VAR	Value at Risk (VAR) represents the minimum expected loss under normal market conditions over a specific time horizon, and based on the percent probability as defined by the confidence level. This is a theoretical value and does not represent the potential worst-case loss scenario. Note: In cases where the VAR cannot be calculated, the notation "N/A" is displayed on a violet background.
Portfolio Analysis columns...	
Mark-to-Market P&L	Shows the profit or loss recognized in the current month for both open and closed positions.

Month-to-Date	
Mark-to-Market P&L Month-to-Date (%)	The percent that the position's mark-to-market P&L for the current month-to-date accounts for, relative to the portfolio's total.
Mark-to-Market P&L Year-to-Date	Shows the profit or loss recognized in the current year for both open and closed positions.
Mark-to-Market P&L Year-to-Date (%)	The percent that the position's mark-to-market P&L for the current year-to-date accounts for, relative to the portfolio's total.
Realized P&L Month-to-Date	Realized month-to-date P&L from the previous business day + realized P&L from the current day.
Realized P&L Month-to-Date (%)	The percentage of the position's realized P&L month-to-date to the portfolio's total month-to-date P&L.
Realized P&L Year-to-Date	Realized year-to-date P&L from the previous business day + realized P&L from the current day.
Realized P&L Year-to-Date (%)	The percentage of the position's realized P&L year-to-date to the portfolio's total year-to-date P&L.
Unrealized P&L Month-to-Date	The change in unrealized P&L in the current month.
Unrealized P&L Month-to-Date (%)	The percentage of the change of the position's unrealized month-to-date P&L to the portfolio's total change in unrealized month-to-date P&L.

Unrealized P&L Year-to-Date	The change in unrealized P&L in the current year.
Unrealized P&L Year-to-Date (%)	The percentage of the change of the position's unrealized year-to-date P&L to the portfolio's total change in unrealized year-to-date P&L.
Position Risk columns...	
Long/Short	These columns provide aggregated values for all long and all short positions.
All	Selects all available value columns to include in the report.
None	De-selects all columns.
Delta	This position delta captures both the direction and the magnitude of the portfolio's sensitivity to an underlying by representing the degree and direction of change in the option price, based on a change in the price of the underlying. We use a capital "D" to differentiate the IB Risk Navigator position Delta from the contract delta. Position Delta is calculated as (delta * position).
Delta Dollars	Delta Dollars is calculated using the formula: delta x underlying price.
Delta Dollars % NLV/GMV	The ratio of the current exposure to the total Net Liquidity Value (or Gross Position Value) of the portfolio.
Futures Delta	This column is derived from raw position delta. For each futures position or futures option position with this future as direct underlying, futures delta = (delta / exp(r*T)) / futureMultiplier,

	where futureMultiplier is the contract multiplier of future, exp(r*T) is the scaling factor that we currently apply to raw delta; dividing by it yields the original raw delta.
Gamma	Gamma helps you assess directional risk by defining the speed at which the option's directional changes will occur, i.e. the rate of change of delta. We use a capital "G" to differentiate the IB Risk Navigator "position Gamma" calculated as (gamma * position) from the contract gamma calculation.
Gamma Dollars	Gamma Dollars is calculated using the formula: 0.5 x Gamma x (Underlying Price x 1%)^2
Vega	Vega represents the portfolio's sensitivity to changes in implied volatility of the underlyings, and shows the change in the price of an option relative to a change in the implied volatility of the underlying. Generally long option positions benefit from rising (and suffer from declining) implied volatilities, while short option positions experience the opposite - they benefit from declining (and suffer from rising) implied volatilities. We use a capital "V" to differentiate the IB Risk Navigator "position Vega" calculated as (vega * position) from the contract vega calculation.
Theta	Theta represents the portfolio's sensitivity to the passage of time by indicating the rate at which the market value of your portfolio will change with time. This metric calculation is based on the assumption that all other variables remain unchanged, including the underlying price, implied volatility and interest rate. We use a capital "T" to differentiate the IB Risk Navigator

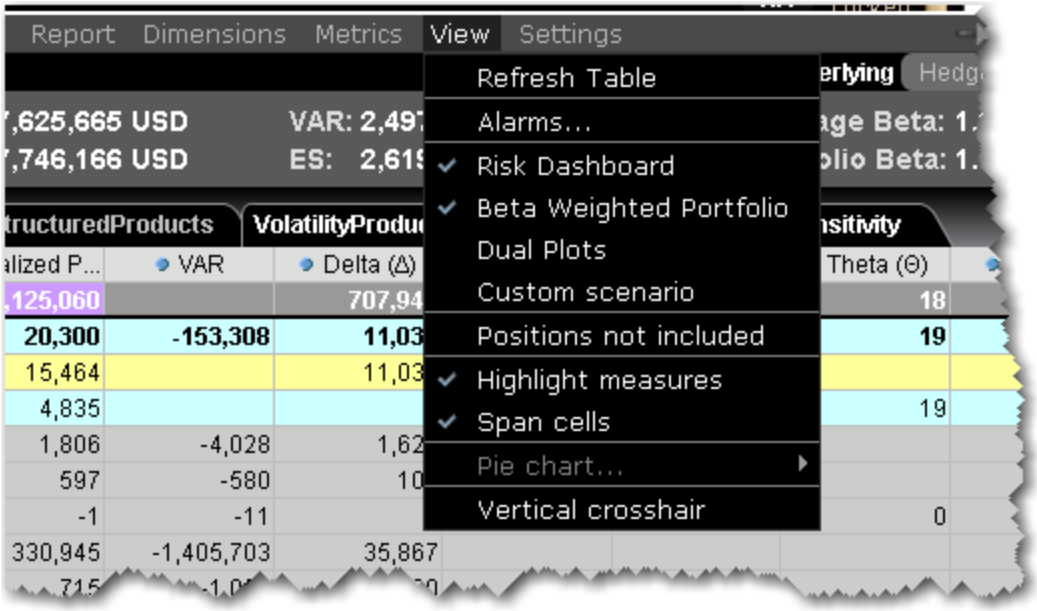
	"position Theta" calculated as (theta * position) from the contract theta calculation.
Beta Risk columns	
Contract Risk columns...	
All	The "unrealized" Average Cost P&L is shown in total, per underlying, and for each position.
None	The current market price of one unit of the contract.
Delta	Delta captures both the direction and the magnitude of the portfolio's sensitivity to an underlying by representing the degree and direction of change in the option price, based on a change in the price of the underlying.
Gamma	Gamma helps you assess directional risk by defining the speed at which the option's directional changes will occur, i.e. the rate of change of delta.
Vega	Vega represents the portfolio's sensitivity to changes in implied volatility of the underlyings, and shows the change in the price of an option relative to a change in the implied volatility of the underlying. Generally long option positions benefit from rising (and suffer from declining) implied volatilities, while short option positions experience the opposite - they benefit from declining (and suffer from rising) implied volatilities.
Theta	Theta represents the portfolio's sensitivity to the passage of time by indicating the rate at which the market value of your portfolio will change with time. This metric calculation is based on the assumption that all other variables remain unchanged, including

	the underlying price, implied volatility and interest rate.
Implied Volatility	The implied volatility on an option.
Implied Volatility Change	The absolute change in implied volatility between the current value and the value calculated using yesterday's closing price.
Implied Volatility Change (%)	The change in implied volatility between the current value and the value calculated using yesterday's closing price, as a percentage.
Historical Volatility	The last available historical volatility.
Historical Volatility Change	The difference between the historical volatility as of yesterday's close and the current historical volatility.
Historical Volatility Change (%)	The difference between the historical volatility as of yesterday's close and the current historical volatility, as a percentage.
Tracking Factor	Provides the related tracking factor if the contract has a related primary contract.
Plot data columns..	
All	Adds all data slicers below to the P&L Plot.
None	Removes all data slicers from the P&L Plot.
3%	Add or remove just this pair of data lines (+3%/-3%)
6%	Add or remove just this pair of data lines (+6%/-6%)
9%	Add or remove just this pair of data lines (+9%/-9%)

12%	Add or remove just this pair of data lines (+12%/-12%)
15%	Add or remove just this pair of data lines (+15%/-15%)
Settings	Click to adjust slicer line values. You can also grab and drag slicer lines within the P&L plot.
Descriptive columns...	
All	Display all descriptive columns.
None	Hide all descriptive columns.
Description	Company name or short description of the contract.
Currency	Currency of the position.
Hedge	
Hedge Column	Check to create a hedging order for the selected position. Click the "Hedge" button at the top of the portfolio to create the hedging orders in TWS. You need to manually transmit the order (s).
Trade Column	**For What-If only**: If you want to add a what-if position to your real portfolio, check the "Trade" checkbox to tag the position for order creation. When you click the "Trade" button at the top of the What-if, an order will be created in TWS. The order quantity will reflect the difference between your current position and the what-if quantity so that the result will mimic the what-if position as closely as possible. You need to manually transmit the order (s).
Include Positions	**For What-If only:** indicates that you want the position included in the risk calculations and in the P&L graph computation.

Risk Navigator View Menu

Show or hide tools and views.

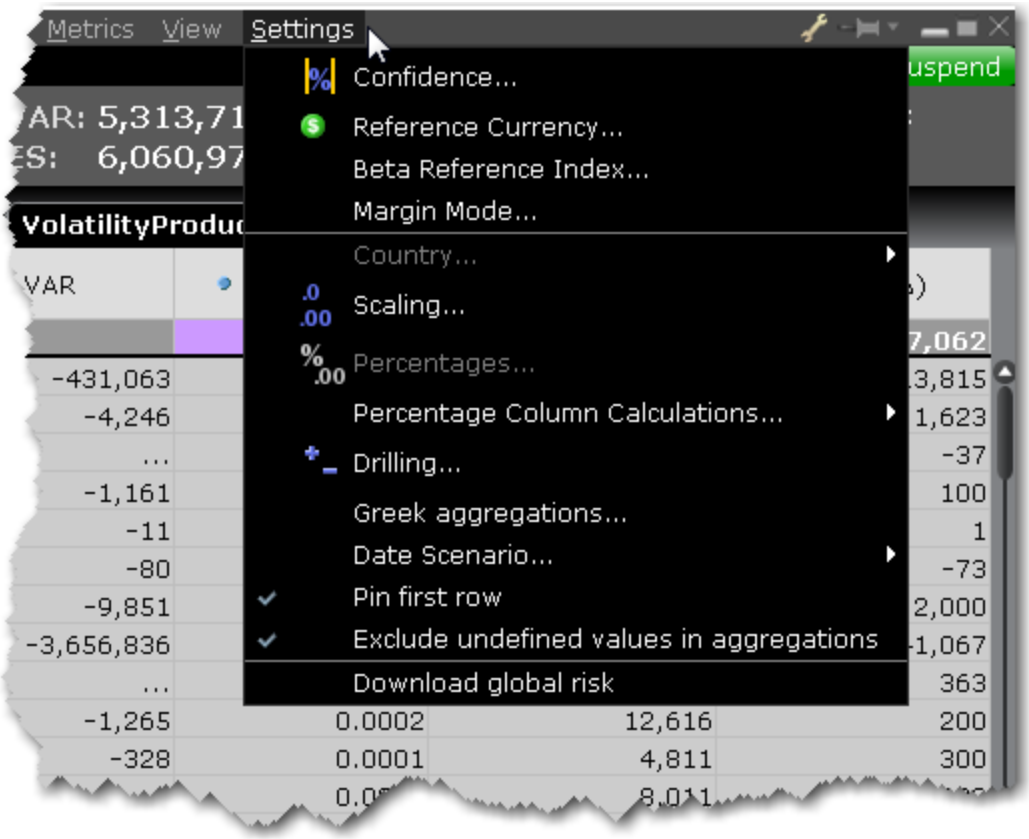


Field	Description
Refresh Table	Manually refreshes data in the report.
Alarms	Displays details for active Risk Navigator alarms.
Risk Dashboard	Display the Risk Dashboard.
Beta Weighted Port-folio	Displays beta weighting fields.
Dual Plots	Opens side-by-side P&L plots to allow you to compare Equal Percentage Move and Beta Weighted plots.
Custom Scenario	Opens the custom scenario.
Positions not included	Shows the list of unresolved positions (below the report selector in the bottom right corner of the interface).
Highlight measures	

Field	Description
Span cells	
Pie chart	When the P&L Pie Chart is displayed, this menu command is enabled and allows you to change pie chart settings.
Vertical crosshair	Enables the vertical crosshair in the P&L Plot. You can also enable/disable this feature using the right-click menu from within the plot.

Risk Navigator Settings Menu

Use the **Settings** menu to specify global directives for the Risk Navigator.



Field	Description
Confidence	Set the confidence level which is used in both the

Field	Description
	P&L plot and in the VaR calculations. Possible values are 95%, 99% and 99.5%.
Reference Currency	Defines the base currency for the portfolio. This is used in the portfolio-level aggregations and in forex decomposition on the forex tab.
Beta Reference Index	The index used as the benchmark for beta calculations.
Margin Mode	**For What-If only**: Click to select a new margin mode to apply, if available.
Country	For bonds Risk by Country report. Sort bonds by: Registration - This is the country where the bond was issued. Issuer Domicile - The domicile of the bond issuer. Parent Domicile - The domicile of the parent company of the bond issuer. Ultimate Parent Domicile - The domicile of the ultimate parent company of the bond issuer.
Scaling	Define scaling settings for the presented measures.
Percentages	Percentage settings for the *Measure by Price Change and Volatility Change* report.
Percentage Column Calculations	Toggle the calculation for calculated fields to use Total Net Liquidation Value or Total Gross Market Value.
Drilling	Specifies the drilling depth, i.e. the number of levels that should be expanded when you drill

Field	Description
	down.
Greek Aggregations	Select cross-underlying aggregation methods for the Greek columns.
Date Scenario	Specific to the P&L plot. Specify whether changing the Date Scenario for Custom Scenarios is restricted to the selected underlying.
Pin First Row	When selected, the first row of aggregated report data will remain visible below the header row when you scroll through a table. This setting is enabled by default.
Exclude undefined values in aggregations	When checked, the Greek aggregation will exclude any undefined position. Positions may be undefined for many reason including missing market data, invalid prices, missing conversion rates etc.
Download Global Risk	This feature is mandatory when presenting the risk matrix via the *Measure by Price Change and Volatility Change* report. This features requires greater CPU and memory usage and should be disabled until needed.

Portfolio Beta Weighting

Beta Weighting in Risk Navigator

The sensitivity of an individual stock to the movement in the broader market is known as its beta. Stocks sensitive to market movements typically have high betas over time. Stocks that

show low correlation with the market have low betas, while some may move broadly in line with the market as a whole. Stocks that move inversely to the market would have negative betas.

Risk Navigator measures beta-weighted performance, allowing traders to consider risk by measuring individual component correlation with a market index in order to estimate likely gains or losses in the event of a given move in the market.

For the same portfolio of stocks, we can generate contrasting risk profiles by looking at risk units in delta-terms versus beta-terms, which shows the aggregate sensitivity of a portfolio to a market index.

You can find beta risk elements across the Risk Navigator:

View beta risk fields in Equity reports.

Change the aggregation method in the Portfolio Relative P&L Graph.

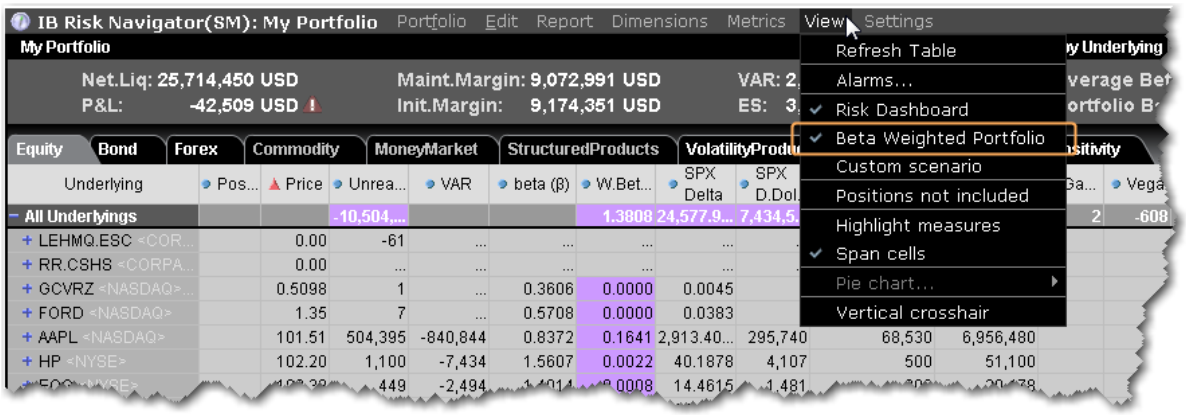
See beta risk snapshot in the Risk Dashboard.

Define the reference contract.

Manually change the beta value for an equity contract.

To enable Beta Weighting

From the Risk Navigator **View** menu, select *Beta Weighted Portfolio*.



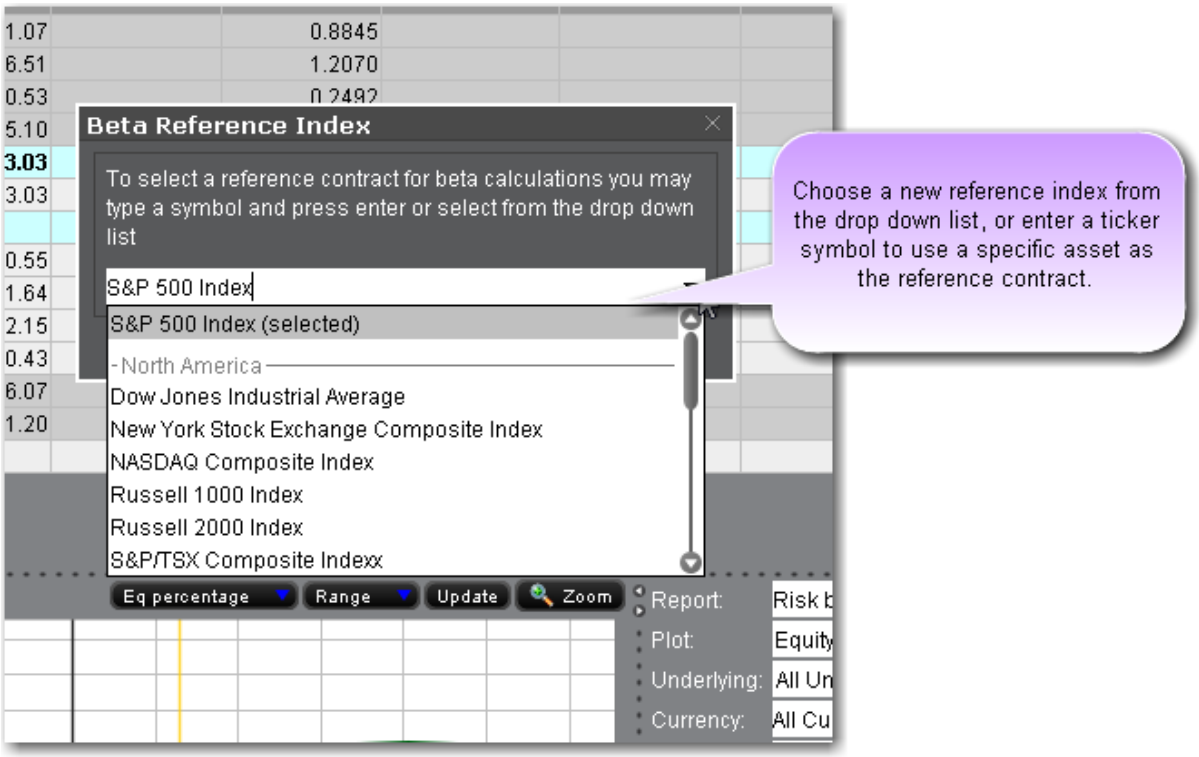
Beta-weighting allows traders to contrast the likely performance of a delta neutral portfolio (should the component pieces behave in the future as they have in the past) with respect to a

specific benchmark index or reference contract. One might expect a long high-beta portfolio to perform better when considering beta-weighting in the event of a market rise in comparison to its performance when assuming it is equally delta-weighted. Conversely, its beta-weighted performance should be expected to be worse for a market fall in comparison to an across the board equal-weighted decline for all component pieces.

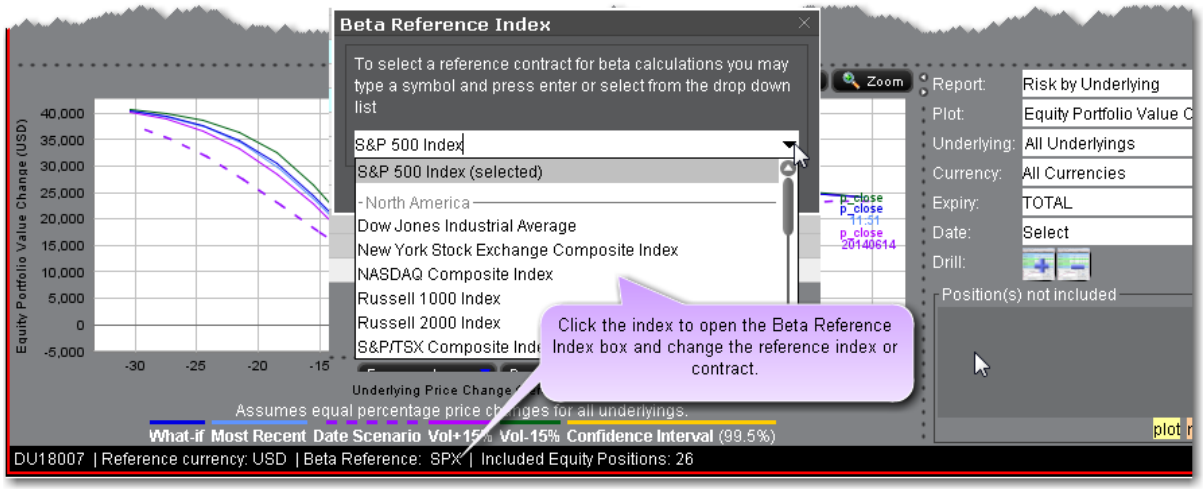
Reference Index for Beta Weighting

The first time you turn on Beta Weighting from the View menu, the Beta Reference Index box is displayed. This allows you to select a benchmark index other than the default S&P 500, or manually enter a ticker symbol and define a specific stock as the reference contract.

Reference contracts are associated with a specific portfolio, which means that you can use different reference contracts in your different portfolios.



You can elect to modify the reference contract at any time by clicking the current Beta Reference symbol in the information bar along the bottom of the Risk Navigator.



Edit Beta Values

You can modify the calculated beta values for any contract using the Manual Beta Editor, or by clicking directly into the beta field for any stock position.

There can only be one beta value per contract/reference index across all portfolios. This means that if you modify the beta value for contract XYZ in a portfolio that uses the default S&P 500 index as the reference index, the beta value for XYZ in any other portfolio that uses this reference index will also change.

Edit Beta Using the Manual Beta Editor

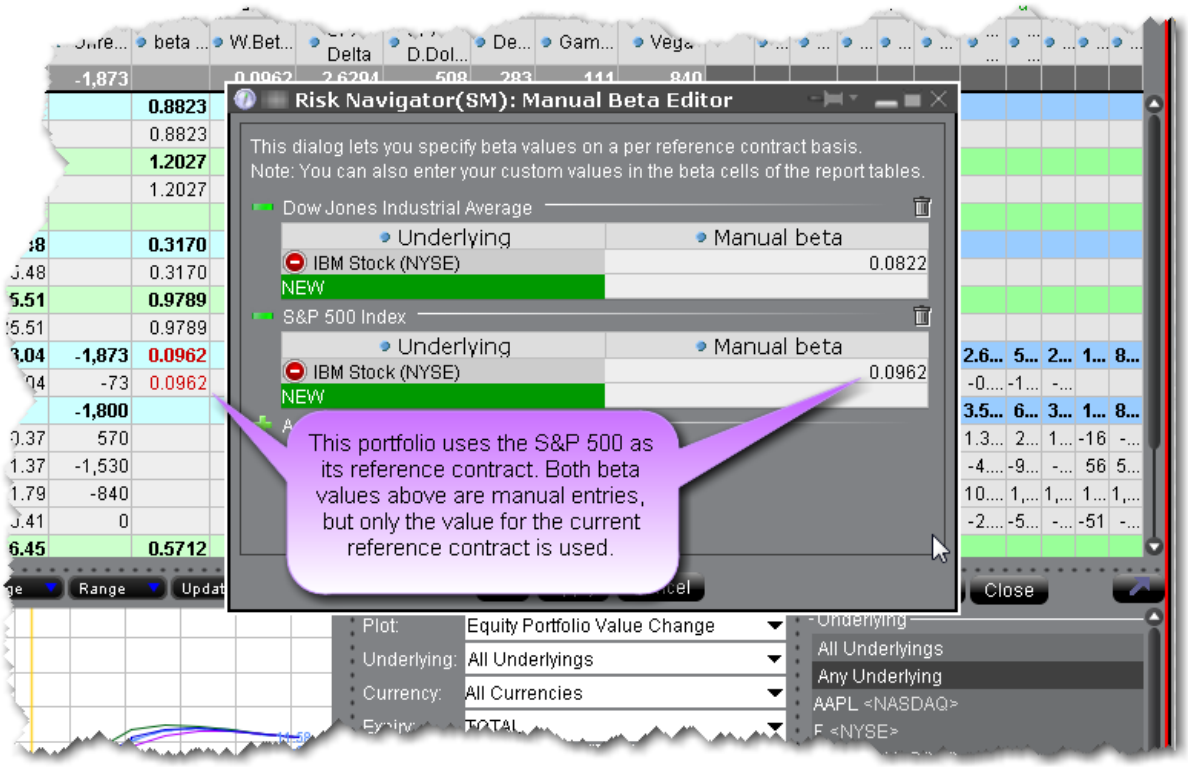
From the **Edit** menu select *Edit Beta Values*.

In the Manual Beta Editor, add an underlying in the current *Reference Contract* section by clicking NEW. The calculated beta value is displayed.

Click in the Manual Beta field and enter the desired beta value. Hit Enter.

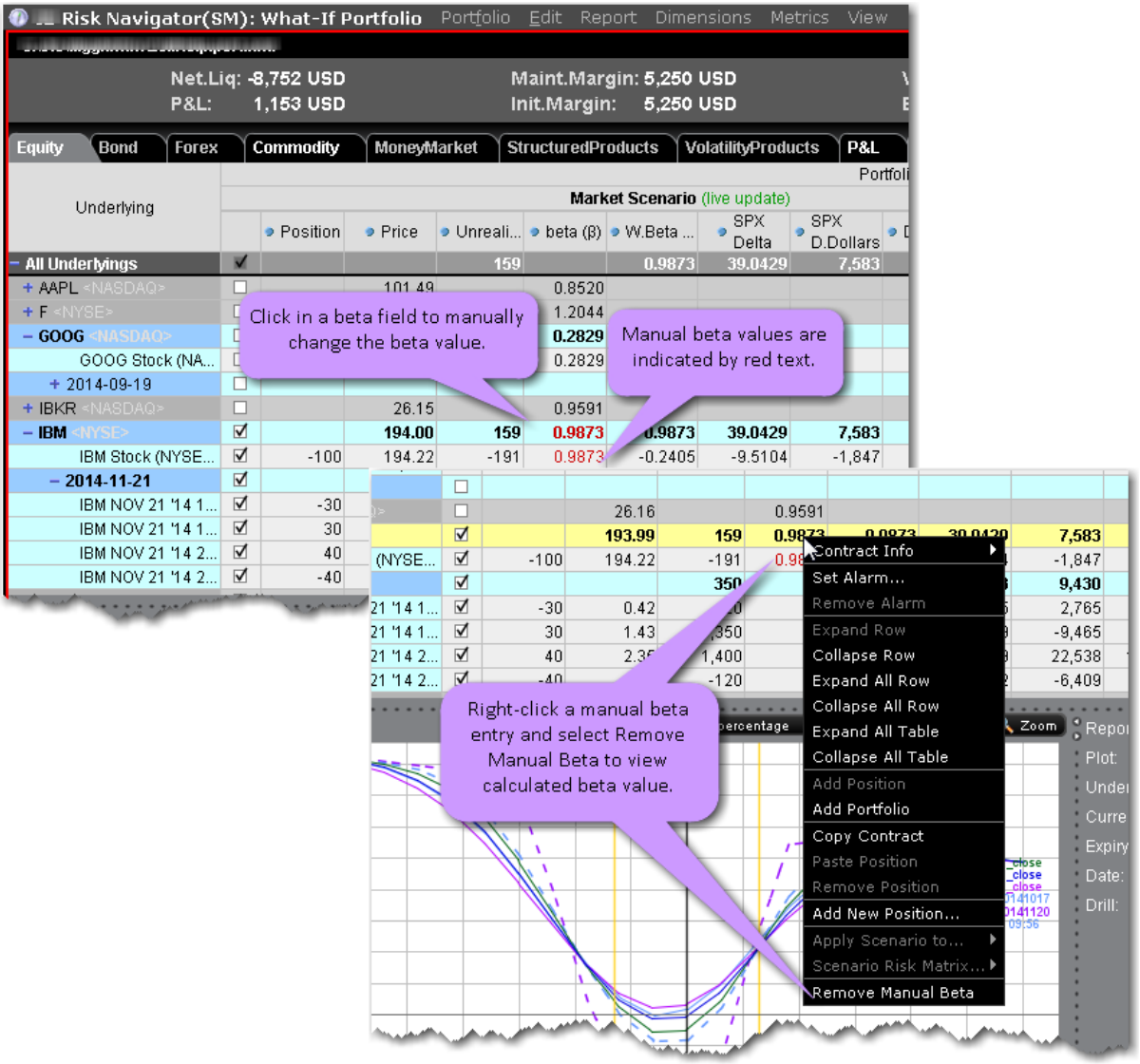
If desired, click the "+" sign to add a new section for other reference contracts (you might do this if you had multiple portfolios that each used a different reference contract).

Click Apply to apply the value to the report and leave the Editor open. Click OK to apply and close.



Change Beta Directly in Report

Click in the beta field to enter your own beta value. Right-click in the edited beta field (identified with red text) and select *Remove Manual Beta* to reset the value to the calculated beta.

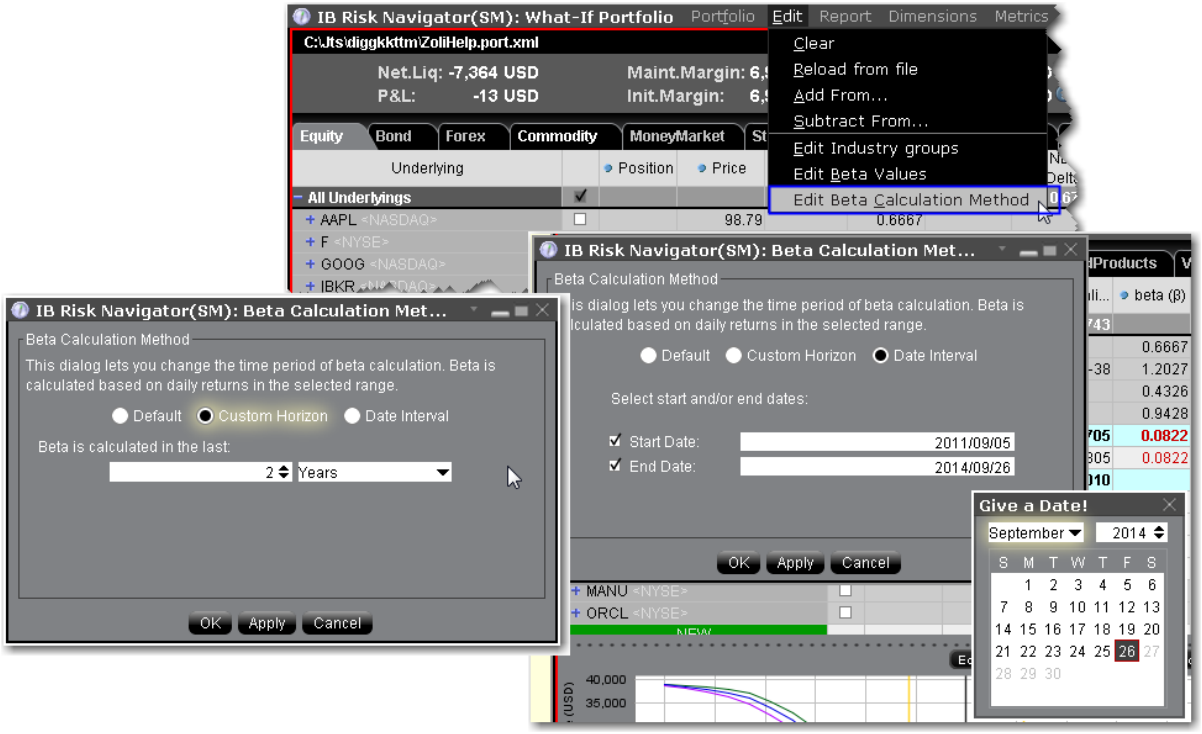


Beta Calculation Method Editor

Beta is calculated based on equal weighted daily returns over the last two years. The Beta Calculation Method Editor allows you to change the default two-year period relatively from the current date, or using a specified date range that contains a minimum 30-day period.

To open the Beta Calculation Method Editor

From the Risk Navigator **Edit** menu select *Edit Beta Calculation Method*.



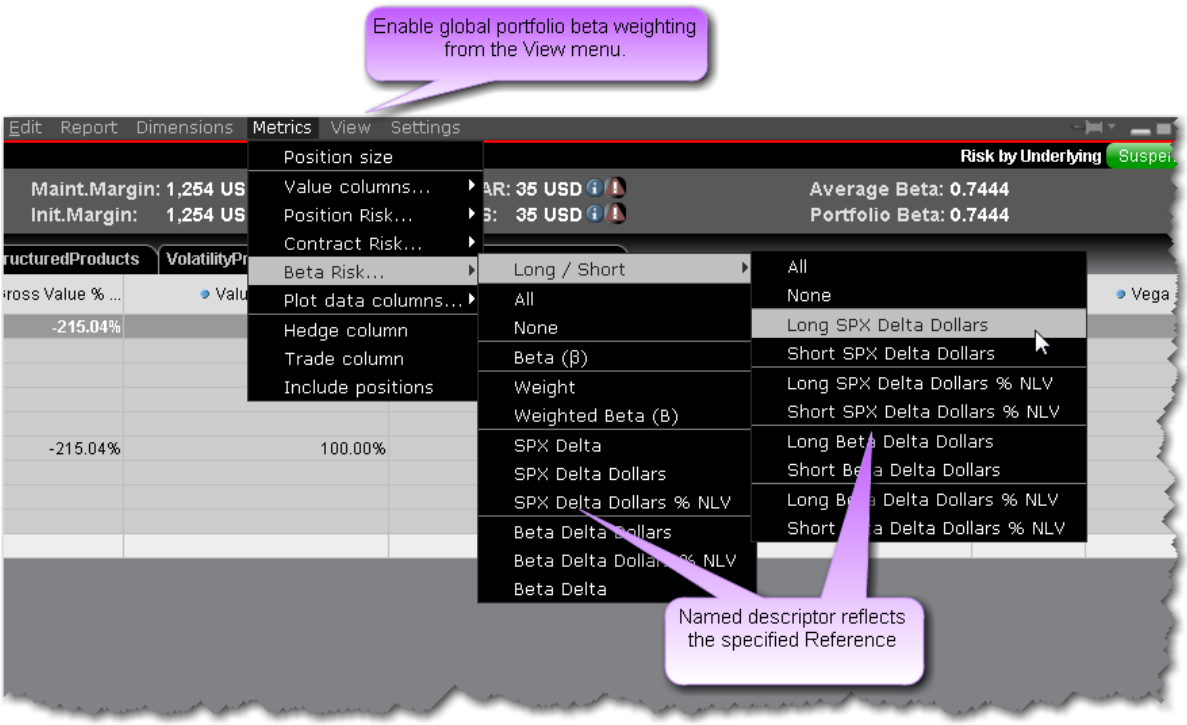
To change the time period relative to today, select *Custom Horizon* and then choose the number or units and the unit (years, months or days).

To change the time period to use a specific date range, select *Date Interval* and then define the Start and End dates.

Beta Risk Fields

Add or remove beta risk-related fields using the Beta Risk section of the Metrics menu.

You can add one or multiple beta risk fields to your equity reports, but to enable beta weighting throughout the portfolio including the Risk Dashboard and P&L Graph, select *Beta Weighted Portfolio* from the **View** menu.



Field	Description	Notes
Long/Short	Shows the specific value for all long positions and for all short positions to allow you to see the aggregate for both. Note that the other field for these values provides the net.	
All	Add all Beta Risk fields.	
None	Remove all Beta Risk fields.	
Beta	The ultimate underlying's raw beta at the ultimate underlying level (for reports with drill-down capability) and at the position level for stock positions. This means that for underlyings with both stock and option positions, the stock beta is displayed. Beta can be used to estimate the expected return on an	

Field	Description	Notes
	asset given the return on a statistically related asset.	
Correlation	Provides the correlation between the contracted and the user-selected reference index.	
Weight	The position weight used for the portfolio beta calculation (shown in the Risk Dashboard).	
Weighted Beta	The contribution of a given product to the total beta of your portfolio.	The total weighted beta value is also displayed in the "Portfolio Beta" field in the Risk Dashboard.
SPX (Beta Weighted) Delta	The index-equivalent delta position for the stock. Calculation: Delta x dollar-adjusted beta (adjusted by ratio of close prices).	The reference contract is displayed in the title of this field; this example uses SPX as the reference

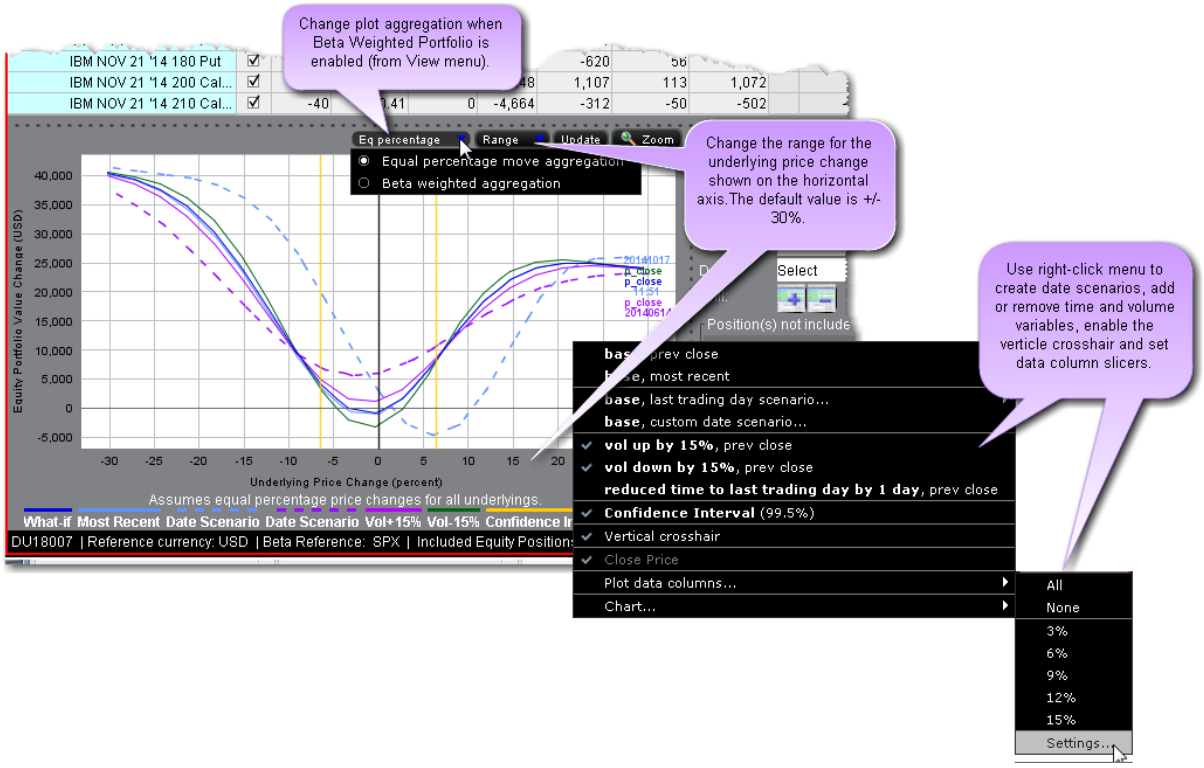
Field	Description	Notes
		index.
SPX (Beta Weighted) Delta Dollars	This is a measure of the change in the position's exposure in currency terms resulting from the change in the market (the reference contract). The Beta Weighted Delta Dollar reading multiplies the Delta * the position size to show the relative significance of any position translated in dollar terms and is the expected change in the value of the stock should the benchmark increase or decrease in value by $1.00	
SPX (Beta Weighted) Delta Dollars % NLV	The ratio of the current beta weighted delta dollars to the portfolio's total net liquidity.	
Beta Delta Dollars	Exposure weighted by the unadjusted beta of the given position. For stocks, this is sometimes called the Beta-Adjusted Market Value.	
Beta Delta Dollars % NLV	Delta dollars weighted by the unadjusted beta of the given position as a percentage of the Total Net Liquidation/GMV of the entire portfolio. This is also referred to as the Beta-Adjusted Exposure or Beta-Adjusted Market Value in Percentage.	
Beta Delta	Beta-adjusted delta position, which is the delta position weighted by the unad-	

Field	Description	Notes
	justed beta of the given position.	

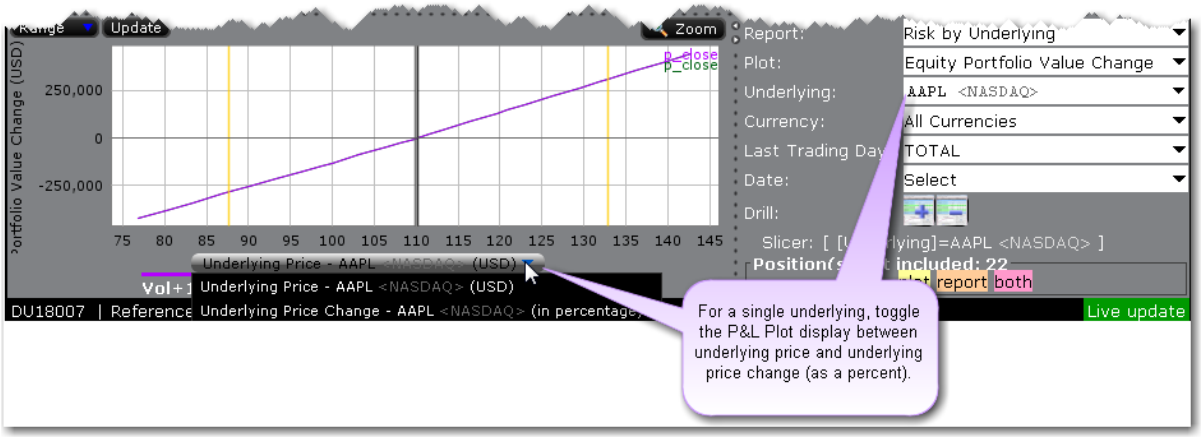
You can also change the calculation used for all calculated fields from NLV to GMV. From the **Settings** menu select *Percentage Column Calculations*.

Beta Weighting in the Portfolio Relative P&L Graph

The **Portfolio Relative P&L** graph illustrates how the total value of your portfolio for a specific asset class (or a subset of your portfolio) will change, based on a percent change in the price(s) of the underlying(s). Available settings may change based on the asset class displayed.



The image above shows the portfolio relative P&L for an equity portfolio, based on the value **All Underlyings** selected from the *Underlying* list in the **Report Selector**.



For a single underlying, you can toggle between showing the absolute price or showing the underlying price change as a percent. Click the price label below the horizontal price axis to select a display type.

Note that for leveraged ETFs, the Risk Navigator moves them by their target performance ratio in the aggregated P&L graph. For example, for an index and its triple inverse ETF, to the +10% P&L it adds the index P&L at 10% to the ETF P&L at -30%. When either one is plotted individually, it shows their own P&L, but it shows the index on a +/-30% range and the ETF on a +/-90% range. Risk Navigator

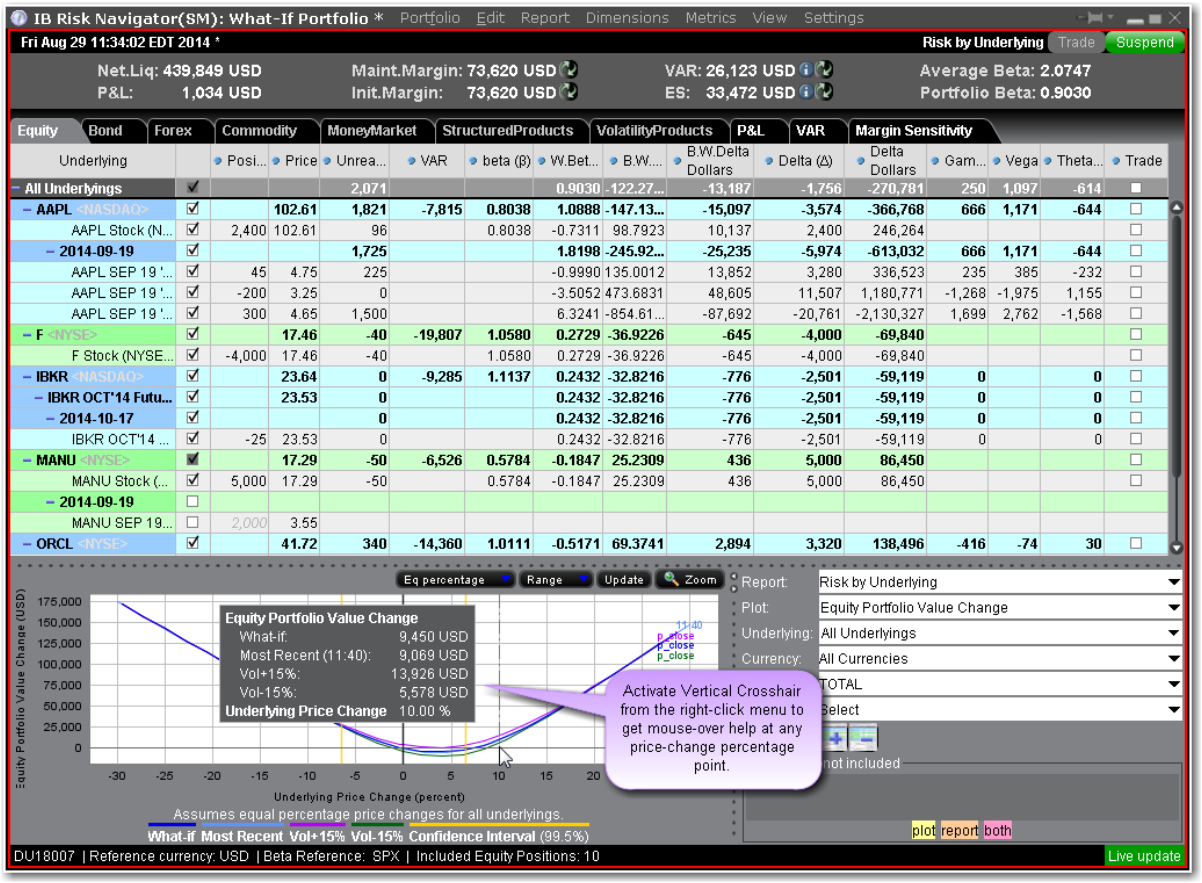
Beta analysis in IB Risk Navigator allows the investor to view the P&L plot differently. In its default format "Equal Percentage," the P&L plot assumes a same percentage move for all underlying portfolio pieces. When Beta Weighted Aggregation is selected, the underlying price scenario includes beta weighted price changes. Beta explains the performance of a stock over and above that associated only with the performance of the market itself.

The **Confidence Interval**, shown within the yellow vertical lines, illustrates the worst-case loss over a one-day period with a default 99.5% confidence level. Use the *Confidence* subcommand on the **Settings** menu to toggle between 95%, 99% and 99.5% confidence levels. Turn the Confidence Level brackets on or off using the *Confidence Interval* command on the right-click menu.

Use the *Vol-up by 15%**, *Vol-down by 15%** and *reduced time to expiry by 1 day* checkboxes in the right-click menu to view the plot under different scenarios to help you visualize the volatility

and time risk in your option positions. While you can elect to display the base P&L using both the previous day's closing price and the most recent dynamic price, the volatility and time variables are always based on the previous close.

*The Vol Up and Vol Down commands increase/decrease projected volatility in relative percent change. Relative percent change is calculated by multiplying the current implied volatility by 15%, and adding/subtracting this value to/from the current implied volatility. For example, if the current implied volatility of an option is 10%, a 15% relative increase would result in an implied volatility of 11.5%, calculated as follows: 10 + (10 * 0.15) = 11.5% . If the current implied volatility of an option is 42.45%, a 15% relative decrease would result in an implied volatility of 36.082%, calculated as follows: 42.45 - (42.45 * 0.15) = 36.082%.



When the Vertical Crosshair is activated on the P&L graph using the right-click menu, you will get mouse-over help at any price-change percentage point.

For Bonds, the P&L plot is based on the interest rate change.

What If and Custom Scenarios

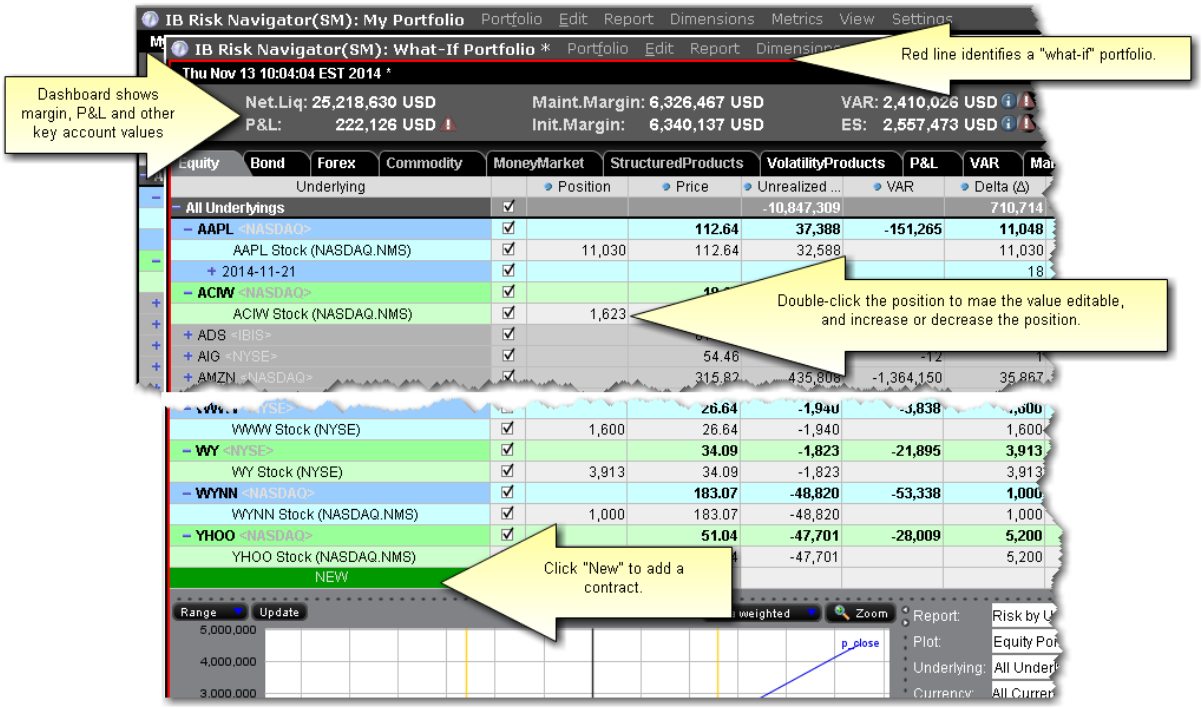
Create a What-If Portfolio

The *What-if* portfolio feature lets you create an editable, hypothetical portfolio based on your actual portfolio. This allows you to "make changes" to your portfolio, including adding, closing, reducing or increasing positions, to see how your risk profile would change. Additionally, you can check your margin requirements on the portfolio.

You can also build a new hypothetical portfolio, position-by-position, to see how the risk profile changes as positions are added and modified.

You can also create an order from within a What-if portfolio that will fill on an exchange. For details, Create Orders from a What If Portfolio

What-if portfolios are outlined in red for easy identification, and display the **What-if** title at the top of the window.



To create a "what-if" scenario based on your current portfolio

1. Open the IB Risk Navigator window and on the **Portfolio** menu, select *New*.
2. Specify whether or not you want to base the hypothetical portfolio on your existing portfolio.

a. If yes, all of your current positions will download to the new What-if.
b. If no, you will see a blank window and can addition positions by clicking the green "New" field or dragging and dropping contracts from your main window.

To save a "what-if" portfolio

1. On the **Portfolio** menu select *Save As*.
2. Enter a file name and click *Save*.

To reload the last saved version

Use this command to reset all values in the active portfolio to the last **saved** version. This command only works on an unsaved file. An unsaved portfolio will display an asterisk "*" at the end of the title.

1. On the **Edit** menu select *Reload from file*.
2. Confirm that you want to reload the file and lose all of your unsaved changes by clicking *Yes*.

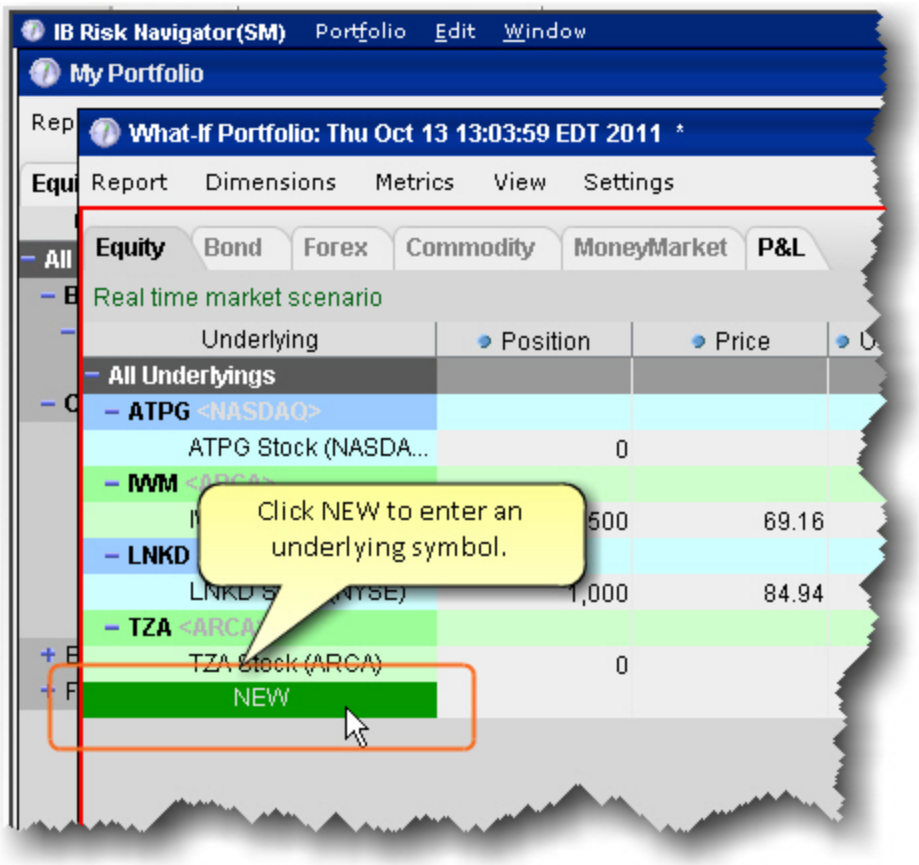
To add/subtract positions from other portfolio files

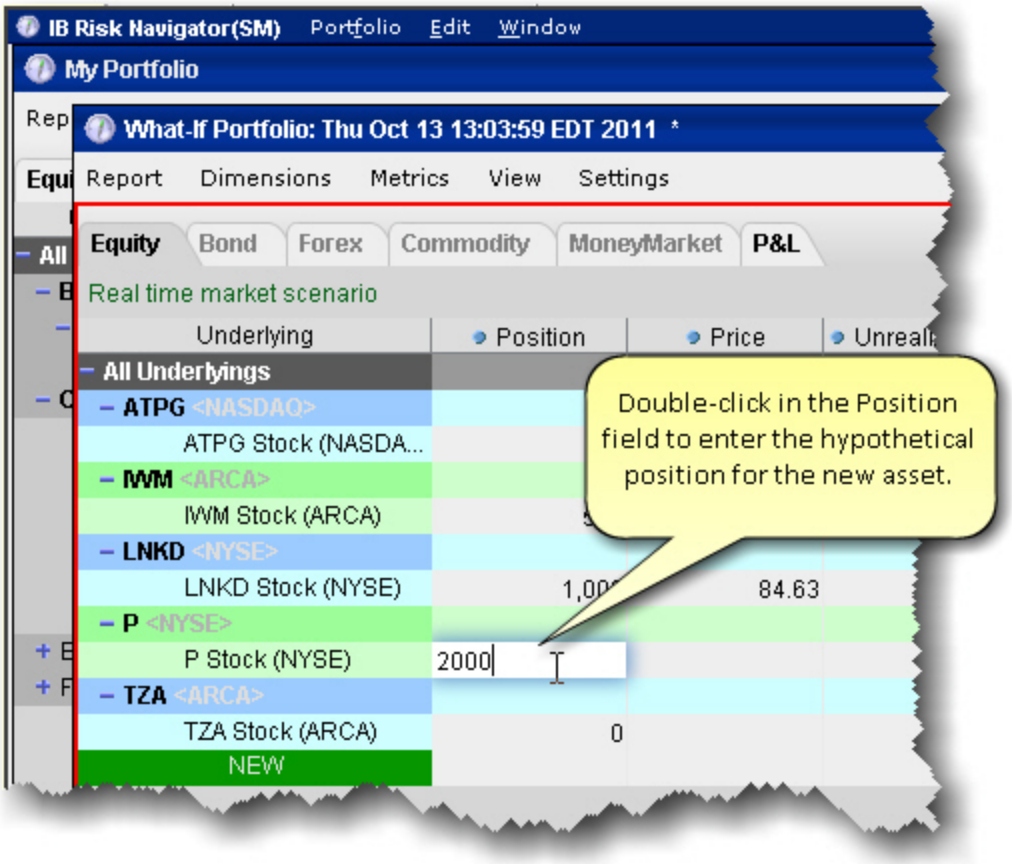
1. From the active portfolio, on the **Edit** menu select *Add From* or *Subtract From*.
2. Select a portfolio to add/subtract. The add/subtract selection list only displays names of portfolios that are currently open.
3. Click **OK** to add or subtract positions from the active portfolio.

The add/subtract feature nets out positions common to both portfolios, and creates a contract line for each new contract (even if the position is "0").
You can add/subtract the same portfolio multiple times. Current positions are netted out each time.

To add one new contract

1. Click NEW and enter the underlying symbol.
2. Define the asset.
3. Specify the position.


IB Risk Navigator(SM) Portfolio Edit Window
My Portfolio
What-If Portfolio: Thu Oct 13 13:03:59 EDT 2011 *
Report Dimensions Metrics View Settings
Equity Bond Forex Commodity MoneyMarket P&L
Real time market scenario
Underlying Position Price
All Underlyings
ATPG <NASDAQ>
ATPG Stock (NASDA... 0
IWM
69.16
LNKD
84.94
TZA
TZA Stock (ARCA) 0
NEW
Click NEW to enter an underlying symbol.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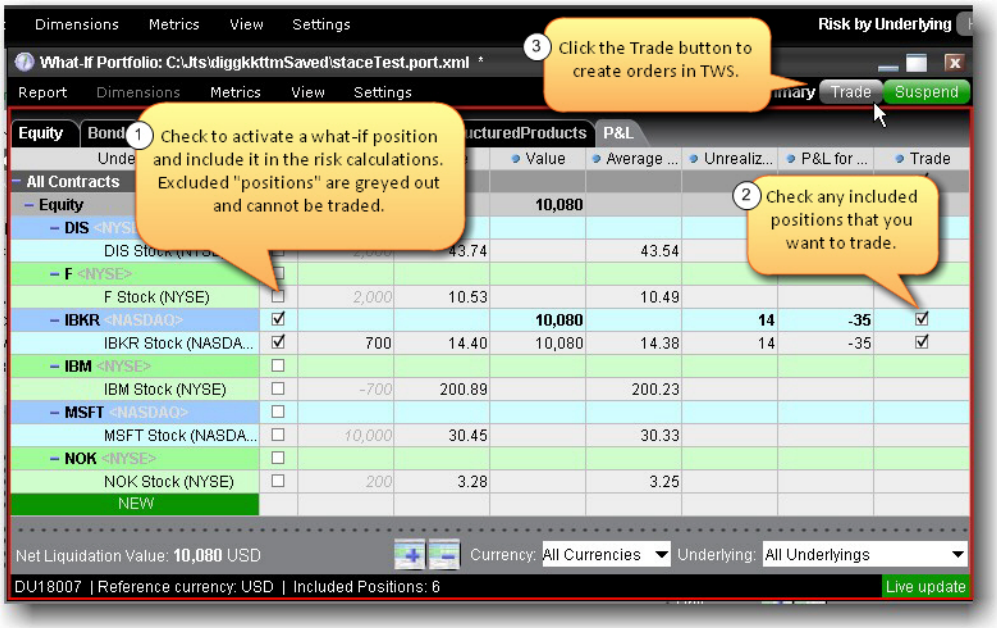
Report Dimensions Metrics View Settings
Equity Bond Forex Commodity MoneyMarket P&L
Real time market scenario
Underlying Position Price
All Underlyings
ATPG <NASDAQ>
ATPG Stock (NASDA...
IWM <ARCA>
IWM Stock (ARCA)
LNKD <NYSE>
LNKD Stock (NYSE) 84.63
P <NYSE>
P Stock (NYSE) 2000
TZA <ARCA>
TZA Stock (ARCA) 0
NEW
Double-click in the Position field to enter the hypothetical position for the new asset.

Create Orders from a What If Portfolio

The What-If portfolio allows you to create and fine-tune hypothetical "positions" in a risk-free environment. You can then create a similar position in your actual portfolio using the *Trade* feature in the what-if.

When you initiate an order from a what-if position, Risk Navigator will create an order in TWS such that its execution will result in a position that mimics the what-if position. This means that if you create an order on an underlying in which you already hold a position, the quantity for the order will be calculated to accommodate the current position. For example, if you currently hold a long position of 100 in IBKR and you create a trade from the IBKR what-if position of 700, the order quantity in TWSwill be for 600 shares.



To create an order from a what-if position

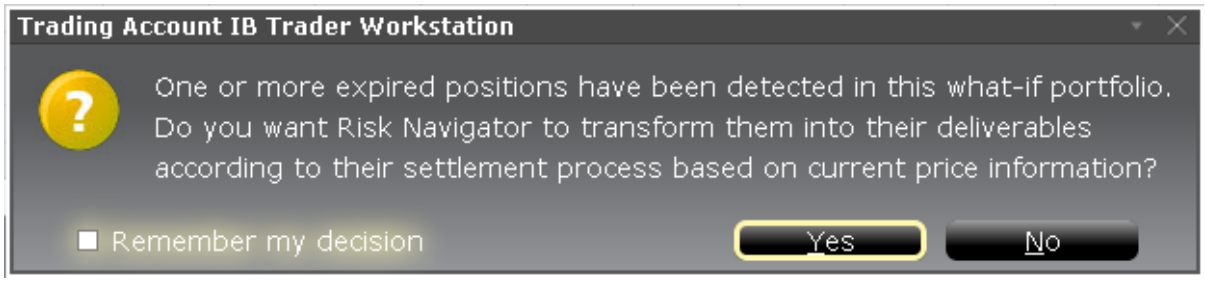
1. Ensure that the position on which you want to base the order is checked using the Include/Exclude box.
2. Ensure that the Trade column is displayed. Use the Metrics menu to display the column.
3. Check the Trade box for the position you want to create.
4. Click the Trade button in the top right corner to create the order(s).

The order is created in TWS. You will need to review and transmit the order to complete the trade.

Handling Expired Positions

When you open a saved "what-if" portfolio that includes expired positions, you can elect to have Risk Navigator transform these positions into deliverables according to the settlement procedure. For example, an expired at-the-money IBM option position would be replaced by the proper amount of IBM stock and cash.

To transform expired positions to deliverables, say "Yes" to the transform message.



To always have the system transform expired what-if positions, check "Remember my decision."

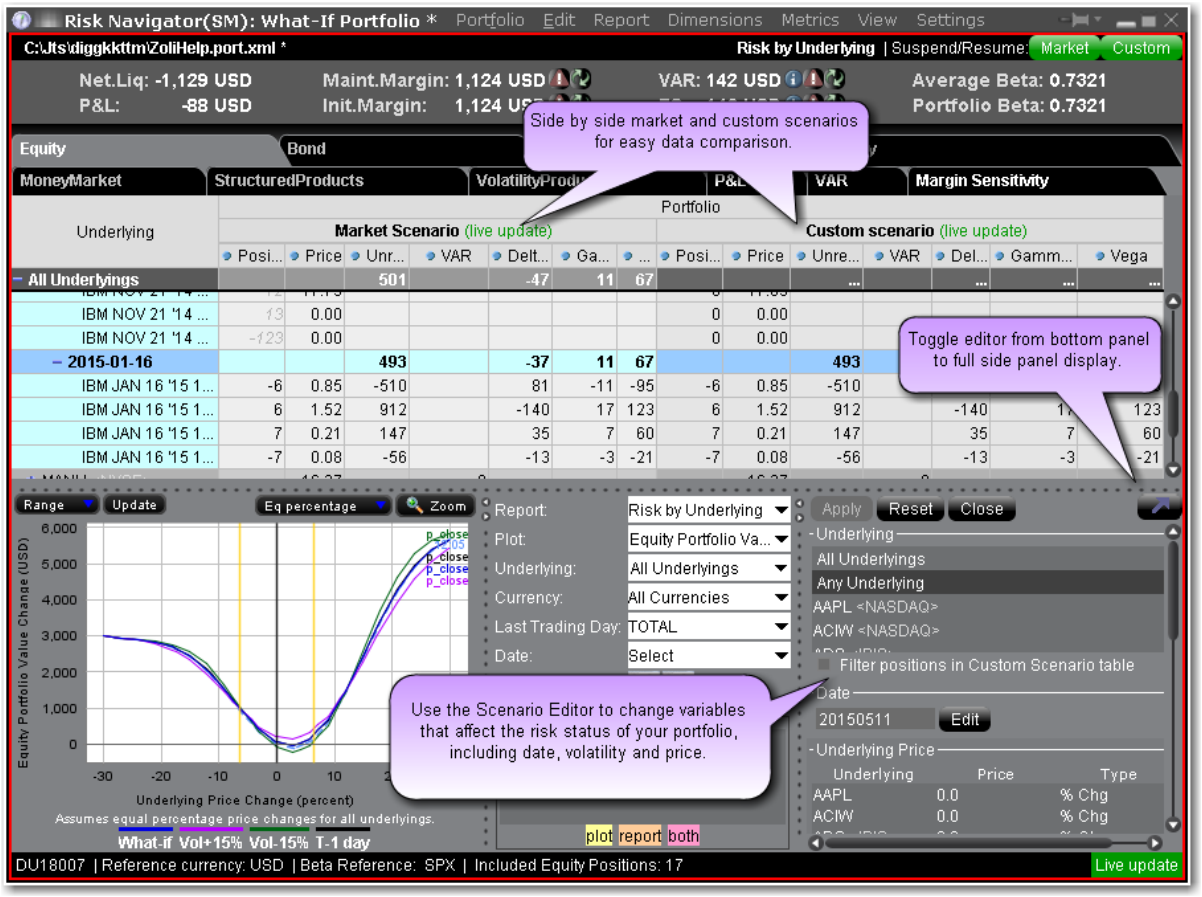
If you have an expired position in your actual portfolio, you can elect to have Risk Navigator create a new what-if portfolio populated with your existing positions, and it will transform expired positions as noted in the new what-if.

Custom Scenarios

You can elect to modify the variables that affect your risk profile using the *Custom scenario* command on the **View** menu.

The Custom Scenario section is populated with the same data as the realtime market scenario until you modify the variables.

VAR in the market scenario is calculated based on the previous day's closing price. VAR in the Custom Scenario is calculated based on the current Last price when the scenario is created. Total VAR can be found in the "Value at Risk" report.



To create a Custom Scenario

1. From the **View** menu select *Custom Scenario*.
2. In the Scenario Editor, filter the underlyings you want to include in the custom view.

> *Select All Underlyings to affect the entire portfolio from a single editing line.*
> *Select Any Underlyings to edit individual underlyings line by line.*
> *Choose a single underlying to show the subportfolio (the underlying and its derivatives). Additionally, use Ctrl + click to select multiple underlyings.*

3. Modify the **Date** to view your risk profile at a future date. By default the date is set to today.
4. In the **Underlying Price** section, define the value of the price change and the type.

> *ExpV - the Custom Scenario price will be changed to exactly reflect the explicit value in the Price field, either positive or negative depending on the sign. For example, if the price for ABC is currently $60.25 and you enter 55.00 ExpV, the Custom Scenario price for ABC will be $55.00.*

Chg - Adds or subtracts the value in the Price field, depending on the sign. For example, if the price for ABC is currently $60.25 and you enter -4.25 Chg, the Custom Scenario price for ABC will be $56.00.
Chg% - Adds or subtracts the percent of the value in the price field, depending on the sign. For example, if the price for ABC is currently $60.25 and you enter 10 %Chg, the Custom Scenario price for ABC will be $54.23.

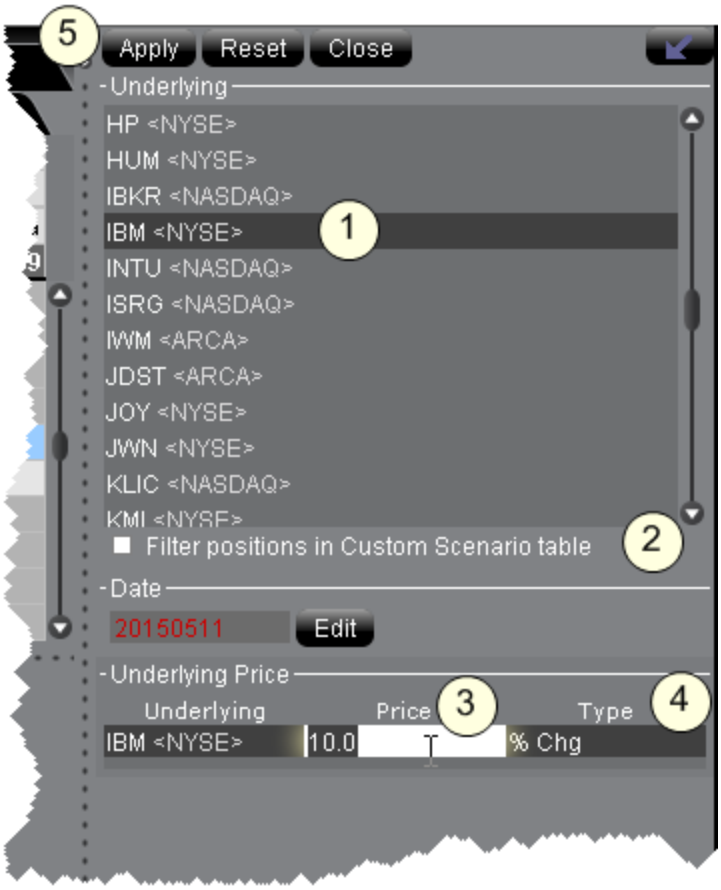
The values in the Custom Scenario are always compared to values in the realtime Market Scenario. For example, if you modify the Price parameter to show a 10% change in the underlying price and get a Custom Scenario price of $54.23, then you modify this price again to see a -10% change, the new calculation will be based on -10% of the market price of $60.25, not the existing custom scenario price of $54.23.

5. Use the Volatility section to modify volatility using the same types (ExpV, Chg and %Chg as described above in the Price section.
6. Hit *Apply* at the top left of the Scenario Editor to see the impact of your changes in the Custom Scenario section.

Custom Scenario Examples

You can create complex custom scenarios by editing the price, date and volatility variables. The examples below are only a few of the possible custom views available, and are meant to help you become familiar with the tool.

Custom Scenario Example 1: You want to view the impact on your portfolio of a 10% change in the underlying price of IBM.

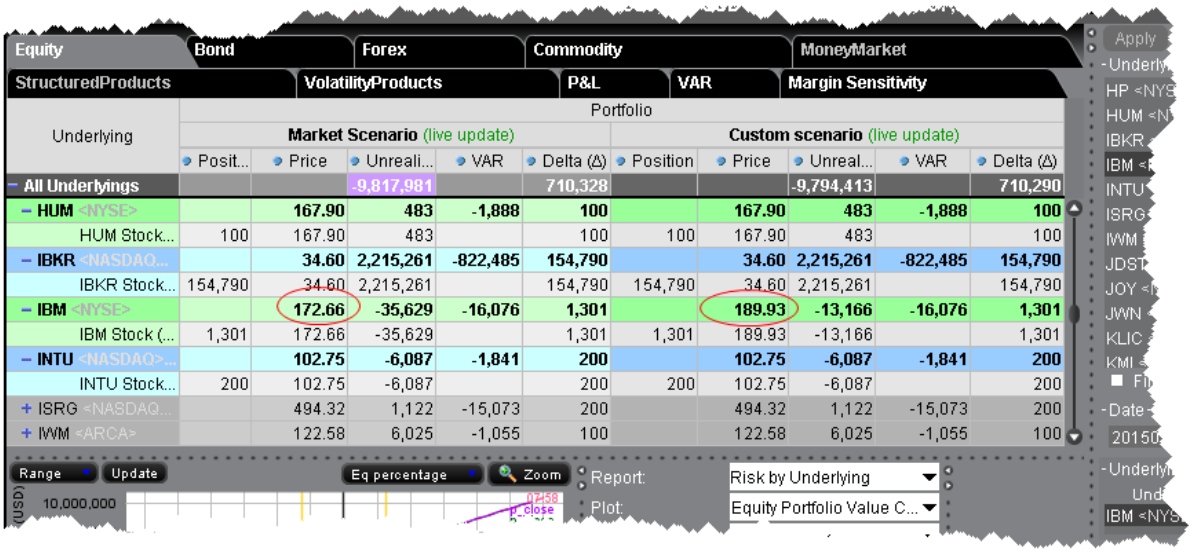


1. Filter the underlying. In this case, select IBM.
2. Optionally check the "Filter positions..." checkbox to hide all values for other underlyings to make the difference between market and custom scenarios easier to see.
3. Enter the Price value. Be sure to delete the existing value first.
4. Select the price change type.
5. Click Apply to see your changes reflected in the Custom Scenario table.

Note: Modified data in the editor appears in red, indicating that you have not yet applied the changes. When you click Apply, the red color is removed.

Note: To remove data changes, click the Reset button at the top of the editor.

The effects of this change can be seen in the **Custom Scenario**, and can be compared with the realtime market data that appears in the adjoining **Market Scenario**. The underlying price change shows in the underlying stock line, and the trickle-down affect of this change can be seen in the Price, Value, Delta and Theta fields.



Risk Navigator Alarms

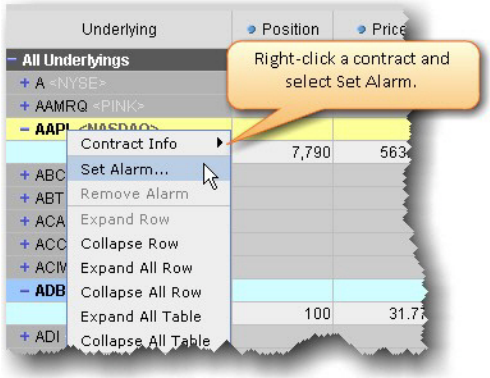
Risk Navigator Alarms

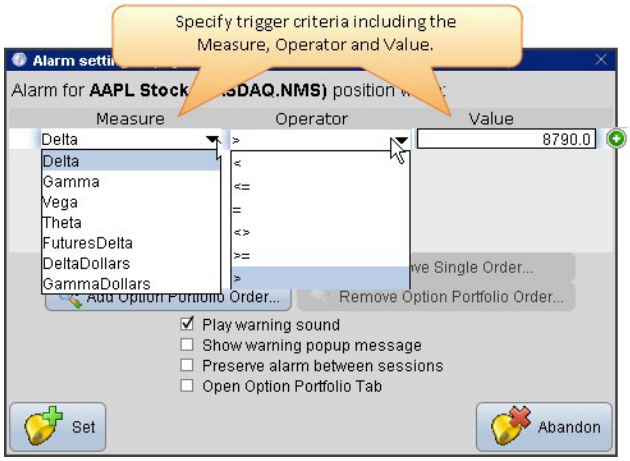
You can set Alarms in Risk Navigator that alert you with sound, send a pop-up message and create an order when a specified measure achieves a user-defined value. Available measures against which you can set alarms include Delta, Futures Delta, Gamma, Delta Dollars, Gamma Dollars, Vega and Theta. Note that these are "position" values (indicated by capitalization of the first letter). You can set alarms at the position level or at the "All Underlying" level. Additionally if you access the Bond tab you can set alarms based on the bond measures including Dv01, Duration and Convexity.

Set a basic alarm

Set an alarm to create an Option Portfolio order

Set an alarm to create a single order

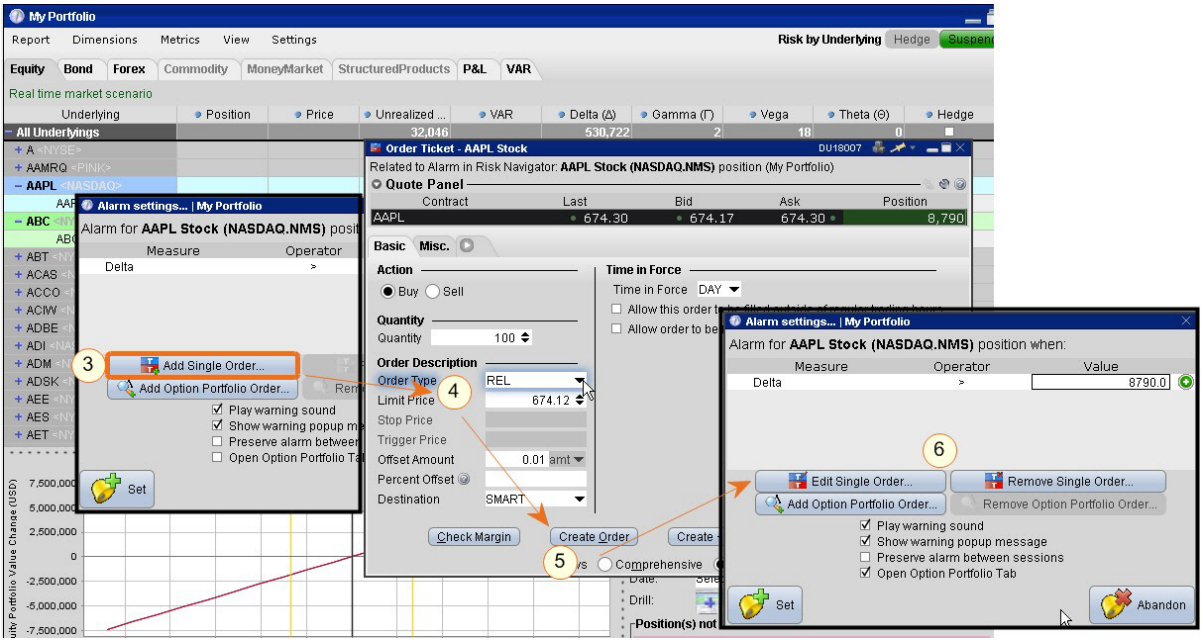




To set a basic alarm in Risk Navigator

1. Right-click the contract and select *Set Alarm*.
2. Define the measure, select the operator, specify the value.
3. Indicate the alert method(s) and other Settings and select *Set*.

To remove an alarm, right-click the contract and select *Remove Alarm.*



Click Add Single Order to open the Order Ticket and define the order you want to be created when the alarm is triggered. Once the alarms triggers, the Order Ticket opens again with your defined order criteria. You can edit and/or transmit the order. Please note that market conditions may have changed by the time your alarm triggers; you may want to consider using a Relative order, and we recommend that you review the order parameters when the alarm triggers before you submit the order.

Set an alarm to create a single order

Right-click the contract and select *Set Alarm*.

Define the measure, select the operator, and specify the value.

Click *Add Single Order* to open the Order Ticket.

Specify the order criteria including the order type and any necessary offset values.

We recommend that you use a Relative order as the market conditions may have changed by the time the alarm triggers.

Click *Create Order*. The order will be created when the alarm triggers and you must manually transmit the order.

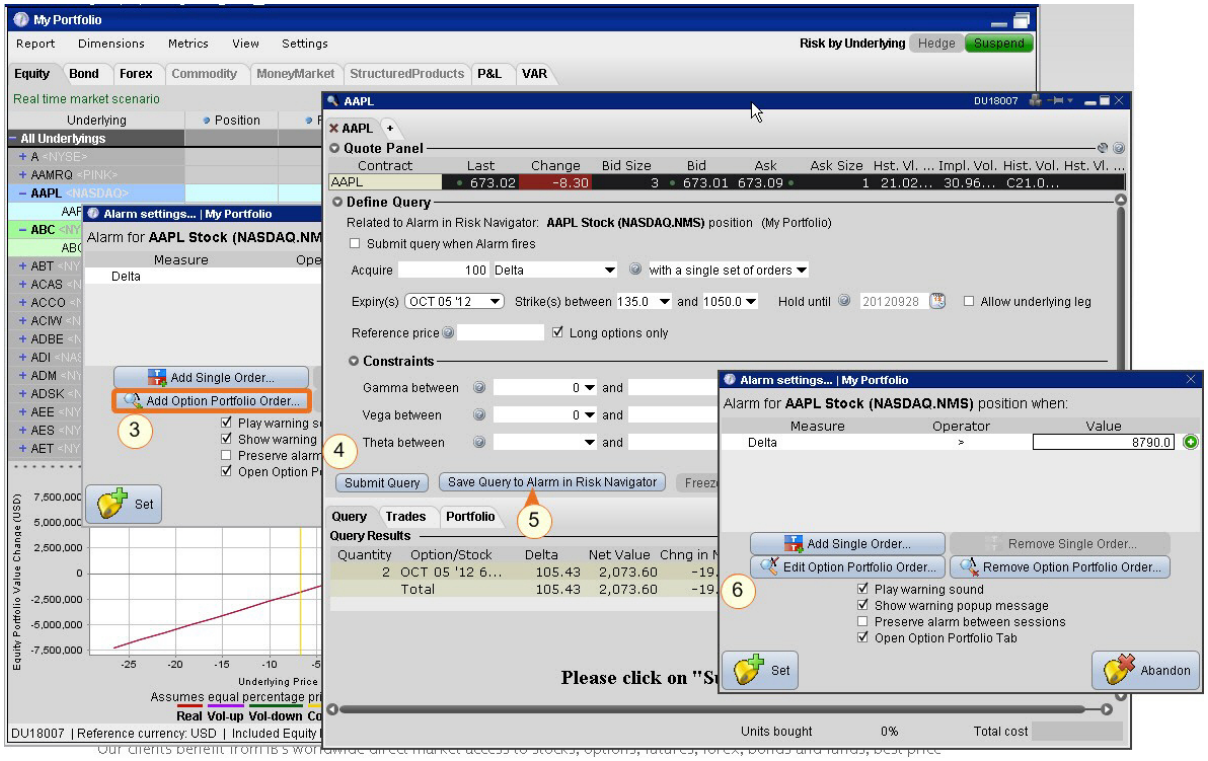
Click *Set* to set the alarm. Click *Edit* or *Remove* to modify or delete the order.

Option Portfolio Alarms in Risk Navigator

You can set Alarms in Risk Navigator that trigger the creation of a pre-defined Option Portfolio order. You must submit the order manually.

Available measures against which you can set alarms include Delta, Futures Delta, Gamma, Delta Dollars, Gamma Dollars, Vega and Theta. Note that these are "position" values (indicated by capitalization of the first letter). You can set alarms at the position level or at the "All Underlying" level.

To set up an alarm, right-click the contract and select *Set Alarm*.



To trigger an Option Portfolio order from a Risk Navigator alarm

Right-click a contract and select *Set Alarm*.

Define the measure, select the operator, specify the value.

Click *Add Option Portfolio Order* to open the **Option Portfolio** tool.

Specify the criteria and run the Option Portfolio query.

Click *Save Query to Alarm in Risk Navigator* to have the order created when the alarm triggers.

Click *Set* to set the alarm.

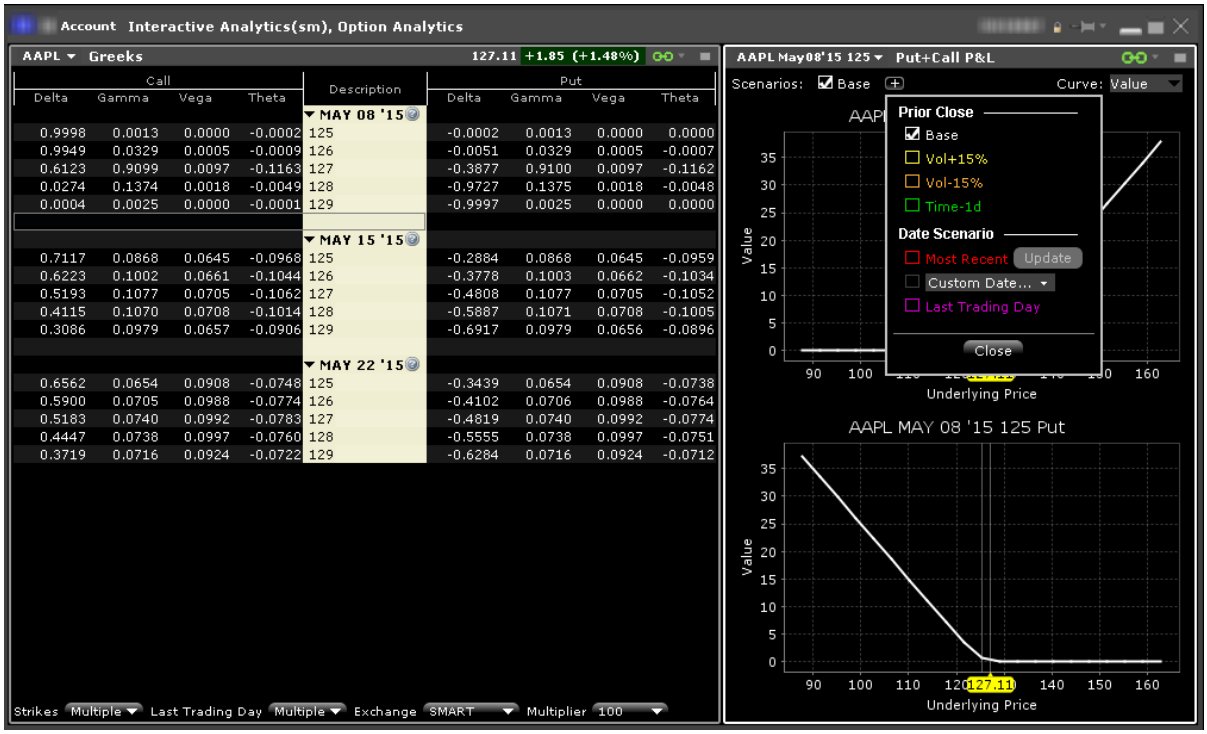
When the alarm triggers, the Option Portfolio order will be displayed and you can transmit the order.

Option Analytics Window

The **Option Analytics** window displays values that reflect the rate of change of an option's price with respect to a unit change in each of a number of risk dimensions.

The contract price plots display the static set of contract prices determined during the price scan. Each point associates an underlying price on the horizontal axis with the corresponding contract price on the vertical axis. Note that the contract price is expressed as the price per underlying unit (just as it is represented on an order line or in the execution window). The top plot displays calls, the bottom plot displays puts, for whichever option(s) your have highlighted in the list.

Move your mouse over the curves to highlight the current value. Also, note that the current underlying price is highlighted on the bottom axis, and the close price is marked by a light gray vertical line.



Use the Plus sign to specify the close value. Use the *Vol+15%*, *Vol-15%* and *Time-1d* raise the implied volatility by 15% in relative change*, reduce the implied volatility by 15% in relative change*, and reduce the time to expiry by one calendar day. Use the Date Scenario section to create dynamic curve scenarios.

To view the Option Analytics window

From Mosaic - Use the New Window drop down and select Option Analysis > Interactive Analytics > Option Analytics.

From Classic TWS - Use the **Analytical Tools** menu and select Option Analysis > Interactive Analytics >Option Analytics from the Technical section.

*For an example of a relative percent change, if the current implied volatility of an option is 10%, a 15% relative change would result in an implied volatility of 11.5%, calculated as follows:

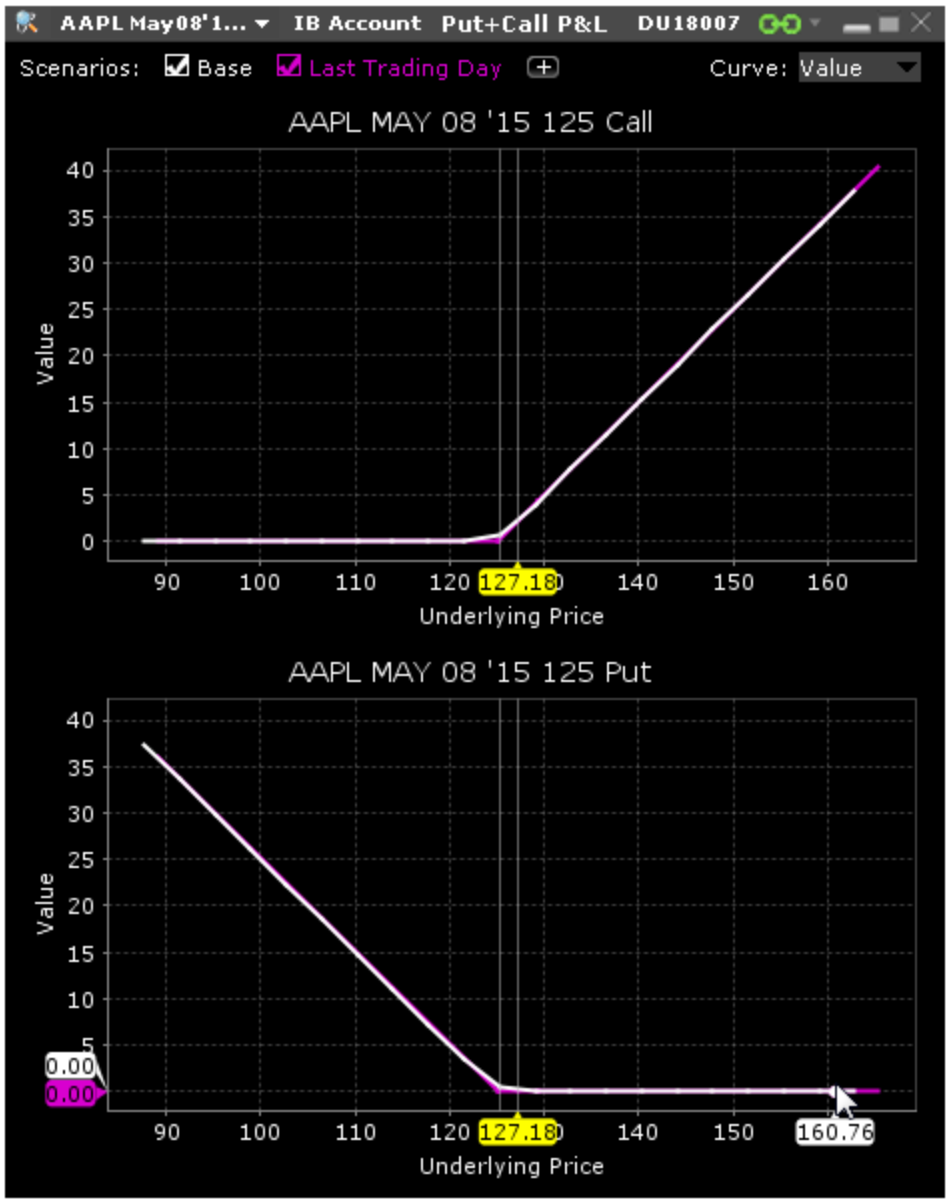
10% * (1 + 0.15) = 11.5%.

Additionally you can open just the option Greeks or just the Put & Call P&L by selecting:

Option Analysis > Interactive Analytics > Greeks

Option Analysis > Interactive Analytics >Put+Call P&L

Call Delta	Call Gamma	Call Vega	Call Theta	Description	Put Delta	Put Gamma	Put Vega	Put Theta
				MAY 08 '15				
0.9999	0.0009	0.0000	-0.0001	125	-0.0001	0.0009	0.0000	0.0000
0.9961	0.0248	0.0003	-0.0007	126	-0.0039	0.0248	0.0003	-0.0006
0.7017	0.8745	0.0086	-0.0761	127	-0.2984	0.8745	0.0086	-0.0760
0.0335	0.1727	0.0017	-0.0058	128	-0.9666	0.1728	0.0017	-0.0057
0.0002	0.0017	0.0000	0.0000	129	-0.9999	0.0016	0.0000	0.0000
				MAY 15 '15				
0.7210	0.0862	0.0645	-0.0953	125	-0.2791	0.0862	0.0645	-0.0944
0.6316	0.0998	0.0648	-0.1028	126	-0.3685	0.0998	0.0648	-0.1019
0.5290	0.1080	0.0705	-0.1052	127	-0.4711	0.1080	0.0705	-0.1043
0.4205	0.1082	0.0708	-0.1011	128	-0.5796	0.1082	0.0708	-0.1002
0.3161	0.0995	0.0656	-0.0908	129	-0.6841	0.0996	0.0656	-0.0898
				MAY 22 '15				
0.6621	0.0650	0.0908	-0.0742	125	-0.3380	0.0650	0.0908	-0.0733
0.5965	0.0704	0.0988	-0.0771	126	-0.4036	0.0705	0.0988	-0.0762
0.5249	0.0739	0.0992	-0.0781	127	-0.4753	0.0739	0.0992	-0.0771
0.4512	0.0741	0.0996	-0.0761	128	-0.5491	0.0742	0.0996	-0.0751
0.3776	0.0722	0.0924	-0.0725	129	-0.6227	0.0723	0.0924	-0.0715

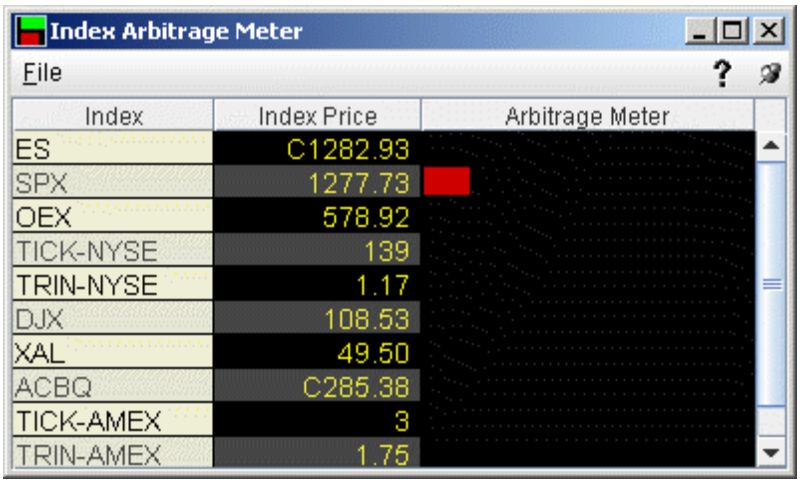


Index Arbitrage Meter

Introduction

The Index Arbitrage Meter illustrates the extent of the premium (or discount) of the lead month futures price above (or below) its fair future value with respect to the index price. A green bar

indicates that the lead month futures price is at a premium to (i.e. greater than) its fair future value. A red bar indicates that the lead month futures price is at a discount to its fair future value. This tool is available for Index instrument types.



To show or hide the Arbitrage Meter on Login

When you log in, the Arbitrage Meter is displayed by default for all index instruments. To hide the arbitrage meter on login:

1. On the **Edit** menu, select *Global Configure*, then select *Display* in the left pane.
2. Check or uncheck *Show Arbitrage Meter*.

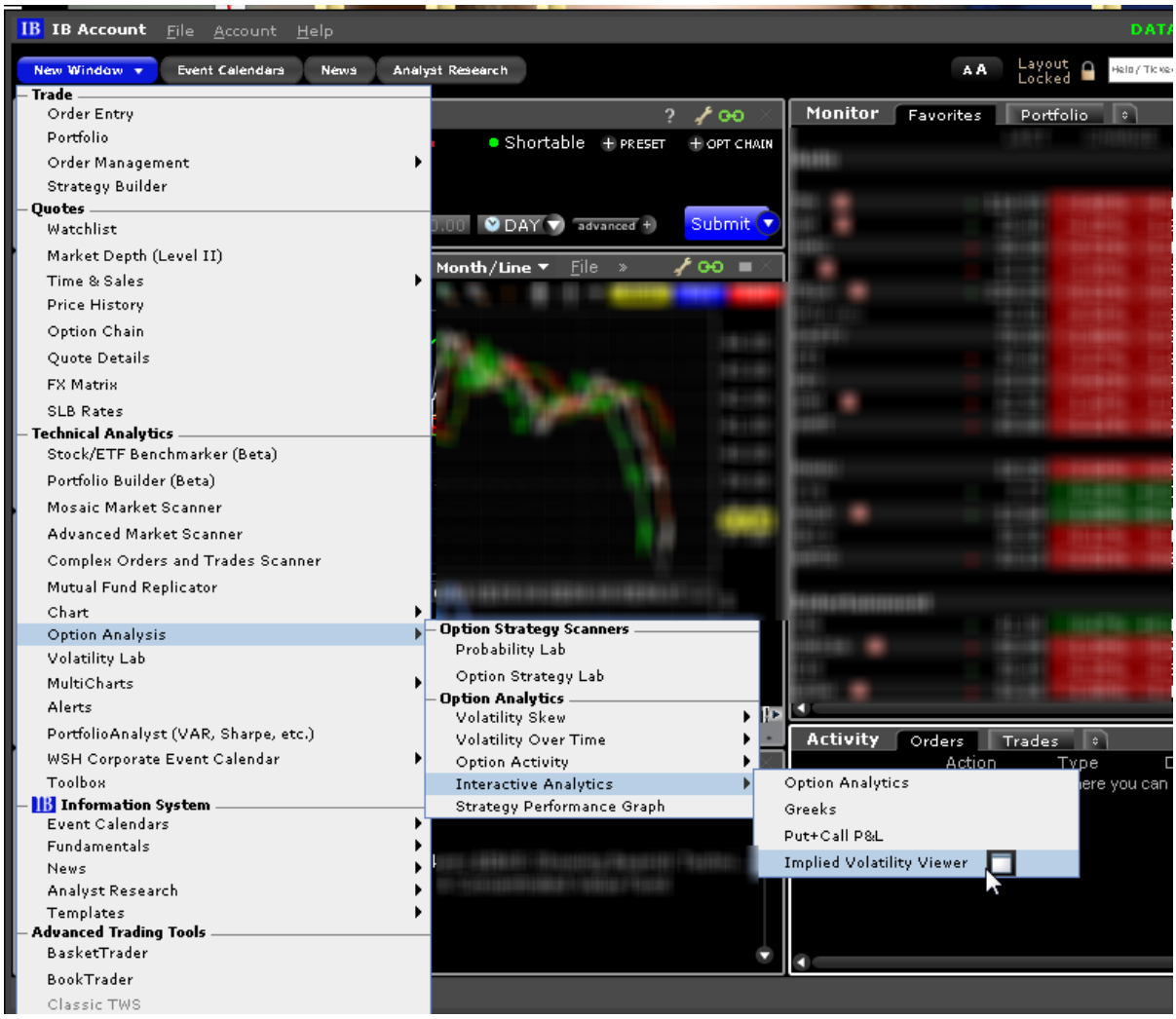
To display the Arbitrage Meter for an index

1. Click on the desired market data line to select the index.
2. Right click and select **Tools** and then select A*rbitrage Meter.*

Implied Volatility Viewer

Open the Implied Volatility Viewer

For all stock, index and futures that have option contracts, open the Implied Volatility Viewer to see option volatility plotted against a range of user-specified strike prices for a user-defined expiry list.



Use the Implied Volatility Viewer

Use the Implied Volatility Viewer to see option volatility plotted against a range of user-specified strike prices for different Last Trading Days. Available for all stock, index and futures contracts that have options.

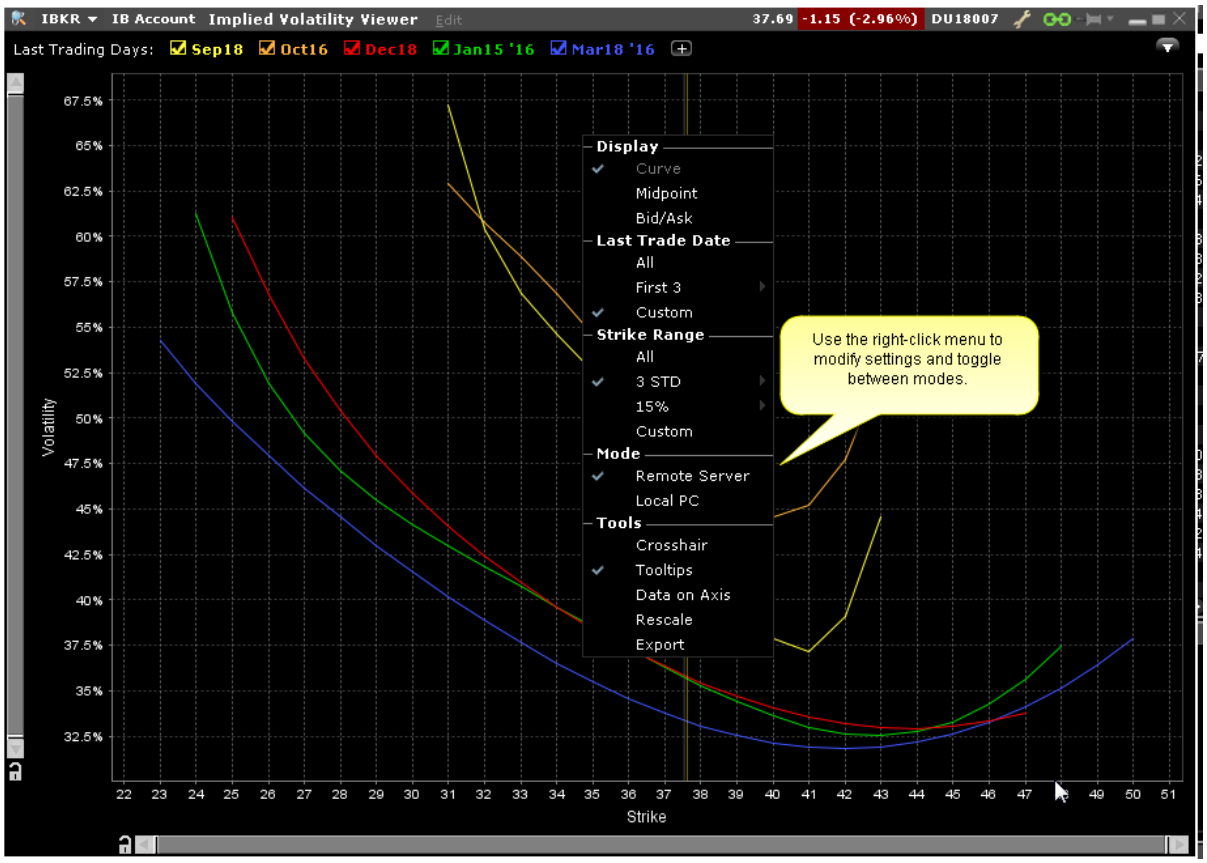
Adjust display and other frequently used settings using the right-click menu within the chart.
Use the right-click menu to open such tools as the Crosshair and tooltip display and to import and export curves.
Use the wrench configuration icon to define other settings.
To zoom in, use scroll bars or draw a rectangle on the chart to zoom to that area.

The Implied Volatility Viewer has two modes: **Remote Server** and **Local PC**.

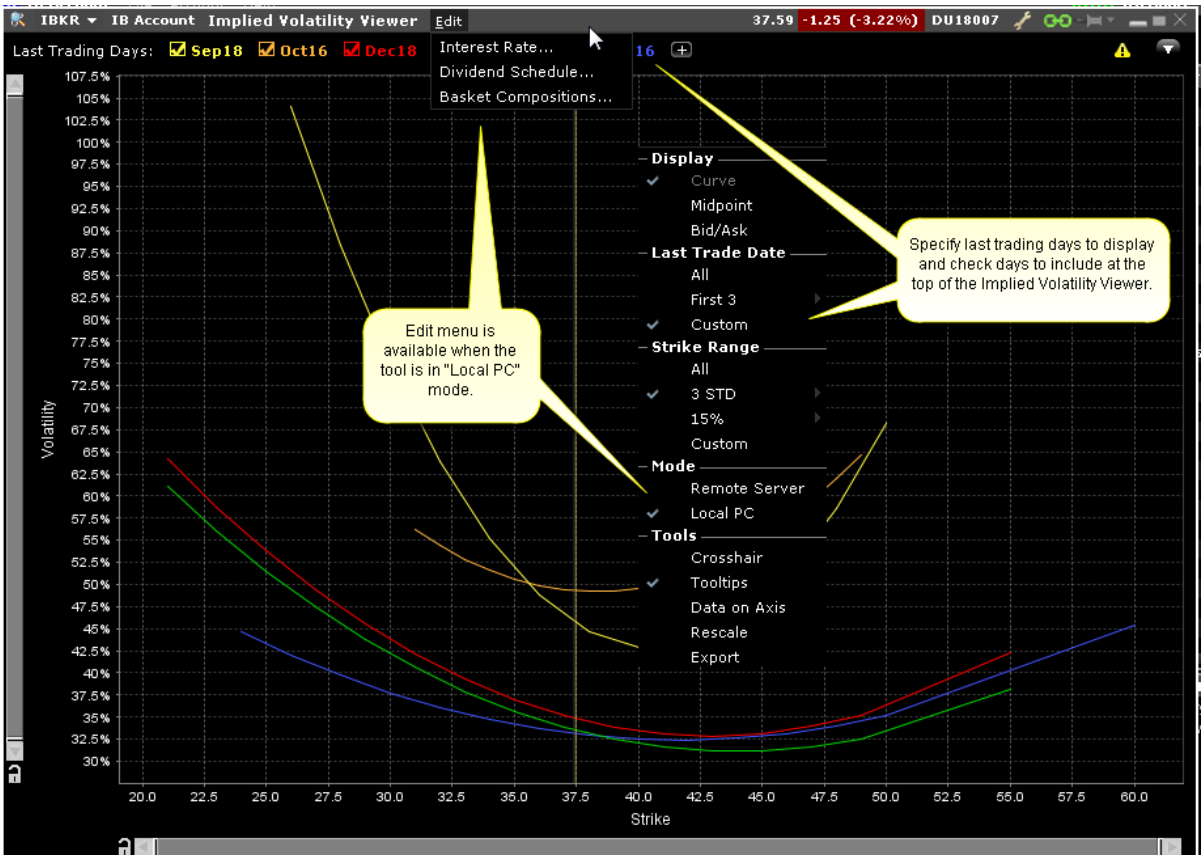
Remote Server mode - In this mode, the model Implied Volatility is calculated on the server side, based on the entire volatility surface for the selected underlying. This computation includes all options in the related option chains that have a valid quote. In **Remote Server** mode, you cannot access the **Edit** menu nor can you make any changes to assumptions used in the model.

Local PC mode - In this mode, the model Implied Volatility is calculated on the based only on options loaded in TWS. In this mode, you have access to the Edit menu and can modify the interest and dividends and the loaded basket contract.

Remote Server Mode



Local PC Mode



Options Implied Volatility Term Structure

The Option IV Term Structure shows the Days to Last Trading Day along the bottom horizontal axis and the at-the-money IV for that date along the vertical left axis. You can use this tool alone, or open it in conjunction with the Implied Volatility Viewer.

Use checkboxes at the top to view Today and/or Yesterday's previous close data.

Change the color scheme and the display and configuration of the horizontal axis using the "Configure" wrench icon in the top right corner.

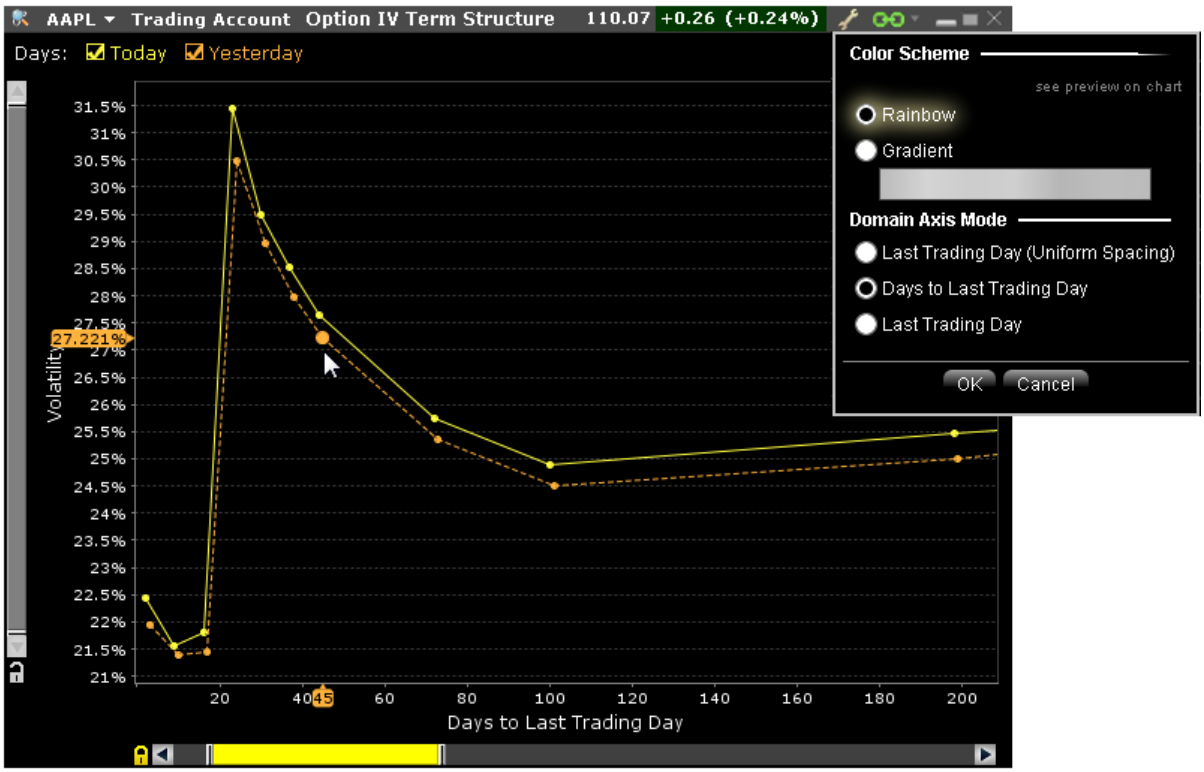
Elect to show "uniform spacing" for last trading day, or to show Days to Last Trading Day.

Use the slider along the bottom frame to zoom, and use the right-click menu to show data tooltips.

The Implied Volatility Term Structure has two modes: **Remote Server** and **Local PC**.

Remote Server mode - In this mode, the model Implied Volatility is calculated on the server side, based on the entire volatility surface for the selected underlying. This computation includes all options in the related option chains that have a valid quote.

Local PC mode - In this mode, the model Implied Volatility is calculated on the based only on options loaded in TWS. In this mode, you have access to the Edit menu and can modify the interest and dividends and the loaded basket contract.



To open Options Implied Volatility Term Structure

From the New Window drop down select **Option Analysis** then **Interactive Analytics** and then select *Option IV Term Structure*.

Model Navigator

Use the **Model Navigator** to modify option pricing assumptions, including the volatility, interest rates and dividends, and have the Model Navigator use these values in its option model price

calculations..

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Edit Dividends **995**

Edit the Lending Yield **997**

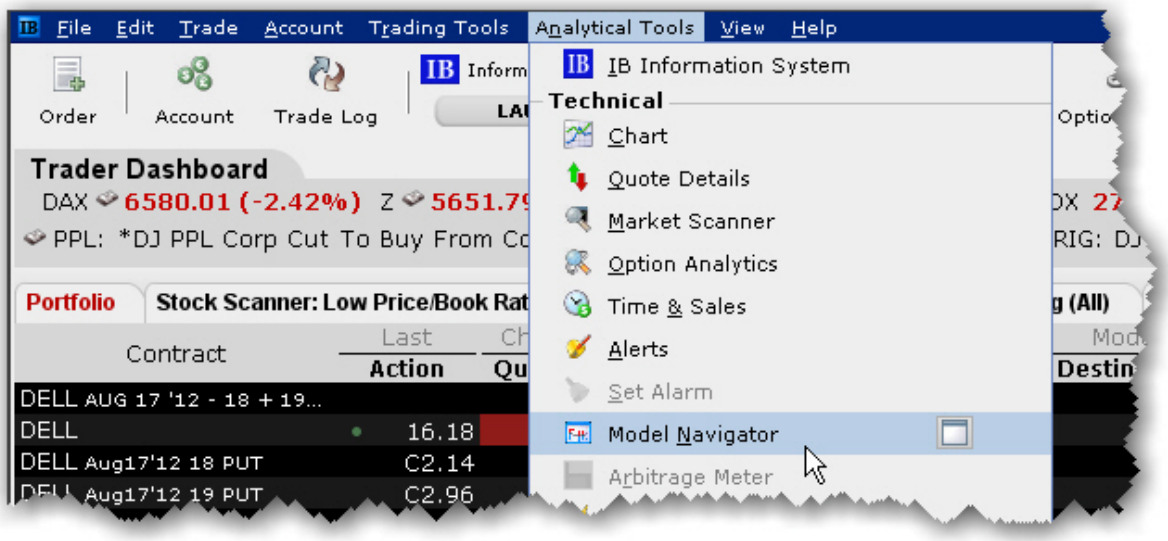
Edit the Volatility Profile **998**

Model Price Color Key **1003**

Using the Model Navigator

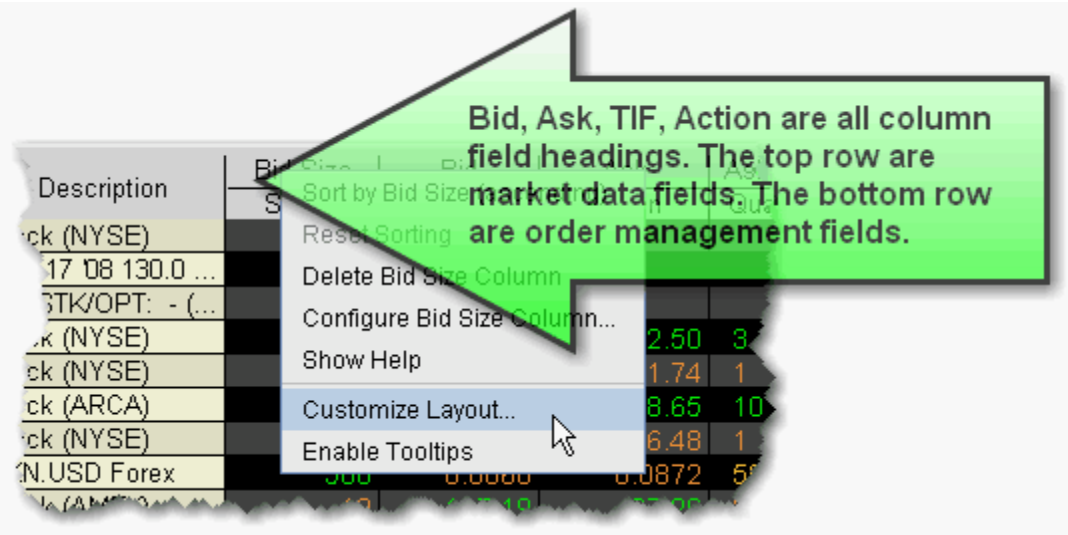
Price/Risk Analytics uses current market data along with interest and dividend values to calculate implied volatilities and option model prices. Use the **Model Navigator** to modify pricing assumptions and recalculate the model price.

Option model computation requires market data for both the option and its underlying. In the case of index options, the market data for the futures reference contract is also required.



To open the Model Navigator

1. From the **Analytical Tools** menu, select *Model Navigator*.



If you open the **Model Navigator** from the OptionTrader, it is automatically populated with all loaded option chains.

If you open the **Model Navigator** from a Quote Monitor, it will show options on all pages that have the *Model* or *Imp Vol* fields displayed, which require the model price calculation.

To display Model or Imp Vol fields on a Quote Monitor

1. Hold your mouse over a Market Data column to display the “+” icon, and click on it to show the column picklist.
2. Expand the ***Options*** category and select the *Imp. Vol* and/or *Model* fields.

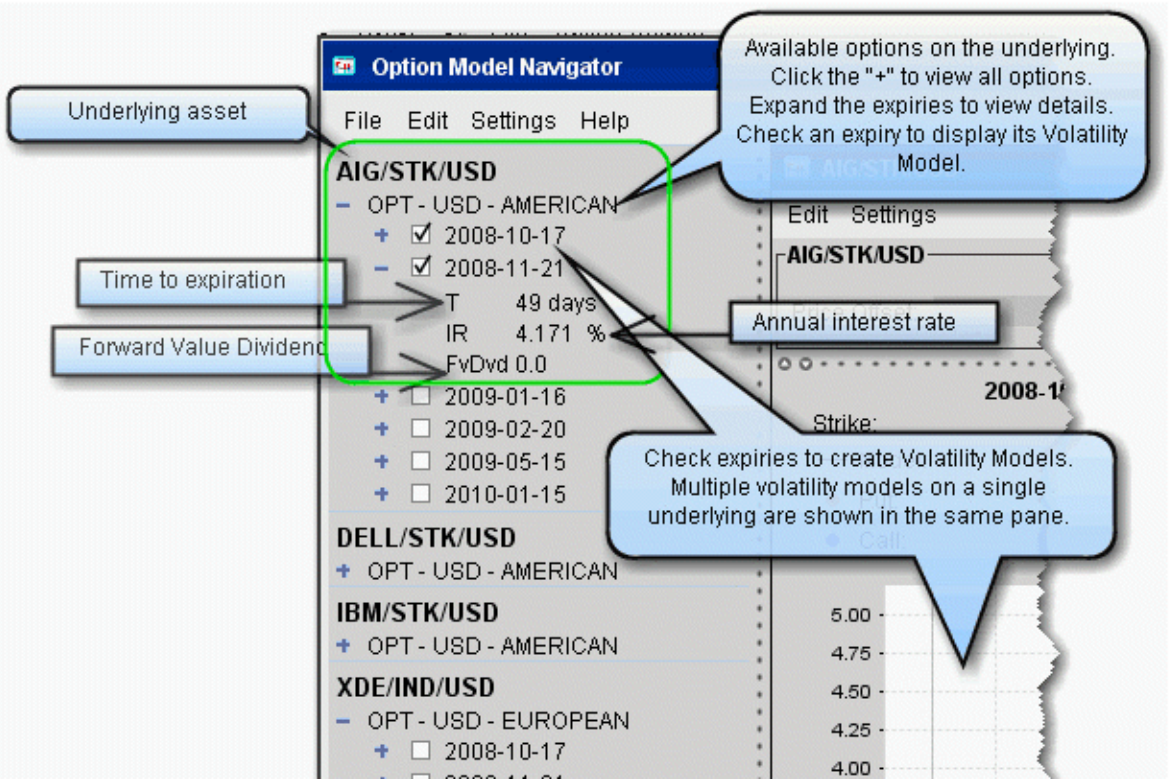
The **Imp Vol** and **Model** fields display on the page, and all options contracts on the page now require a model calculation and will appear in the **Model Navigator** Contract Description pane. The implied volatility calculation is non-linear and may not converge for low vega options. In such cases, the Model Navigator will not provide an implied volatility estimate.

The Model Navigator window comprises three main sections: the Contract Description Pane which shows all available options in an expandable tree, the Volatility Model Pane which

displays the volatility curve plots, and the Volatility Curve Table table which lists associated strike prices and implied volatilities.

Contract Description Pane

The left pane shows all available options grouped by ultimate underlying, which can be sorted alphabetically or based on option count order using the *Sorting* command on the **Settings** menu. Select the checkbox next to an Last Trading Day to create a volatility model. All volatility models on an underlying appear in the same sub-pane. Each underlying has a unique pane of volatility model(s).



Use the **Settings** menu to elect not to merge the FUT subtree with the option, and see the whole FOP structure.

To include contracts in the **Model Navigator**, you must either:

Use the OptionTrader and download a set of option chains

Open the IB Risk NavigatorSM, or

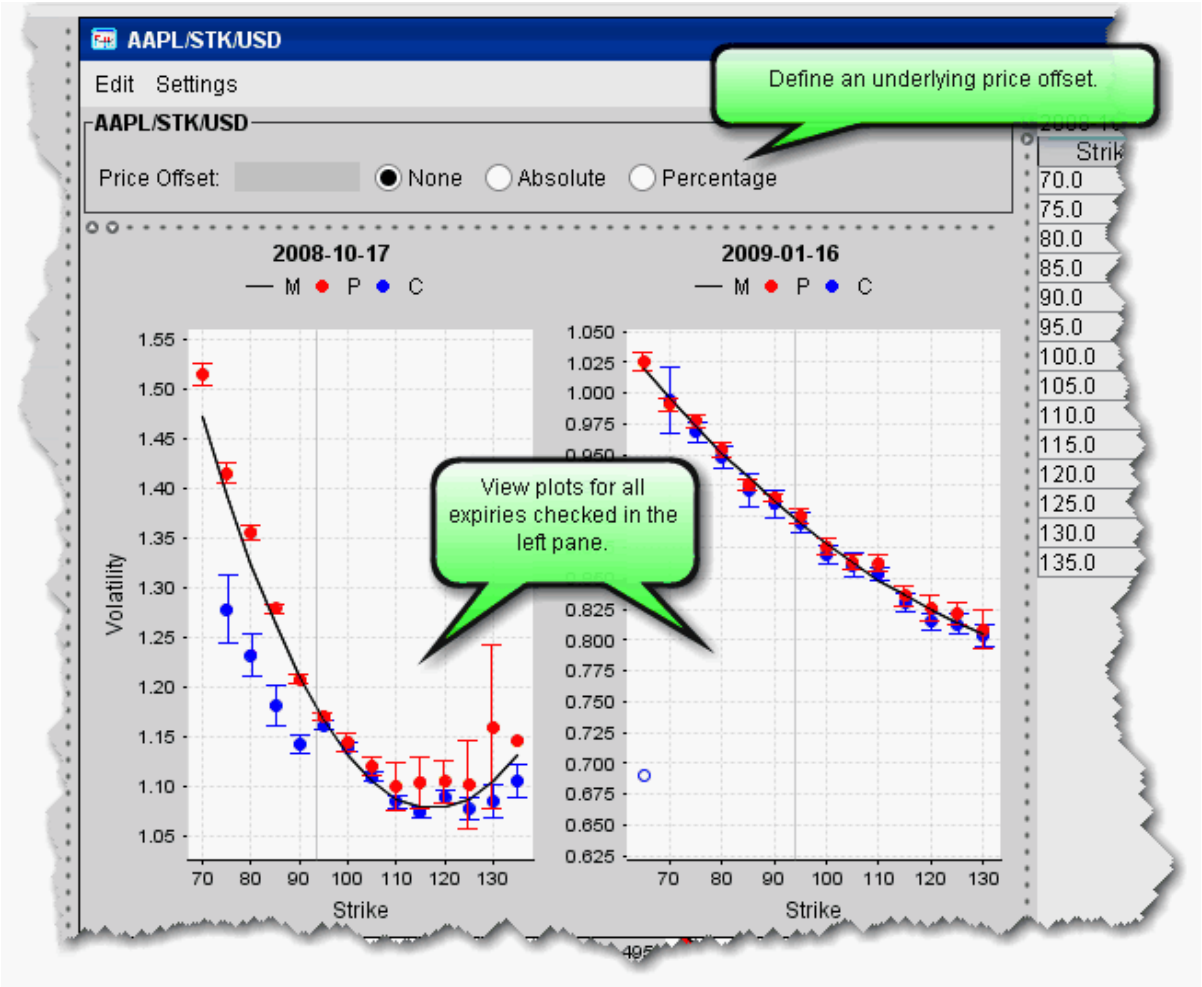
Add the contracts to your trading page with the Imp Vol. and/or Model fields displayed.

Volatility Model Pane

Volatility Models are displayed for all checked contracts in the center pane of the Model Navigator. The Volatility Model pane includes:

Price Offset - optional. Offset the price of the underlying for selected options, by an absolute value or a percent of the current price.

Volatility Curve Plot - Shows the volatility profile as a function of the strike price. You can manually edit a plot by right-clicking and choosing *Edit*.



The horizontal axis is the strike price, the vertical axis is the volatility.

Risk Navigator calculates the implied volatility for each option in a class.

The blue and red dots show implied volatility derived from the market data for calls and puts, respectively. Dark blue/dark red indicates a half quote call/put (either just the bid or just the ask).

Volatility knots calculated from the option bid/ask include a representational “error bar” to indicate the error range of the calculation. This range is specified numerically in the mouse-over help, for example “+/- 0.008.” If the volatility is not calculated using bid/ask (for example, a half quote call/put) the error range is not displayed.

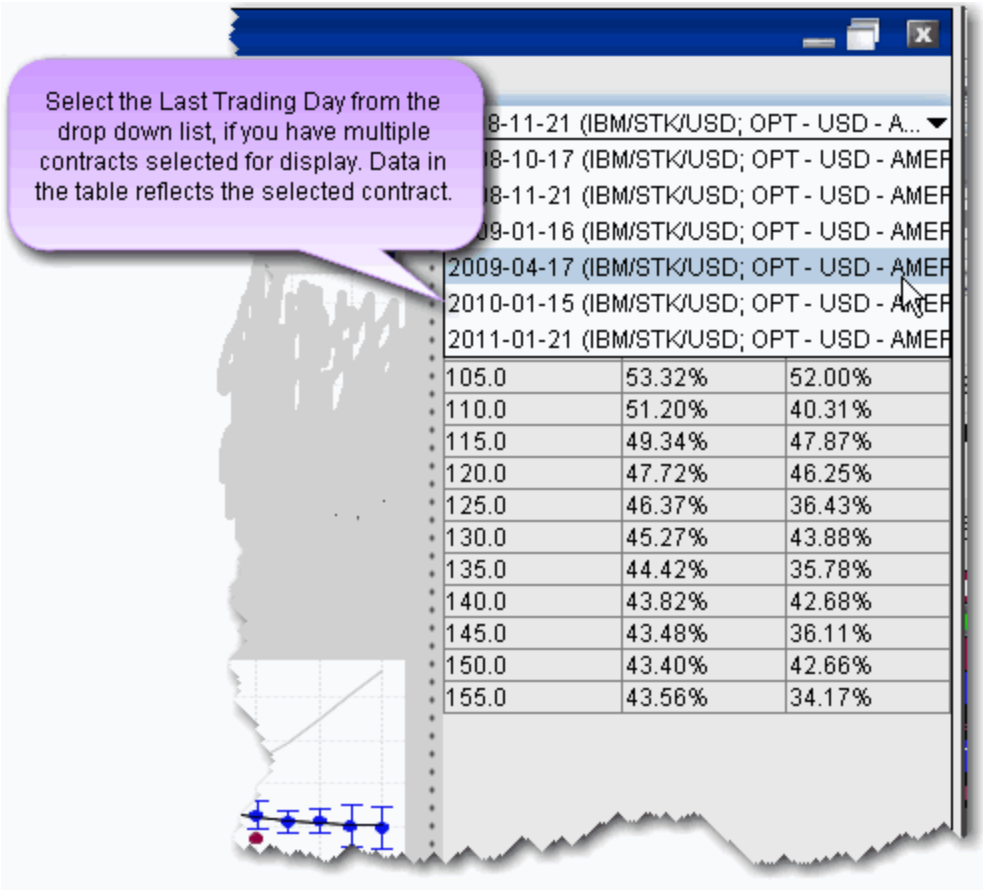
If there is no bid/no ask, the volatility is calculated from the previous closing price indicated by an open circle.

The average or close implied volatilities are fitted to a parabola, vs. the strike price. The fit is weighted by the vega of each option, which means that the curve is constrained to be closest to the implied volatilities for the options that have the most vega, i.e. whose option price changes the most per unit change in the option's volatility.

To see details for a given implied volatility point, hold your mouse cursor over the point. The system will display the option right, strike price implied volatility and error range.

Volatility Curve Table

The volatility curve table reflects the data in the plot. To add IV (Manual) entries, use the Edit menu to select the profile to edit, or right-click in a plot and select *Edit*. Both the volatility plot and table become editable. In the Manual column, double-click the implied volatility at a strike price and enter a new value.



By default, the Model Navigator's sophisticated option model calculation engine uses the values in the plot along with the calculated interest rate, dividends, underlying price and other parameters, to calculate the *Model* price. **If you prefer to calculate the model price using the pricing assumptions reflected in an edited plot, you must apply the changes to your plot and leave it in *Edit* mode.** Any expiry that has a volatility curve plot in Edit mode will use this profile in the calculation of the Model price and Implied Volatility.

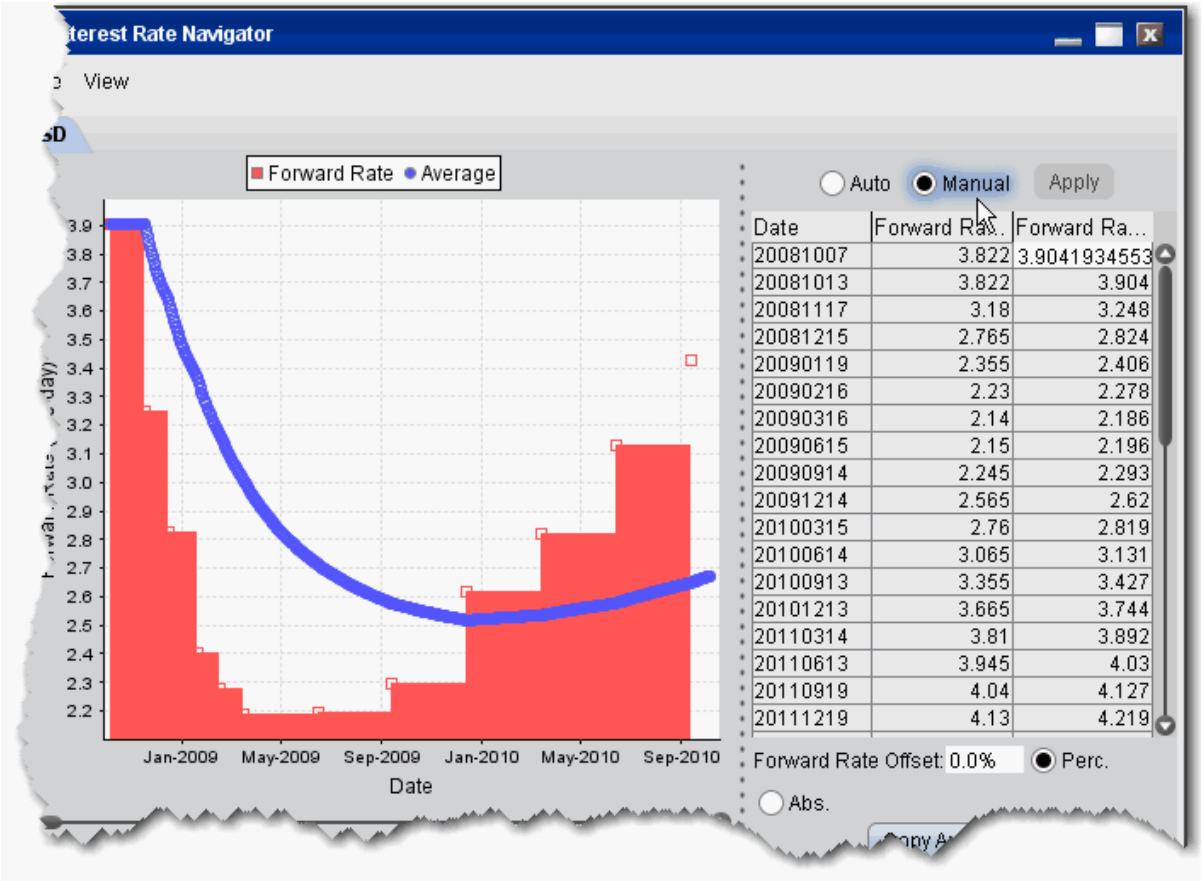
You can also modify the Interest Rates and Dividend Schedule, and specify that these modified pricing assumptions be used in the Model Price calculations.

Edit Interest Rates

You can modify the interest rate by entering values in the Manual column of the Interest Rate Navigator.

To open the Interest Rate Navigator

1. From the top-level **Edit** menu, select *Interest Rate*.



There are two interest rate columns, *Forward Rate (Auto)* and *Forward Rate (Manual)*. The Auto column displays the U.S. default rate. The Manual column initially displays the U.S. rate (rather than an empty field), but the value is editable.

To edit interest rates

1. Select the Manual radio button to make the column of manual rates editable.
2. Double-click a rate in the **Manual** column and enter a new rate.
3. Click Apply to save your changes.

To have the model calculations use your manual value, ensure that the Manual radio button is selected.

To change the number of dates/rates displayed, right-click in the table and select *Add new* to create a blank editable row at the top of the table, or *Remove Selected* to delete the selected row.

To globally apply an offset value or percent to all manual entries, enter an offset amount in the Interest Rate Offset field, and select the *Percent* or *Absolut*e value radio button.

The option model is calculated using the interest rate you define by selecting the **Auto** or **Manual** radio buttons.

The annual percentage rate is a simple time deposit rate using the bank year calendar (360 days/year).

The system converts the interest rate table to a set of exponential interest rates that apply on a spot-to-date basis for each expiry in a class. This is displayed as the IR value in the Contract Description Pane when you expand an expiry.

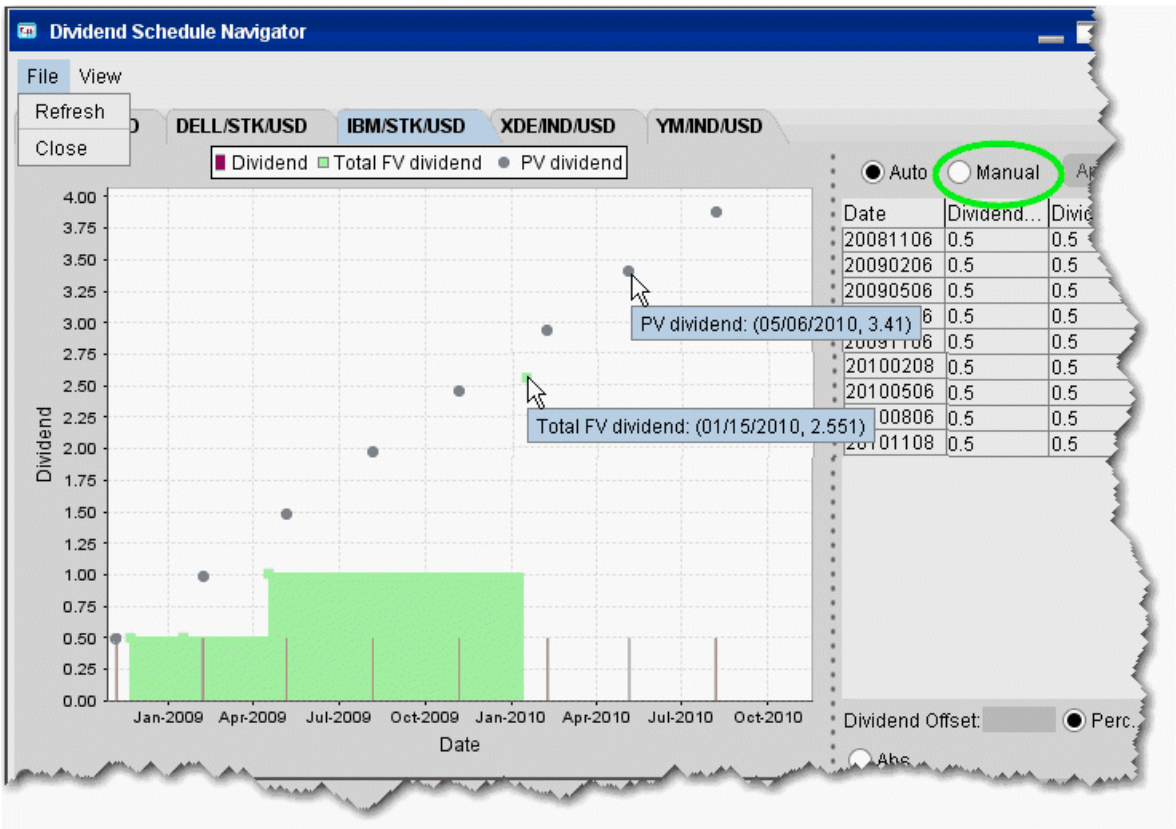
The interest rate table applies across all option classes. When you change the interest rate in one option class, the change is applied to all option classes.

Edit Dividends

In addition to letting you manually set the dividend schedule, the Dividend Schedule Navigator also provides an automatic "best guess" dividend payment schedule based on historical data for that asset.

To open the Dividend Schedule Navigator

1. From the top-level **Edit** menu, select *Dividend Schedule*.



There are two dividend, *Dividend (Auto)* and *Dividend (Manual)*. The Auto column displays the "best guess" dividend payment schedule based on historical data. The Manual column shows the same values (rather than an empty column), but the value is editable.

To edit dividends

1. Select the **Manual** radio button to make the manual column editable.
2. Double-click a dividend in the **Manual** column and enter a new value.
3. Click Apply to save your changes.

To change the number of dividends displayed, right-click in the table and select *Add new* to create a blank editable row at the top of the table, or *Remove Selected* to delete the selected row.

To globally apply an offset value or percent to all manual entries, enter an offset amount in the Dividend Offset field, and select the *Percent* or *Absolute* value radio button.

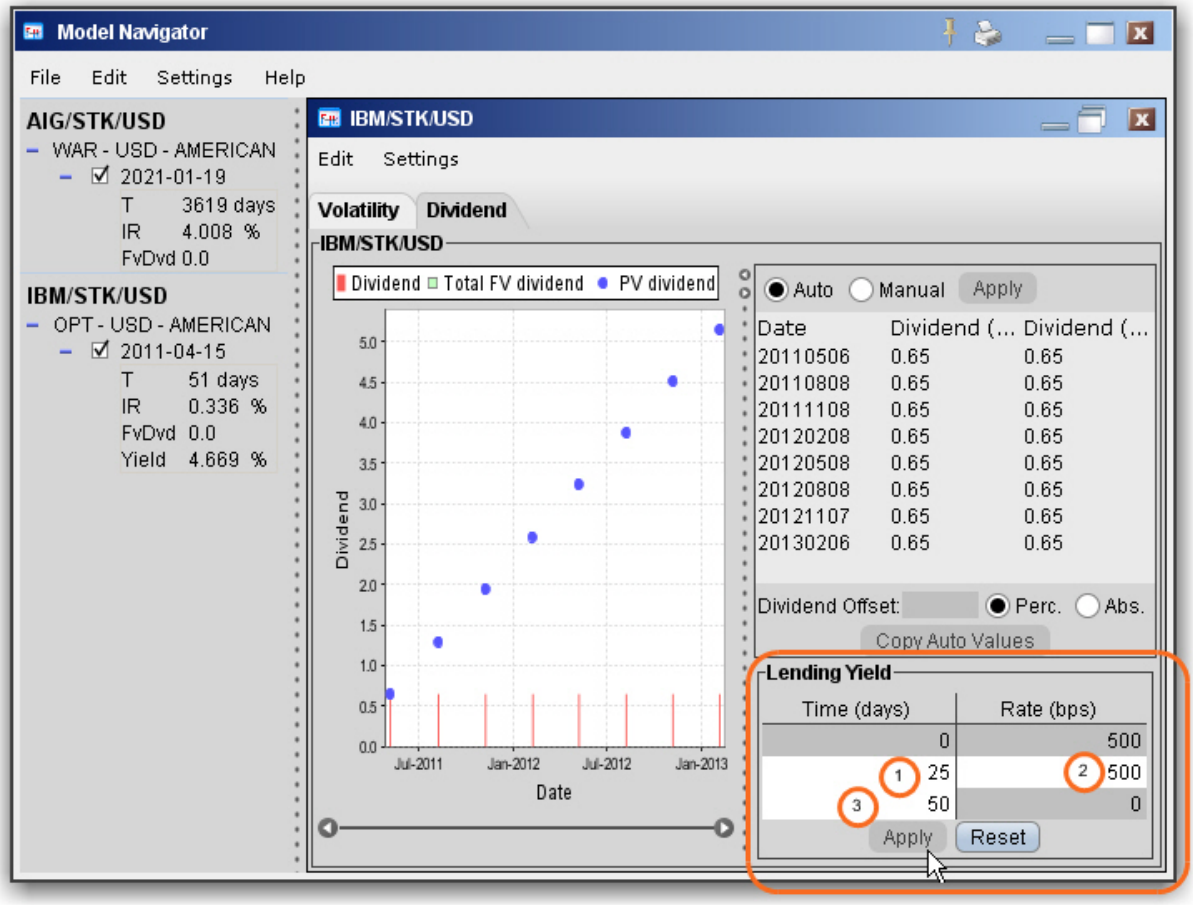
The option model is calculated using the dividend schedule you specify by selecting the **Auto** or **Manual** radio buttons.

Edit the Lending Yield

Adjust the underlying yield so that the stock lending rate is reflected in the model calculation using the Lending Yield table. You will be able to edit the yield for any underlyings for which you have an option displayed on the Quote Monitor. You must also have the *Model* and/or *Imp Vol* field displayed on the Quote Monitor to see entries in the Model Navigator.

To open the Dividend Schedule Navigator

1. From the Analytical **Tools** menu, select *Model Navigator*.
2. Within the navigator, select the **Dividend** tab.



The white fields are editable, and changes to the yield are reflected in the left page *Yield* field.

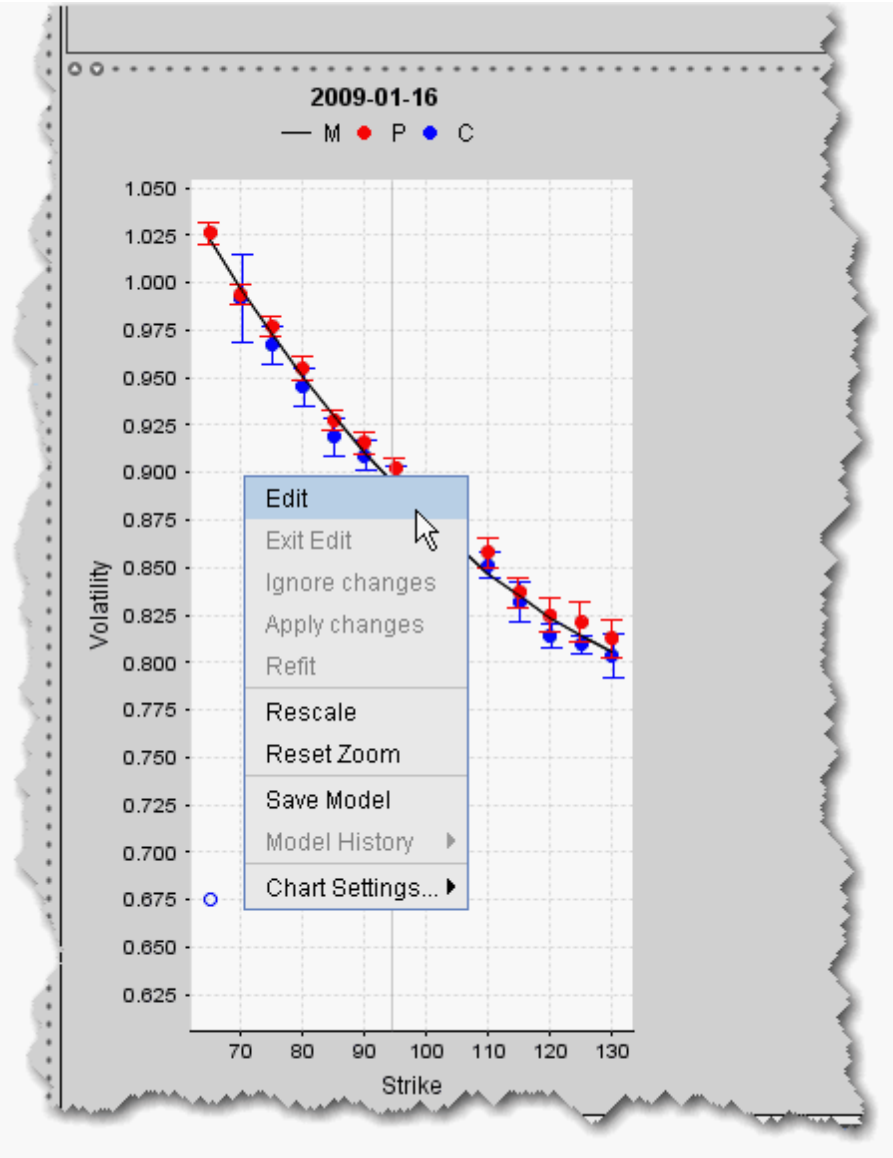
To edit the Lending Yield

1. Set the time in days when the rate will begin to decrease linearly with time.
2. Set the rate in basis points.
3. Set the time in days when the rate will decrease to zero.
4. Click Apply to incorporate the edited lending yield in the model calculation.

Edit the Volatility Profile

Edit mode allows you to create a new volatility curve plot for an expiry using a new set of volatility knots. You can use this edited plot to calculate model prices and implied volatilities in TWS, and save your model to use in comparison to Model Navigator-calculated plots.

By default, the Model Navigator's sophisticated option model calculation engine uses the values in the plot along with the calculated interest rate, dividends, underlying price and other parameters, to calculate the *Model* price. **If you prefer to calculate the model price using the pricing assumptions reflected in an edited plot, you must apply the changes to your plot and leave it in *Edit* mode.** Any expiry that has a volatility curve plot in Edit mode will use this profile in the calculation of the Model price and Implied Volatility.



To edit a volatility curve plot

1. Right-click a volatility curve plot and select *Edit*.

Edit mode displays a series of brown volatility knots along the bottom of the plot. Grab and move these knots up and down to create a volatility profile that you think more accurately represents the implied volatility data. Applied changes to the plot are reflected in the *Manual* column of the expiry's Volatility Curve table.

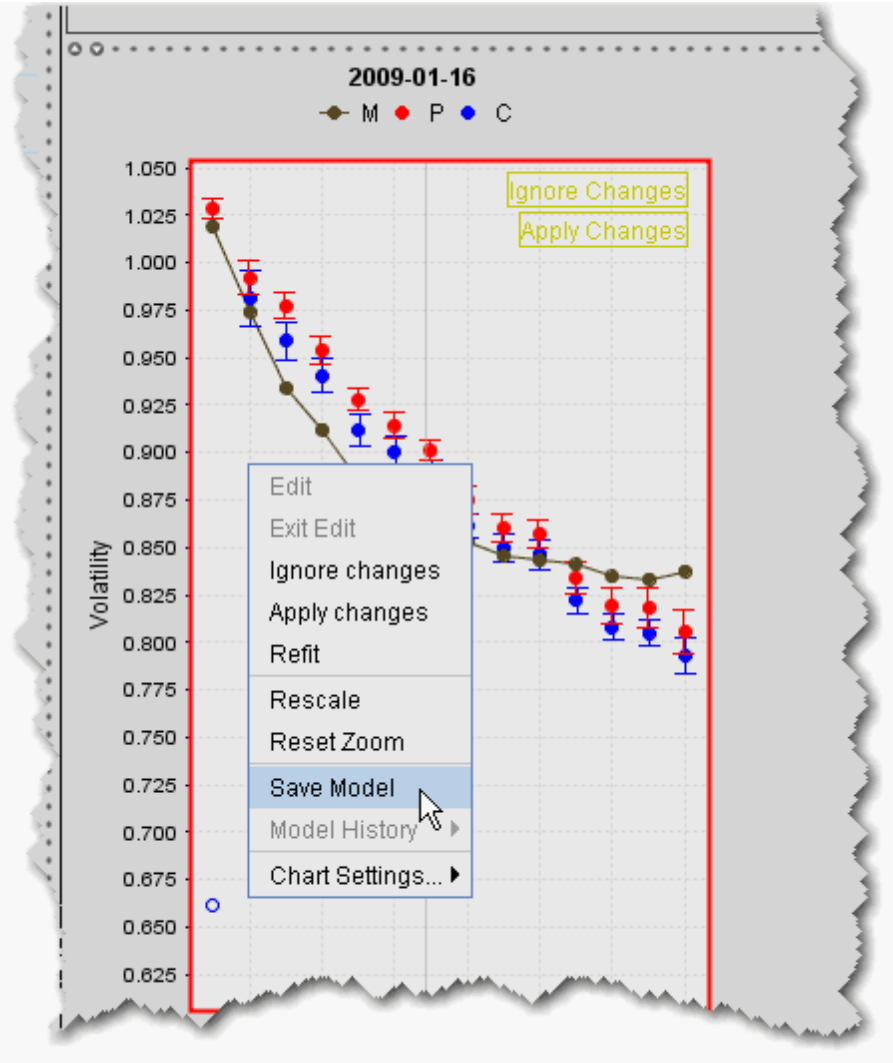
To see the values for the manual volatility curve reflected in the Volatility Curve table, be sure that you have selected the expiry whose plot you are editing from the expiry dropdown list at the top of the table.

The table and plot work in both directions. You can modify the implied volatility of a knot in the plot by changing the corresponding value in the table.

You can add and delete brown volatility knots in edit mode. To add a knot, point to where you would like to add it and double-click. To delete a knot, select it and double-click.

Click *Refit* from the right-click menu to refit the manual volatility knots to the calculated volatility curve.

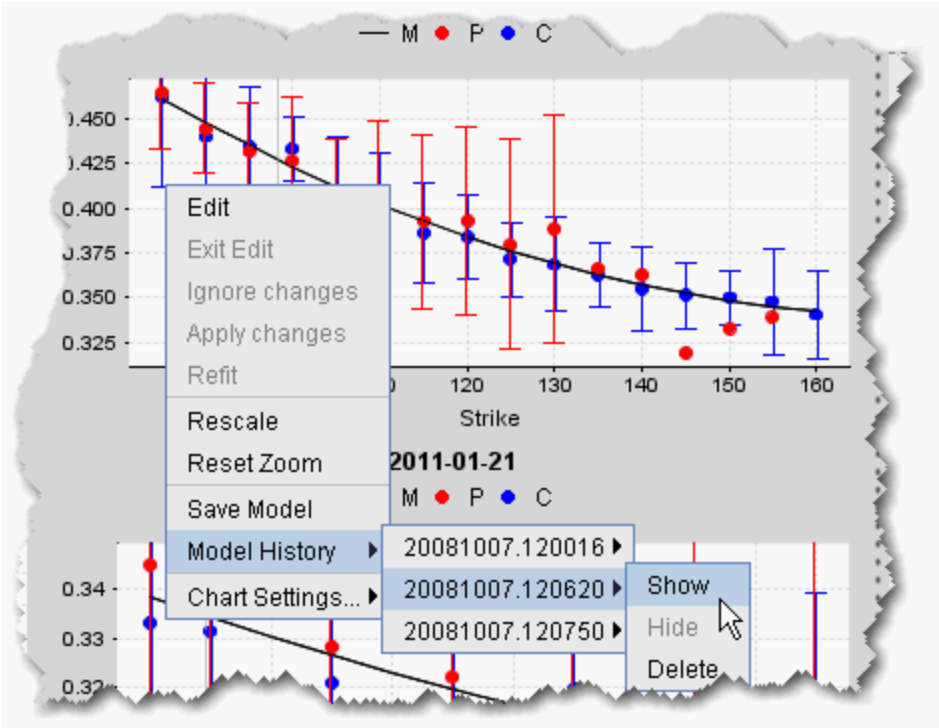
Compare volatility changes by saving and viewing historical profiles from using the Model History command.



To save a model

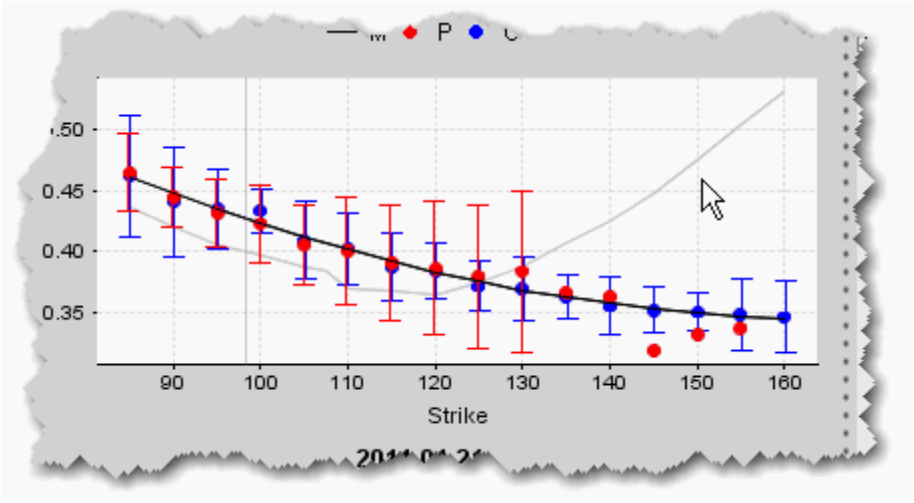
1. From the right-click menu, select *Save Model*.
2. Click *Exit Edit* to close editing mode.

The model is saved using the current date and time.



To display a model

1. From the right-click menu within a plot, select *Model History*.
2. Choose the historical model based on the date/time name.
3. Select *Show*.



The saved model displays as a grey curve inside the real-time colored plot. You can also display saved models under the Expiry in the left Contract Description pane.

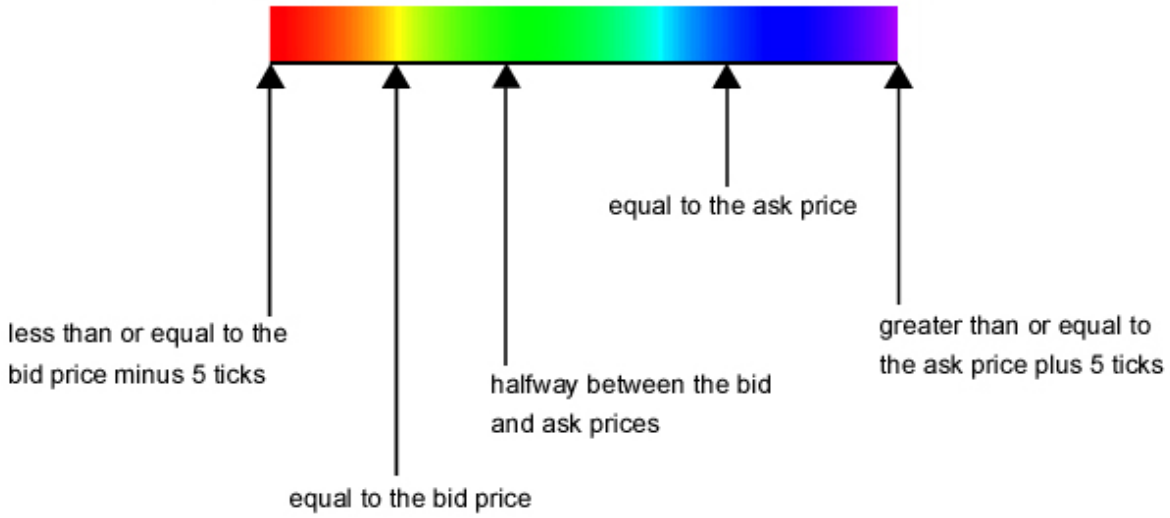
Model Price Color Key

Model prices are displayed in color on the trading screen to help you see at a glance where they fall in relation to the bid and ask prices. The color bar below shows the range within which model prices may fall. Model price colors update with the underlying last price.

You must have the Model field displayed on your trading page to see the model price.

To show a field in TWS

Hold your mouse over any field until the "+" and "x" icons appear. Click the "+ " to display the list of available fields. Note that if you hover your mouse over an order field, all available order fields are displayed. If you hover over a market data field, all available market date fields are displayed.



Note: Implied volatilities (in the **Imp. Vol** column) are always displayed in either pink or white. If either the **Model** or **Imp Vol(%)** values are displayed in white, it means the model hasn't calculated any prices or implied volatilities.

9

Fundamental Analytics

Analyst Ratings (Summary) **1005**

Ownership Tear Sheet **1007**

Short Interest Tear Sheet **1009**

Wall Street Horizon Data **1011**

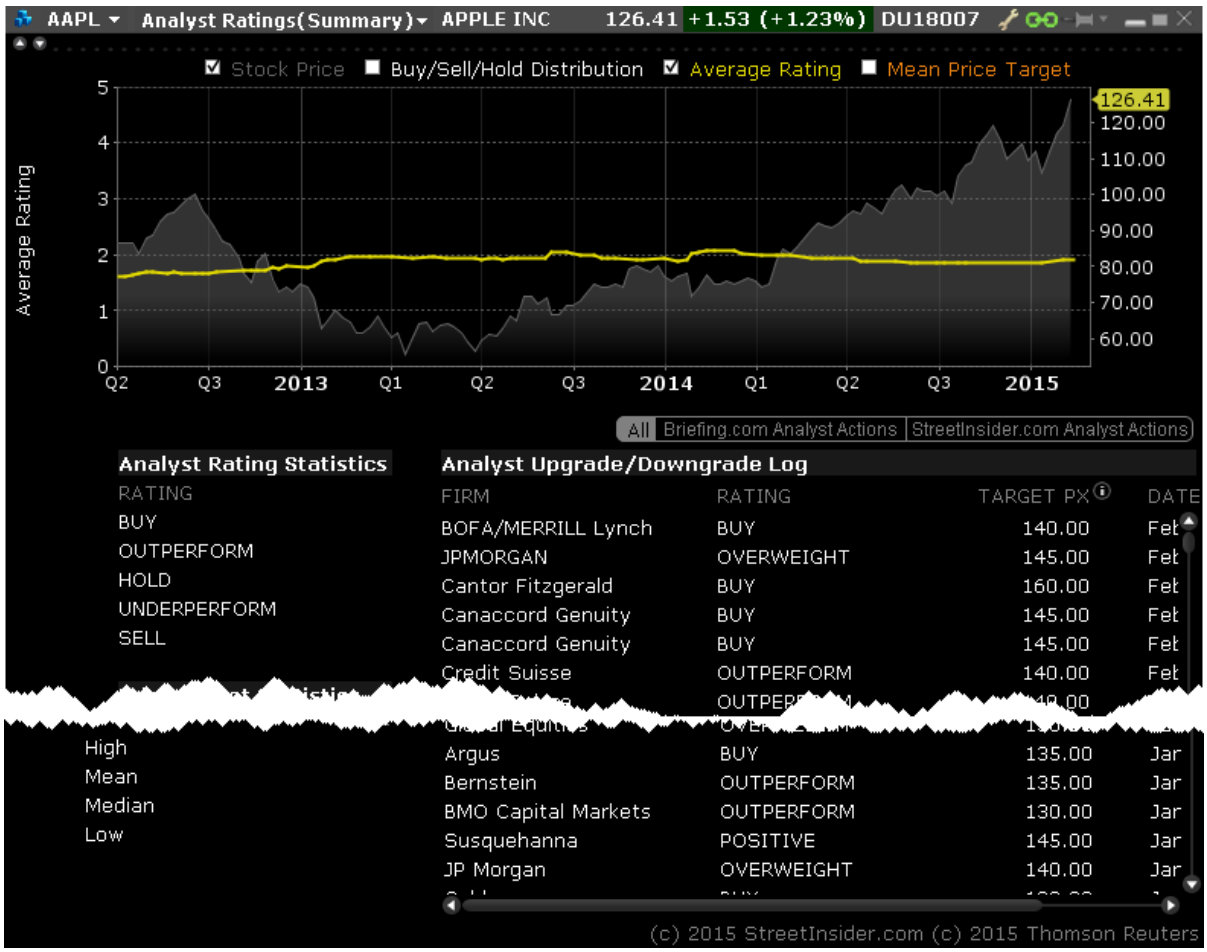
Reuters Data in Company Fundamentals **1014**

Adding Reuters Fields to the Trading Window **1015**

Analyst Ratings (Summary)

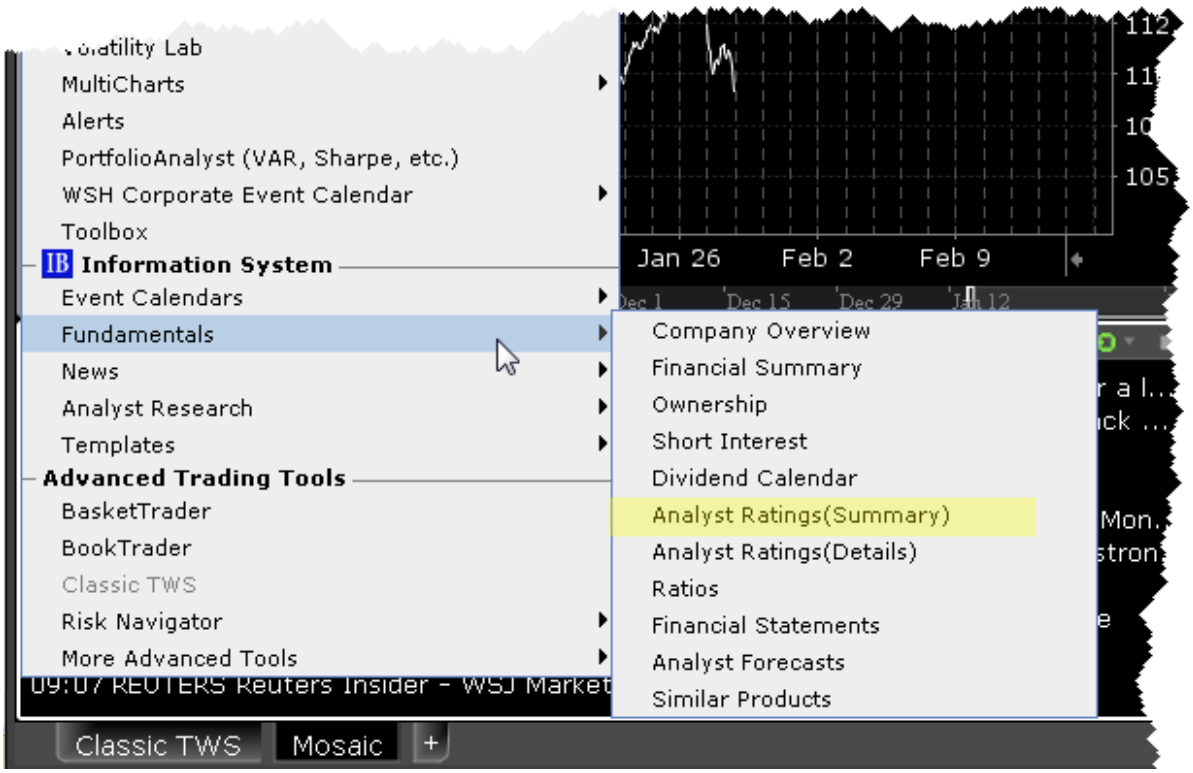
Our sell-side Analyst Rating Summary tear sheet provides summary rating and price target statistics, along with upgrade/downgrade history. It graphs mean ratings history, price target history and rating distribution over time.

Full display requires subscription to Reuters Fundamentals.



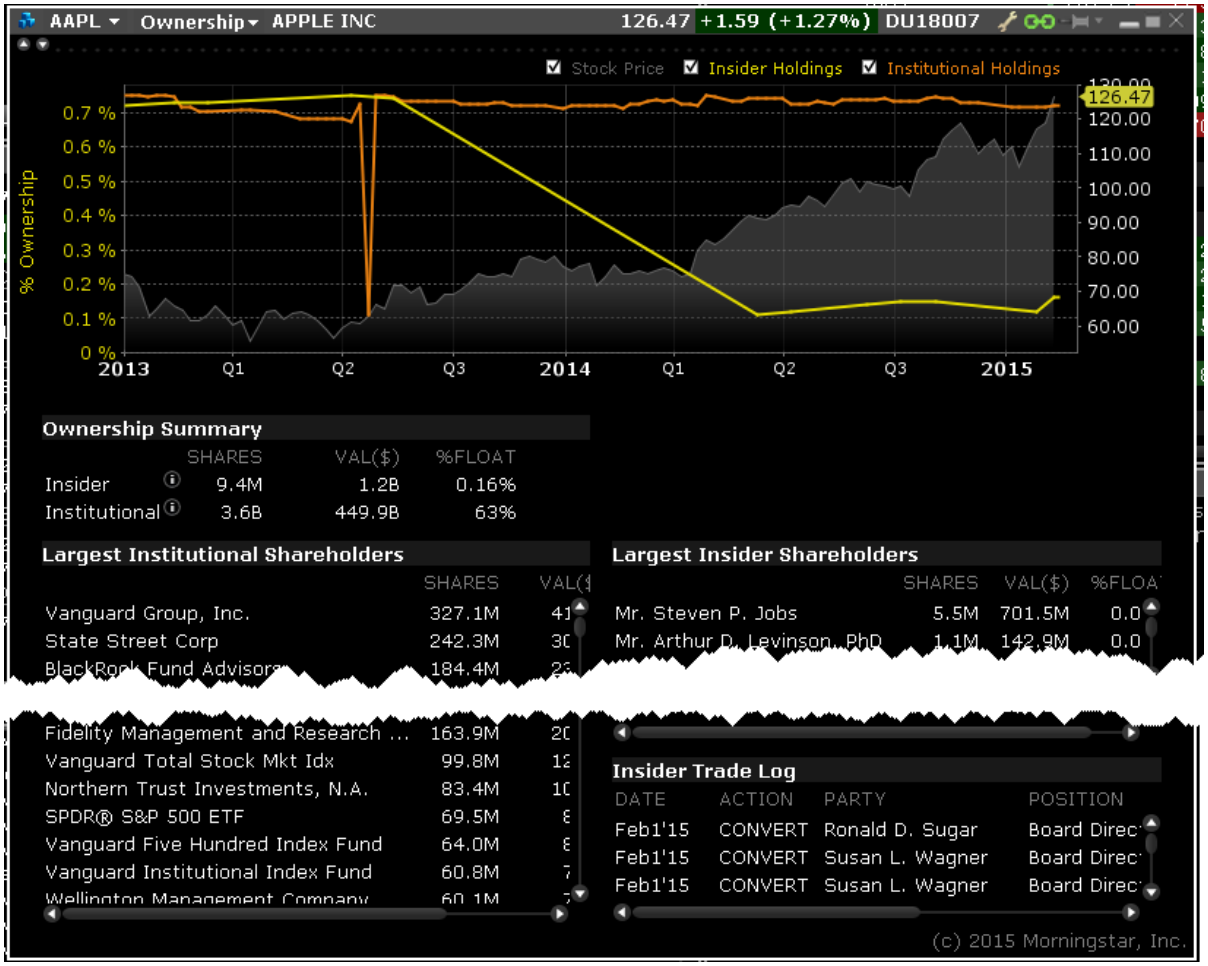
To view Analyst Ratings (Summary)

From within Mosaic, use the New Window drop down to select **Fundamentals** then *Analyst Ratings (Summary)*.



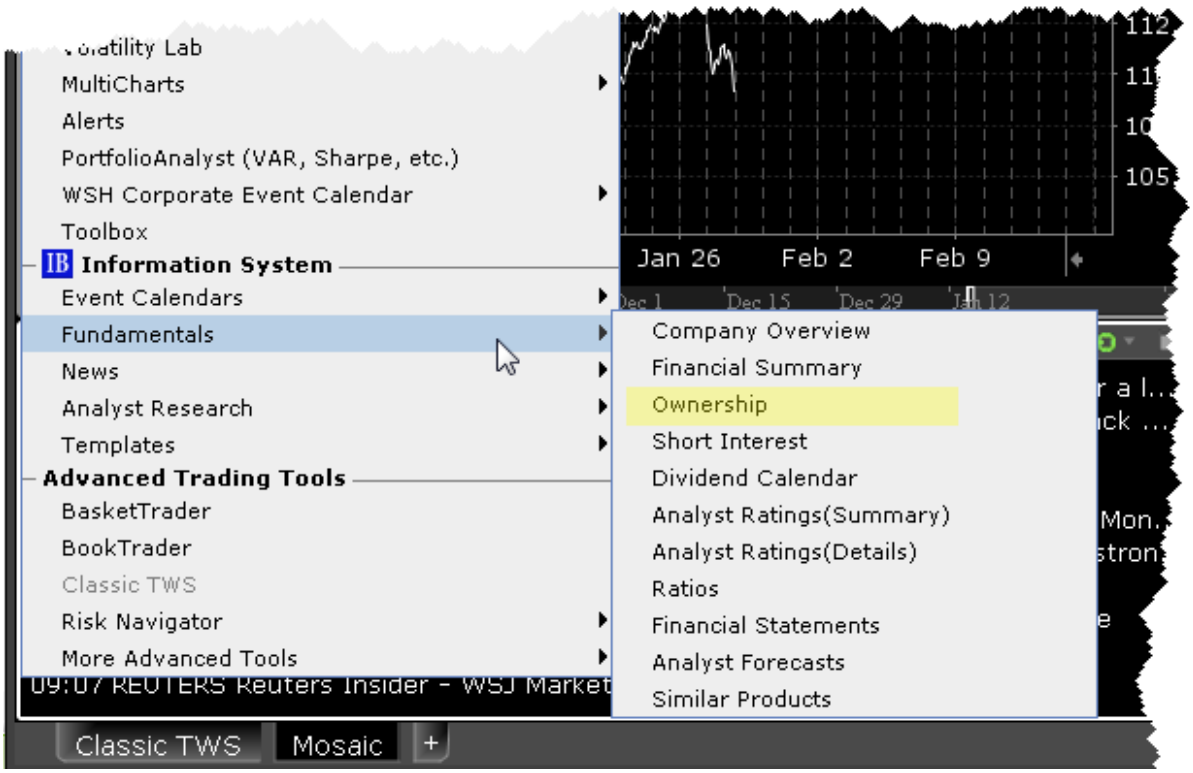
Ownership Tear Sheet

Detailed insider and institutional ownership statistics and graphs to incorporate into your investment strategies. The Insider and Institutional Ownership tear sheet provides detailed institutional and insider ownership rosters with a graph of ownership percentage over time, and an insider trade log.



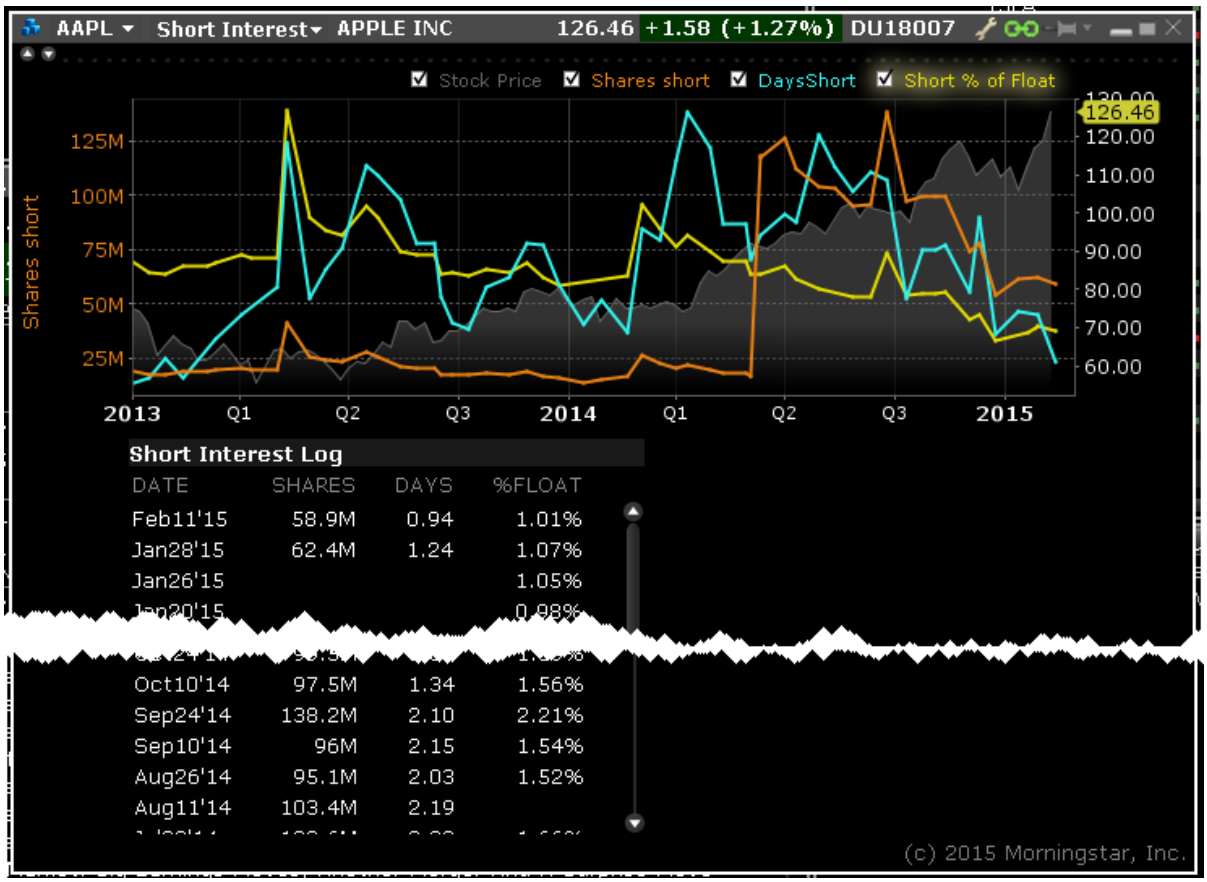
To view Ownership Tear Sheet

From within Mosaic, use the New Window drop down to select **Fundamentals** then *Ownership)*.



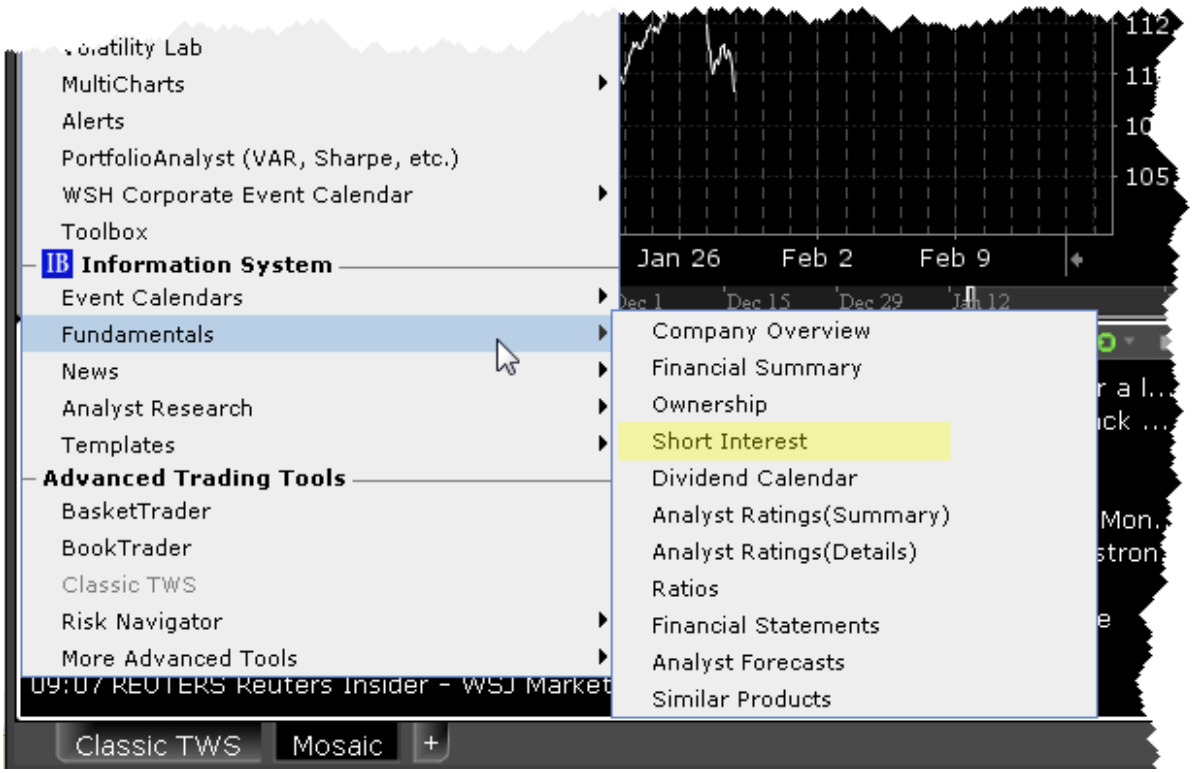
Short Interest Tear Sheet

Keep an eye on short interest profiles with the Short Interest tear sheet. The chart graphs short interest as a percent of float, days short, or shares short, while the short interest log provides exact values on a semi-weekly basis.



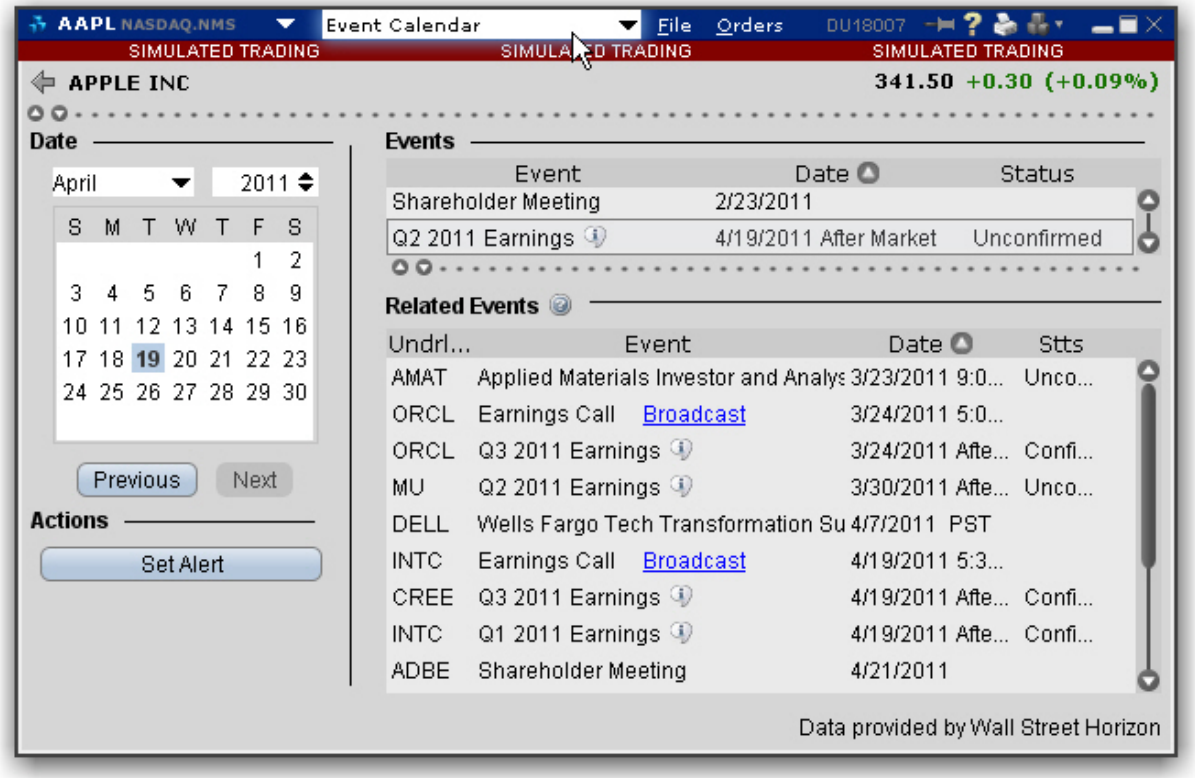
To view the Short Interest Tear Sheet

From within Mosaic, use the New Window drop down to select **Fundamentals** then *Short Interest*.



Wall Street Horizon Data

Subscribe to Wall Street Horizon to see ticker-specific events calendars and industry-related events for thousands of companies worldwide. The Events Calendars display dates for earnings announcements, shareholder meetings, investor conferences and other events, and provides links to Seeking Alpha transcripts whenever available.



To access the WSH Corporate Events Calendar

From Mosaic - From the New Window drop down select *WSH Corporate Events Calendar*.
From Classic TWS - From the **Analytical Tools** menu select *WSH Corporate Events Calendar.*Then select My Portfolio to see events for companies in your portfolio, or Selected company to see events for the company selected in the Quote Monitor. See below for detailed instructions on company-specific display.

If you don't see this command listed in the Fundamentals section of the Analytical Tools men, use the *Expand* arrow at the bottom of the list to display hidden menu items.

Select a future event in either table and click *Set Alert* to create a message or order action alert.

Click the blue hypertext to access a transcript.

You can also view the Events Calendar for one or multiple tickers.

To view Events for specific tickers

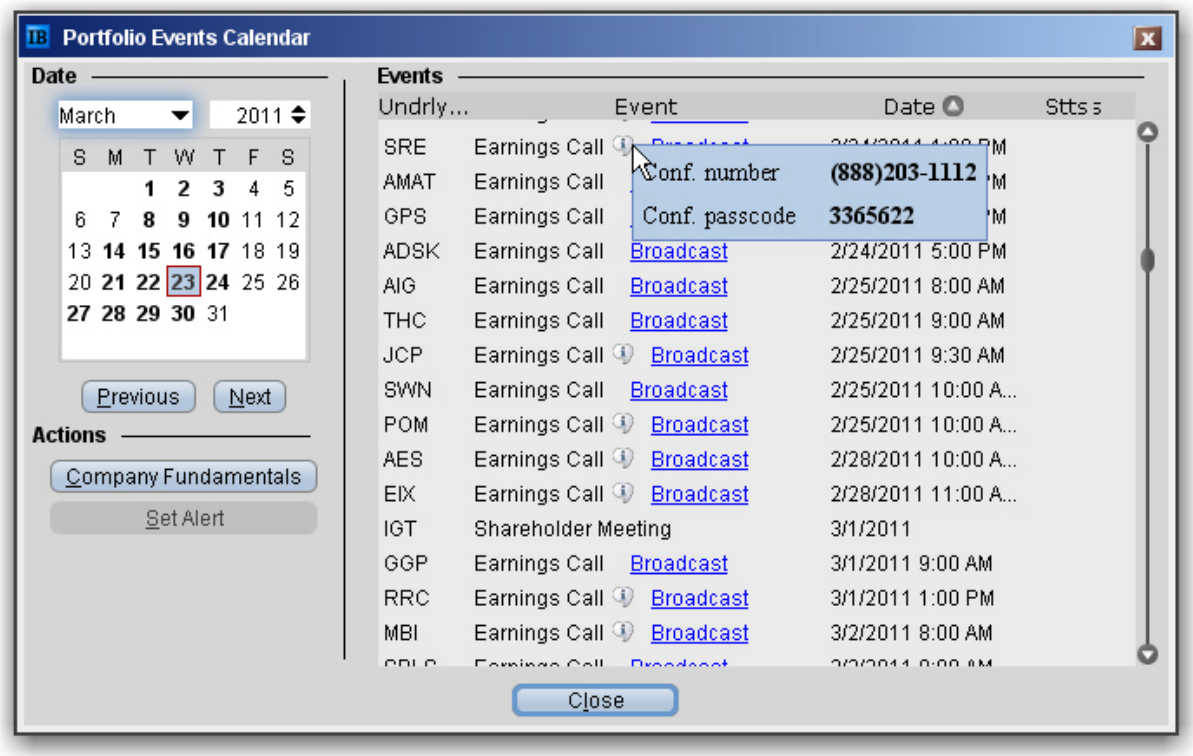
1. Start in the Classic TWS interface.
2. From a Quote Monitor, select a ticker or select multiple tickers by holding down the Ctrl key and clicking the market data lines.
3. From the WSH Corporate Events Calendar menu command choose *Selected company*.

You can also view recent events for your portfolio, which comprises all of your current positions.

To view a Portfolio Events Calendar

1. From the **Analytical Tools** menu, select *Event Calendar* and then *My Portfolio*.

   Note: If you have a large portfolio, it may take several minutes for all of the data to load. You may want to consider viewing events for a subset of tickers using the procedure above.



Recent events are listed in the Events table, sorted by date.

Click the Underlying field heading to re-sort the table by underlying. Click any other field to re-sort by that field.

Hold your mouse over the Earnings Call Information icon to see dates for upcoming Earnings calls.

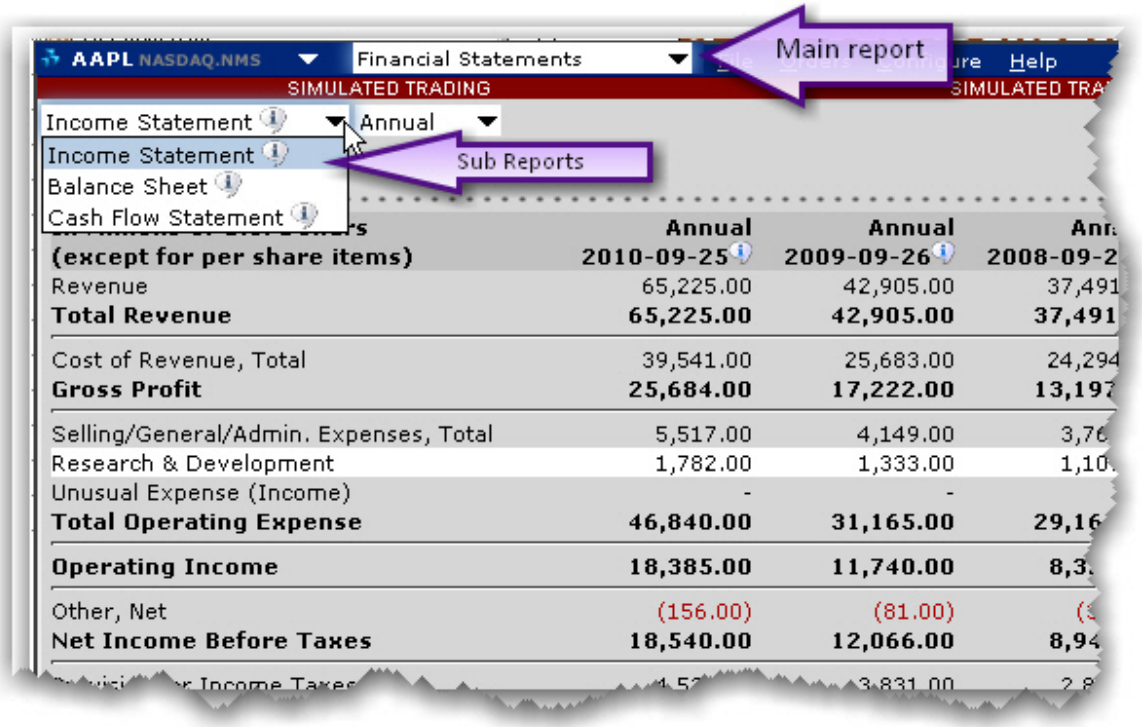
Select a line and click the *Company Fundamentals* button to open that tool for a single underlying.

Reuters Data in Company Fundamentals

Once you have subscribed to Reuters Worldwide Fundamentals via Account Management, you can view Reuters data through a set of contract-specific reports.

The Reports

Select a report title to open the report. If the report includes sub-reports, these are accessible from the pick list in the top left corner.



Adding Reuters Fields to the Trading Window

To display/remove market data columns on a page

1. Right click any column heading on a trading page, and select Customize Layout.
2. Click the Market Data Columns tab to view columns.The columns already displayed on your trading window appear in the Shown Columns list on the left side of the page. The remaining columns are grouped by category in the Available Columns list to the right.
3. Expand the Fundamentals category in the right pane and Add or Remove fields from the trading window.

Column Name	Description
Fundamentals	
Dividends (TTM)	This is the sum of the Cash Dividends per share paid to common stockholders during the last trailing twelve month period.
EPS Growth	This growth rate is the compound annual growth rate of *Earnings Per Share* over the last 5 years, excluding *Extraordinary Items* and *Discontinued Operations*. NOTE: If the value for either the most recent year or the year furthest out is zero or negative, the growth rate cannot be calculated and 'NA' (Not Available) will display.
Market Cap	The market cap value is calculated as follows: Current Price x Current Number of Shares Outstanding
P/E	This ratio is calculated by dividing the current Price by the sum of the Diluted Earnings Per Share from continuing operations BEFORE Extraordinary Items and Accounting Changes, over the last four interim periods.

Price/Book	This is the Current Price divided by the latest interim period Book Value Per Share.
Quick Ratio	Also known as the Acid Test Ratio, this value is defined as Cash plus Short Term Investments plus Accounts Receivable for the most recent interim period divided by the Total Current Liabilities for the same period. NOTE: This item is Not Available (NA) for banks, insurance companies and other companies that do not distinguish between current and long term assets and liabilities.
Return on Equity	This value is the Income Available to Common Stockholders for the trailing twelve months divided by the Average Common Equity, and is expressed as a percentage. Average Common Equity is calculated by adding the Common Equity for the 5 most recent quarters and dividing by 5.

10

Technical Analytics

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Apply a Donchian Channels Indicator 1144
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Apply an Elder-Ray Indicator 1149
Apply Envelope Indicator 1151
SMI Ergodic Oscillator 1152

Apply Exponential Moving Average Indicator 1153
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Percent B Indicator 1196
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Price Oscillator 1204
Price Volume Trend Indicator 1205
Raff Channel Indicator 1206
Apply Rate of Change Indicator 1207
Relative Momentum Index 1208
Apply a Relative Strength Indicator 1209
Relative Vigor Index 1210
Relative Volatility Index 1212
Stochastic RSI Indicator 1213
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Slow Stochastic Oscillator 1215

Standard Deviation Channel 1217
Apply a Stochastic Oscillator Indicator 1218
Swing Index 1219
Apply a Triangular Moving Average (TMA) Indicator 1220
Apply a Triple Exponential Moving Average (TEMA) Indicator 1222
TRIX Indicator 1223
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Apply a Volume * Price Momentum Oscillator (PMO) Indicator 1234
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Continuous Futures

When adding futures market data to TWS, you can now select a "continuous" futures contract, which is a series of monthly/quarterly contracts spliced together.

Using a continuous futures contract means that you will no longer have to roll or re-enter expired contracts. Additionally, it allows you to chart the future across multiple expiries, and apply moving averages and other technical studies that aren't relevant with the limited life of a single monthly or quarterly contract.

Find out about...

Adding a continuous futures contract

Charting continuous futures

Generating normalized historical data series for Continuous Futures

To enter a continuous futures contract using Mosaic Watchlist

Click in an empty row and enter the underlying symbol.

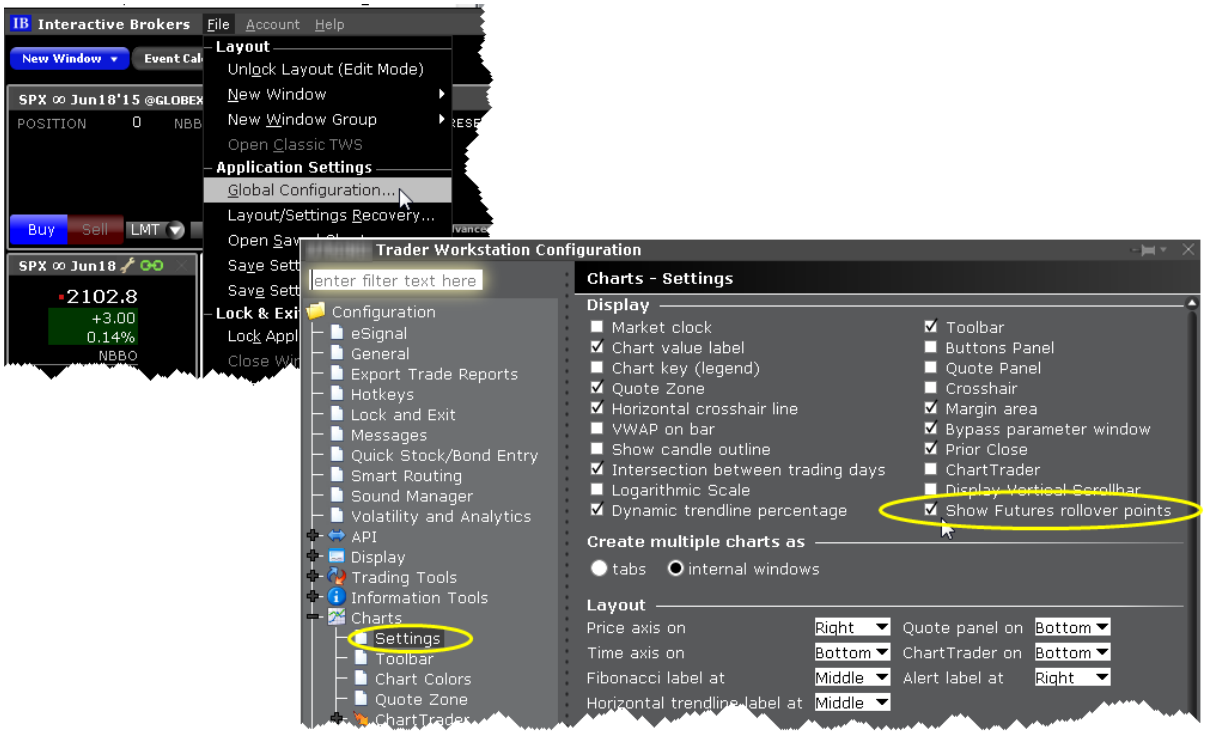
Hit enter, and select the futures contract from the list.

From the selector, choose the contract with the infinity sign (∞)which denotes a continuous futures contract.

The market data line for the future will also show the infinity sign.

To see the Ratio Adjustment (RA) Points on a chart

Open the Charts>Settings page in Global Configuration and enable *Show futures rollover points*.



Note that these continuous contracts are for market data only; orders on futures are not updated. If you select a non-continuous contract, the Automatic Futures Rollover feature (if enabled) will notify you that the contract is expiring.

To generate normalized historical data series for Continuous Futures

A "continuous futures" contract represents a sequence of successively expiring lead futures contracts along with an associated interval during which each future is the lead. This allows us to construct a normalized historical data series for the contract. For example, we can construct a continuous futures contract for CL@NYMEX using the following contracts:

CL MAY'15

CL APR'15 20150317

CL MAR'15 20150217

CL FEB'15 20150115

CL JAN'15 20141216

CL DEC'14 20141117

CL NOV'14 20141016

CL OCT'14 20140917

CL SEP'14 20140817

CL AUG'14 20140717

CL JUL'14 20140617

CL JUN'14 20140515

CL MAY'14 20140417

The above list of sequential contracts shows the lead end dates when the particular contract stops being the lead contract and the next one takes over.

To generate a normalized historical data series for the above sequence, call CL MAY'15 as Contract A and CL APR'15 as Contract B. Then follow the steps below:

Take the closing price of Contract B and Contract A on 20150317.

Calculate the ratio of closingPrice(Contract A)/closingPrice(Contract B).

Multiply all Contract B data for 20150317 and all prior dates by this ratio. This results in the adjusted time series of Contract B having the SAME closing price on 20150317 as Contract A.

Repeat for prior months.

Mutual Fund/ETF Replicator

The Mutual Fund/ETF Replicator finds a single or compound ETF whose performance parallels that of a user-specified Mutual Fund or ETF, but whose fees are generally lower. Once you enter the contract or symbol and the investment amount, the replicator scans the market and returns the top single and compound ETFs in the recommended quantity (based on the investment amount) whose performance most closely follows that of your submitted asset. The Performance Analysis and Return Comparison panels display performance correlation characteristics including the correlation, tracking error and a comparison of management fees.

Use the Mutual Fund/ETF Replicator

Open the Mutual Fund/ETF Replicator.

From Mosaic - From the New Window drop down select *Mutual Fund/ETF Replicator*.

From Classic TWS - From the Analytical Tools menu select *Mutual Fund/ETF Replicator*.

Enter the fund or ETF symbol, or click Browse Mutual Funds to search by fund family.

Modify the investment amount, if desired.

View comparison between returned ETF(s) and the original entered contract.

This comparison is intended for information purposes only, and does not constitute a recommendation or solicitation to buy or sell securities. There is no guarantee that any correlation displayed within this tool will continue into the future, or that the displayed ETFs will have a similar investment return into the future as the entered fund or ETF. Customers are solely responsible for their own trading decisions.

Time and Sales Data

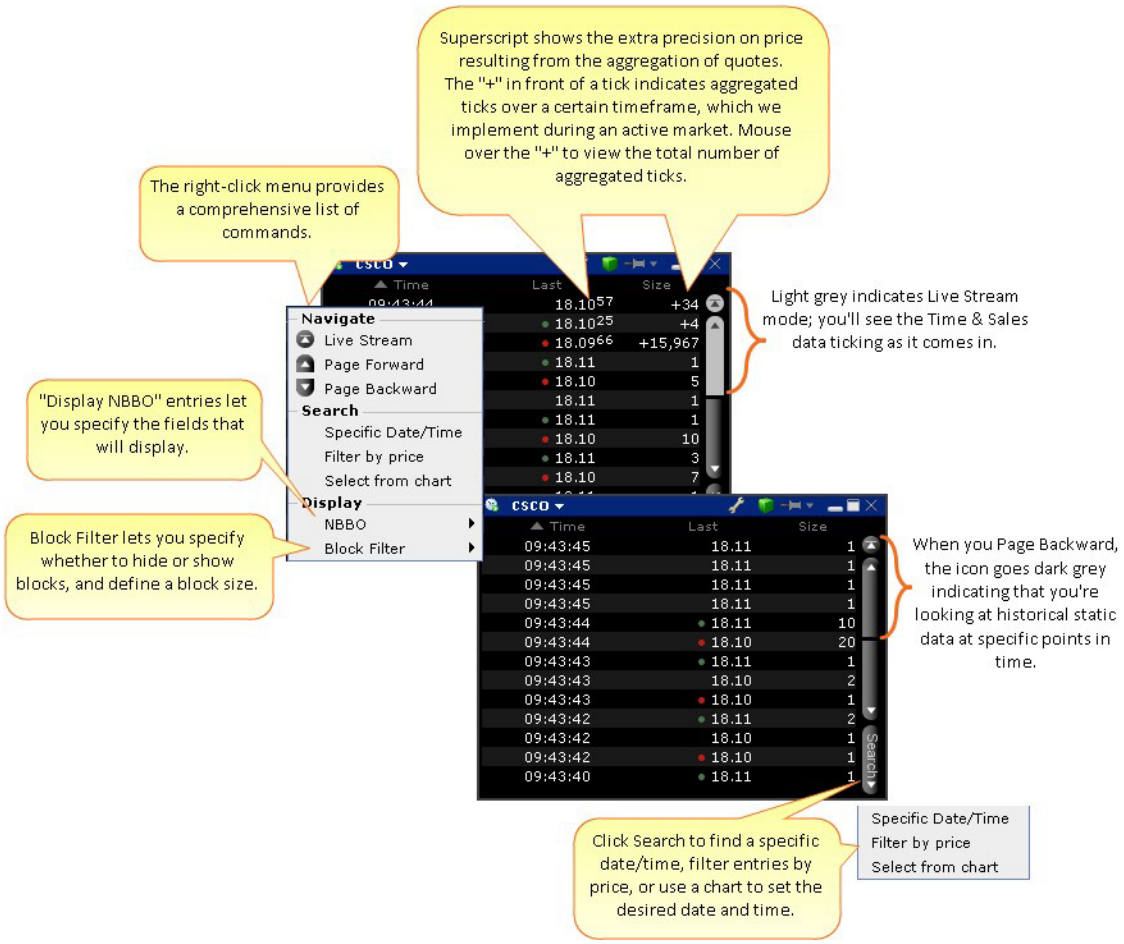
You can elect to view the Time & Sales for any underlying.

To use Time & Sales

1. Open the Time & Sales window.

   From Mosaic - From the New Window drop down select *Time & Sales*.
   From Classic TWS - From the Analytical Tools menu select *Time & Sales*.

2. To change the underlying, select a new ticker in a grouped window, or enter the ticker symbol in the entry field.



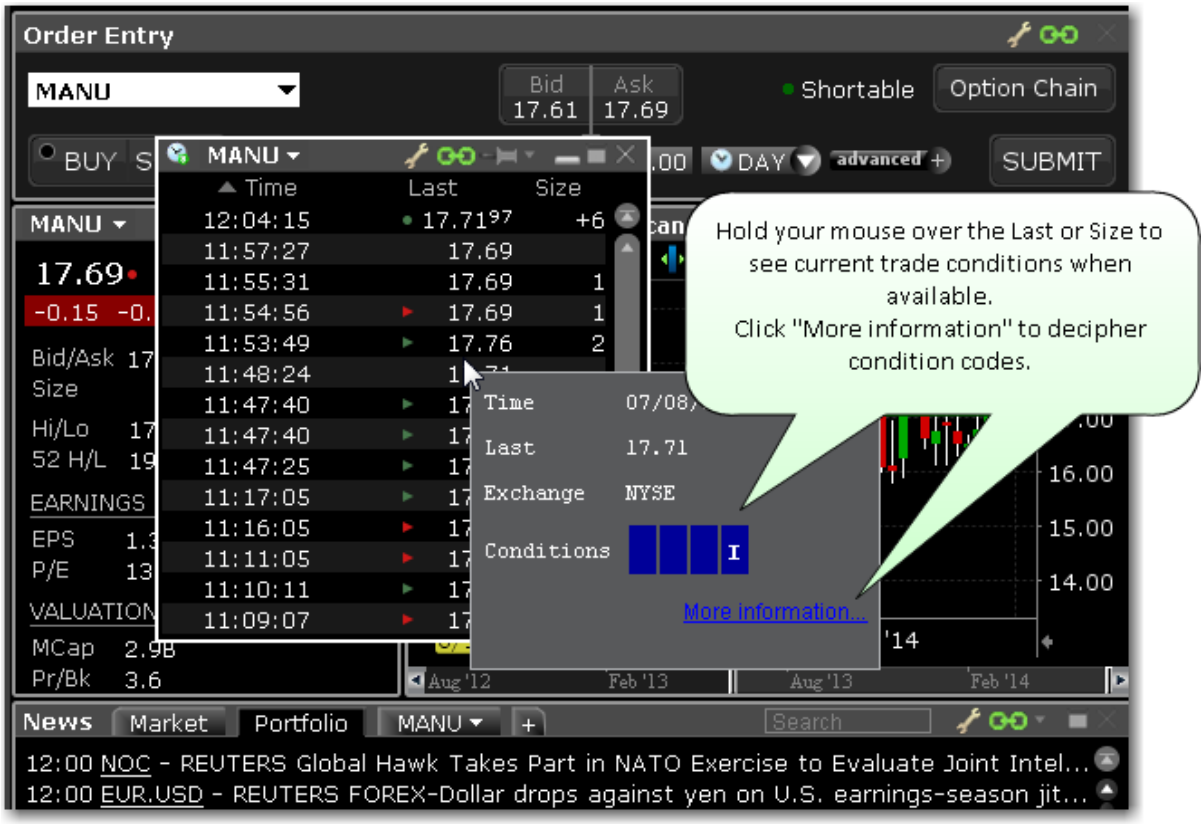
Select from chart

From the Time & Sales **Search** menu, choose *Select from chart*. The chart for the active underlying opens with the cursor in "Time and Sales" mode.

Click on the time/date you want reflected in the Time & Sales window.

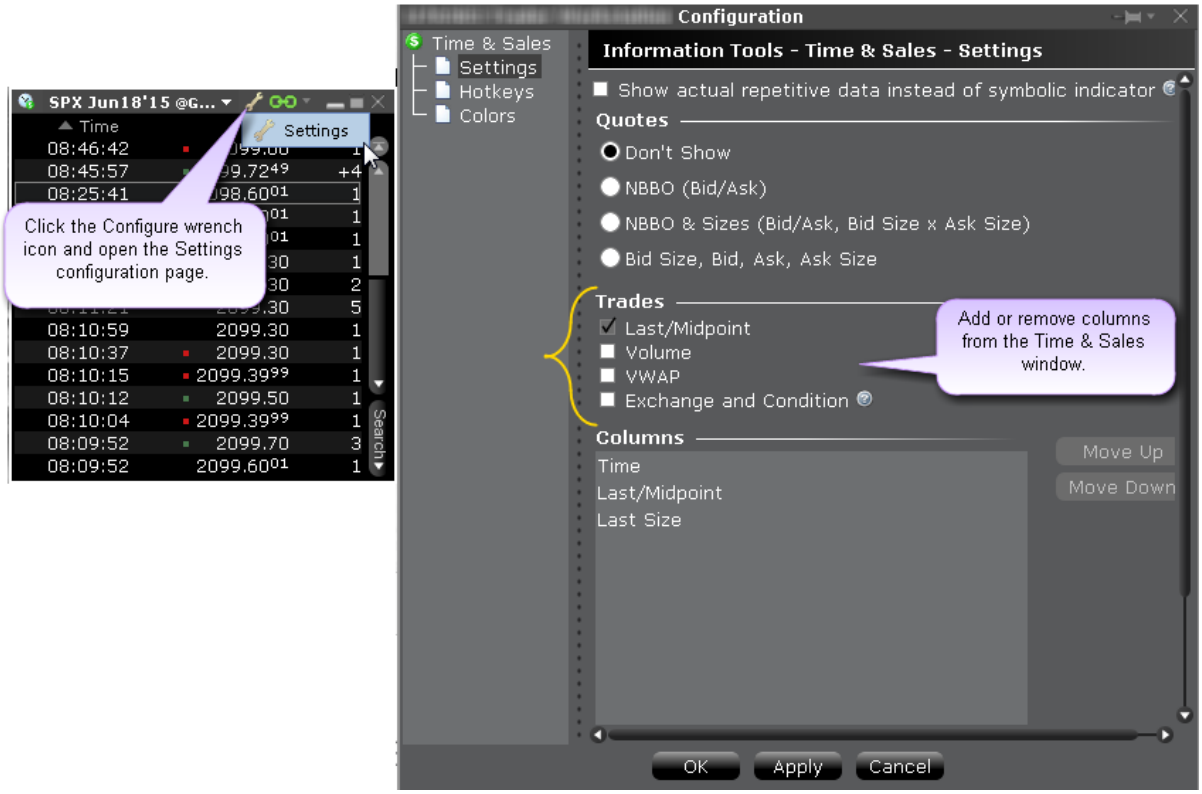
To search for a date and time from a chart, use the "Select from chart" from the Search button.

See Trade Conditions



In addition to using the mouse over feature, you can elect to add the **Exchange and Conditions** field to the Time & Sales window to show trade conditions when available.

To configure the Time & Sales window or add/remove fields, access the Settings configuration page by clicking the wrench icon.



Performance Profile

The Performance Profile helps demonstrate the key performance characteristics of an option or complex option strategy.

It comprises:

An enhanced Quote Details window that show the Return/Risk Profit Probability and the potential Max Return and Max Loss;

A Performance Graph that shows the P&L (or any of the Greeks) as a function of the underlying price;

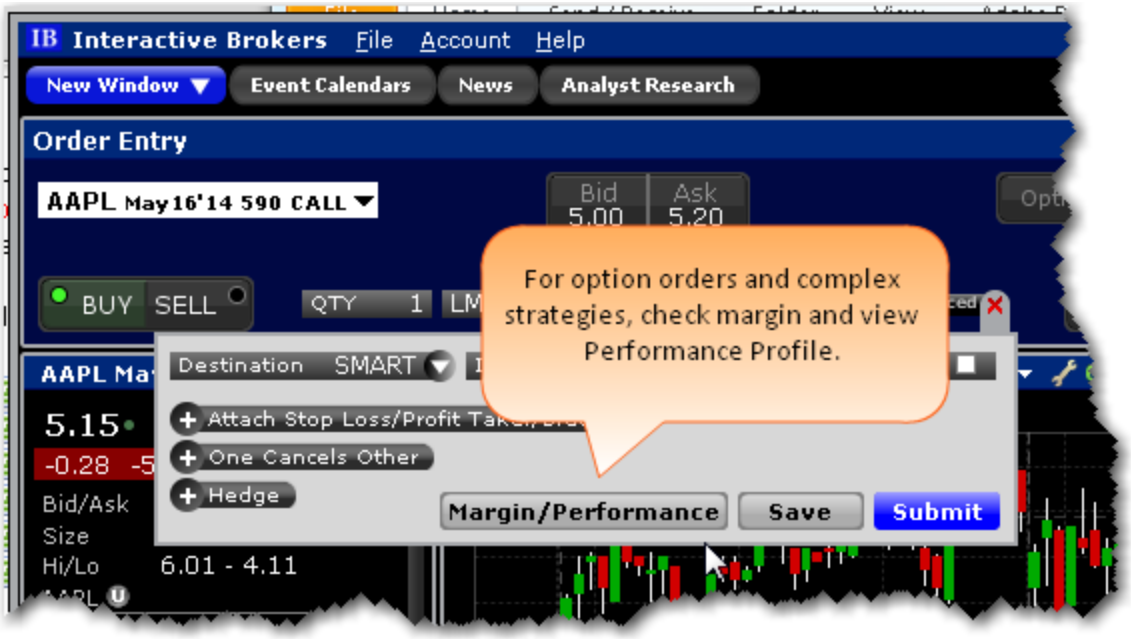
The Scenarios window, which displays the effects of a change in underlying price on the P&L, the Greeks, and the volatility of a position.

To open the Performance Profile

You can open the option **Performance Profile** tool several ways:

From within the Order Entry panel or any trading tool, click the **Advanced** icon and then select *Performance/Margin.*

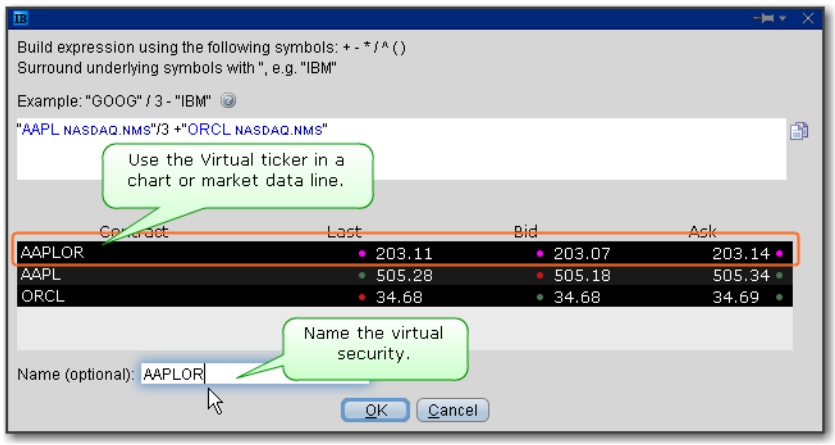
From an order line in Classic TWS, use the right-click menu and select *Check Margin/Performance Profile.*



Understanding Performance Probability

Virtual Securities

The Virtual Security feature provides the ability to view current pricing and chart historical pricing for a synthetic security that you create by entering one or multiple underlyings in an equation using our flexible Virtual Security Equation Builder. Once you have defined a Virtual Security and designated a ticker symbol for it, it can be used throughout TWS in the quote and analytical tools. It cannot be used in any of the trading tools.



To create a virtual security

In the Quote Monitor, right-click in a blank line select *Virtual Security*.

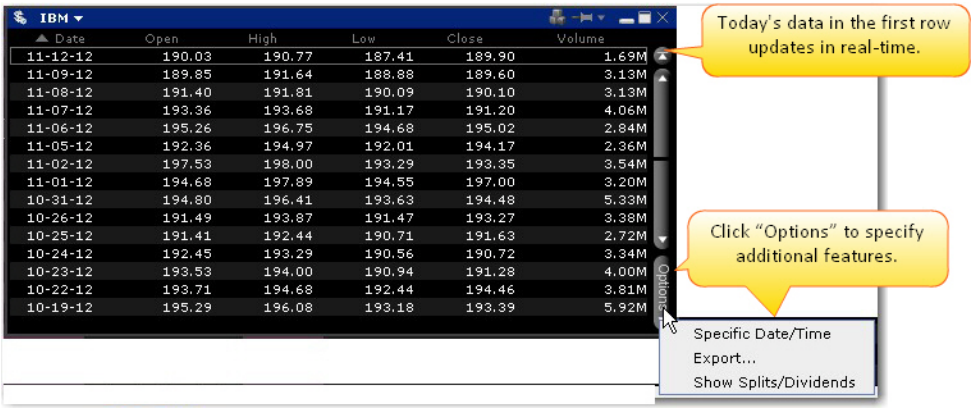
Using the equation builder, define the custom security. Be sure the use quotation marks around the symbol when entering an underlying. *See example.*

Enter a name for the virtual security and click OK.

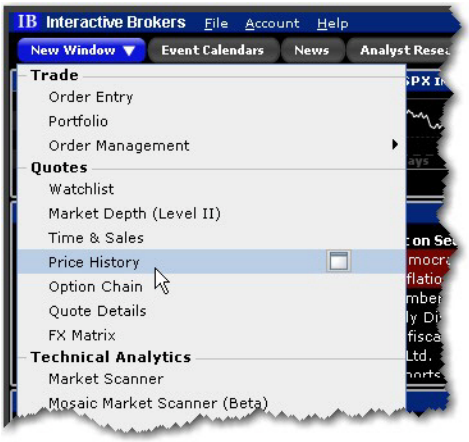
The security is listed as a new contract in the Quote Monitor and displays the Last, Bid and Ask prices. You can view the calculated market data and chart historical pricing for the synthetic ticker, but you can't use it in any of the trading tools.

Price History

The Price History shows the Open, High, Low, Close and Volume by date, with the first line ticking real-time market data and corresponding to today's date.



Use the scroll bars on the right side to scroll up and down by date, and use the "Options" button at the bottom of the scroll bar to go to a specific date/time, export the current table to Excel, and show splits/dividends by opening the *Adjustments* field.



To open the Price History window

From the New Window dropdown (or from the Mosaic Toolbox) click *Price History*.

If you open the Price History from the Mosaic Toolbox, the window will open linked to the same windows group as the toolbox, and populated with that group's current underlying.

Market Scanners

Advanced Market Scanner **1036**

Market Scanner Types **1038**

US Corporate and Municipal Bond Scanners **1046**

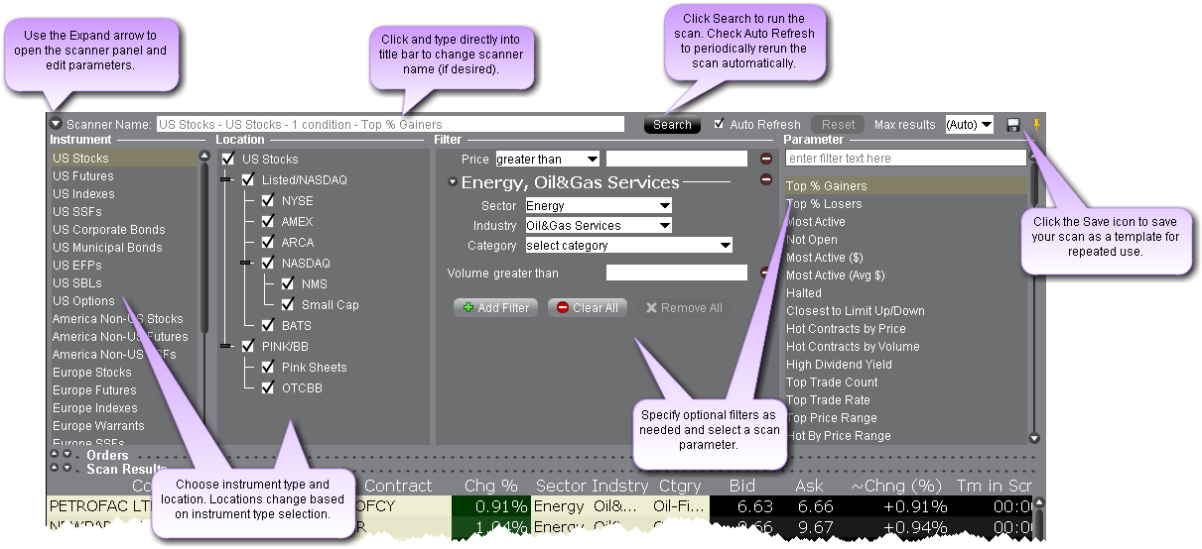
Non-Subscribed Scanner Locations **1051**

After Hours Scanner Snapshot **1052**

TICK & TRIN Market Indicators **1053**

Advanced Market Scanner

The Advanced Market Scanners quickly scan of relevant markets and return the top contracts based on the instrument, parameter and filtering criteria you define. In addition, you can transmit orders directly from a scanner, and save a scan as a template for later use.



To create an Advanced Market Scanner

From Mosaic - From the New Window drop down select *Advanced Market Scanner*.

From Classic TWS - From the Analytical Tools menu select *Advanced Market Scanner*. Use the icons to the far right of the command to open the scanner as a new window (recommended) or as a new tab.

Define Scan Criteria

1. Select an instrument type from the **Instrument** list. Note that the scan title changes with each selection to reflect the criterion you select.
2. Instruments are defined by region. “Global” scanners can scan an instrument across global markets.
3. Choose the location/exchange whose data will be included in the market scan. The valid locations change in response to the instrument you selected in Step 1.
4. Use the **Filter** fields to narrow the contracts that will be returned in your query by characteristic. For example, you may only want to see the Top% US Stock Gainers within a certain P/E range, or with a capitalization above 2,000,000.
5. Choose a Scanner parameter, such as *Top% Gainers*, *Hot Contracts by Price* or *Top Option Implied Volatility* in the **Parameter** field.
6. Click *Search* to return the top contracts that meet your search criteria. Data is updated every 60 seconds.

Most scans return the top 50 contracts by default. You can specify the maximum number of returns using the Max results field.

To save a scanner template

1. After you have defined the scan criteria, click the "Save" disk icon to the right of the **Max Results** field.
2. Select *Save Template*.
3. Enter a descriptive file name and click *Save*.

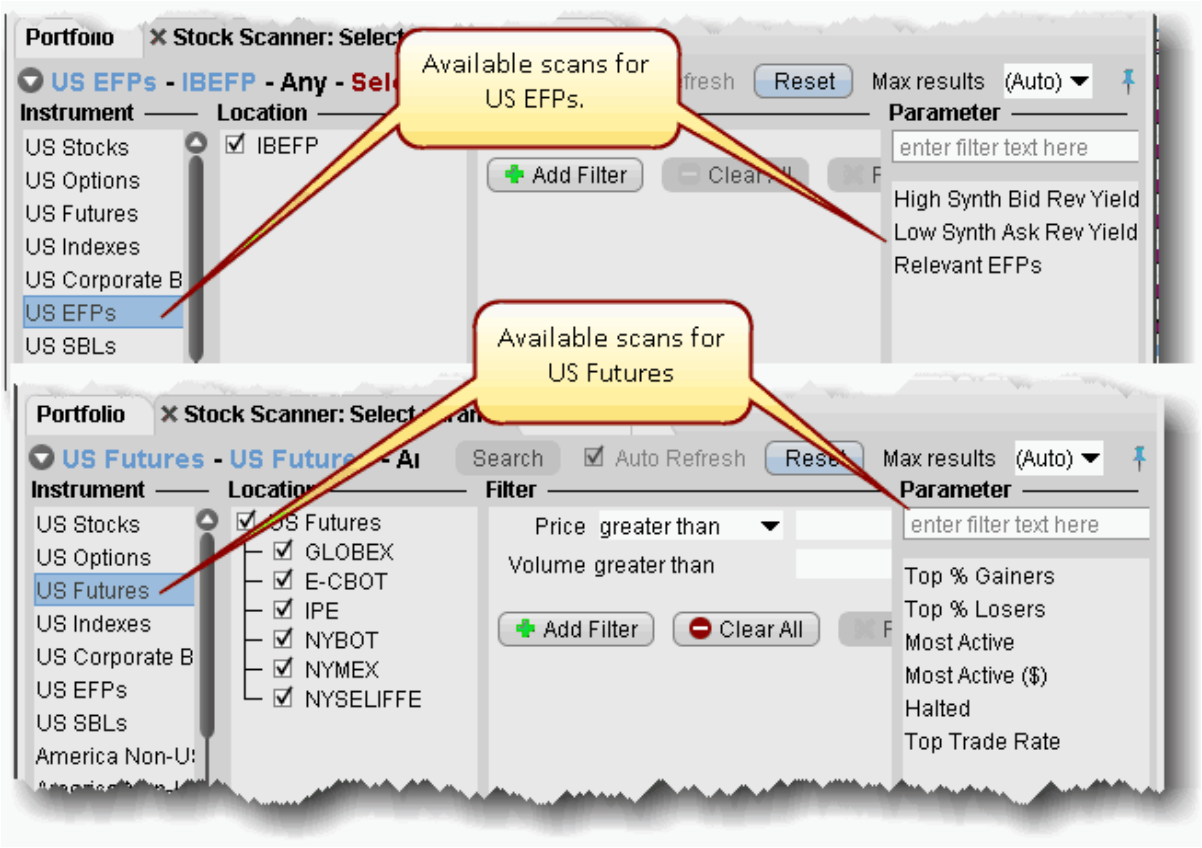
To use a saved scanner template

1. From within a Market Scanner page, click the "Save" disk icon to the right of the **Max Results** field.

2. Select *Load Template*.
3. Select the scanner file you want to use and click *Open*.

Market Scanner Types

Available market scans change based on the Instrument/Location criteria you select.



Market Scanner Parameters	
Parameter	**Description**
Top% Gainers	Contracts whose last trade price shows the highest percent increase from the previous night's closing price.
Top% Losers	Contracts whose last trade price shows the lowest percent increase from the previous night's closing price.

Most Active	Contracts with the highest trading volume today, in terms of shares.
Not Open	Contracts that have not traded today.
Most Active($)	Contracts with the highest trading volume in terms of dollar amount.
Most Active (Avg$)	Contracts with the highest average trading volume in terms of dollar amount. The volume is averaged over the past 90 days.
Halted	Contracts for which trading has been halted.
Hot Contracts by Price	Contracts where: (lastTradePrice-prevClose)/avgDailyChange is highest in absolute value (positive or negative). The avgDailyChange is defined as an exponential moving average of the contract's (dailyClose-dailyOpen) Exponential Moving Average calculation is: (price - close) / close / historicalVolatility30
Hot Contracts by Volume	Contracts where: today'sVolume/avgDailyVolume is highest. avgDailyVolume is a 30-day exponential moving average of the contract's daily volume.
Top Trade Count	The top trade count during the day.
High Dividend Yield	Returns the top 750 US stocks with the *highest* dividend per share yield.

Top Trade Rate	Contracts with the highest number of trades in the past 60 seconds (regardless of the sizes of those trades). Displays the trades/minute field.
Top Price Range	The largest difference between today's high and low, or yesterday's close if outside of today's range.
Hot by Price Range	The largest price range (from Top Price Range calculation) over the volatility.
Top Volume Rate	The top volume rate per minute.
Top % Gainers Since Open	Shows contracts with the highest percent price INCREASE between the last trade and opening prices.
Top % Losers Since Open	Shows contracts with the highest percent price DECREASE between the last trade and opening prices.
Top Close-to-Open % Gainers	Shows contracts with the highest percent price INCREASE between the previous close and today's opening prices.
Top Close-to-Open % Losers	Shows contracts with the highest percent price DECREASE between the previous close and today's opening prices.

Highest Option Imp Vol*	Shows the top underlying contracts (stocks or indices) with the highest vega-weighted implied volatility of near-the-money options with an expiration date in the next two months.
Lowest Option Imp Vol*	Shows the top underlying contracts (stocks or indices) with the lowest vega-weighted implied volatility of near-the-money options with an expiration date in the next two months.
Top Option Imp Vol % Gainers*	Shows the top underlying contracts (stocks or indices) with the largest percent gain between current implied volatility and yesterday's closing value of the 15 minute average of implied volatility.
Top Option Imp Vol % Losers*	Shows the top underlying contracts (stocks or indices) with the largest percent loss between current implied volatility and yesterday's closing value of the 15 minute average of implied volatility.
High Option Imp Vol Over Historical*	Shows the top underlying contracts (stocks or indices) with the largest divergence between implied and historical volatilities.
Low Option Imp Vol Over Historical*	Shows the top underlying contracts (stocks or indices) with the smallest divergence between implied and historical volatilities.
Most Active by Opt Volume	Displays the most active contracts sorted descending by options volume.
Most	Returns the top 50 underlying contracts with the (highest number of

Active by Opt Open Interest	outstanding call contracts) + (highest number of outstanding put contracts)
High Opt Volume P/C Ratio	Put option volumes are divided by call option volumes and the top underlying symbols with the highest ratios are displayed.
Low Opt Volume P/C Ratio	Put option volumes are divided by call option volumes and the top underlying symbols with the lowest ratios are displayed.
High Option Open Interest P/C Ratio	Returns the top 50 contracts with the **highest** put/call ratio of outstanding option contracts.
Low Option Open Interest P/C Ratio	Returns the top 50 contracts with the **lowest** put/call ratio of outstanding option contracts.
Hot by Option Volume	Shows the top underlying contracts for highest options volume over a 10-day average.
13-Week High	The highest price for the past 13 weeks.
13-Week Low	The lowest price for the past 13 weeks.
26-Week	The highest price for the past 26 weeks.

High	
26-Week Low	The lowest price for the past 26 weeks.
52-Week High	The highest price for the past 52 weeks.
52-Week Low	The lowest price for the past 52 weeks.
High Growth Rate (Reuters)	Returns the top 50 contracts with the *highest* Earnings Per Share growth rate. Note that a new field, **Growth Rate**, is inserted after the Description field to display the EPS per contract.
Low Growth Rate (Reuters)	Returns the top 50 contracts with the *lowest* Earnings Per Share growth rate. Note that a new field, **Growth Rate**, is inserted after the Description field to display the EPS per contract.
High P/E Ratio (Reuters)	Returns the top 50 contracts with the *highest* Price to Earnings ratio. Note that a new field, **P/E Ratio**, is inserted after the Description field to display the P/E ratio per contract.
Low P/E Ratio (Reuters)	Returns the top 50 contracts with the *lowest* Price to Earnings ratio. Note that a new field, **P/E Ratio**, is inserted after the Description field to display the P/E ratio per contract.
High Quick Ratio	Returns the top 50 contracts with the *highest* "Quick" ratio. Note that a new field, **Quick Ratio**, is inserted after the Description field to display the Quick Ratio per contract.

(Reuters)	
Low Quick Ratio (Reuters)	Returns the top 50 contracts with the *lowest* "Quick" ratio. Note that a new field, **Quick Ratio**, is inserted after the Description field to display the Quick Ratio per contract.
High Dividend Yield (Reuters)	Returns the top 50 contracts with the *highest* dividend per share yield. Note that a new field, **Div Per Share**, is inserted after the Description field to display the per share dividend yield per contract.
Low Dividend Yield (Reuters)	Returns the top 50 contracts with the *lowest* dividend per share yield. Note that a new field, **Div Per Share**, is inserted after the Description field to display the per share dividend yield per contract.
High Return on Equity (Reuters)	Returns the top 50 contracts with the *highest* return on equity. Note that a new field, **Return on Equity**, is inserted after the Description field to display the return on equity per contract.
Low Return on Equity (Reuters)	Returns the top 50 contracts with the *lowest* return on equity. Note that a new field, **Return on Equity**, is inserted after the Description field to display the return on equity per contract.

High Price/Book Ratio (Reuters)	Returns the top 50 contracts with the *highest* price to book value per share ratio. Note that a new field, **Price/Book Ratio**, is inserted after the Description field to display the return on equity per contract.
Low Price/Book Ratio (Reuters)	Returns the top 50 contracts with the *lowest* price to book value per share ratio. Note that a new field, **Price/Book Ratio**, is inserted after the Description field to display the return on equity per contract.
Market Statistics	Let's you see exchange-specific statistics for: • Advancing, declining and unchanged issues • Up, down, unchanged and total volumes • TRIN and TICK indicators To use, select *Market Statistics* from the **Instruments** list, then select an exchange from the **Location** dropdown.
High Synth Bid Rev Yield	Highlights the highest synthetic EFP interest rates available. These rates are computed by taking the price differential between the SSF and the underlying stock and netting dividends to calculate an annualized synthetic implied interest rate over the period of the SSF. The High rates may present an investment opportunity.
Low Synth Bid Rev Yield	Highlights the lowest synthetic EFP interest rates available. These rates are computed by taking the price differential between the SSF and the underlying stock and netting dividends to calculate an annualized synthetic implied interest rate over the period of the SSF. The Low rates may present a borrowing opportunity.

Relevant EFPs	This tool scans the US market and returns all Exchange for Physicals relevant to your portfolio, based on the stock and SSF positions you currently hold. For more information on using EFPs to reduce your trading cost, see the Relevant EFPs user guide topic.

The following scanners are available, based on the selected instrument:

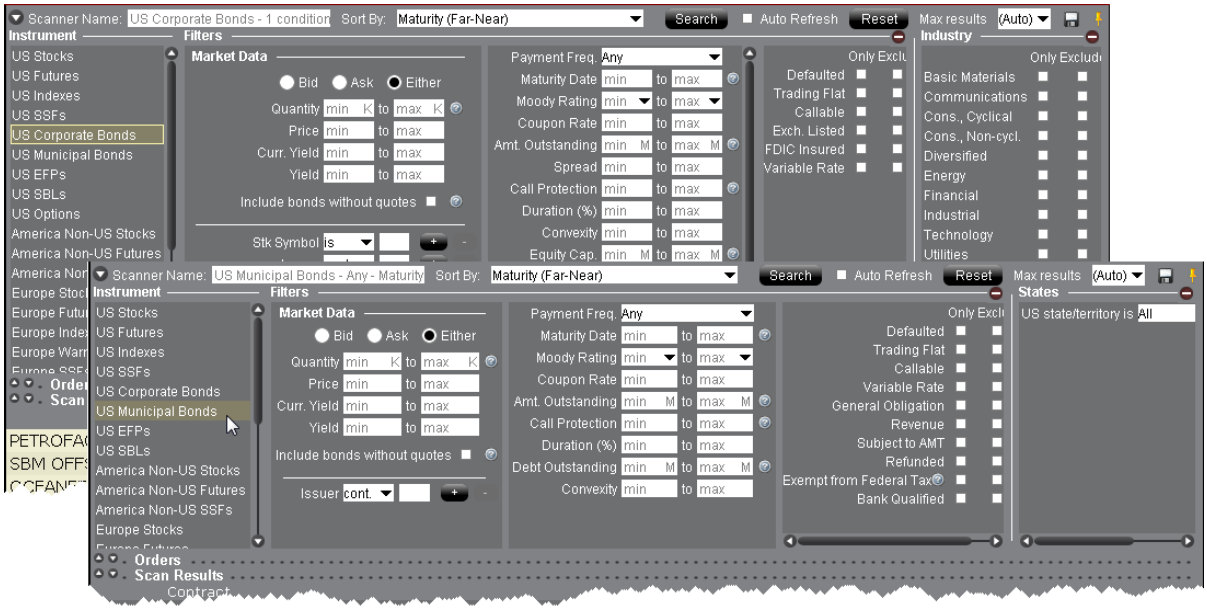
***30-day (V30) Implied Volatilities:**

Implied volatility is calculated using a 100-step binary tree for American style options, and a Black-Scholes model for European style options. Interest rates are calculated using the settlement prices from the day's Eurodollar futures contracts, and dividends are based on historical payouts.

The 30-day volatility is the at-market volatility estimated for a maturity thirty calendar days forward of the current trading day. It is based on option prices from two consecutive expiration months. The first expiration month is that which has at least eight calendar days to run. The implied volatility is estimated for the eight options on the four closest to market strikes in each expiry. The implied volatilities are fit to a parabola as a function of the strike price for each expiry. The at-the-market implied volatility for an expiry is then taken to be the value of the fit parabola at the expected future price for the expiry. A linear interpolation (or extrapolation, as required) of the 30-day variance based on the squares of the at-market volatilities is performed. V30 is then the square root of the estimated variance. If there is no first expiration month with less than sixty calendar days to run, we do not calculate a V30.

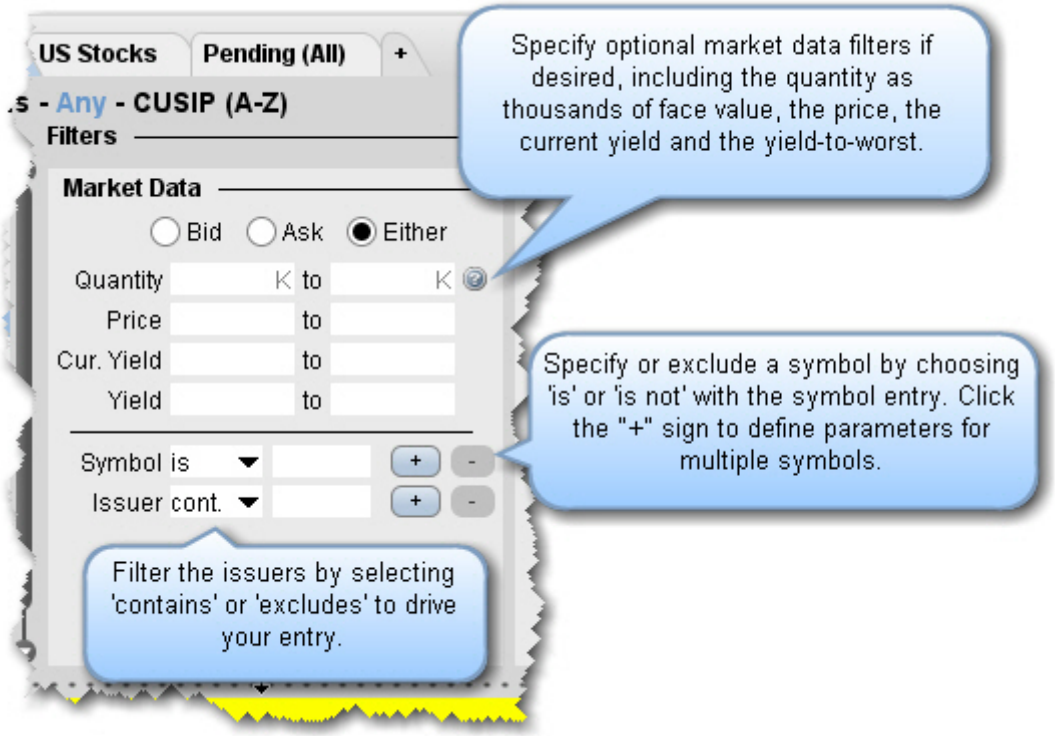
US Corporate and Municipal Bond Scanners

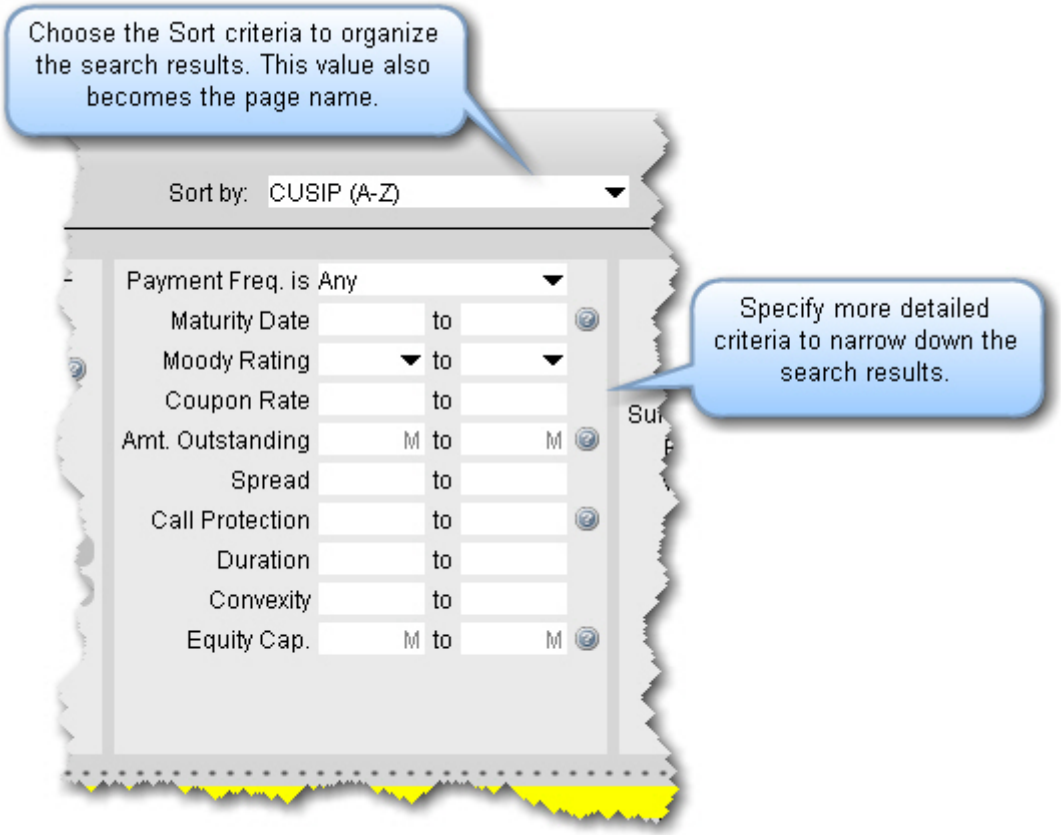
The US Corporate- and US Municipal Bond Scanners include filters and parameters specific to the needs of bonds traders.

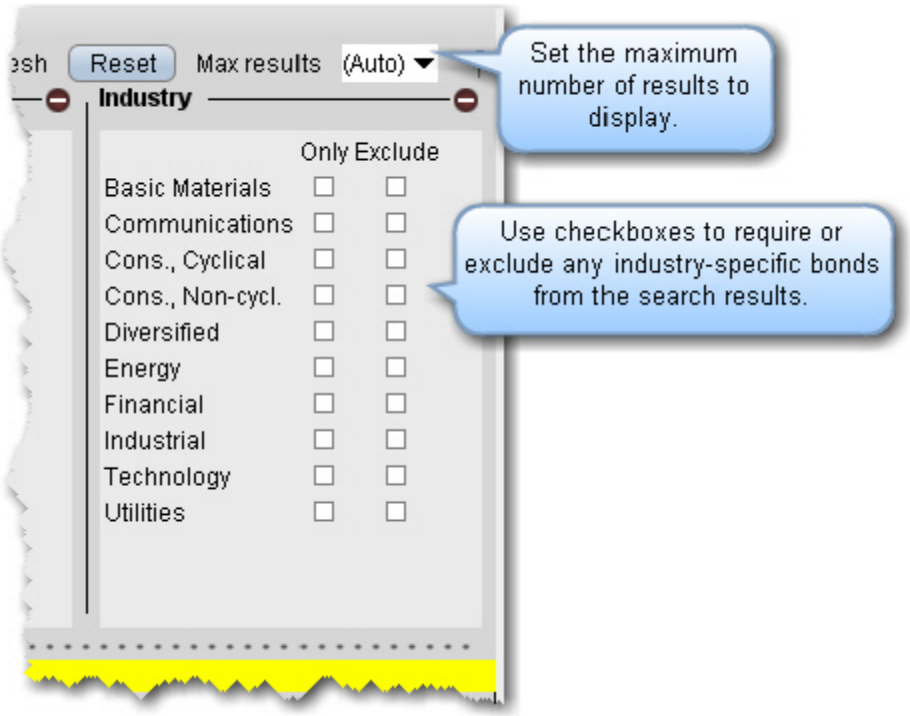


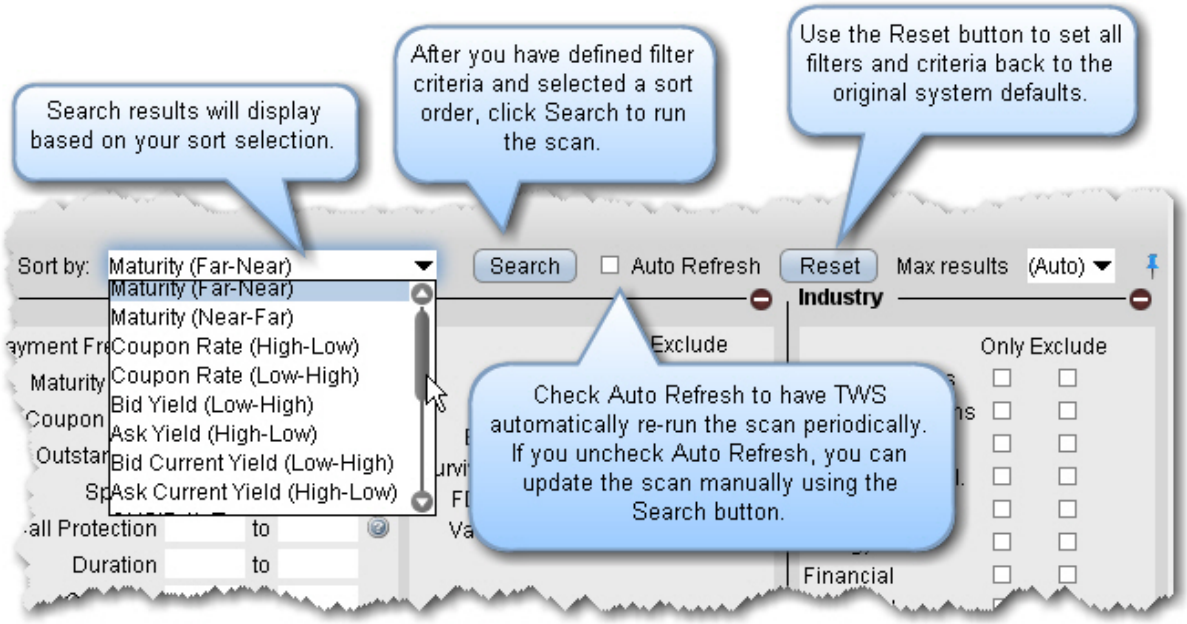
To scan for US Corporate Bonds

1. From the **Analytical Tools menu**, select *Market Scanner.*
2. Select US Corporate Bonds or US Municipal Bonds as the instrument type.
3. Define optional filters to control the search results:


US Stocks
Pending (All)
+
s - Any - CUSIP (A-Z)
Filters
Market Data
Bid
Ask
Either
Quantity
K
to
K
Price
to
Cur. Yield
to
Yield
to
Symbol is
+
-
Issuer cont.
+
-
Specify optional market data filters if desired, including the quantity as thousands of face value, the price, the current yield and the yield-to-worst.
Specify or exclude a symbol by choosing 'is' or 'is not' with the symbol entry. Click the "+" sign to define parameters for multiple symbols.
Filter the issuers by selecting 'contains' or 'excludes' to drive your entry.


Choose the Sort criteria to organize the search results. This value also becomes the page name.
Sort by: CUSIP (A-Z)
Payment Freq. is Any
Maturity Date to
Moody Rating to
Coupon Rate to
Amt. Outstanding M to M
Spread to
Call Protection to
Duration to
Convexity to
Equity Cap. M to M
Specify more detailed criteria to narrow down the search results.

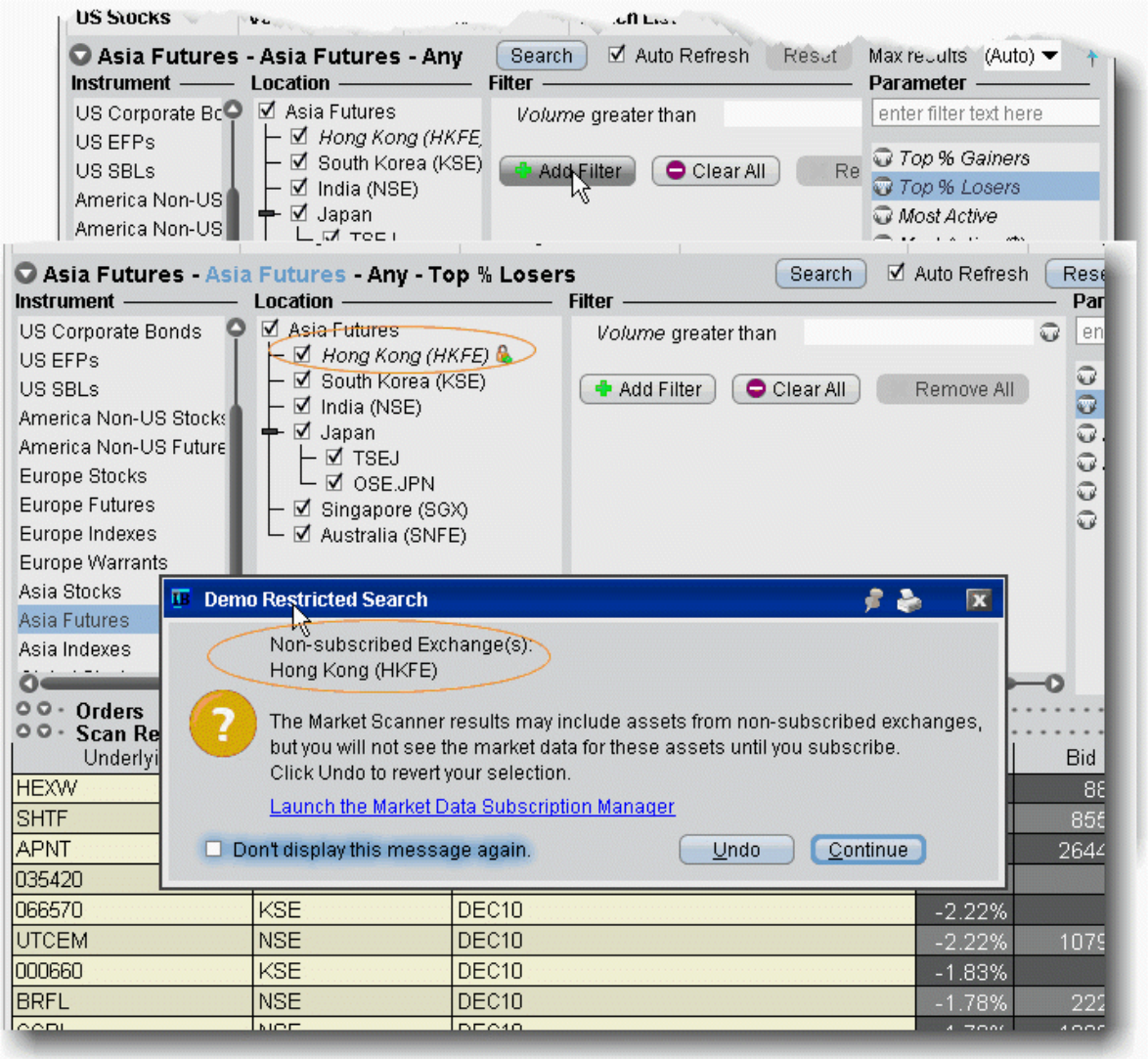

Reset
Max results
(Auto)
Industry
Only Exclude
Basic Materials
Communications
Cons., Cyclical
Cons., Non-cycl.
Diversified
Energy
Financial
Industrial
Technology
Utilities
Set the maximum number of results to display.
Use checkboxes to require or exclude any industry-specific bonds from the search results.


Search results will display based on your sort selection.
After you have defined filter criteria and selected a sort order, click Search to run the scan.
Use the Reset button to set all filters and criteria back to the original system defaults.
Sort by:
Maturity (Far-Near)
Maturity (Far-Near)
Maturity (Near-Far)
Coupon Rate (High-Low)
Coupon Rate (Low-High)
Bid Yield (Low-High)
Ask Yield (High-Low)
Bid Current Yield (Low-High)
Ask Current Yield (High-Low)
Search
Auto Refresh
Reset
Max results
(Auto)
Industry
Only Exclude
Check Auto Refresh to have TWS automatically re-run the scan periodically. If you uncheck Auto Refresh, you can update the scan manually using the Search button.
Duration
to
Financial

4. Set the sort criteria for results display, and click *Search*.

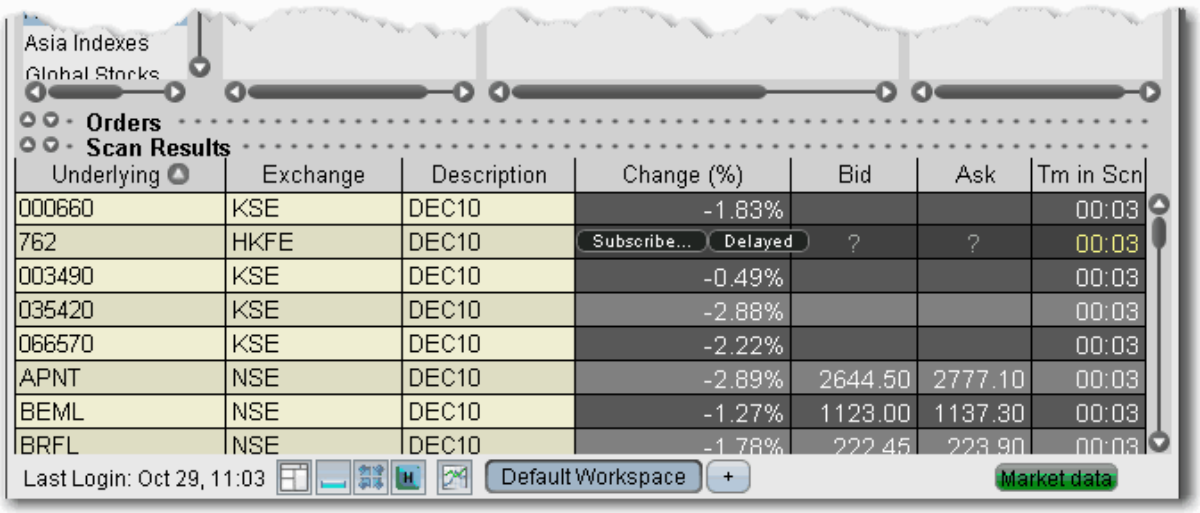
Non-Subscribed Scanner Locations

Market scanners support limited returns when you select a non-subscribed location, which displays in italics with a lock icon indicating a restricted search. If you choose to include a non-subscribed location, the results may include contracts from the location but no market data.



In the above scan, Hong Kong (HKFE) is a non-subscribed location. When it is checked to include in the scan, the scan parameters also display in italics to indicate that the results include non-subscribed data.

When you click *Search* to run the scan, you will receive a notification that you have included assets from non-subscribed exchanges, and you have the option to add a market data subscription directly from this box.

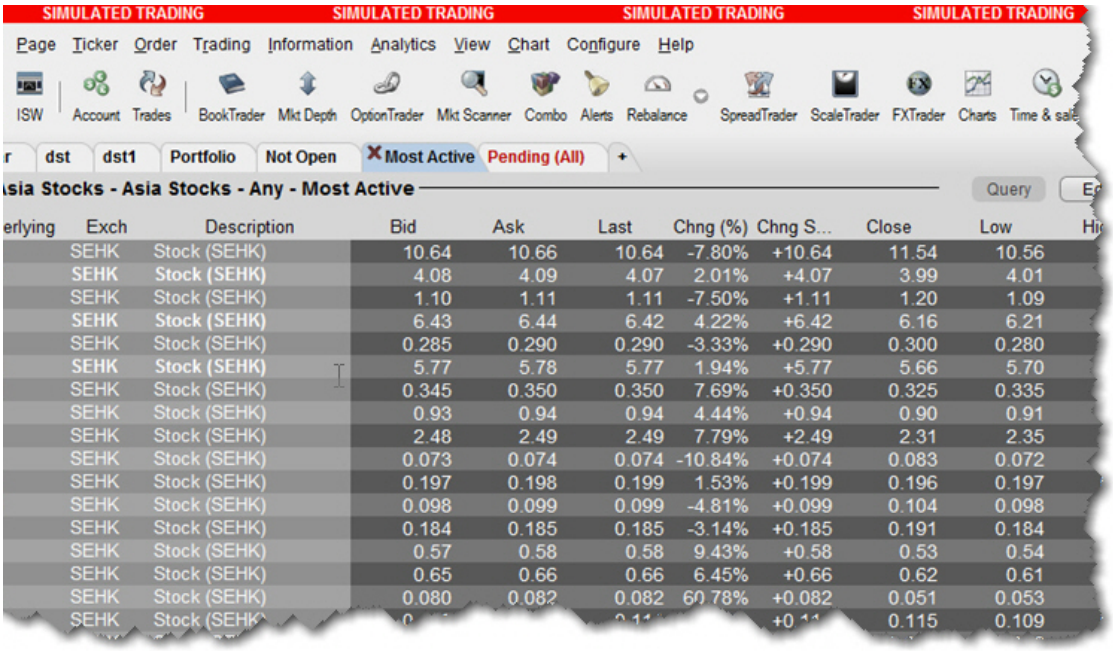


From the scan results, you can also elect to subscribe to the location, or to receive free delayed (non-subscribed) market data. If you elect to receive delayed data, the data line will be highlighted in yellow as an indication. In the above scan, the markets are closed and you are viewing an After Hours Scanner Snapshot, indicated by the grey background.

After Hours Scanner Snapshot

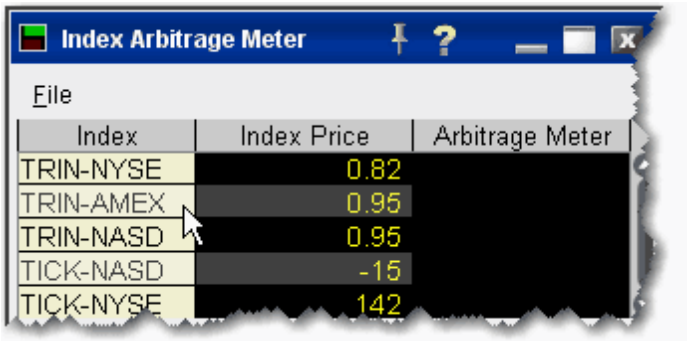
When all trading has stopped including extended hours trading, you can still use most TWS Market Scanners (with the exception of penny option and EFP scanners).

After-hour scanners use data from the previous close to provide a static snapshot as of the market's close. A scan displaying snapshot data is identified by a gray background color in the Scanner display.



TICK & TRIN Market Indicators

Use market indicators to help spot trends. The Tick Index indicator shows the number of stocks trading on an uptick minus the number of stocks trading on a downtick. The TRIN (Trader's Index) indicator is a technical analysis indicator calculated by dividing the advances-to-declines spread by the volume of advances to declines.



To see tick and trin indicators

1. use the Search feature to enter “tick” or “trin” and select the index you want to view.

The date lines appear on your trading window, and the Index Arb meter opens with the Index Price. Note that you can not trade these indexes.

Charts

Create a Real-time Chart **1055**

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Move the Right Margin **1088**

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Create a Real-time Chart

You can define parameters to display a real-time line or bar chart for all supported contracts.

Charts are not supported for mutual funds.

Some of the features of a real-time chart are captured in the above image.

1. **Chart Dashboard/Menu** allows you to quickly change the underlying, time period and chart display type and Save Templates (**File** menu) access Chart Parameters, Studies, and Global Configuration (**Edit** menu) and easily control hide/display attributes of the chart's components (**View** menu)
2. **Chart Toolbar** - Provides quick-click access to add commentary, edit the chart, zoom in and out, change the cursor to a crosshair, increase or decrease the bar width for a bar chart, and open Global Configuration.

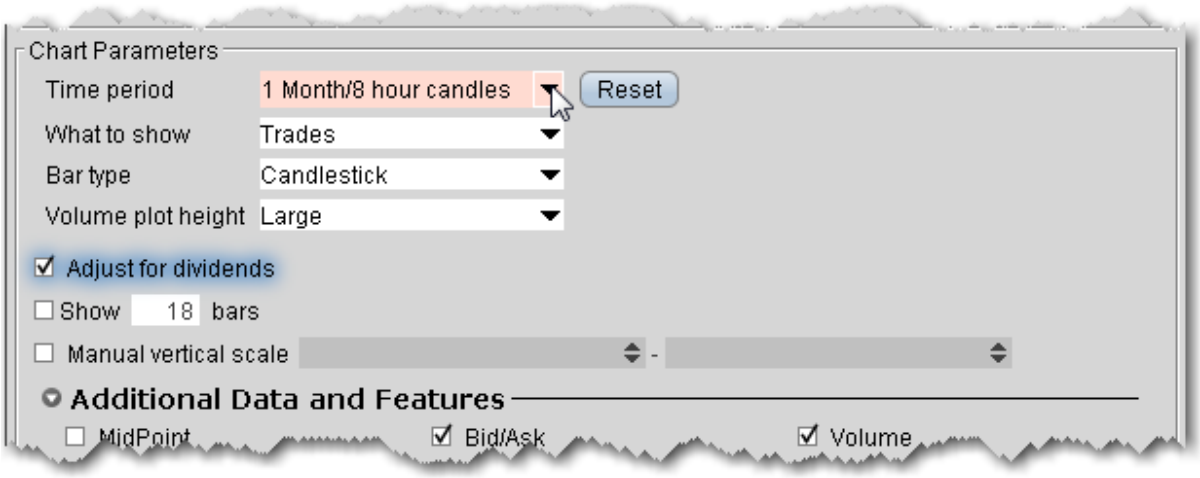
3. The customizable **Quote Zone** makes relevant data immediately visible on the chart. To add/remove fields from the Quote Zone, right-click and select *Configure Quote Zone*.
4. **Action Buttons** - Click a button to arm the cursor with the selected function. Click in the chart at the desired price level to create a price alert, sell order or buy order at the selected price. The order displays on the chart and in the ChartTrader panel if you have that opened (via Chart Parameters).
5. **Hot Buttons** - Check the "Armed" checkbox to activate Instantaneous Transmission. Click a button to arm the cursor with the selected function. Click in the chart at the desired price level to **immediately transmit** a price alert, sell order or buy order at the selected price. Enable via the *Hot Buttons* checkbox in the **Additional Data and Features** section of the Chart Parameters window.
6. **Vertical Scrollbar** allows you to quickly increase or decrease the visible price range. Once you use the scrollbar, the price update is locked and you must unlock using the price icon for real-time updates. The blue arrow icon allows you to add a degree of vertical buffer to the chart with each click.
7. The **Bar Details Zone** provides detailed information for a specific bar in the chart. We have displayed it for information only, since the image depicts a line chart.
8. If enabled, the ChartTrader displays once you have created an order using the Buy or Sell hot buttons. Enable via the *ChartTrader* checkbox in the **Additional Data and Features** section of the Chart Parameters window.

To create a chart

From Mosaic - From the New Window drop down select *Chart*.
From Classic TWS - From the Analytical Tools menu select *Chart*. Enter Chart Parameters.

Chart Parameters

You can set chart parameters when you open a chart, and modify parameters from within a chart using the **Edit** menu.

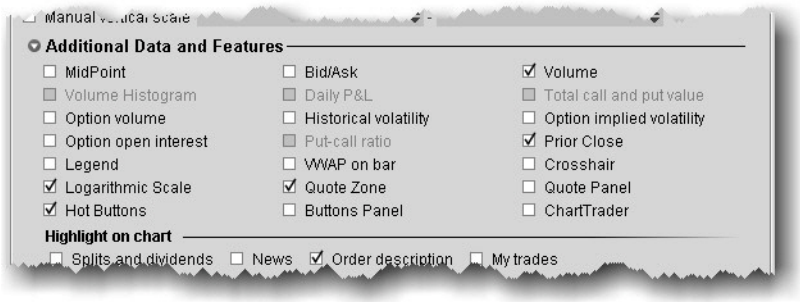


Field	Description
Time Period	Choose a time period and interval along with the denomination of bar or line for the chart. If you select an Automatic chart, you are selection only the interval and denomination. You will be able to modify the time period using the drag bar within the chart. Click the Customize Menu link to define custom time periods/intervals.
What to show:	Choose the primary display: Trades, Midpoint, Bid/Ask, Option Volume, Historical Volatility, Option Implied Volatility, Option Open Interest.
Bar Type	Choose the type of bar if applicable, either *High Low Bar, Candlestick, Hollow Candles* or *Heikin-Ashi*. The Hollow Candles display green unfilled candlesticks when that period's close is higher than its open.

	The Heikin-Ashi candles use the open-close data fro the prior period with the open/high/low/close data from the current period to create a combo candlestick. Note that selections will be grayed out when unavailable, based on other time period selections.
Volume Plot Height	This applies to the plot height of additional plots such as Volume.
Adjust for Dividends	When checked, prices are adjusted for dividends on the chart. The day before the dividend date the dividend amount is subtracted from the close price. This action is completed automatically if you add a second ticker for comparison to the chart.
Show # bars	Enter the number of bars to display on the chart, and check to enforce this attribute. When checked, the number of bars remains consistent regardless of changes to the Time period or other variables.
Manual Vertical Scale	Define a price range to scale the vertical axis for the chart. If checked, click the yellow lock icon that will appear in the chart to re-enable auto-scaling.

Additional Data and Features

Additional data shown in your chart parameters box is dependent on the selections you set as the primary parameters. The table below lists all potential options. Because they are context-sensitive, you won't see all of them at the same time.



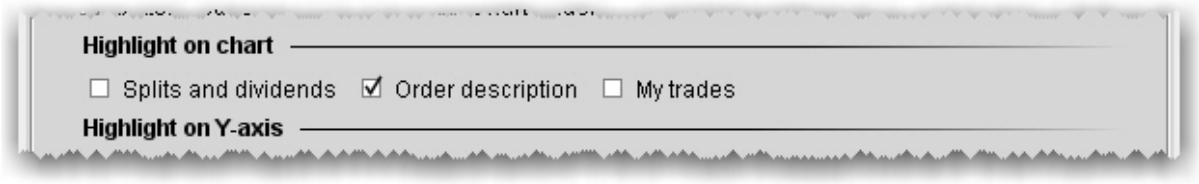
Field & Description	Field & Description	Field & Description
Bid/Ask or Midpoint or Trades Shows a secondary plot along with your primary plot. Display will change based on your primary plot, i.e. if you show Trades as the primary, your options will include Bid/Ask and Midpoint.		**Volume Histogram** Shows the daily trading volumes at each price point in a separate area of the chart.
Daily P&L Displays daily profit and loss for the contract.	**Total call and put value** For option settings such as open interest and volume, check to display the total value for calls and puts.	**Option volume** Charts call and put volume in the Option Volume sub-chart.
Historical volatility Displays actual historical volatility.	**Option implied volatility** Charts implied volatility in a Volatility sub-	**Option open interest** Chart put and call open interest on the Open Interest sub-chart.

	chart.	
Put-call ratio Shows the put-call ratio in a sub-chart. Note that you must display *Option Volume* or *Option Open Interest* to enable the put-call ratio.	**Crosshair** Displays the cursor as a crosshair on the chart.	**Legend** Hide or display the chart legend.
Prior close Displays the prior day's closing price for the contract.	**Quote zone** Display market data for the contract directly in the chart.	**Quote panel** Display the traditional Quote Panel above the chart.
Hot buttons Display the Buy, Sell and Alert hot buttons in the chart.	**Buttons panel** Display the configurable Buttons panel along the bottom of the chart. The button arms the cursor to complete the selected action.	**ChartTrader** Displays the Orders, Log, Trades and Portfolio tabs along the top of the chart. These panels will also open automatically when you create an order.
Completed trades Displays the Show	**Volume** Plots trade volume in a sub-	**Logarithmic Scale** Change the increments on the price axis

Trades checkboxes along the top of the chart.	chart. Set the Volume Plot Height above if desired.	to represent price change by "percentage change"- rather than "dollar-value" change. Using Log Scale, a $5.00 change from 10 to 15 represents a 50% price change, while a $5.00 change from 20 to 25 is a 25% change.

Highlight on Chart

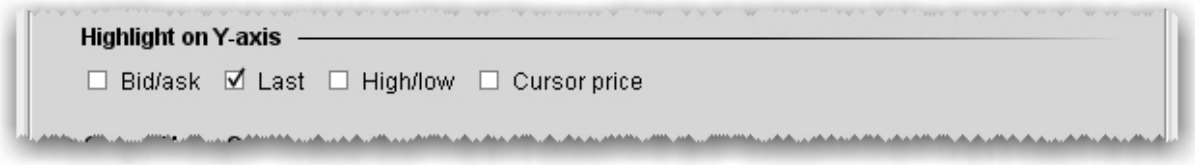
Define the extras you want to have highlighted on your chart.



Field	Description
Splits and dividends	Shows splits and dividends on the underlying.
Order description	Includes order information directly in the chart.
My trades	Highlights the trades you made on the underlying.

Highlight on Y axis

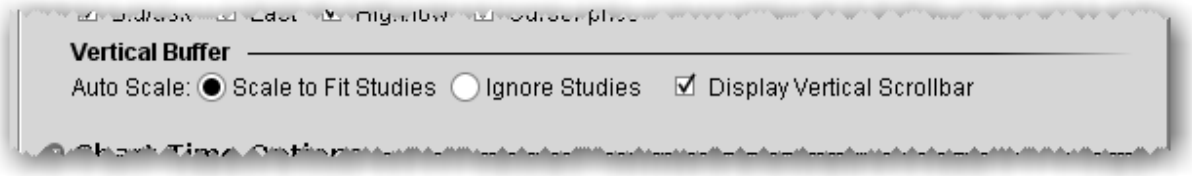
Specify that any of the following items be highlighted along the Y-axis in the chart.



Field	Description
Bid/ask	Highlights the bid and ask prices.
Last	Highlights the last traded price.
High/Low	Highlights the current high and low of the underlying.
Cursor price	Highlights the current price level of your mouse cursor.

Vertical Buffer

A vertical buffer makes the price range on a chart larger than necessary to give extra space at the top and bottom of the actual chart. When you add a vertical buffer, the chart automatically scales to accommodate a wider price range. You can elect to:

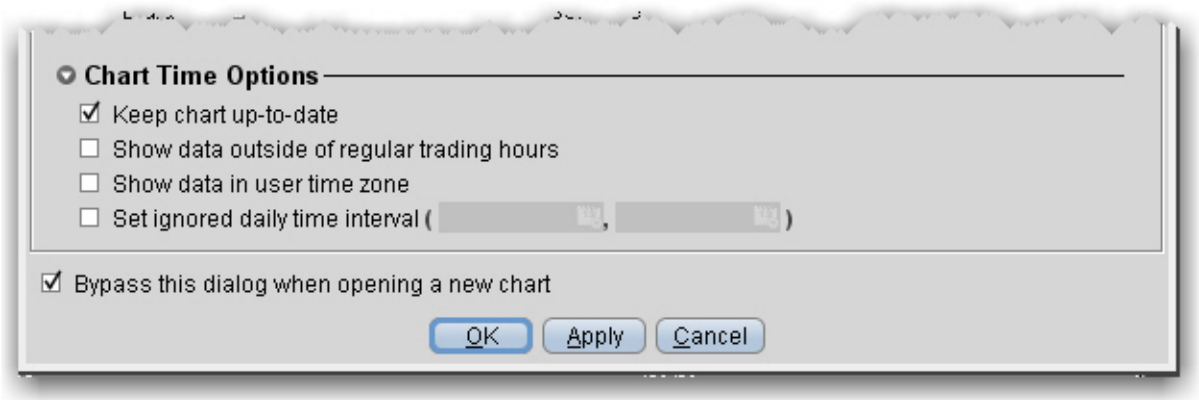


Field	Description
Scale to Fit Studies	Y-axis (price) scaling will accommodate any studies to ensure that they are visible in the new scaled layout.

Ignore Studies	Y-axis (price) scaling ignores any studies and applies scaling only based on price.
Display Vertical Scrollbar	Checked by default. Uncheck to removed the vertical scrollbar from the scaled chart.

Chart Time Options

Set time options for this chart.



Field	Description
Keep chart up-to-date	Check to have chart update in real-time.
Show data outside of regular trading hours	If checked, displays charts for exchanges that trade extended hours, like Globex.
Show data in user time zone	If checked, uses the time zone from your computer. Otherwise, uses the time zone from the contract's listed market.
Set ignored	Define a time interval that will be ignored when charting

daily time interval	the underlying.
Bypass this dialog when opening a new chart	If checked, these settings are applied to the next chart you open without displaying this dialog box. You can modify settings by selecting *Chart Parameters* from the **Chart** menu.

Thumbnail Charts

Thumbnails are small floating charts that provide at-a-glance tracking.

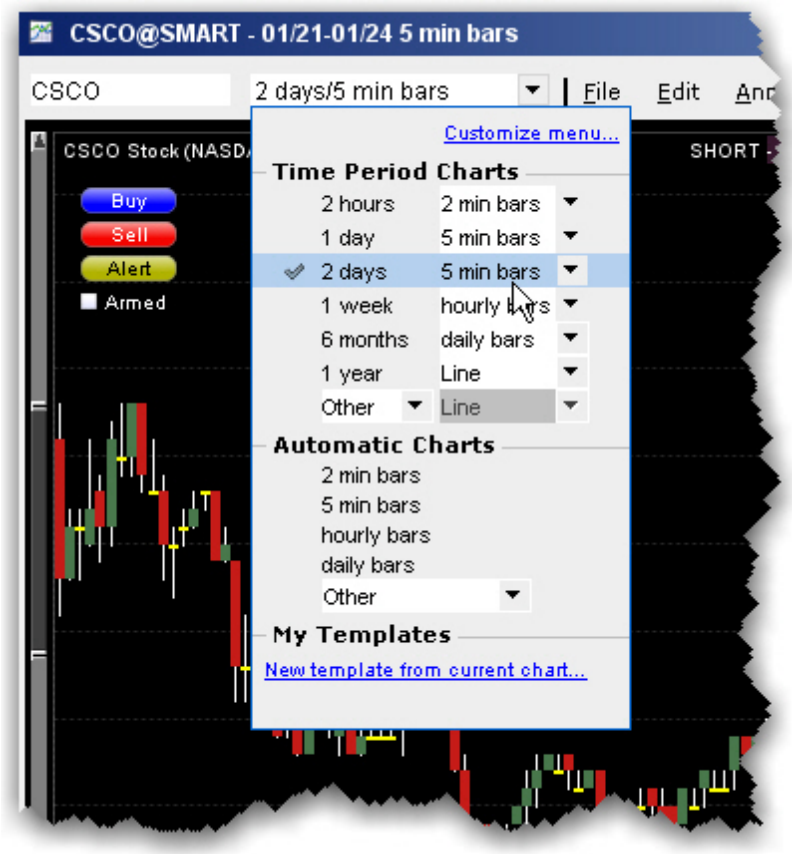
To create a thumbnail chart

1. Select an underlying on a Quote Monitor.
2. Use the right-click menu to select *Analytical Tools>Technical>Thumbnail Chart*.

The small chart can be moved to any area of your desktop, and can be reduced or enlarged by grabbing and dragging one of sides.

Time Period Charts

You can quickly change or create new Time Period charts from the chart dashboard.



To change a time period

1. From the dropdown list in the dashboard, you can:

> *Click a new time period/denomination pair (the current set shows a checkmark).*
> *Use the denomination dropdown on any time period and choose a new one. For example, change the 2 days/5 min bars to 2 days/15 min bars.*
> *Use the Other dropdown to create a new time period/denomination pair.*

Automatic Charts

Quickly create an automatic chart that lets you quickly pick the bar denomination (5 minute bars, daily bars etc) independent of the time period, using the chart dashboard.

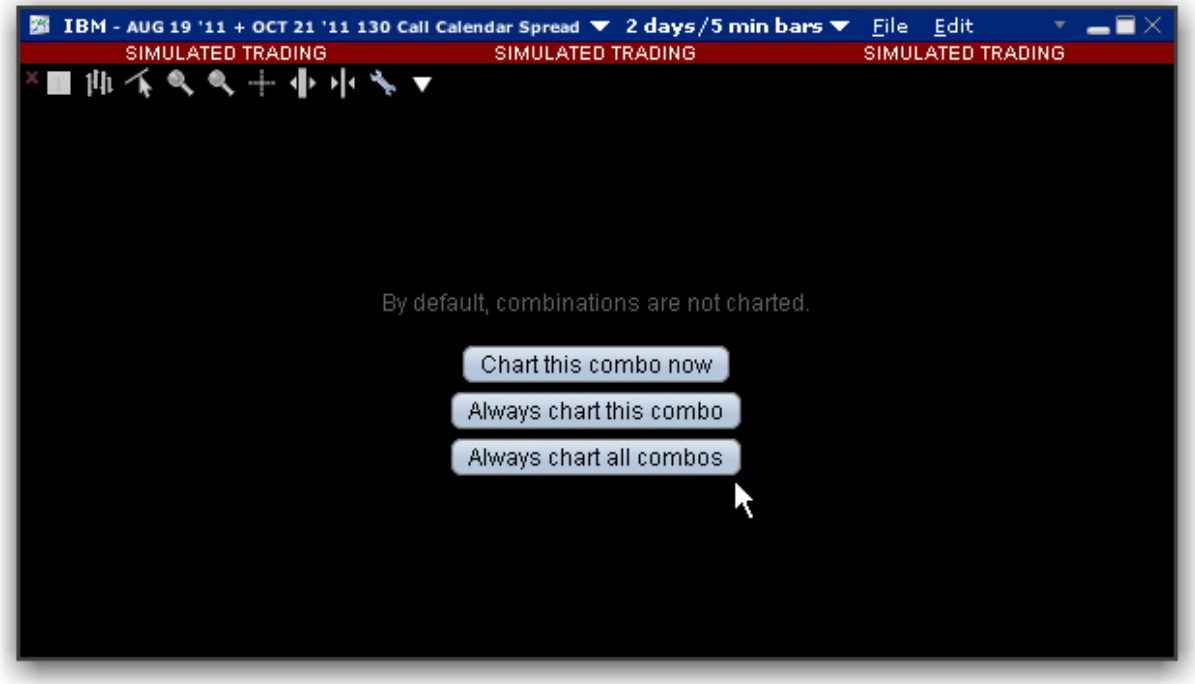
To create an automatic char

1. From the dropdown list in the dashboard, select an automatic chart.

You cannot create custom displays for automatic charts, but must choose from the pre-defined displayed or *Other* charts.

Chart Combos

TWS will chart a combination comprised of multiple legs, but you must first specify that you want to have the combo charted. Due to the capacity for pacing market data requests, charting a combo may result in very slow load times for your charts.



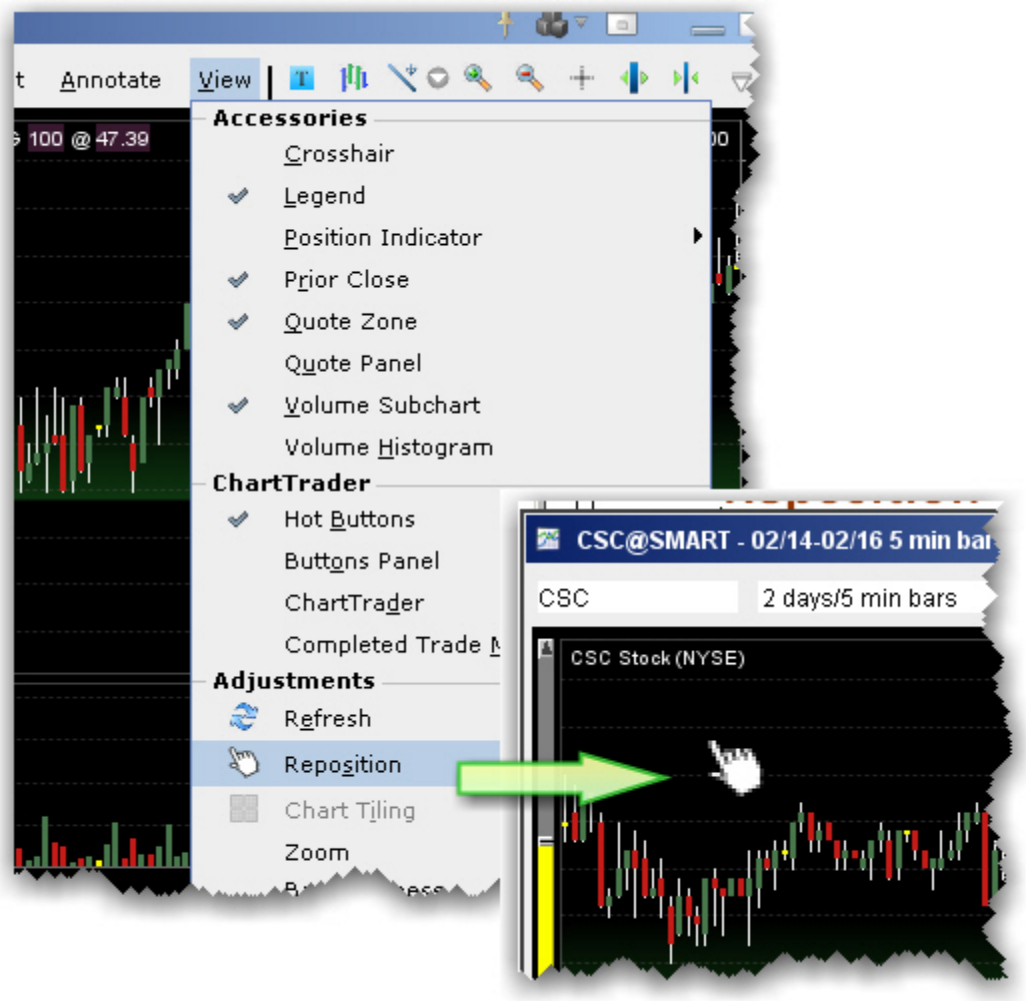
To chart a combo

1. Select the market data line for the combination from the Quote Monitor.
2. Use the right-click menu to select *Charts* then *New Chart*.
3. Define the parameters for the chart and click OK.
4. Decide how you want to handle charting of combo orders:
   a. *Chart this combo now* provides a one-time charting action for the current combo.
   b. *Always chart this combo* will bypass this selection box the next time you choose to chart the specific combo.
   c. *Always chart all combos* will bypass this selection box for all combo charts.

The combination is charted.

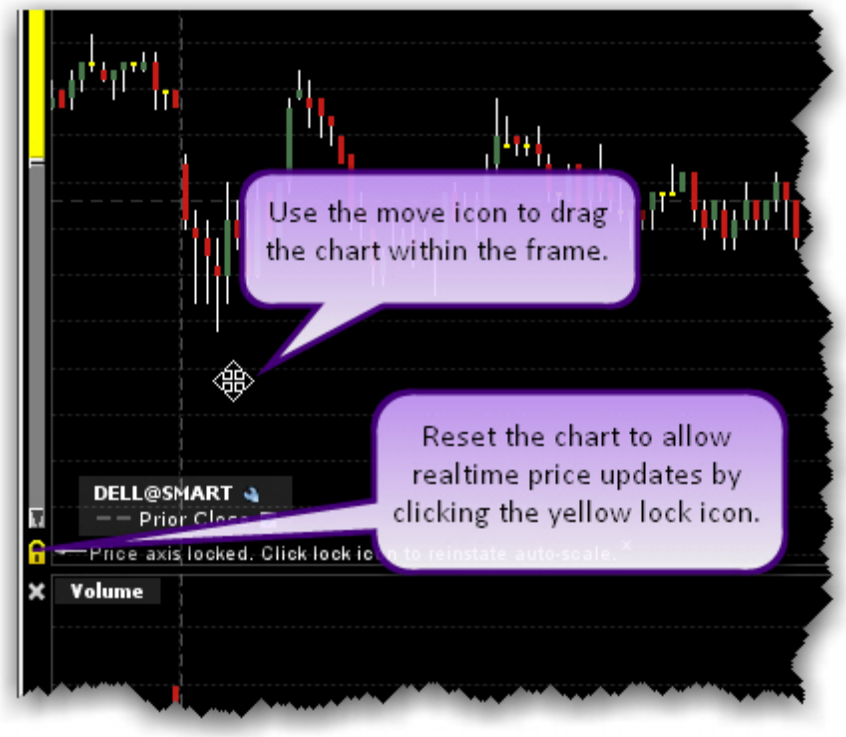
Reposition Charts

Grab and move the chart within its frame to view different time and price areas of the chart. Repositioning the chart results in a snapshot view of the chart with locked data. The chart must be unlocked to reestablish realtime price updates.



To reposition a chart

1. Within a chart, use the **View** menu to select *Reposition*. The cursor changes to a pointing hand.
2. Move this cursor to an area in the chart you want to move, and click the mouse. The cursor changes to the “move” icon.
3. Keeping the mouse key depressed, slide the chart around to reposition. The vertical sliders and price axis adjust according.
4. Release the mouse key to disable Reposition mode.



To resume price updates

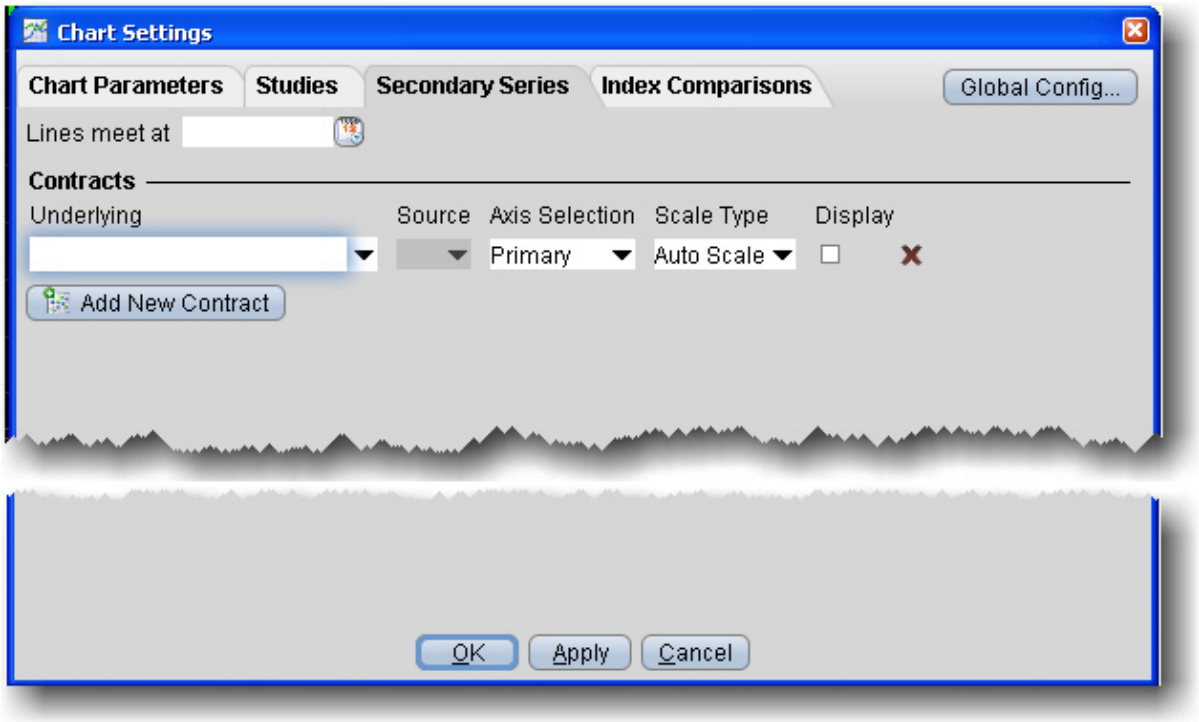
Click the yellow lock on the price axis that signifies snapshot mode.

Chart Multiple Assets

You can chart two or more assets on the same chart for comparison.

To chart multiple assets

1. From the **Edit** menu, select *Secondary Series*.
2. In the **Contract** section, enter the underlying symbol and select the contract.



3. Select the source for the plot:

Trades shows the prices at which orders executed.
Midpoint plots the midpoint of the current best bid/ask price.
Bid/Ask shows the best bid and best ask.

4. Choose the Axis Selection and Scale Type:

***Primary** with **Auto Scale** automatically scales and plots the secondary contract relative to the price for the primary contract.*
***Primary** with **None** does not scale the secondary contract and modifies the price axis to include the price range for both contracts.*
***Secondary** with **Auto Scale** automatically scales and plots the secondary contract and shows the scaled, secondary price axis along the right side of the plot.*
***Secondary** with **None** shows the secondary price axis along the right side of the chart and plots the secondary series with no scaling along that secondary price axis.*

5. If you select **Auto Scale**:

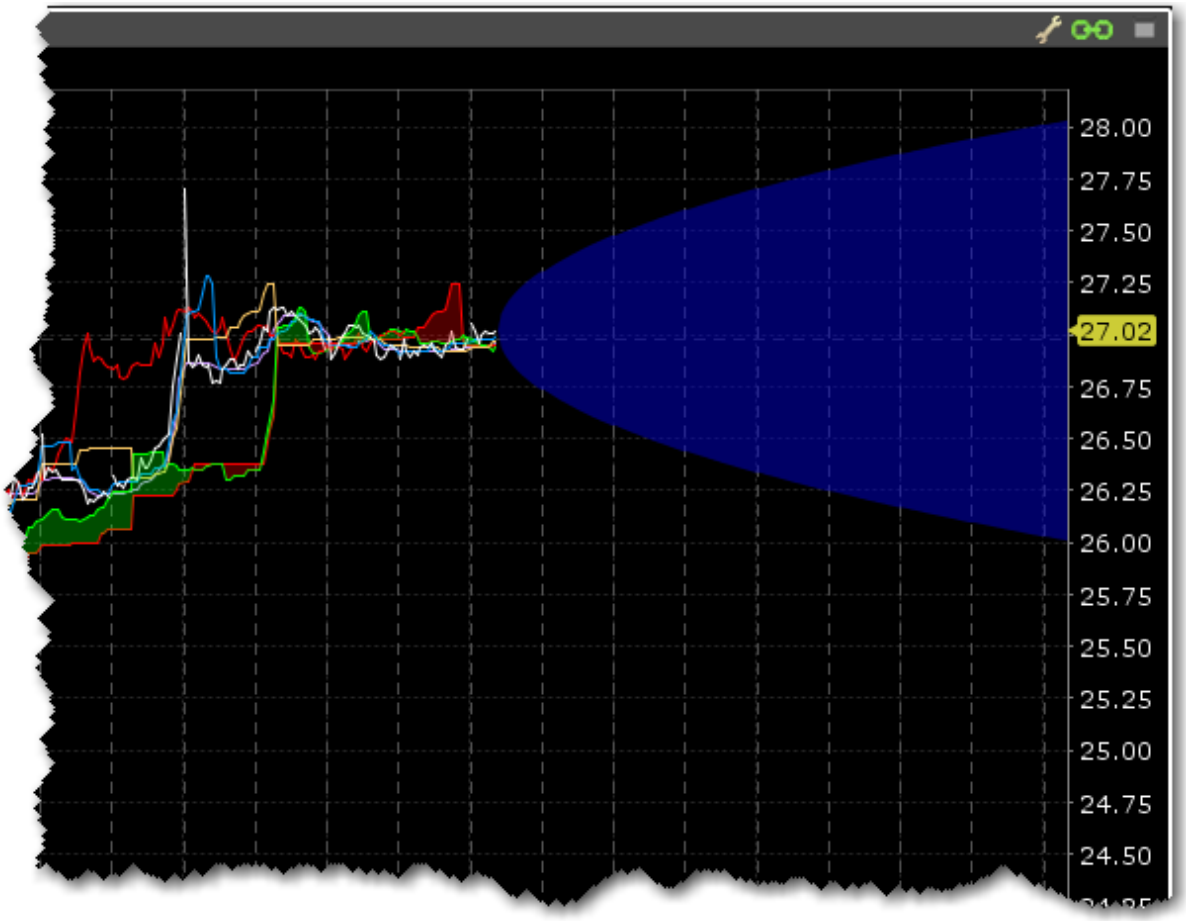
In the *Lines meet at*: field you can enter a date different from the starting date of the time period at which the two points in the chart will meet. By default, lines meet at the starting date of the time period and are auto-scaled accordingly.

6. Click OK. All contracts are charted in different colors, defined by a key along the bottom of the chart.

Charts - Estimated Price Range

The Estimated Price Range presents a graphical representation of the estimated price range of an asset to one, two or three standard deviations. The estimated range is calculated based on the current price, the implied volatility of the symbol's option, and the distance in time from "now." The graphical representation uses a blue shaded area to chart the estimated range over time.

This feature is only available for contracts that have options.

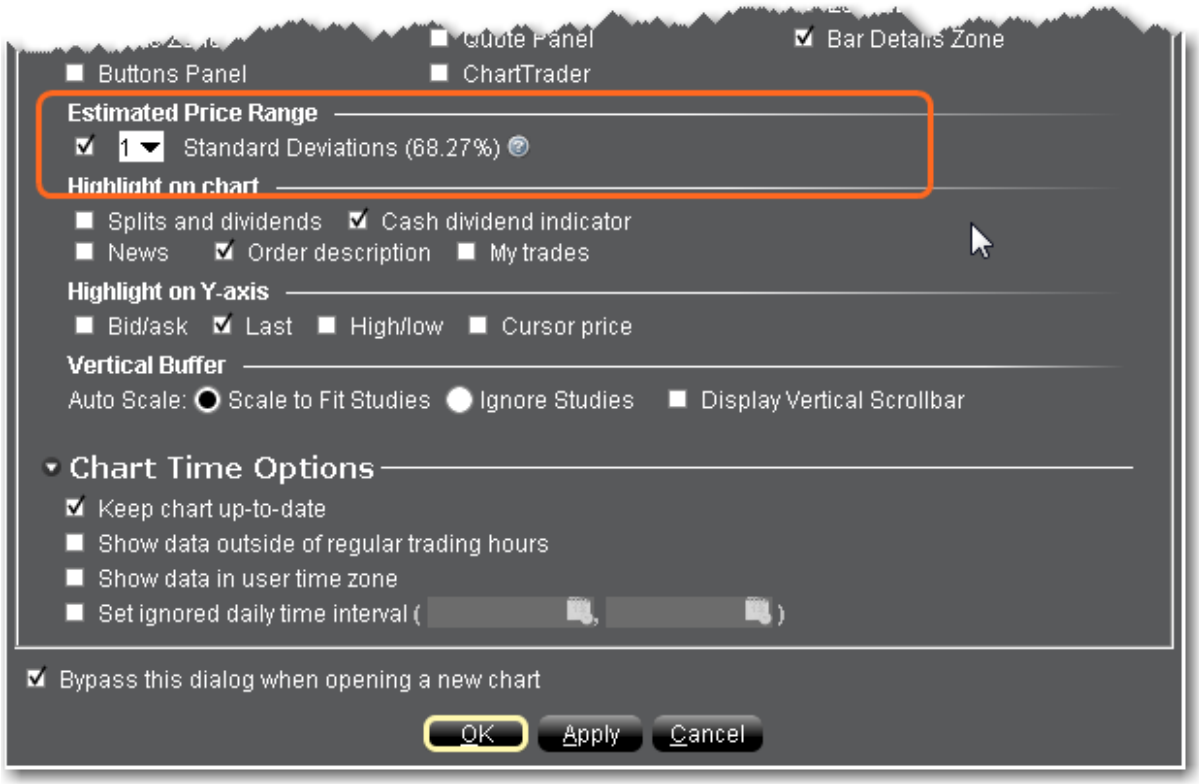


To display the Estimated Price Range

Ensure that the feature is activated in the Chart Parameters box.

Grab the right margin arrow to the left to expose the blue Estimated Price Range graphic.

Slide the margin line to the left or right to see the estimated price range for specific days.



To enable Estimated Price Range

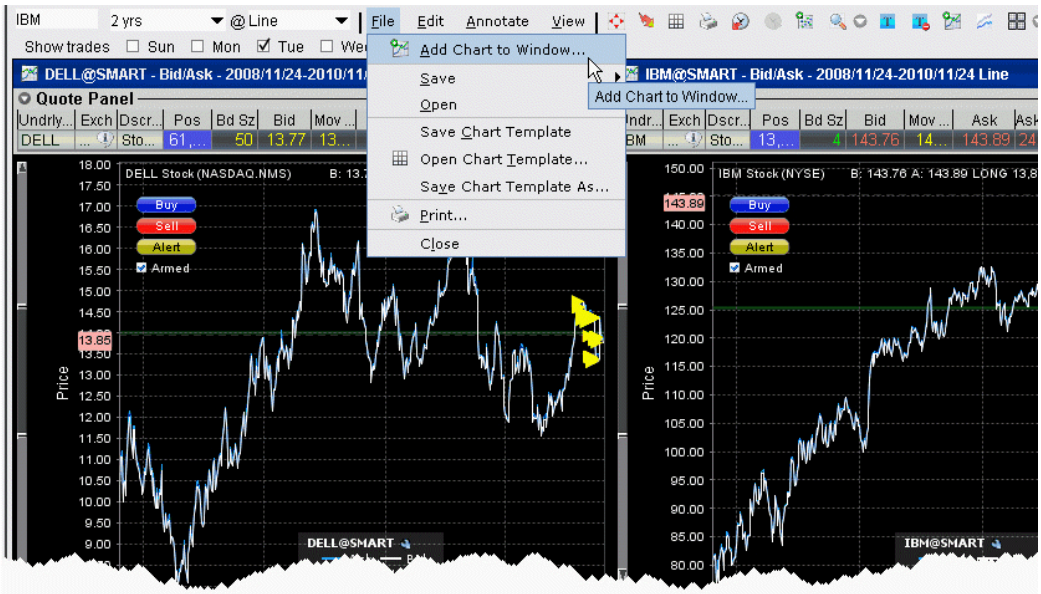
Open the Chart Parameters box (from Mosaic use the **File** menu; from TWS use the **Edit** menu).

Check *Estimated Price Range* and specify the number of standard deviations.

Click OK.

Add New Chart to Existing Chart Window

You can elect to include multiple charts within a single window, use auto display features to arrange the charts, and share trendlines among charts with the same underlying.



To add a new chart to an existing chart window

1. From the **File** menu, select *Add Chart to Window*.
2. If you want the chart to use the same security that the existing chart uses, check *Sub-chart uses current security*. Checking this feature pre-populates the contract description in the **Chart Parameters** box. If you're adding a chart for a different security, uncheck this selection.

If you have charted multiple contracts in the same chart, the Current Security refers to the symbol used to create the original chart.

3. Define the new chart in the **Chart Parameters** box and click OK. Both charts appear in the charts frame.

To arrange multiple charts within a window

On the chart's **View** menu, select *Chart Tiling.* Choose from Gird, Horizontal, Vertical, or Custom. All charts in the window conform to the selected tiling design.

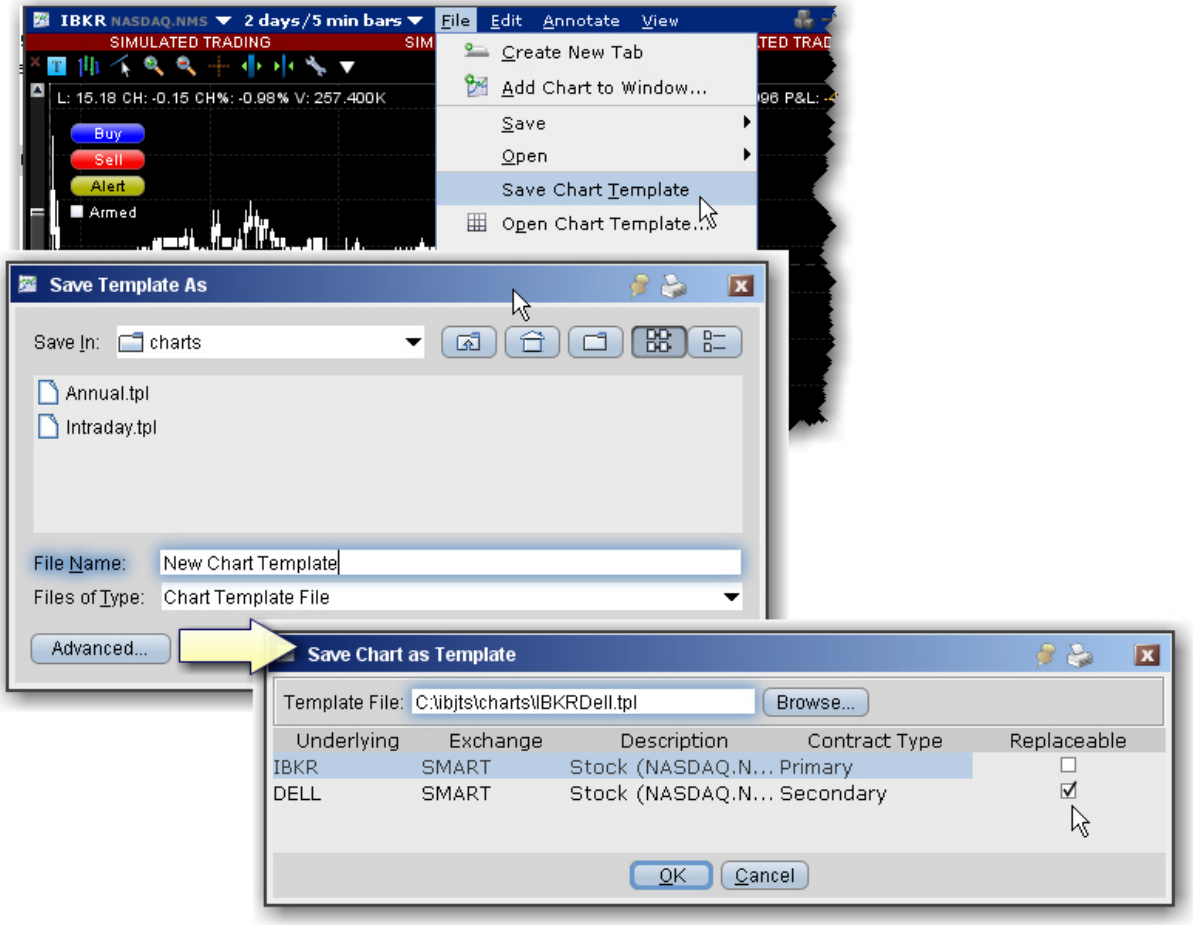
To share trendlines for the same contract among charts

If you have charts for the same underlying, you can choose to apply a trendline action to all of the charts by activating the Share Trendlines feature.

1. Click the Configure wrench from the chart window.
2. In the **Settings** page, check *Share trendline among charts*.

Save a Chart Layout as a Template

You can reuse the layout of a favorite chart by saving the chart as a template and then reapplying the template to other contracts.



To create a chart template

1. Create a real-time chart or group of charts with all parameters defined.
2. On the chart's **File** menu, select *Save Chart Template*.
3. Give the template a descriptive name by replacing "untitled" in the **Template File** field with a chart name.

   Note: In cases where you are saving a template with more than one chart, click the Advanced button to specify which chart is **Replaceable** when you open the template. You must have at least one chart labeled “Replaceable.”

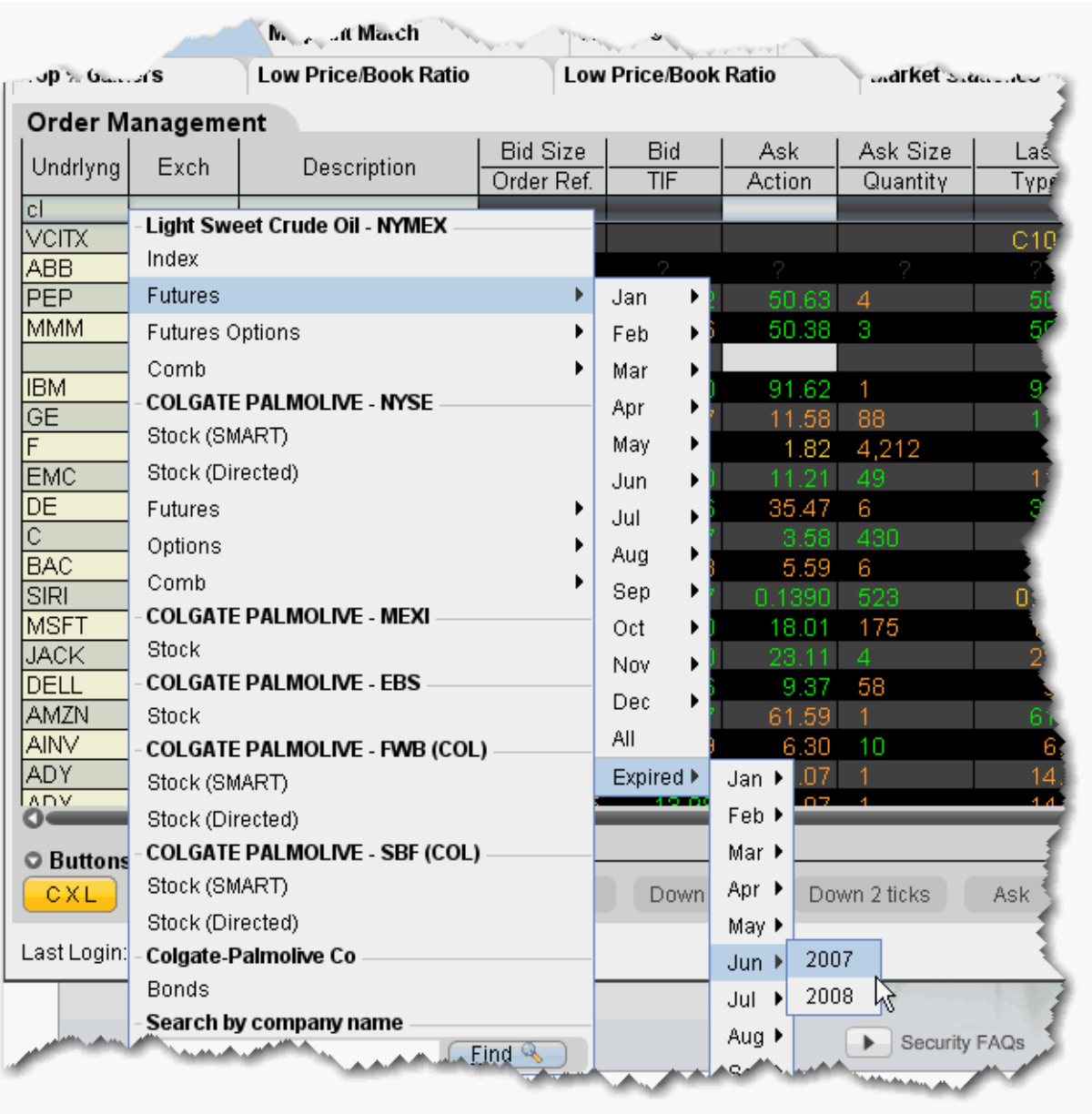
4. Click **OK** to save the template.

To use a template to create a new chart

1. On the chart's **File** menu, select *Open Chart Template*.
2. Select the chart template you want to open from the Template File list, or use the Browse button to find the template you want to use.
3. Enter new contracts by entering the underlying symbol in the Underlying field
4. Click OK to see the new chart based on your saved template.

Charting Expired Contracts

You can chart data for expired futures contracts on the real-time charts. In addition, if you want to chart an expired contract that is not currently on your trading screen, you can add the contract.



To add an expired futures contract to the trading window

1. Enter the underlying symbol and hit enter, then choose Futures from the instrument type list.
2. At the bottom of the expiry list, select Expired, and then choose the expired contract you want to chart by selecting the expiry month and year.

3. If you would like market data for the underlying as well, click *Yes* at the message asking if you want to add the underlying.

To chart an expired contract

1. Select the expired contract and from the right-click menu select **Charts**, then select *New Chart*.
2. Set your chart criteria for the contract.

Charts Toolbar

Use the icons on the toolbar to initiate an action. For instructions on how to add or remove buttons from the toolbar, use the charts Configuration topic.

Icon	Action	Description
	Chart Parameters	Opens the Chart Parameters dialog box where you set or modify criteria for the chart display.
	Show/Hide ChartTrader	Opens (or hides) the ChartTrader tool, which lets you submit trades directly from a chart.
	Show/Hide Time Parameters panel	Allows you to change the time period and interval for the active chart.
	Open Chart Template	Allows you to open a saved template created from one or multiple charts.

	Print	Prints the selected chart.
	Shift Time Period...	Set a new date and time for the chart data.
	Shift Time Period to Present	Resets the time period to the current data/time. The icon that reflects the type of time period in use will be greyed out.
	Add Contract	Define chart parameters for a new asset which is added to the current chart.
	Add Study	Click the dropdown arrow next to the icon to select a chart study.
	Add New Chart	This button allows you to quickly add another chart to the open chart window. To start with the same contract information, check *Sub-chart uses current security* in the pop-up box.
	Add Commentary	Opens the **Add Commentary** dialog box. Enter text that will be displayed on the chart in a commentary box.

	Remove All Commentaries	Deletes all commentary boxes from the chart.
	Compare to Index	Charts the selected index on the active chart.
	Tile Charts	Automatically resizes and arranges multiple charts into the pattern you specify using the dropdown arrow. Choose from grid, horizontal, vertical, or custom.
	Modify or Remove	Click the dropdown arrow next to the icon to modify or remove the selected asset or study from a chart. This feature works for single charts with multiple assets or studies. It will not include multiple charts within a single chart frame.
	Show bars	For a candlestick chart, click to change to bars.
	Show candlesticks	For a bar chart, click to change to candlestick display. The icon that reflects the current chart type is greyed out.
	Show/Hide Volume	Displays or hides the Volume panel on the bottom of the chart.
	Time & Sales	Click to change the cursor to the Time & Sales line. Click on a time, and the Time & Sales data page

		Switch to Crosshair icon.
	Toggle Crosshair	Changes the cursor to a crosshair. Note that if you don't have the Show horizontal crosshair line enabled in Global Configuration, you will only see a vertical line when you are in this mode.
	Edit Chart	A selected trendline will now display a white square at either end. When you click and pull an end, you can rotate the trendline 360 degrees and shorten or lengthen the line. Clicking in the line area still allows you to move the trendline while maintaining the same length and angle to the chart. Right-clicking the trendline allows you to change the color of the line, the thickness of the line, or remove the line.
	Undo	Click to undo the last action.
	Redo	Click to reapply the last undone action.
	Add Horizontal Trendline	Turns the cursor to a horizontal trendline. Click in the chart to set the trendline. To change the cursor back, click the **Switch to Crosshair** icon.
	Add Vertical Trendline	Turns the cursor to a vertical trendline. Click in the chart to set the trendline. To change the cursor back,

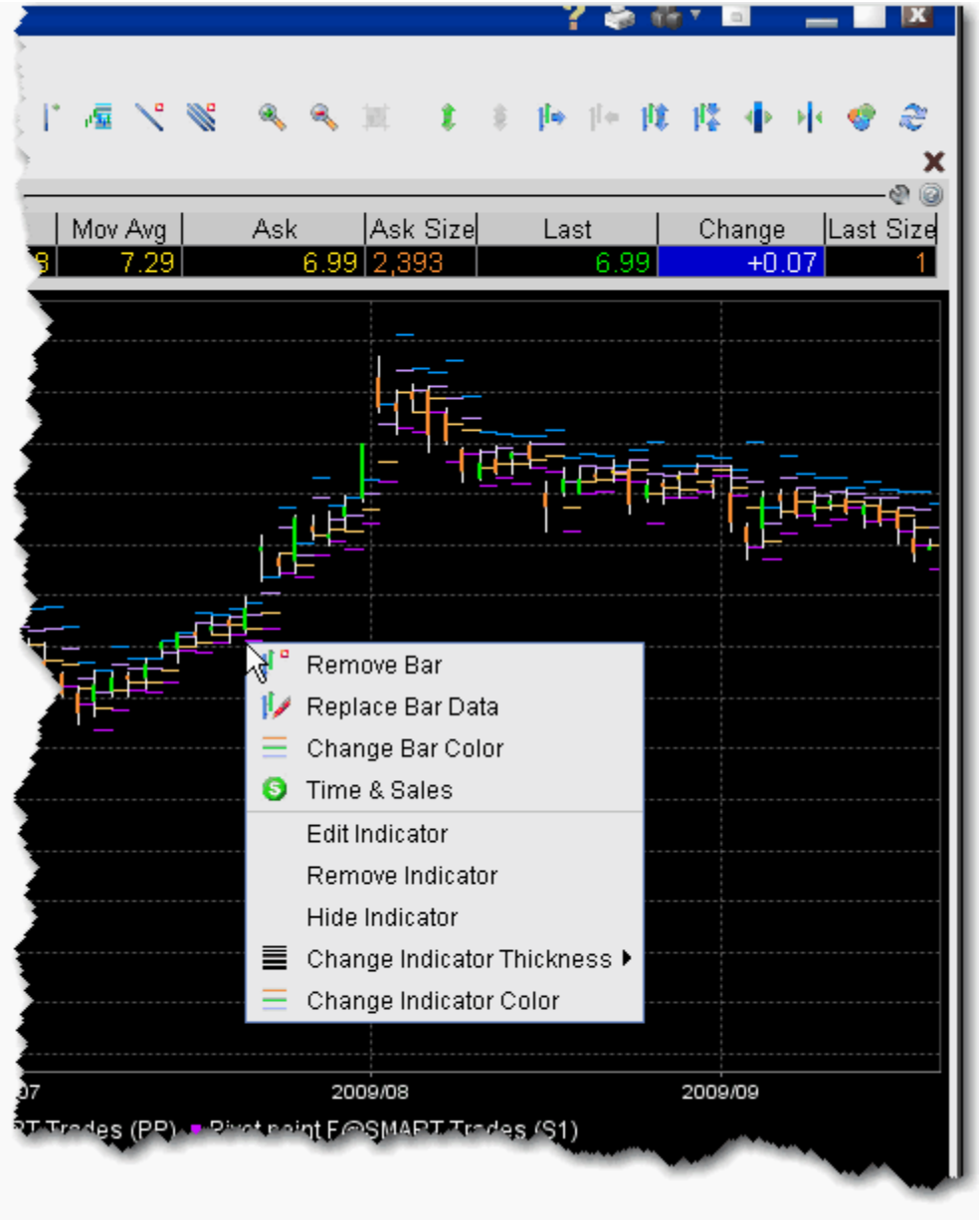
		click the **Switch to Crosshair** icon.
	Add Fibonacci Line	Inserts a Fibonacci trendline to the chart.
	Remove Selected Trendline	Removes the selected trendline. To change the cursor back, click the **Switch to Crosshair** icon.
	Remove all Trendlines	Removes all trendlines from the active chart.
	Zoom in	Zooms in to an area on the chart. You can scroll to a new area in the zoom in box.
	Zoom out	Zooms out to give you a bigger view of the chart area.
	Switch to smaller bars	This icon becomes active after you have zoomed in. Click to display smaller bars.
	Enter visible range	Opens the Visible Range dialog where you enter the price range that will be visible in the chart.

	Clear range entered	Clears the previously set Visible (price) Range.
	Add Horizontal Space to Chart	Creates a "zoom out" effect by condensing the current view and adding more time intervals to the right side of the chart.
	Remove Horizontal Space from Chart	Removes time intervals to create a "zoom in" effect.
	Add Vertical Space to Chart	Creates a vertical "zoom out" effect by condensing the current view and adding more price intervals to the top of the price axis.
	Remove Vertical Space from Chart	Removes price intervals from the top of the chart to create a "zoom in" effect.
	Increase Bar Width	Increase the width of bars in the bar chart by 1 pixel per click of the icon.
	Decrease Bar Width	Decreases the width of bars in the bar chart by 1 pixel per click of the icon.

	Configure Chart Colors	Opens the Global Configuration window with Chart Colors selected. Change the colors displayed on different chart parameters.
	Refresh	Refreshes chart data.
	Configure	Opens the Global Configuration window for Chart configuration.

Editing Charts

The right-click Edit menu for trendlines, indicators, bars and other chart display items lets you hide, remove, and change the data, color, and thickness of items to customize your chart and make it easier to read.



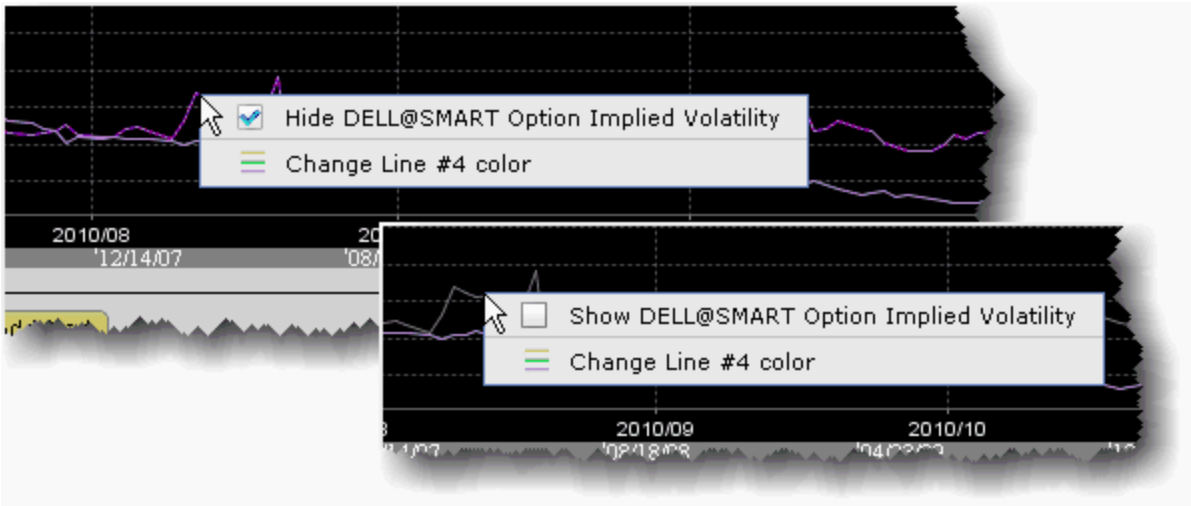
To use the charts editing feature

1. Select a display feature for editing by holding your mouse over the chart item. An item is "selected" when it changes color.
2. Right-click and apply the desired edit to your display.

The right-click menu is context-sensitive to display only applicable editing choices based on the item you selected. For example, if you select a bar in a bar chart, the right-click menu choices include *Remove Bar*, *Replace Bar Data* and *Change Bar Color*. If you select a plotted line from an indicator, the right-click menu choices include *Hide Indicator*, *Change Indicator Thickness* and *Change Indicator Color*.

To undo an edit

Use the *Undo* or *Redo* icons on the chart toolbar to remove or reapply the last editing function you performed.

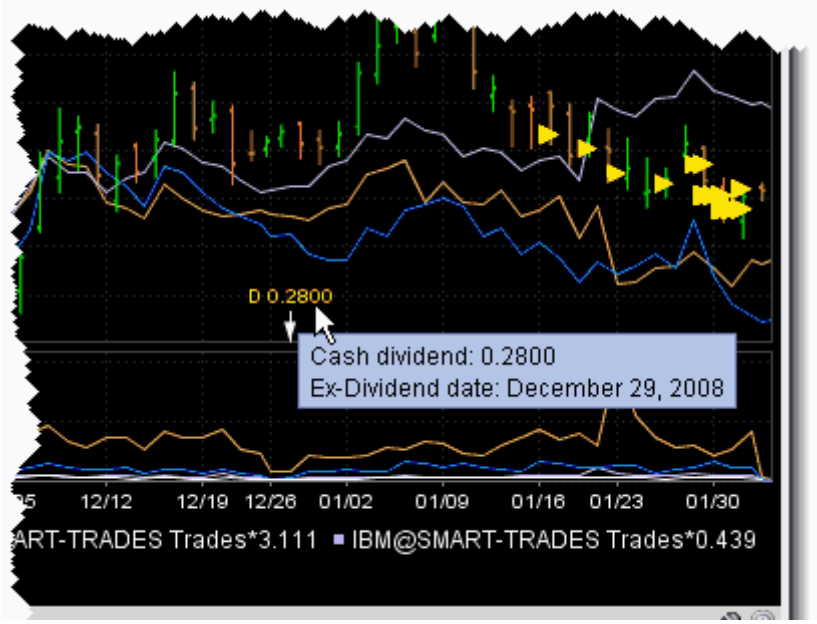


To hide and show indicator lines

1. Select an indicator line by holding your mouse over the line. It changes color to indicate that it has been selected.
2. Right-click and check "Hide *Indicator name*." The line disappears, and the color key block turns grey.
3. To show a hidden line, slowly move your mouse up the chart until the hidden line displays in grey.
4. Right-click and check "Show *Indicator name*." The line reappears, and the color key block returns to its original color to match the line.

Chart Display

TWS displays upcoming splits and dividends directly on your chart. When this feature is enabled, events will be visible on the chart when you open it, with splits in magenta and dividends in yellow. When you hold your mouse over the event, a pop-up box displays details.



To view splits and dividends on charts

1. In the Global Configuration panel, select **Charts** and then *Settings* in the left pane.
2. In the **Highlight on chart** area of the Settings page, check *Splits and dividends*.

Move the Right Margin

A movable right margin allows you to move the chart data to the left while still allowing studies and trendlines to continue into the future.

To move the right margin

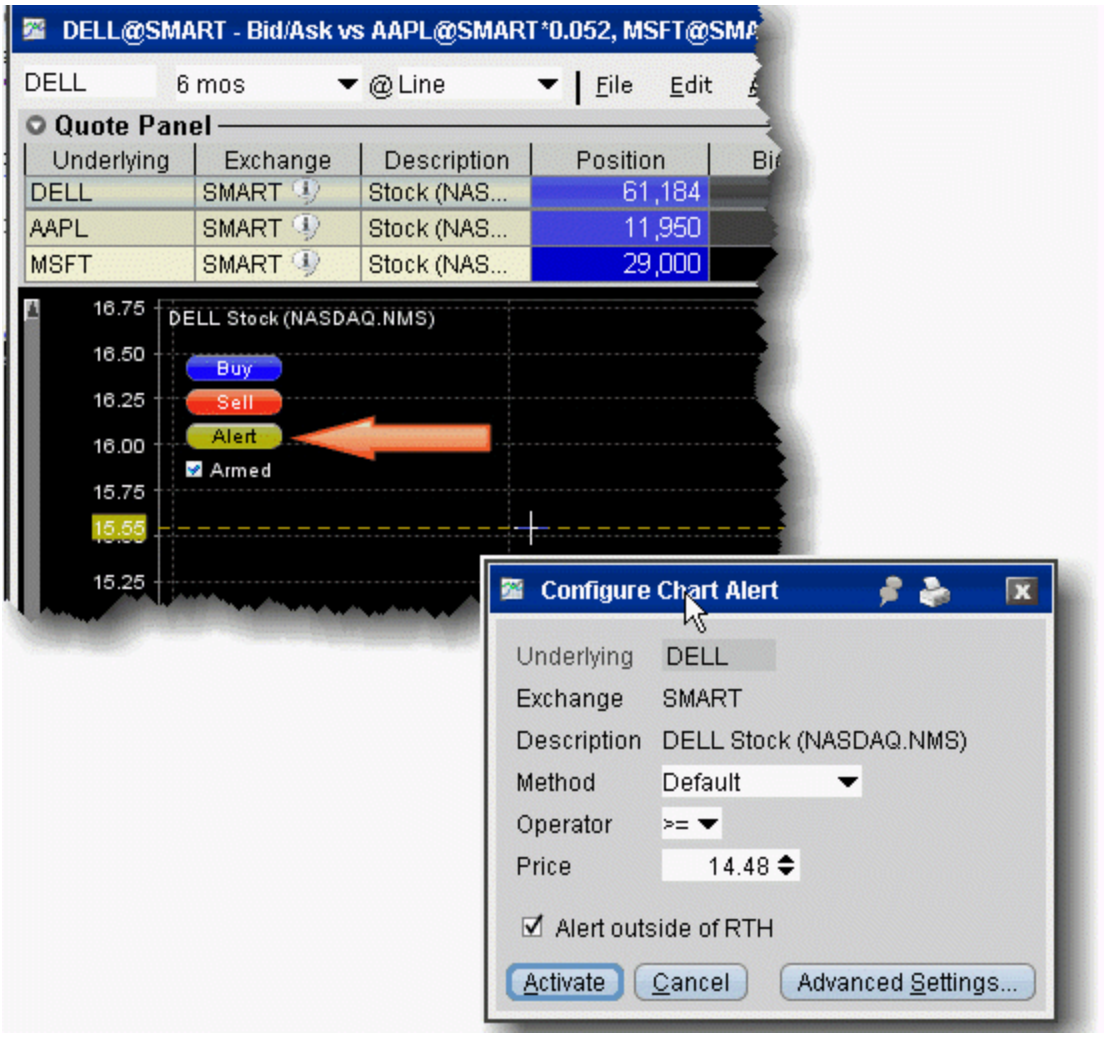
1. Hover your mouse along the right margin until the cursor changes to a double-sided blue arrow and the margin line turns purple.
2. Click and drag the margin to the left.
3. Release to reposition the margin at a new point.

To reset the margin

Right-click on the margin line and select *Reset Margin*.

Add Alerts in Charts

You can set price alerts quickly within a chart using the Alerts hot button.



To create an alert from within a chart

1. Ensure that you have Hot Buttons activated from the **View** menu.
2. Click the Alert hot button. The curser becomes a dotted line.
3. Click at the price level you want to use for the alert.
4. In the Configure Chart Alert dialog box, verify or change the trigger Method, Operator and Price trigger.

For more details on setting Alerts, see the Alerts and Notifications topic.

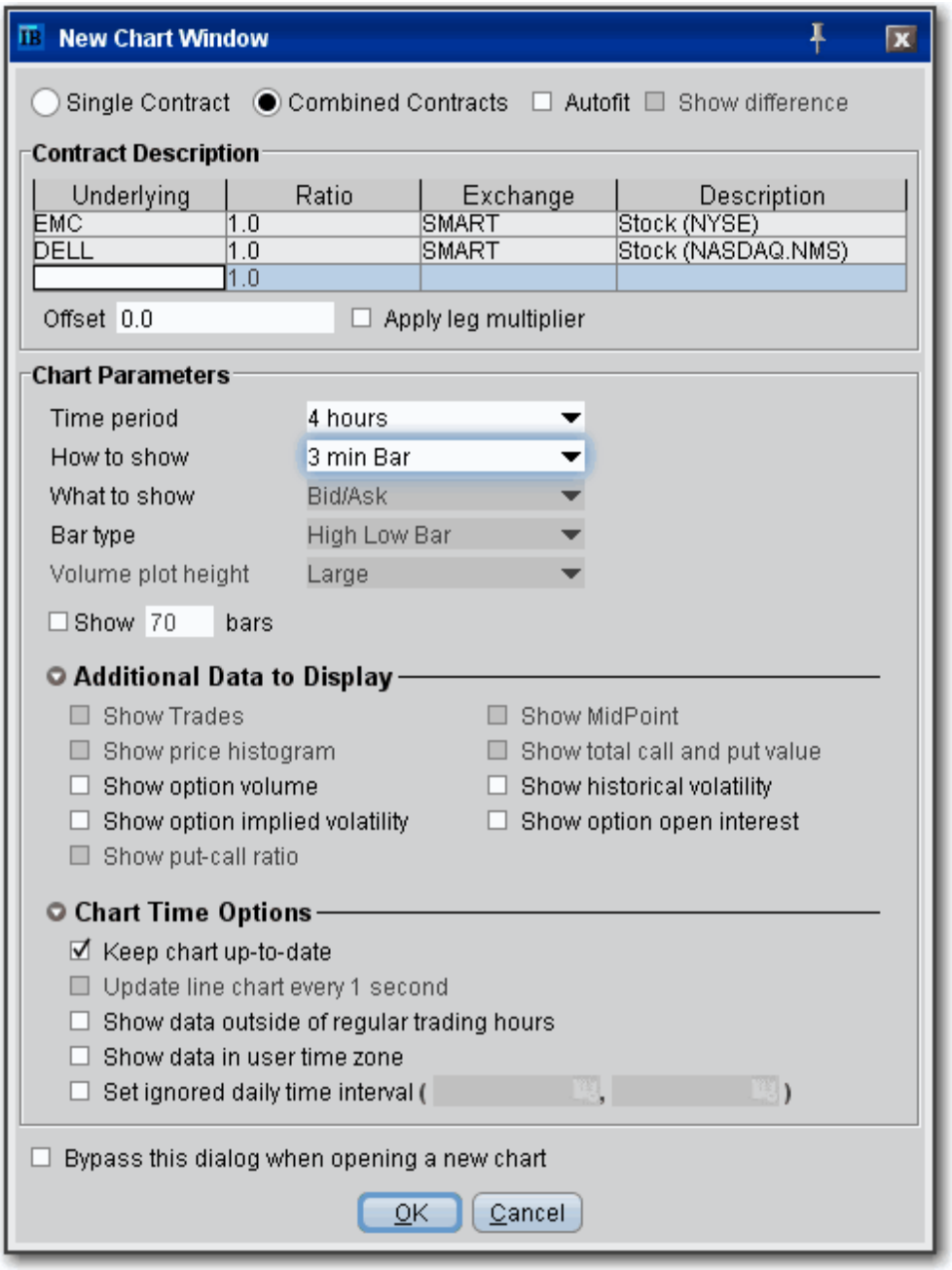
A labeled *Alert* line is positioned on the chart.

Chart Types & Tools

Chart Arithmetic
ChartTrader
Create a Bar Chart
Create a Line Chart
Time and Sales Data
View MarketWatch Historical Charts
Apply Fibonacci Trend Lines

Chart Arithmetic

You can add or subtract the bid/ask average prices for two or more contracts, and chart the sum as a single value.



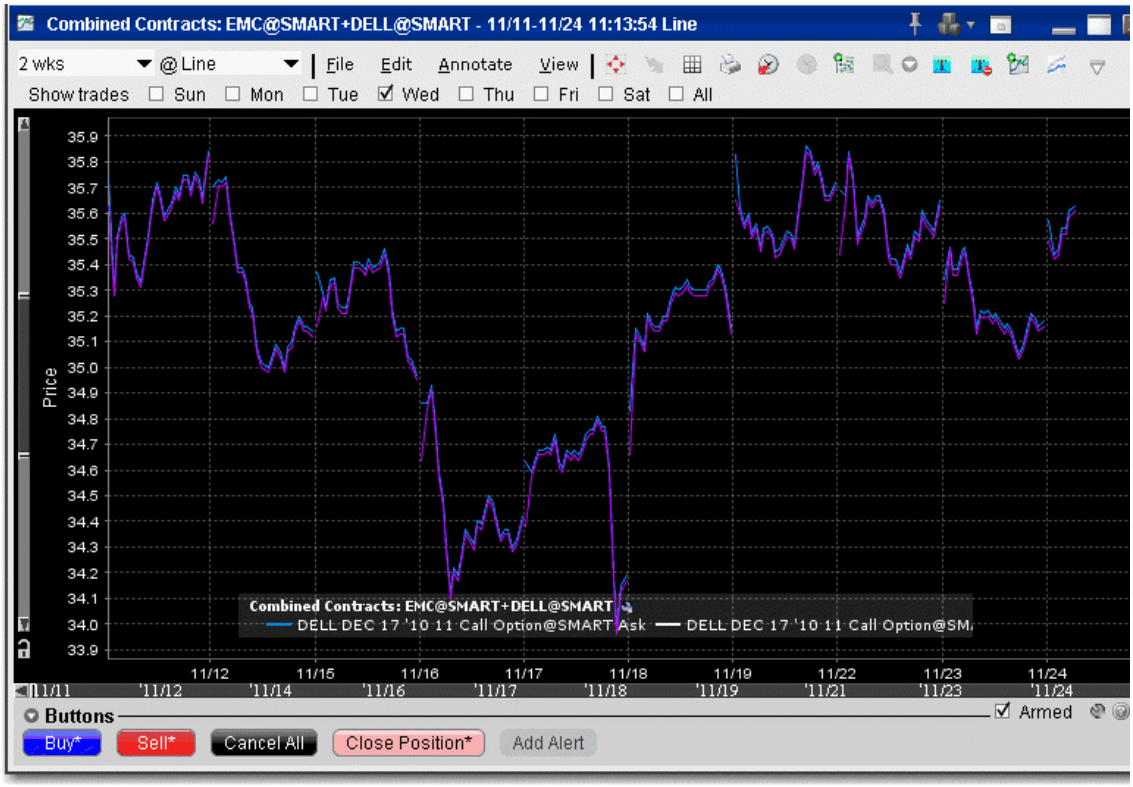
To chart combined contracts

1. Select an underlying and use the right-click menu to select **Charts** then *New Chart*.
2. Select the *Combined Contracts* radio button at the top of the New Chart window.

If the **Combined Contracts** selection at the top of the parameters window is not available, you will need to disable the last checkbox on the page, *Bypass this dialog when opening a new chart* which is enabled by default. Disable this feature and click OK, then create your new chart. The **Combined Contracts** feature will now be available.

3. In the contracts table, define multiple contracts.
4. To subtract a value, use the Ratio field to enter a minus sign in front of the ratio, or check *Show difference* at the top of the window.
5. If desired, enter an offset amount.
6. Choose the *Time Period.*
7. Click OK.

A combined chart looks like this:



Autofit Combined Charts

The chart arithmetic feature includes the ability to mathematically calculate the ratios for one or more contracts to approximate as closely as possible the chart for a single contract or index. You can elect to show both the primary and the autofitted charts, or just see the difference by checking *Show Difference*. The ratios and offsets for the autofits are calculated using the algorithm for fitting least squares regression problems under non-negativity constraints. Details are described by Lawson & Hanson in "Solving Least Squares Problems."

To use the Autofit Chart feature

1. Check the *Autofit* checkbox at the top of the window.Use the *Show difference* checkbox to see a single autofitted chart equal to the difference between the primary chart and the autofit.
2. In the contracts table, define multiple contracts. The first instrument you list will be the primary, and those that follow will be autofitted to the primary.

You must either check the Autofit box before you list the instruments you want to chart, or select all underlyings you want to include in the autofit before you check the box.

A chart using just Autofit looks like this:

A chart using both Autofit and Show difference looks like this:

IChartTrader

Transmit orders instantaneously from a chart using the armed Hot Buttons, or create an order from the buttons panel and modify it on the **Orders** tab.

To create an order in ChartTrader

1. Click the blue **Buy** button to create a buy order, or the Red sell button to create a sell order. The cursor becomes a dotted line.
2. Move your cursor into the chart and position the dotted line at the order price you want. Note that your exact price position is highlighted along the price axis.
3. Click to create an order. The order is displayed in the Quote panel, and can be modified. If the order was not transmitted instantaneously, you must transmit the order.

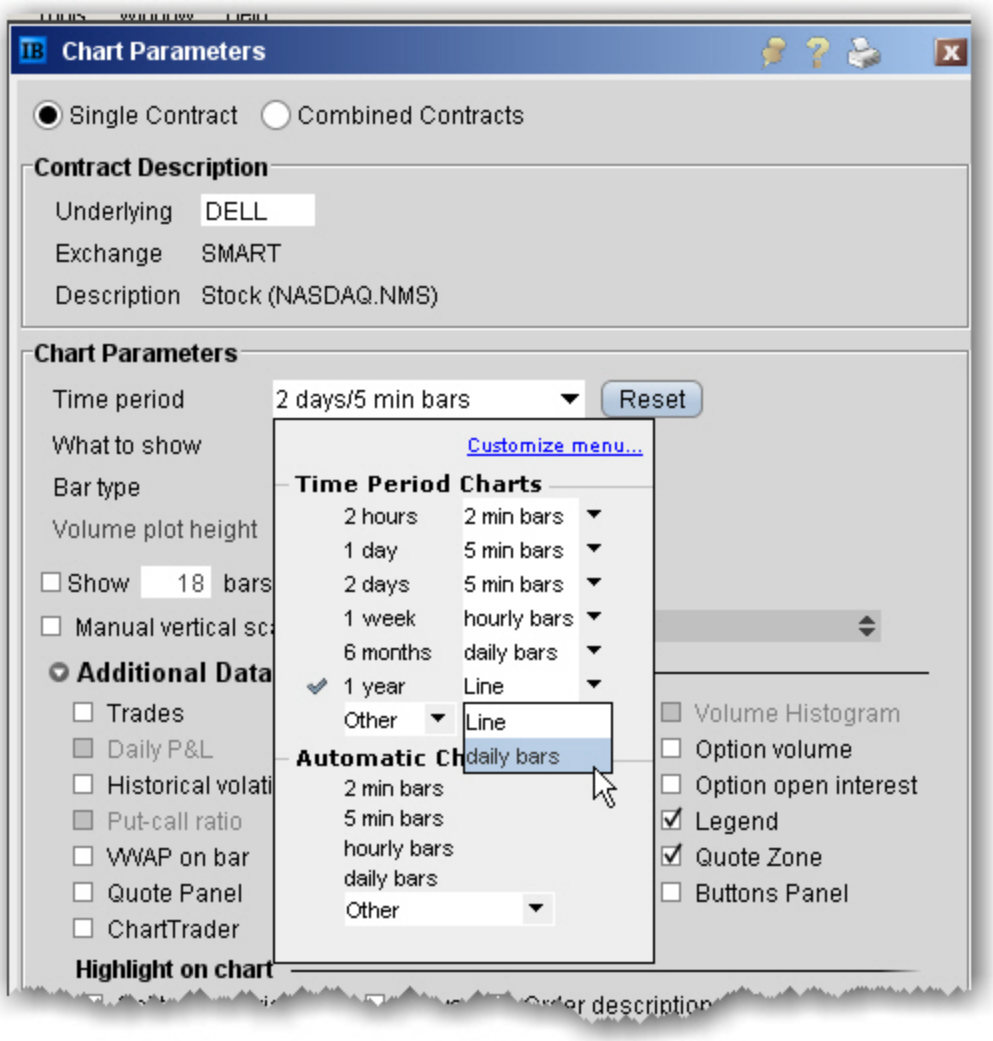
Orders are transmitted instantaneously when an asterisk(*) appears next to the button title, or when you activate the cursor using the armed Hot Buttons.

Orders that you create using ChartTrader also display on the Trading page that displays the contract data. Trading pages that hold an order display the page title in red.

Create a Bar Chart

To create a bar chart

1. Select the contract for which you want to create a chart, and from the right-click menu select *Charts* and then *New Chart*.
2. In the **Time Period** selector, choose a "bars" interval.



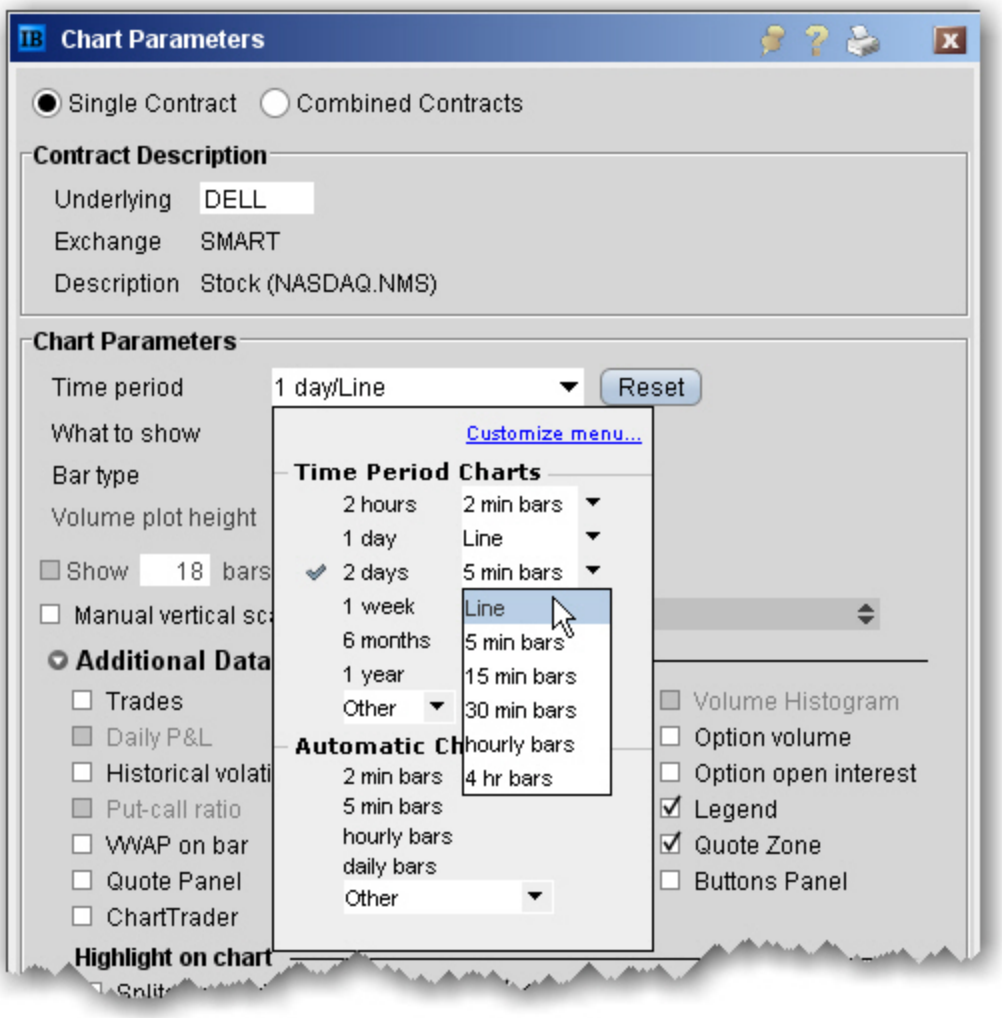
3. Define remaining chart parameters and click OK to display your chart.

To create a candlestick chart, choose **Candlestick** as the *Bar type*.

Create a Line Chart

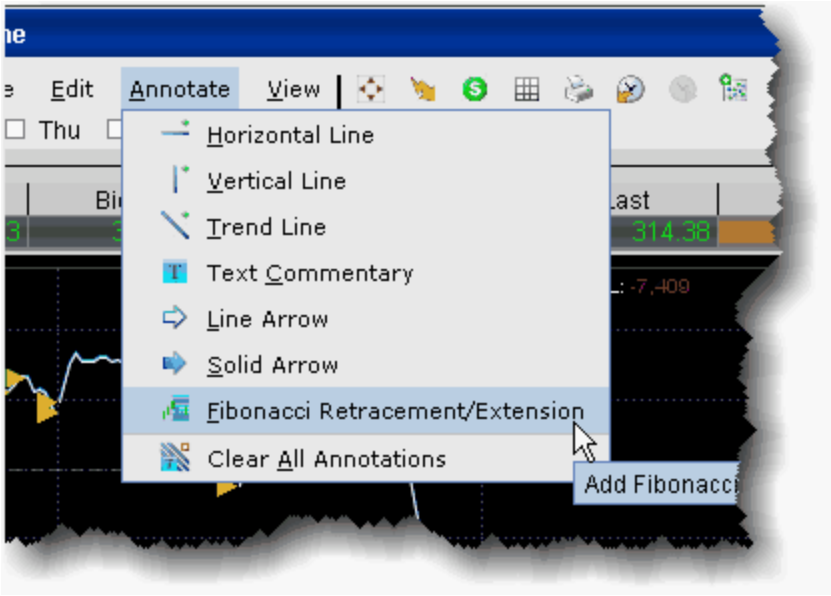
To create a line chart

1. Select the contract for which you want to create a chart, and from the right-click menu select *Charts* and then *New Chart*.
2. In the **Time Period** selector, choose a "line" interval.
3. Click OK to view the chart. For details on all of the setting you can use, see the Create a Real-time Chart overview topic.



Apply Fibonacci Trend Lines

The Fibonacci trendlines may be used to help determine price support/resistance at or near certain levels. The Fibonacci lines occur at 0.0%, 23.6%, 38.2%, 50.0%, 61.8%, 76.4% and 100.0%. Retracements occurring at these points within a trend could be used to help determine entry and exit points for a contract.



To add Fibonacci lines to a chart

1. From within a chart, use the **Annotate** menu to select *Fibonacci Retracement/Extension*.
2. Click your mouse at a peak or low point in the chart and pull to down/up and to the right across the chart.
3. A series of seven colored trendlines are drawn at 0.0%, 23.6%, 38.2%, 50.0%, 61.8%, 76.4% and 100.0%.

To delete a Fibonacci series of trendlines

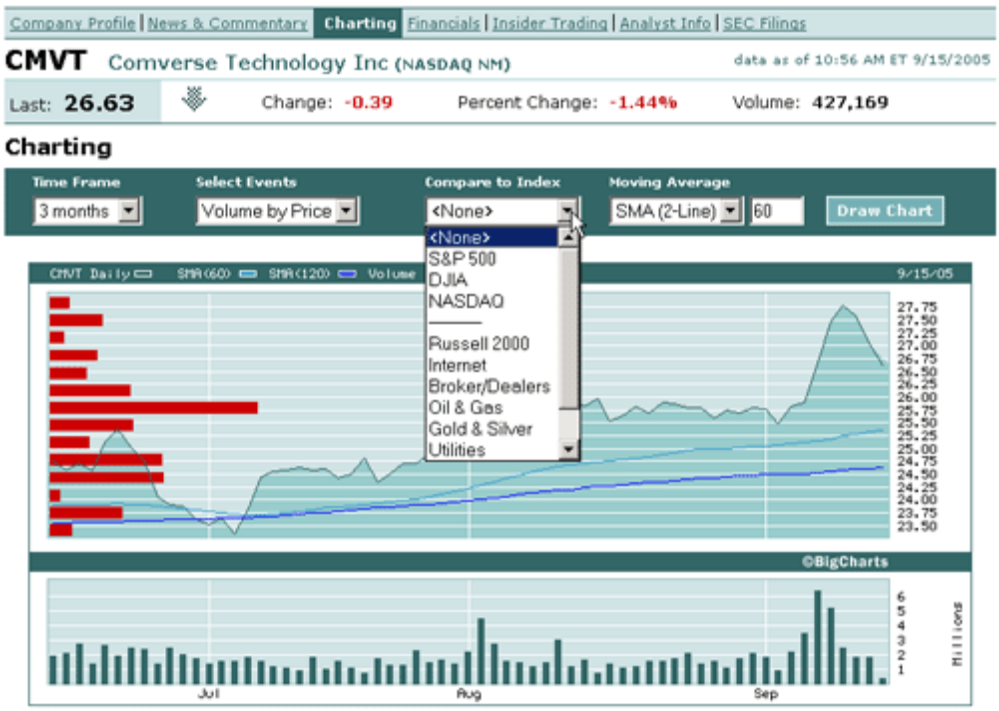
Click the Remove *All Trendlines* icon, located three icons to the right from the *Add Fibonacci* Line icon.

View MarketWatch Historical Charts

Define a historical chart using a time period from 1 day to one decade. You can also create interactive charts that update in real-time.

To view historical charts

1. On a quote monitor, highlight a contract and use the right-click menu to select *Charts*, then select *MarketWatch Chart*.
2. Define chart parameters such as time frame, events, index comparison and moving average, then click **Draw Chart**.



Any time you modify chart parameters, you must click **Draw Chart** to update.

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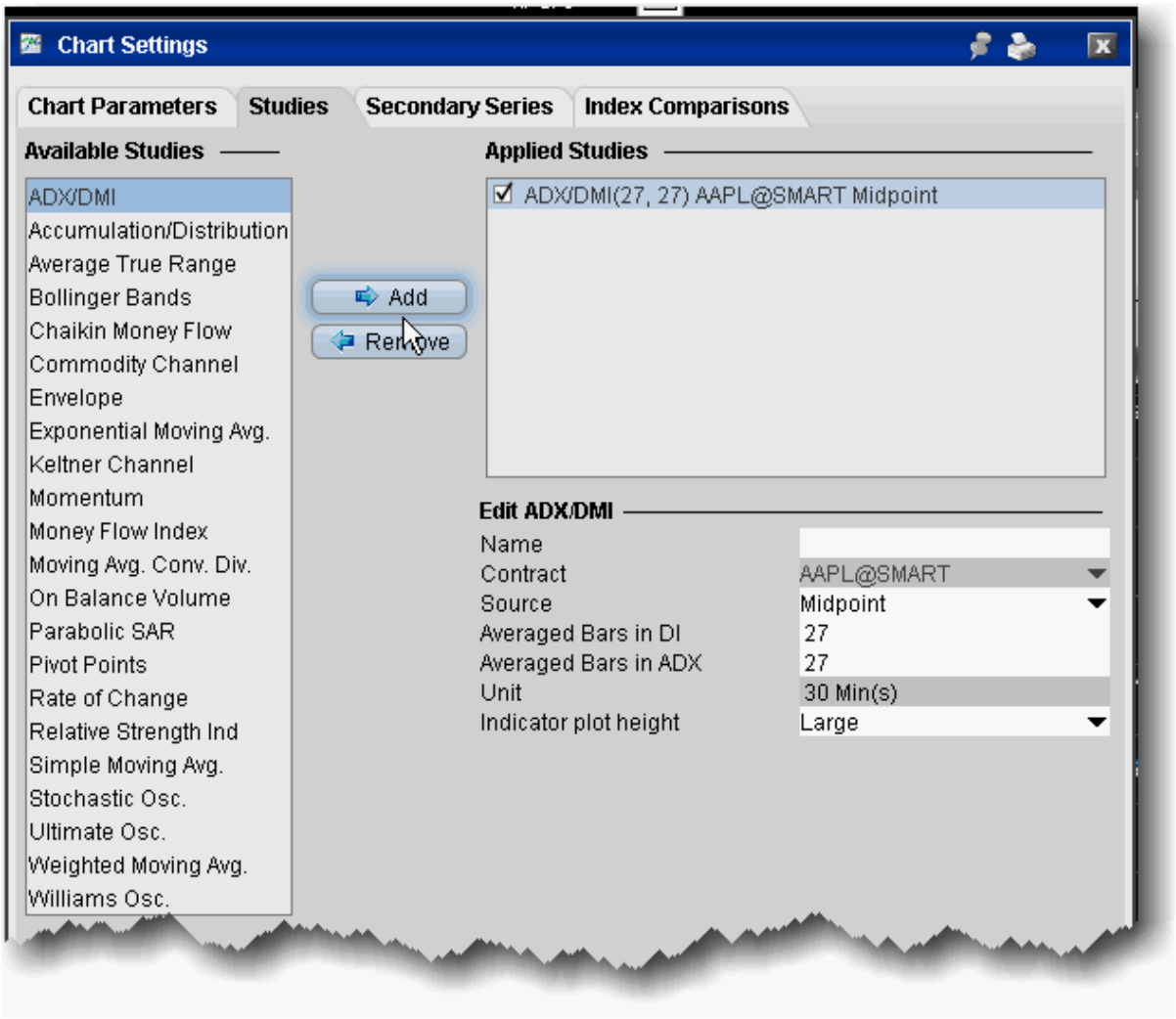
Apply ADX/DMI Indicator

To apply an ADX/DMI Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ADX/DMI and *Add* the study.
3. Complete parameters as necessary.



The ADX/DMI is represented by three lines +DM, -DM and ADX.

The Directional movement

If today's High is higher than yesterday's High then:

+DM = today's High - yesterday's High

If today's Low is lower than yesterday's Low then:

-DM = yesterday's Low - today's Low

If +DM is greater than -DM then: -DM = 0

If +DM is less than -DM then: +DM = 0

The true range

True range is the largest of:

|today's High - today's Low|
|today's High - yesterday's Close|
|yesterday's Close - today's Low|

Moving average of +DM, -DM and True Range

+DMMA = exponential moving average of +DM
-DMMA = exponential moving average of -DM
TRMA = exponential moving average of True Range

The Directional Indicators

+DI = +DMMA / TRMA
-DI = -DMMA / TRMA

Directional Index

DX = |(+DI - (-DI))| / (+DI + (-DI))

The Average Directional Movement Index

ADX = the exponential moving average of DX

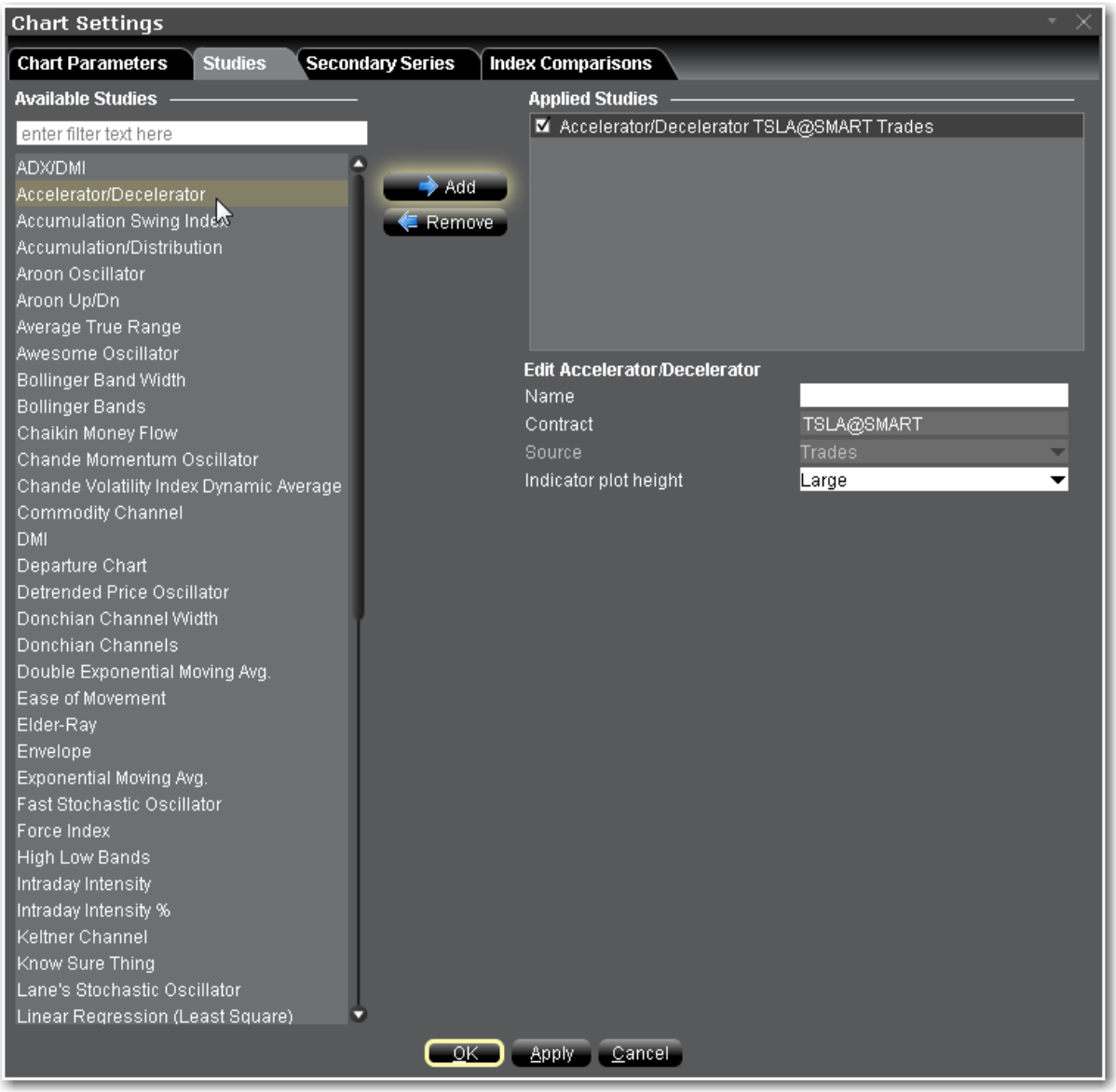
ADX = SUM[(+DI-(-DI))/(+DI+(-DI)), N]/N

Where:

N — the number of periods used in the calculation.

Accelerator/Decelerator Indicator

The Accelerator/Decelerator Technical Indicator (AC) measures acceleration and deceleration of the current driving force. This indicator will change direction before any changes in the driving force, which, in its turn, will change its direction before the price. The Acceleration/Deceleration is an early warning signal.



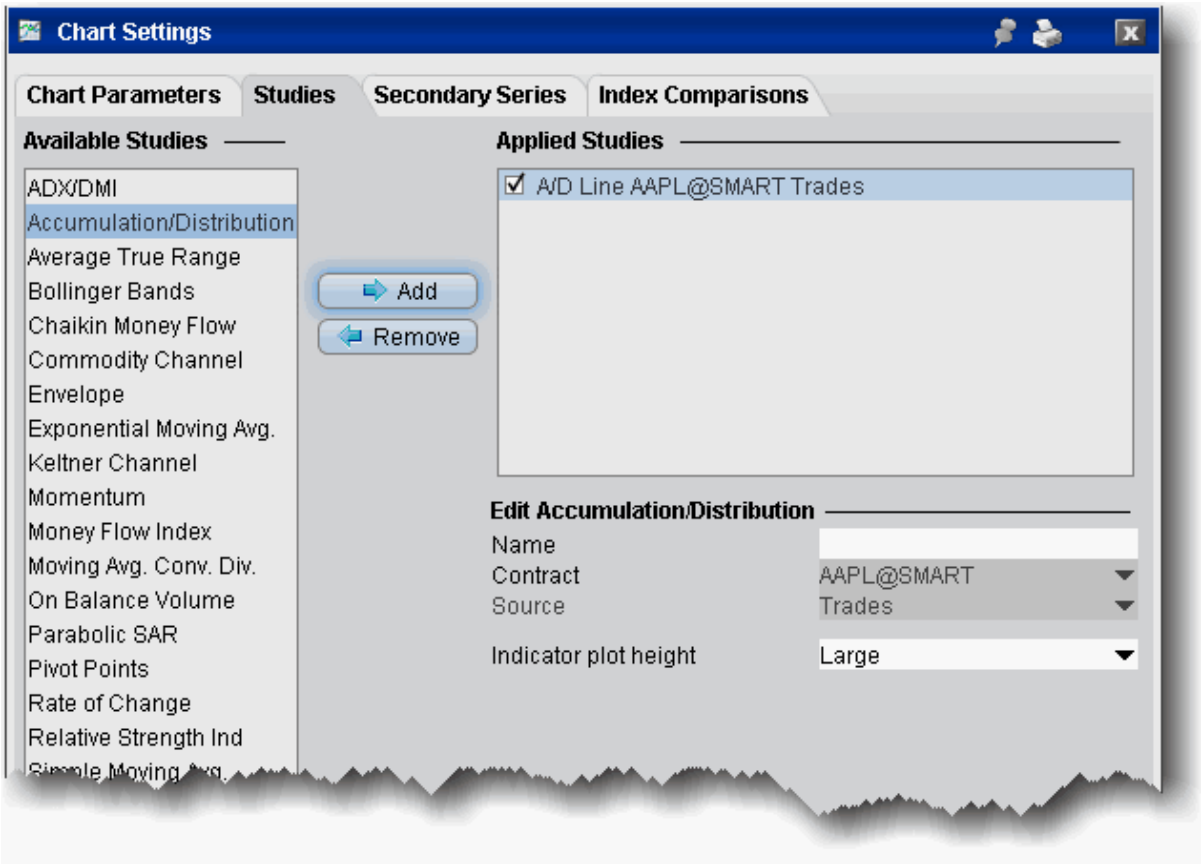
To apply an Accelerator/Decelerator Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Accelerator/Decelerator*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply an Accumulation/Distribution Line

This indicator attempts to quantify the flow of money into and out of a given stock. In theory, knowing this money/volume flow may help you to recognize an upcoming move in the stock price.



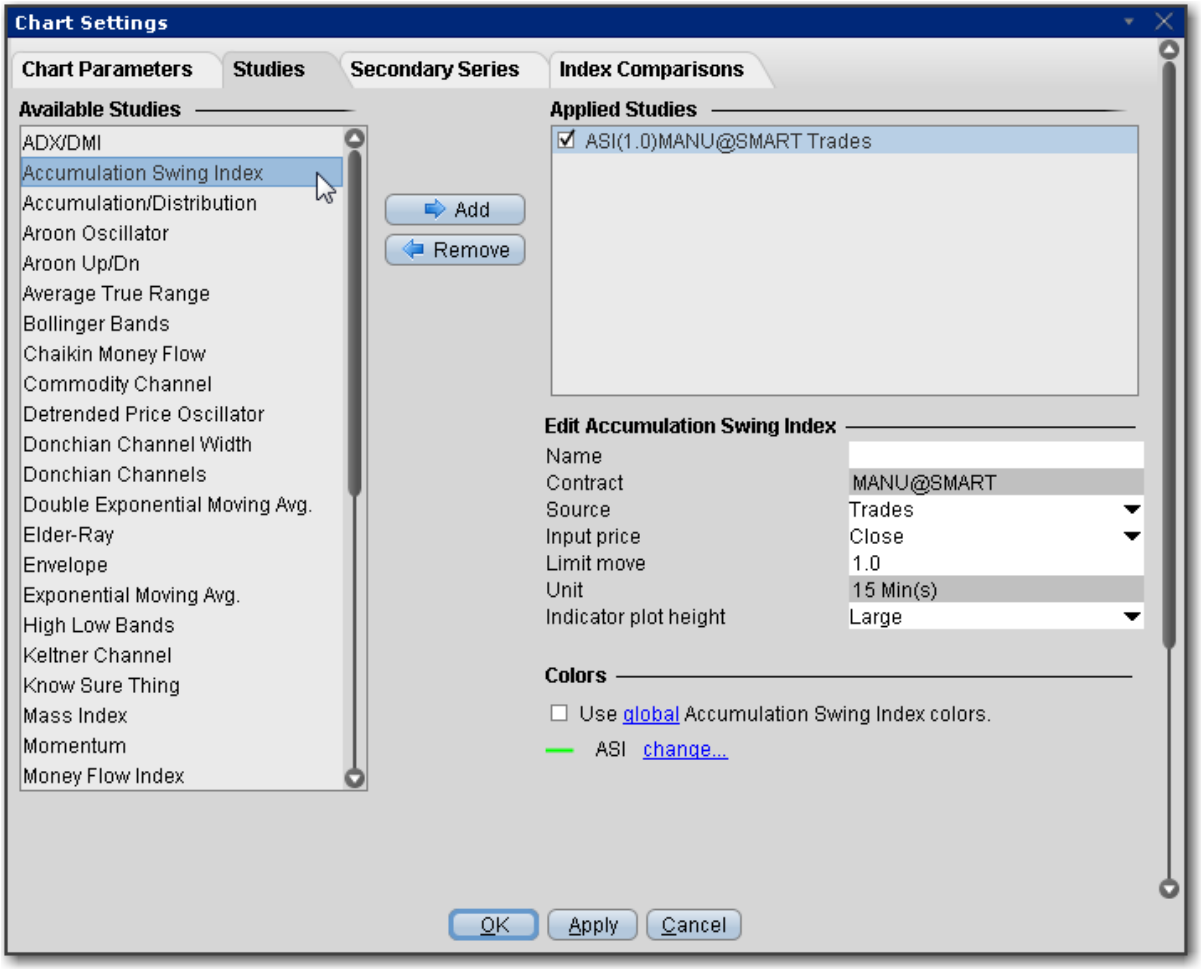
To apply an Accumulation/Distribution line

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **Accumulation/Distribution** and *Add* the study.
3. Complete parameters as necessary.

Apply an Accumulation Swing Index Study

The Accumulation Swing Index is a cumulative total of the Swing Index and attempts to show the phantom line which represents the “real market,” which theoretically occurs among the open, high, low and close prices. Since the Accumulation Swing Index attempts to show the "real market," it closely resembles the prices themselves. This allows you to use classic support/resistance analysis on the Index itself.

Typical analysis involves looking for breakouts, new highs and lows, and divergences.



To apply an Accumulation Swing Index Indicator

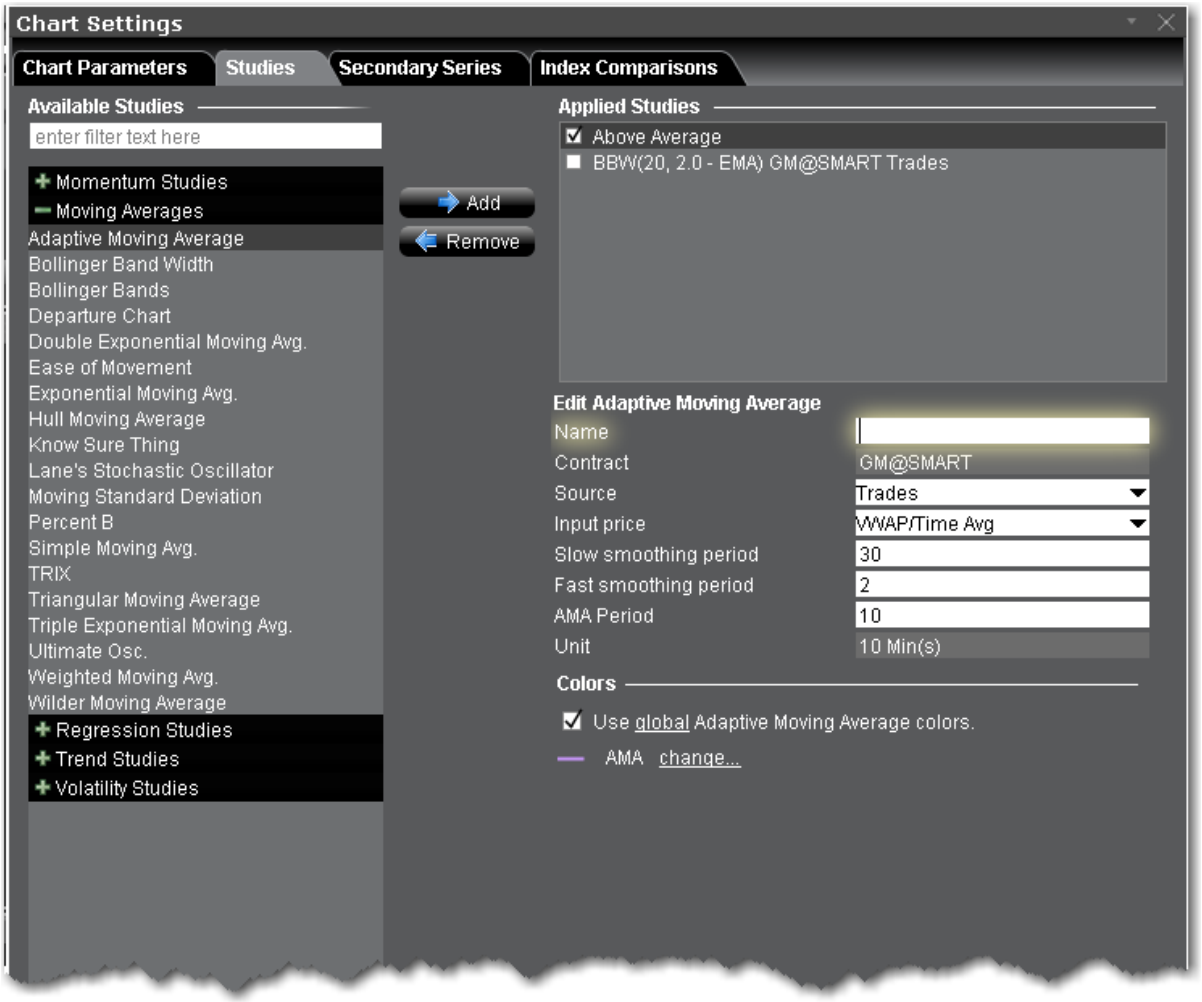
1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Accumulation Swing Index*** and click Add to add the study.

3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Adaptive Moving Average

An Adaptive Moving Average (AMA) is one more moving average overlay, just like EMA. It changes its sensitivity to price fluctuations. The Adaptive Moving Average becomes more sensitive during periods when price is moving in a certain direction and becomes less sensitive to price movement when price is volatile.



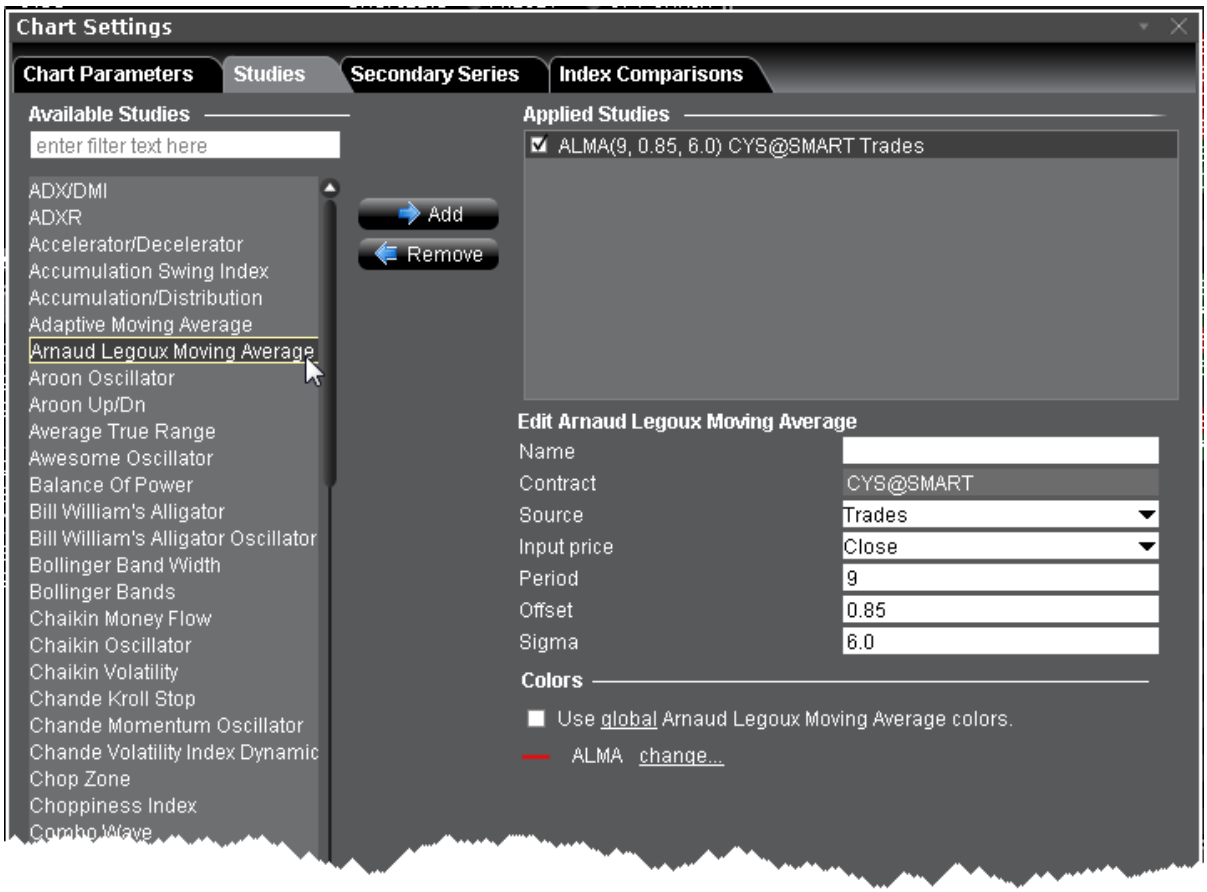
To apply an Adaptive Moving Average Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Adaptive Moving Average*** and click Add to add the study.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Arnaud Legoux Moving Average

Arnaud Legoux Moving Average (ALMA) removes small price fluctuations and enhances the trend by applying a moving average twice, once from left to right, and once from right to left. At the end of this process the phase shift (price lag) commonly associated with moving averages is significantly reduced. Zero-phase digital filtering reduces noise in the signal. Conventional filtering reduces noise in the signal, but adds a delay.



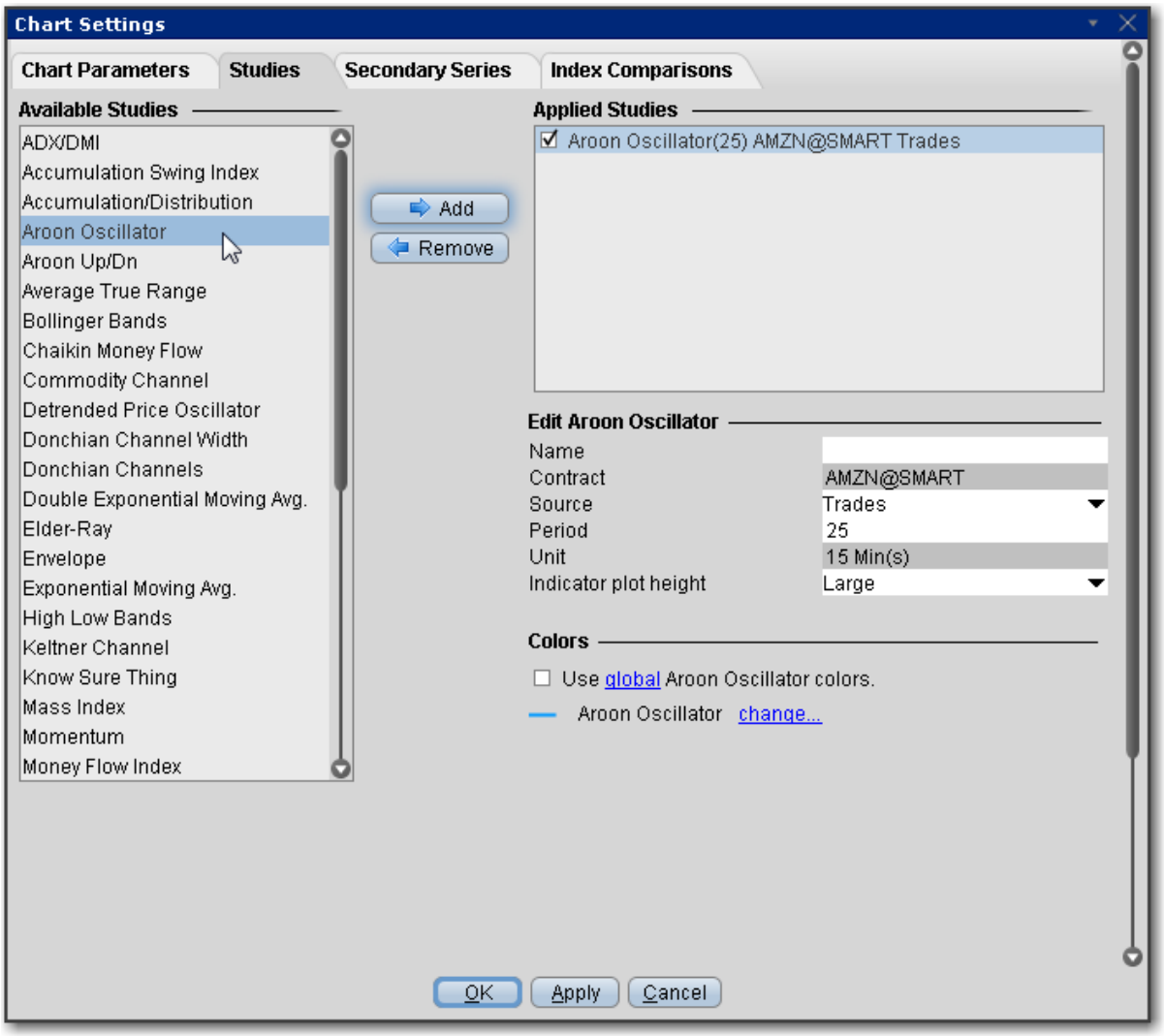
To apply an Arnaud Legoux Moving Average

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Arnaud Legoux Moving Average*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply an Aroon Oscillator Indicator

A trend-following indicator that uses aspects of the Aroon indicator (see "Aroon Up/Down") to gauge the strength of a current trend and the likelihood that it will continue. The Aroon oscillator is calculated by subtracting Aroon down from Aroon up. Readings above zero indicate that an uptrend is present, while readings below zero indicate that a downtrend is present.



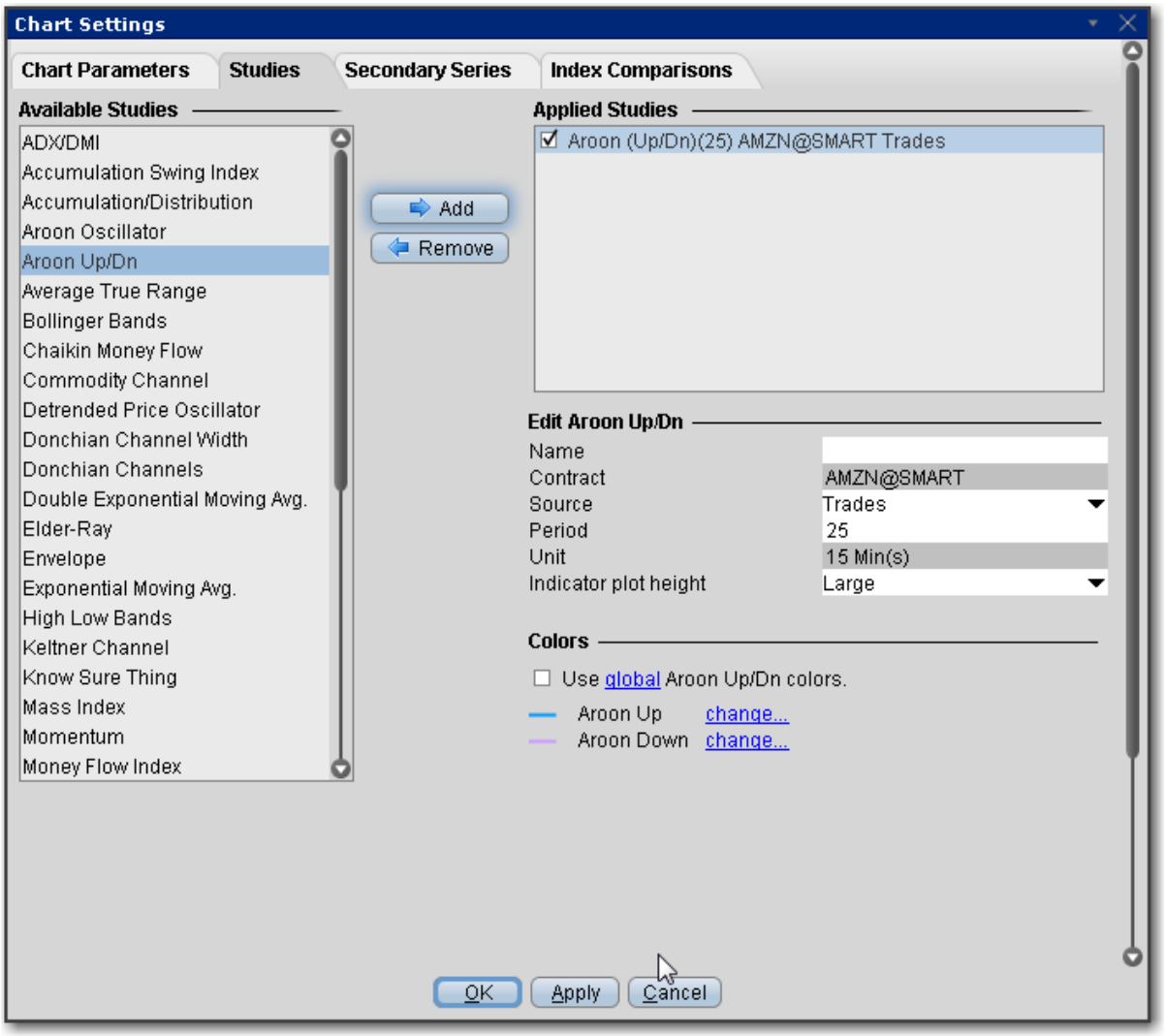
To apply an Aroon Oscillator Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Aroon Oscillator*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply an Aroon Up/Down Indicator

Aroon up" and "Aroon down" are the two components that comprise the Aroon indicator. Assuming that an asset is trending up when a stock is trading near the high of its range, Aroon up is used to measure the strength of the uptrend, while Aroon down is used to measure the strength of the downtrend. A cross above the zero line may suggest the beginning of a new uptrend. Conversely, a cross below zero could indicate the start of a downtrend. Readings near zero suggest that a security may be trending sideways and that this period of consolidation may continue.



To apply an Aroon Up/Down Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Aroon Up/Dn*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

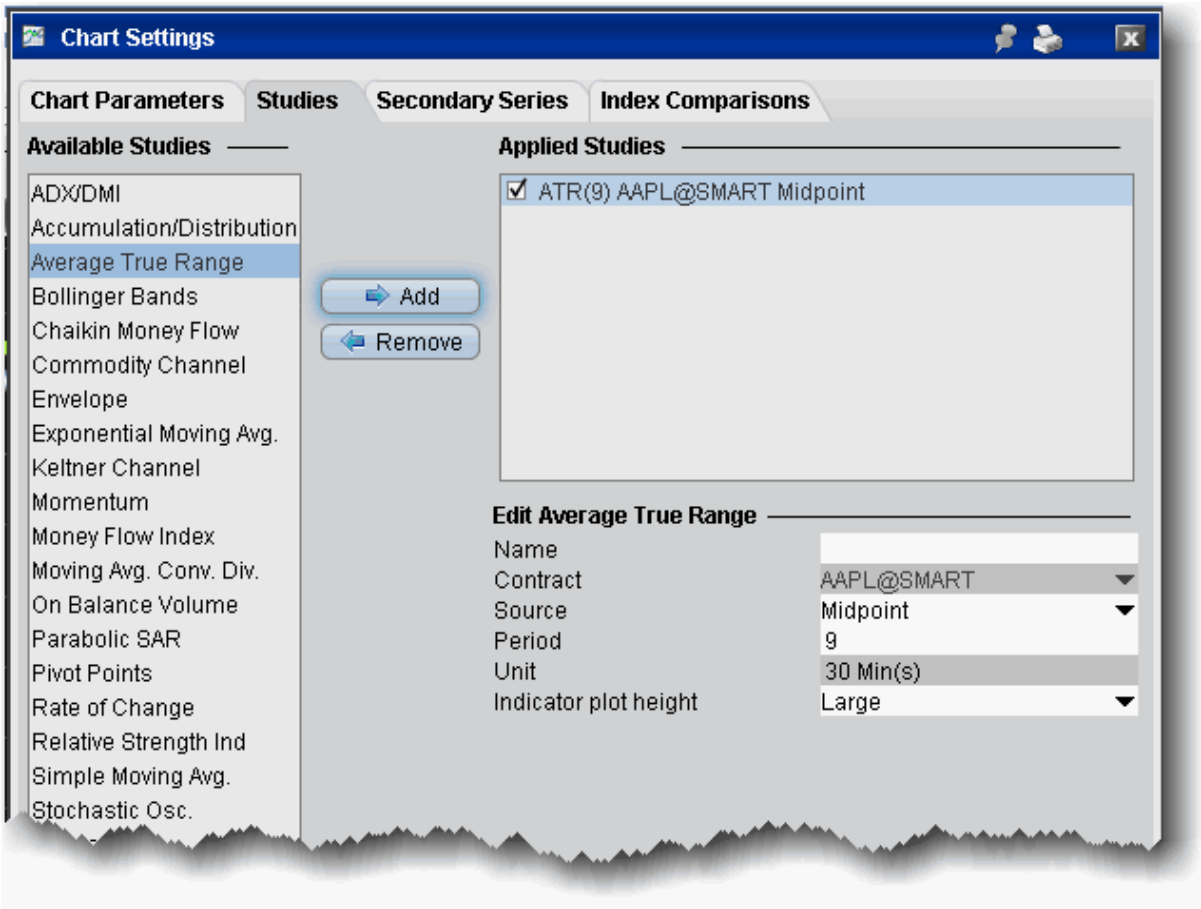
Apply an Average True Range Indicator

The Average True Range indicator is used to determine the volatility of the market. The idea is to replace the high-low interval for the given period, as the high-low does not take into consideration gaps and limit moves. You set the period when you create the study.

The True Range is the largest of:

difference between the current maximum and minimum (high - low)
difference between the previous closing price and the current maximum
difference between the previous closing price and the current minimum

The **Average True Range** is a simple moving average of the true range values.



To apply an Average True Range

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **Average True Range** and *Add* the study.
3. Complete parameters as necessary.

Awesome Oscillator

The Awesome Oscillator is an indicator used to measure market momentum. AO calculates the difference of a 34 Period and 5 Period Simple Moving Averages. The Simple Moving Averages that are used are not calculated using closing price but rather each bar's midpoints. AO is generally used to affirm trends or to anticipate possible reversals.

To apply an Awesome Oscillator Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Awesome Oscillator*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Balance of Power Indicator

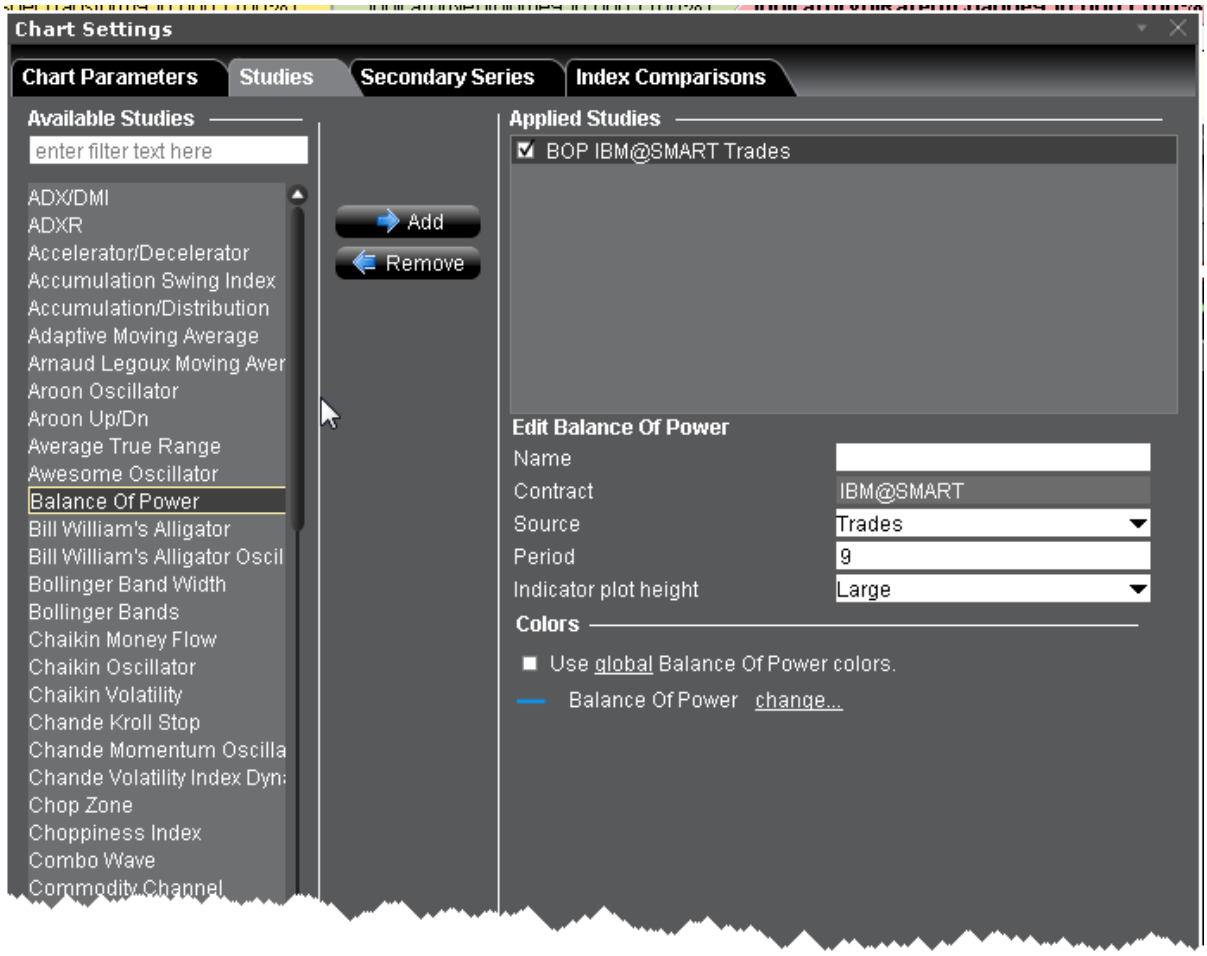
The Balance of Power indicator measures the market strength of buyers against sellers by assessing the ability of each side to drive prices to an extreme level. The calculation is: Balance of Power = (Close price – Open price) / (High price – Low price) The resulting value can be smoothed by a moving average.

Traders may use this indicator to help:

Identify the direction of a trend.

Find divergences between the price and the BoP in order to identify a potential trend reversal or trend continuation setup.

Take advantage of overbought and oversold conditions.



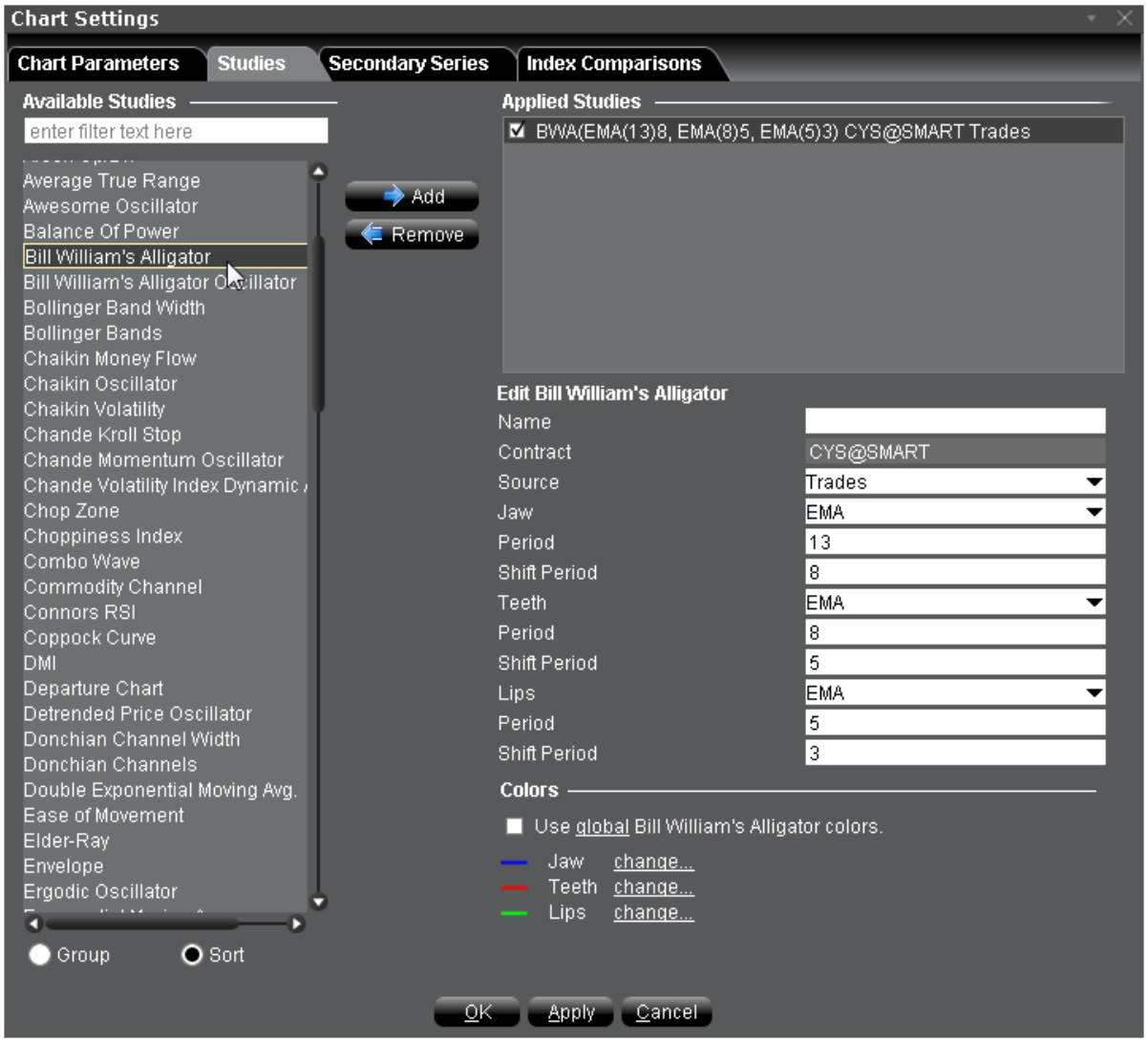
To apply a Balance of Power Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Balance of Power*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Bill Williams Alligator

The Alligator indicator comprises three moving average lines. The blue line represents the jaw, the red line represents the teeth, and the green line the lips. All of the moving average lines are editable and use the exponential moving average as the default. The interaction between the three lines helps identify trends.



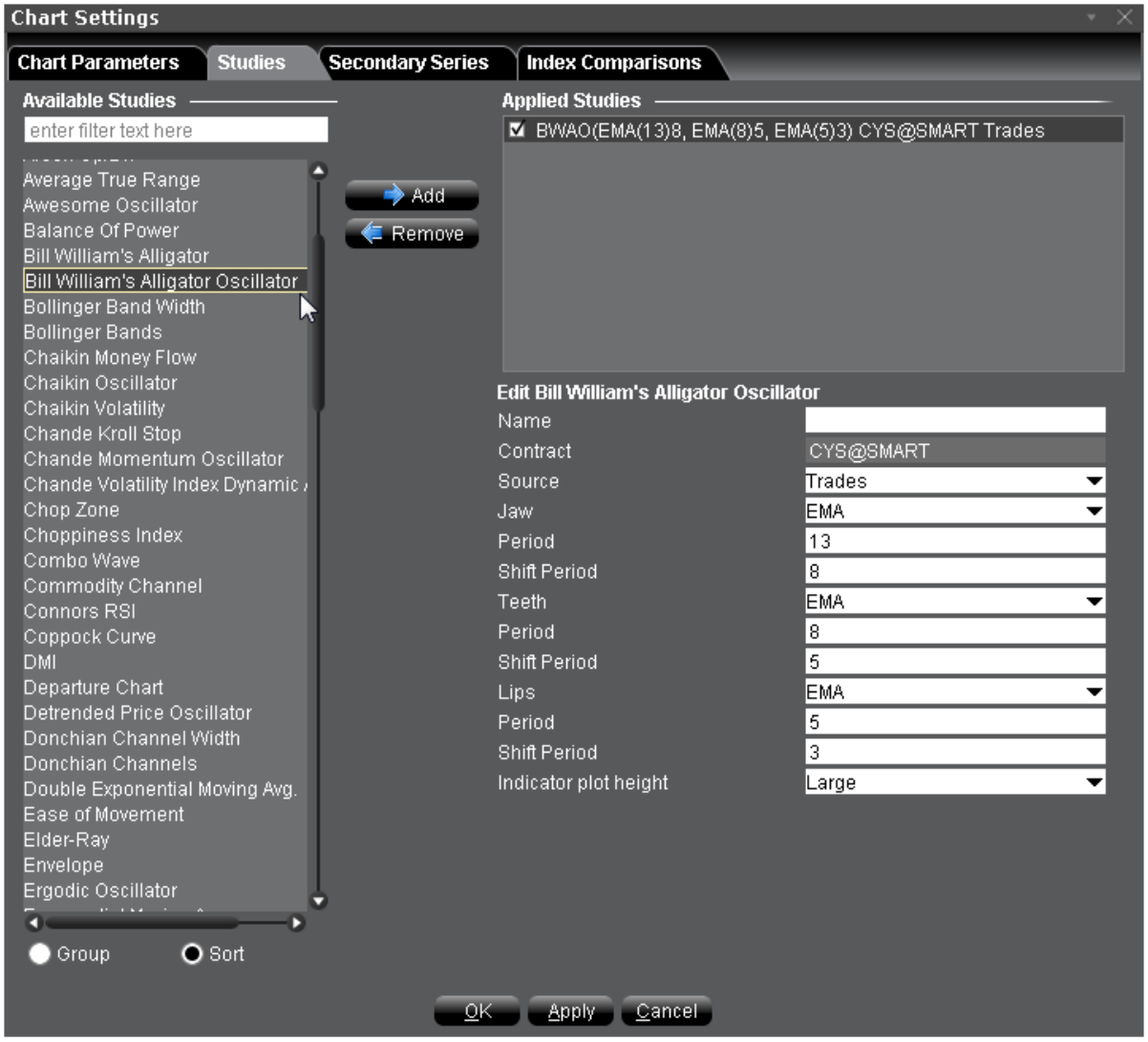
To apply a Bill Williams Alligator Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Bill Williams Alligator*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Bill Williams Alligator Oscillator

This indicator is displayed as a line chart in a plot separate from the Alligator. The Alligator Oscillator includes the same configurable fields as the Alligator plus a field to adjust the plot height of the indicator.



To apply a Bill Williams Alligator Oscillator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Bill Williams Alligator Oscillator*** and click **Add** to add the study to the Applied

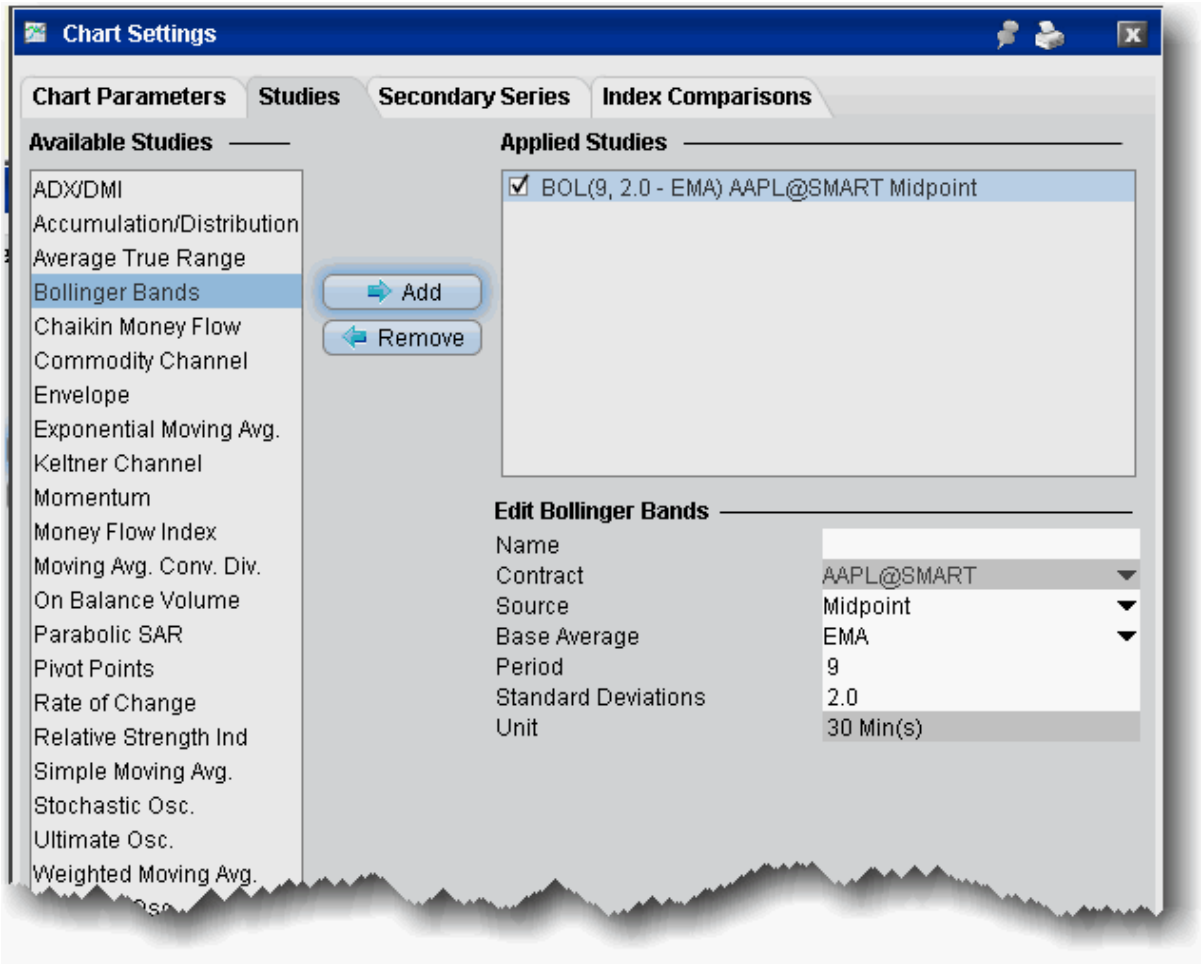
Studies group.

3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply Bollinger Band Indicator

Bollinger Bands measure volatility by plotting a series of three bands. The middle band represents the moving average (SMA or WMA or EMA). The upper band is a set number of standard deviations higher than the middle band (generally 2), and the lower band is a set number of standard deviations (generally 2) lower than the middle band. You set the distance of standard deviation when you create the study.



To apply Bollinger Bands

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **Bollinger Bands** and *Add* the study.

1. Complete parameters as necessary.

Bollinger Bands are calculated like this:

ML = Avg. (N)

TL = ML + (D*StdDev)

BL = ML — (D*StdDev)

Where:

ML - middle line

Avg(N) - SMA or WMA or EMA

TL - top line

BL - bottom line

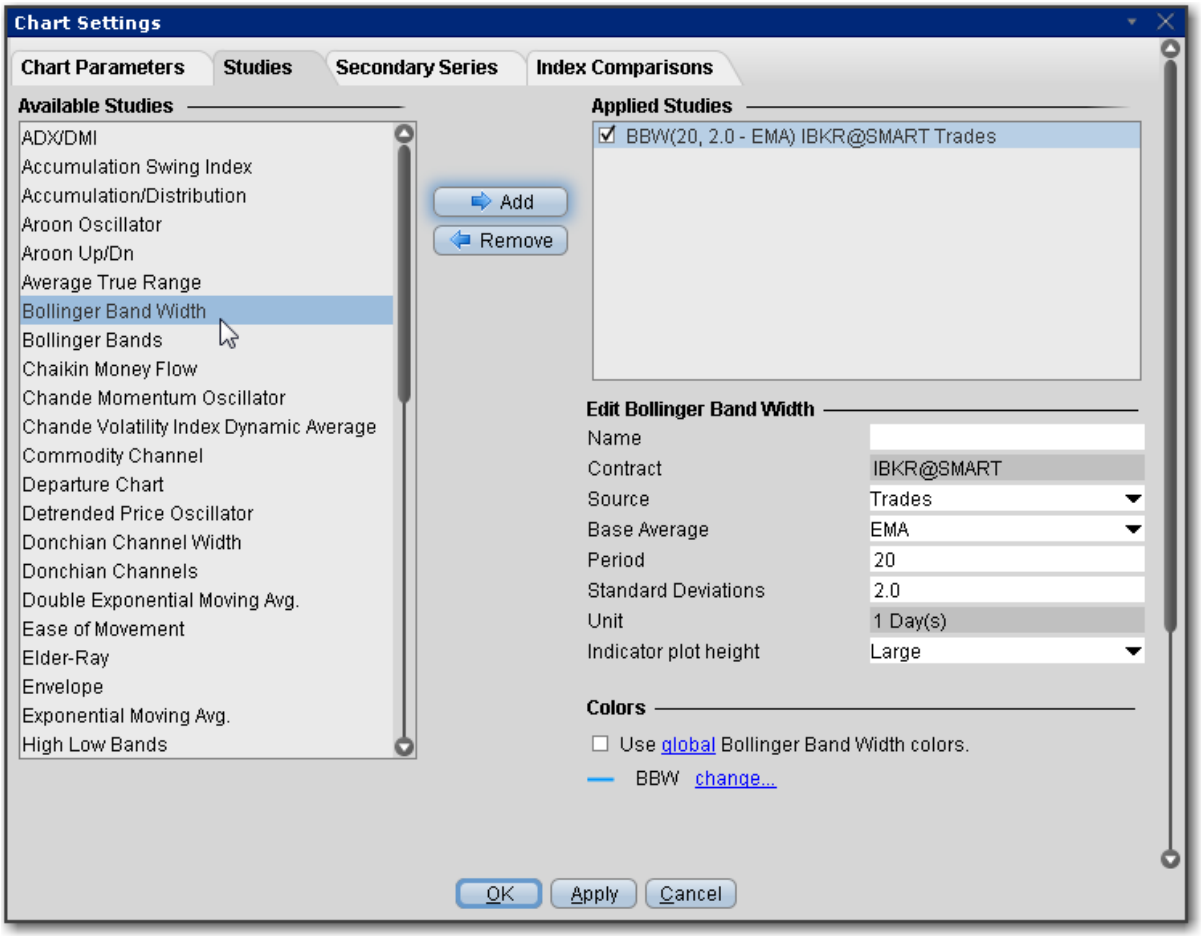
N — is the number of periods used in calculation;

StdDev — the Standard Deviation.

StdDev = SQRT(SUM[(CLOSE — SMA(CLOSE, N))^2, N]/N)

Bollinger Band Width Indicator

Bollinger Band Width is derived from Bollinger Bands and measures the percent difference between the upper and lower bands. It decreases as Bollinger Bands narrow and increases as Bollinger Bands widen. Because Bollinger Bands are based on the standard deviation, falling Band Width reflects decreasing volatility and rising Band Width reflects increasing volatility.



To apply a Bollinger Band Width Indicator

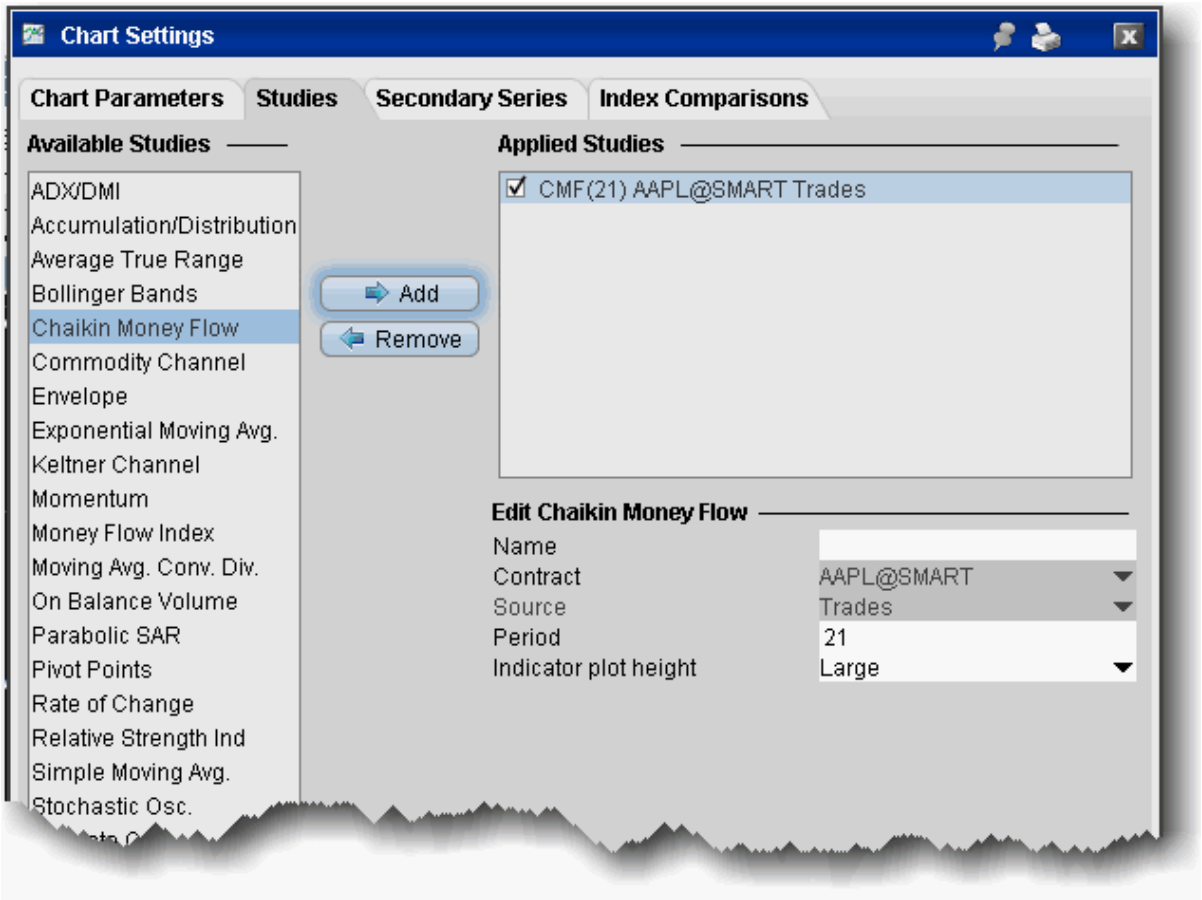
1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Bollinger Band Width***and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply Chaikin Money Flow Oscillator

The Chaikin Money Flow Oscillator is calculated using the Accumulation/Distribution Line. It takes the cumulative total of the Accumulation/Distribution values for 21 periods (or *X* number of

periods if you elect to change this value) divided by the cumulative total of volume for 21 (or X) periods.



To apply a Chaikin Money Flow Indicator

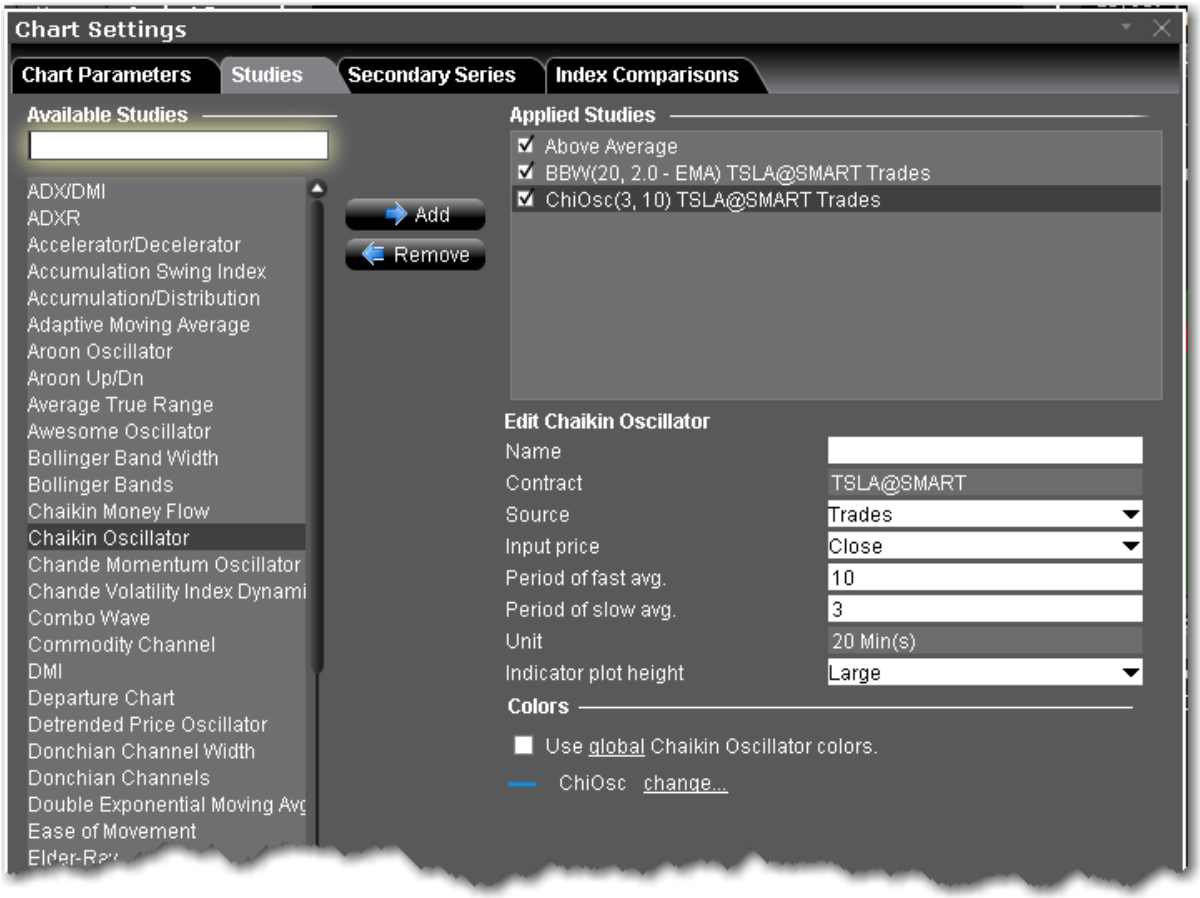
1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **Chaikin Money Flow** and *Add* the study.
3. Complete parameters as necessary.

Apply a Chaikin Oscillator

The Chaikin Oscillator monitors the flow of money in and out of the market. It calculates and plots the difference between the 10-period exponential moving average and the three-period exponential moving average of the accumulation distribution. The accumulation distribution

uses the relationship between the open and the close of the bar and the range of the bar to weigh and characterize the volume as accumulation (buying) or distribution (selling).

In short, the Chaikin Oscillator compares the money flow to the price action of an issue, which allows the user to recognize tops and bottoms in short cycles.



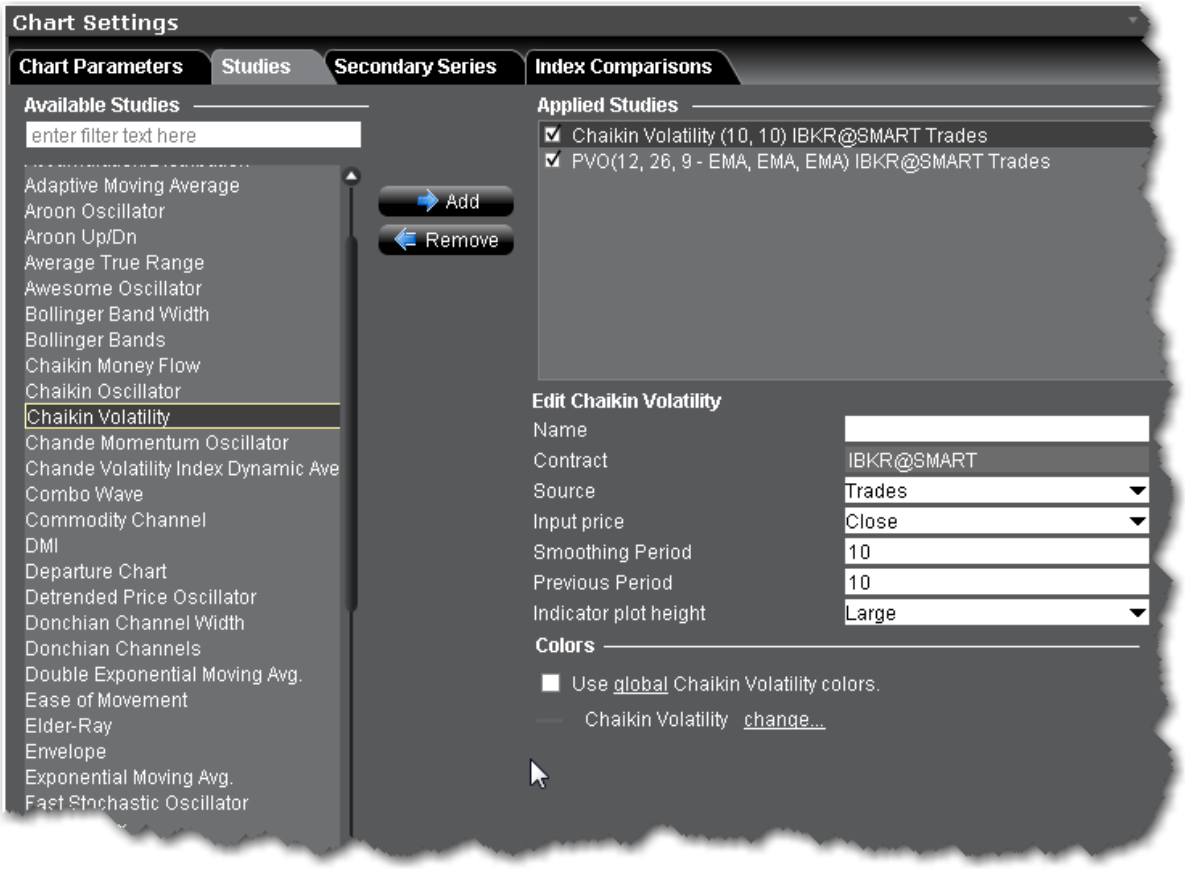
To apply a Chaiken Oscillator Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Chaiken Oscillator*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Chaikin Volatility Indicator

Shows the difference between two moving averages of a volume-weighted accumulation-distribution line. Comparing the spread between a security's high and low price quantifies volatility as a widening of the range between the high and the low price. An increase in the Volatility Indicator over a relatively short time period may indicate that a bottom is near. A decrease in volatility over a longer time period may indicate an approaching top. It is recommended to use the Chaikin Volatility in conjunction with a moving average system or price envelope.



To apply a Chaikin Volatility Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Chaikin Volatility*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

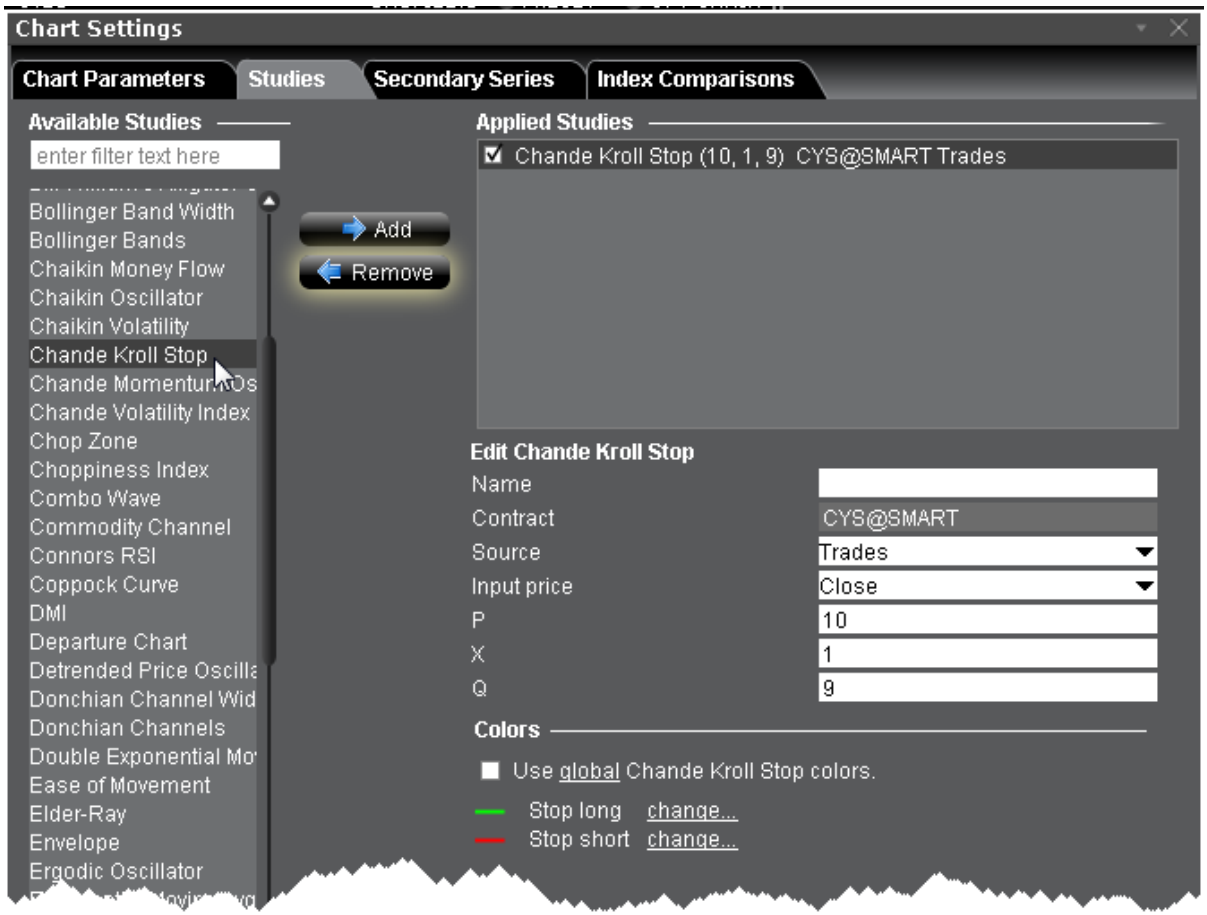
Chande Kroll Stop

This is a trend-following indicator that identifies the stop loss for a long or short position by using a variation on directional movement. It is calculated on the average true range of an instrument's volatility. The stops are placed under (and on) the high (low) of the last "n" bars. The difference is proportional to the average True Range on "N" bars.

You can use the Chande Kroll to trade in a number of ways:

Sell when the price crosses below both lines.
Buy when the price crosses above both lines.
Trade when the two lines cross each other.

As the price moves sideways you will note that the lines begin to flatten out and the price will trade broadly between the two lines. Make sure that when you trade it is always in the direction of the trend.

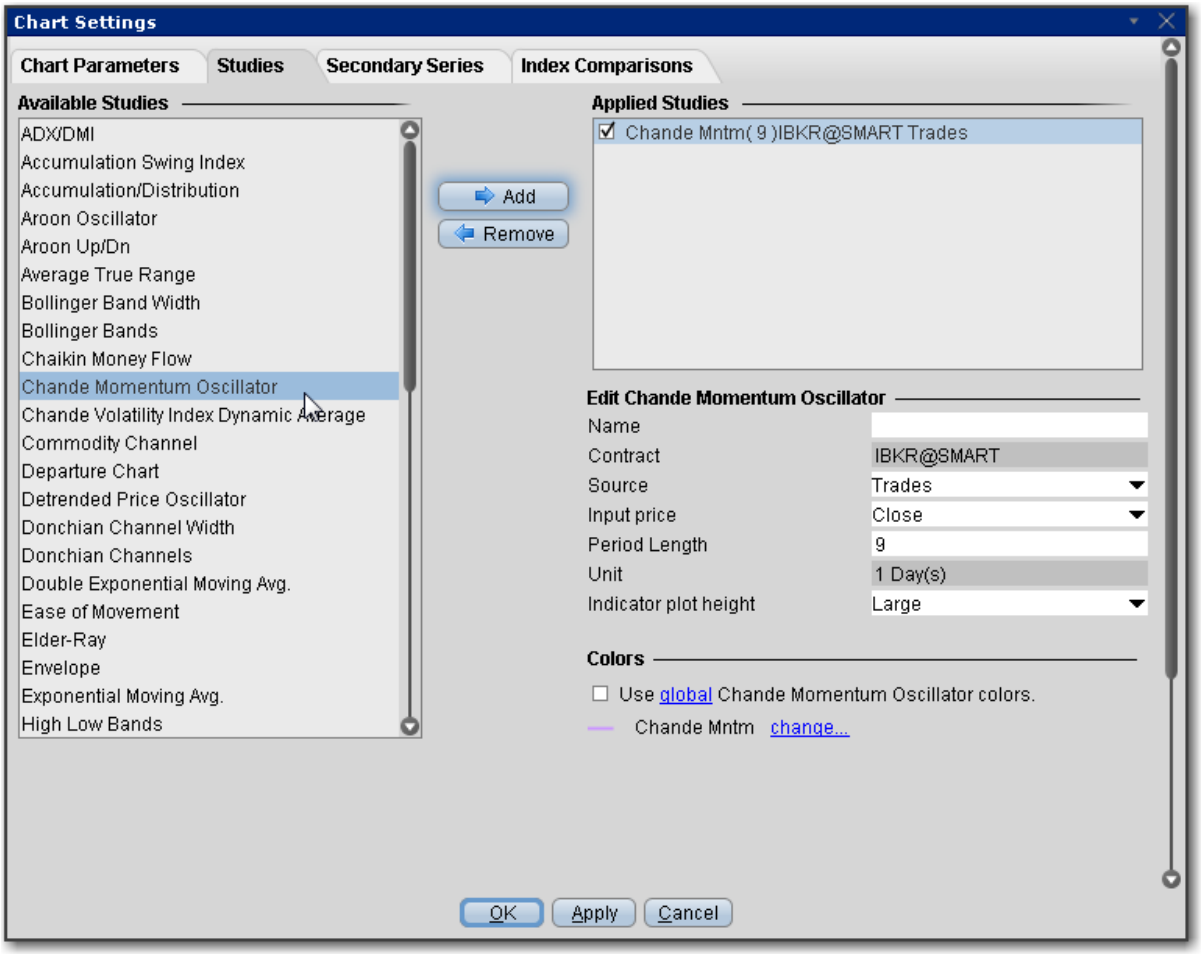


To apply a Chande Kroll Stop Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **Chande Kroll Stop** and *Add* the study.
3. Complete parameters as necessary.

Chande Momentum Oscillator

A technical momentum indicator that is created by calculating the difference between the sum of all recent gains and the sum of all recent losses and then dividing the result by the sum of all price movement over the period. This oscillator is similar to other momentum indicators such as the Relative Strength Index and the Stochastic Oscillator because it is range bounded (+100 and -100).



To apply a Chande Momentum Oscillator Indicator

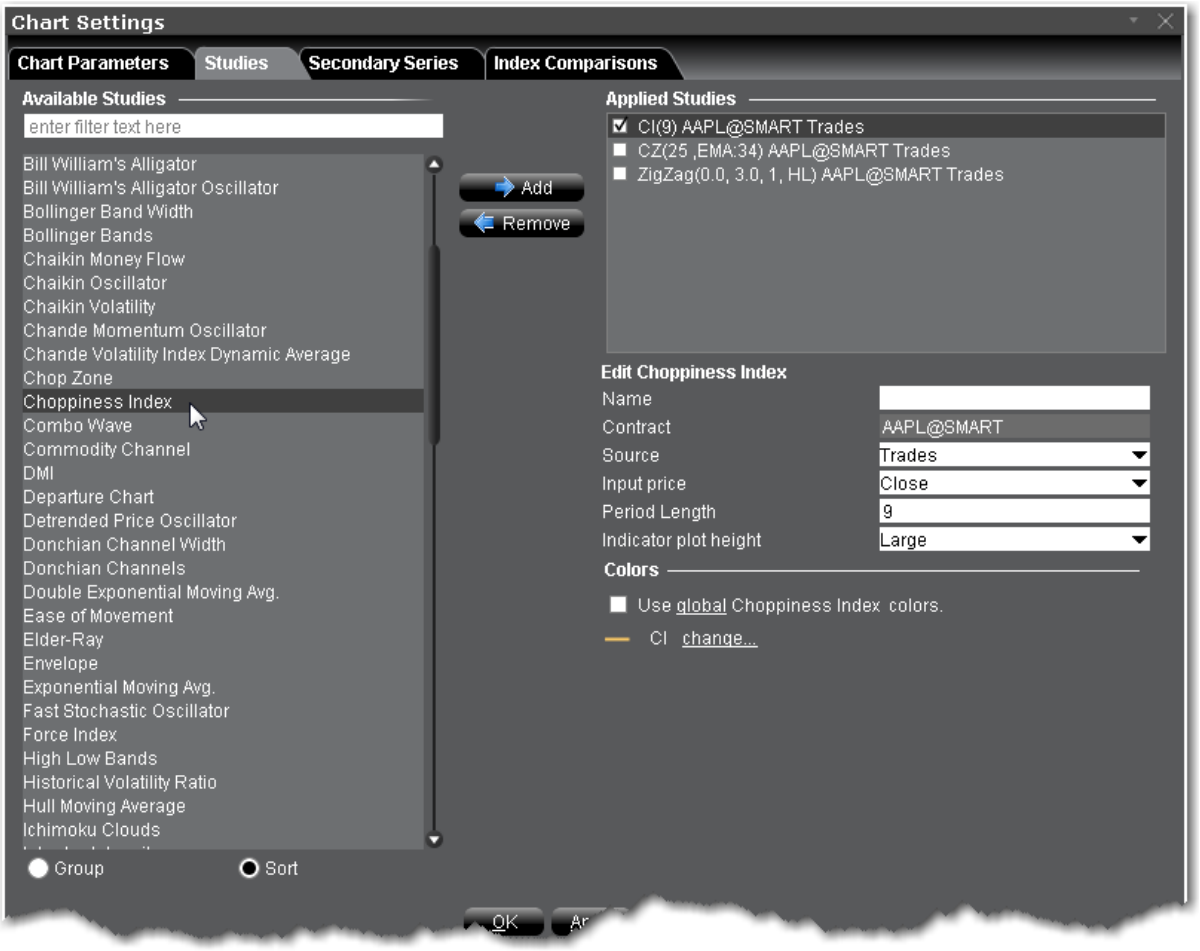
1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Chande Momentum Oscillator***and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Choppiness Index

The Choppiness Index is designed to determine whether the market is choppy or trading sideways, or not choppy and trading within a trend in either direction. Using a scale from 1 -

100, the market is considered to be choppy as values near 100 (over 61.80) and trending when values are lower than 38.20).



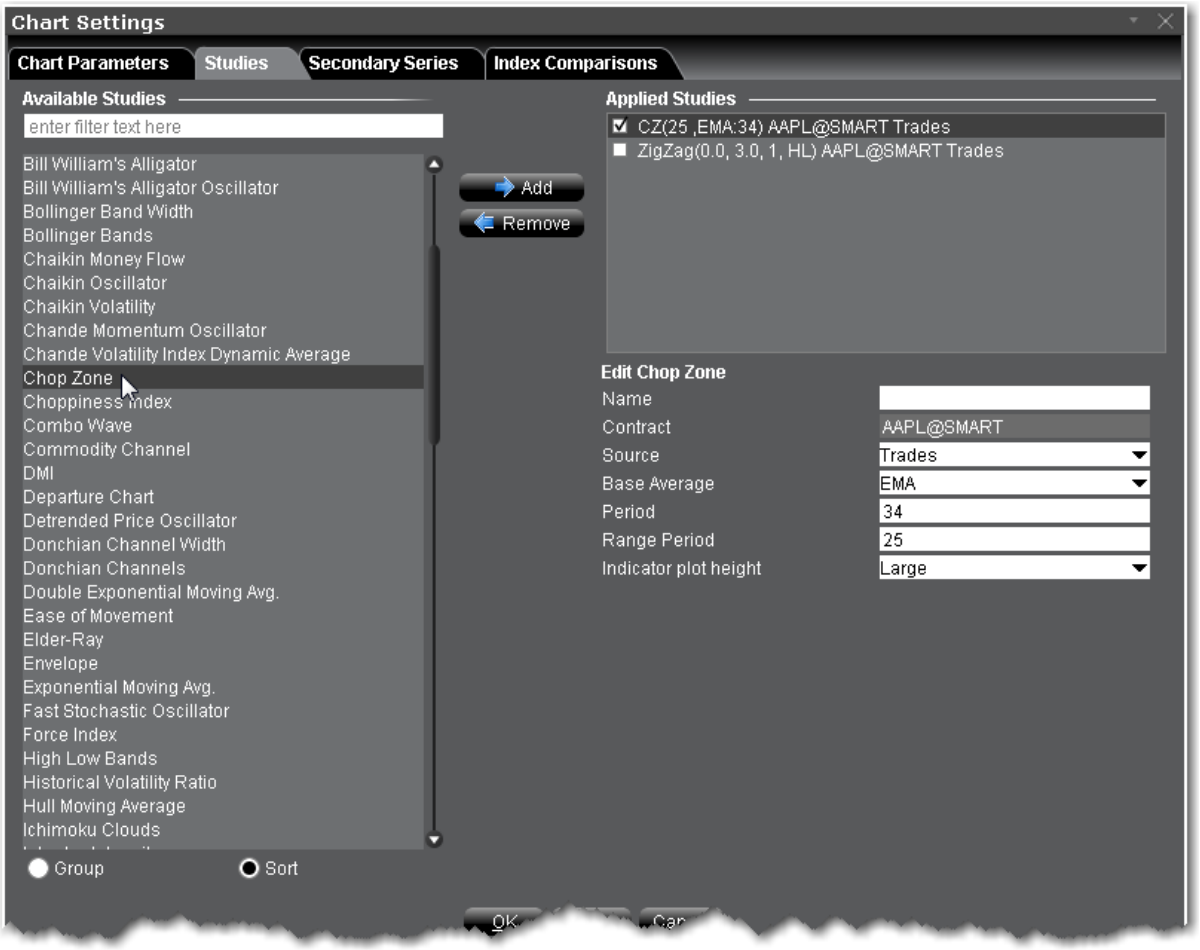
To apply a Choppiness Index Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Choppiness Index*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Chop Zone

This is a visual indicator designed to identify trends and choppiness. Plotted within -100/+100 levels, the Chop Zone illustrates the difference between close price and its EMA by converting its values to colors.



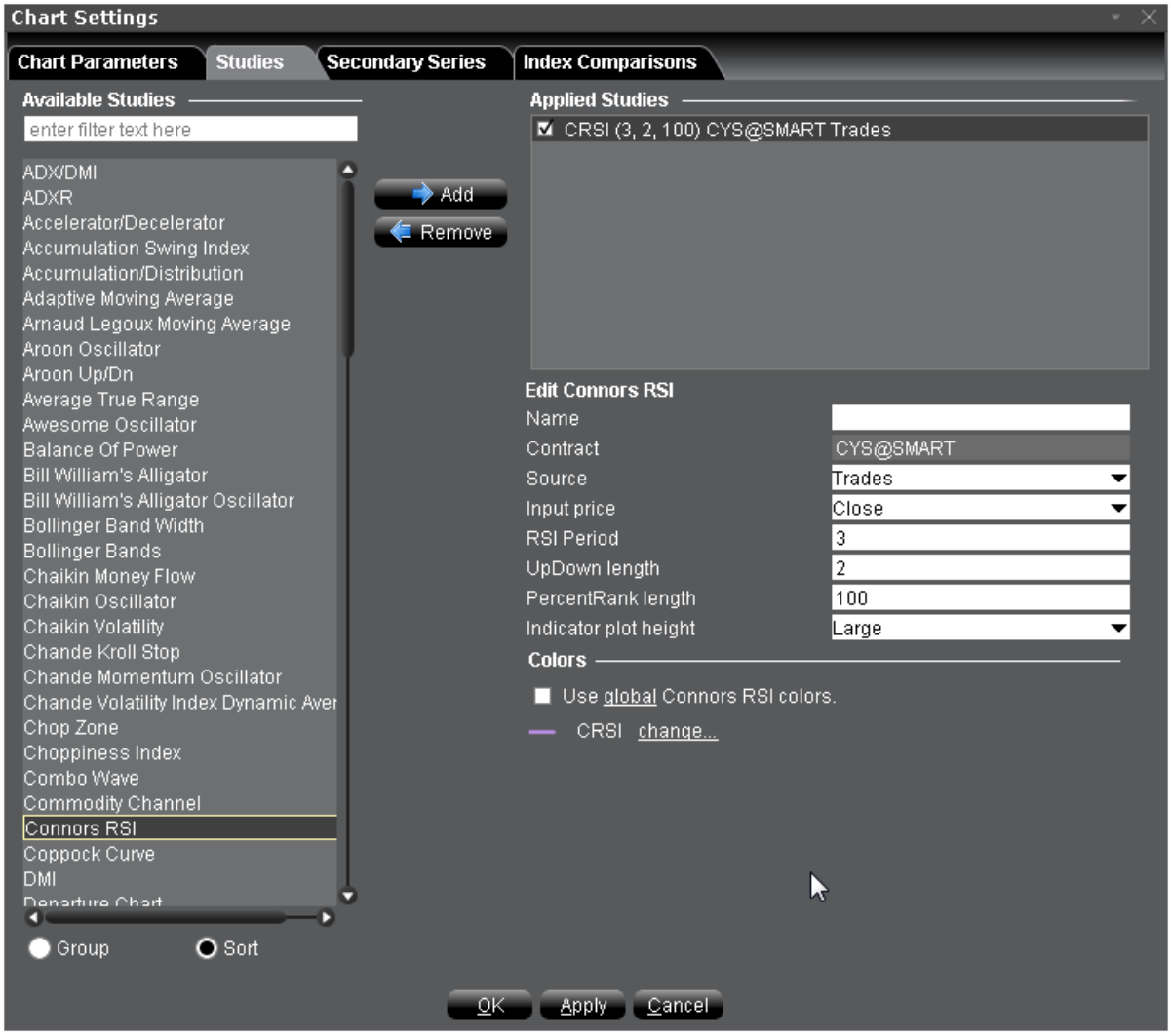
To apply a Chop Zone Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Chop Zone*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Connors RSI

A three period RSI, the Connors RSI is a composite indicator consisting of three components. Two use the Relative Strength Index (RSI) calculations, and the third ranks the most recent price change on a scale of 0 to 100. Working together, these three factors form a momentum oscillator, an indicator that fluctuates between 0 and 100 to indicate the level to which a security is overbought (high values) or oversold (low values).



To apply a Connors RSI

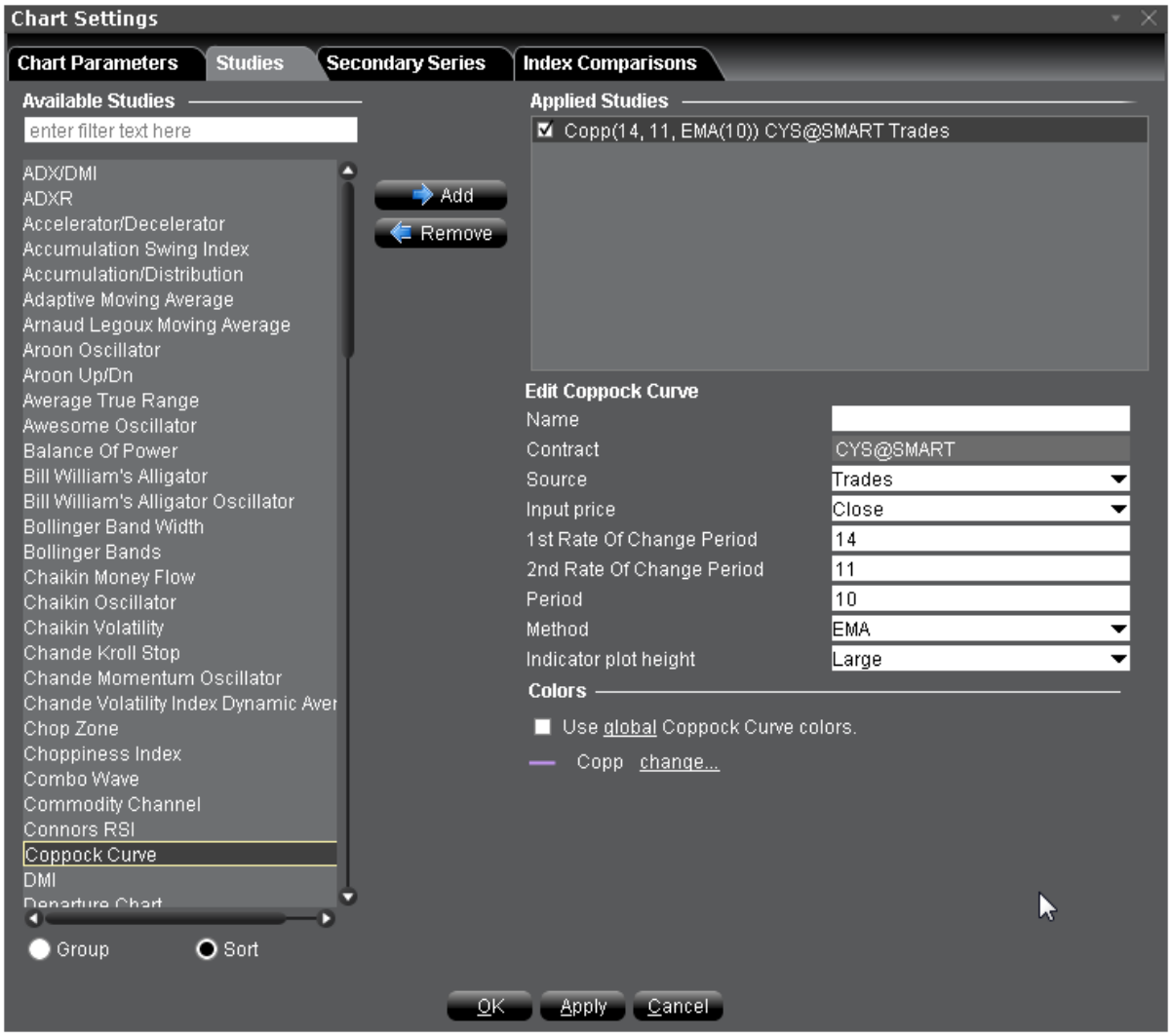
1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Connors RSI*** and click **Add** to add the study to the Applied Studies group.

3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Coppock Curve

The Coppock curve is a long-term price momentum indicator used primarily to recognize major bottoms in the stock market. It is considered to be an excellent tool for discriminating between bear market rallies and true bottoms in the stock market. The indicator was designed for use on a monthly time scale and is calculated as a 10-month weighted moving average of the sum of the 14-month rate of change and the 11-month rate of change for the index. A buy signal is generated when the indicator falls below zero and turns upward from a trough. Because the Coppock curve is a trend-following indicator, it does not pick an exact market bottom, but may identify rallies and reveal when a new bull market has begun.



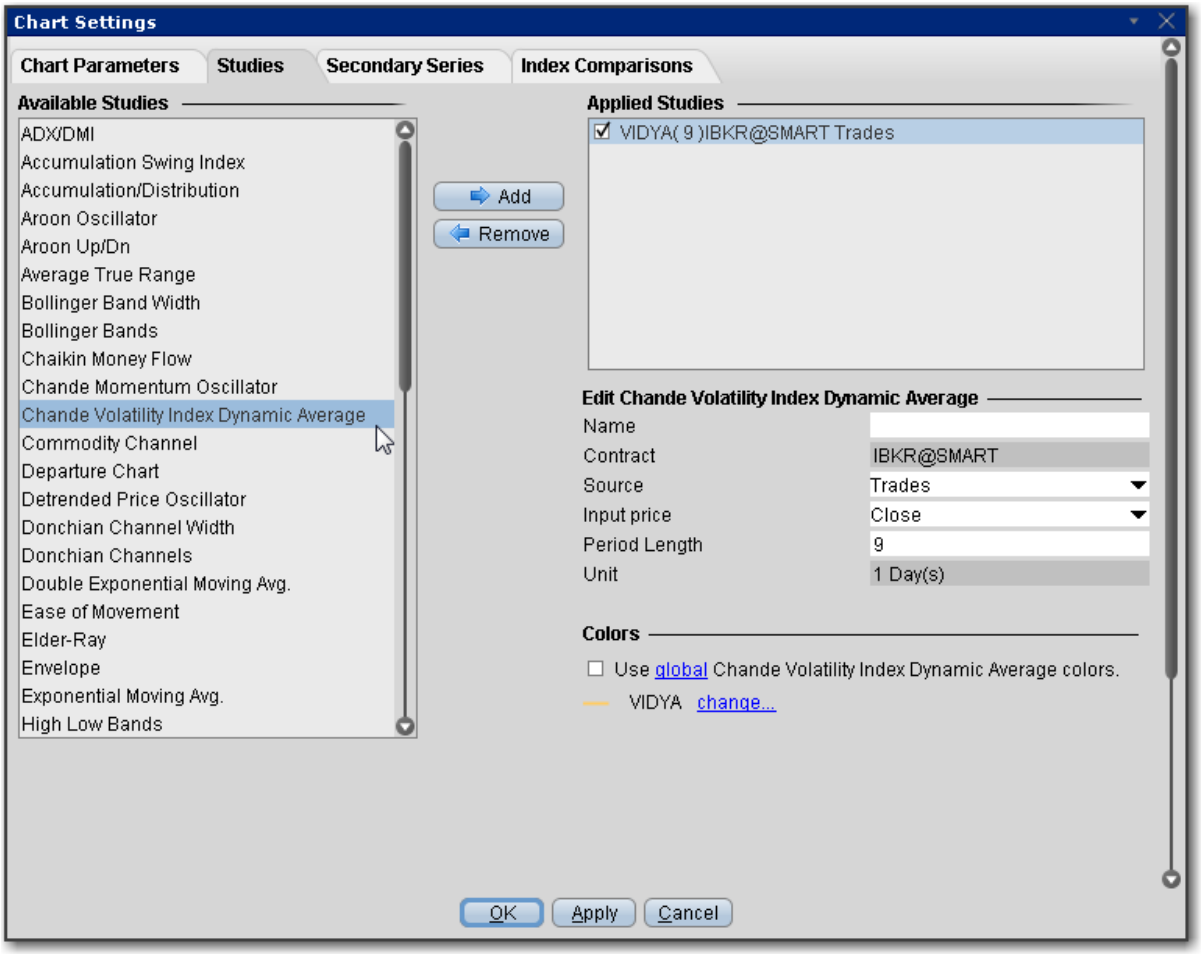
To apply a Coppock Curve Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Coppock Curve*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Chande Volatility Index Dynamic Average (VIDYA)

A moving average that automatically adjusts its speed based on market volatility. The absolute value of a 9-period Chande Momentum Oscillator is used for the volatility index.



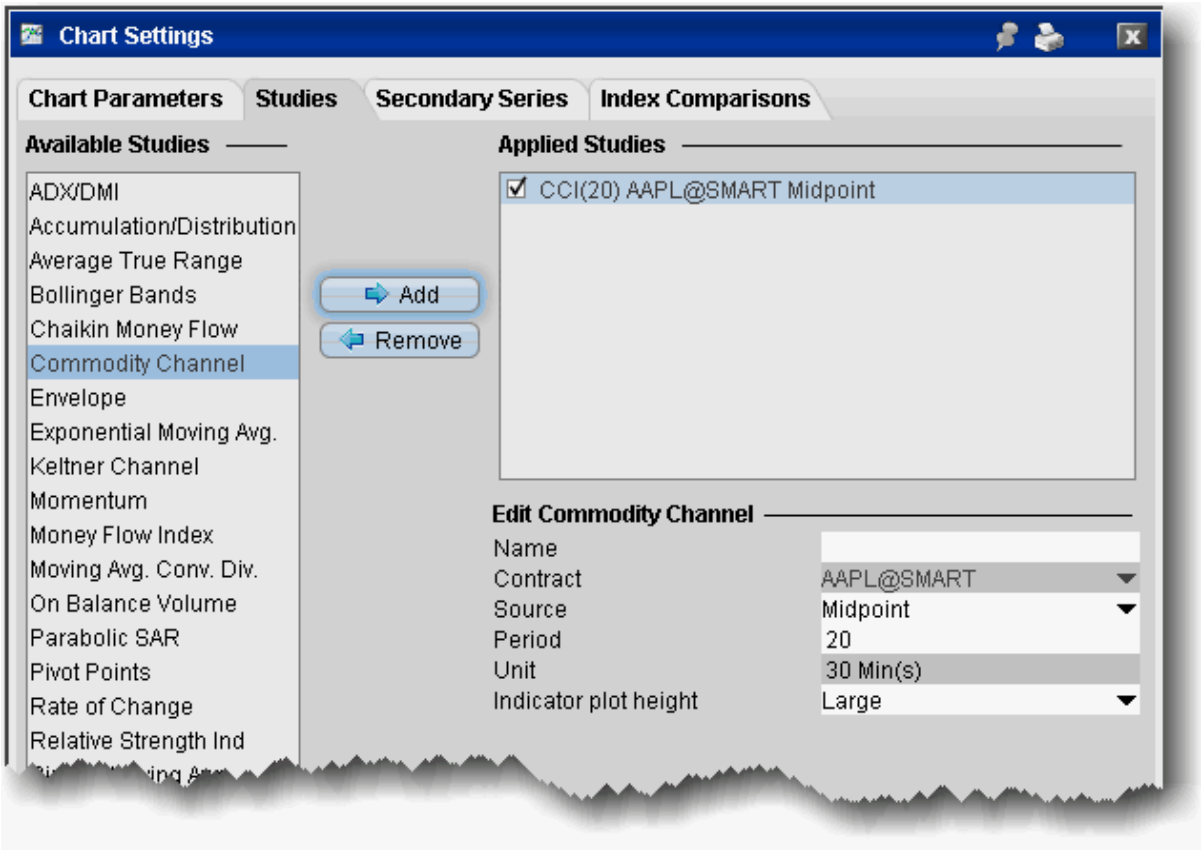
To apply a Chande Volatility Index Dynamic Average (VIDYA) Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Chande Volatility Index Dynamic Average***and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply a Commodity Channel Indicator (CCI)

The CCI price momentum indicator is designed to identify cyclical turns in commodities pricing, and represents the position of the current price relative to the average of the price over a specified period.

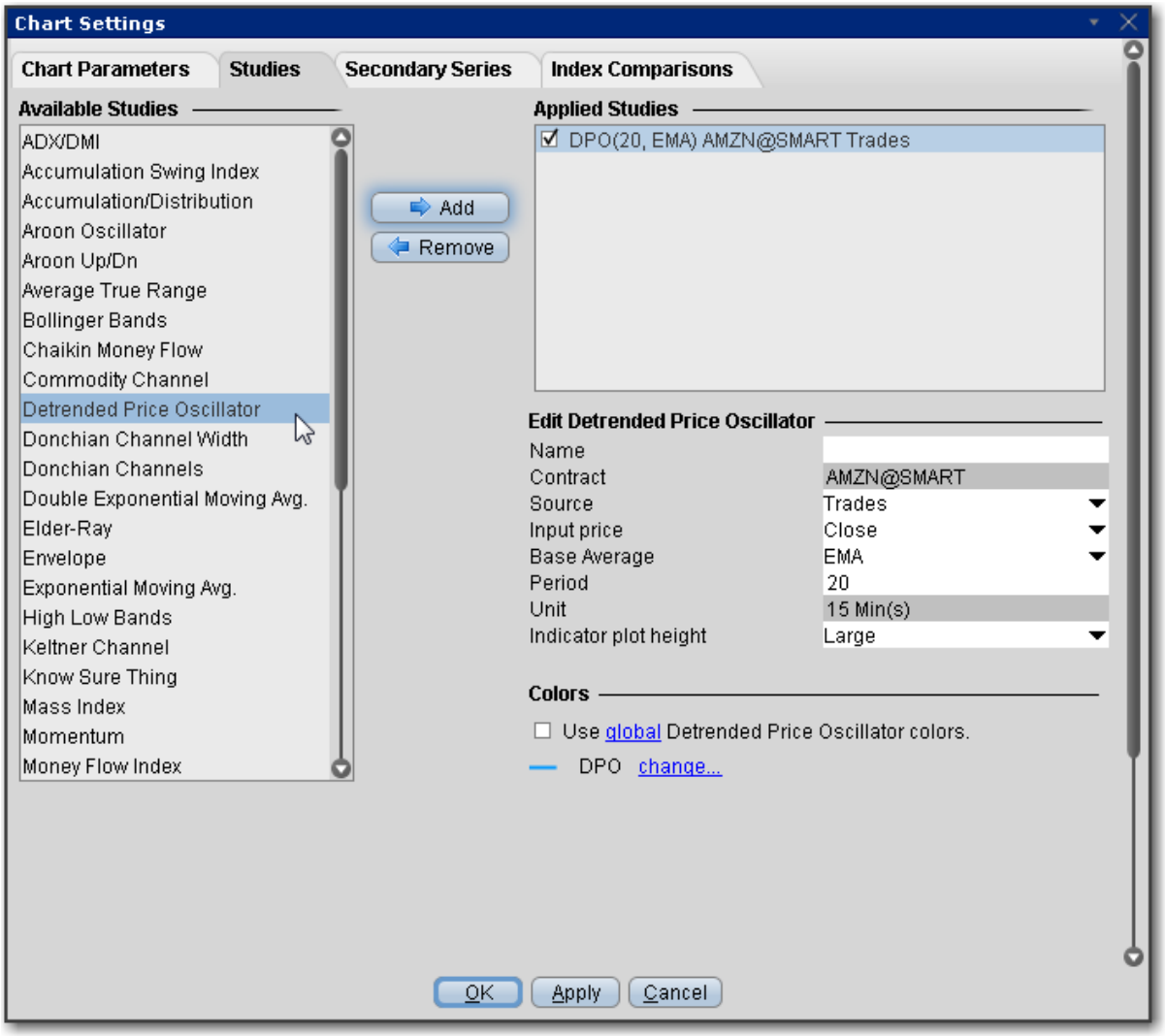


To apply a CCI

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **Commodity Channel** and *Add* the study.
3. Complete parameters as necessary.

Detrended Price Oscillator

This oscillator strips out price trends in an effort to estimate the length of price cycles from peak to peak, or trough to trough. Unlike other oscillators, such as the Stochastic or MACD, detrended price is not a momentum indicator. It highlights peaks and troughs in price, which are used to estimate entry and exit points in line with the historical cycle.



To apply a Detrended Price Oscillator Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Detrended Price Oscillator*** and click **Add** to add the study to the Applied Stud-

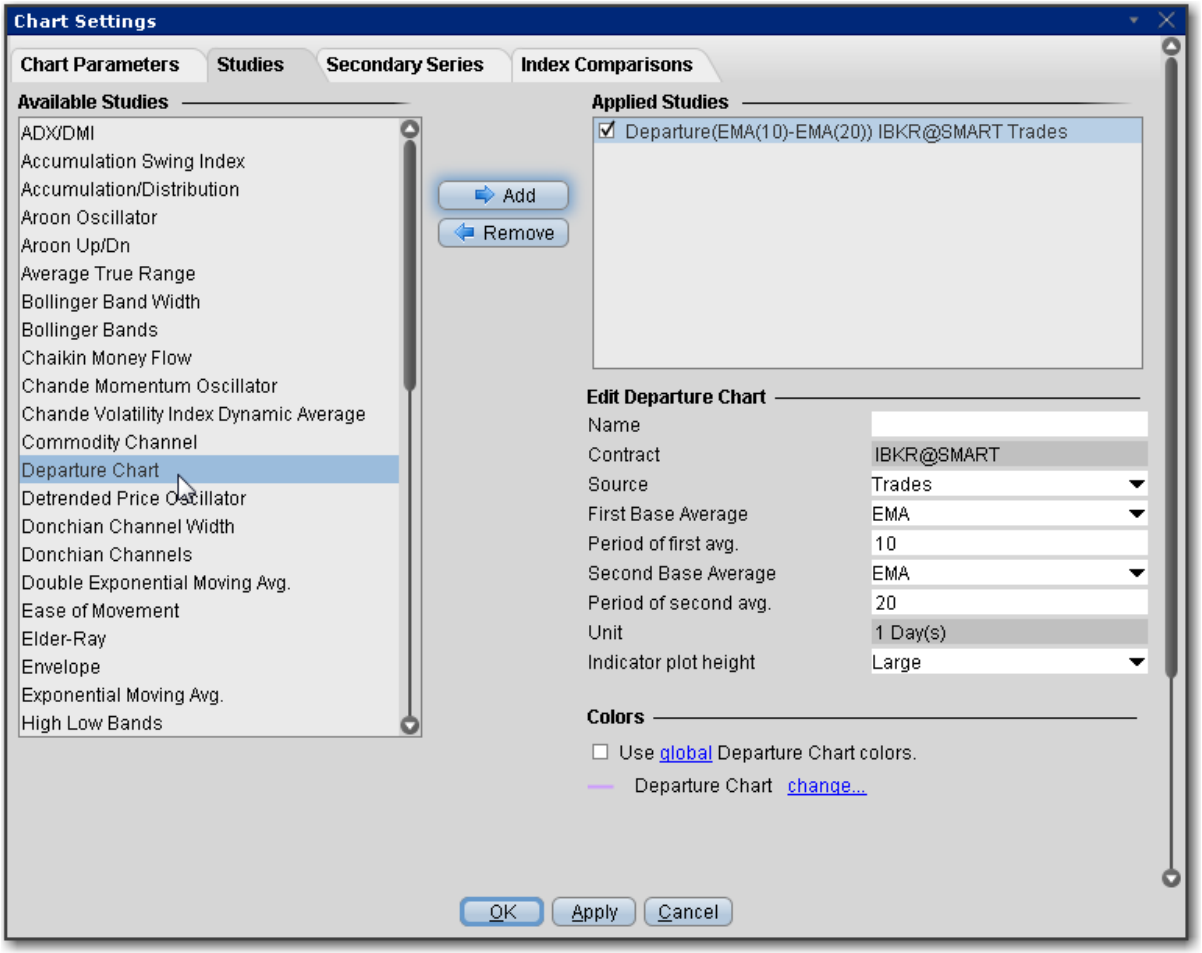
ies group.

3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

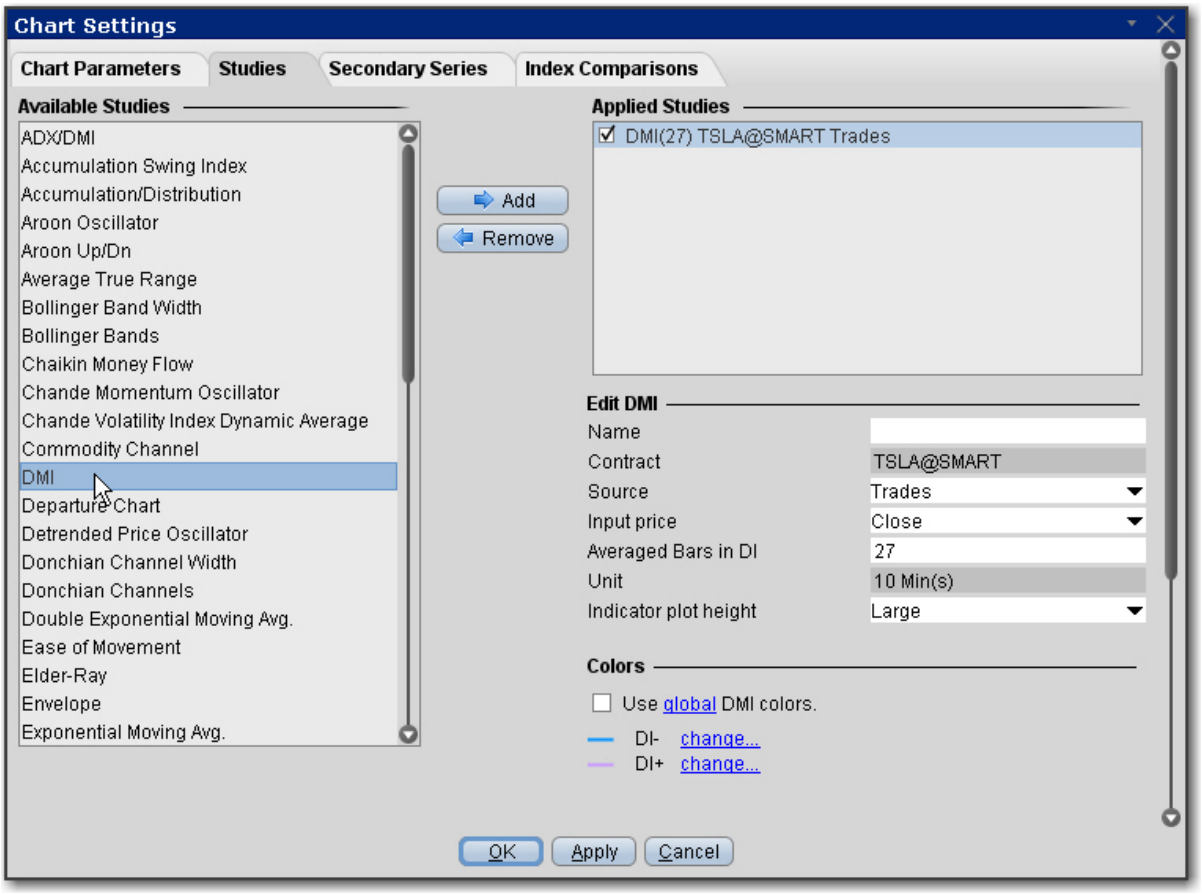
Departure Chart

One of the oldest technical studies, the Departure Chart measures the difference between two moving averages of price; one short and one long. Its primary use is as a trend identification tool, but it may also be used to identify overbought and oversold conditions as well. Default periods are 10 and 20.



Directional Movement Index

Designed to help you see whether or not an instrument is currently trending.



To apply a Directional Movement Index Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Directional Movement Index*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

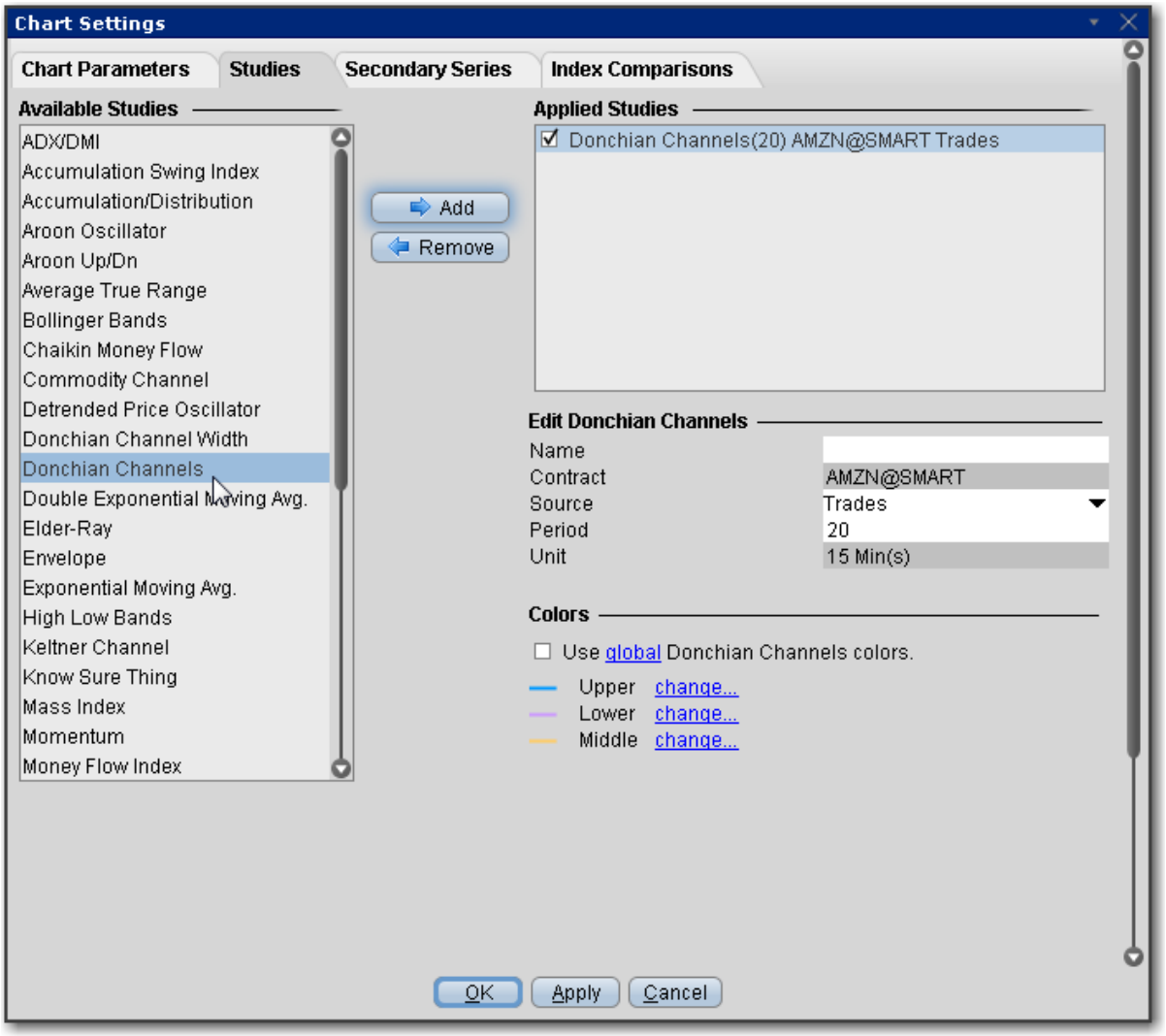
Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply a Donchian Channels Indicator

A simple trend-following breakout system, this moving average indicator that plots the highest high and lowest low over the last period time intervals. The signals derived from this system are based on the following basic rules:

When the price closes below the Donchian Channel, sell short and liquidate long positions.

When the price closes above the Donchian Channel, buy long and cover short positions.



To apply a Donchian Channels Indicator

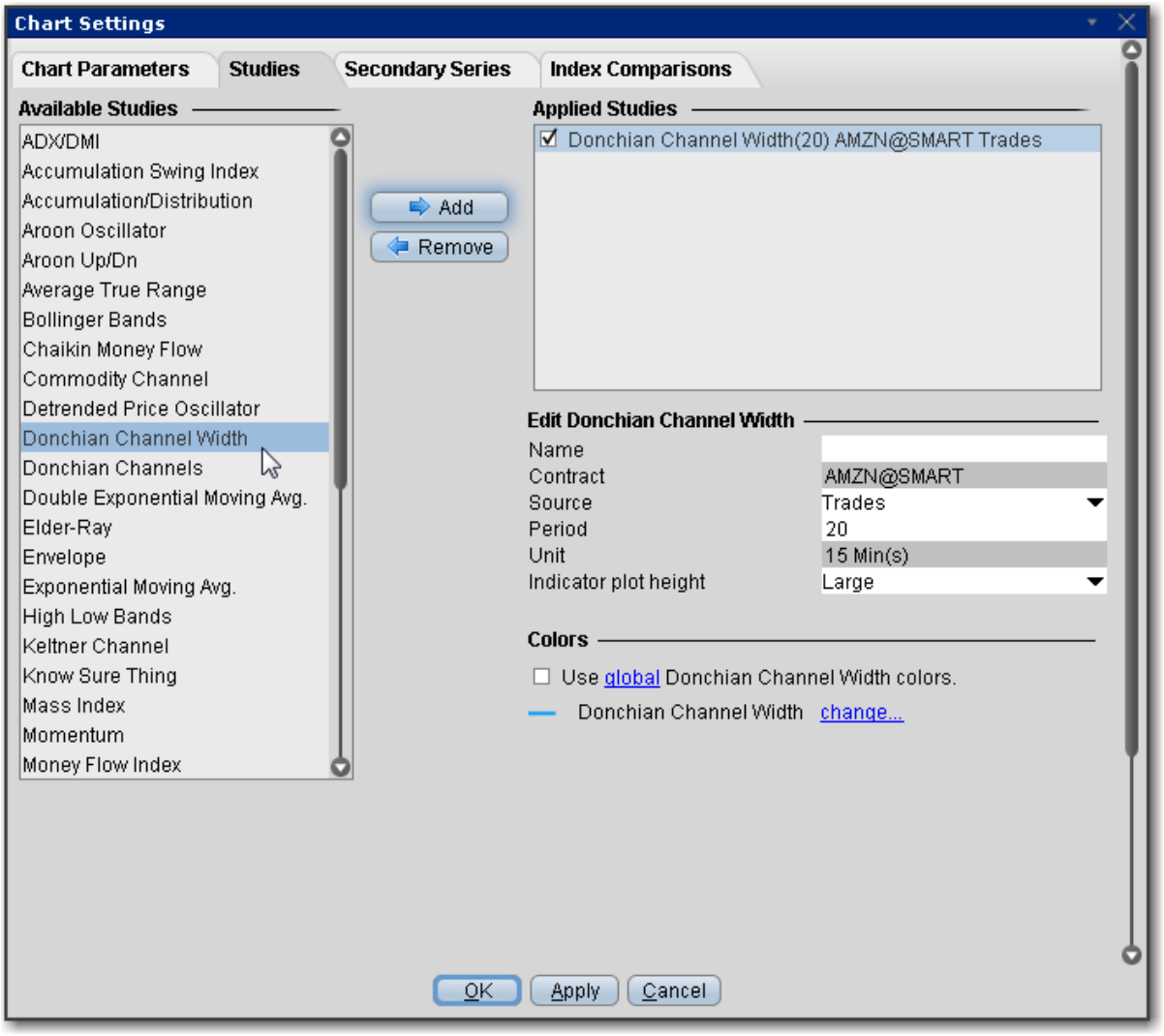
1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Donchian Channels*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply a Donchian Channel Width Indicator

The width of Donchian Channels is a useful indicator for seeing the volatility of a market price. If a price is stable the Donchian channel will be relatively narrow. If the price fluctuates a lot the Donchian channel will be wider.

This indicator is designed to detect trends: low values of the indicator signify that the price is moving sideways, while increasing values signify the start of a new trend.



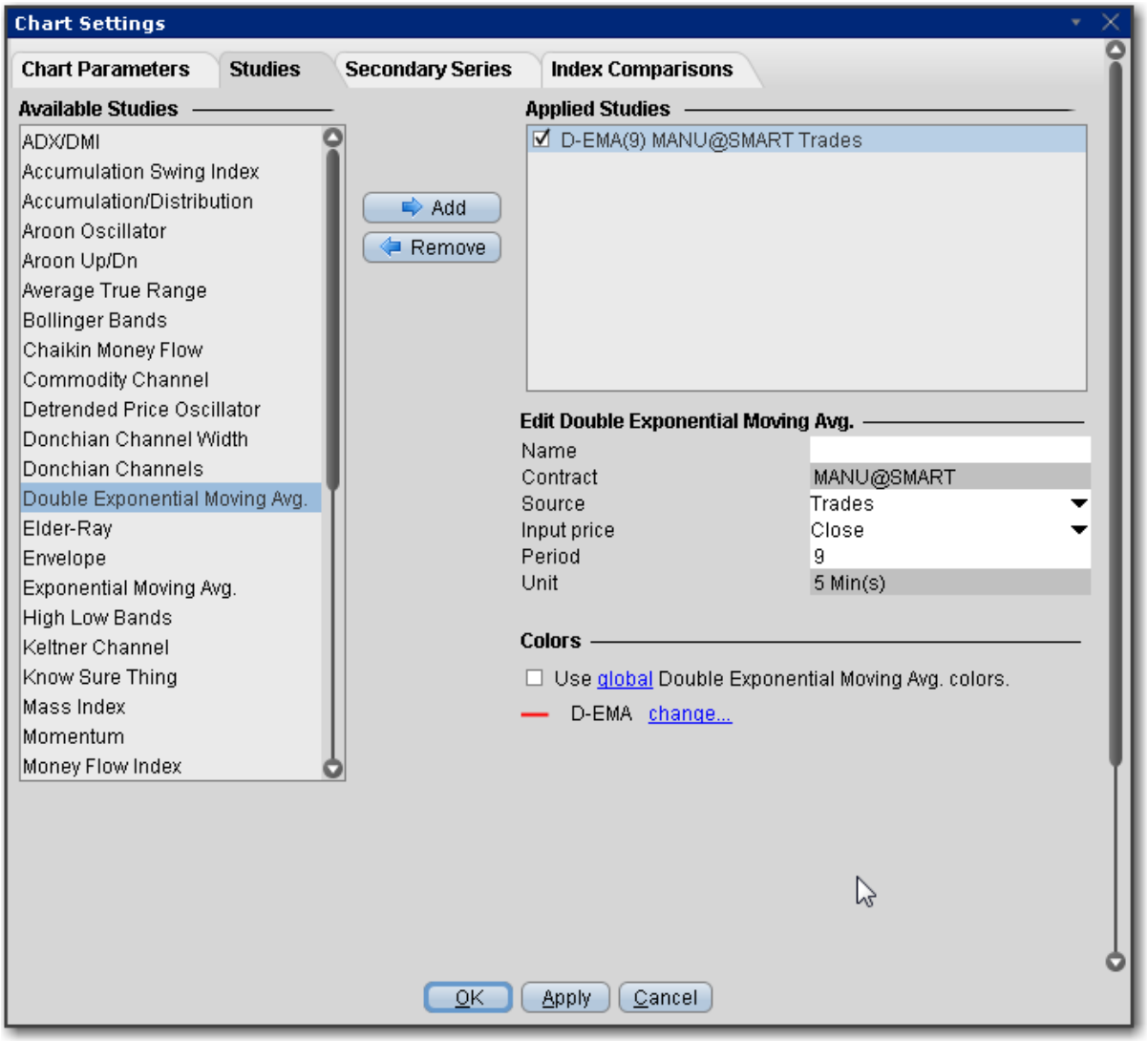
To apply a Donchian Channel Width Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Donchian Channel Width*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply a Double Exponential Moving Average (DEMA)

Based on both a single exponential moving average (EMA) and a double EMA, the DEMA is a fast-acting moving average that is more responsive to market changes than a traditional moving average. It was developed in an attempt to create a calculation that eliminated some of the lag associated with traditional moving averages.



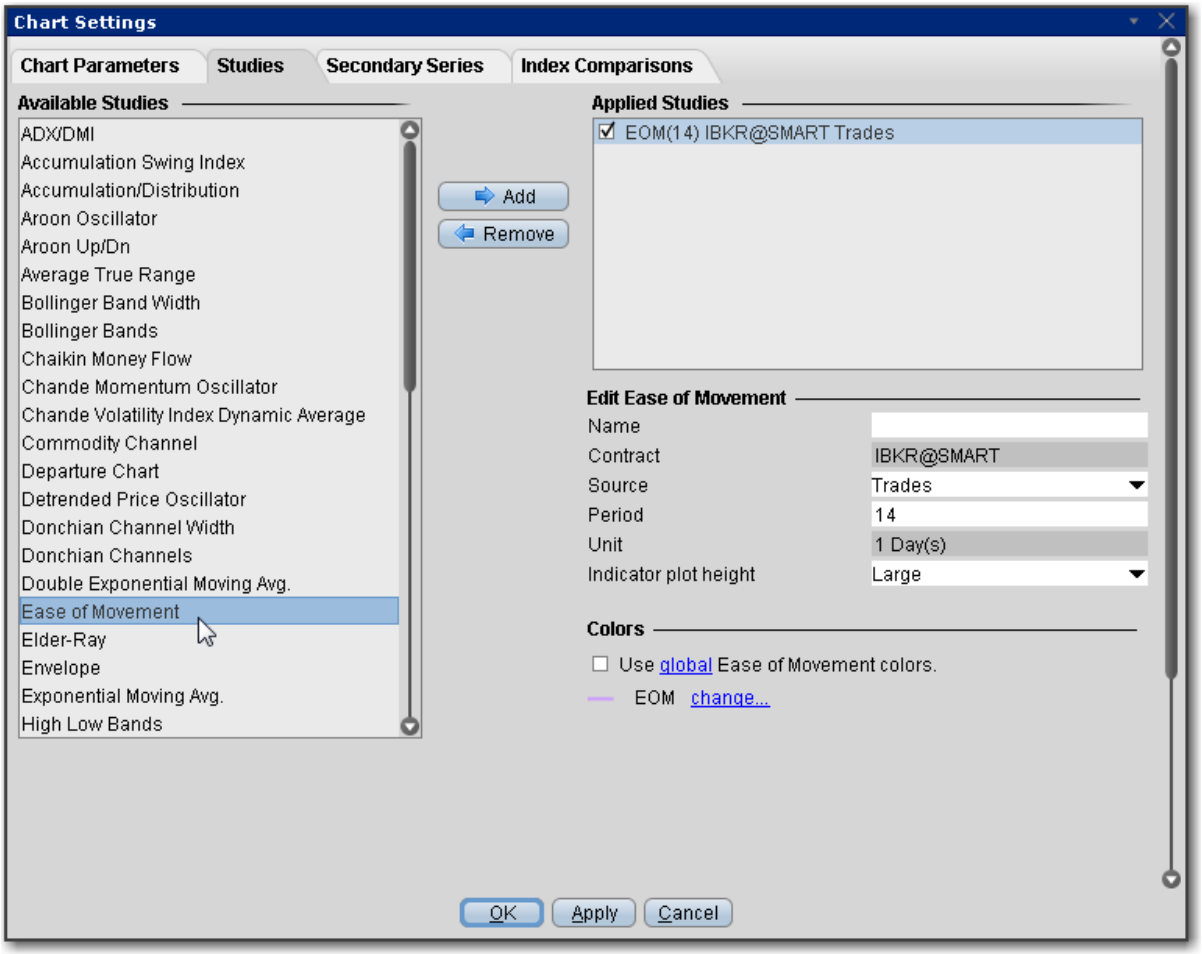
To apply a Double Exponential Moving Average Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Double Exponential Moving Average*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Ease of Movement Indicator

A technical momentum indicator that can help illustrate the relationship between the rate of an asset's price change and its volume. This indicator attempts to identify the amount of volume required to move prices. Generally a value greater than zero is an indication that the stock is being accumulated (bought) and negative values are used to signal increased selling pressure. A high positive value appears when prices move upward on low volume. Strong negative numbers indicate that price is moving downward on low volume.



To apply an Ease of Movement Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Ease of Movement*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

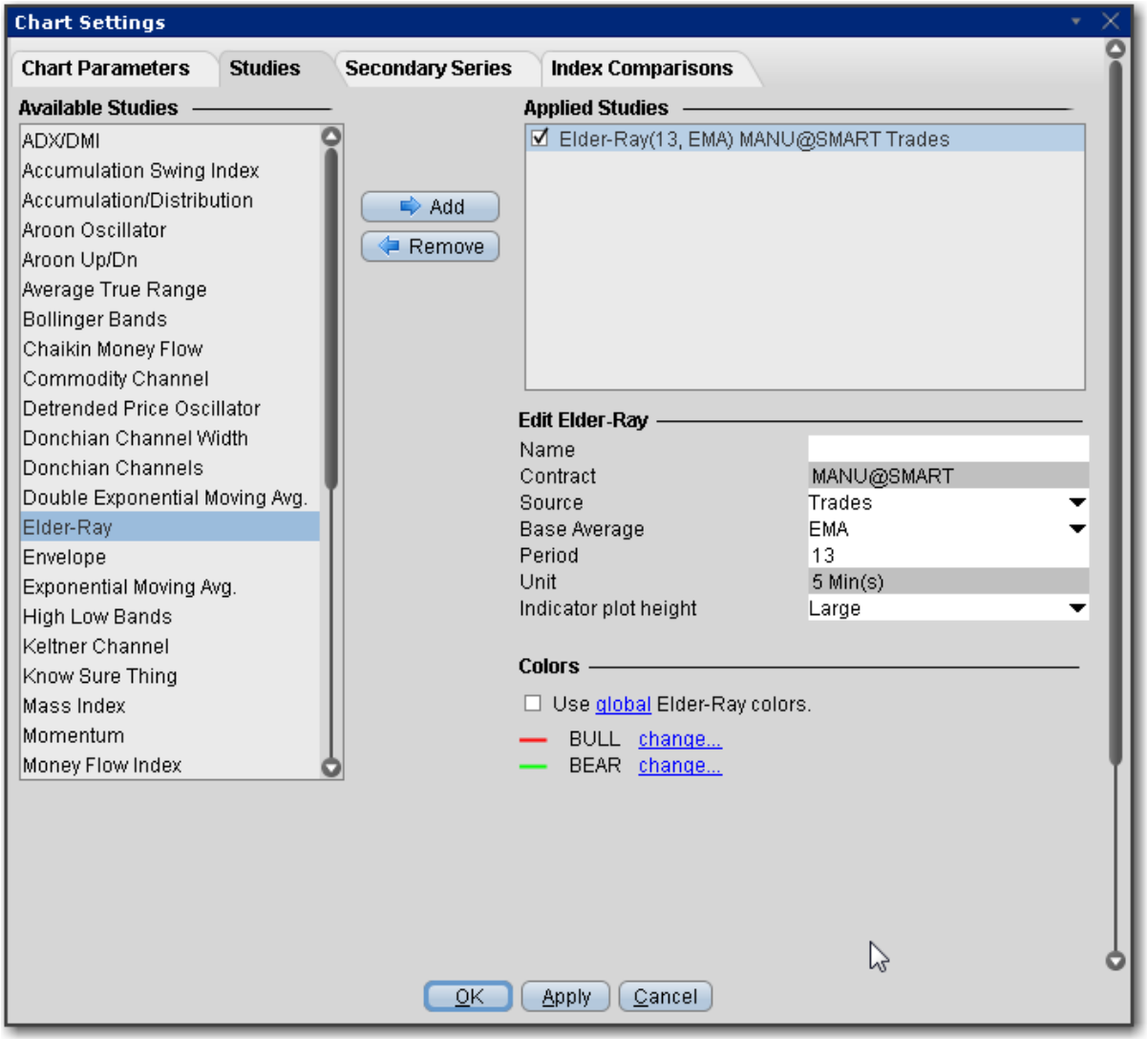
Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply an Elder-Ray Indicator

Measures the amount of buying and selling pressure in the market. This indicator consists of two separate indicators known as "bull power" and "bear power". These can help a trader to determine the position of the price relative to a certain exponential moving average (EMA).

Bull Power = Daily High - n-period EMA Bear Power = Daily Low - n-period EMA

Use the values of the bull and bear power along with divergence to help make transaction decisions. Consider taking a long position when the bear power has a value below zero but is increasing, and the bull power's latest peak is higher than it was previously. Consider a short position when the bull-power value is positive but falling, and the bear power's recent low is lower than any other previous bottom. The slope of the EMA can also be used in both cases to help confirm the direction of the trend.



To apply an Elder-Ray Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Elder-Ray*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply Envelope Indicator

SMA/WMA/EMA Envelopes plot a band composed of two moving averages, one which is shifting upwards, the other shifting downwards, to help define a stock's upper and lower boundaries. The bands of an envelope are calculated as follows:

Upper Band = MA(CLOSE, N)*[1+K/100]

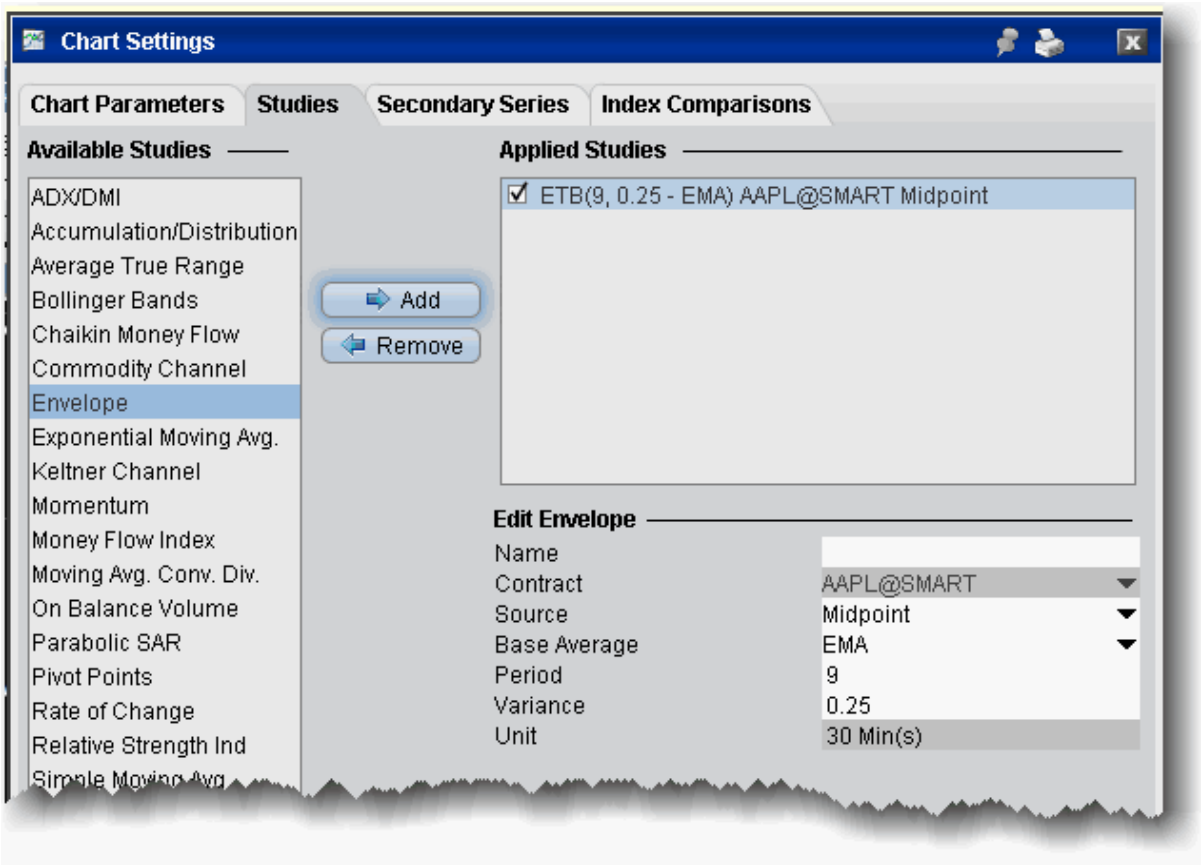
Lower Band = MA(CLOSE, N)*[1-K/100]

Where:

MA — Simple (or Weighted or Exponential) Moving Average;

N — averaging period;

K/100 — the value of shifting from the average (measured in basis points).

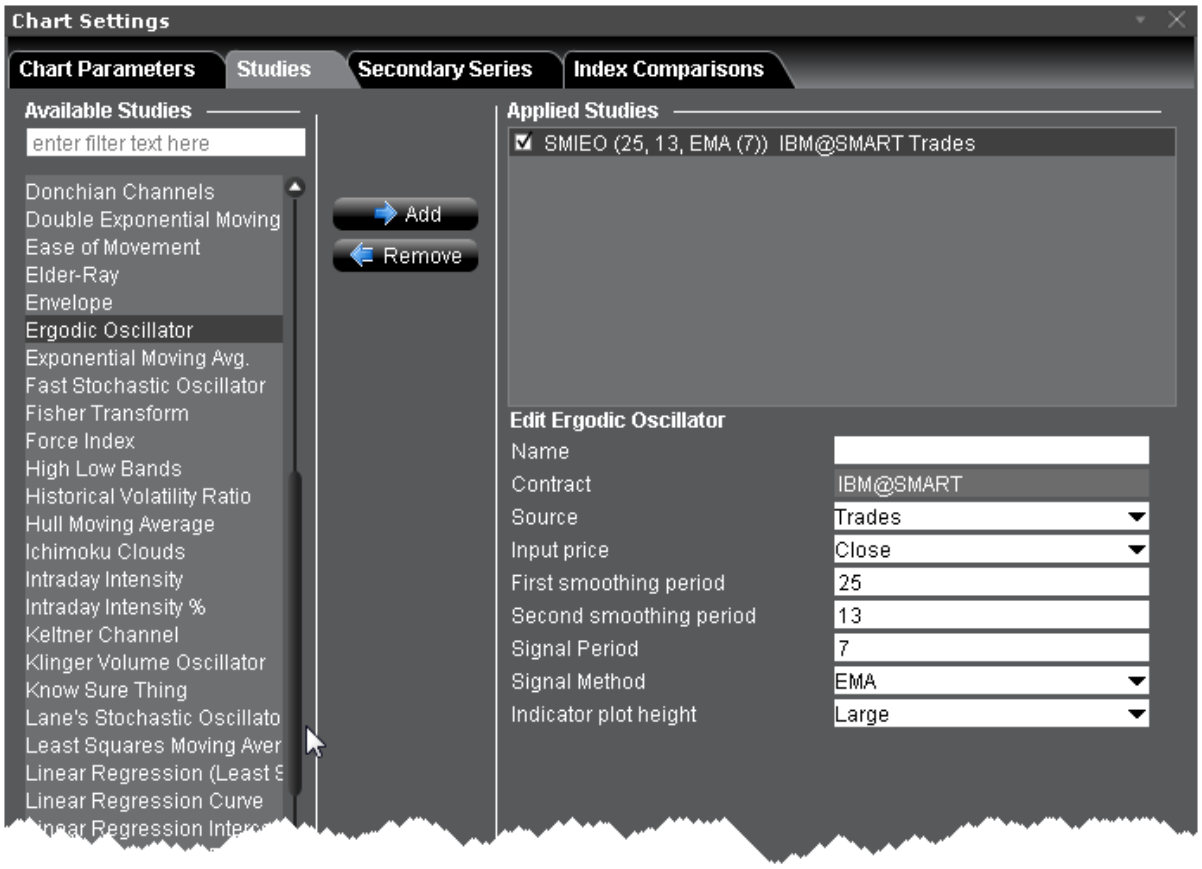


To apply an Envelope indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **Envelope** and *Add* the study.
3. Complete parameters as necessary.

SMI Ergodic Oscillator

The Ergodic Oscillator (EO) is a double- smoothed True Strength Index (TSI) with a signal line. It acts like a stochastic indicator without the compression often seen with stochastics at extremes. As a result, the Ergodic helps to register long trends in prices.



To apply an Ergodic Oscillator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Ergodic Oscillator*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

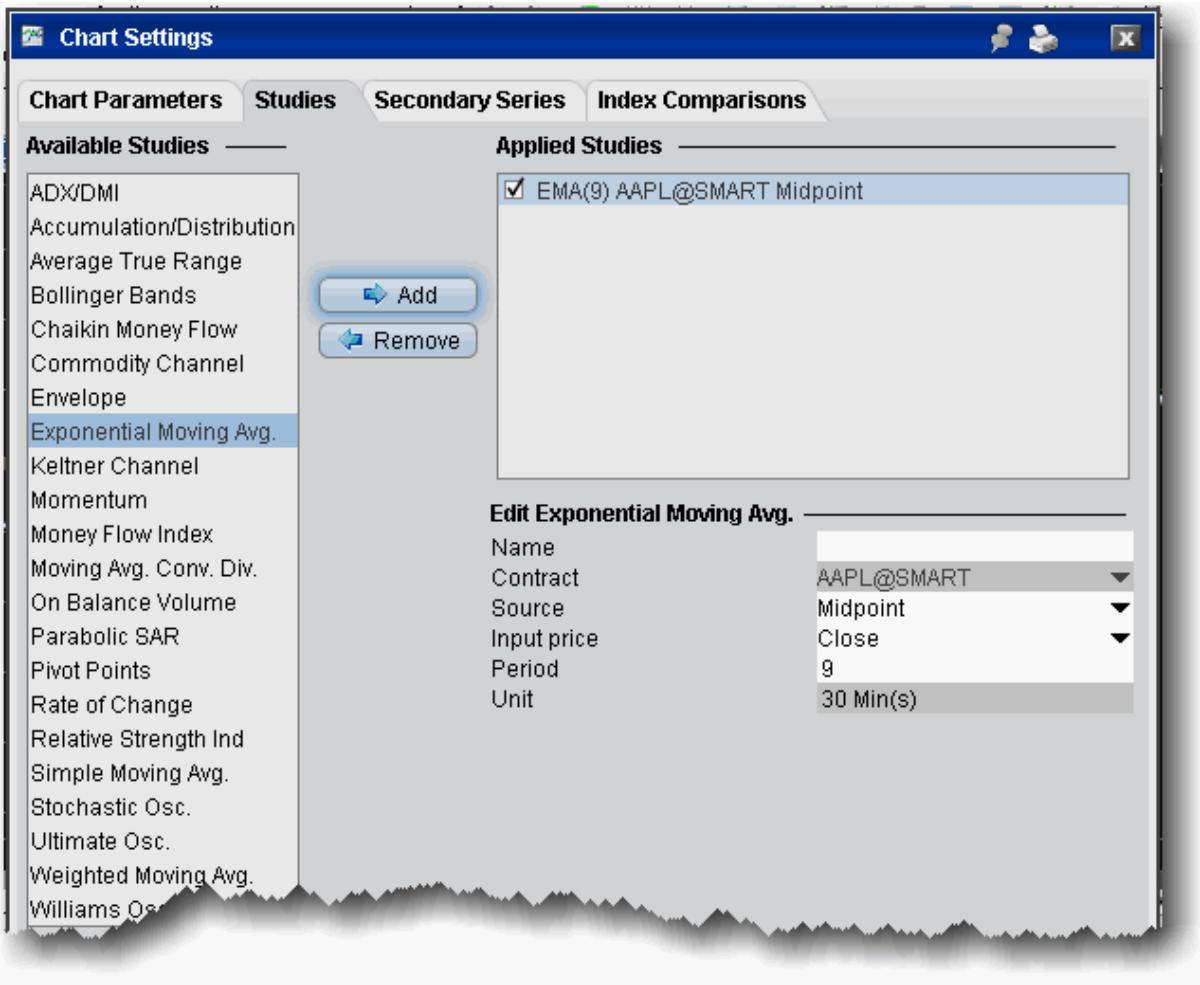
Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply Exponential Moving Average Indicator

The **exponential moving average** gives more weight to the latest prices and includes all of the price data in the life of the instrument. It is defined by taking:

(previous period's exponential moving average)/(N+1) and adding (current price)*2/(N+1).

For the first period we take the simple average as above.



To apply a Exponential Moving Average

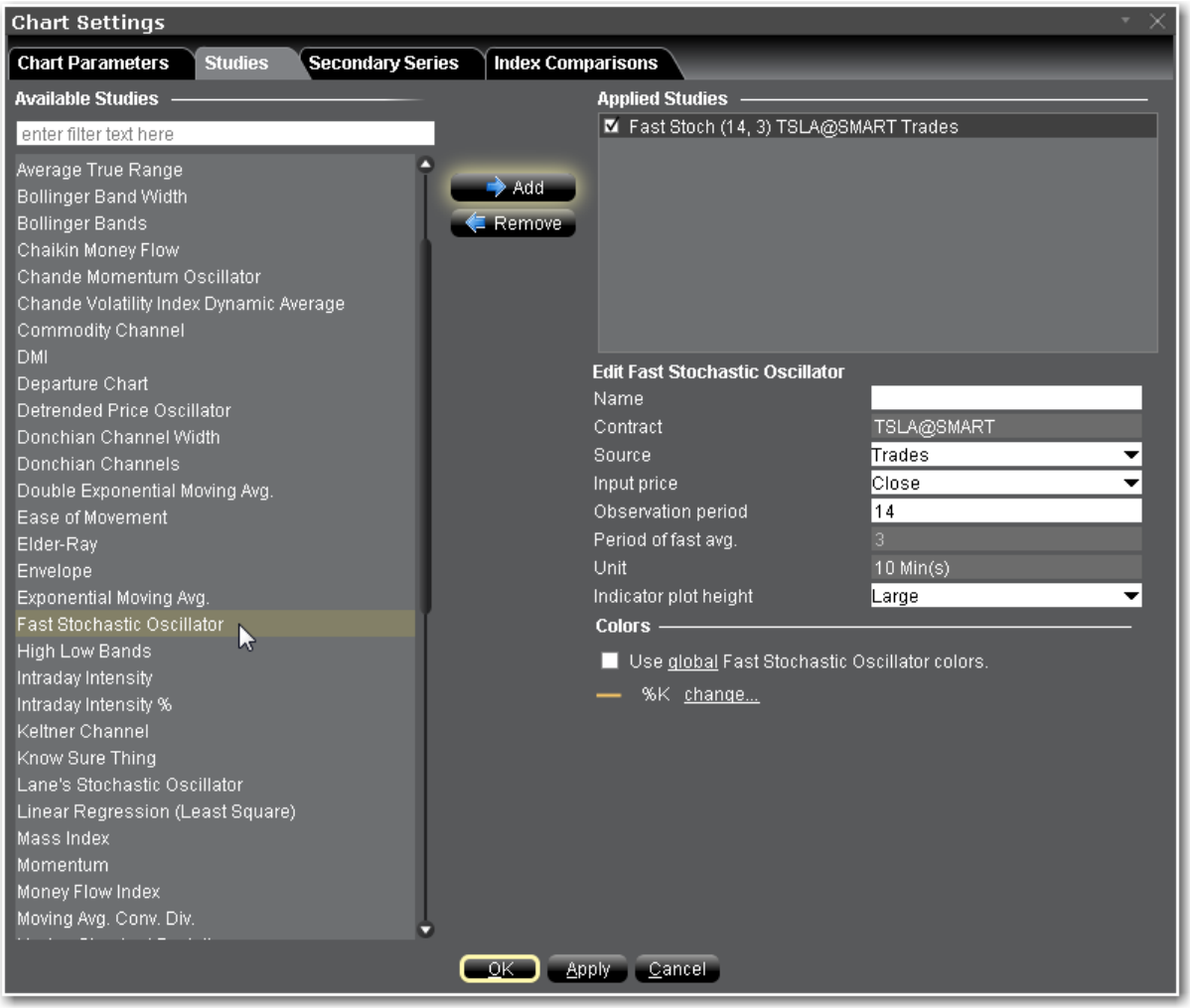
1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **Exponential Moving Avg** and *Add* the study.
3. Complete parameters as necessary.

Fast Stochastic Oscillator

The stochastic oscillator provides information about the location of a current close in relation to the period's high and low. It ranges between 0% and 100%. A reading of 0% indicates that the close was the lowest price at which the security traded during the preceding *x* number of time

periods. A reading of 100% indicates that the close was the highest price at which the security traded during the preceding *x* number of time periods.

This version of the Stochastic Oscillator does not include the Period of slow average. The fast stochastic may be more sensitive to changes in the price of the underlying than the slow version.



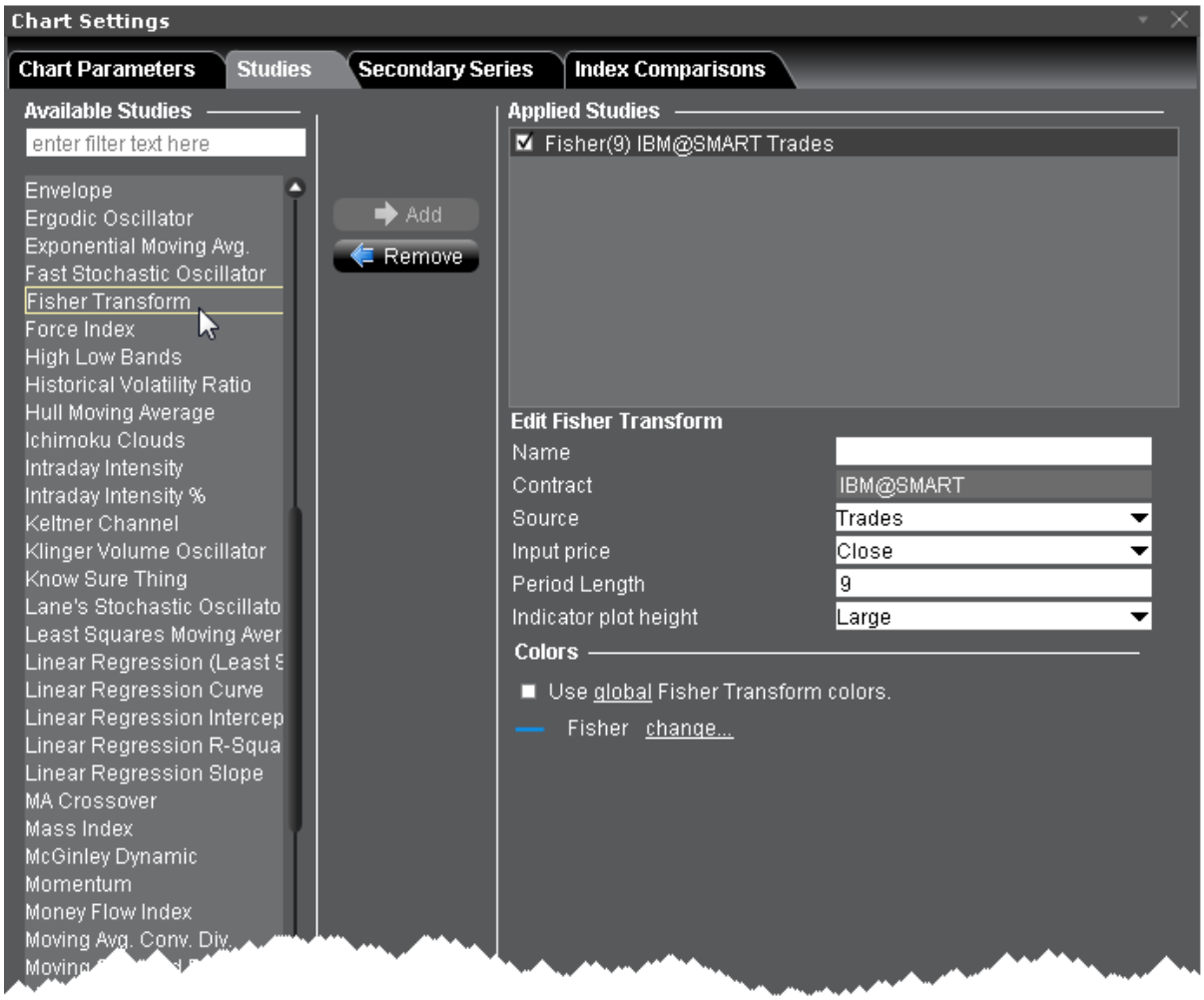
To apply a Fast Stochastic Oscillator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Fast Stochastic Oscillator***and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Fisher Transform Indicator

Used to predict price reversals. The Fisher Transform helps to more clearly identify extreme price movements by transforming the probability density function of any waveform to a bell-curve.



To apply a Fisher Transform Indicator

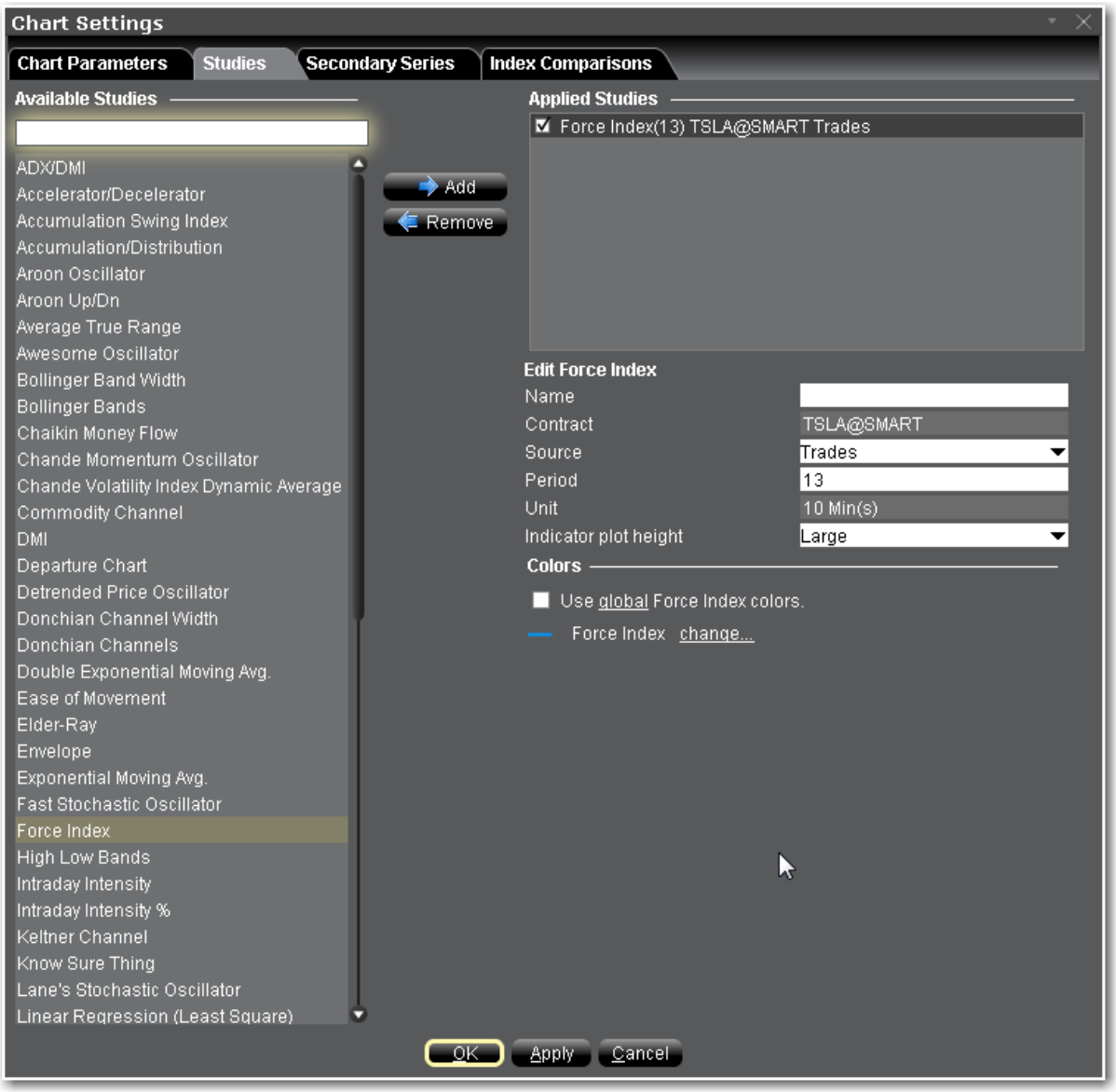
1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Fisher Transform*** and click **Add** to add the study to the Applied Studies group.

3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Force Index

The Force Index is an indicator that uses price and volume to assess the power behind a move or identify possible turning points. The Force Index combines all three "essential elements" of a stock's price movement (direction, extent and volume) as an oscillator that fluctuates in positive and negative territory as the balance of power shifts. The Force Index can be used to reinforce the overall trend, identify playable corrections or foreshadow reversals with divergences.



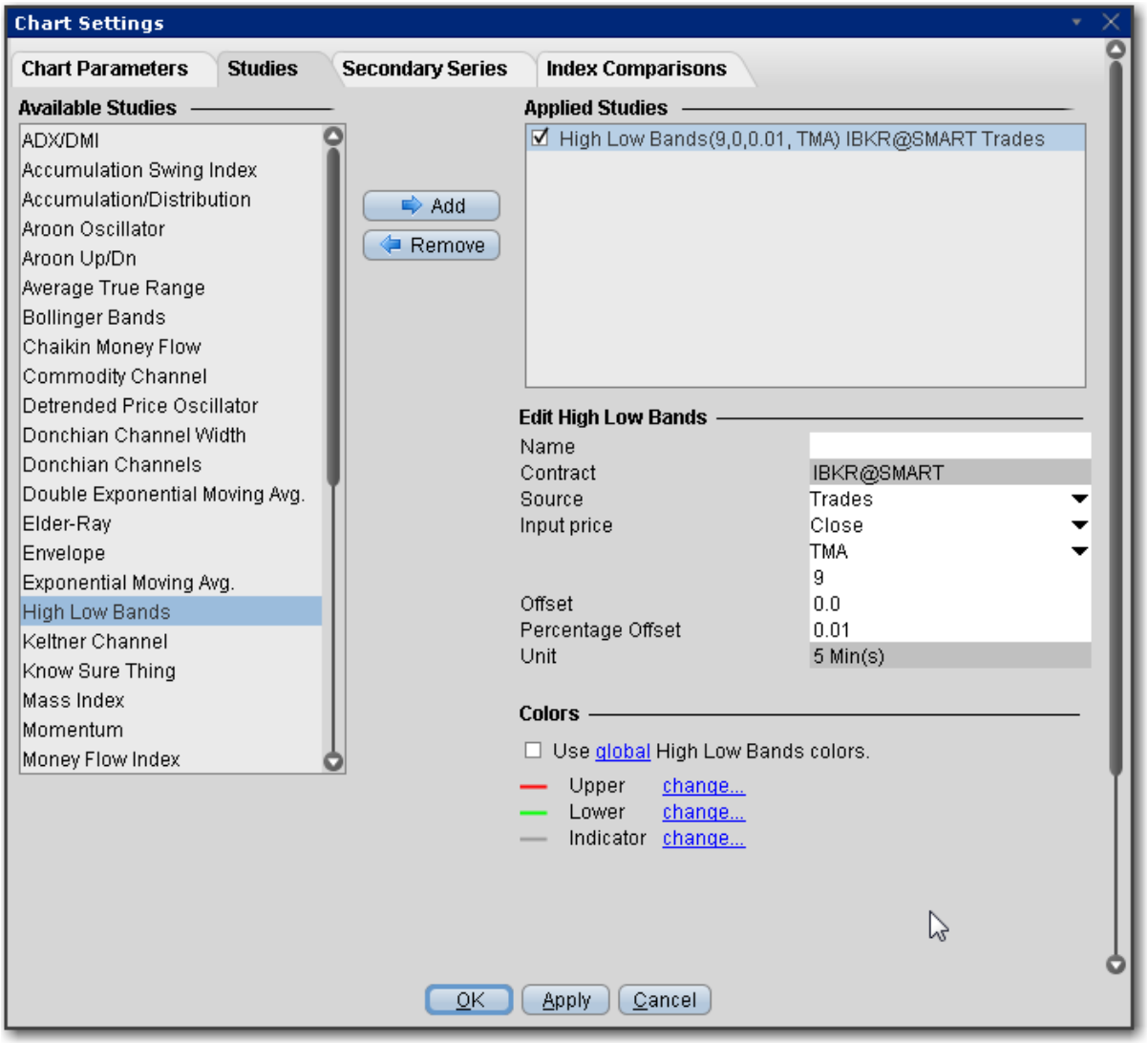
To apply a Force Index Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Force Index*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply High Low Bands

These two bands are generated from the triangular moving averages (calculated from the underlying price) and sandwich the underlying price. The triangular moving average is, in turn, shifted up and down by a fixed percentage. The bands are wave-lines formed by shifting the triangular moving average by some specific percentage on both the sides. Triangular moving averages are smooth in nature, which is why High Low bands tend to be more responsive to price fluctuations. They are most effective when it comes to trending markets, and may generate signals in trending markets. These bands, similar to all other indicators, fail in sideways or choppy markets.



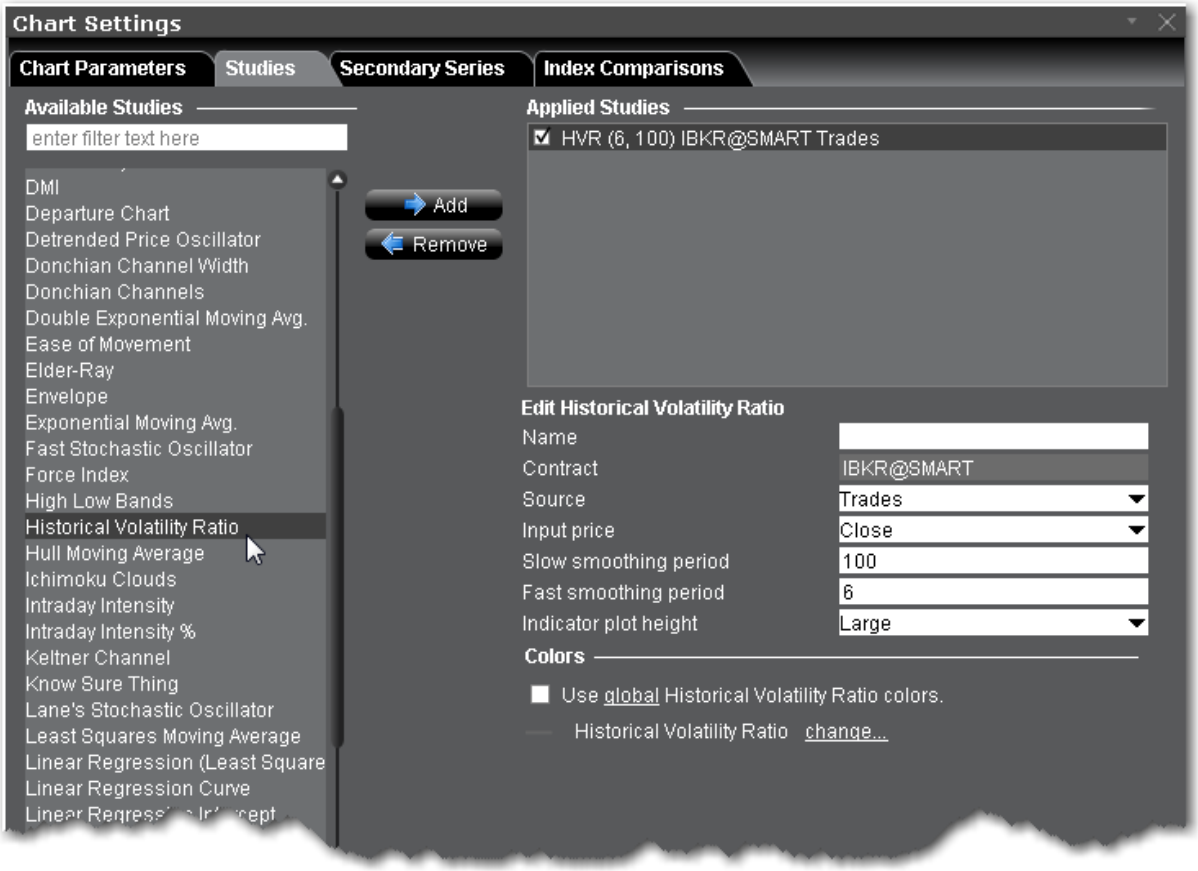
To apply High/Low Bands

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***High/Low Bands*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Historical Volatility Ratio

The Historical Volatility Ratio is the percentage of short to long average historical volatility. When a market's short volatility declines below a certain percentage of its long volatility, it may be an indication that an explosive move is imminent



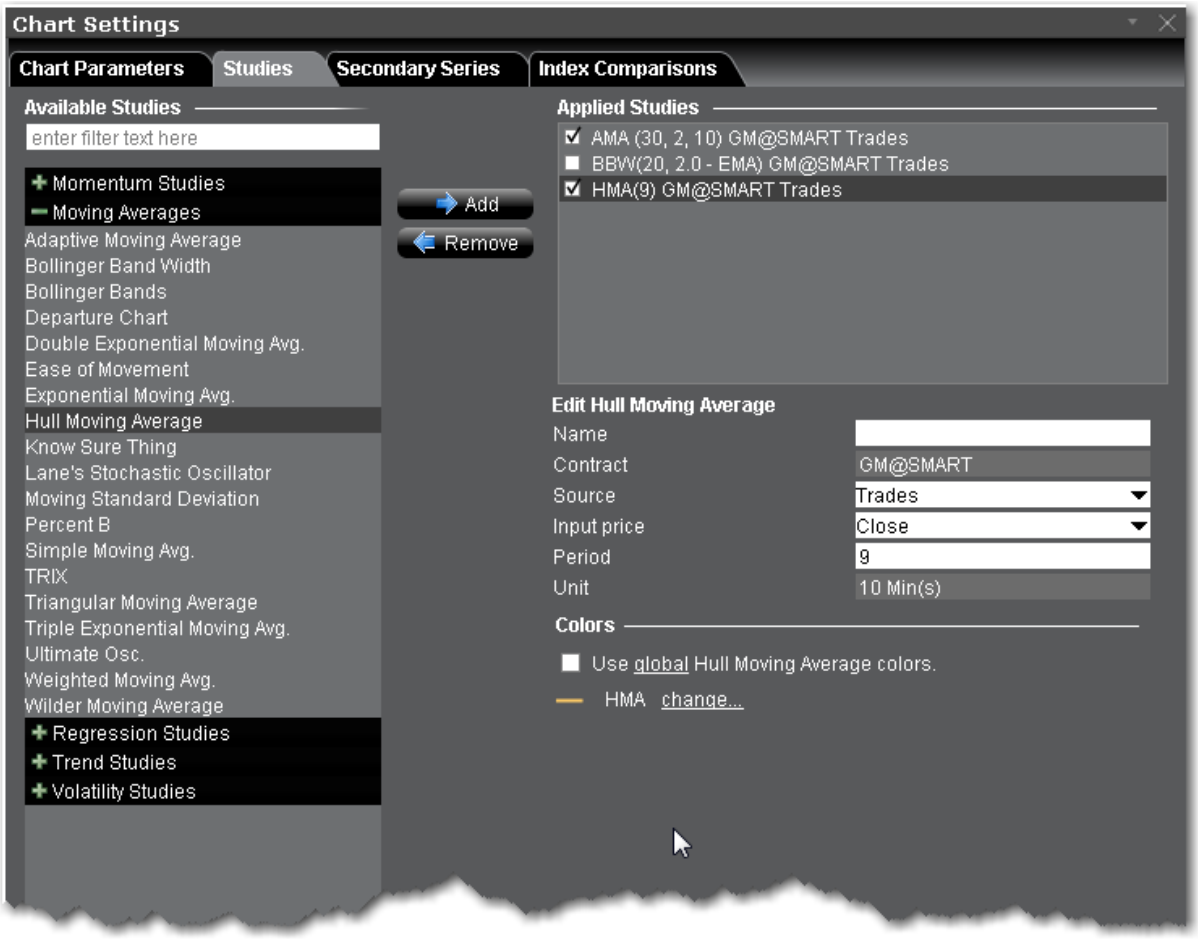
To apply a Historical Volatility Ratio Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Historical Volatility Ratio*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Hull Moving Average

The Hull moving average indicator improves on smoothing price fluctuations, and also accounts for price lag. It does this by using the square root of a given period instead of the actual period itself.



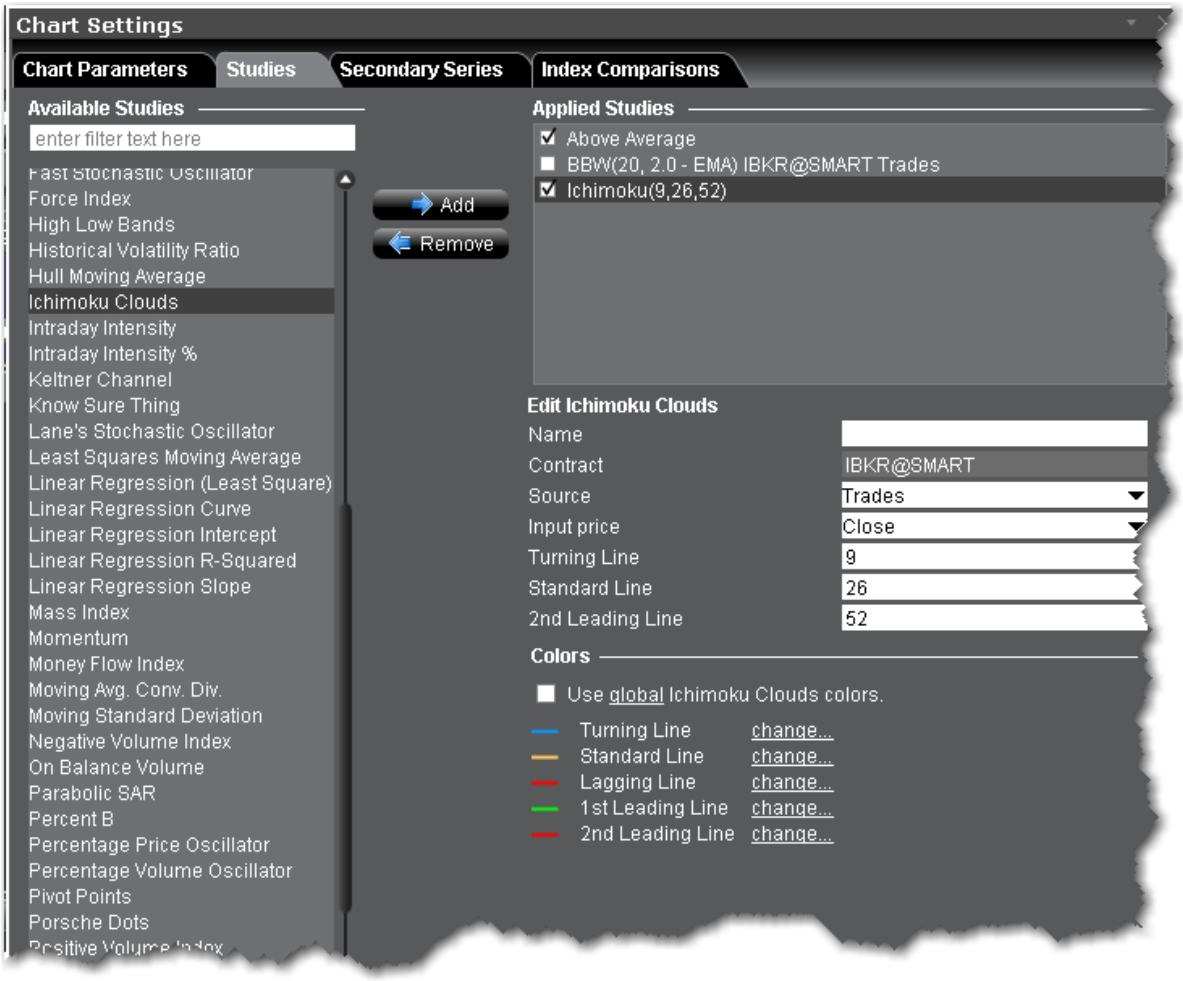
To apply a Hull Moving Average Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Hull Moving Average*** and click Add to add the study.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Ichimoku Cloud

The Ichimoku Cloud indicator shows support and resistance, and momentum and trend directions. The "cloud" comprises five lines, and is formed between the spans of the conversion and baseline moving averages and the midpoint of the 52-week high and low.



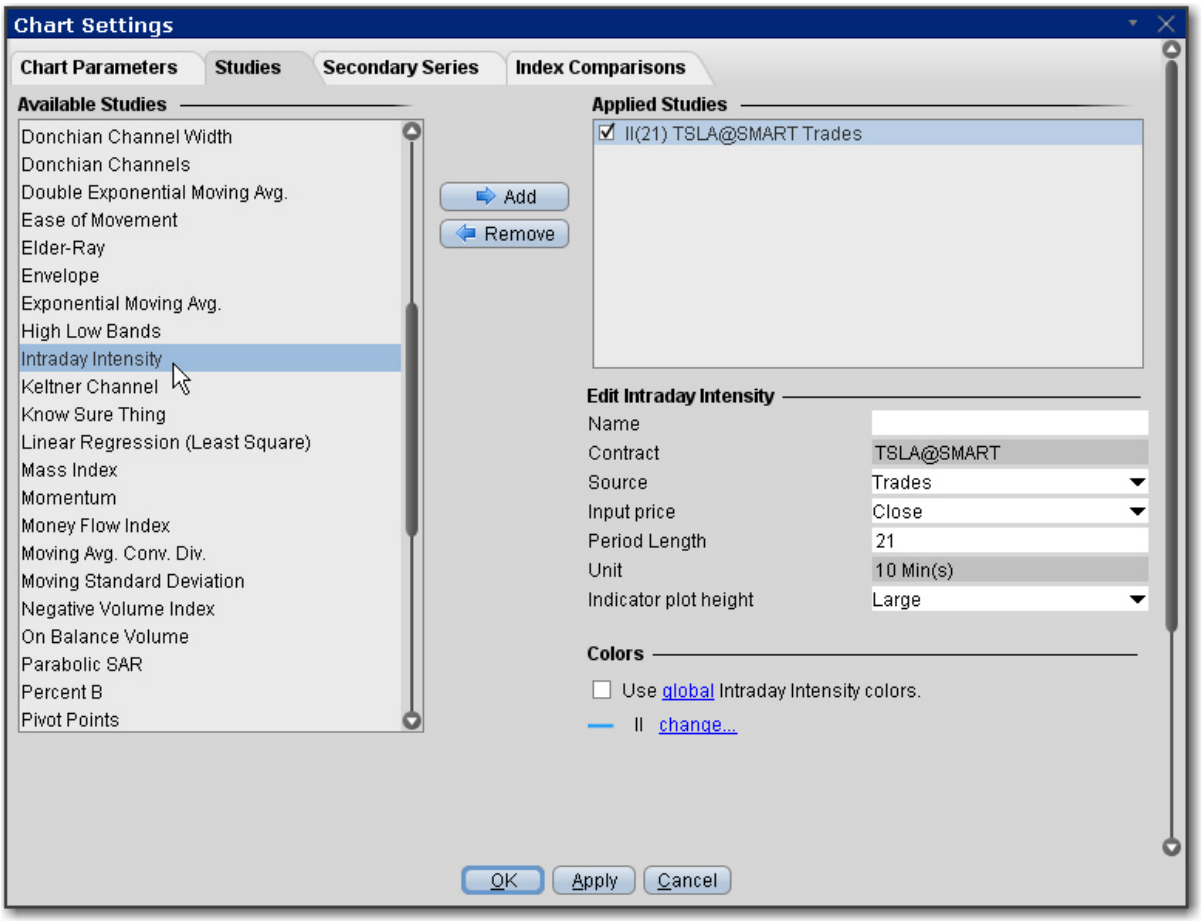
To apply an Ichimoku Cloud Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Ichimoku Cloud*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Intraday Intensity Index Indicator

A technical indicator that approximates the volume of trading for a specified security in a given day. It is designed to help track the activity of institutional block traders and is calculated by subtracting the day's high and low from double the closing price, divided by the volume and multiplied by the difference between the high and the low.



To apply an Intraday Intensity Index Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Intraday Intensity***and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

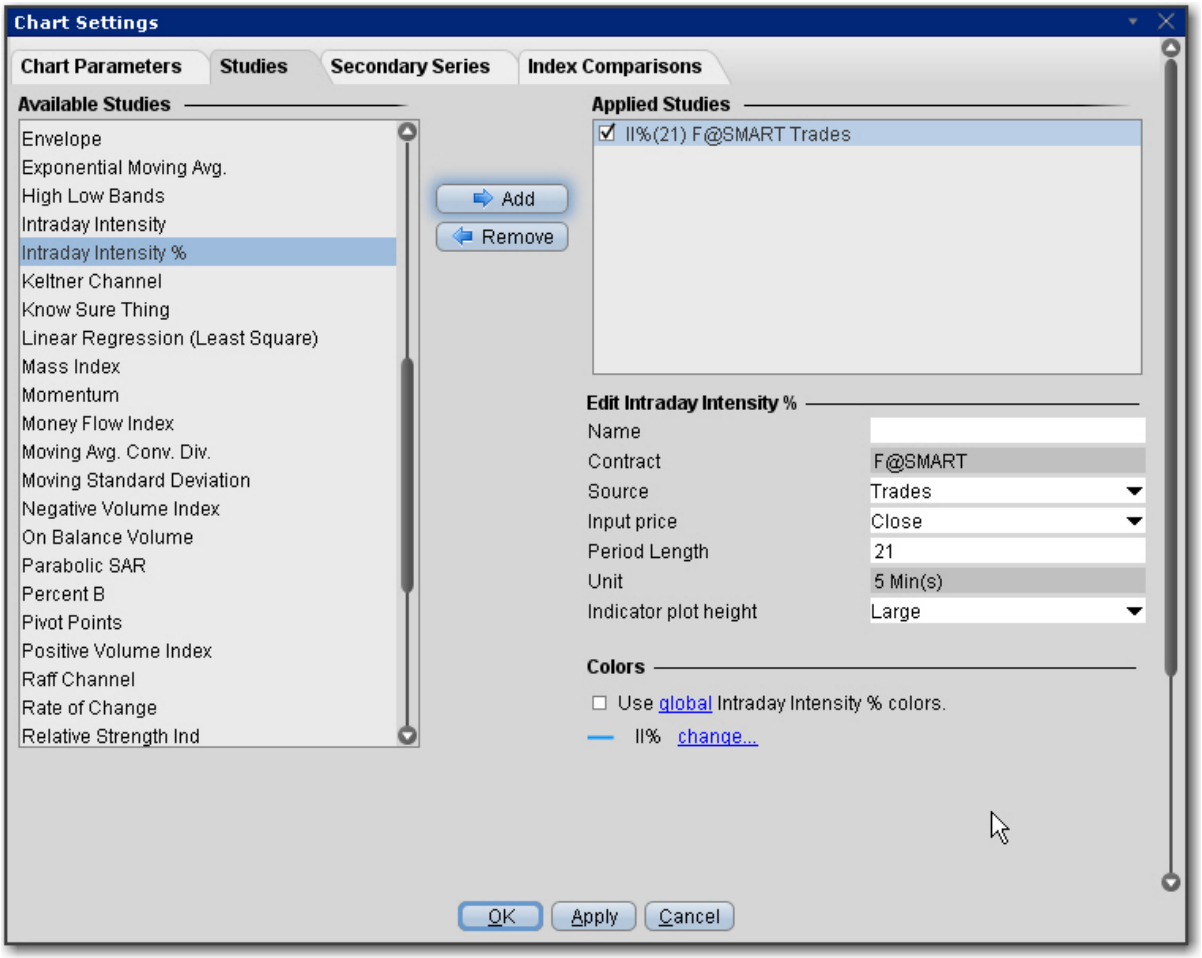
Intraday Intensity Percent

Also known at the Money Flow %, calculated as:

Intraday Intensity% = Intraday Intensity/Sum(Volume, x) * 100%

Where Intraday Intensity = (2 * close - H - L) / (H - L) * volume

and x = period of sum, by default = 21



To apply an Intraday Intensity Percent Indicator

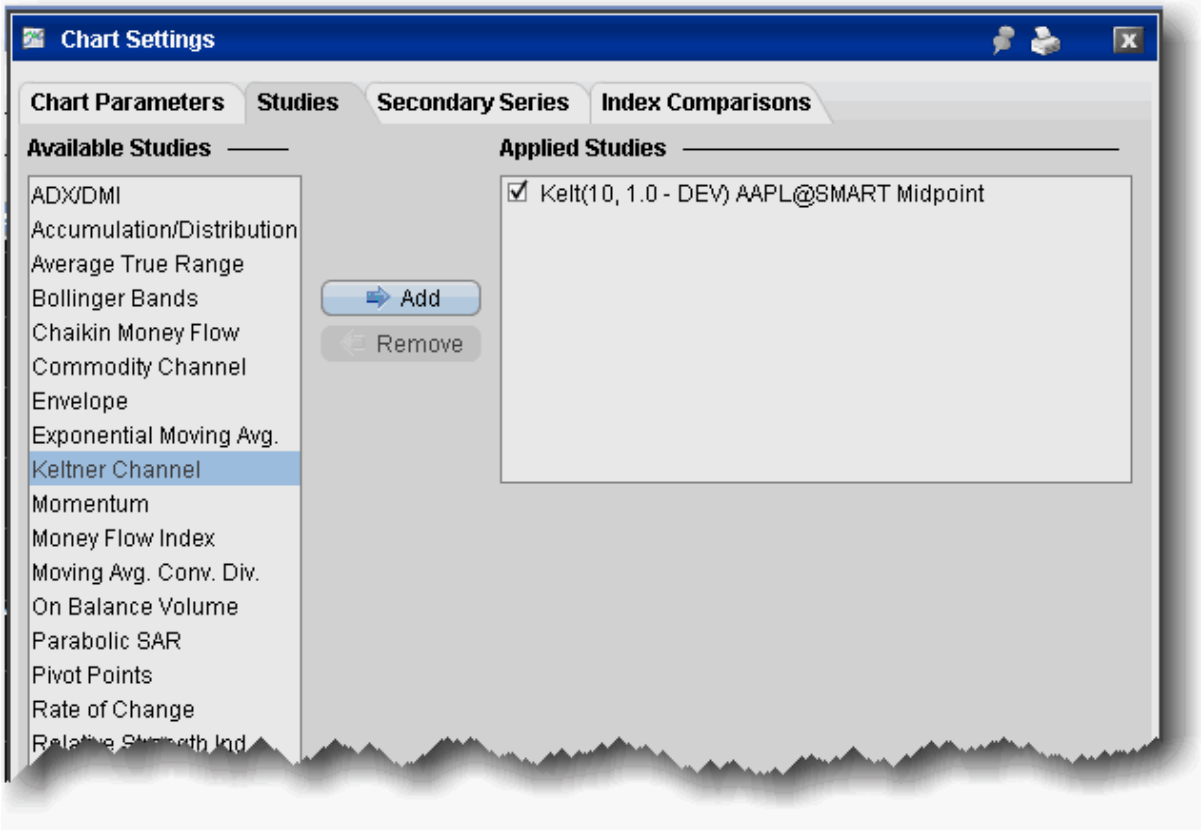
1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Intraday Intensity Percent*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply a Keltner Channel Indicator

The Keltner Channel indicator is sensitive to volatility, and plots an "envelope" of two bands above and below the middle line, which represents a 20-period Exponential Moving Average

(EMA). The upper and lower bands define the area inside of which the price should generally fall. The price crossing or floating towards these lines could indicate a trading opportunity.



The Keltner Channel bands are calculated as follows:

Middle Line = EMA(TP)

Top Line = EMA(TP + Dev x TR)

Bottom Line = EMA(TP - Dev x TR)

Where:

EMA - exponential moving average

TP = typical price

TR - true range

Dev — the deviation factor.

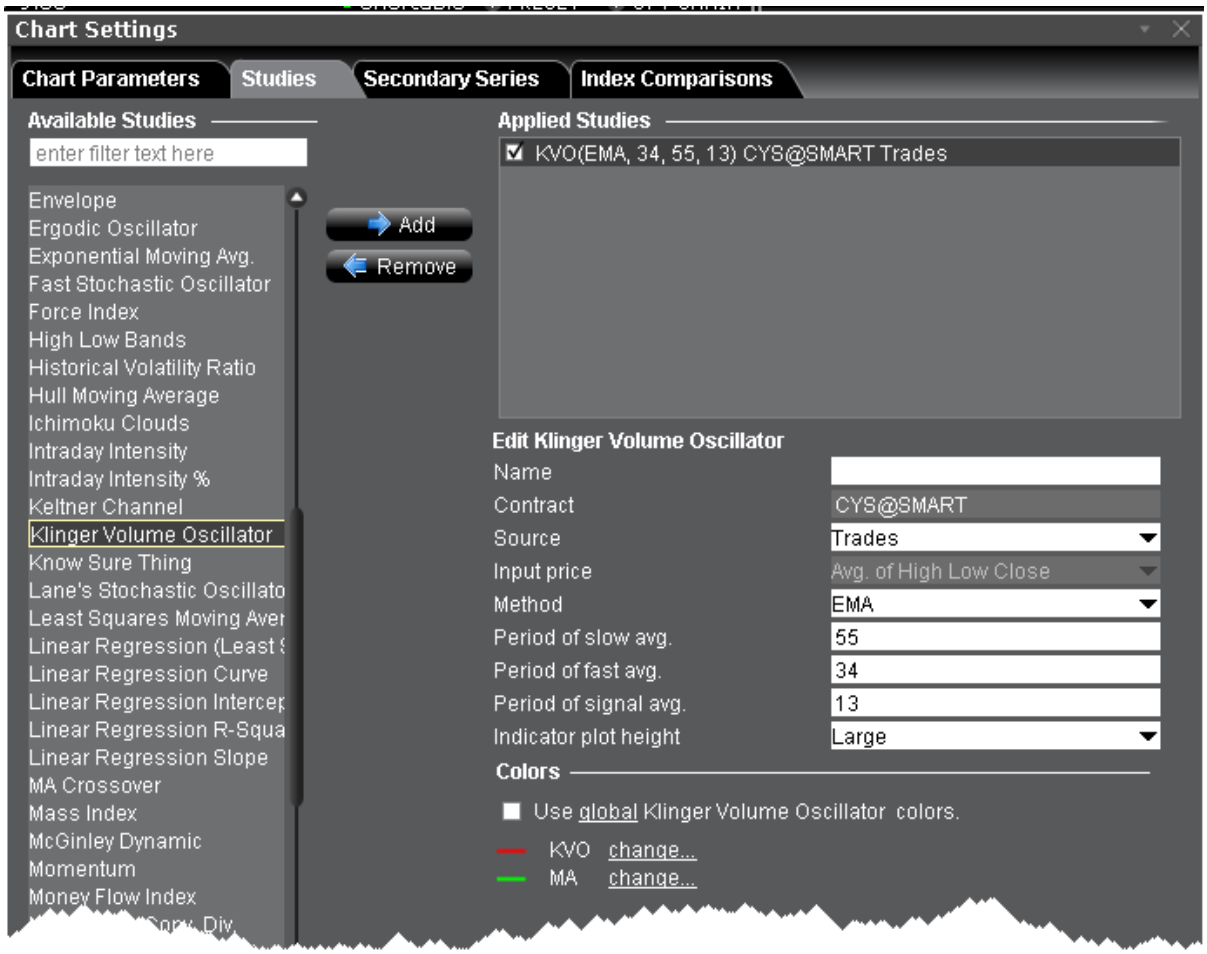
To overlay a Keltner Channel Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **Keltner Channel** and *Add* the study.
3. Complete parameters as necessary.

Note that you can increase the thickness and color of the indicator lines by right-clicking a line and using the edit menu to select *Change Indicator Thickness* or *Change Indicator Color*. A thickness of "1" is the thinnest; 4 is the thickest.

Klinger Volume Oscillator

This oscillator is used to determine long-term trends of money flow, while remaining sensitive enough to short-term fluctuations to predict short-term reversals. It compares the volume flowing in and out of a security to price movement, and it is then turned into an oscillator. A signal line (13-period moving average) is used to trigger transaction decisions. This technique is very similar to signals that are created with other indicators such as the MACD (moving average convergence divergence). The Klinger Oscillator also uses divergence to identify when price and volume are not confirming the direction of the move. It is considered to be a bullish sign when the value of the indicator is heading upward while the price of the security continues to fall. It is recommended to use other tools such as trendlines, moving averages and other indicators to confirm the reversal.



To apply a Klinger Volume Oscillator Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Klinger Volume Oscillator*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply a Know Sure Thing (KST) Indicator

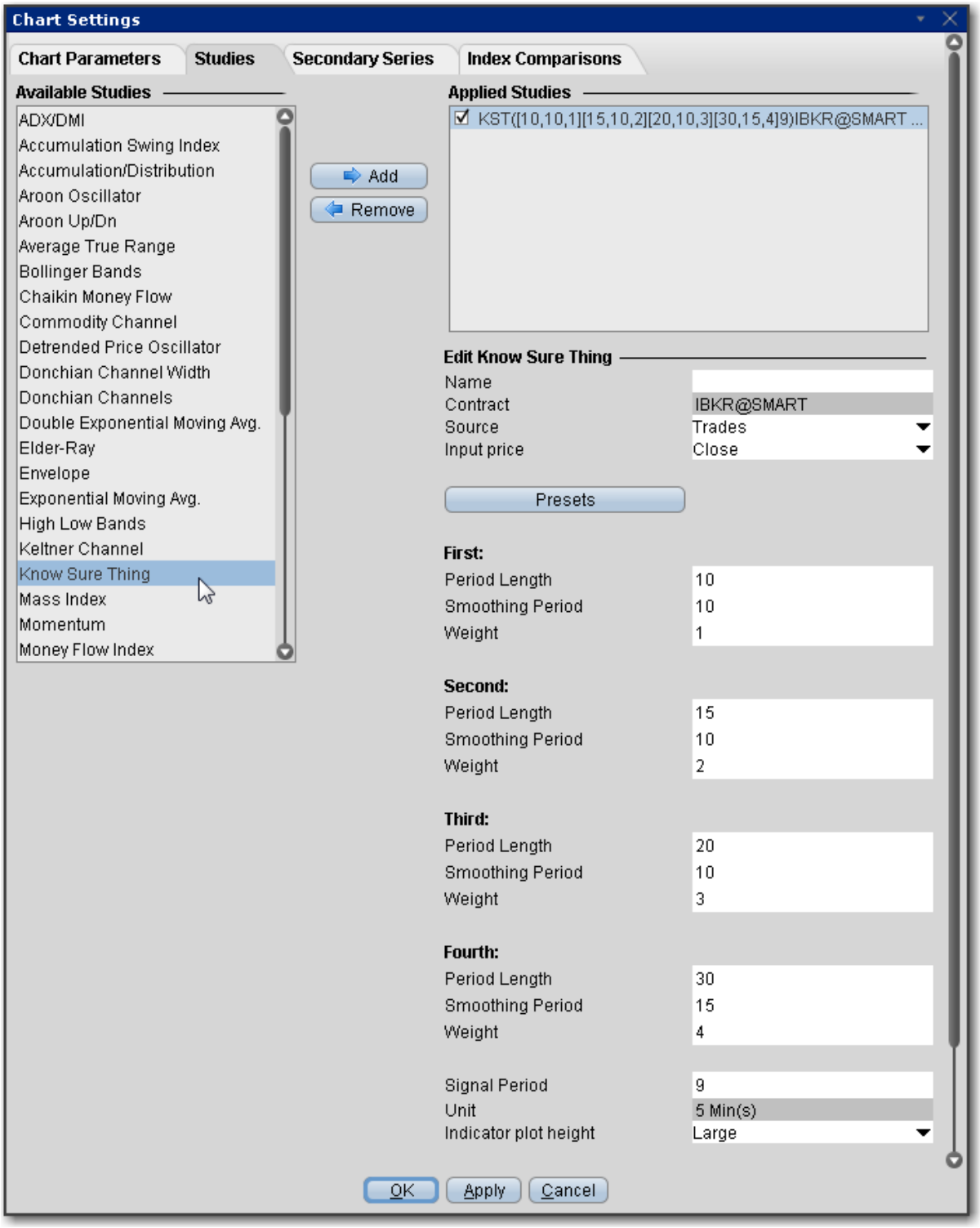
A two-line indicator used to determine momentum in stock trends. As an oscillator, it fluctuates above and below zero, providing trade signals and analytical insight based on divergence with

price and KST and signal Line crossovers.

The indicator formula uses four different time frames to show overall momentum (rather than momentum over only one specific timeframe):

ROCMA1 = 10-Period SMA of 10-Period Rate-of-Change
ROCMA2 = 10-Period SMA of 15-Period Rate-of-Change
ROCMA3 = 10-Period SMA of 20-Period Rate-of-Change
ROCMA4 = 15-Period SMA of 30-Period Rate-of-Change
KST Line = (RoCMA1 x 1) + (RoCMA2 x 2) + (RoCMA3 x 3) + (RoCMA4 x 4)
Signal Line = 9-period SMA of KST, where SMA stands for Simple Moving Average and ROC stands for Rate-of-Change.

While the formulas are different, the applications of KST are similar to those of the MACD.



To apply a Know Sure Thing Indicator

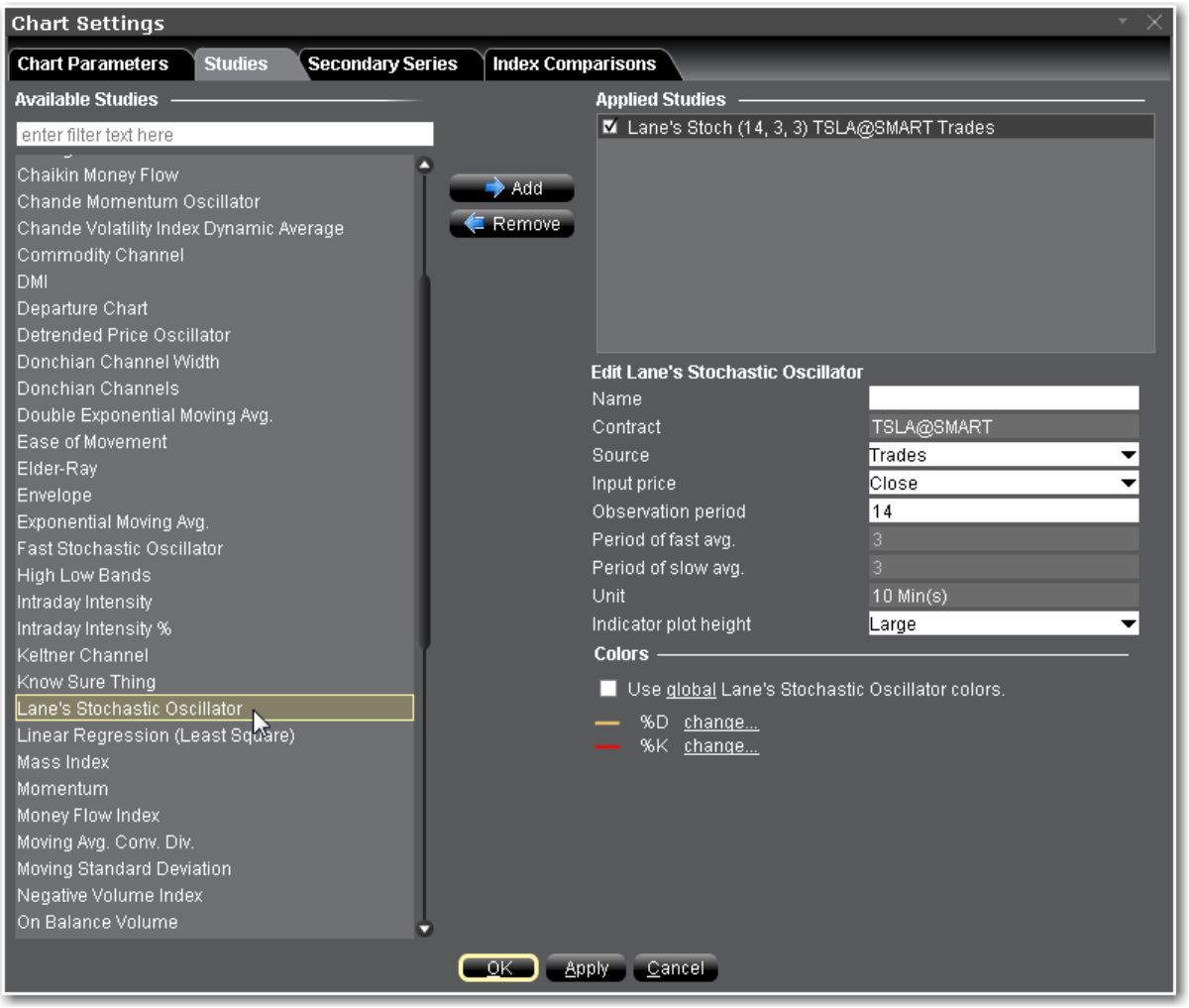
1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Know Sure Thing*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Lane's Stochastic Oscillator

The stochastic oscillator provides information about the location of a current close in relation to the period's high and low. It ranges between 0% and 100%. A reading of 0% indicates that the close was the lowest price at which the security traded during the preceding *x* number of time periods. A reading of 100% indicates that the close was the highest price at which the security traded during the preceding *x* number of time periods.

> **Note:** Like the full Stochastic Oscillator, you can edit the source, input price and observation period, but the periods of fast and slow average cannot be edited and the method used is always SMA. use the full Stochastic Oscillator for more flexibility.



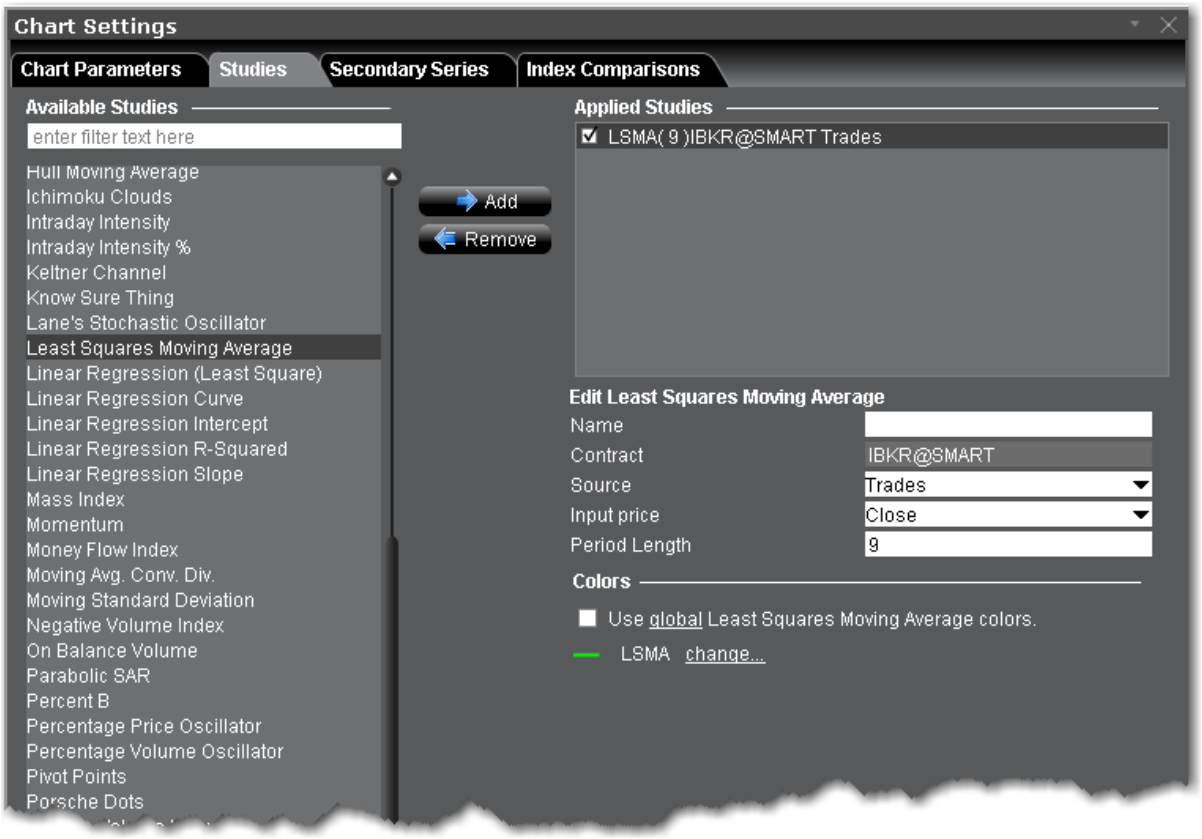
To apply a Lane's Stochastic Oscillator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Lane's Stochastic Oscillator***and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Least Squares Moving Average

Sometimes called an End Point Moving Average, this indicator is based on a linear regression, but goes one step further by estimating what would happen if the regression line continued. Least Squares Moving Average is used mainly as a crossover signal with another moving average or with itself.



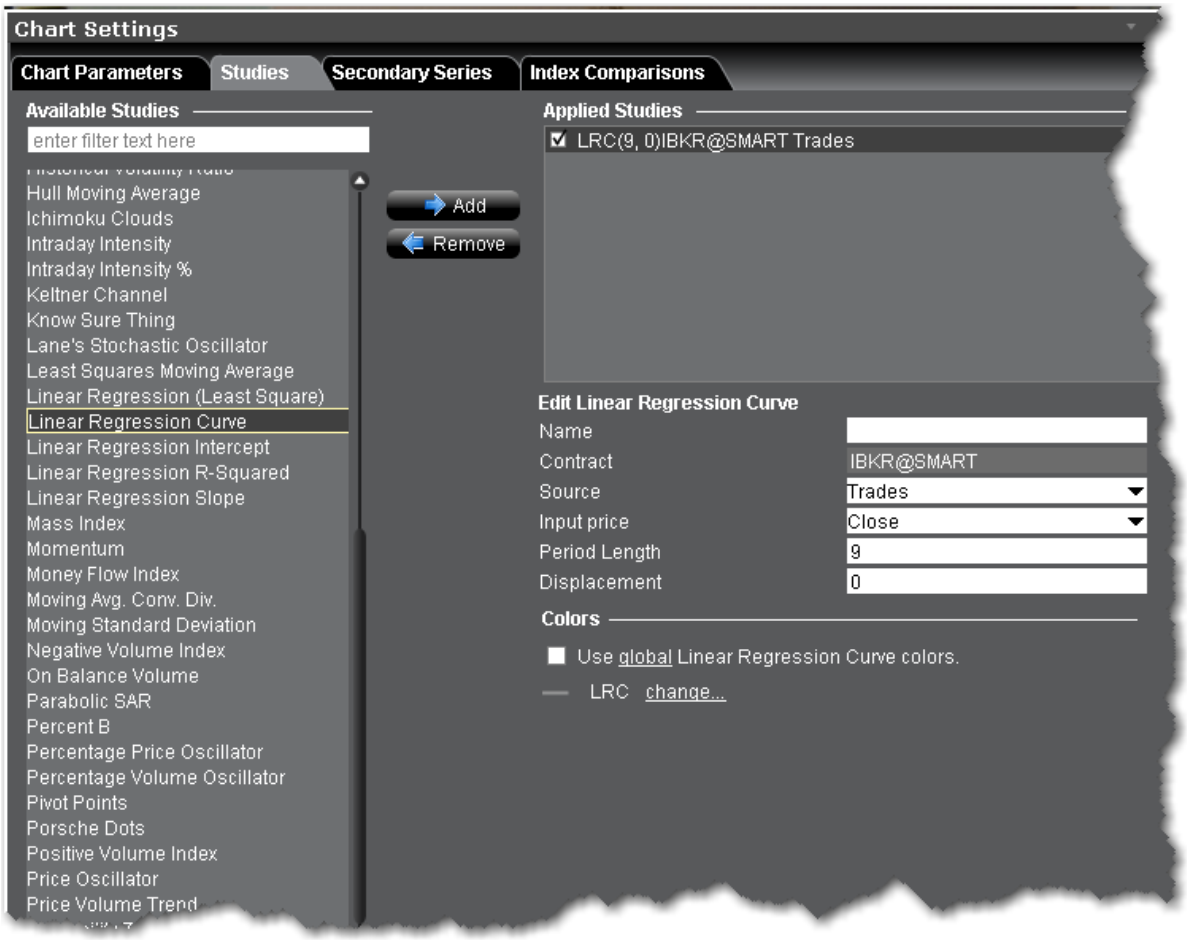
To apply a Least Squares Moving Average Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Least Squares Moving Average*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Linear Regression Curve

This indicator plots a line that best fits the prices specified over a user-defined time period. The Linear Regression Curve is used mainly to identify trend direction and is sometimes used to generate buy and sell signals.



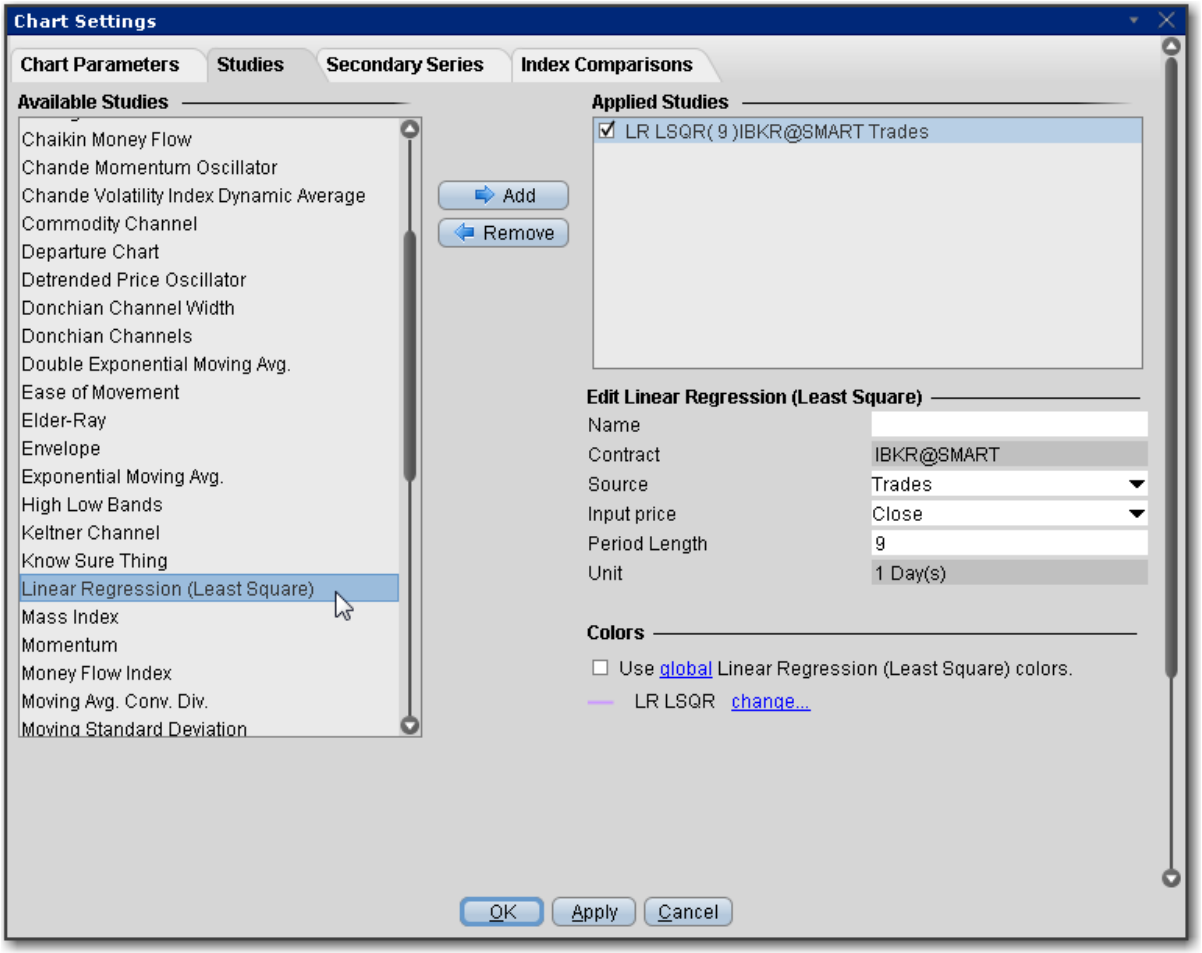
To apply a Linear Regression Curve Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Linear Regression Curve*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Linear Regression Indicator

The Linear Regression Indicator is used for trend identification and trend following, similar to a moving average. The indicator should not be confused with Linear Regression Lines, which are straight lines fitted to a series of data points. The Linear Regression Indicator plots the end points of a whole series of linear regression lines drawn on consecutive days. The advantage of the Linear Regression Indicator over a normal moving average is that it has less lag than the moving average and responds more quickly to changes in direction. The downside is that it is more prone to whipsaws, where a price heads in one direction and then quickly moves in the opposite direction.



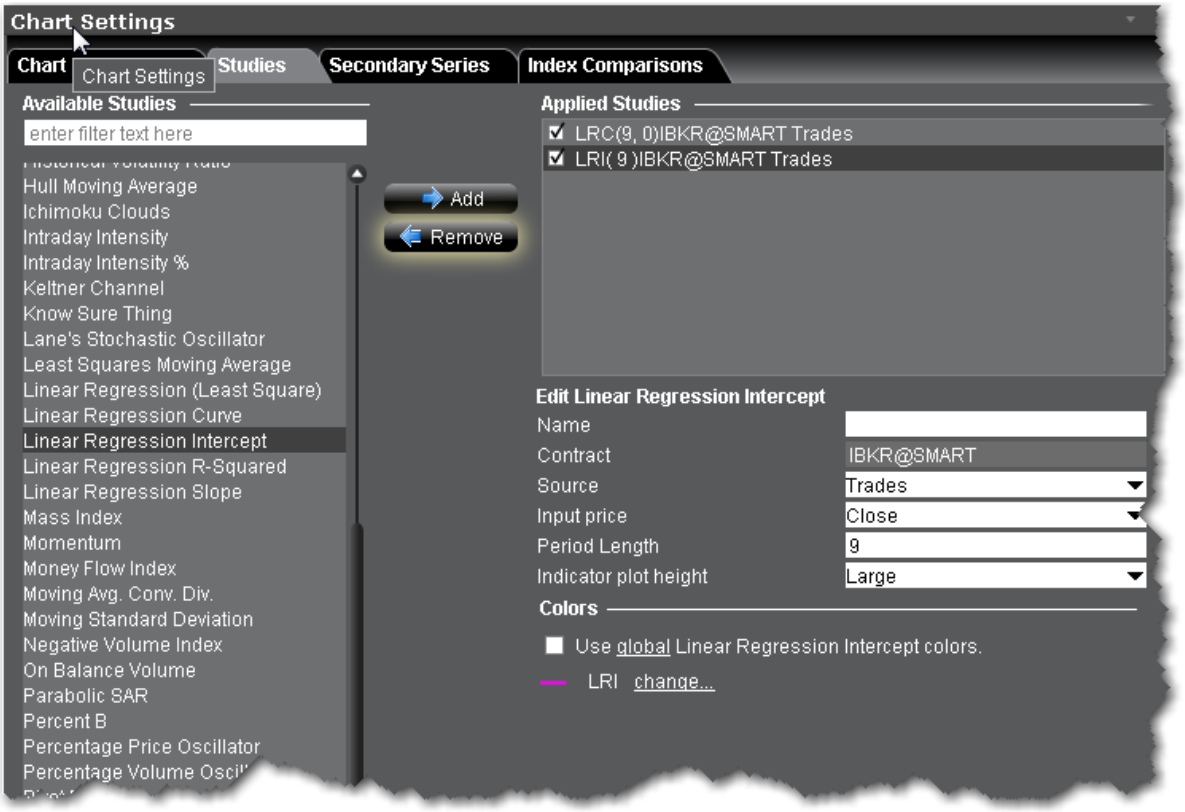
To apply a Linear Regression Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Linear Regression (Least Square)***and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Linear Regression Intercept

A statistical tool used to help predict future values from past values. It is commonly used as a quantitative way to determine the underlying trend and when prices are overextended.



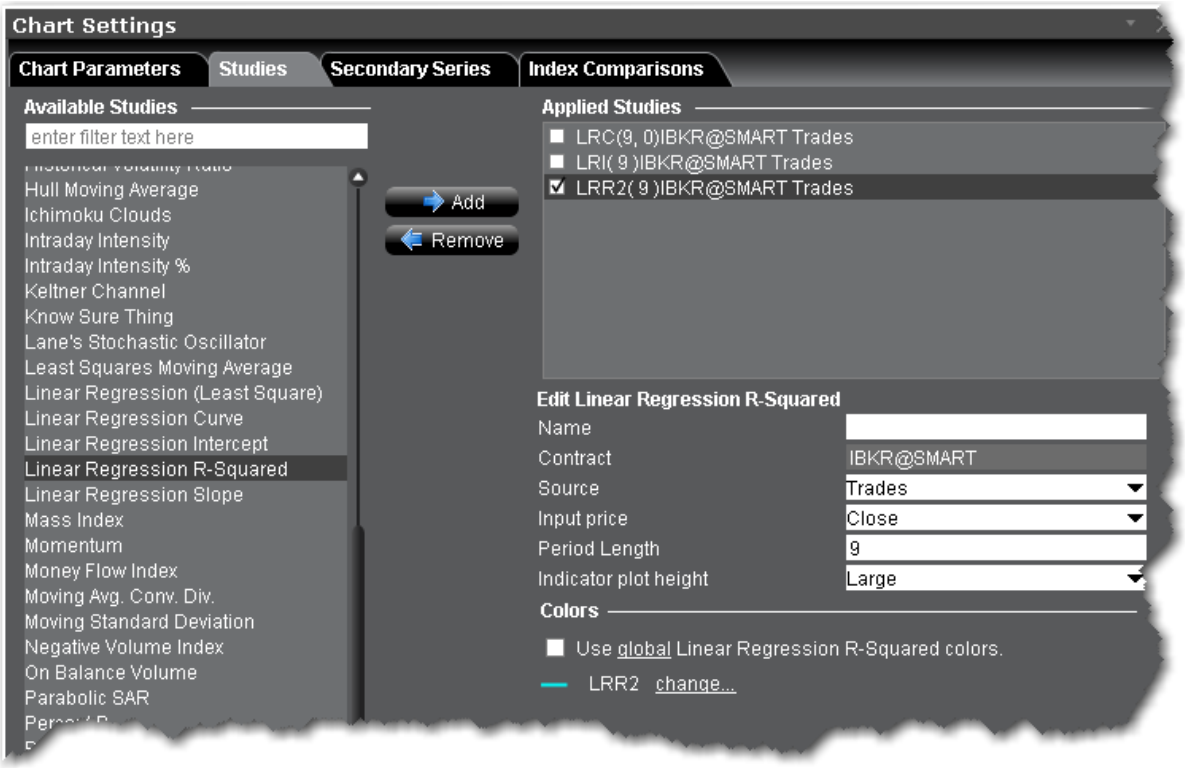
To apply a Linear Regression Intercept Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Linear Regression Intercept*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Linear Regression R-Squared

An indicator used to determine the strength of the dominant market trend. It is typically used with other indicators such as Linear Regression Slope. The Slope indicates the overall market trend (positive or negative) and the R-Squared indicates the strength.



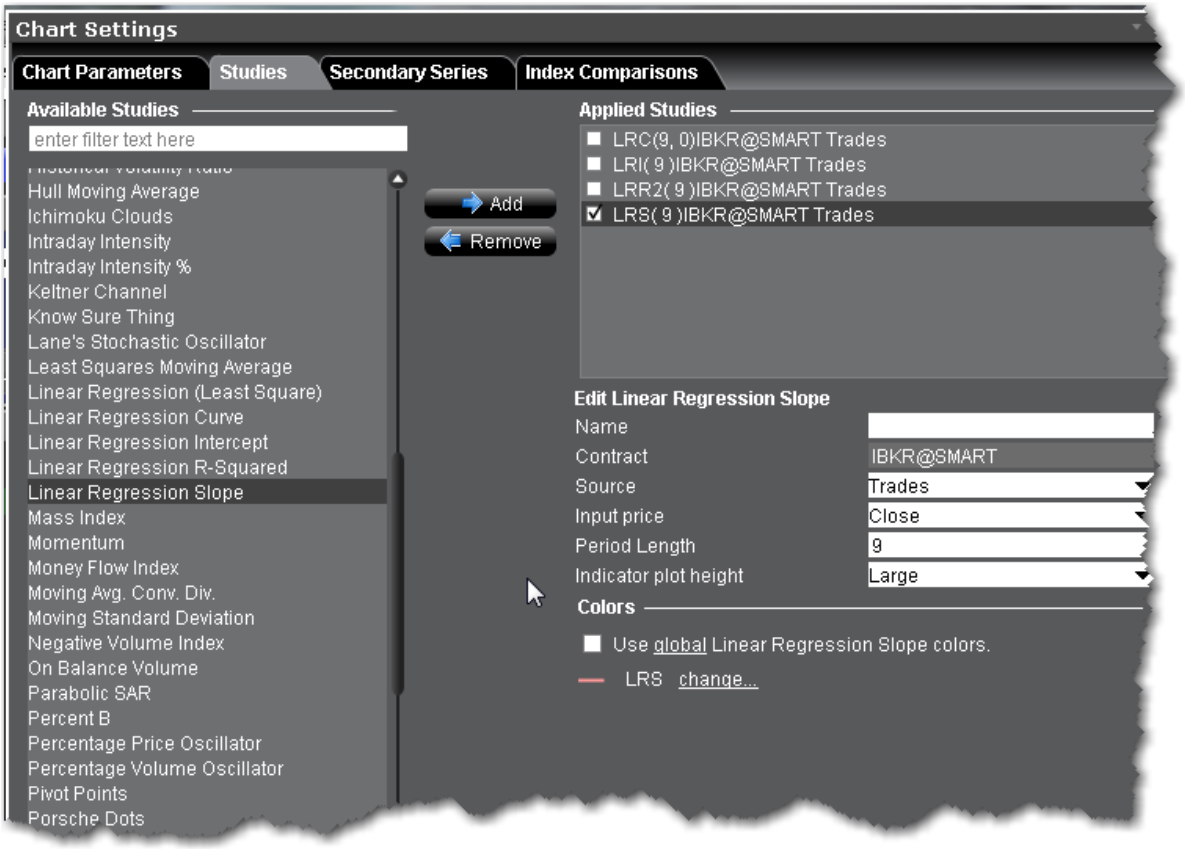
To apply a Linear Regression R-Squared Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Linear Regression R-Squared*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Linear Regression Slope

A common statistical technique used to identify the strength and direction of a dominant market trend. The Linear Regression Slope is a centered oscillator type of indicator similar to momentum indicators. As indicated by its name, it "oscillates" or fluctuates above and below a central line drawn at 0. In general, the momentum is positive when the slope is above 0 and negative when it is below 0. It can be used to measure the strength or weakness and direction of the momentum.



To apply a Linear Regression Slope Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Linear Regression Slope*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply MACD Indicator

This is a trend-following dynamic indicator that shows the correlation between two moving averages, generally a 26-period and 12-period SMA or WMA or EMA. You can modify the period length when you create the study. To help illustrate opportunity, a 9-period EMA "signal line" is plotted on top of the MACD.

The MACD and signal line are plotted using the following calculations:

MACD = MA(CLOSE, 12)-MA(CLOSE, 26)

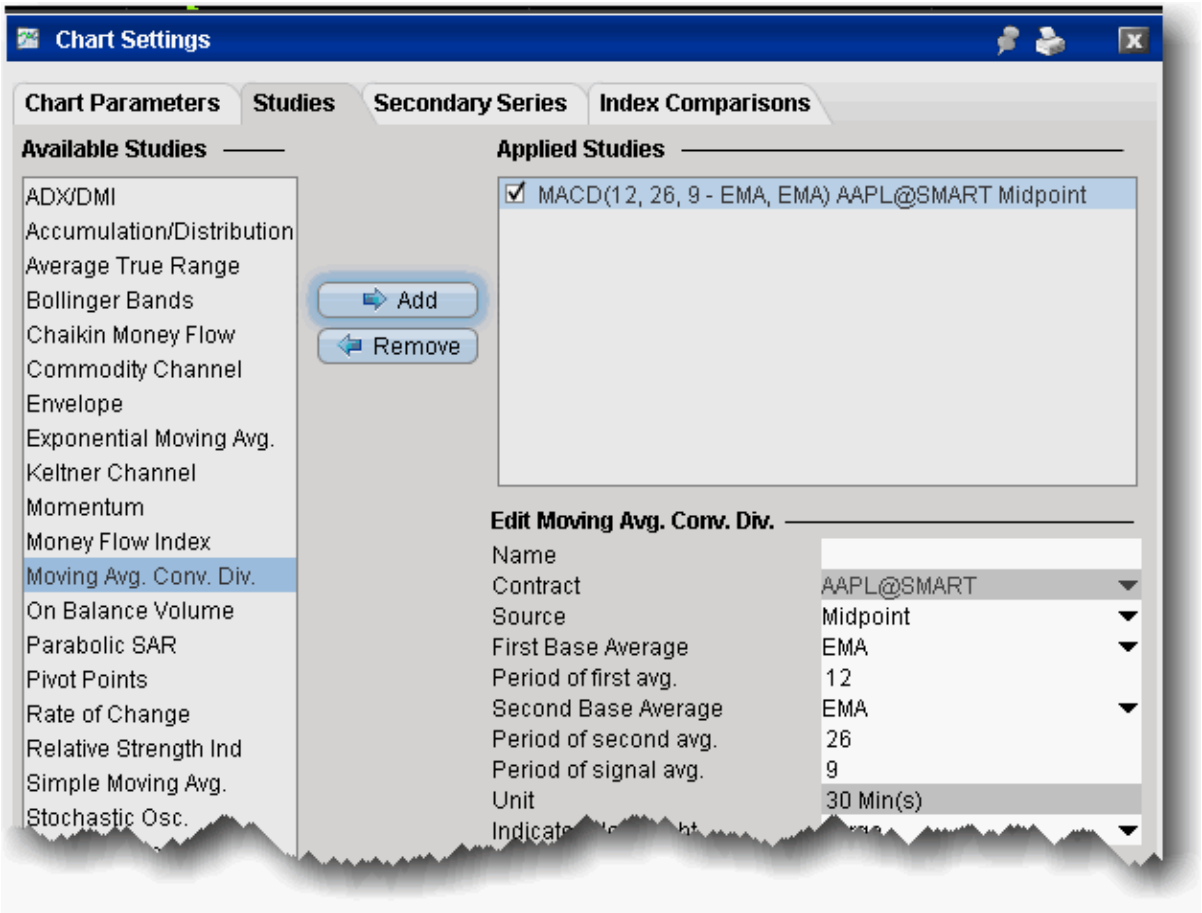
SIGNAL = EMA(MACD, 9)

MACD Histogram/OSMA = MACD - SIGNAL

Where:

MA — Simple or Weighted or Exponential Moving Average;

SIGNAL — the signal line of the indicator.

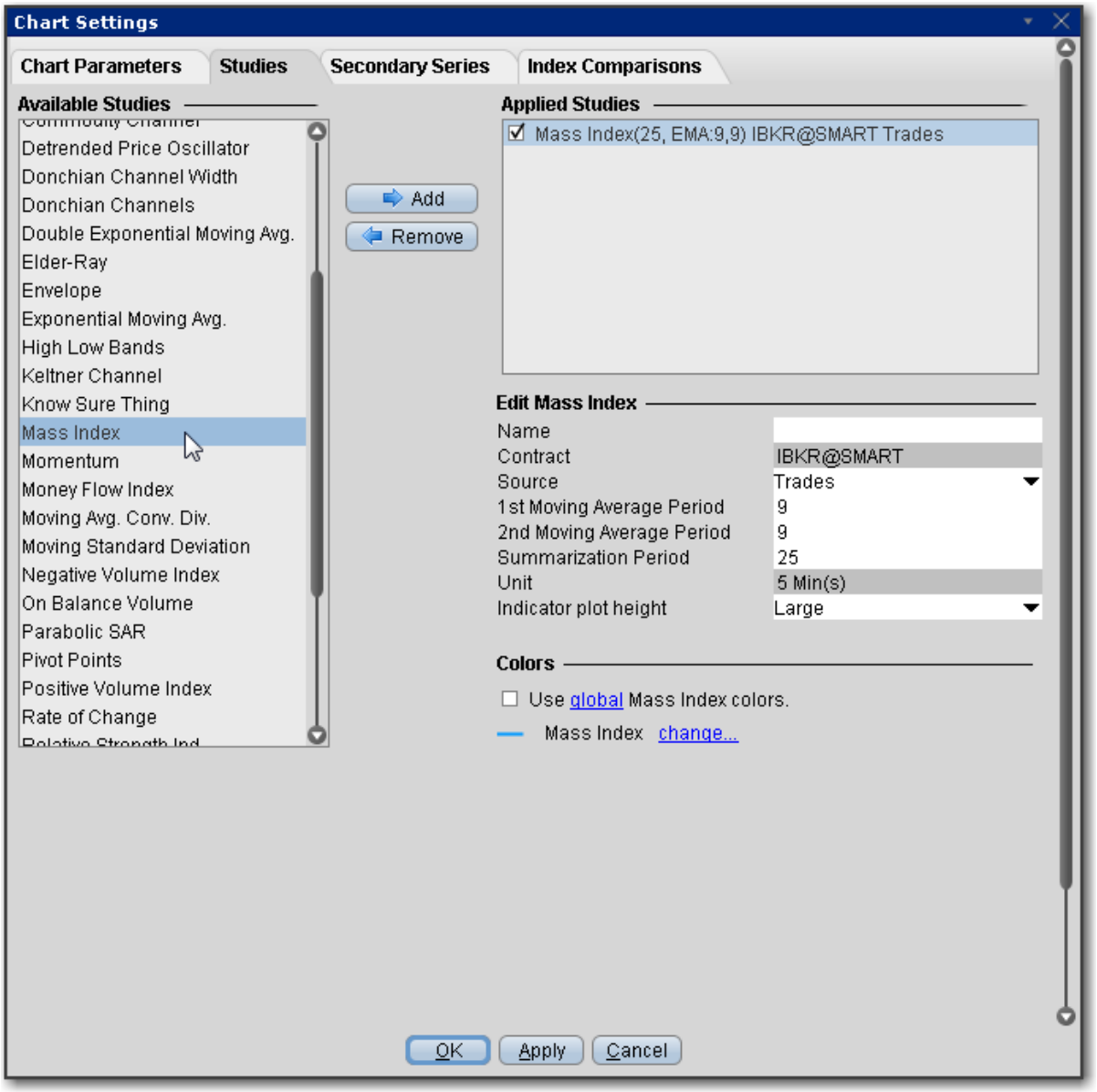


To apply a Moving Average Convergence/Divergence Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **Moving Avg Conv Div** and *Add* the study.
3. Complete parameters as necessary.

Apply a Mass Index Indicator

This indicator examines the range between high and low stock prices over a specific period of time. It suggests that a reversal of the current trend will likely take place when the range widens beyond a certain point and then contracts.



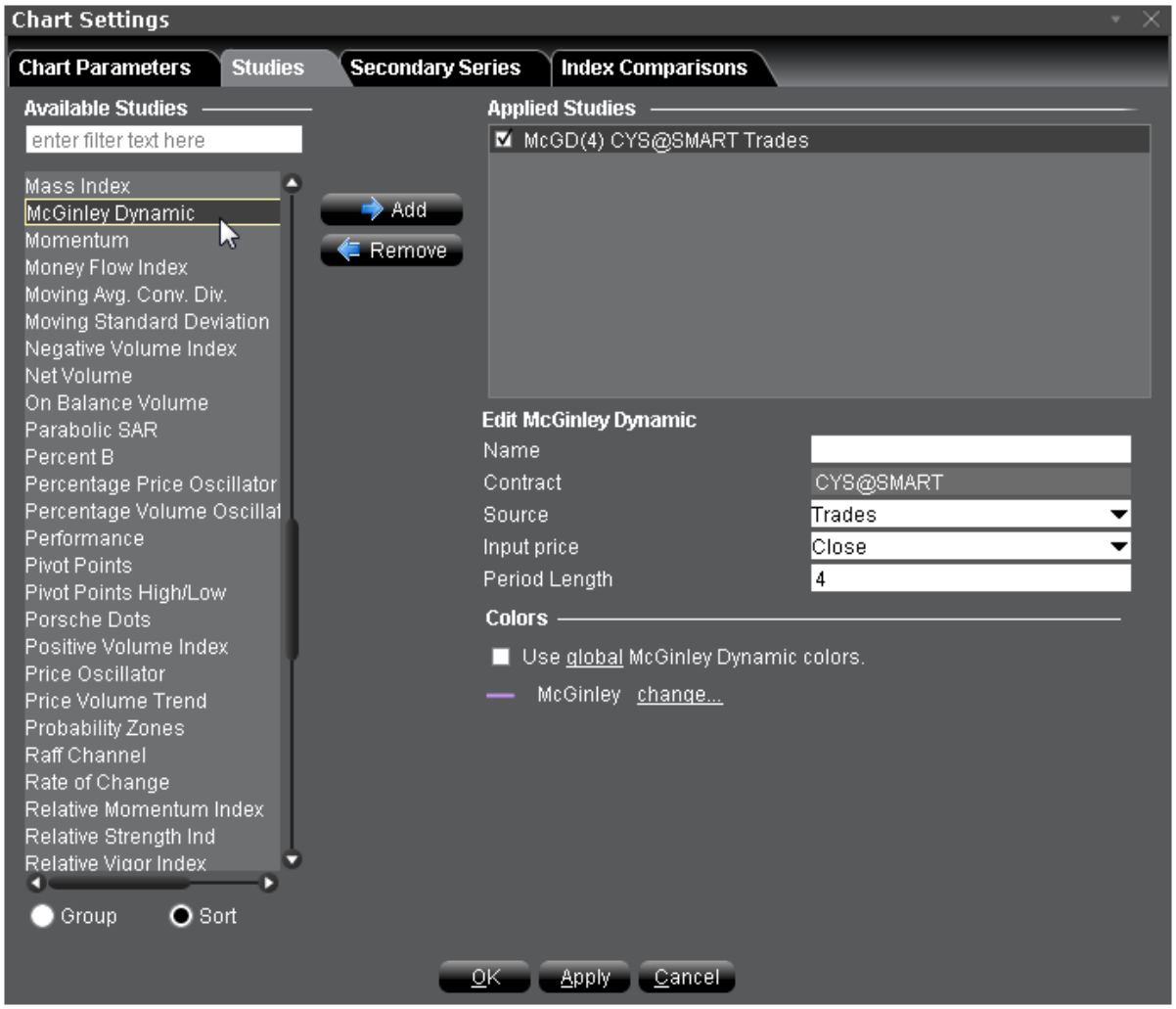
To apply a Mass Index Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Mass Index*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

McGinley Dynamic

The McGinley Dynamic is a smoothing mechanism for prices that often tracks far better than any moving average. It minimizes price separation and price whipsaws and hugs prices much more closely. Because of the calculation, the Dynamic Line speeds up in down markets as it follows prices yet moves more slowly in up markets.



To apply a McGinley Dynamic Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***McGinley Dynamic*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply a Momentum Indicator

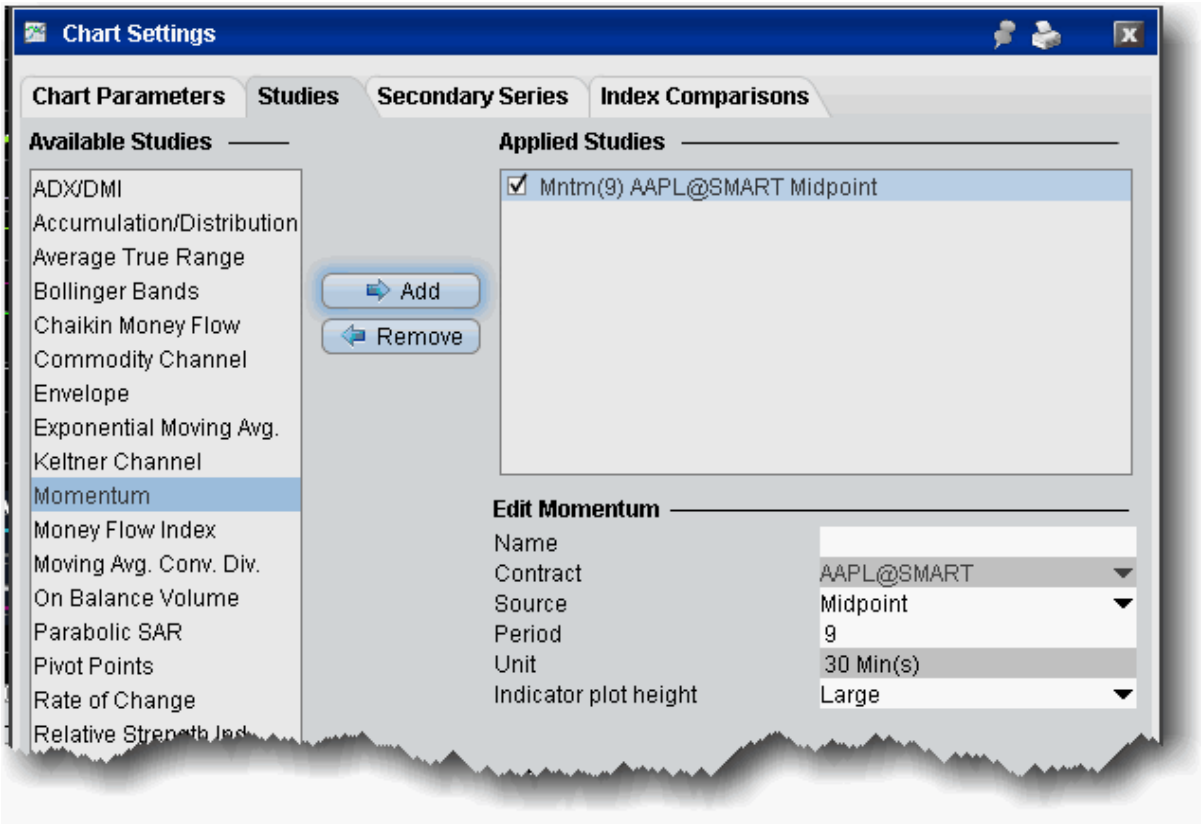
The Momentum is the difference between the current point (price or something else) and the point N periods ago. Momentum is calculated as a ratio of today's price to the price several (N) periods ago.

Momentum = CLOSE(i)/CLOSE(i-N)

Where:

CLOSE(i) — is the closing price of the current bar.

CLOSE(i-N) — is the closing bar price N periods ago



To apply a Momentum Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **Momentum** and *Add* the study.
3. Complete parameters as necessary.

Moving Average Crossover

A crossover occurs when a faster Moving Average (a shorter period moving average) crosses either above or below a slower (i.e. longer period) moving average. A crossover that moves above a slower MA is considered a bullish crossover; one that moves below is considered a bearish crossover.

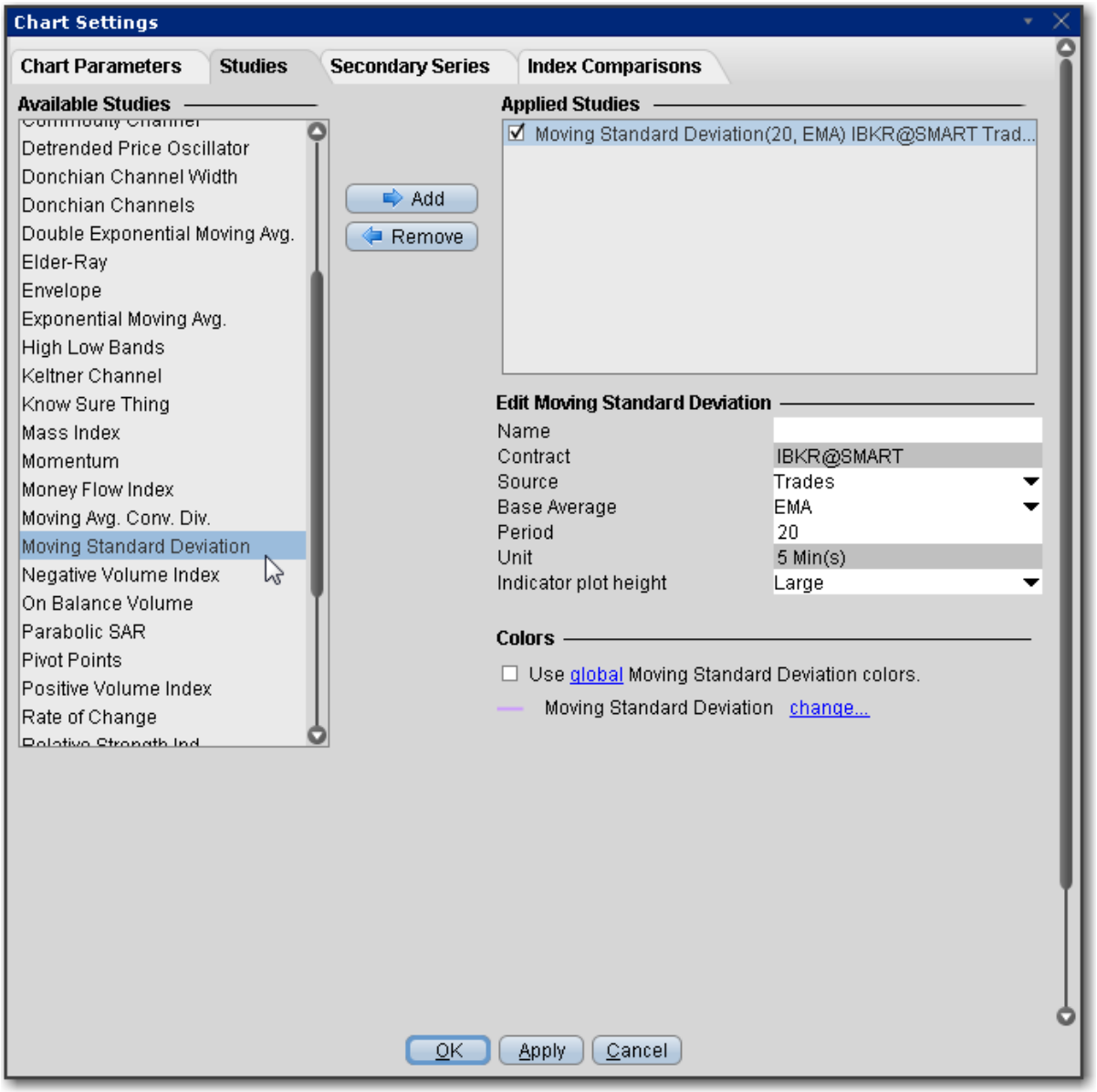
To apply an MA Crossover

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***MA Crossover*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply a Moving Standard Deviation Indicator

Standard deviation is a statistical term that provides a good indication of volatility. It measures how widely values (for example, closing prices) are dispersed from the average. Dispersion is the difference between the actual value (closing price) and the average value (mean closing price). The larger the difference between the closing prices and the average price, the higher the standard deviation will be and the higher the volatility. The nearer the closing prices are to the average price, the lower the standard deviation and the lower the volatility.



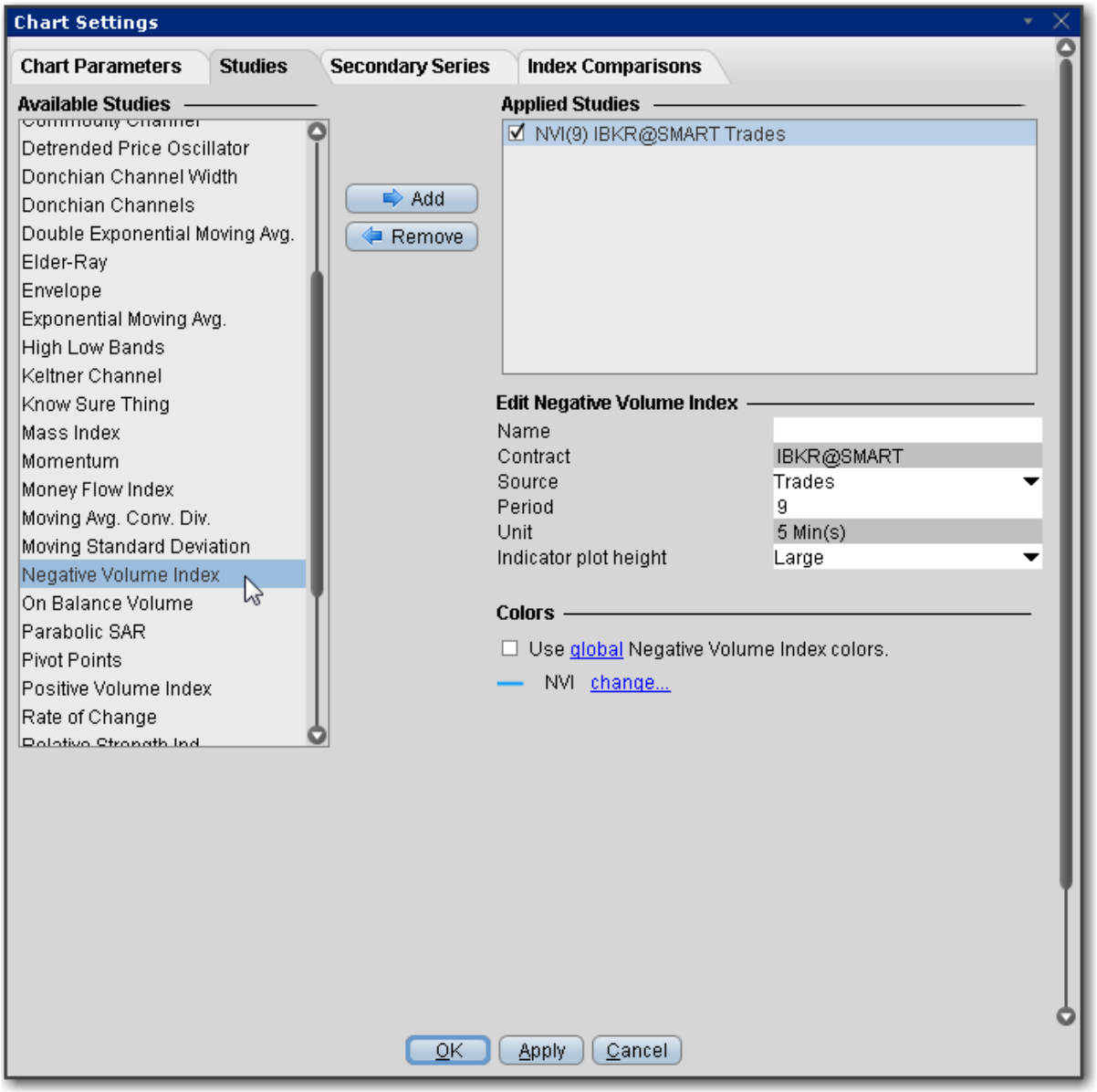
To apply a Moving Standard Deviation Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Moving Standard Deviation*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply a Negative Volume Index Indicator

This indicator relies on changes in a security's volume to identify when so-called "smart money" (i.e. institutions, funds and professional traders) is driving the current trend. The Negative Volume Index suggests that unsophisticated investors buy and sell primarily on high-volume days, while shrewd investors are more likely to trade on low-volume days. Often when volume drops, price drops. If a stock's price increases despite a decrease in volume, technical analysts consider this a positive sign. They use the negative volume index to help identify bull and bear markets.



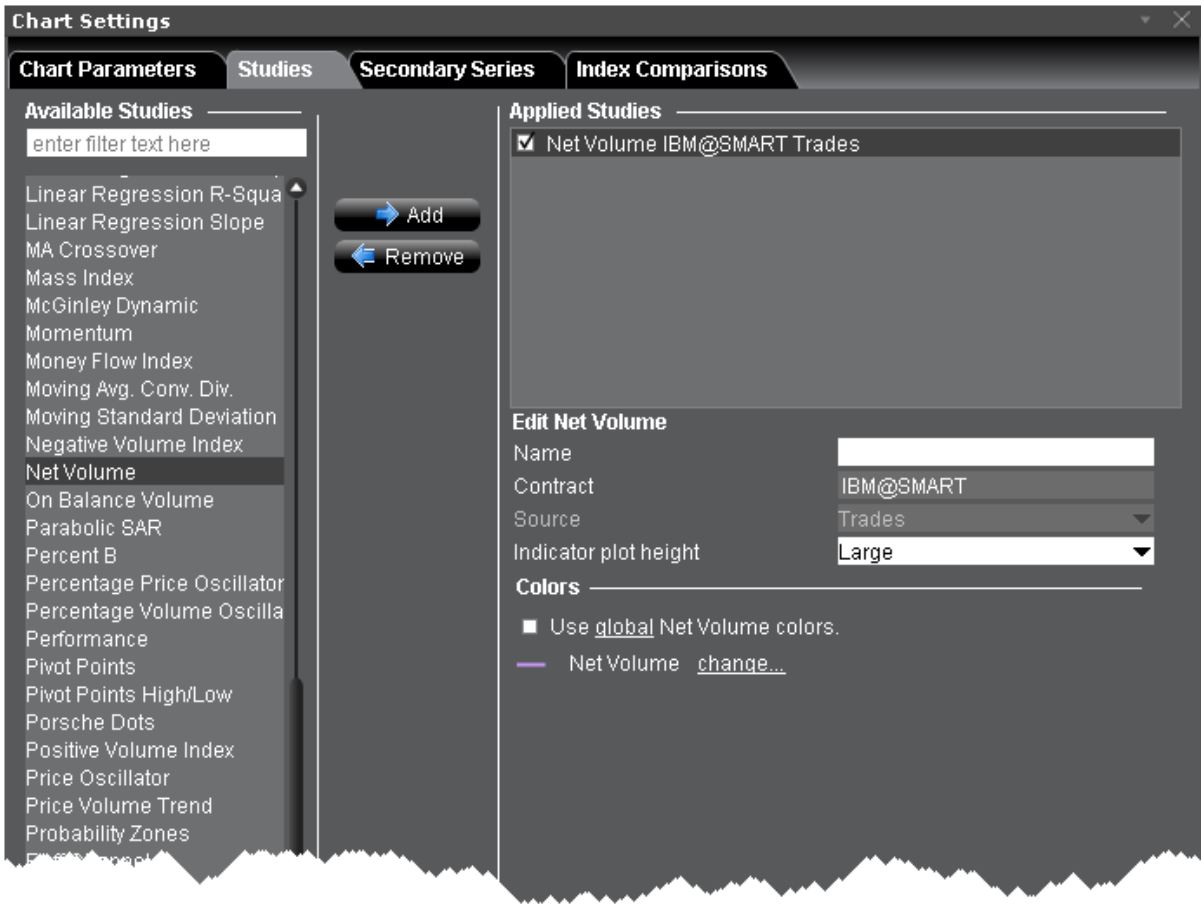
To apply a Negative Volume Index Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Negative Volume Index*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Net Volume Indicator

A security's uptick volume minus its downtick volume over a specified time period. The net volume of a stock aggregates the total positive and negative movements of the security over this period. When the total upward movement is greater than the total downward movement over this period, the stock has a positive net volume.



To apply a Net Volume Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Net Volume*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply an On Balance Volume Indicator

The concept behind the OBV indicator is: volume precedes price. OBV is a simple indicator that adds a period's volume when the close is up and subtracts the period's volume when the close is down. A cumulative total of the volume additions and subtractions forms the OBV line.

If today’s close is greater than yesterday’s close then:

OBV(i) = OBV(i-1)+VOLUME(i)

If today’s close is less than yesterday’s close then:

OBV(i) = OBV(i-1)-VOLUME(i)

If today’s close is equal to yesterday’s close then:

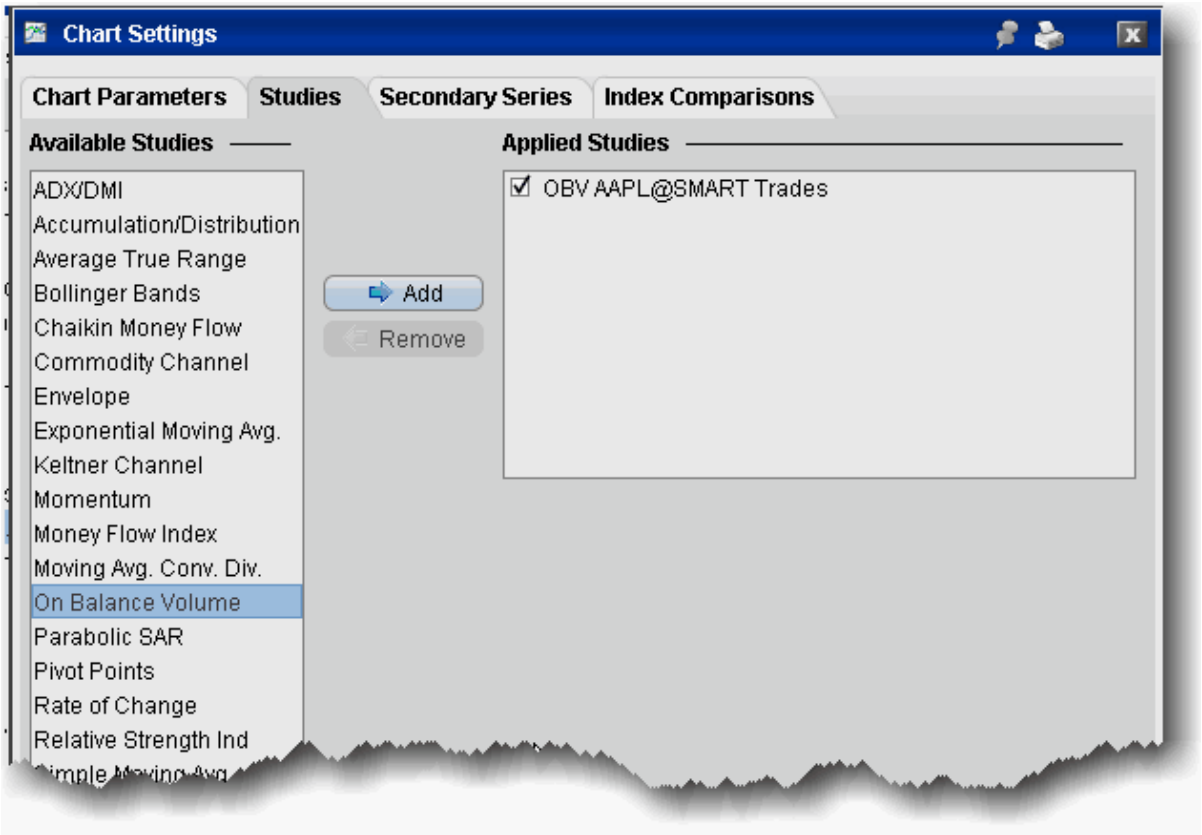
OBV(i) = OBV(i-1)

Where:

OBV(i) — is the indicator value of the current period.

OBV(i-1) — is the indicator value of the previous period.

VOLUME(i) — is the volume of the current bar.



To apply an On Balance Volume (OBV) indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **On Balance Volume** and *Add* the study.
3. Complete parameters as necessary.

Apply Parabolic SAR Indicator

For use in trending markets, parabolic SAR uses a trailing stop and reverse method to help determine good exit and entry points. The Parabolic SAR calculation is:

SARt+1 = SARt+ AF x (EPtradex SARt)

Where:

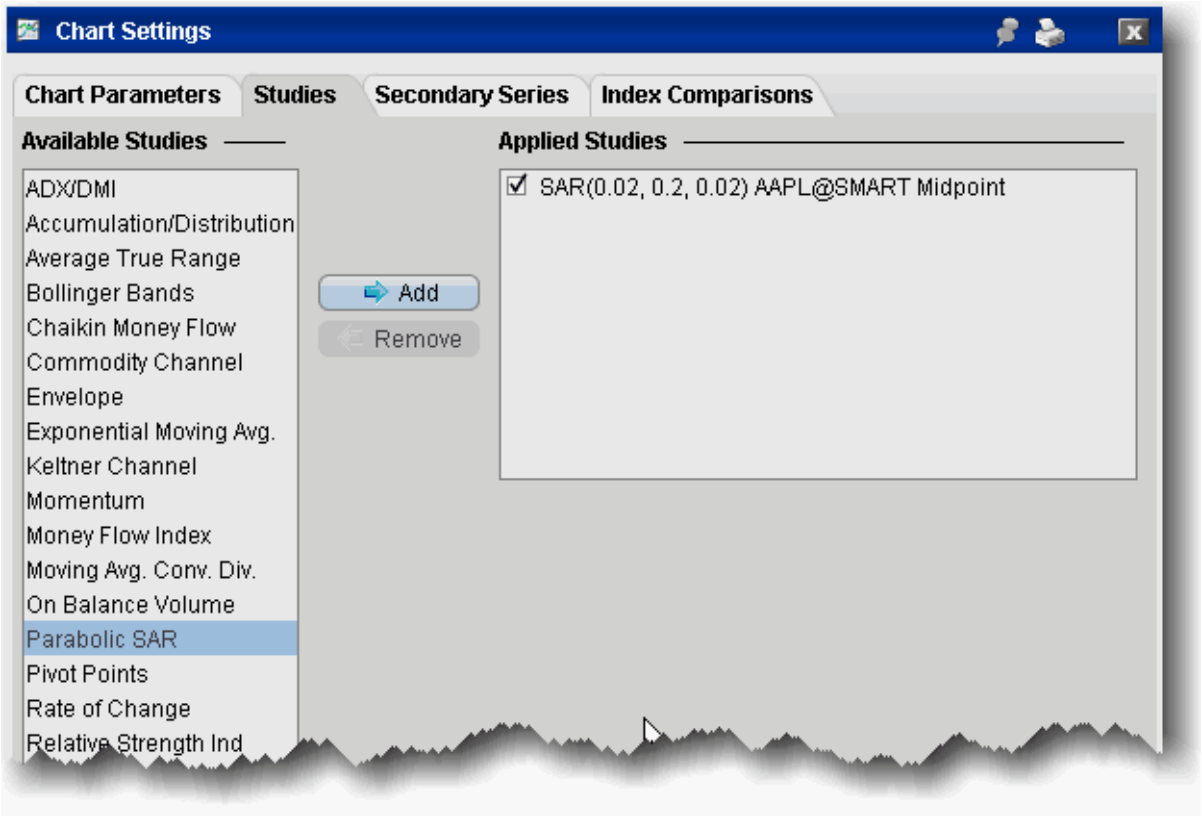
SARt+1 — next period's SAR

SAR$_t$ - current SAR

AF - acceleration factor, begins at .02 and increases by .02 to a maximum of 0.20.

> **Note:** You can reset the initial, increments and maximum acceleration factor when you create the study.

EP$_{trade}$ — the extreme price (HIGH for long positions and LOW for short positions).

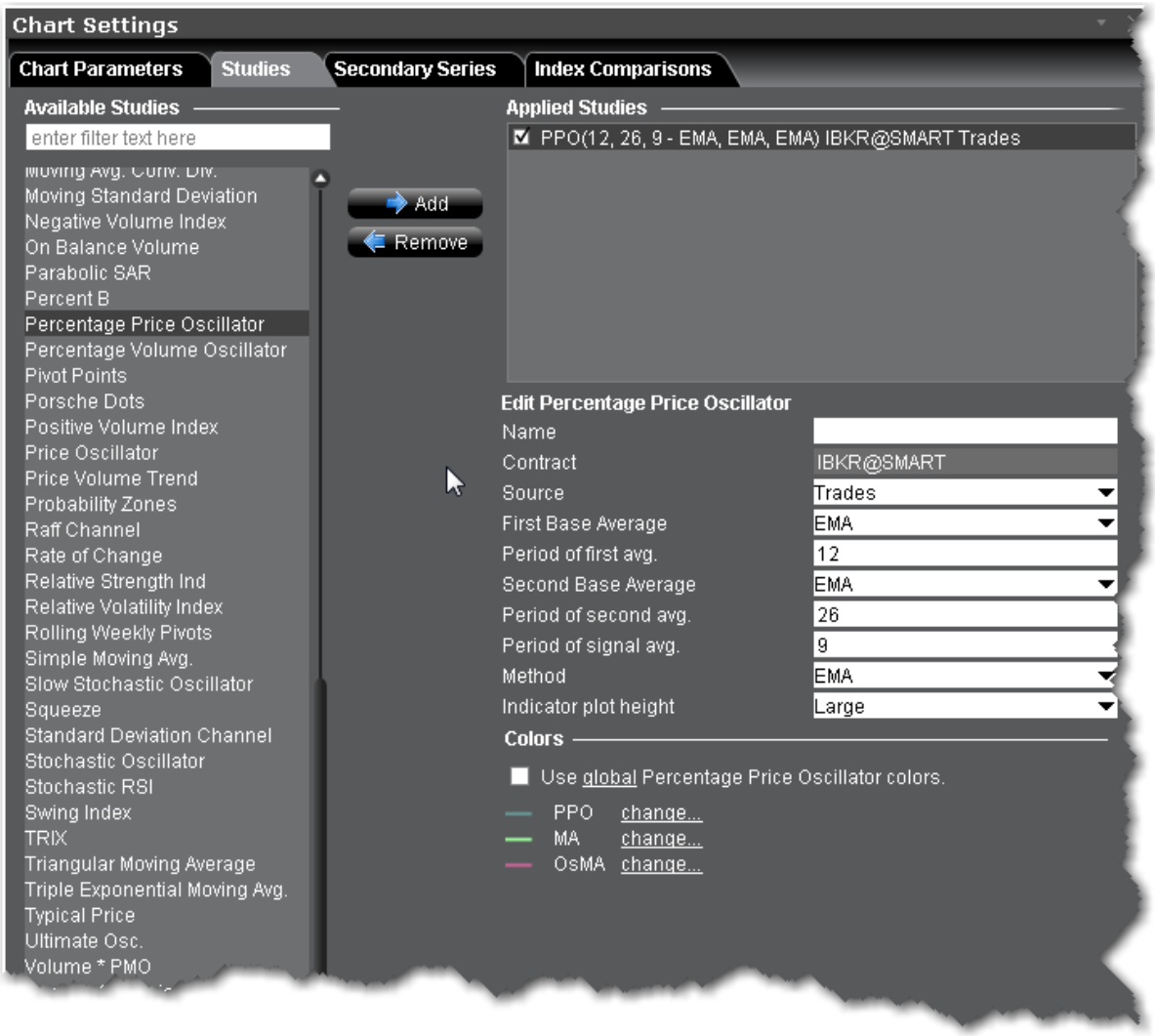


To apply a Parabolic SAR indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **Parabolic SAR** and *Add* the study.
3. Complete parameters as necessary.

Percentage Price Oscillator

A momentum oscillator for price. Shows the difference between two moving averages as a percentage of the larger moving average.



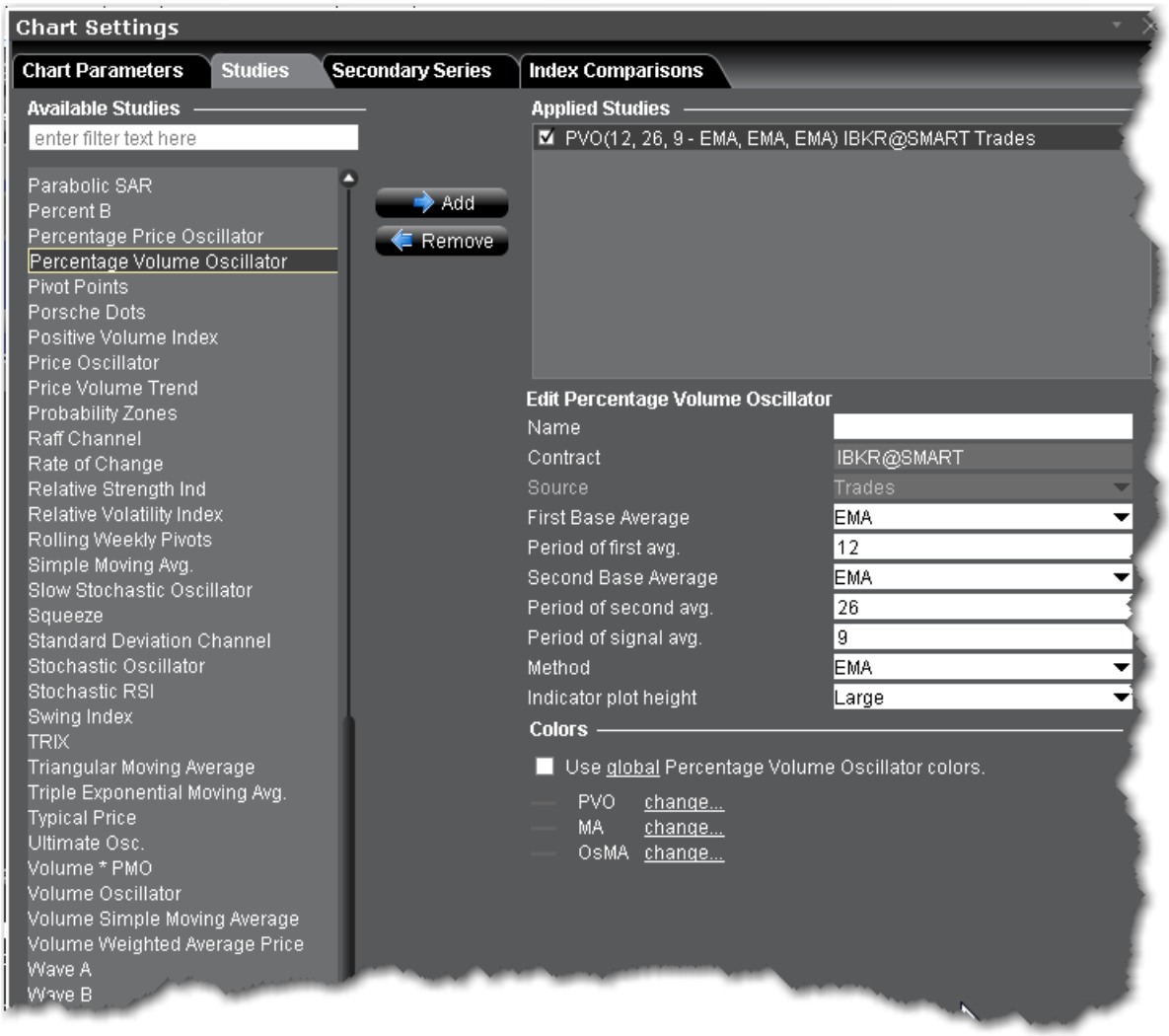
To apply a Percentage Price Oscillator Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Percentage Price Oscillator*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Percentage Volume Oscillator

A momentum oscillator for volume. It measures the difference between two volume-based moving averages as a percentage of the larger moving average.



To apply a Percentage Volume Oscillator Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Percentage Volume Oscillator*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

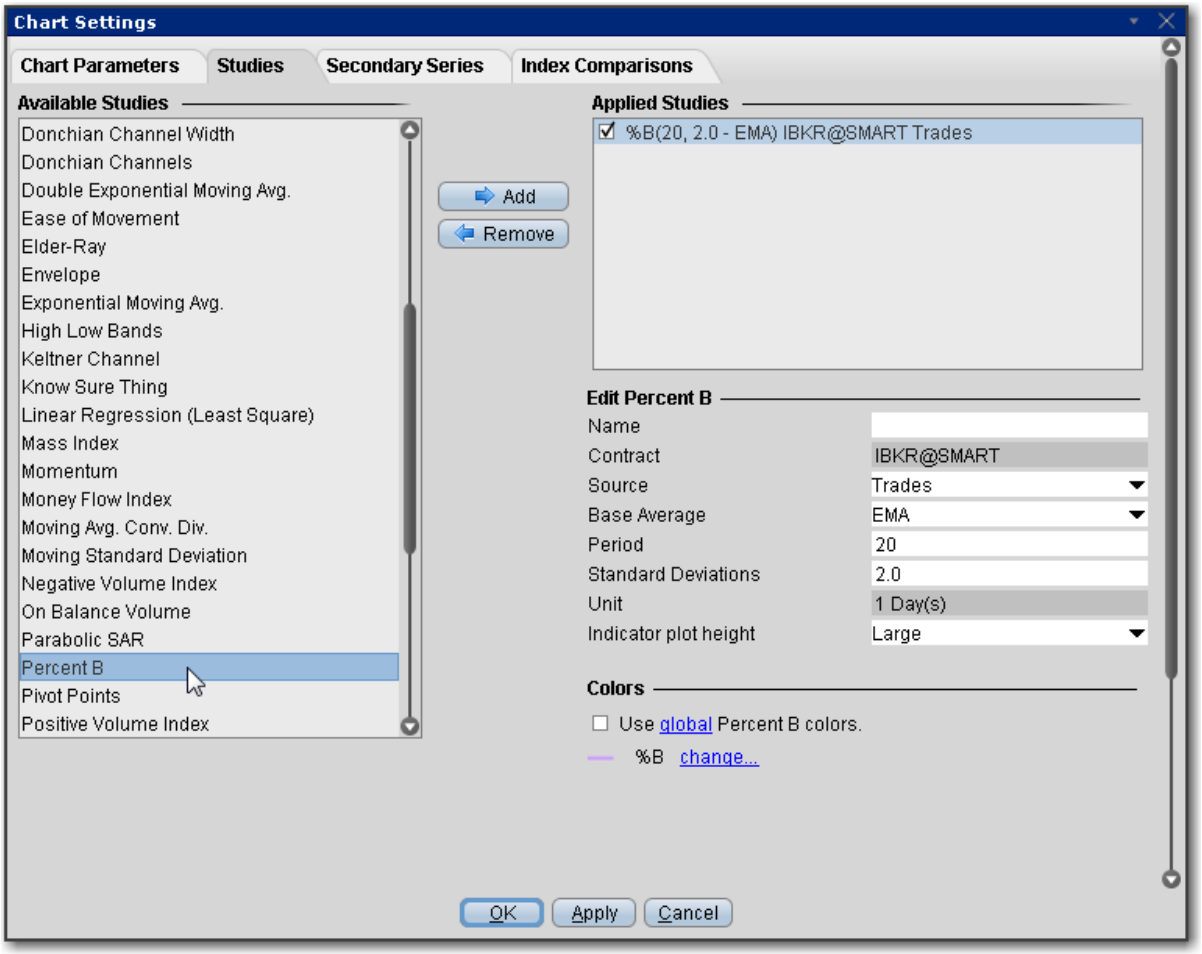
Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Percent B Indicator

%B quantifies a security's price relative to the upper and lower Bollinger Band. There are six basic relationship levels:

%B equals one when the price is at the upper band.
%B equals zero when the price is at the lower band.
%B is greater than one when the price is above the upper band.
%B is less than zero when the price is below the lower band.
%B is greater than .50 when the price is above the middle band (20-day SMA).
%B is less than .50 when the price is below the middle band (20-day SMA).

The default setting for %B is based on the default setting for Bollinger Bands (20,2). The bands are set two standard deviations above and below the 20-day simple moving average, which is also the middle band. The security price used is the closing price or the last trade.



To apply a Percent B Channel Indicator

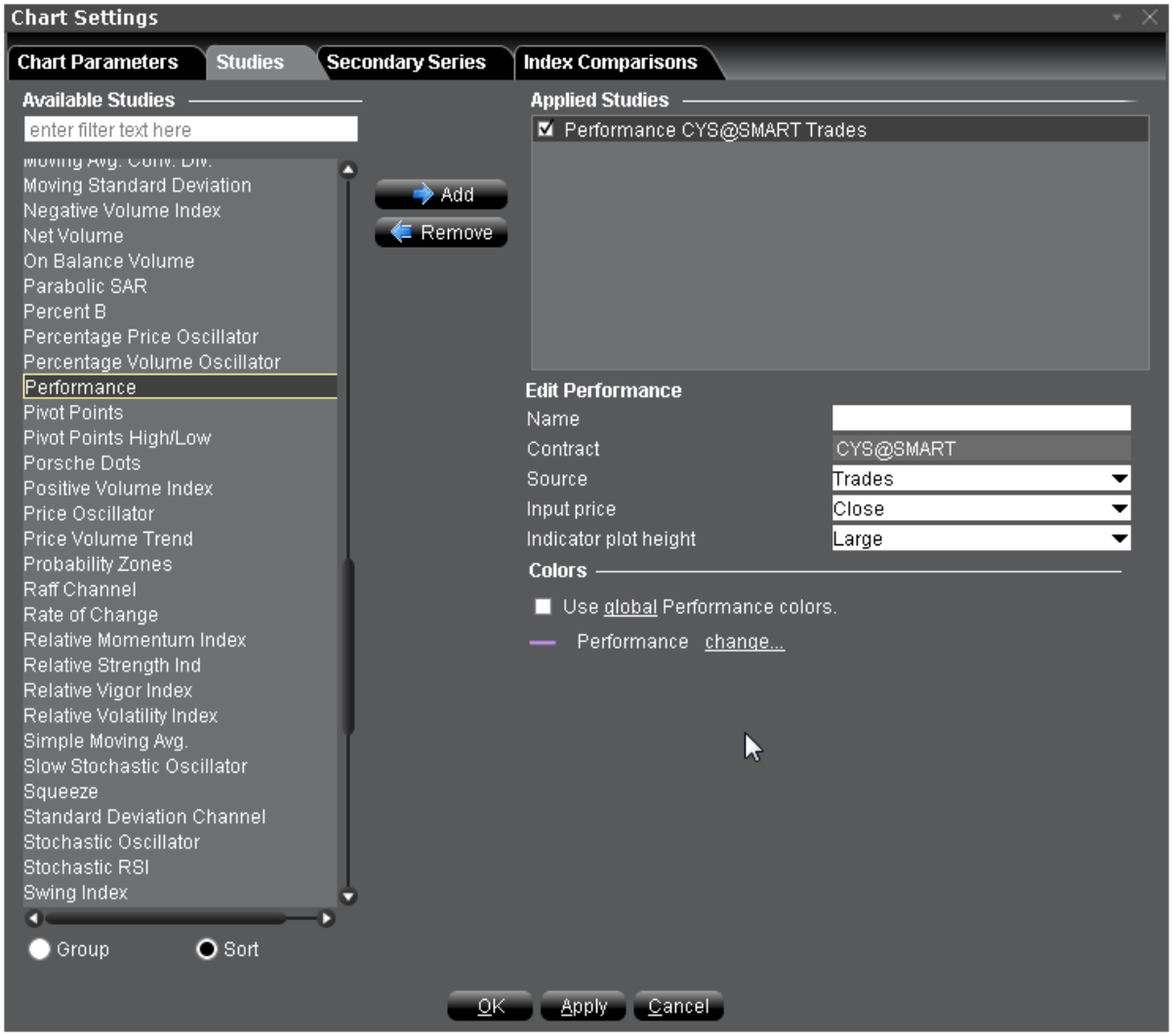
1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Percent B***and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Performance Indicator

The Performance indicator displays a security's price performance as a percentage. This is sometimes called a "normalized" chart. The Performance indicator displays the percentage that the security has increased since the first period displayed. For example, if the Performance

indicator is 10, it means that the security's price has increased 10% since the first period displayed on the left side of the chart. Similarly, a value of -10% means that the security's price has fallen by 10% since the first period displayed. Performance charts are helpful for comparing the price movements of different securities.



To apply a Performance Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Performance*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Pivot Points

The Pivot Point indicator calculates the numerical average of a stock's high, low and closing prices, and is used to help identify resistance and support levels. We calculate pivot points using the five-point system, which uses the previous day's high, low and close to get the pivot point, and then calculates two resistance levels and two support levels, as follows:

R2=P + (H-L) = P + (R1-S1)

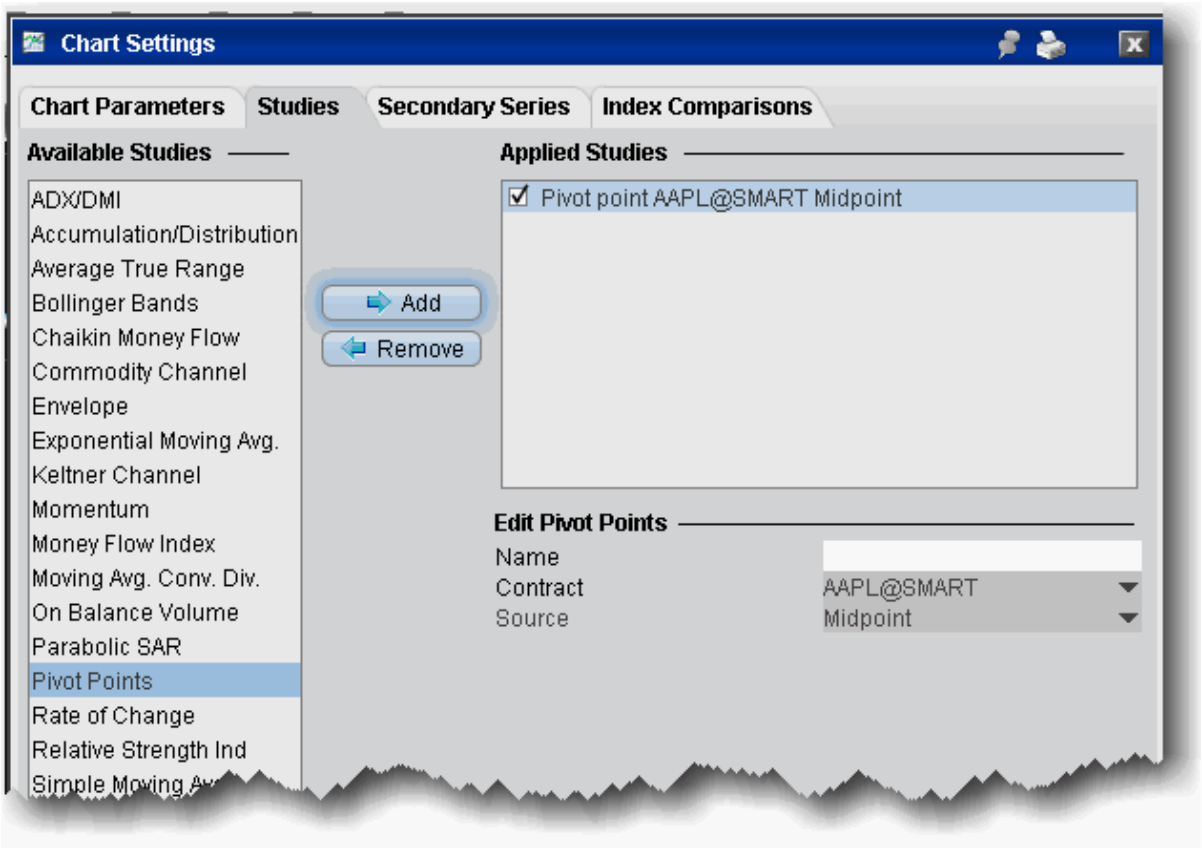
R1 = (P x 2) - L

P = (H + L + C) /3

S1 = (P x 2) - H

S2 = P - (H - L) = P - (R1 - S1)

where "S" is the support levels, "R" is the resistance levels, "P" is the pivot point, H, L, C are high, low and close, respectively.

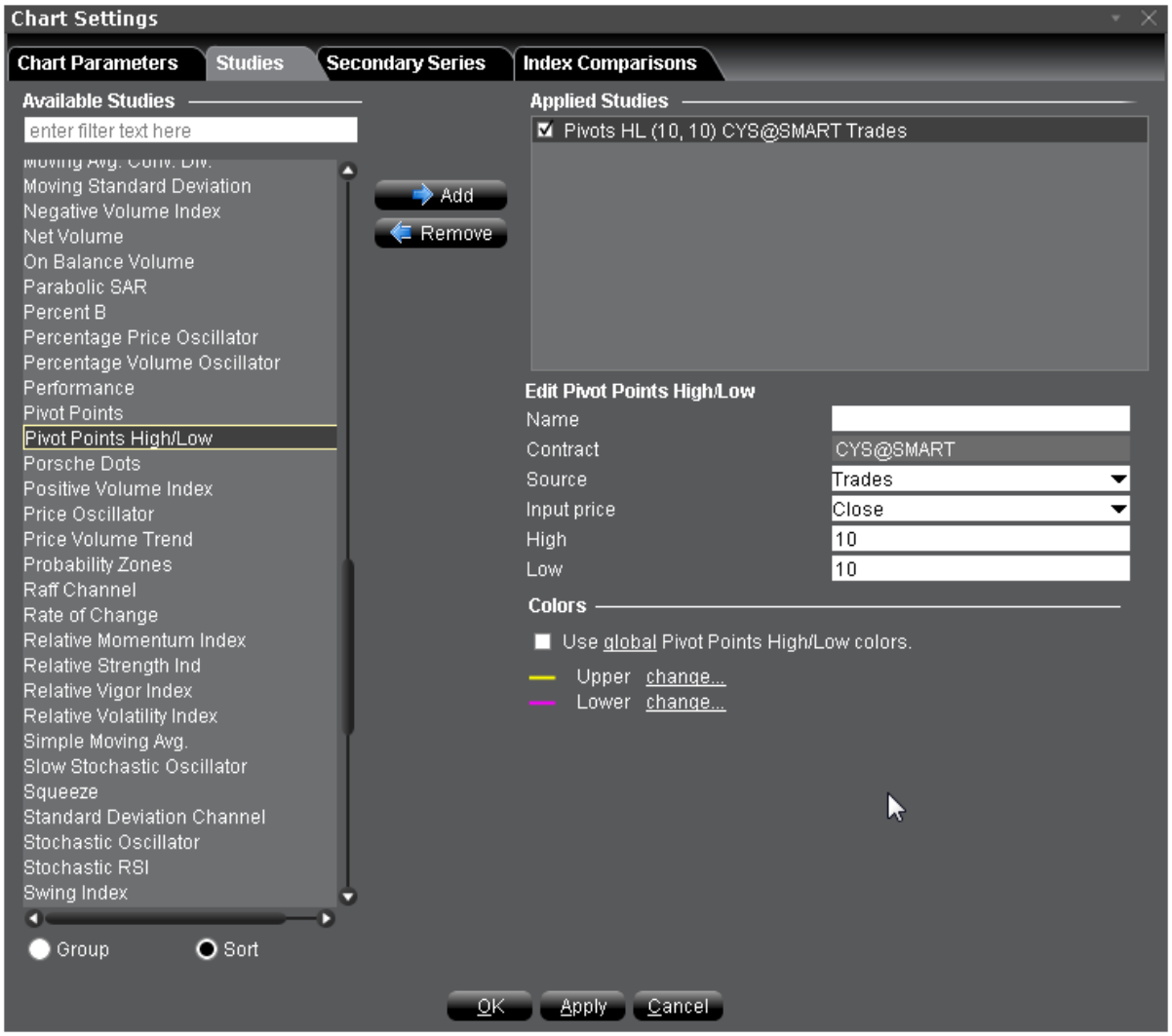


To add a Pivot Point indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **Pivot Points** and *Add* the study.
3. Complete parameters as necessary.

Pivot Points High/Low

Pivot points are used to project potential support and resistance levels. Main time periods are daily, weekly and monthly.



To apply a Pivot Points High/Low Indicator

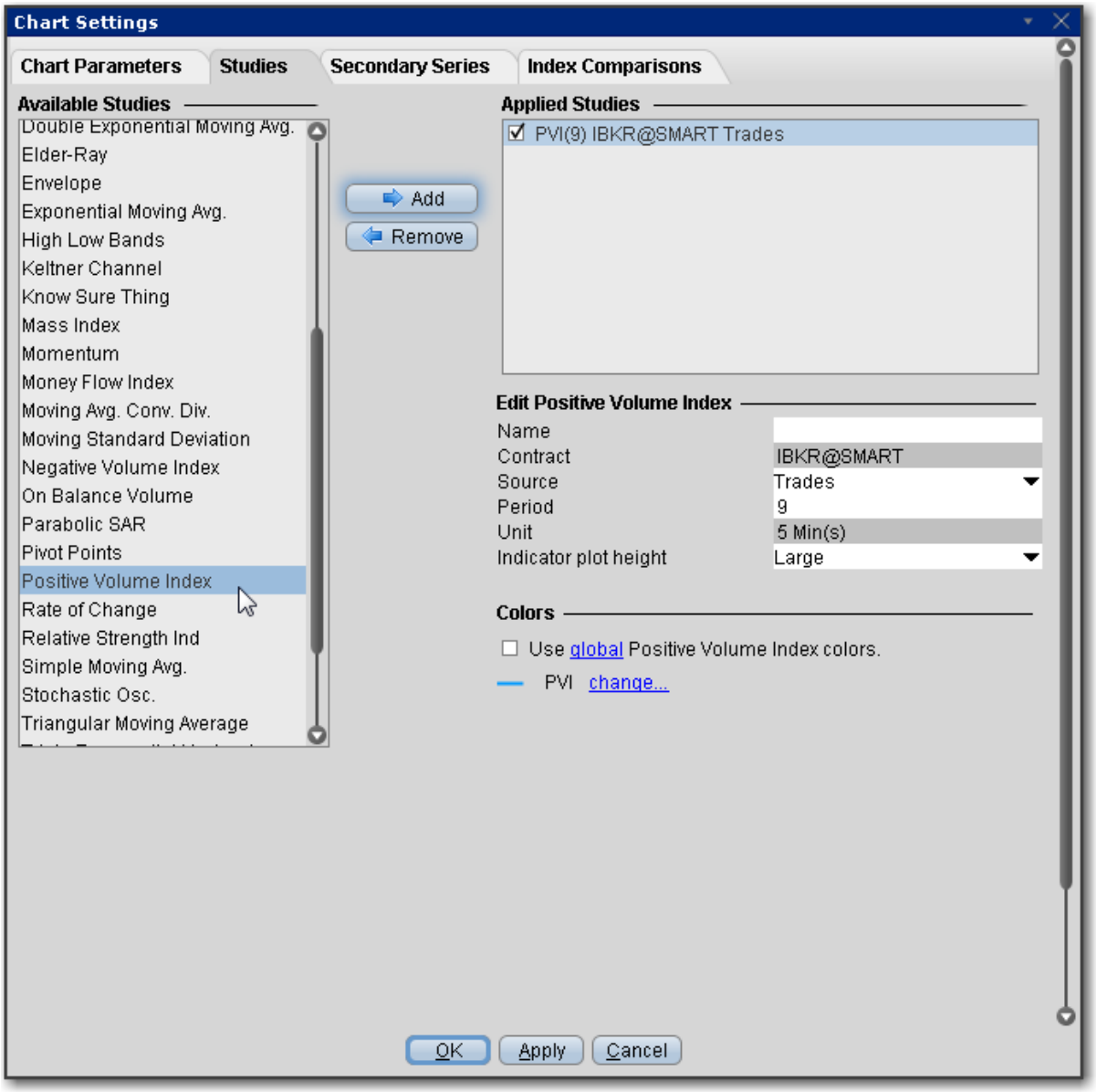
1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Pivot Points High/Low*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply a Positive Volume Index (PVI) Indicator

An indicator used in technical analysis that is based on days where trading volume has significantly increased from the previous day. The Positive Volume Index (PVI) assumes that uninformed investors dominate the action on days with substantial trading volume, while the "smart money" - consisting of institutions, funds and professional traders - is more active on relatively quiet days with below-average trading volume.

As the PVI only takes into consideration days when trading volume is higher compared with the previous period, if the PVI is up, it implies that price is appreciating on rising volume, while a lower PVI implies that price is declining on rising volume.



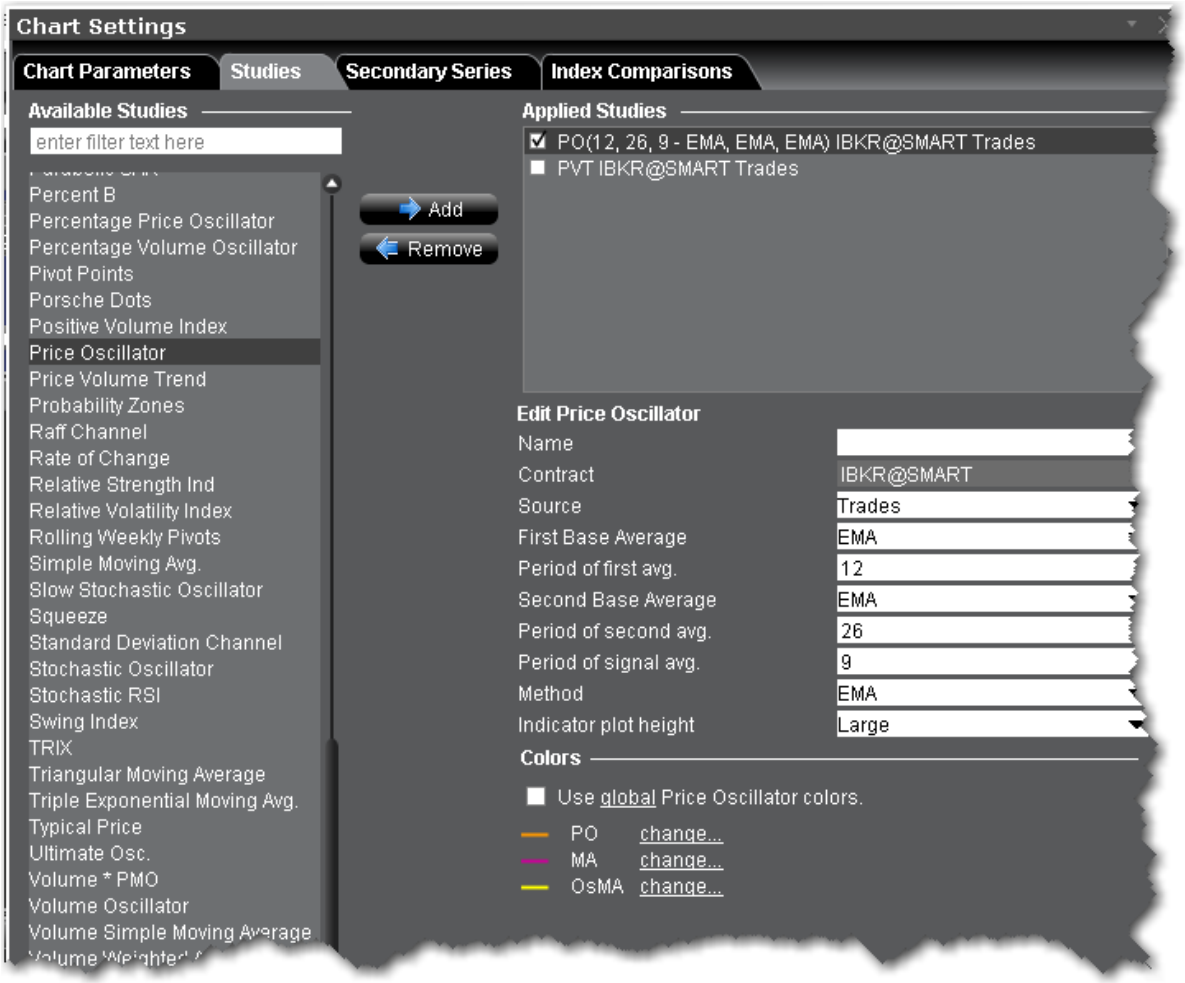
To apply a Positive Volume Index Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Positive Volume Index*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Price Oscillator

Shows the difference between two moving averages, in points. Unlike MACD which always uses the 12- and 26-day moving averages, Price Oscillator can use any two user-specified values.



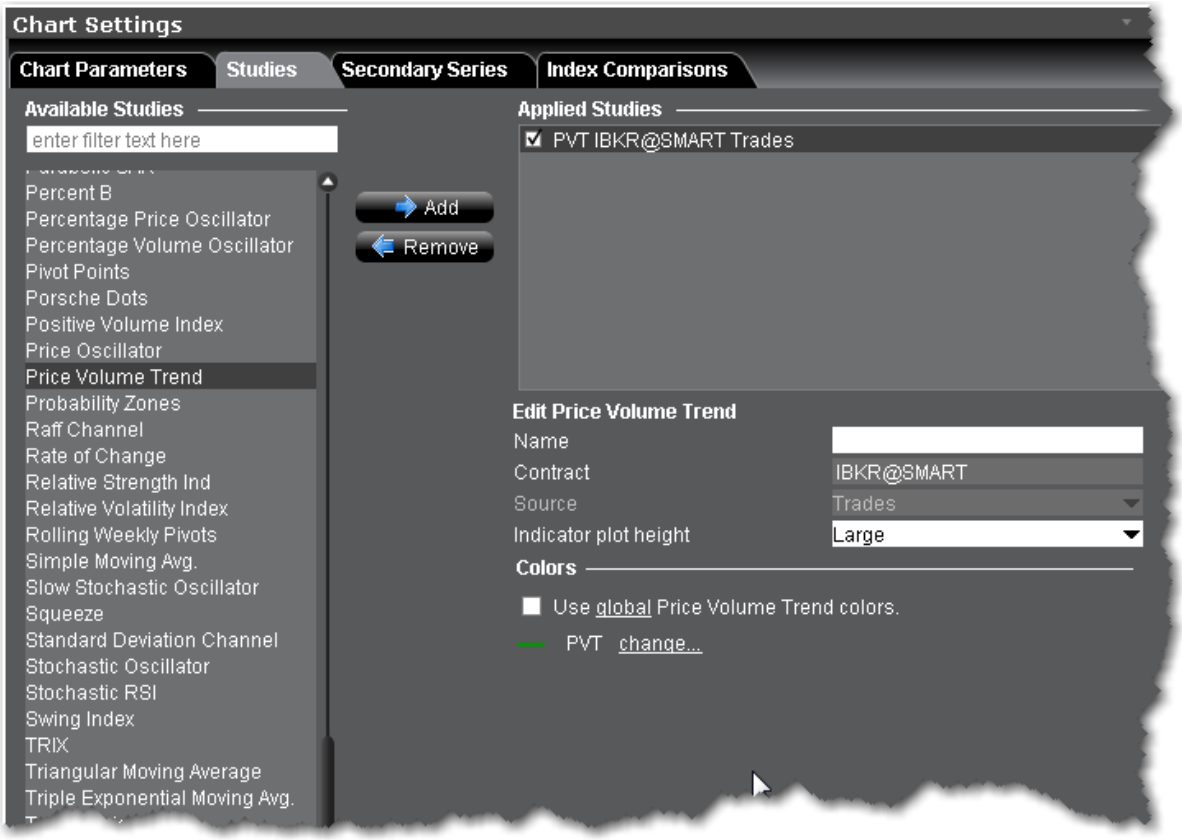
To apply a Price Oscillator Trend Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Price Oscillator*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Price Volume Trend Indicator

Price Volume Trend is a variation of On Balance Volume. It's a horizontal histogram that overlays the chart and helps determines the strength of trends and warn of reversals.



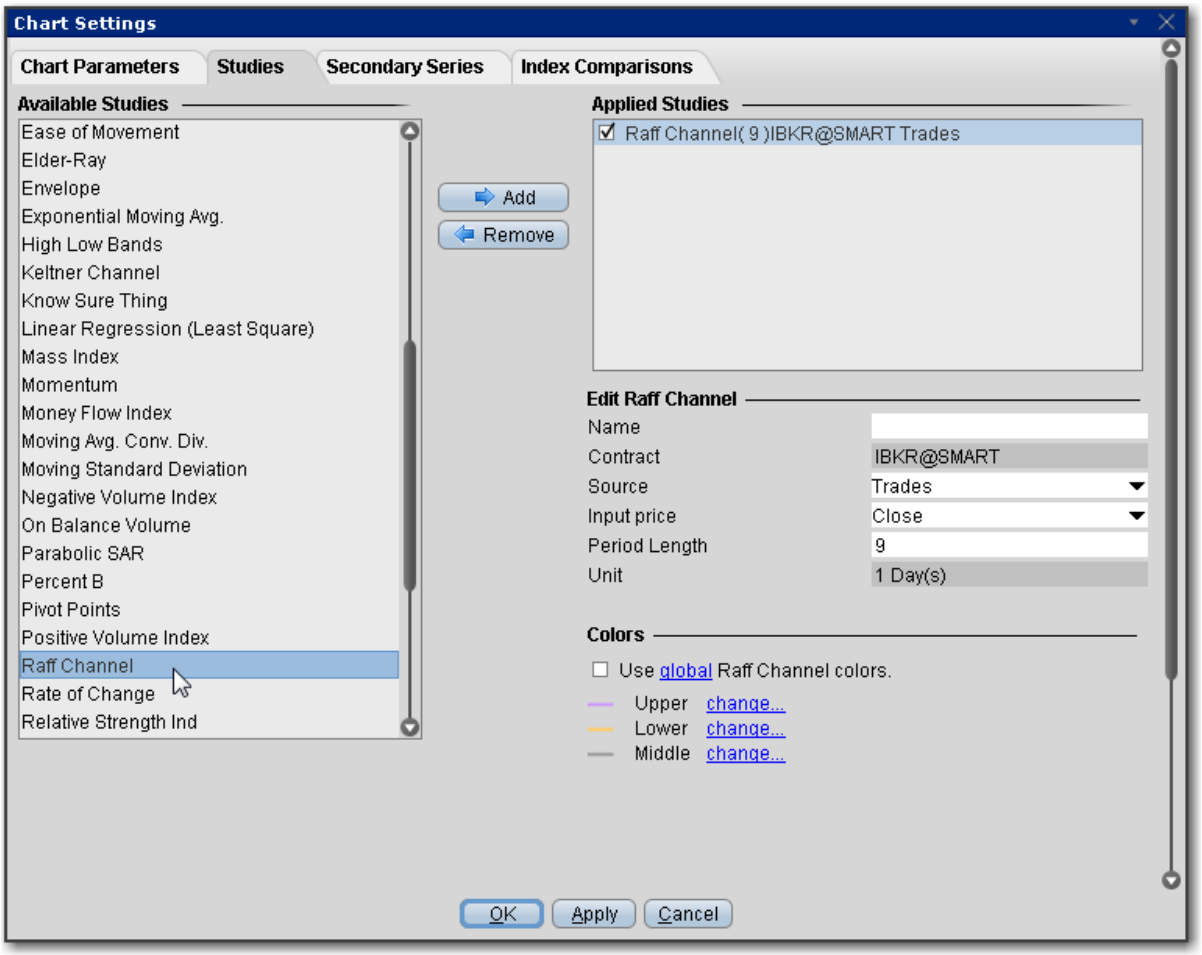
To apply a Price Volume Trend Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Price Volume Trend*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Raff Channel Indicator

The Raff Channel is a linear regression with evenly spaced trend lines above and below. The width of the channel is based on the high or low that is the furthest from the linear regression. If prices continue to rise within the channel, the trend is up. An uptrend reverses when the price breaks below the channel extension. When prices decline within the channel, the trend is down. Similarly, a downtrend reverses when price the breaks above the channel extension.



To apply a Raff Channel Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Raff Channel***and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply Rate of Change Indicator

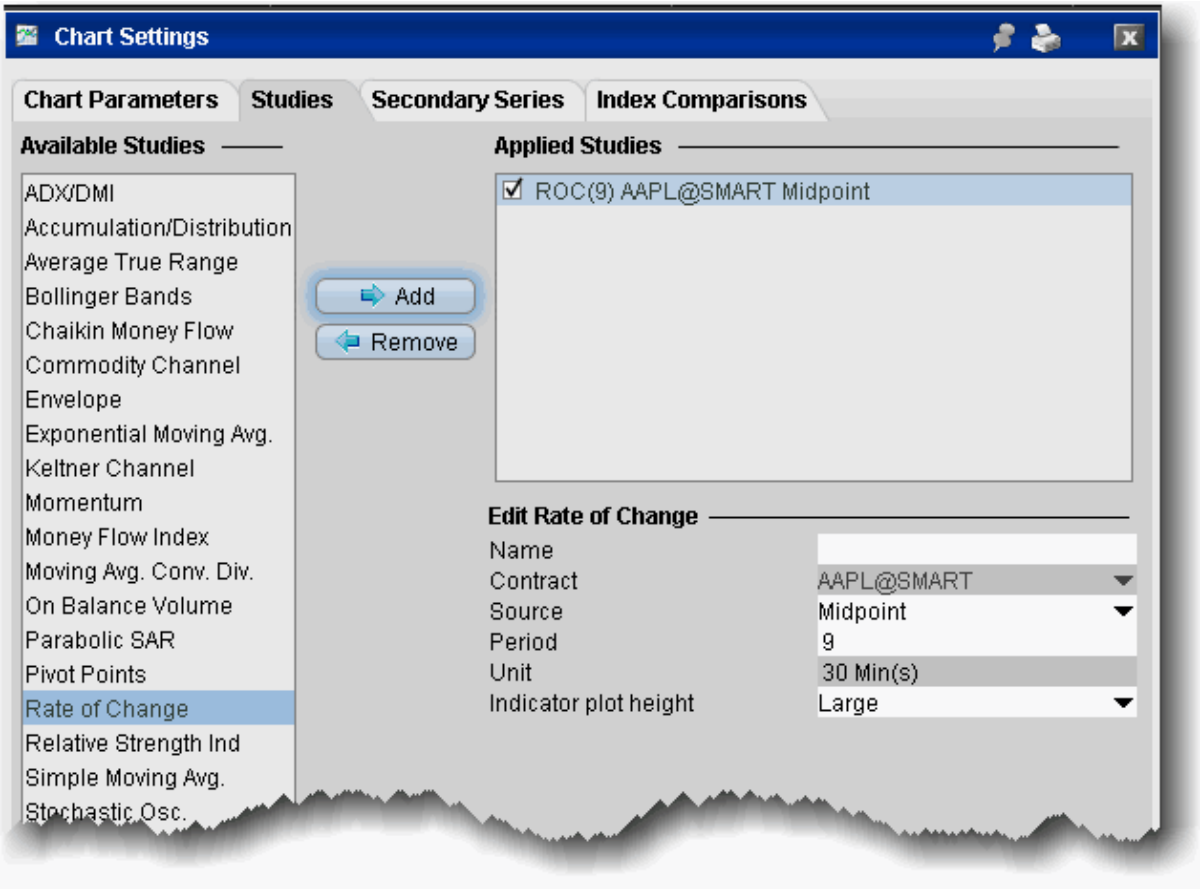
ROC is a refined version of **Momentum.** The readings fluctuate as percentages around the zero line. You set the number of periods when you create the study.

Rate of change =100(V/Vx)

where:

V - the latest closing price.

Vx - the closing price of x bars ago.

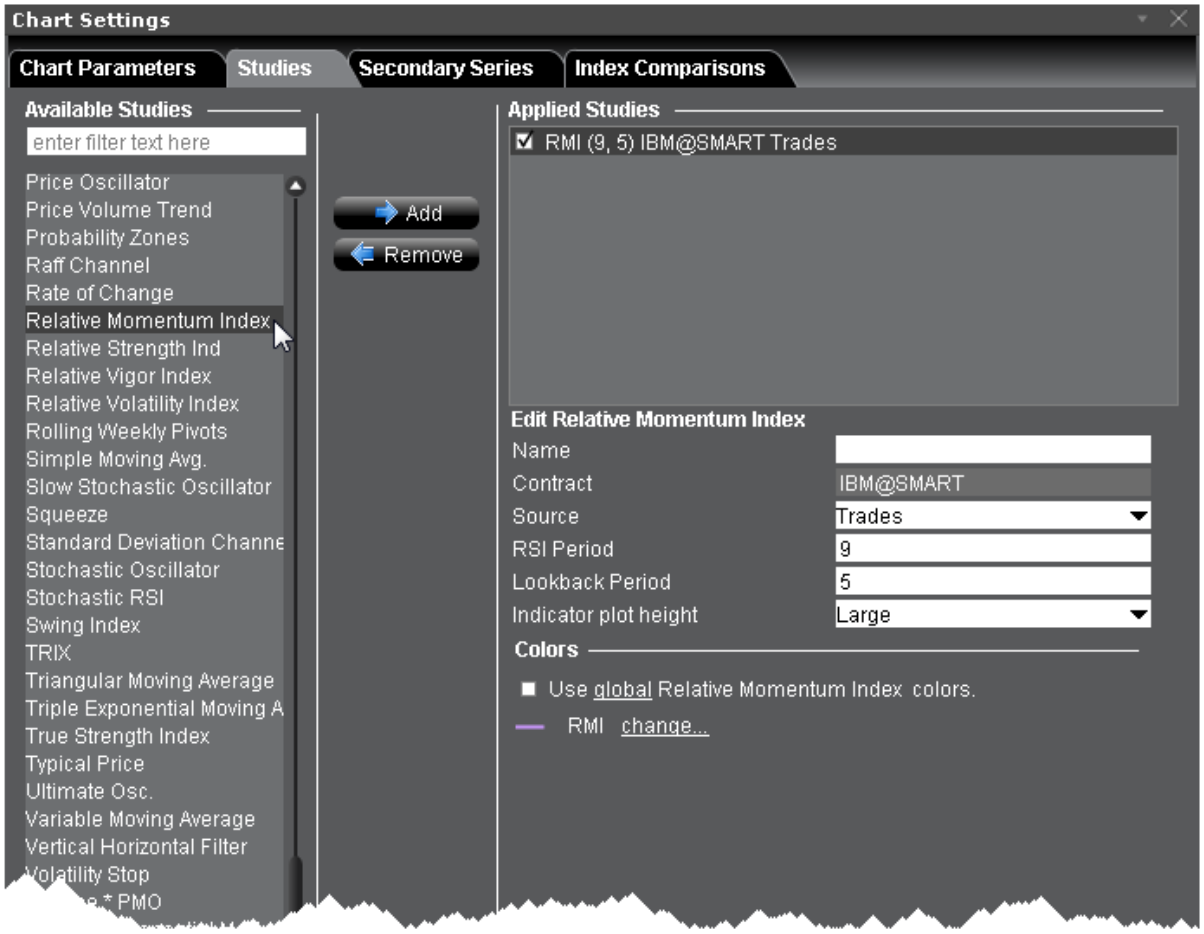


To apply a Rate of Change indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **Rate of Change** and *Add* the study.
3. Complete parameters as necessary.

Relative Momentum Index

The Relative Momentum Index (RMI) is a variation of the Relative Strength Index (RSI). While the RMI counts up and down days from today's close relative to the close "n-days" ago (n is not limited to 1), the RSI counts days up and down from close to close.



To apply a Typical Price Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Relative Momentum Index*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

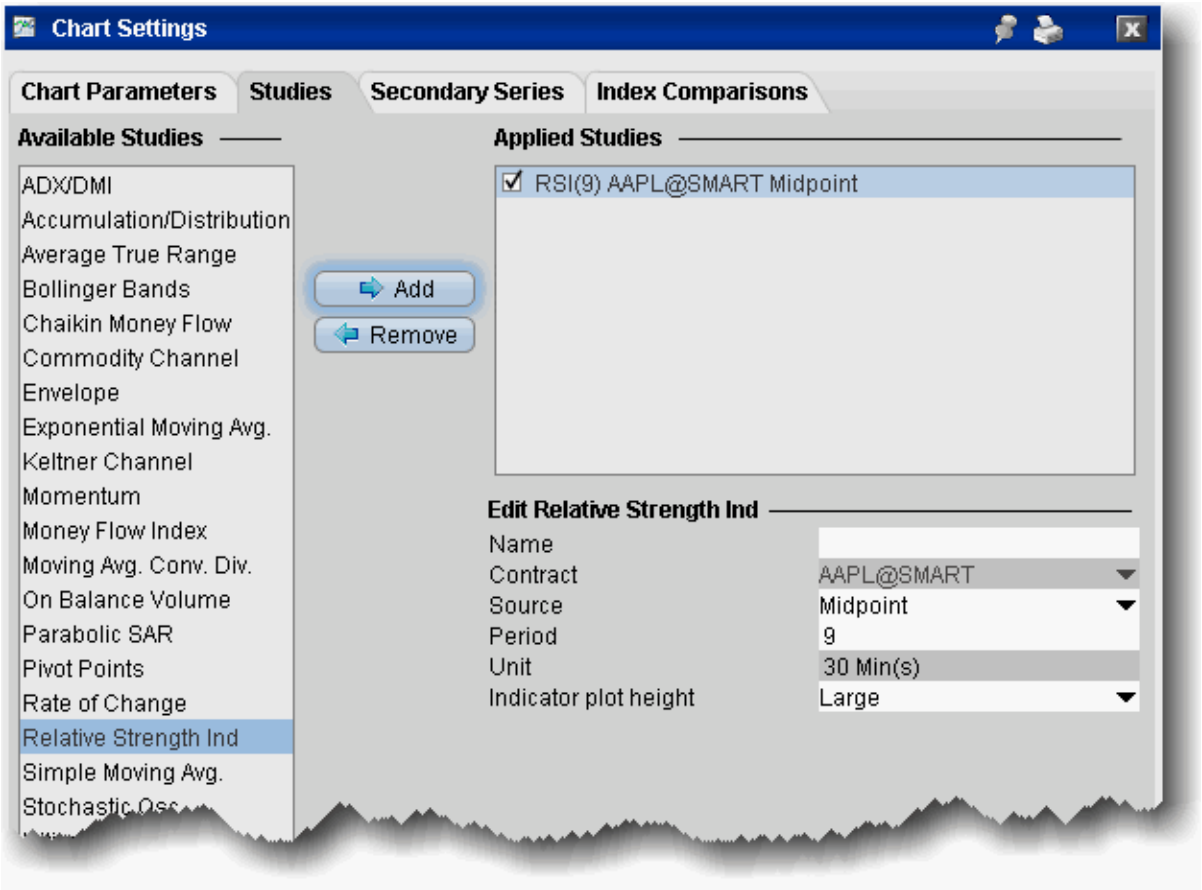
Apply a Relative Strength Indicator

The RSI indicator is for overbought/oversold conditions. It goes up when the market is strong, and down when the market is weak, and oscillates between 0 -100. The RSI calculation is:

RSI = 100-(100/1+RS)

Where:

RS - Average of X bars Up Closes/Average X bars Down Closes (X=number of bars set by user)



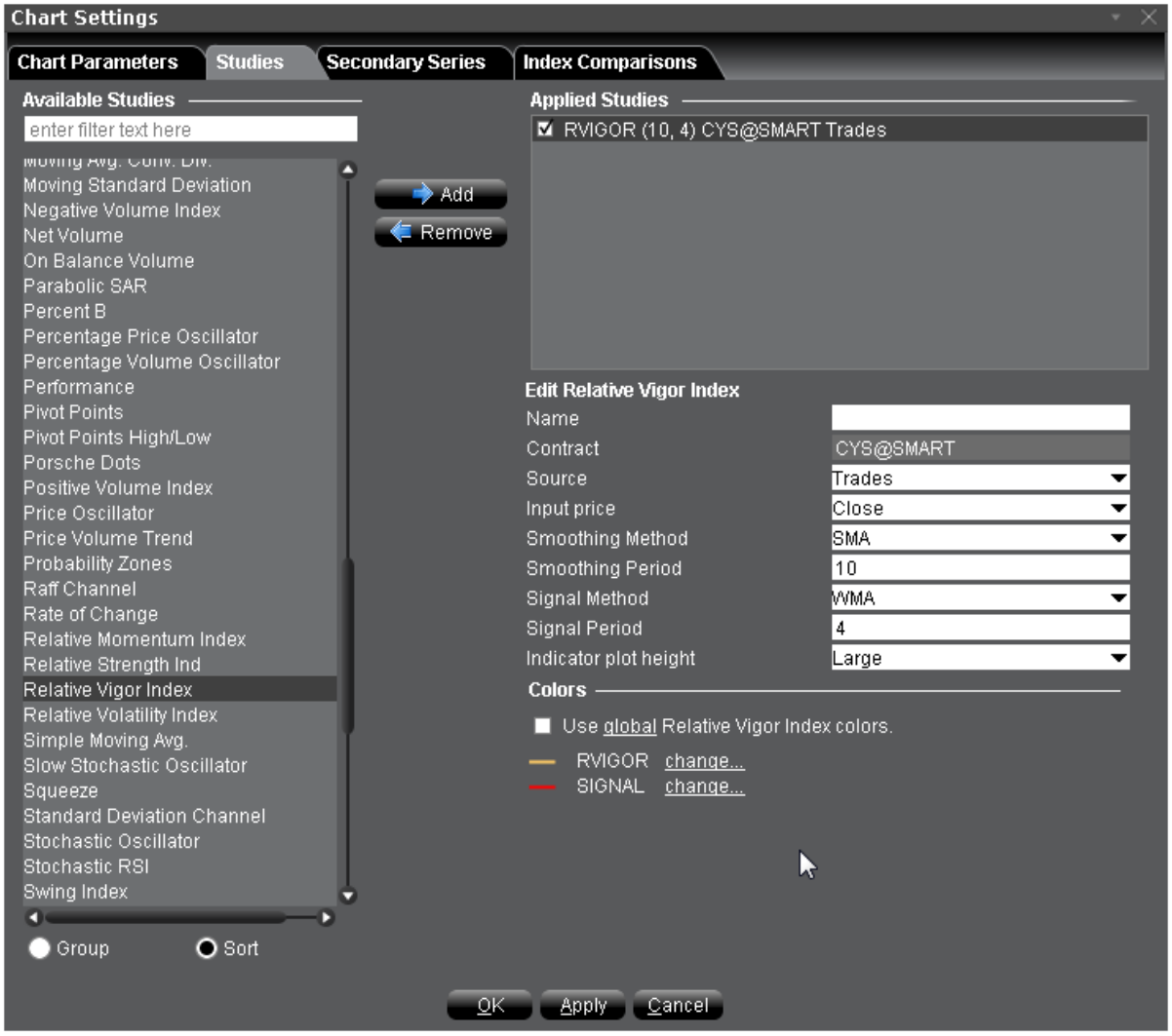
To apply a Relative Strength Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **Relative Strength Ind** and *Add* the study.
3. Complete parameters as necessary.

Relative Vigor Index

The Relative Vigor Index measures the conviction of a recent price action and the likelihood that it will continue by comparing the positioning of a security's closing price relative to its price range. The result is smoothed by calculating an exponential moving average of the values. It's similar to the stochastic oscillator, but the vigor index compares the close relative to the open rather than relative to the low. The value will likely grow as the bullish trend gains momentum,

since a security's closing price tends to be at the top of the range while the open is near the low of the day.



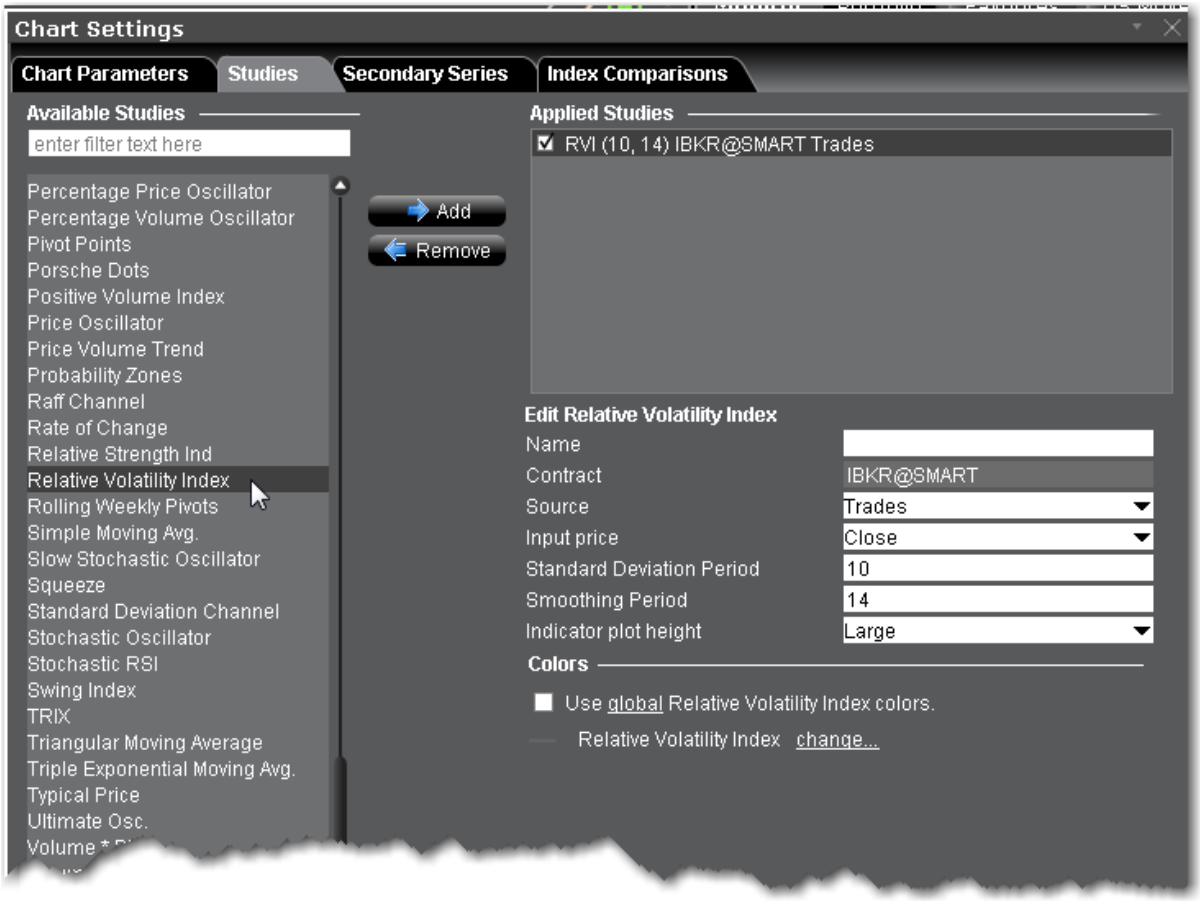
To apply a Relative Vigor Index

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Relative Vigor Index*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Relative Volatility Index

The Relative Volatility Index (RVI) is similar to the Relative Strength Index (RSI) index. Both measure the direction of volatility, but RVI uses the standard deviation of price changes in its calculations, while RSI uses the absolute price changes. The RVI is best used as a confirmation indicator to other momentum and/or trend-following indicators.



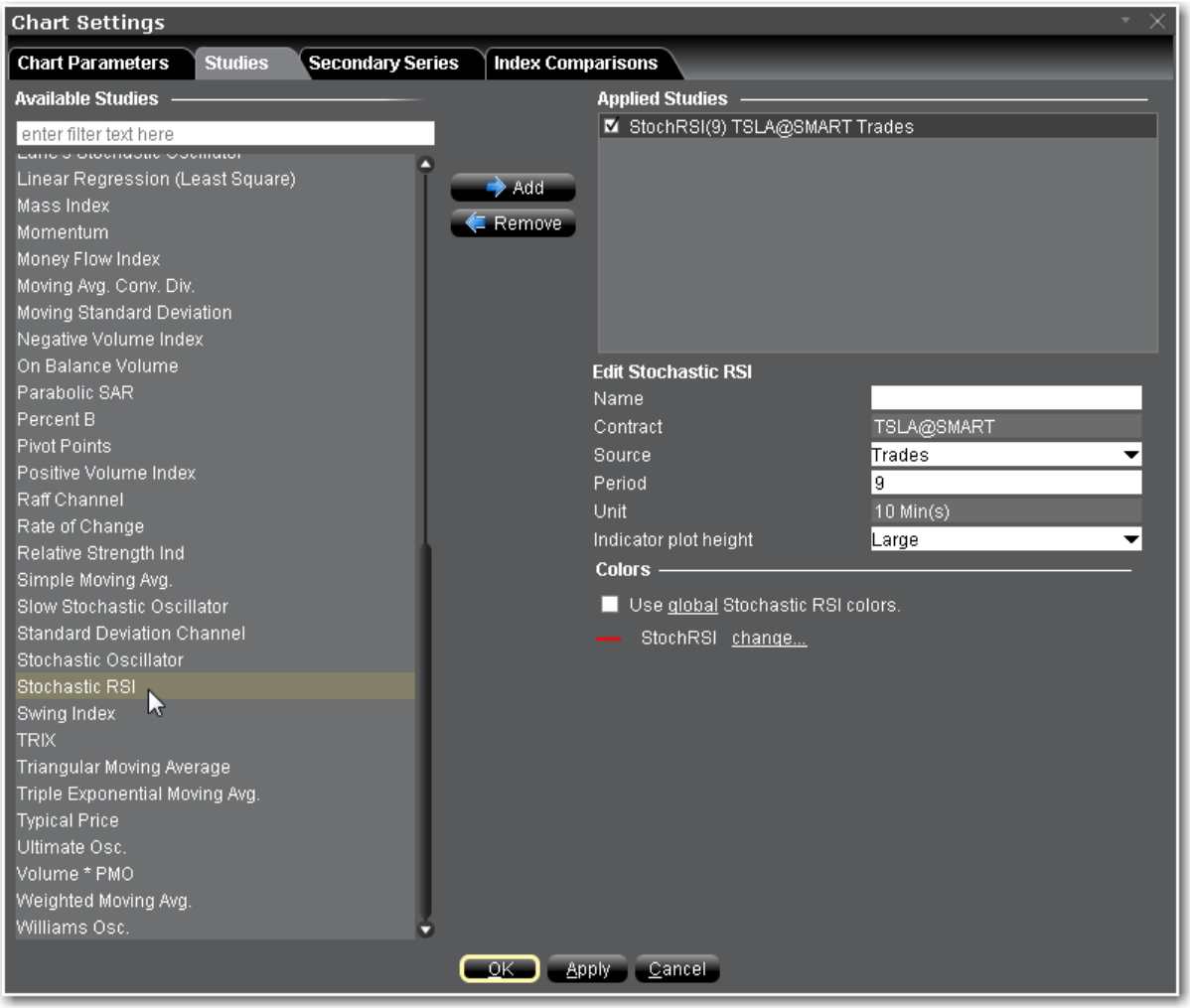
To apply a Relative Volatility Index Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Relative Volatility Index*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Stochastic RSI Indicator

The stochastic oscillator provides information about the location of a current close in relation to the period's high and low. It ranges between 0% and 100%. A reading of 0% indicates that the close was the lowest price at which the security traded during the preceding *x* number of time periods. A reading of 100% indicates that the close was the highest price at which the security traded during the preceding *x* number of time periods. The RSI version of this indicator in essence applies the stochastic calculation to the Relative Strength Indicator (RSI).



To apply a Stochastic RSI

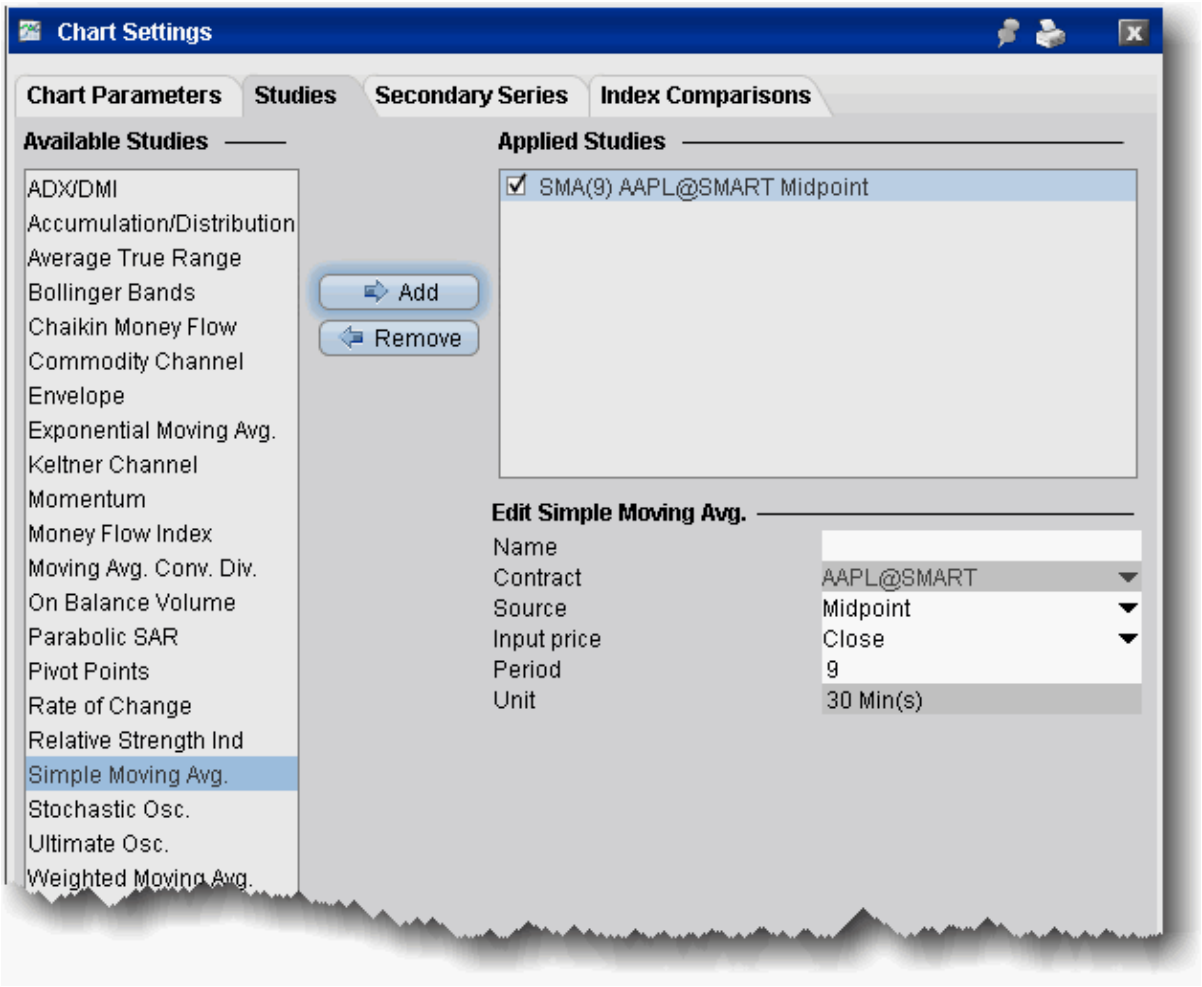
1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Stochastic RSI***and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply Simple Moving Average Indicator

The **simple moving average** sums the prices (you can choose from the closing price, the VWAP time-weighted price or the high/low/close average price) for a specific number of data points and divides by that number. The calculation for a 3-bar simple moving average is:

(price_1) + (price_2) + (price_3) divided by 3



To apply a Simple Moving Average

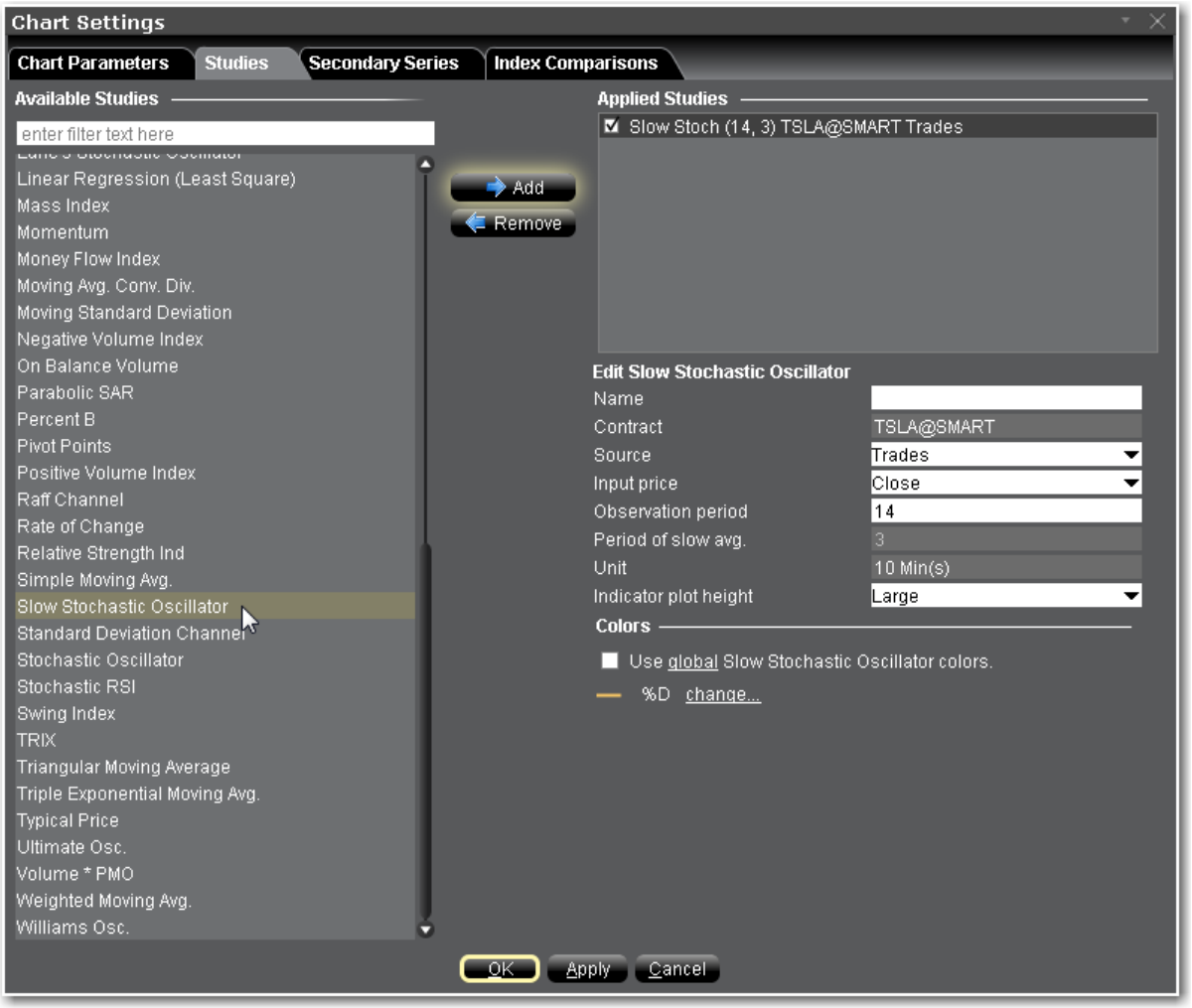
1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **Simple Moving Avg.** and *Add* the study.
3. Complete parameters as necessary.

Slow Stochastic Oscillator

The stochastic oscillator provides information about the location of a current close in relation to the period's high and low. It ranges between 0% and 100%. A reading of 0% indicates that the

close was the lowest price at which the security traded during the preceding *x* number of time periods. A reading of 100% indicates that the close was the highest price at which the security traded during the preceding *x* number of time periods.

This version of the Stochastic Oscillator does not include the Period of fast average and tends to be less sensitive to changes in the price of the underlying than the fast version.



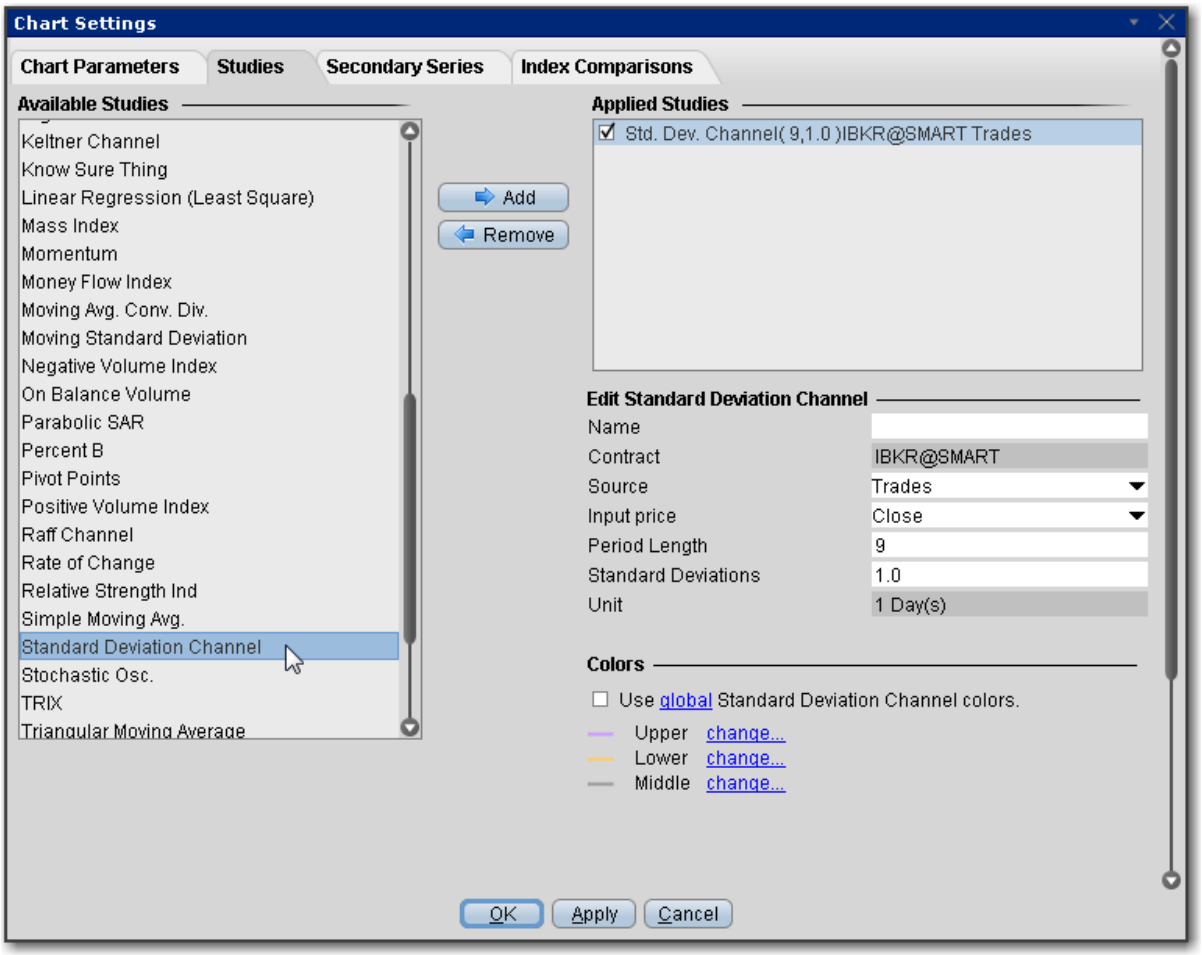
To apply a Slow Stochastic Oscillator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Slow Stochastic Oscillator***and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Standard Deviation Channel

Standard deviation channels are plotted at a set number of standard deviations around a linear regression line. They can be used in swing trading and in detecting changes in momentum.



To apply a Standard Deviation Channel Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Standard Deviation Channel***and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

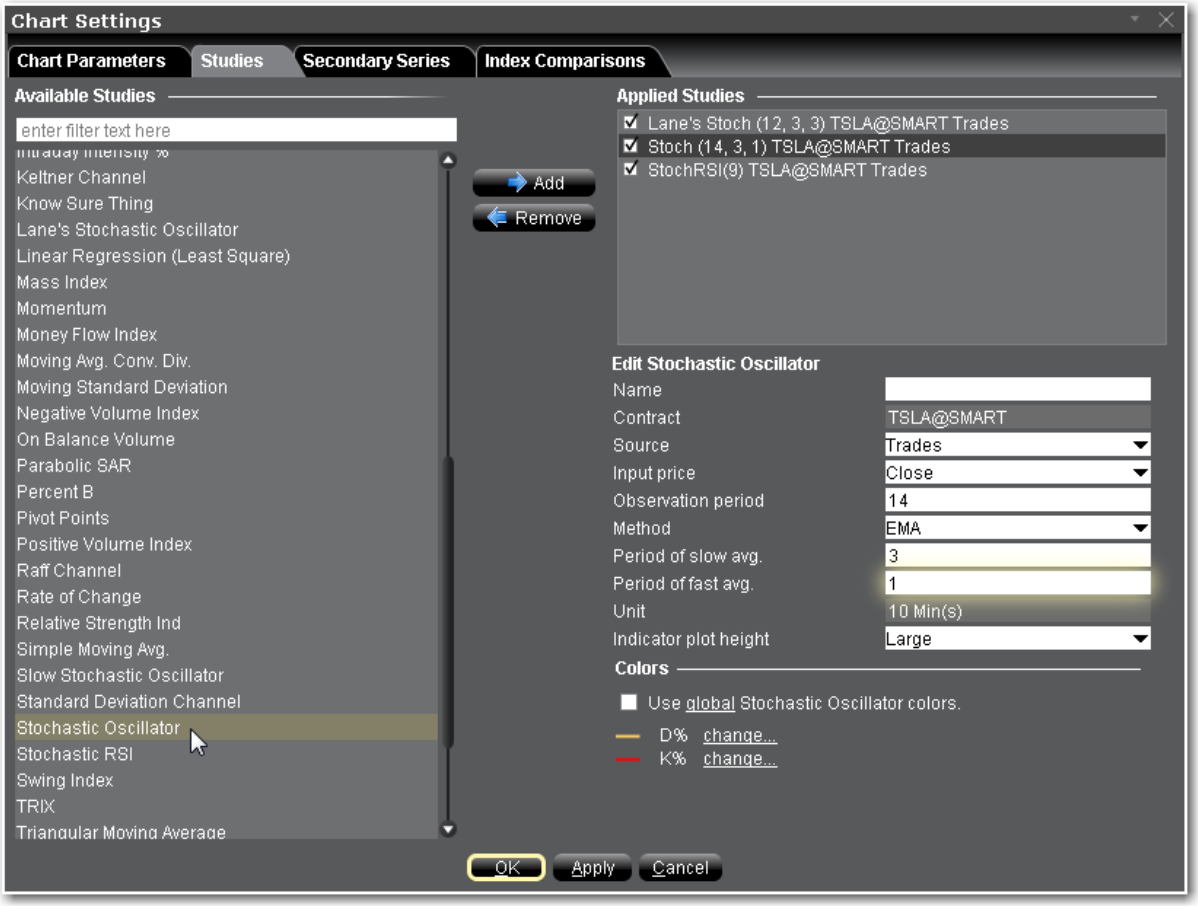
Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply a Stochastic Oscillator Indicator

The stochastic oscillator provides information about the location of a current close in relation to the period's high and low. It ranges between 0% and 100%. A reading of 0% indicates that the close was the lowest price at which the security traded during the preceding *x* number of time periods. A reading of 100% indicates that the close was the highest price at which the security traded during the preceding *x* number of time periods.

> **Note:** You can specify the source and input price, and the observation period, method (SMA, WMA, EMA or TMA), period of slow average and period of fast average when you create the study.

Note:

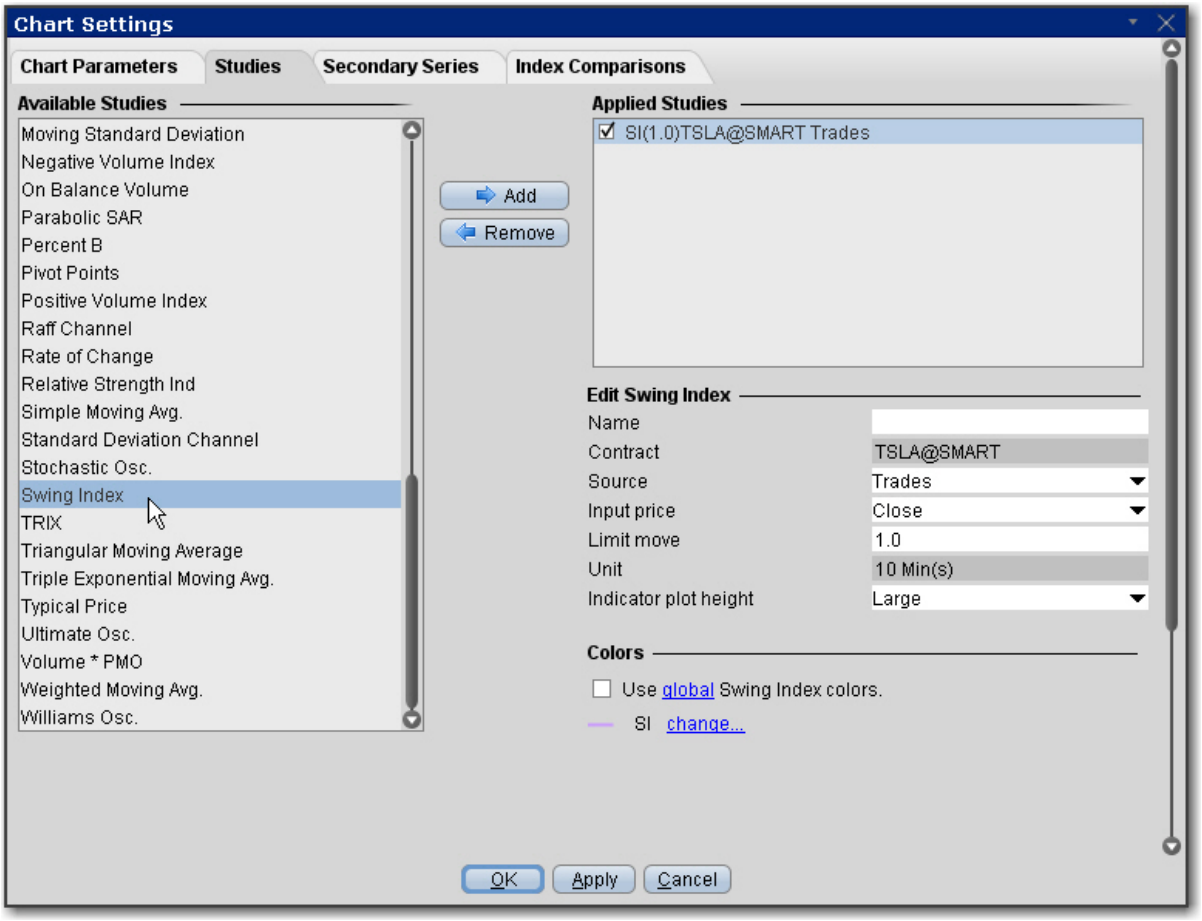


To apply a Stochastic Oscillator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **Stochastic Osc.** and *Add* the study.
3. Complete parameters as necessary.

Swing Index

The Swing Index tries to determine the real strength and direction of the market by comparing the relationships between the high, low and close prices of a stock.



To apply a Swing Index Indicator

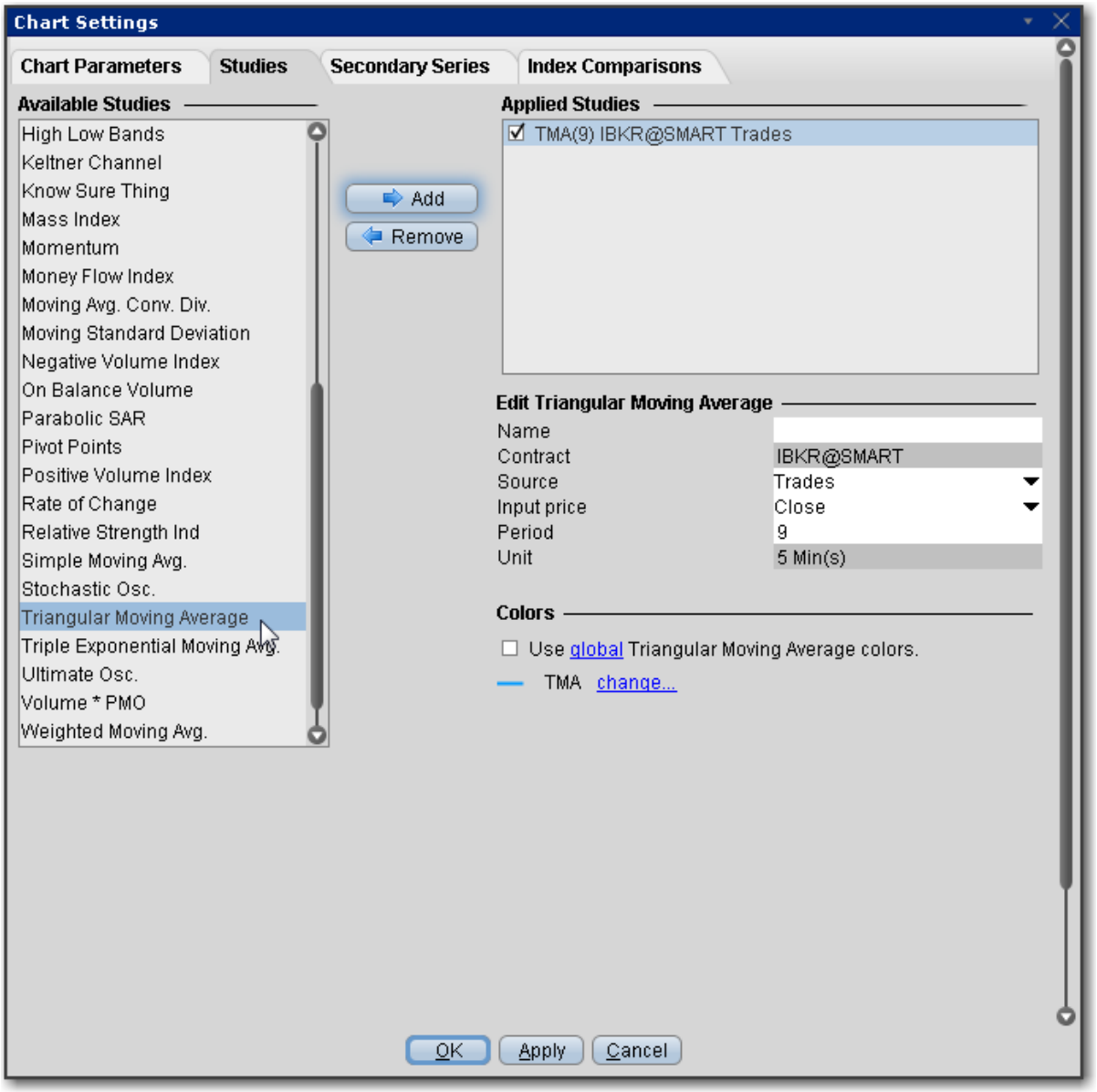
1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Swing Index*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply a Triangular Moving Average (TMA) Indicator

The Triangular Moving Average is basically a double-smoothed Simple Moving Average that gives more weight to the middle section of the data interval. The TMA has a significant lag to current prices and is not well-suited to fast moving markets.

TMA = SUM (SMA values)/ N Where N = the number of periods.



To apply a Triangular Moving Average Indicator

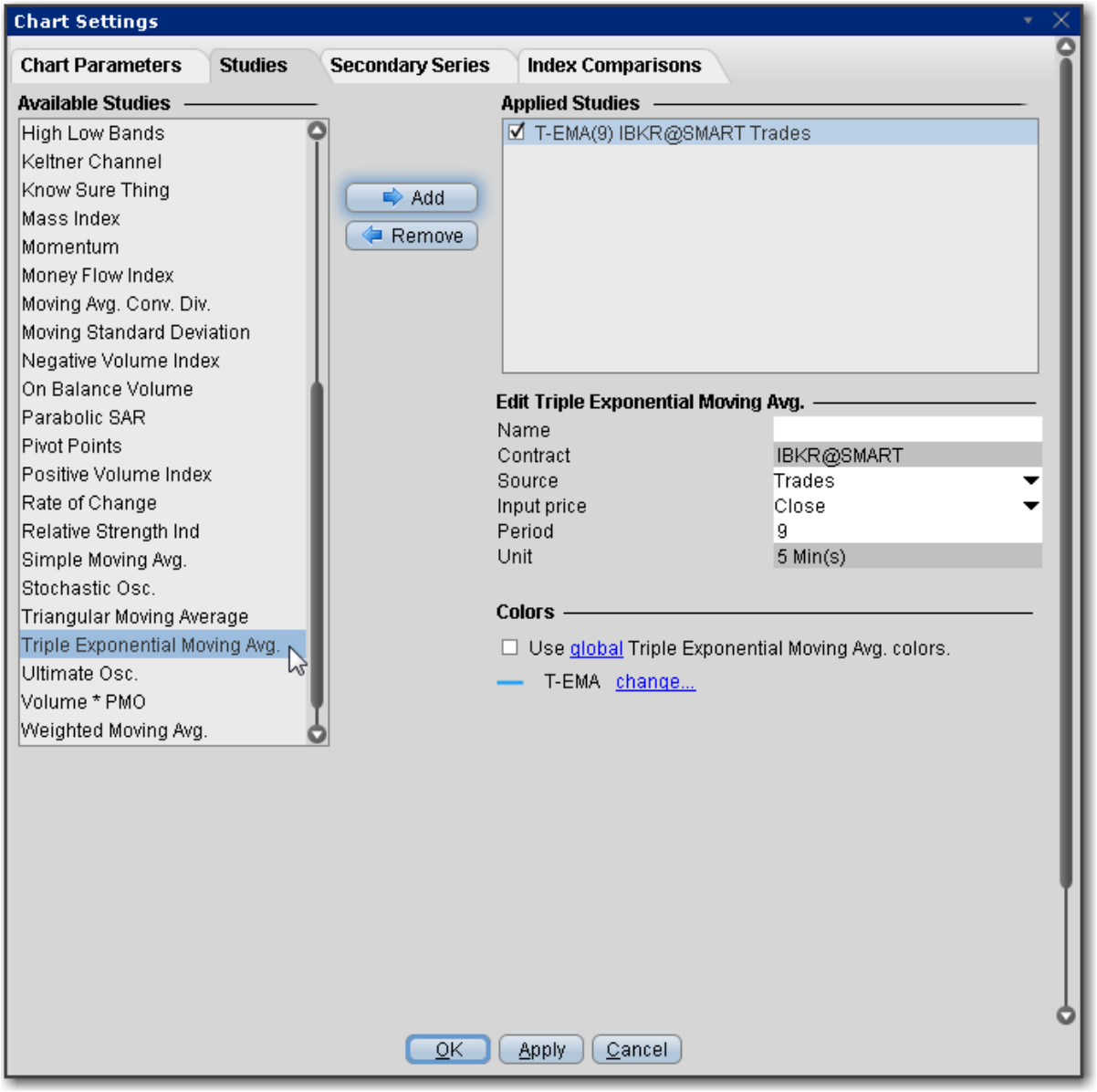
1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Triangular Moving Average*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply a Triple Exponential Moving Average (TEMA) Indicator

A technical indicator used for smoothing price and other data. It is a composite of a single exponential moving average, a double exponential moving average and a triple exponential moving average.

The TEMA smooths price fluctuations and filters out volatility, thereby making it easier to identify trends with little lag. It is a useful tool in identifying strong, long lasting trends, but may be of limited use in range-bound markets with short term fluctuations.



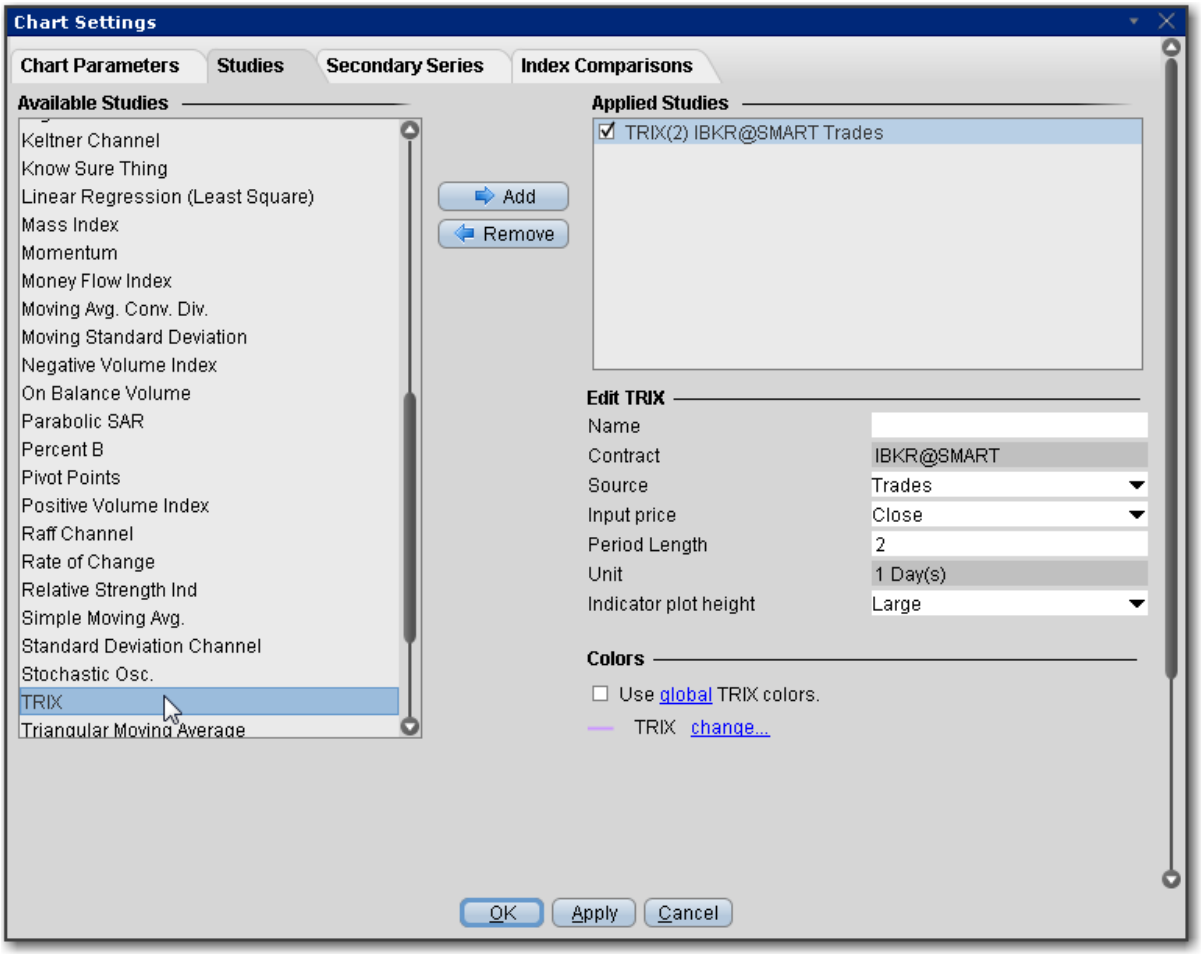
To apply a Triple Exponential Moving Average Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Triple Exponential Moving Average*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

TRIX Indicator

TRIX is a momentum oscillator that displays the percent rate of change of a triple exponentially smoothed moving average. TRIX is designed to filter out insignificant price movements with its triple smoothing. TRIX generates signals similar to MACD, and a signal line can be applied to look for signal line crossovers. A directional bias can be determined with the absolute level. Bullish and bearish divergences can be used to anticipate reversals.



To apply a TRIX Indicator

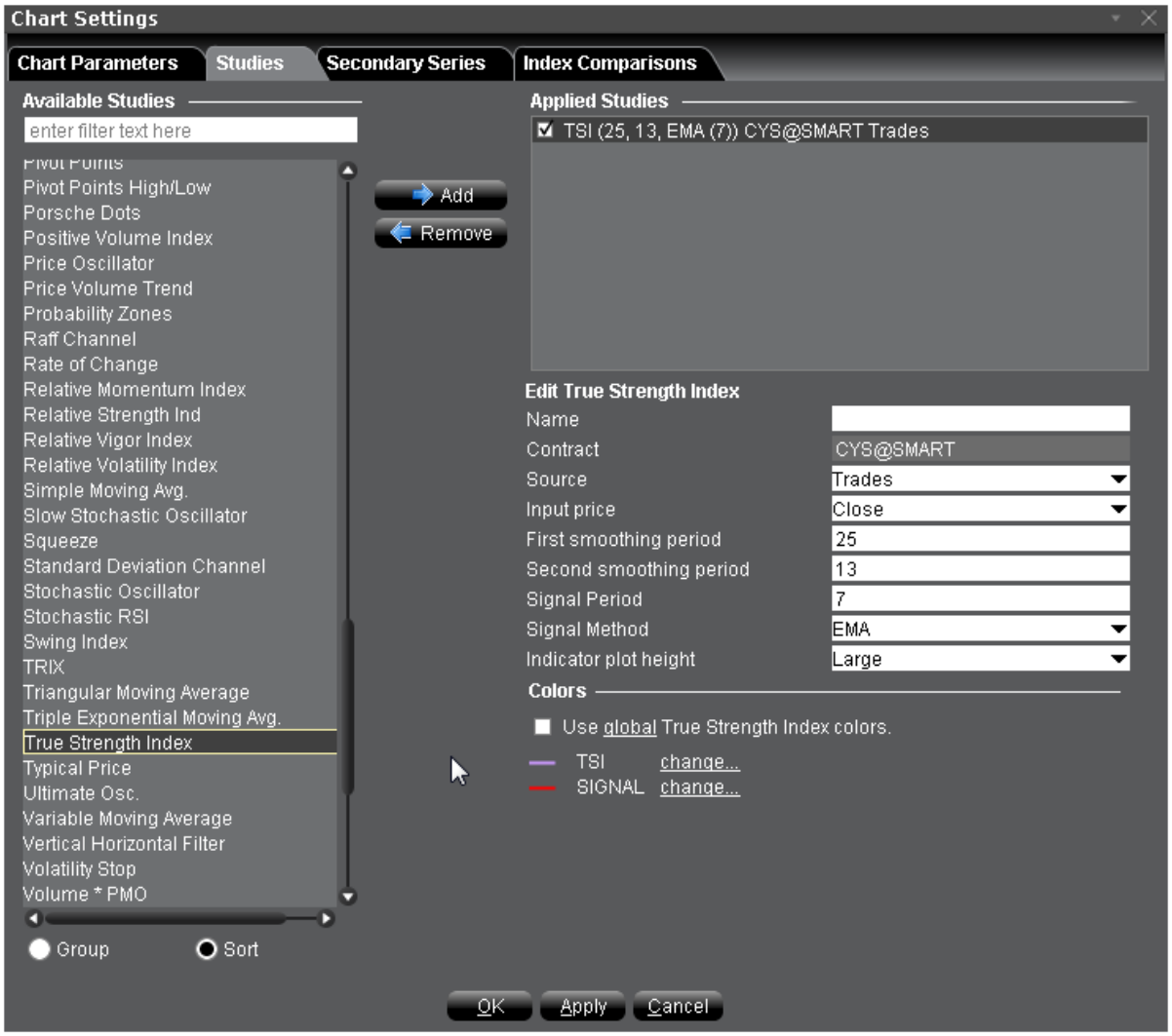
1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **TRIX** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

True Strength Index

The True Strength Index is designed to show trend direction and overbought/oversold conditions, and uses moving averages of the underlying momentum of a financial instrument. Momentum is considered a leading indicator of price movement, and a moving average

characteristically lags behind price. The TSI combines these two characteristics to create an indication of price and direction more in sync with market turns than either just momentum or just the moving average.



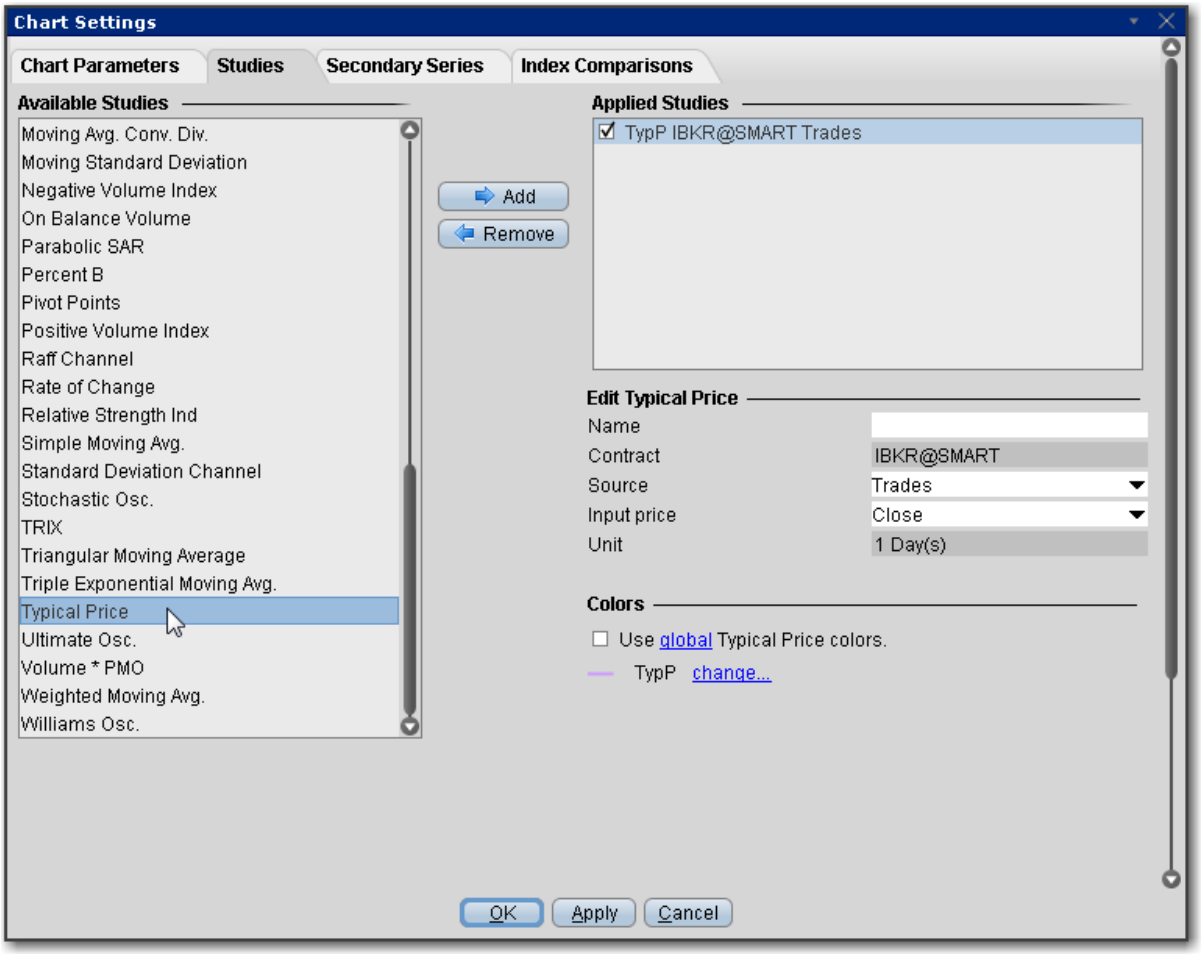
To apply a True Strength Index

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***True Strength Index*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Typical Price Indicator

Typical price, calculated as (High Low Close) / 3, is a useful filter for moving average systems.



To apply a Typical Price Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Typical Price*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply an Ultimate Oscillator Indicator

The Ultimate Oscillator combines the price action for three different time frames. You set the observations periods 1, 2, and 3 when you create the study.

Time Frames:

true low = min(low or prev close)
buying pressure = close - true low
true range = max(high - low, high - prev close, prev close - low)

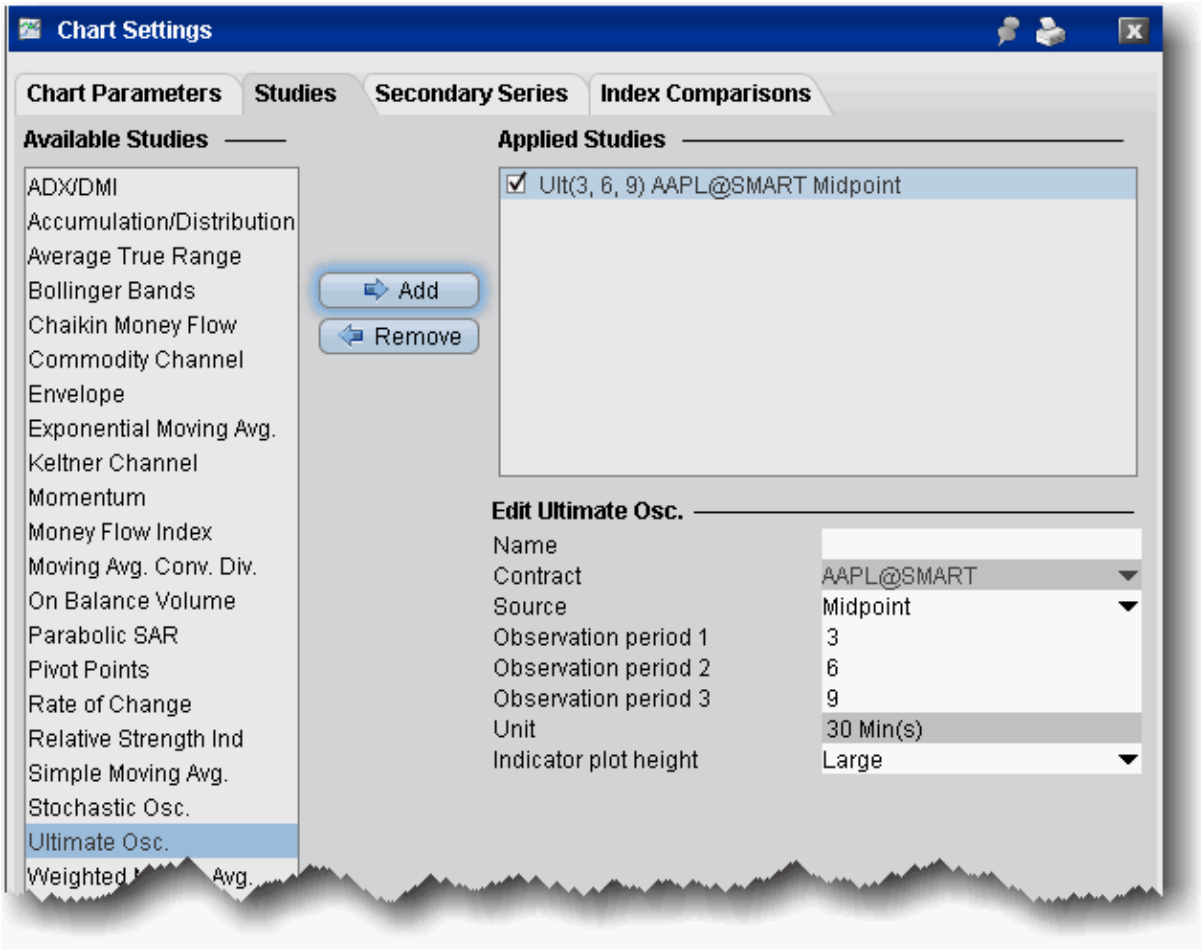
Buying pressure sum 1, buying pressure sum 2 and buying pressure sum 3 are calculated by adding up buying pressures for 3 different time frames.

The same applies to the true range sum 1, 2 and 3.

raw ultimate oscillator = 4 * (buying pressure sum 1 / true range sum 1)

+ 2 * (buying_pressure_sum_2 / true_range_sum_2) + (buying_pressure_sum_3 / true_range_sum_3)

ultimate oscillator = raw ultimate oscillator / (4 + 2 + 1)) * 100



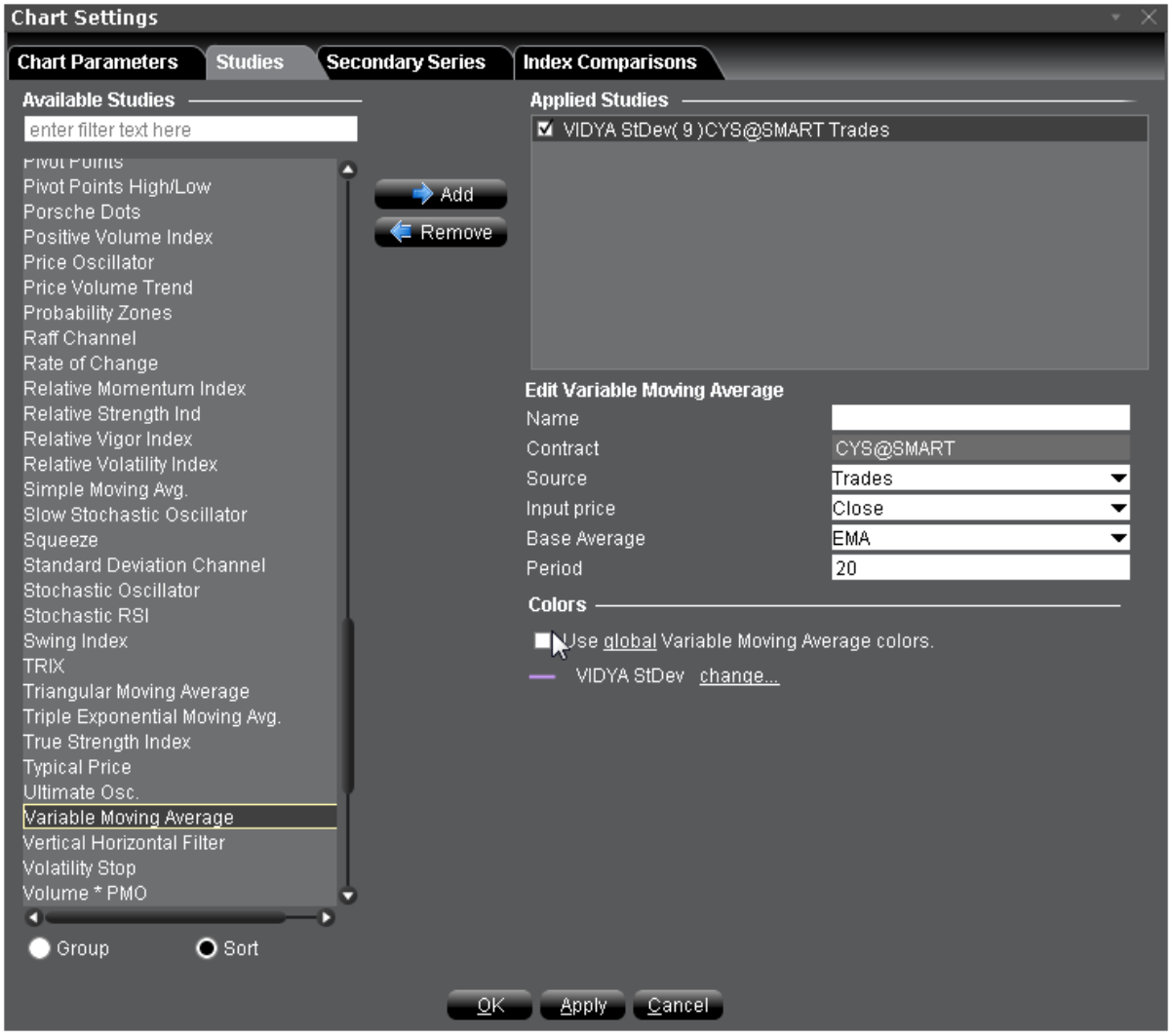
To apply a Ultimate Oscillator indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **Ultimate Osc.** and *Add* the study.
3. Complete parameters as necessary.

Variable Moving Average

This is an exponential moving average that adjusts its smoothing constant on the basis of market volatility. Its sensitivity grows as long as the volatility of the data increases. The

performance of this exponential moving average is improved by using a Volatility Index (VI) to adjust the smoothing period as market conditions change.



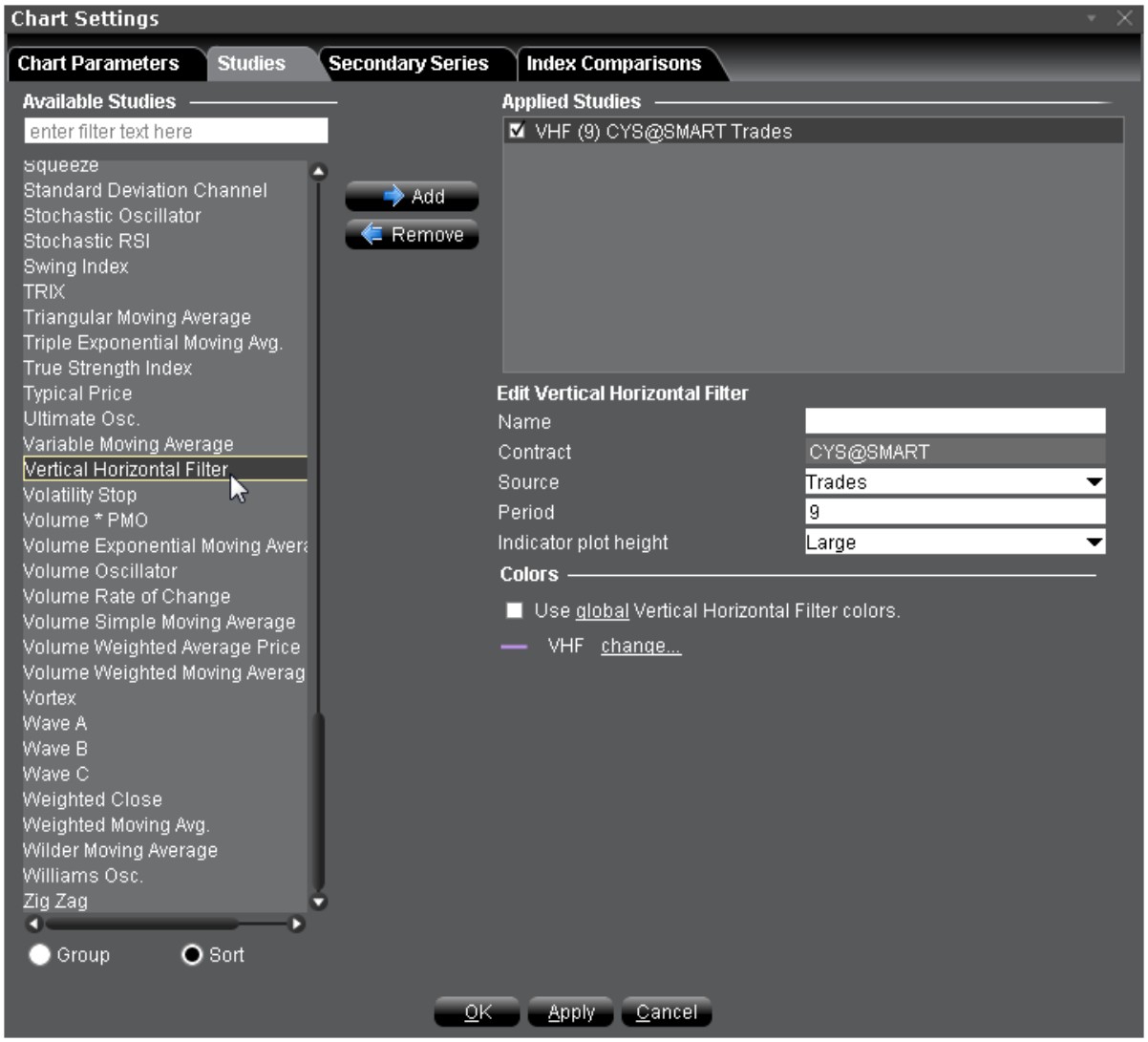
To apply a Variable Moving Average Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Variable Moving Average*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Vertical Horizontal Filter

The Vertical Horizontal Filter determines whether prices are in a trending phase or a trading range or congestion phase. Trend-following indicators such as the MACD and moving averages are excellent in trending markets, but may generate multiple conflicting trades during trading range or congestion periods, while oscillators such as the RSI and stochastics work well when prices fluctuate within a trading range, but they almost always recommend closing positions prematurely during trending markets. The Vertical Horizontal Filter indicator attempts to determine the "trendiness" of prices to help a trader decide which of these indicator types to use.



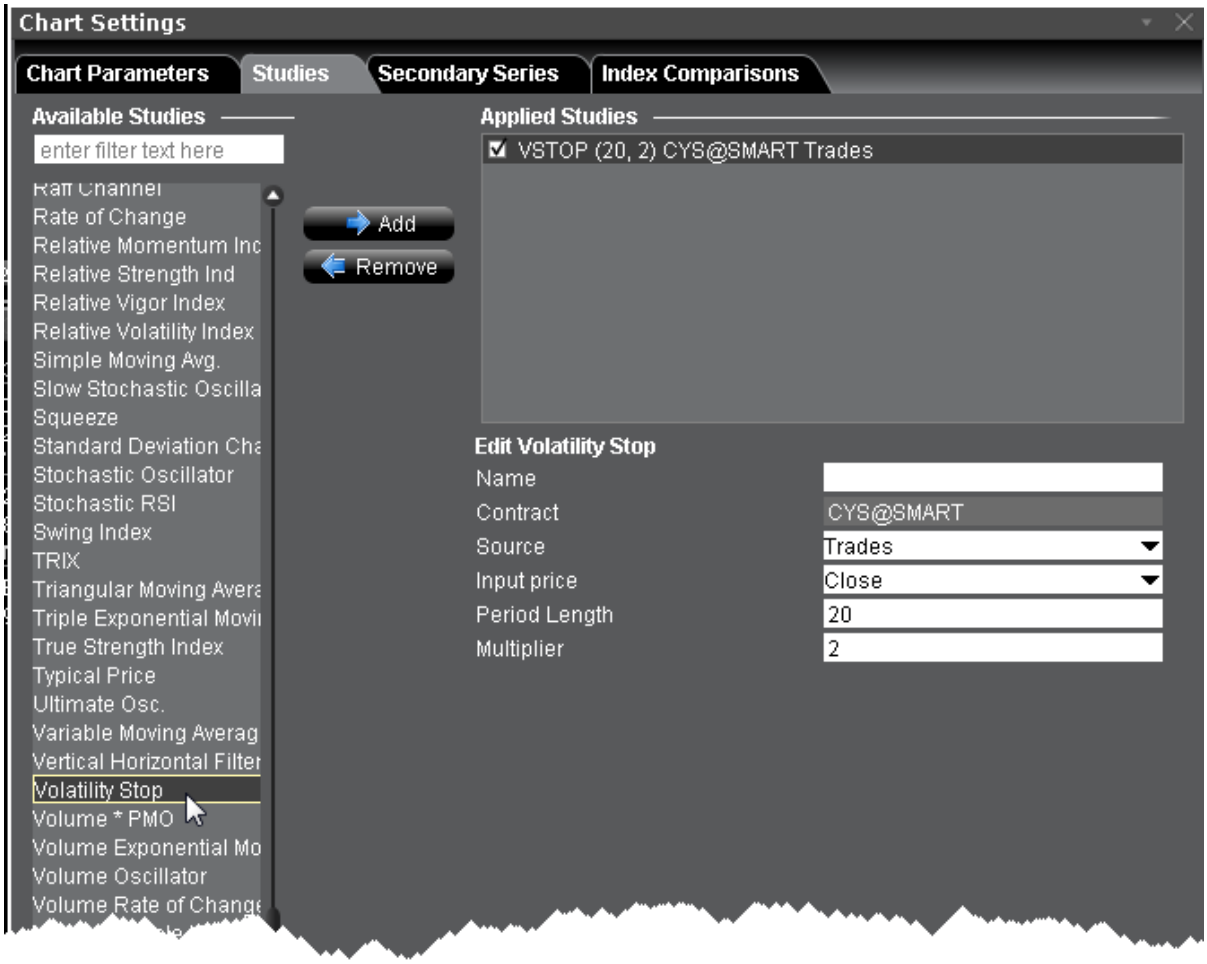
To apply a Vertical Horizontal Filter Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Vertical Horizontal Filter*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Volatility Stop

The Volatility Stop Indicator helps define the current trend. This indicator plots a red line *above* the price bars when a downward trend is detected, and a blue line *below* the bars when an upward trend is detected. These lines are commonly used as trailing stops, and this indicator is commonly used as an exit tool rather than an entry technique. When price crosses the VSTOP value, the trend reverses and VSTOP moves to the other side of the price.

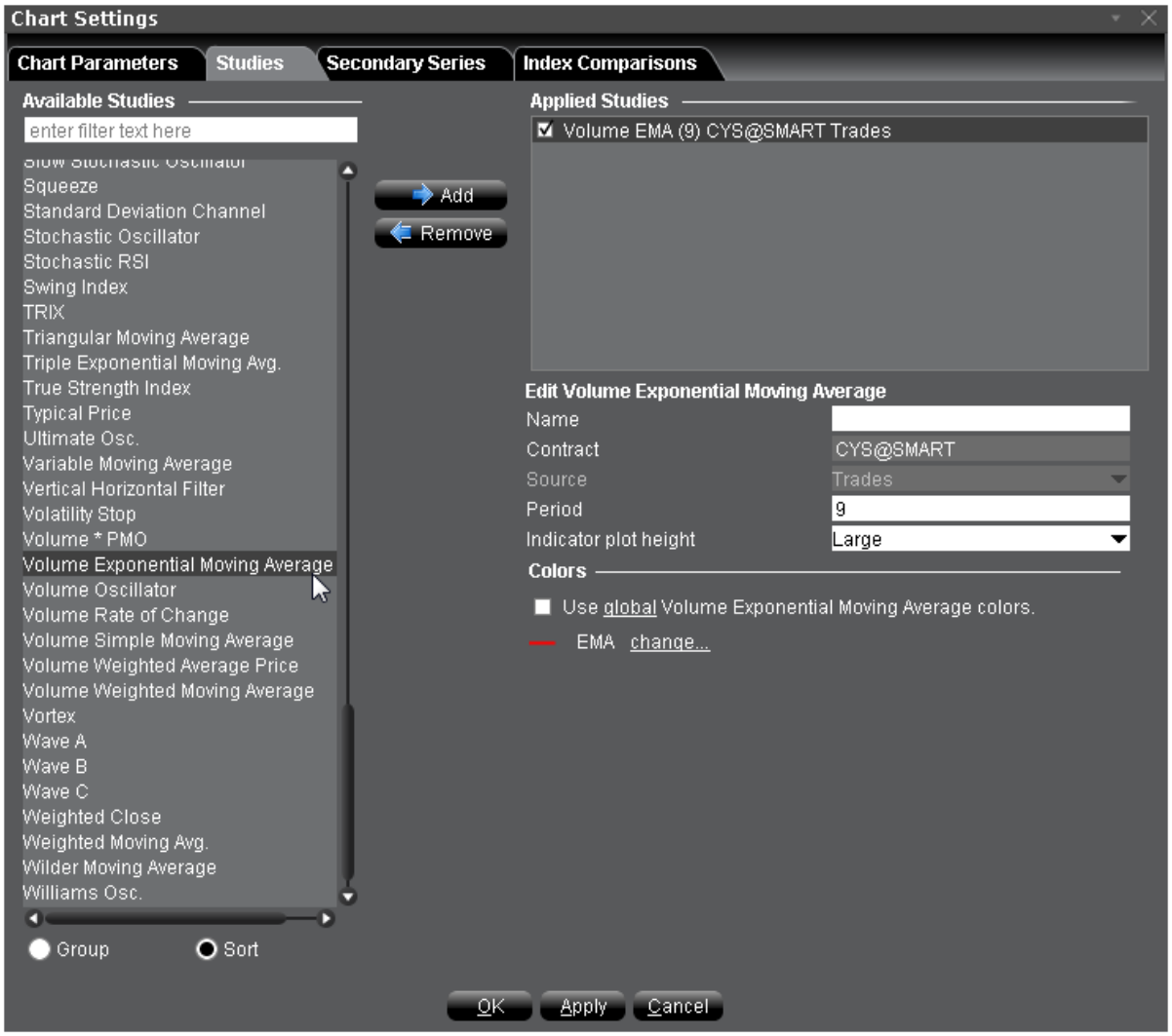


To apply a Volatility Stop Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **Volatility Stop** and *Add* the study.
3. Complete parameters as necessary.

Volume Exponential Moving Average

Identical to our existing Exponential Moving Average indicator except that it uses volume data instead of price data.



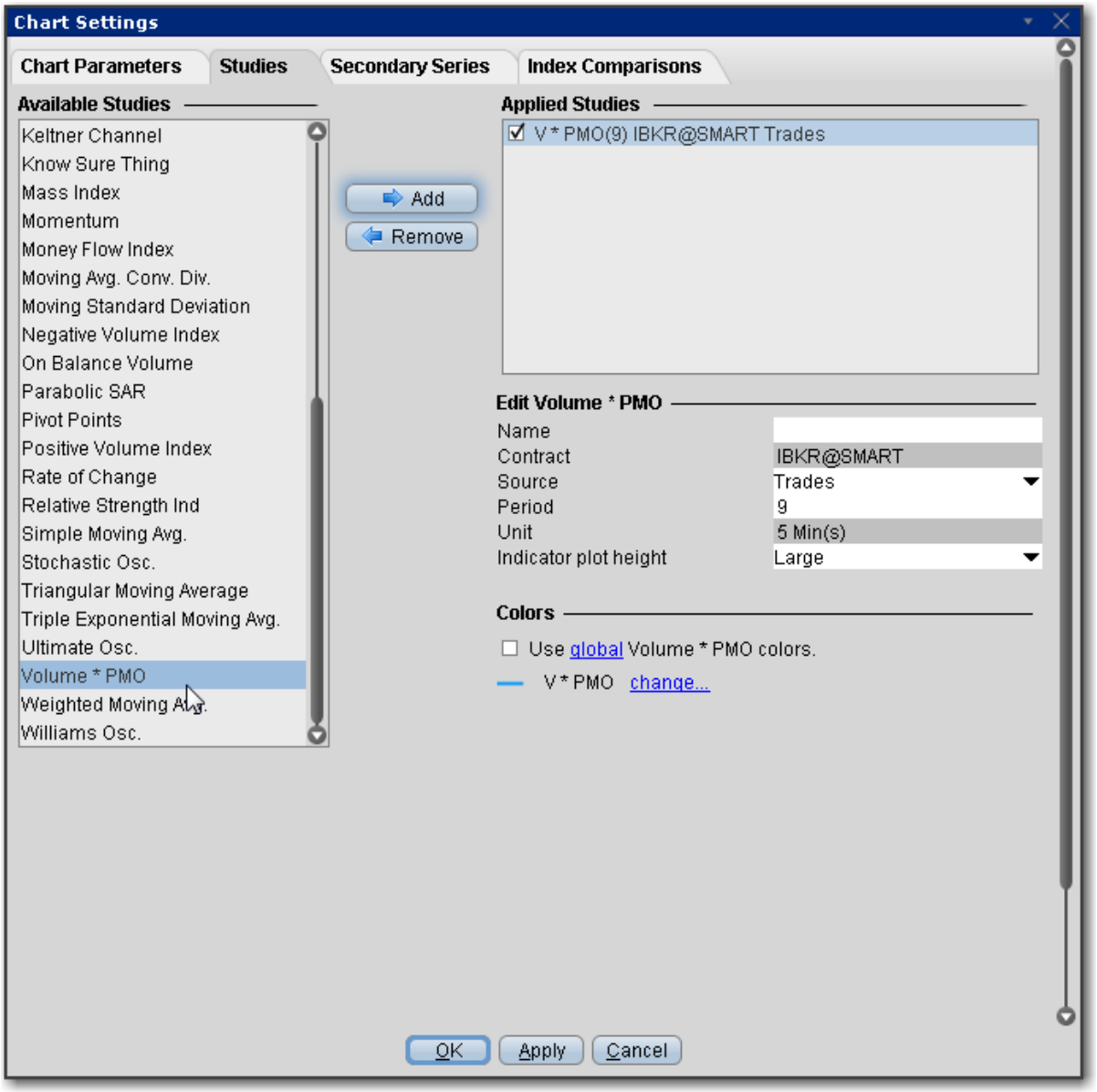
To apply a Volume Exponential Moving Average

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Volume Exponential Moving Average*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply a Volume * Price Momentum Oscillator (PMO) Indicator

A price and volume momentum oscillator. Traders might consider buying when the VPMO rises above zero and selling when it falls below.



To apply a Volume * PMO Indicator

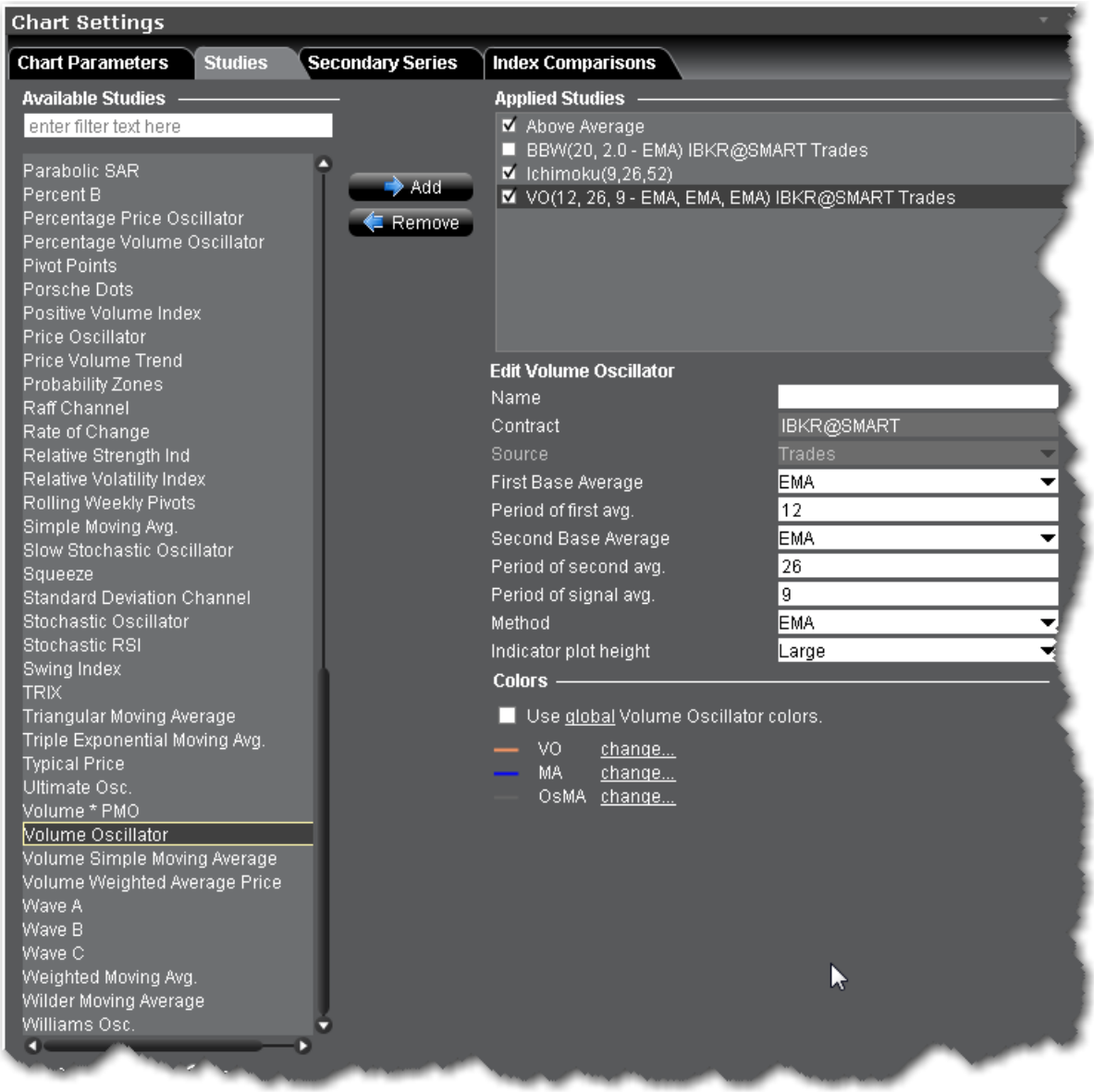
1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Volume * PMO*** and click **Add** to add the study to the Applied Studies group.

3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Volume Oscillator

Measures volume by measuring the relationship between two moving averages.



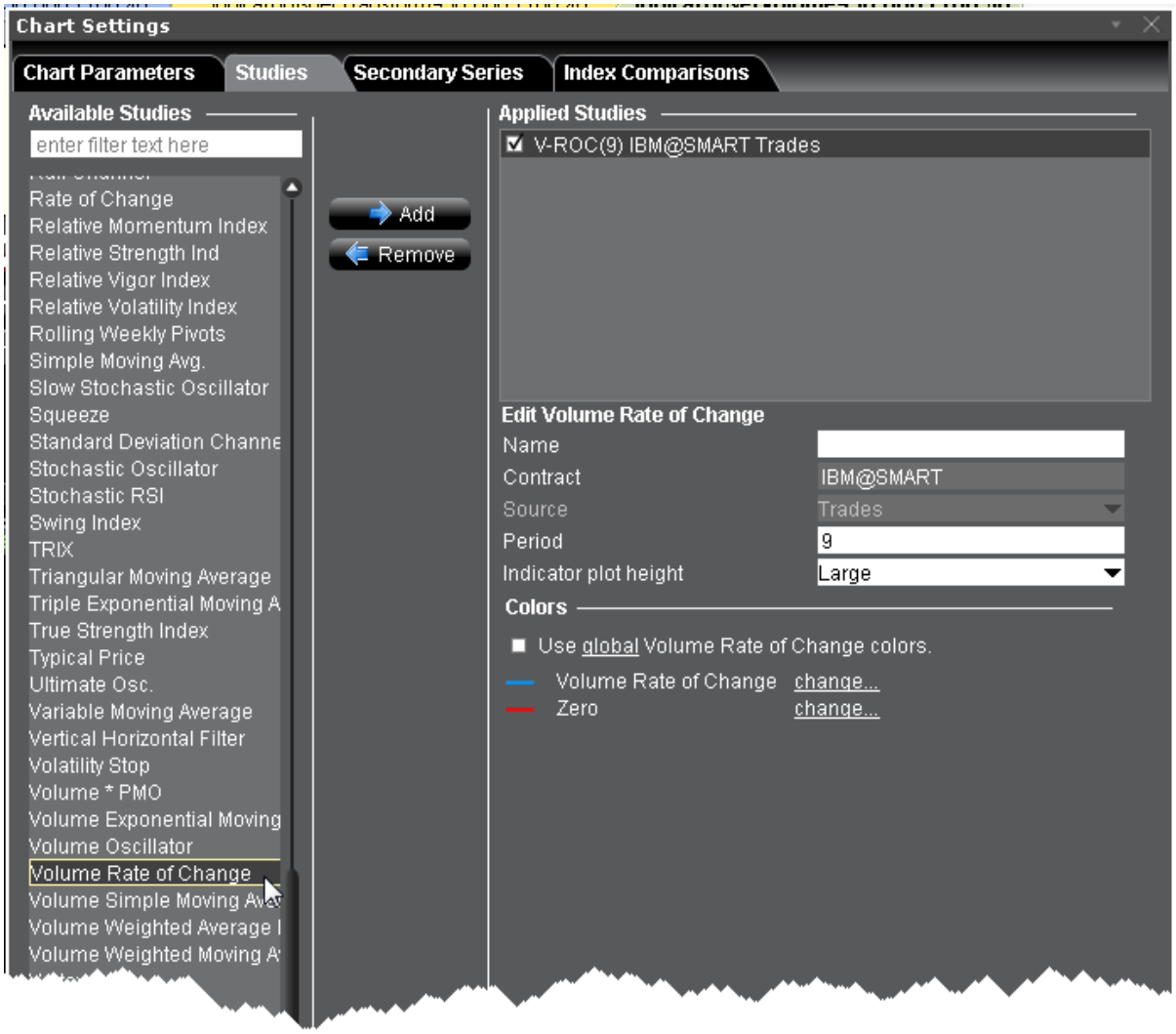
To apply a Volume Oscillator Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Volume Oscillator*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Volume Rate of Change Indicator

The volume rate of change indicator is used to gauge the volatility in a security's volume. The volume rate of change is a powerful indicator when estimating a security's ability to push through key resistance. It is calculated the exact same way as the rate of change indicator except instead of tracking the closing price it tracks volume. The calculation is: Volume ROC = ((Volume – Volume n-periods ago)/ Volume n-periods ago) *100.



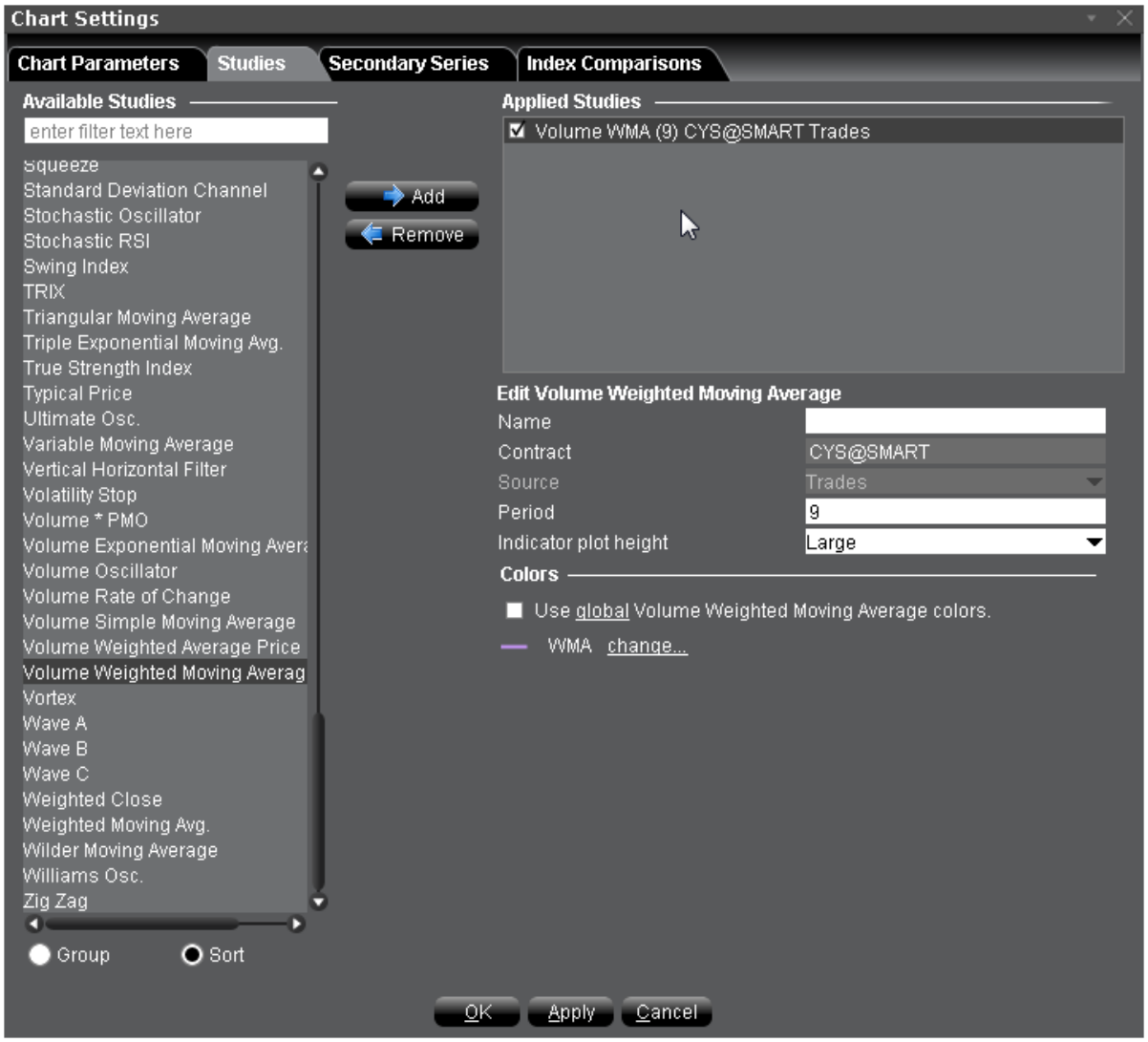
To apply a Volume Rate of Change Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Volume Rate of Change*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Volume Weighted Moving Average

Identical to our existing Weighted Moving Average indicator except that it uses volume data instead of price data.



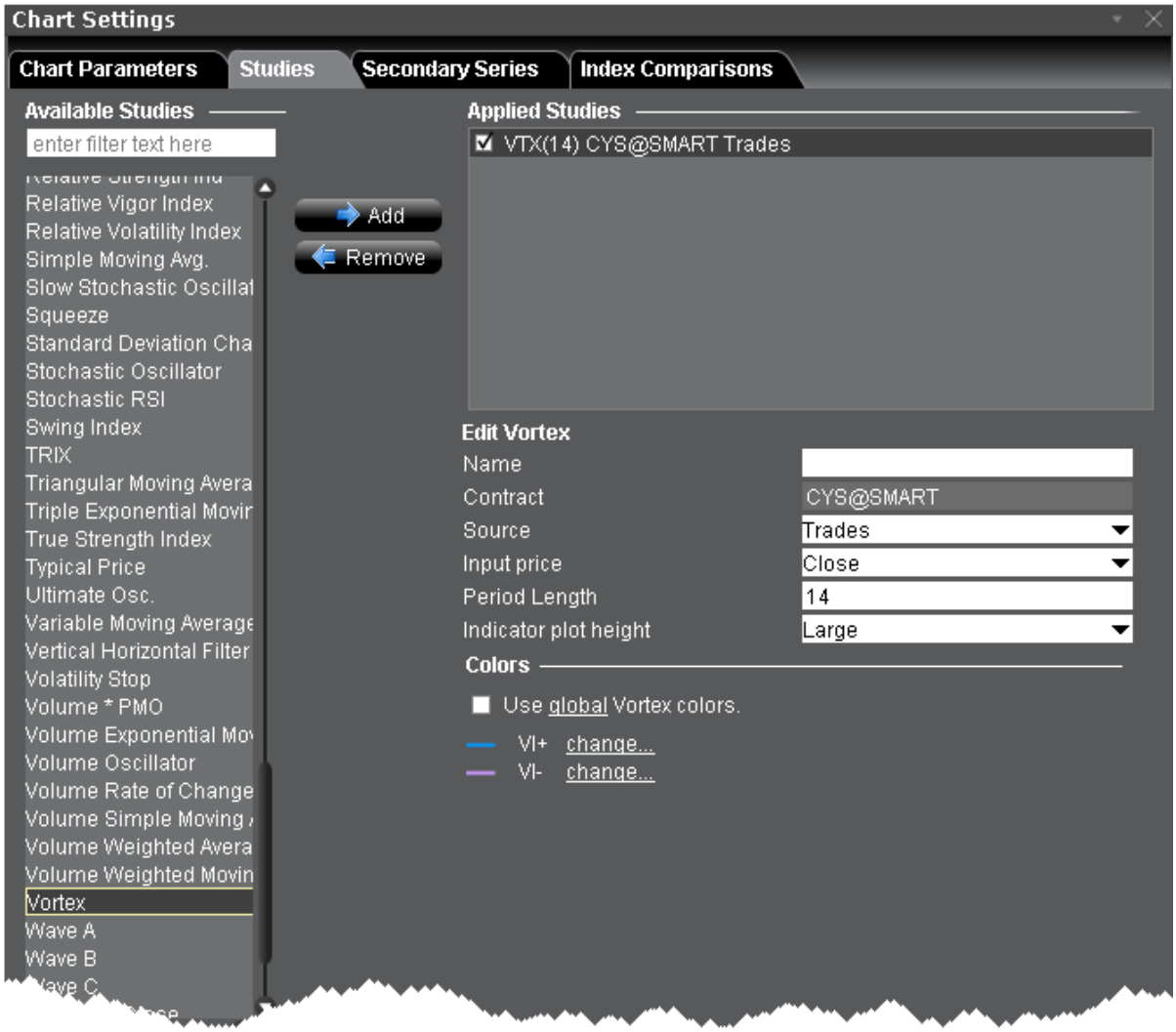
To apply a Volume Weighted Moving Average Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Volume Weighted Moving Average*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Vortex Indicator

A two-line oscillator comprising an uptrend line (VI+) and a downtrend line (VI-). Used to spot trend reversals and confirm current trends. An uptrend or buy signal occurs when VI+ crosses above VI-. A downtrend or sell signal occurs when VI- crosses above VI+.



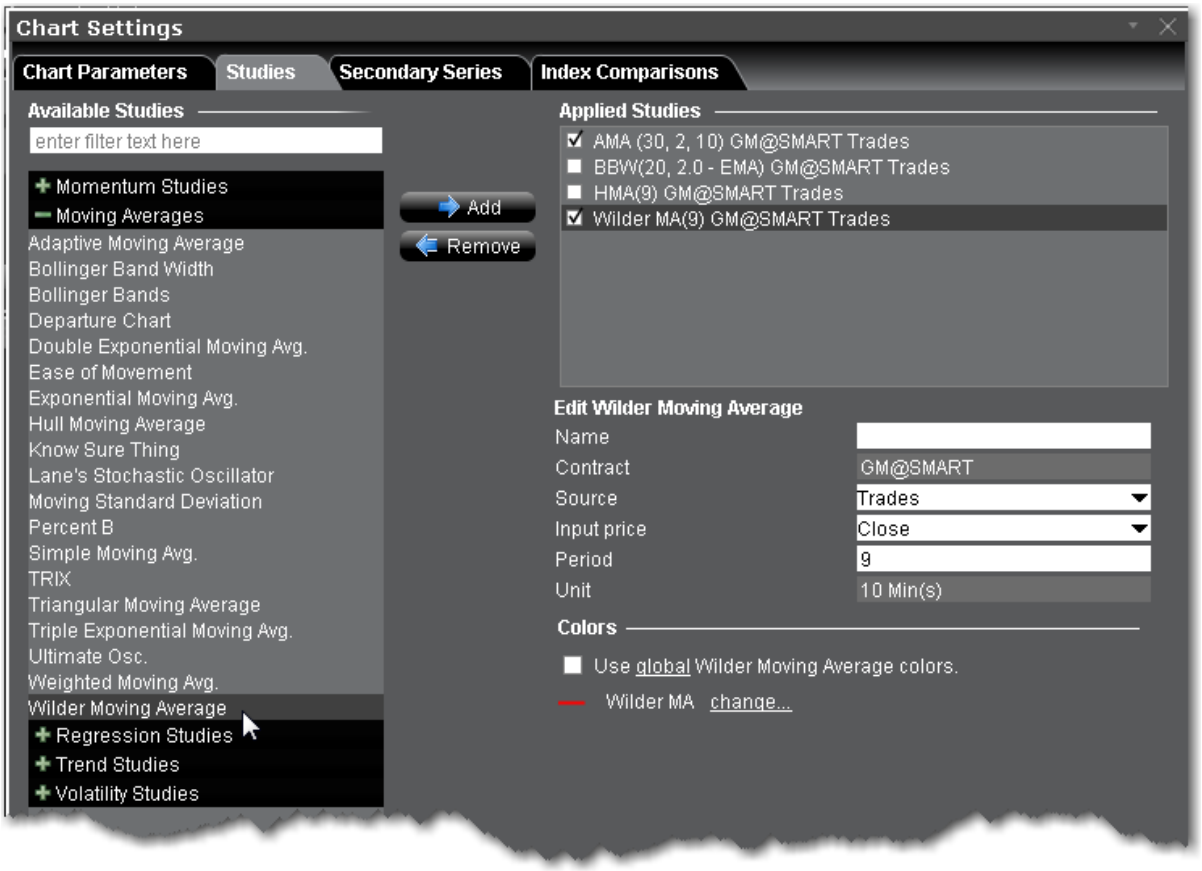
To apply a Vortex Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Vortex*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Wilder's Moving Average

Also called Wilder's Smoothed Moving Average, this indicator is similar to the Exponential Moving Average. Compared to other moving averages, Wilders MA responds more slowly to price changes, where an n-period Wilder MA gives similar values to a 2n- period EMA. For example, a 14-period EMA has almost the same values as a 7-period Wilder MA.



To apply a Wilder Moving Average Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Wilder Moving Average*** and click Add to add the study.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

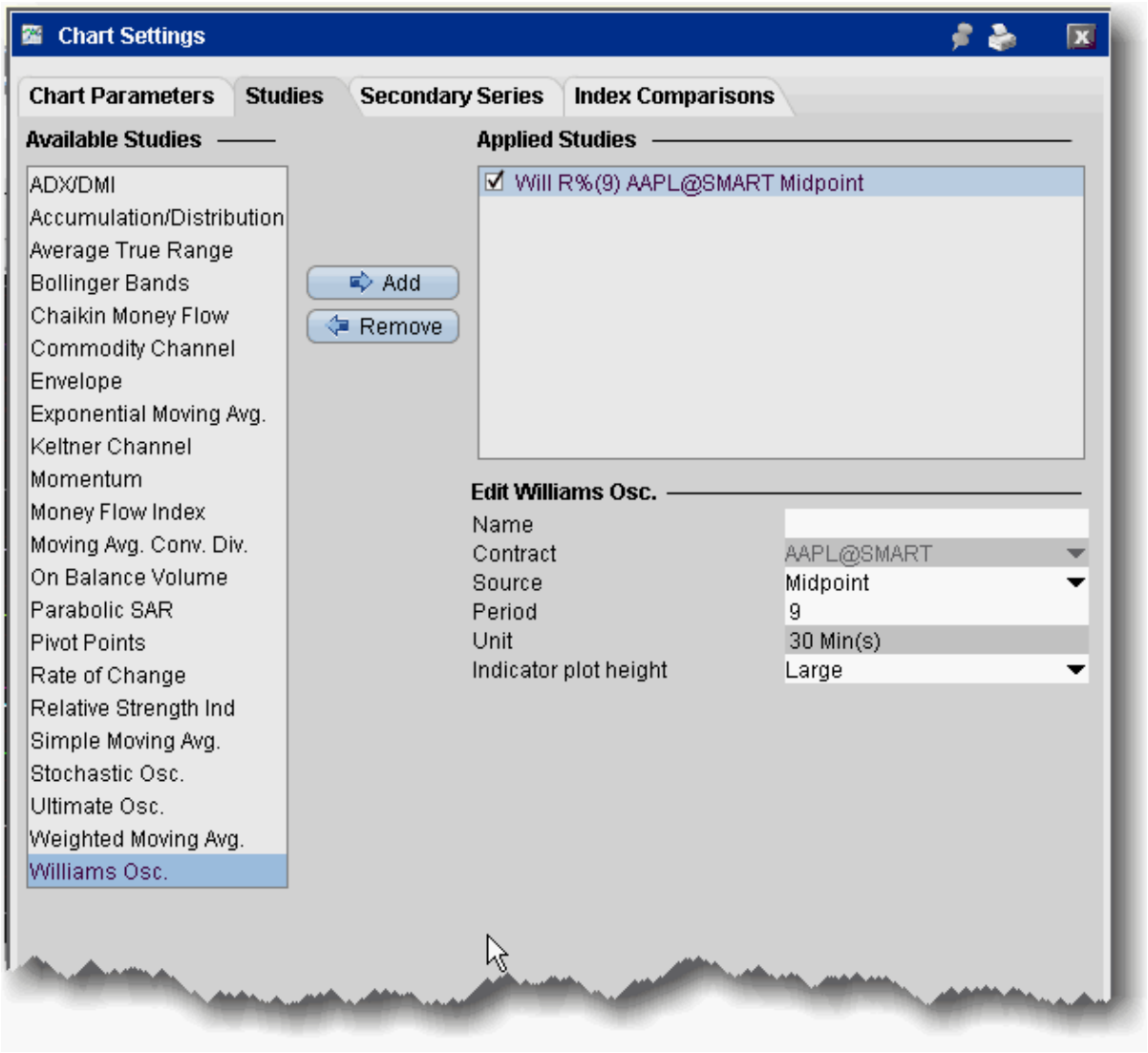
Apply a Williams Oscillator Indicator

The Williams Percent Range (%R) indicator identifies the overbought/oversold levels. The scale extends from 0 to -100.

%R = (HIGH(i-n)-CLOSE)/(HIGH(i-n)-LOW(i-n))-100

Where:

CLOSE — is today's closing price.
HIGH(i-n) — is the highest high over a number (n) of previous periods.
LOW(i-n) — is the lowest low over a number (n) of previous periods.

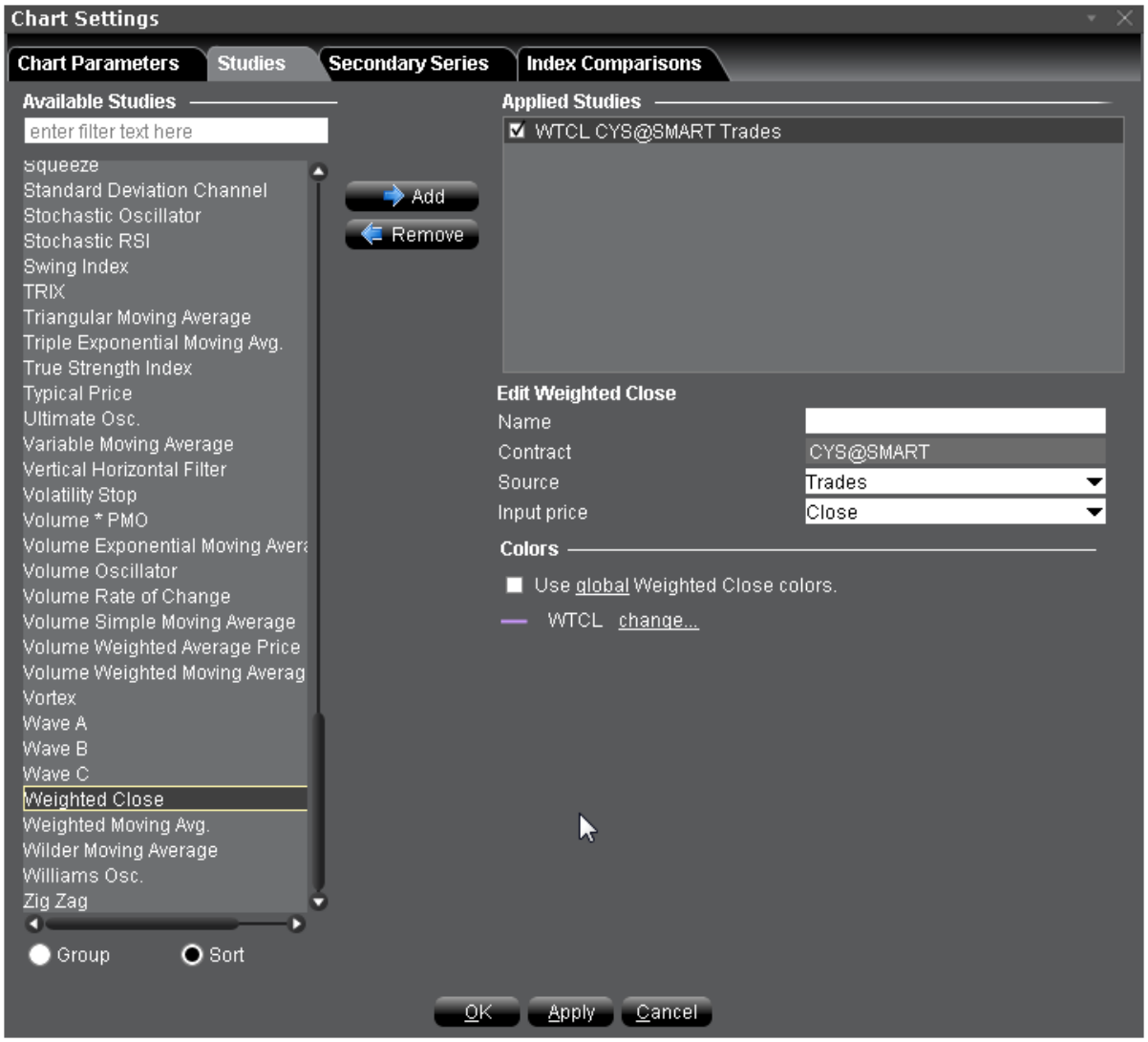


To apply a Williams Oscillator indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **Williams Osc.** and *Add* the study.
3. Complete parameters as necessary.

Weighted Close

Presents an average of each day's price with extra weight given to the closing price.



To apply a Weighted Close Indicator

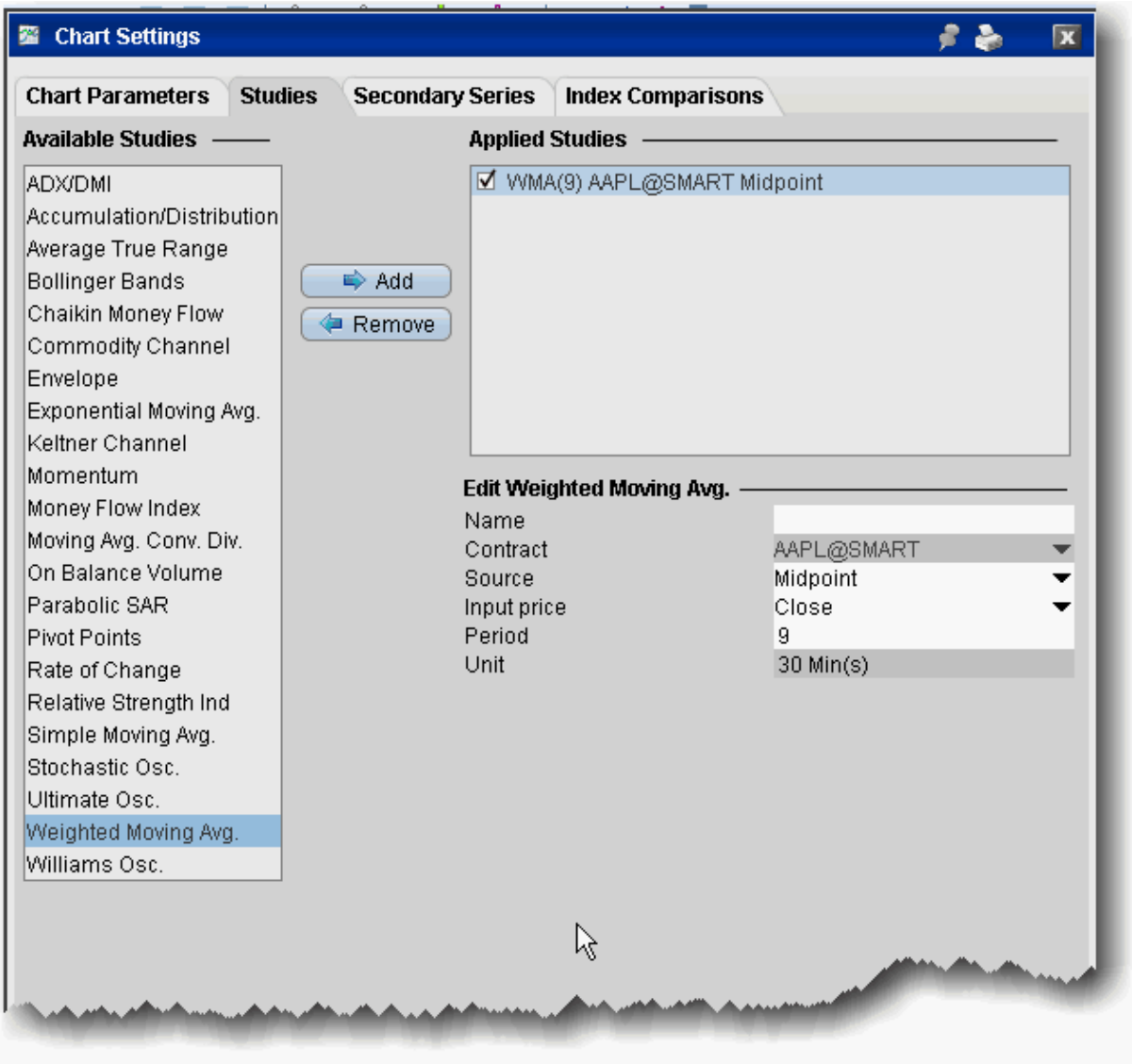
1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Weighted Close*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Apply Weighted Moving Average Indicator

The **weighted moving average** gives each data point a weight proportionate to its number in the sequence and divides by the sum of its weights. The calculation for a 3-bar weighted moving average is:

(1 x price_1) + (2 x price_2) + (3 x price_3) divided by 6, where 6 is the sum of the weights (1 + 2 + 3).

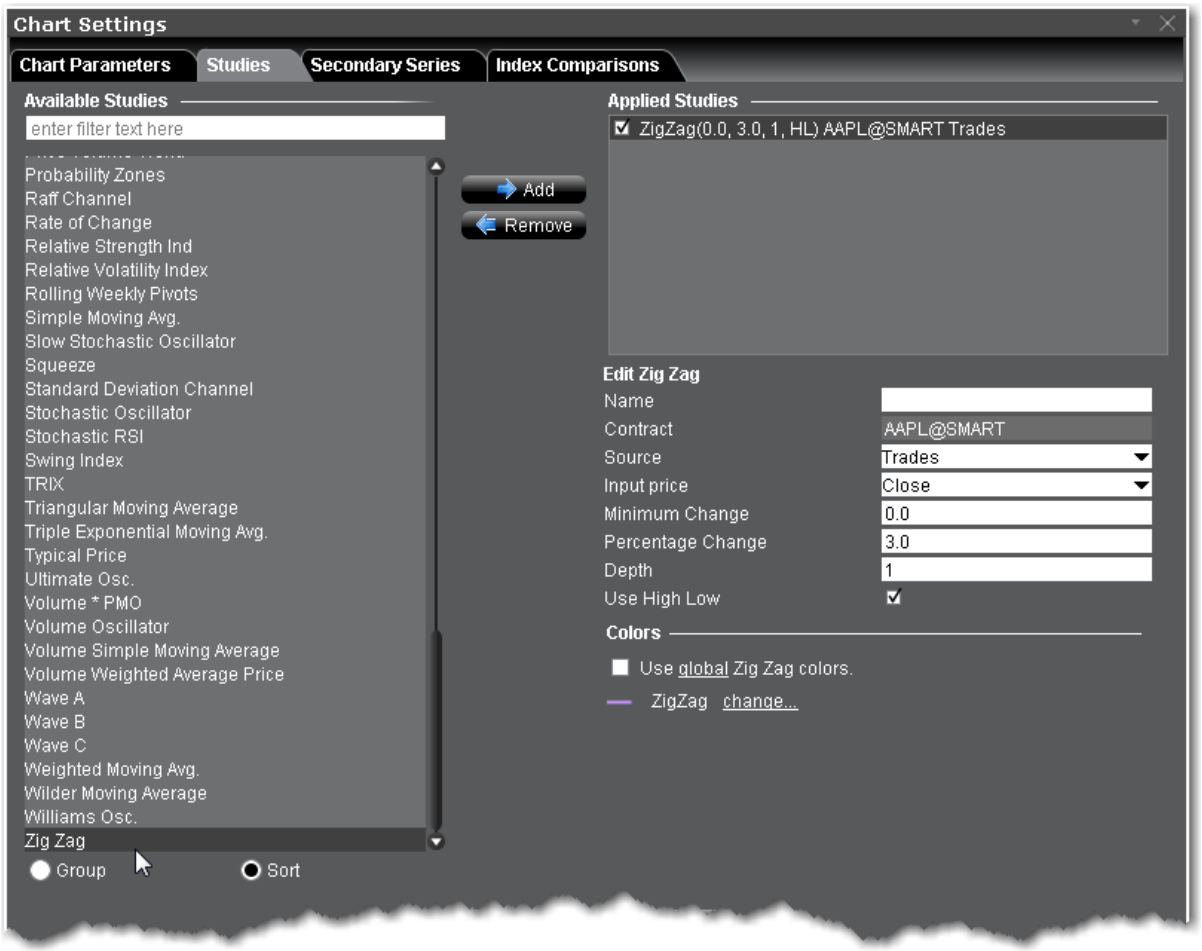


To apply a Weighted Moving Average

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose **Weighted Moving Avg.** and *Add* the study.
3. Complete parameters as necessary.

Zig Zag Indicator

The Zig Zag is a series of trendlines that connect the tops and bottoms of significant prices. Connection criteria is defined using the indicator's Minimum Change or Percent Change parameter.



To apply a Zig Zag Indicator

1. From within a chart, from the **Edit** menu select *Studies*.
2. Choose ***Zig Zag*** and click **Add** to add the study to the Applied Studies group.
3. Complete parameters as necessary.

Once the study is defined, you can elect to uncheck/check to remove and add the study to your chart.

Bond Indicators

Bond Search Query **1246**

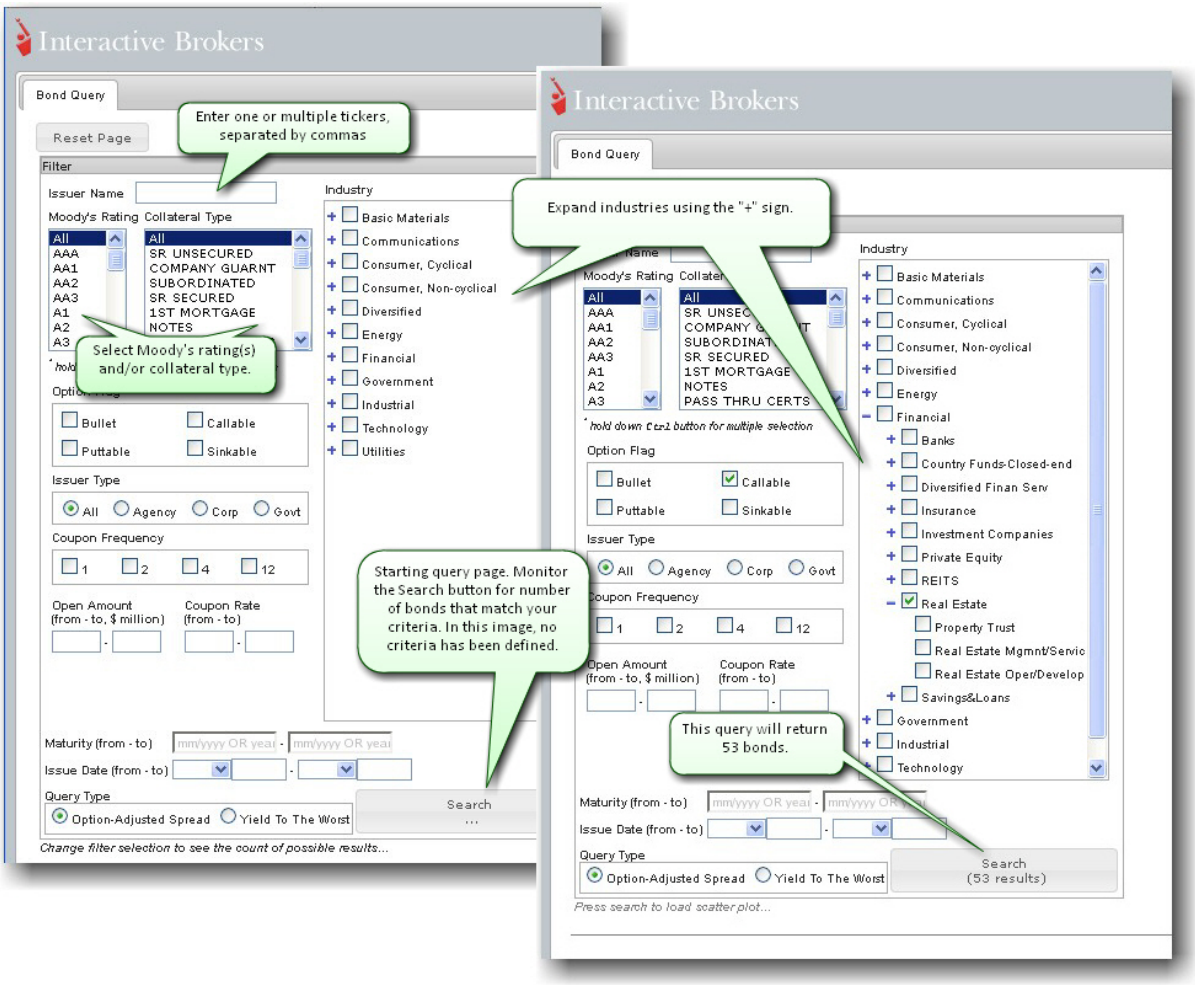
Bond Search Scatter Plot **1250**

Bond Details Table **1251**

Export Bond Details to Risk Navigator **1252**

Bond Search Query

You can query for bonds issued by agencies, government or corporate bonds. Use these fields to define bond search criteria (similar to scanners). The less criteria you specify the larger the number of bonds that will be returned. You must define at least one criterion for the search to begin.



Using the Query Criteria

As you define the search criteria for bonds, the Search button on the bottom right of the tool will return the number of bonds that meet your criteria.

Criteria is optional, but at least one criterion must be specified to make the search valid. Filter fields includes:

Filter	Description
Issuer Name	Specify a ticker or group of tickers, separated by commas.
Moody's Rating/Collateral	Select one or multiple choices.

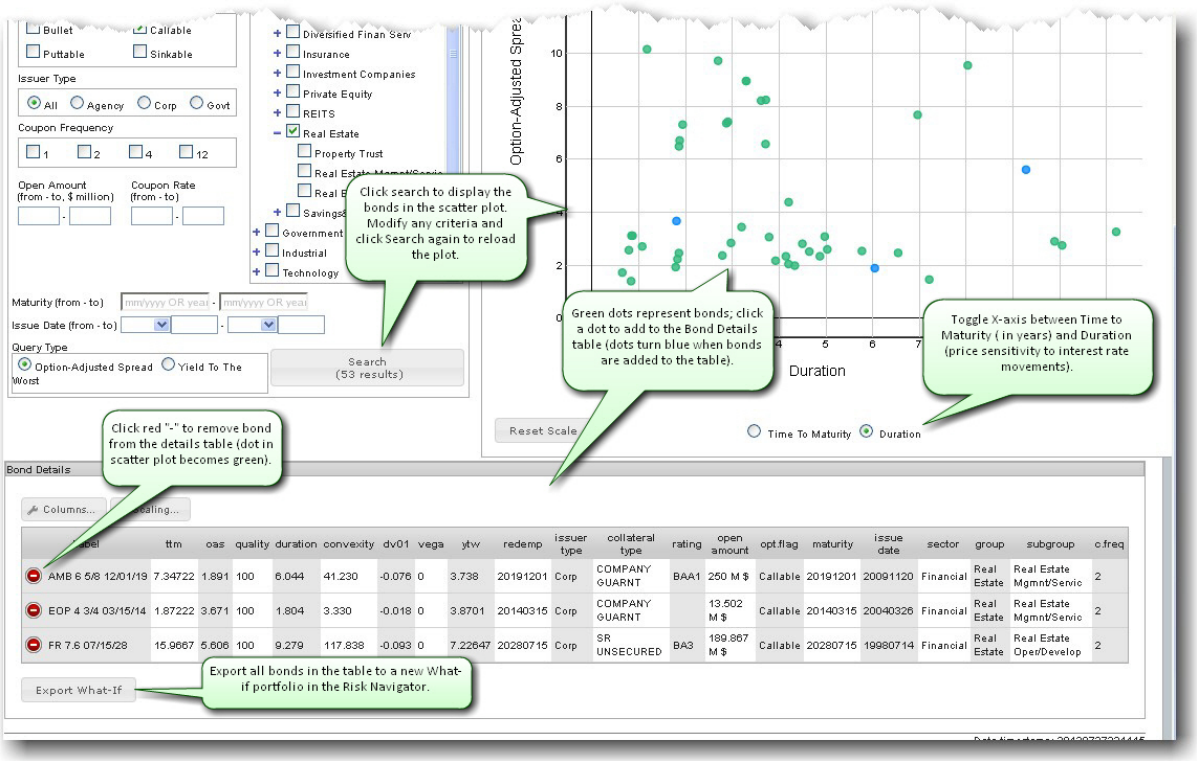
Type	
Option Flag	Select one or multiple flags (definitions from Investopedia): **Bullet**: A debt instrument whose entire face value is paid at once on the maturity date. Bullet bonds are non-callable. Bullet bonds cannot be redeemed early by an issuer, so they pay a relatively low rate of interest because of the issuer's exposure to interest-rate risk. Both corporations and governments issue bullet bonds, and bullet bonds come in a variety of maturities, from short- to long-term. **Callable**: The main cause of a call is a decline in interest rates. If interest rates have declined since a company first issued the bonds, it will likely want to refinance this debt at a lower rate of interest. In this case, company will call its current bonds and reissue them at a lower rate of interest. **Puttable**: A bondholder can redeem puttable bonds on certain dates and at certain prices. The advantage of these bonds to an investor is that if market yields rise and the value of the bond falls below the put price,

	the investor can exercise the put option and stem his losses to the put price. Of course, the special advantages of put bonds mean that some yield must be sacrificed. **Sinkable**: A sinkable bond issuer is required to buy a certain amount of the bond back from the purchaser at various points throughout the life of the bond, at a set sinking price. Issuers set aside money in their sinking fund to repay the money owed based on the bond's par value. If interest rates fall below the nominal rate of the bond, sinking fund provisions can allow the company to repay all or part of the amount owed, and refinance the remaining balance to the lower rate.
Issuer Type	Select agency, corporate, government or All.
Coupon Frequency	The per-year frequency of coupon payments.
Open Amount Coupon Rate Maturity Issue Date	Specify a range to search.
Query Type	**Option-Adjusted Spread** - A measurement tool for evaluating

	price differences between similar products with different embedded options. A larger OAS implies a greater return with greater risk. For an OAS scatter plot, toggle the x-axis to display to *Duration*. **Yield to the Worst** - Yield to worst is calculated on all possible call dates. It is assumed that prepayment occurs if the bond has call or put provisions and the issuer can offer a lower coupon rate based on current market rates. The yield to worst will be the lowest of yield to maturity or yield to call (if the bond has prepayment provisions); yield to worst may be the same as yield to maturity but never higher.
Industry	Select multiple industries; use the "+" sign to drill down into the list to more detailed sectors.

Bond Search Scatter Plot

The results of a bond search are presented in a scatter plot, where each green dot represents a bond that meets the specified criteria.



To display a scatter plot

After filters are defined, click the *Search* button.

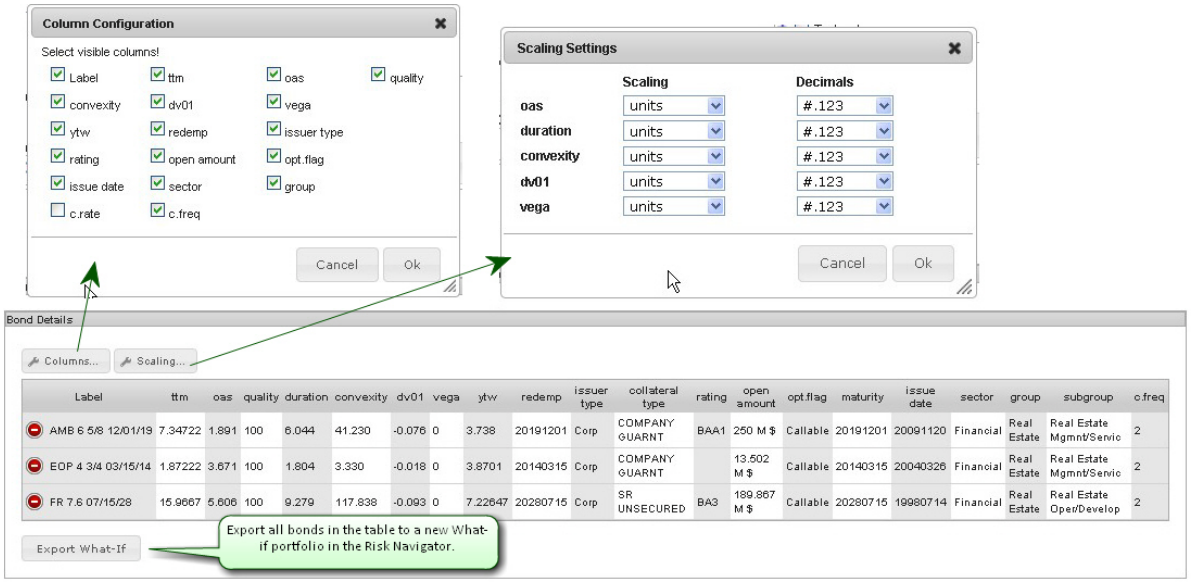
To zoom in, click in the plot and drag. The area to be enlarged is appears highlighted in yellow. To unzoom, click *Reset Scale*.

By default, the X-axis displays maturity in years. For an Option Adjusted Spread, the scatter plot can be toggled between Time to Maturity (in years) and Duration (price sensitivity to interest rate movements).

The Y-axis represents the query type: Option-Adjusted Spread (to evaluate bond price) or Yield to the Worst (lowest potential yield on a bond). The higher the YTW – the more risk.

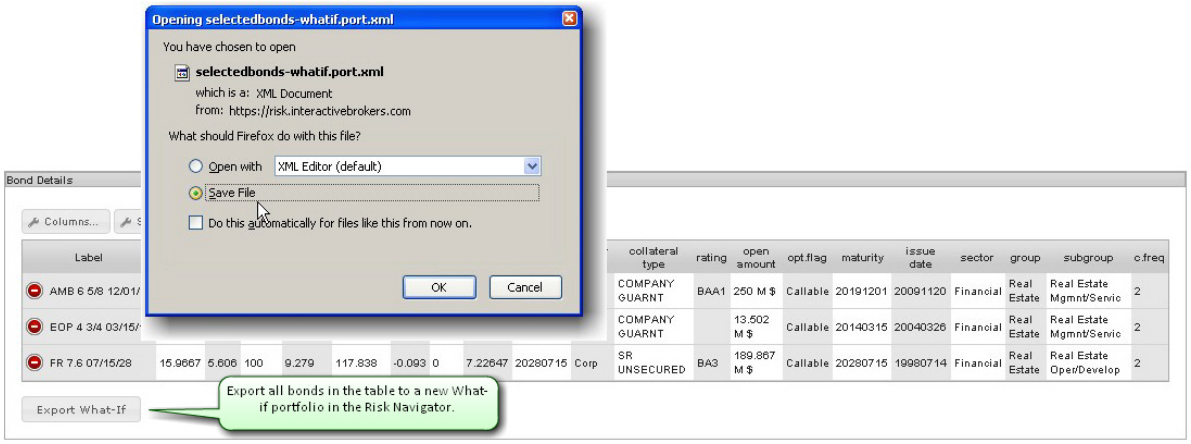
Bond Details Table

See the risk measures and bond attributes. Add or remove columns in the table and reset units/decimals for scaling using the buttons in the table.



Export Bond Details to Risk Navigator

Once you have finished populating the Bond Details table, you can import all bonds from the table in the Risk Navigator in the form of a What-If portfolio.



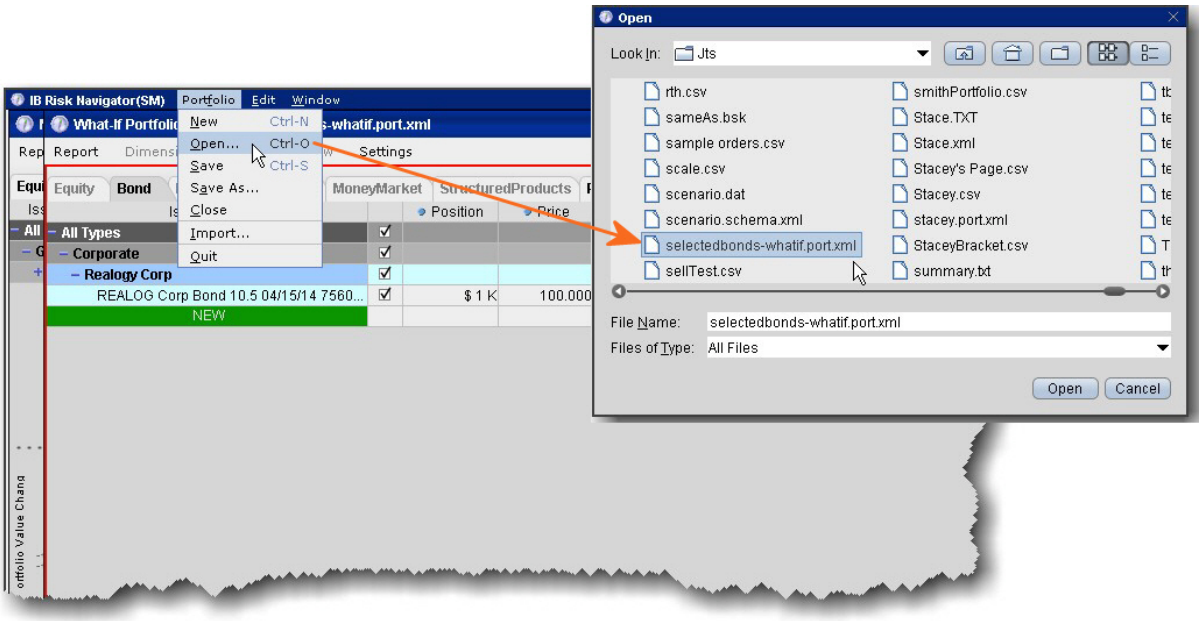
To export bond details to Risk Navigator

From the **Bond Details** table, click *Export What-If*.

Choose to Save the file and click OK.

Choose the directory (or note the default directory) where the file will be saved. For example, Firefox saves files to *C:\Downloads* by default.

Open the Bond Details using a what-if portfolio in Risk Navigator. You can modify the position and initiate trades from within the What-If.



To open Bond What-If in Risk Navigator

Open the Risk Navigator from the **Analytical Tools** menu.

From the **Portfolio** menu, select *Open* and find the saved file. Click Open.

Select the Bond tab to see the new What-If bond portfolio.

11

Global Configuration

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Charts Colors 1354
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Trades Panel 1404
Portfolio Panel 1405

Using Global Configuration

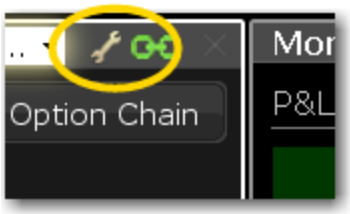
The global Configuration window is your starting point for defining system-wide default configuration settings.

To use Global Configuration

From within Mosaic: Use the **File** menu and select *Global Configuration*.

From with Classic TWS: Use the **Edit** menu select *Global Configuration*.

Or



From within any window or tool click the configuration wrench icon.

Use the left pane to navigate high-level sections and pages. Use the right pane to define configuration settings for the selected page.

You can also use the text filter box at the top of the window to find the page you want to configure. The list is filtered to show only those pages which include the text you've entered in their title.

eSignal Market Data

Use the eSignal page to configure and use eSignal market data. Please note that to connect to eSignal data, you must subscribe to eSignal, and download and install the eSignal application www.esignal.com.

To define eSignal settings

1. On the **Edit** menu select *Global Configuration.*
2. Click *eSignal* in the left pane.
3. Use the right panel to set these parameters:

Use eSignal for Market Data - check to use your eSignal subscription to receive market data in TWS. If checked, enter eSignal username, password and host address.

Connectivity

Enter username, password and Host Address for eSignal connection.

Note: You must restart your system for changes to take effect.

Change the update frequency if desired.

Market Data

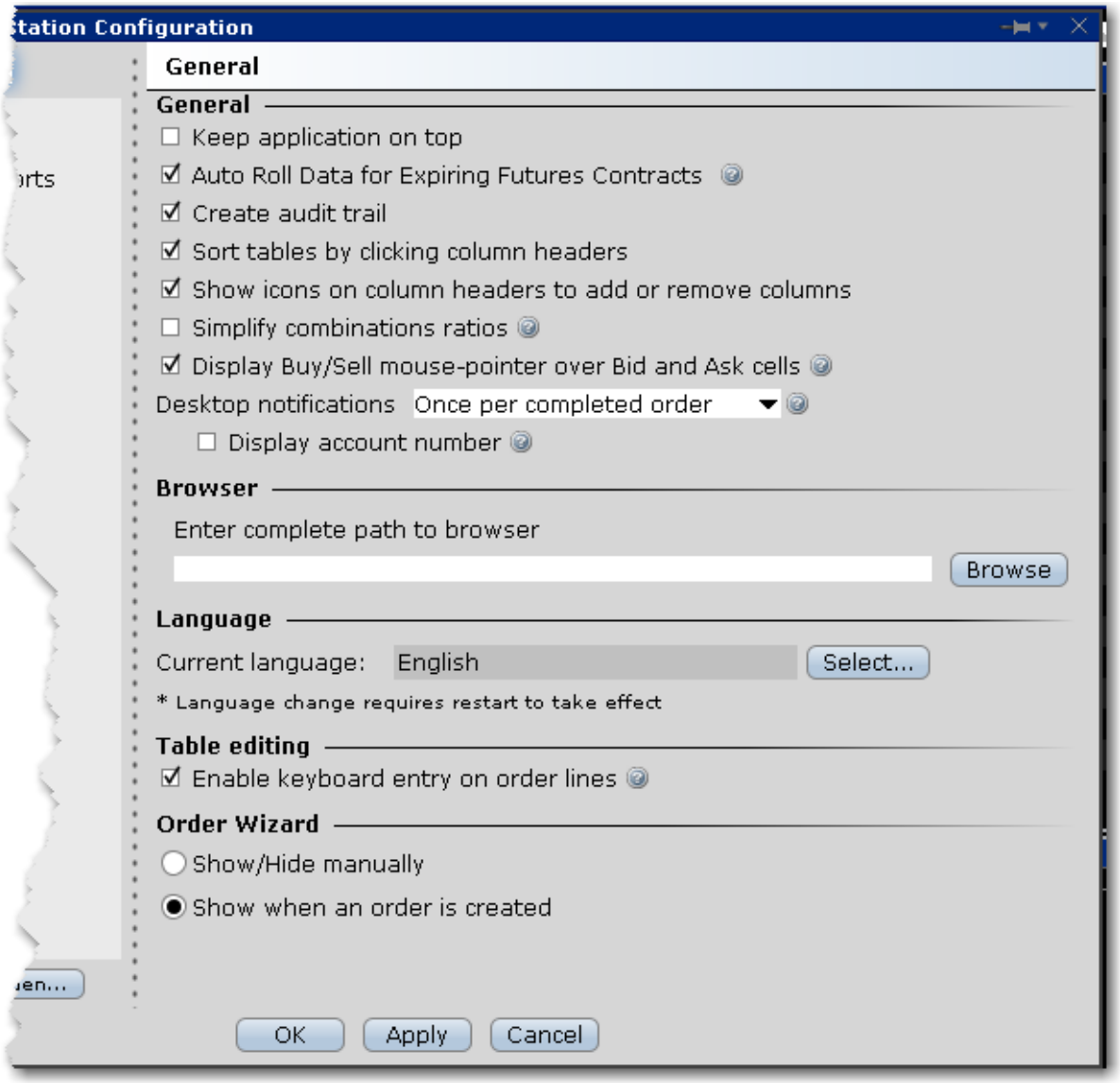
For available security types, check appropriate boxes to receive top level and/or deep data.

General Configuration

Use the General configuration page to set miscellaneous defaults such as automatic future rollover notification, audit trails and language settings.

To define general configuration settings

1. On the **Edit** menu select *Global Configuration.*
2. Click *General* in the left pane.
3. Use the right pane to set these parameters:



General

Field	Description
Keep application on top	Check to keep the main trading screen on top of all other active windows.
Auto Roll Data for Expiring Futures Contracts	When checked, all futures data lines that are about to expire will be rolled to the lead month's futures contract. In addition, if

Field	Description
	you have orders on expiring contracts you will receive a message asking if you would like TWS to cancel those pending orders.
Create audit trail	When checked, you can elect to view a condensed or extended version of your audit trail, which includes all trade activity for your account. Find the Audit Trail command under the TWS Account menu.
Sort tables by clicking column headers	Uncheck to disable the auto-sort by column header feature. If checked, clicking a header will sort the tickers by the value in that column. Click once to sort by ascending, twice to sort by descending, and a third time to return to the original sort.
Show icons on column headers...	Uncheck to disable the quick add/remove feature that displays the “+” and “x” icons on a field header when you hold your mouse over the field.
Simplify combination ratios	If checked, TWS will simplify the display for combination ratios.
Display buy/sell mouse pointer...	If checked, holding your mouse over the bid value will display the tip “Sell” and holding it over the Ask value will display “Buy” to indicate the order action result of clicking the bid or ask value.

Field	Description
Desktop notifications	Instruct TWS to notify you when an order fills using a subtle, transparent notification pop up in the bottom right corner of your screen. This notice displays on top of your open desktop applications and is visible for ten seconds, but it doesn't take focus away from your current task. If you want more details simply click the pop up to be taken into the orders section of Mosaic or legacy TWS (based on the most recently used active workspace). Completed orders - Orders that fill completely. Any trade - Includes partial fills or specific legs filled on combination orders. Never - Will not notify for any order activity.
	Display account number - For users who have multiple instances connected to different accounts, for example a production trading account and a paper account, check Display account number to show the number of the originating account.

Browser

Enter complete path to browser - for standalone users, modify the browser location if necessary.

Language

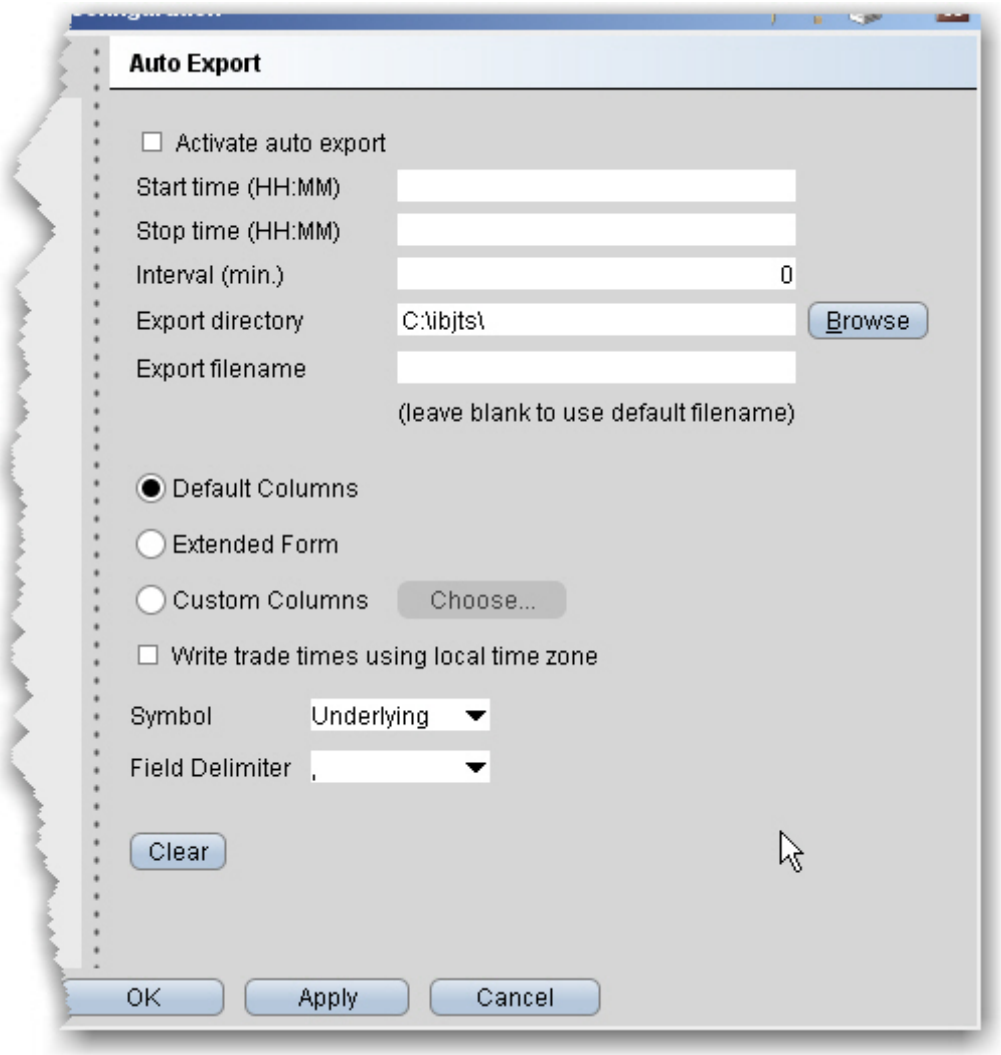
Current Language - displays the current TWS language. Click Select to choose another language. Click OK, then log out of TWSto activate the language change.

Table Editing

Enable keyboard entry on order lines - when checked, you can tab through an order line and modify field values without using your mouse. Each field becomes editable when you land in it, and the Enter key works like the left mouse click.

Configure Auto Export

Use the Auto Export configuration page to define settings for automatically exporting trade reports.



To define auto export configuration settings

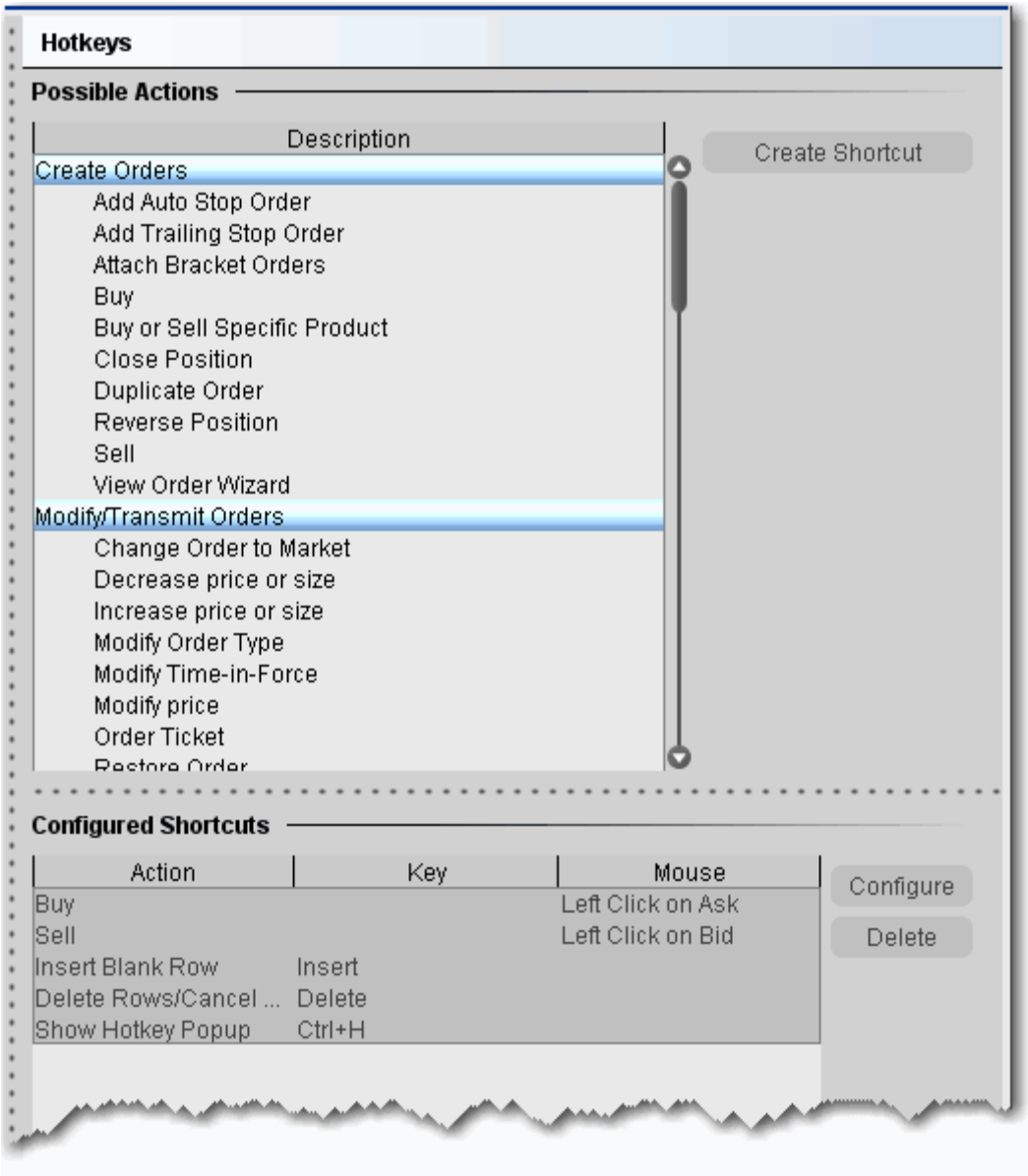
1. On the **Edit** menu select *Global Configuration.*
2. Click *Auto Export* in the left pane.
3. Use the right panel to set these parameters:

Field	Description
Activate auto export	Check to enable automatic exportation of trade reports.

Start time	Enter the time to start the export in the format HH:MM.
Stop time	Enter the time to stop the export in the format HH:MM.
Interval	Set the interval (in minutes) to be used for checking for and exporting reports.
Export directory	Define the directory to which you want to export the file, for example c:\desktop
Export filename	Enter the name for the exported file. To use the system-assigned default name, leave this field blank.
ID	Check this box to include the ID field on exported execution reports.
Default Column/ Extended Form/ Custom Columns	Select one column format. Extended mode includes the type, last trading day, strike, right and premium currency fields as well as the default columns, and custom allows you to define all fields that will be included in the report.
Write trade times...	If checked, shows the local time for executed trades regardless of the time zone in which the order filled.
Symbol	Select the display type for the symbol, either the underlying, the local, or both.
Field delimiter	Allows you to specify a field delimiter other than comma.

HotKeys

Assigning actions to specific keys and key combinations helps you rapidly create and transmit orders to the marketplace. You can assign any keystroke, or a combination of the "Ctrl" and "Shift" keys with one of the 26 keyboard letters, to map specific order creation and order transmission commands, such as buy, sell, transmit and cancel.



To record hot keys

1. On the **Edit** menu, select *Global Configuration*, then select *Hotkeys* from the left pane.
2. In the *Possible Actions* area, choose an action to which you want to assign a hot key and click **Create Shortcut**.
3. In the Keyboard area, click **Record**. If you already have a hot key recorded for the selected action, it is displayed in the *Current Key Shortcut* field.
4. Press the actual keystroke or keystroke combination you will use to complete this action. The system records your keystroke and displays it in the *Current Key Shortcut* field.

   Note: If the *Customize* tab is visible, you can customize your hot key to be more specific. For example, after you record a Buy hot key, customize it to create a bracket or trailing stop limit order.

After you record the desired hot keys and click **Close**, the mapped keys are displayed on the status line at the bottom of the screen. To re-record a hot key assignment, follow steps 1-4 above. To remove a hot key assignment from an action, click **Clear**.

How to define specific Hot Keys

The procedures below pertain to specific hotkey functionality, including:

To create a Buy/Sell hot key for a specific order type (i.e. Buy Limit Order, Sell Stop Order)
To create a Buy/Sell hot key for a specific instrument (i.e. Buy Limit Order for XYZ)
To use instantaneous transmission
To attach bracket orders
To create Increase (or Decrease) order size hot key
To create Increase (or Decrease) Limit (Aux.) Price hot key
To use All Available for Buy/Sell order quantity
To change order type/time in force
To open the Alerts box to view/set alerts
To set an Auto Stop hotkey
To set an Auto Trailing Stop hotkey

To create a Buy/Sell hot key for a specific order type (i.e. Buy Limit Order, Sell Stop Order)

1. On the **Edit** menu select Global Configuration.
2. In the left pane select click *Hot Keys*
3. Select *Buy* or *Sell* as the Action and click **Create Shortcut**.
4. Click the *Customize* tab.
5. In the **Order Type** drop-down select the order type for which you want to create a hot key.
6. Populate any necessary order type-related fields.
7. Click the *Shortcuts* tab.
8. Click **Record** and press the keystroke combination that will represent the order type hot key.
9. Verify that the hot key has been properly recorded in the *Shortcuts* section.

To create a Buy/Sell hot key for a specific instrument (i.e. Buy Limit Order for XYZ)

1. On the **Edit** menu select Global Configuration.
2. In the left pane select *Hot Keys*
3. Select *Buy* or *Sell Specific Product* as the Action and click **Create Shortcut**.
4. Click the *Customize* tab.
5. In the **Underlying** field, enter an underlying symbol.
6. Populate the **Order** related fields.
7. Click the *Shortcuts* tab.
8. Click **Record** and press the keystroke combination that will represent the order type hot key.
9. Verify that the hot key has been properly recorded in the *Shortcuts* section.

To use instantaneous transmission

When you create a buy or sell hot key for any order type, you can elect to "Transmit the order instantaneously" by checking this feature at the bottom of the *Customize* page. When you activate instantaneous transmission, using the hot key combination creates and transmits the order without giving you time to review and modify order parameters.

Leave this feature unchecked to have the hot key combination create an order and leave it on the trading screen for you to manually transmit.

To attach bracket orders

1. On the **Edit** menu select Global Configuration.
2. In the left pane select Hotkeys.
3. Select *Buy* or *Sell* as the Action and click **Create Shortcut**.
4. Click the *Customize* tab.
5. In the **Attached Orders** area, check *Add Simple Bracket*.
6. In the **Bracket Orders** area:
7. In the **Lmt Price (+/- offset)** field select *Bid*, *Ask*, *Last* or *None* as the basis for the Limit Price portion of the bracket order, and enter an offset amount if desired.
8. Select a **Stop Type.**
9. Set the Stop price and offset for the stop trigger price.
10. For **Stop Limit** orders, set the Stop Limit price and offset.
11. On the **Shortcuts** page record the hot key combination, and click OK.

To create Increase (or Decrease) order size hot key

1. On the **Edit** menu select Global Configuration.
2. In the left pane select *Hotkeys*.
3. Select *Increase (Decrease) price or size* and click **Create Shortcut**.
4. On the **Customize** tab select *Size* in the **Field** drop-down.
5. Set the **Num Ticks** value to represent the increment by which to increase (decrease) the default order size.
6. On the **Shortcuts** page, click **Record** and press the hot key combination to represent *Increase (Decrease) order size*.
7. Close the dialog box.

To create Increase (or Decrease) Limit (Aux.) Price hot key

1. On the **Edit** menu select Global Configuration.
2. In the left pane select *Hotkeys*.

3. Select *Increase (Decrease) price or size* and click **Create Shortcut**.
4. On the **Customize** tab select *Limit Price* (*Aux. Price*) in the **Field** drop-down.
5. Enter the *Num Ticks* increment by which you want the hot key to increase (decrease) the price value.
6. On the **Shortcuts** page, click **Record** and press the hot key combination to represent *Increase (Decrease) Limit (Aux.) Price*.
7. Close the dialog box.

To use All Available for Buy/Sell order quantity

1. On the **Edit** menu select Global Configuration.
2. In the left pane, select Hotkeys.
3. Select *Buy* or *Sell* as the Action and click **Create Shortcut**.
4. Click the *Customize* tab.
5. In the **Size** field, select *Available,* then click OK.Now when you use the Buy or Sell hotkey, the order quantity will be determined by the number of available contracts as shown in the Ask Size or Bid Size field.

To change order type/time in force

1. On the **Edit** menu select Global Configuration.
2. In the left pane, select Hotkeys.
3. In the **Modify/Transmit Order** section, select *Modify Order Type* or *Modify Time in Force* and click **Create Shortcut**.
4. On the **Shortcuts** page, click **Record** and press the hot key combination.
5. Close the dialog box.

To open the Alerts box to view/set alerts

1. On the **Edit** menu select Global Configuration.
2. In the left pane, select *Hotkeys*.
3. In the **Real-time Activity Monitoring** section, select *View Alerts* and click the **Create Shortcut** button**.**

4. On the **Shortcuts** page, click **Record** and press the hot key combination, for example Ctrl + A.
5. Close the dialog box.
6. Click **OK.**

When you use Ctrl + A from the TWS, the Alerts box opens displaying your current alerts. To create an alert, click the **New** button.

To set an Auto Stop hotkey

1. On the **Edit** menu select Global Configuration.
2. In the left pane, select Hotkeys.
3. In the **Real-time Activity Monitoring** section, select *Add Auto Stop Order.*
4. Click **Record** and press the hot key combination, for example Ctrl + A.
5. Close the dialog box.
6. Click **OK.**

Now when you use Ctrl + A from the TWS, you will attach a Stop order to the selected order.

To set an Auto Trailing Stop hotkey

1. On the **Edit** menu select Global Configuration.
2. In the left pane, select Hotkeys.
3. In the **Real-time Activity Monitoring** section, select *Add Auto Trailing Stop Order.*
4. Click **Record** and press the hot key combination, for example Ctrl + T.
5. Close the dialog box.
6. Click **OK.**

Now when you use Ctrl + T from the TWS, you will attach a Trailing Stop order to the selected order. The trailing amount used is the value defined in the order defaults.

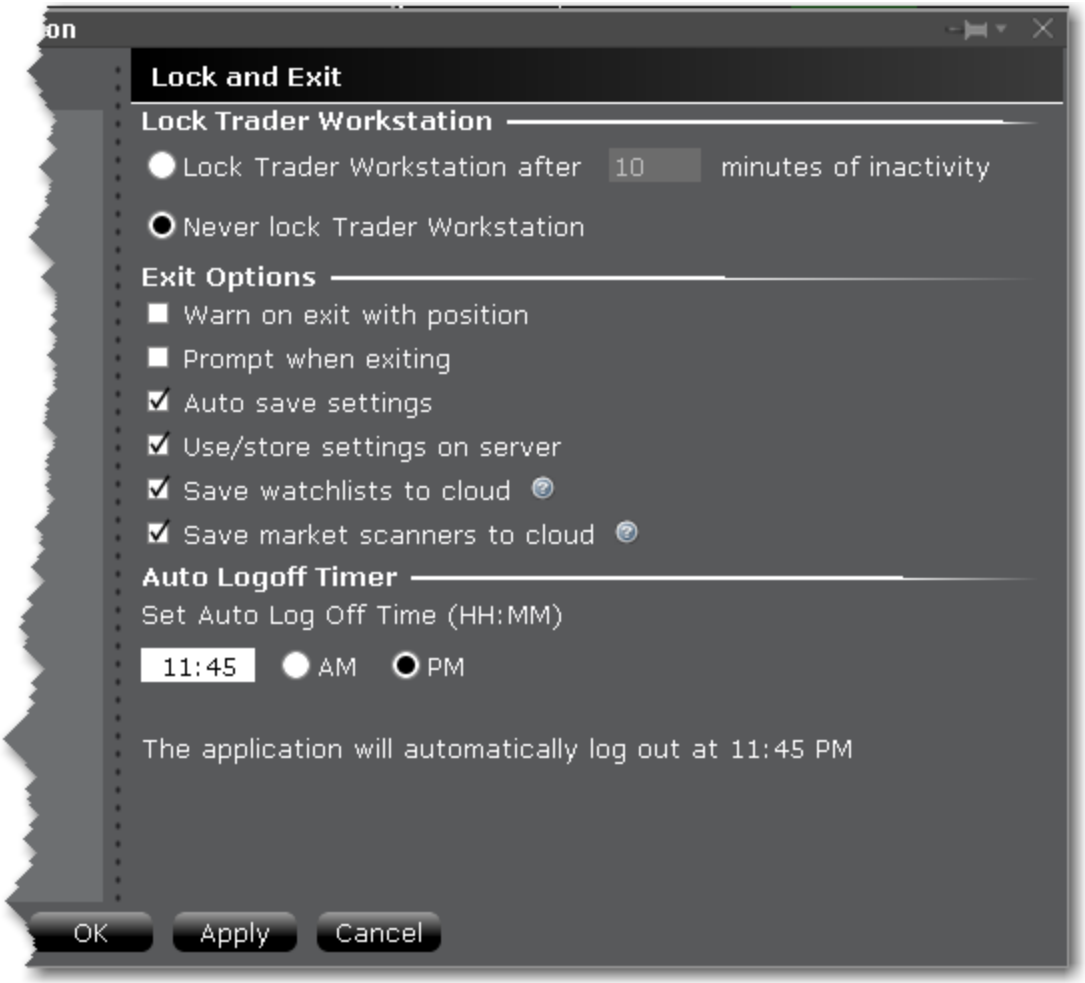
Several keyboard keys cannot be used as hot keys, including: *Alt*, *Page Up*, *Page Down*, *Print Screen*, *Home*, *Backspace*, and the *Windows* key. We reserve the right to activate these keys or to remove hot key functionality from a key at any time without notice. Attempted use of invalid

keys invokes the message "The hot key you selected is not valid. Please select another hot key combination."

> **Note:** The standard hot keys do not function within the Rapid Order Entry panel. When you record a hot key for one of the rapid order entry actions, you must use "Ctrl" plus a character key, or the Escape key.

Configure Lock and Exit Parameters

Use the Lock and Exit configuration page to define auto lock and exit options such as whether or not you want a confirmation message before the application closes.



To define exit configuration settings

1. From the Mosaic **File** menu select *Global Configuration.*
2. Click *Lock and Exit* in the left pane.
3. Use the right panel to set these parameters:

Lock Trader Workstation

Lock Trader Workstation after ___ minutes of inactivity - locks your workstation if no activity has occurred for a defined number of minutes. Once locked, you must unlock the application using your TWS password.
Never lock Trader Workstation - check to remove auto-locking mechanism. Note that you can manually lock the workstation at any time by selecting *Lock Application* from the **File** menu.

Exit Options

Warn on exit with position - Check to display a warning message when you exit that lets you know you are holding positions, and verifies that you still want to exit.
Prompt when exiting - Check to have TWS display a confirmation message "Are you sure you want to exit?" before shutting down the application.
Auto save settings - check to have any changes to your settings, including the addition of new tickers or Quote pages, automatically saved.
Use/Store settings on server - check to save the latest settings to the IB server, and to download the latest settings from the IBserver on login. Checking this feature ensures that TWS will always have the same content when you log in regardless of the machine you are using.
Save watchlists to cloud - check to save your TWS watchlists to the cloud. These watchlists can then be imported into TWS for Mobile using the "Import" feature in mobile configuration.

Save market scanners to cloud – Check to save your TWS Market Scanners to the cloud for use in TWS for Mobile.

Auto Logoff Timer

Set Auto Log Off Time - Specify a time of day for TWS to automatically log off. You must specify a time.

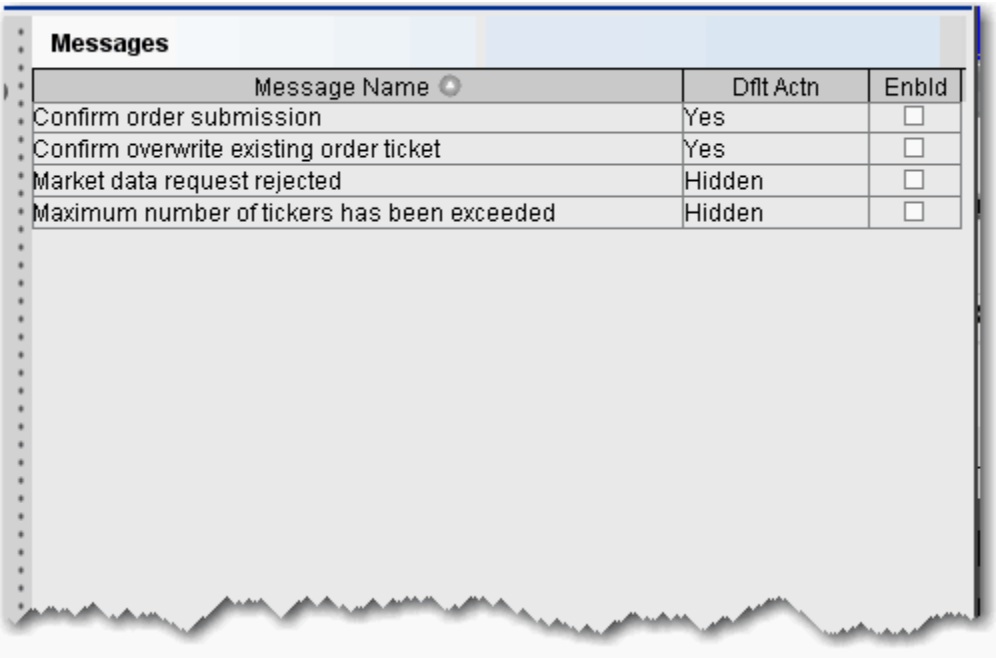
Display TWSMessages

Each time you receive an information or confirmation message in TWS, we include a checkbox in the bottom left corner with the text "Don't display this message again." If you elect to hide a message, you can enable it again at any time using the **Messages** section of the Global Configuration tool.

To enable a TWS message

1. On the **Edit** menu select *Global Configuration.*
2. Click *Messages* in the left pane.
3. Use the right panel to check any messages you want to enable.

   Note: This page can only be used to enable messages that you have turned off, not to disable messages. We want to ensure you have read each message at least one time before you elect to disable it.



Messages

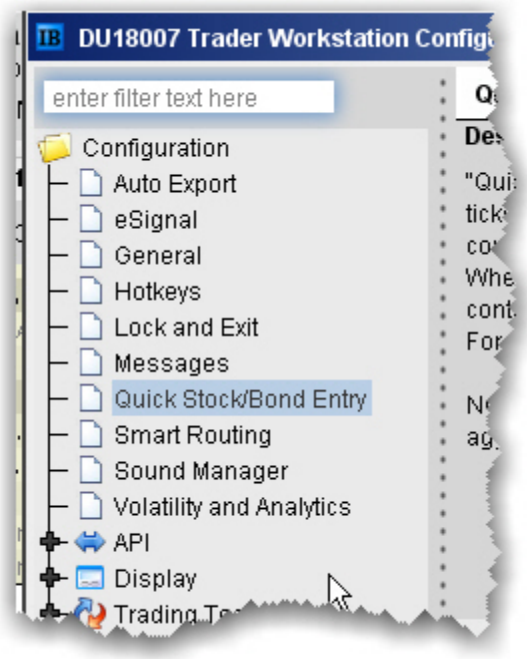
Message Name	Dflt Actn	Enbld
Confirm order submission	Yes	☐
Confirm overwrite existing order ticket	Yes	☐
Market data request rejected	Hidden	☐
Maximum number of tickers has been exceeded	Hidden	☐

Quick Stock/Bond Entry Exchange Configuration

Quick Stock/Bond Entry is a page-level feature which automatically completes a market data line for a stock or bond based on the underlying symbol or CUSIP you enter. To use Quick Entry, you must:

Create a list of order destinations.

Enable a trading page for Quick Stock/Bond Entry.



To configure Quick Stock Entry destinations

1. On the **Edit** menu select *Global Configuration.*
2. Click *Quick Stock/Bond Entry* in the left pane.
3. In the right pane, click **Add**, enter a destination and click OK.
4. Add as many order destinations as you would like to have available. You can add more destinations at any time.

Add Smart to the list to be able to route Quick Stocks and Bonds via Smart order routing.

Clarify aggregate exchanges such as Smart by specifying the primary exchange also. For example, Smart/NYSE.

You can enable Quick Stock Entry for an existing or new Quote Monitor. Ensure that the feature is enabled by opening Global Configuration from the Edit menu. From the Features menu, expand the Market Data Tools section and ensure that *Quick Stock/Bond Entry* is checked.

To enable Quick Stock/Bond Entry for a Quote Monitor

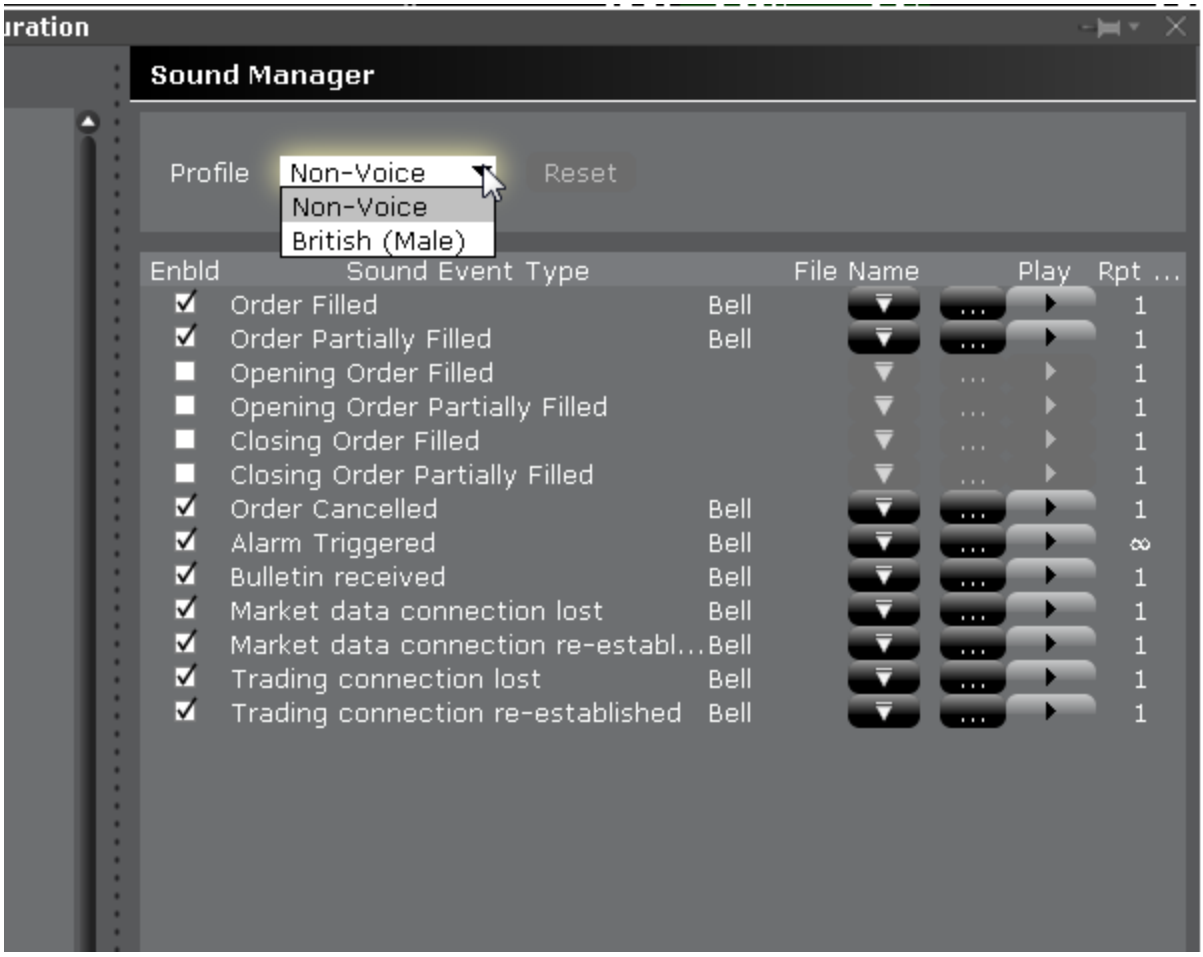
Right-click the tab and select *Settings*.

In the Order Origin area of the page settings, check *Quick Stock/Bond Entry*.

Assign Sounds to Events

Use the **Sound Manager** to assign sounds to trading events.

To hear sounds other than a beep on your computer, you must have a sound card installed.



To configure the Sound Manager

From the Mosaic **File** menu, select *Global Configuration*.

Click **Sound Manager** in the left pane.

From the Profile drop down at the top of the page, select a sound profile to apply to all enabled sounds.

Check an event to enable sound. Uncheck to disable sound.

For each enabled event, use the File Name "down" arrow to select an available sound type within the selected profile.

If you have selected a voice profile, you will be able to apply non-voice sounds on an event-by-event basis.

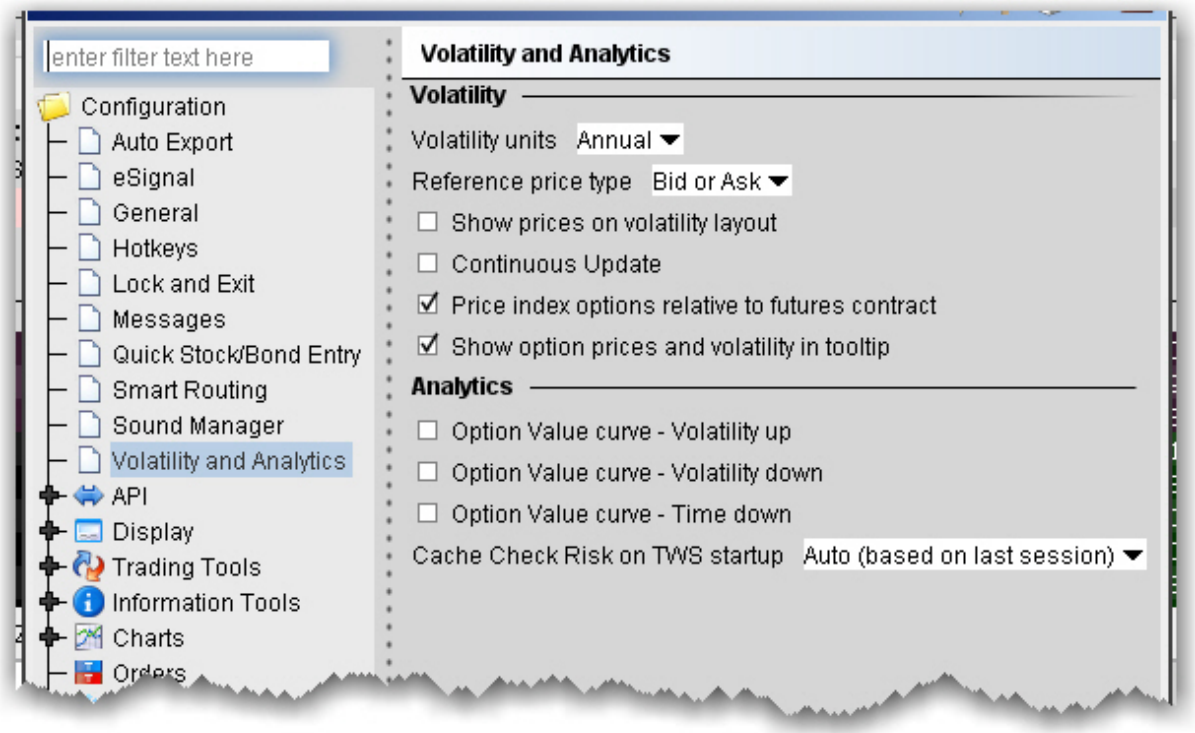
Use the three-ellipses “Browse” button to add a new sound file not included in our list. Click and navigate to your .wav sound file. Use the Play arrow to hear the sound you have chosen.

In the Repeat field, enter the number of times you want the sound to repeat when it is invoked.

Click OK to save your sound configuration.

Configure Volatility and Analytics Settings

Use the Volatility and Analytics configuration page to define default settings for both volatility orders and Price/Risk Analytics.



To define default Volatility configuration settings

1. On the **Edit** menu select *Global Configuration.*
2. Click *Volatility and Analytics* in the left pane.
3. Use the right pane to set these parameters:

Volatility

Field	Description
Volatility units	Choose either Annual or Daily.
Reference price type	Choose **Bid or Ask** to use the NBB (bid) when buying a call or selling a put and the NBO (ask) when selling a call or buying a put. Choose **Average** to use the average of the best Bid and Ask. This price is also used to compute the limit price sent to an exchange (whether or not Continuous Update is selected), and for stock range price monitoring.
Show prices on volatility layout	When checked, the volatility page displays prices rather than volatility, with volatility in parentheses. If unchecked (which is the default) values in the Price columns will be the volatility.
Continuous Update	When checked, the checkbox in the Continuous Update field is automatically checked and enabled. You can de-select Continuous Update on a per order basis.The Continuous Update feature monitors the underlying price and will update the price of the order if the price of the underlying instrument changes significantly. **Note**

	that you can only use Continuous Update for three active orders at a time.
Price index options relative to futures contract	When checked, you can price smart-routed Volatility index option orders off a selected futures price from the **Reference Contract** field on the order line.
Show option prices and volatility in tooltip	Check to display the option price or volatility as a mouse tip when you hover over the value in an order line.

Analytics

Field	Description
Option Value Curve - Volatility up	Shows a different scenario on the Option Analytics plot. Uses a blue line to show a raise in the implied volatility by 15% in relative change* using a blue line.
Option Value Curve - Volatility	Shows a different scenario on the Option Analytics plot. Uses a red line to show a reduction in the implied volatility by 15% in relative change*

down	
Option Value Curve - Time down	Decreases the time to expiration by one calendar day.
Cache *Check Risk* on TWs startup	Choose to Always cache, Never cache, or make the choice based on your last selection (Auto).

*For an example of a relative percent change, if the current implied volatility of an option is 10%, a 15% relative change would result in an implied volatility of 11.5%, calculated as follows:

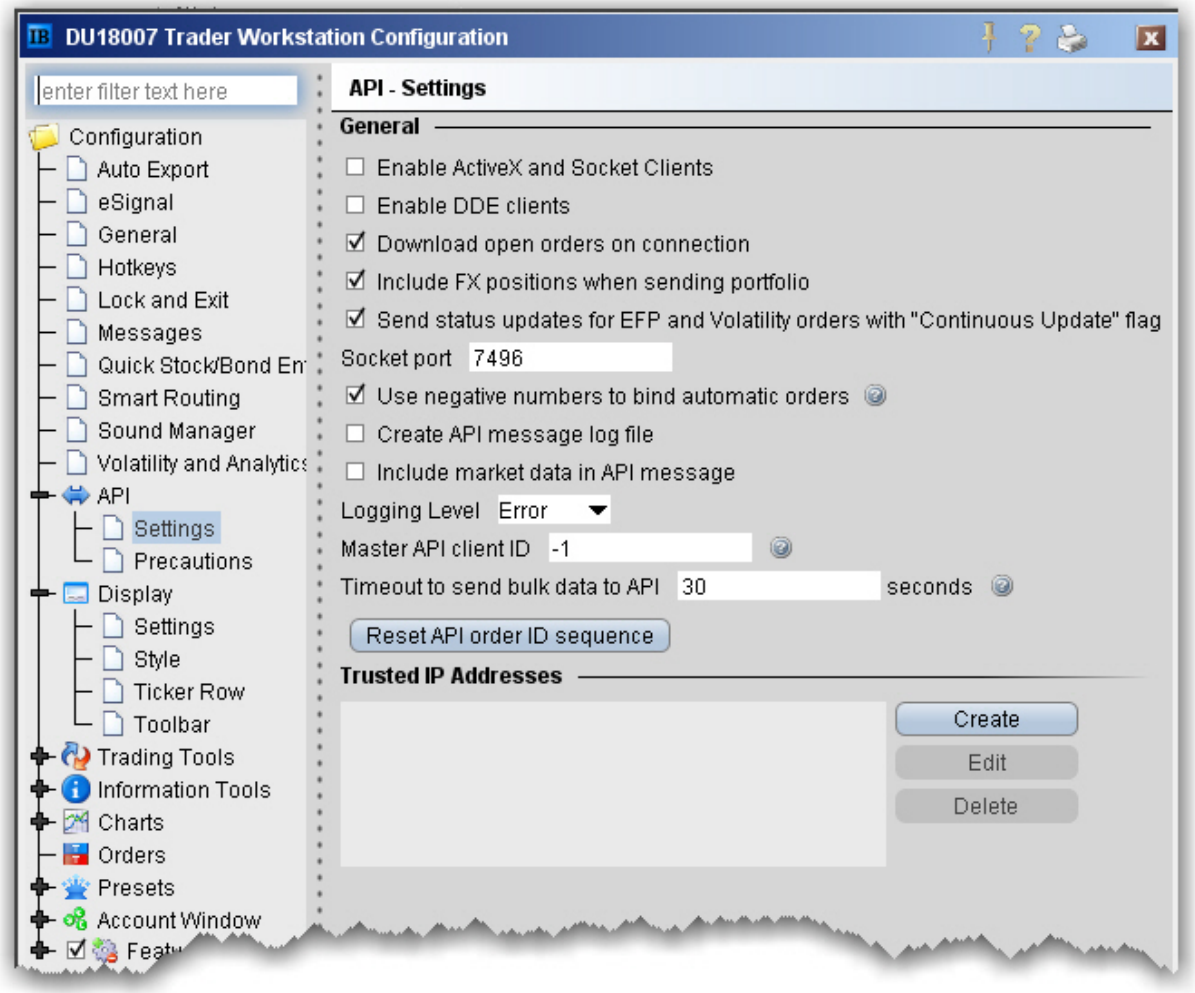
10% * (1 + 0.15) = 11.5%.

API Configuration

API Settings **1284**

API Precautions **1286**

API Settings



To configure API settings

1. On the **Edit** menu select *Global Configuration.*
2. Click *API* in the left pane, and select ***Settings***.
3. Use the right panel to set these parameters:

General

Enable Active X and Socket Clients - Check to enable integration with TWS using ActiveX or socket clients including Java and C++. Download sample programs from the Software page on the IB website.

Enable DDE clients - Check to enable integration with TWS through DDE. Download sample files from the TWS Software page on the website.

Download open orders on connection - uncheck if you do not want to download all open orders when you connect to your API.

Include FX positions when sending portfolio - If you have the Include FX Positions feature activated, all FX positions will be included when portfolio updates are sent the to API client. Uncheck this box if you don't want FX positions sent to the API client when the portfolio updates are sent.

Send status updates for EFP and Volatility orders with "Continuous Update" flag - If you have Continuous Update activated for EFP or Volatility orders, all updates are sent to the API client by default. Uncheck if you don't want these updates sent from TWS to the API client.

Use negative numbers to bind automatic orders - if checked, all orders that are automatically bound to an API client via the reqOpenOrders or reqAutoOpenOrders calls or via system-generated orders (i.e. volatility hedging orders) will be assigned negative API order IDs. Otherwise, these orders will be assigned incremental API order IDs. Volatility hedging orders will have the order ID “parent API order ID + 1” when possible.

Create API message log file - check to create a message log file. Use the Logging Level selector to define the level of detail in the log.

Include market data in API message - shows market data in the API log file.

Socket port - Enter a socket port number which allows you to sync up multiple versions of TWS in your ActiveX spreadsheet.

Logging Level - Set the level of log detail for the API text log. *System* gives the most general level of logging; *Detail* gives the most detailed level.

Master API client ID - The API client with the specified client ID will receive all orders, even those placed by other API clients. This differs from the Client ID of “0” which will receive all orders sent from the TWS GUI.

Timeout to send bulk data to API - define the time in seconds that TWS will wait before disconnecting the API client if data cannot be sent quickly enough.

Trusted IP Addresses

If you connect to the API through a trusted IP address, the connection is not questioned. Otherwise, you will get a verification message asking if you are sure you want to make the connection.

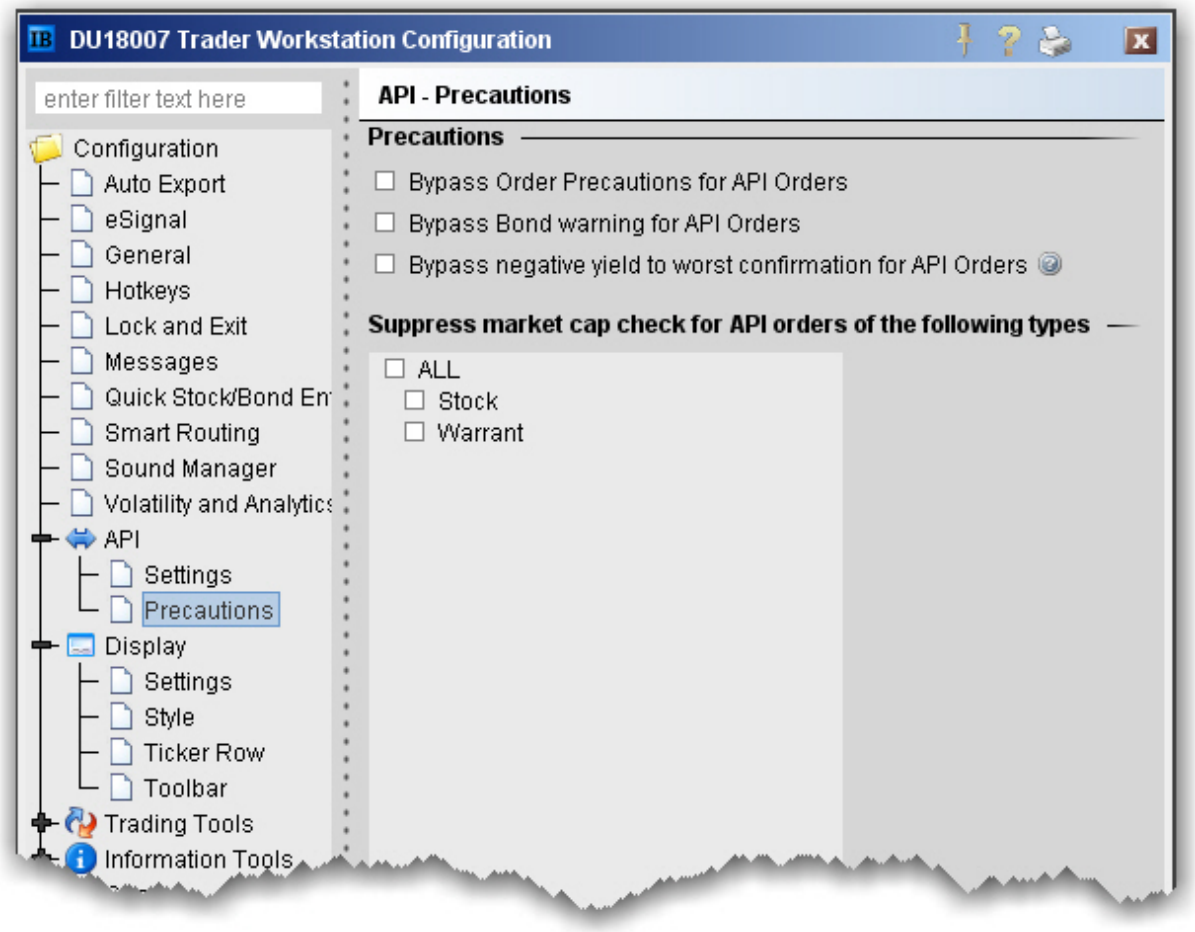
Click **Create** to add a new trusted IP address to the list.

Click **Edit** to modify the selected address.

Click **Delete** to remove the selected address.

API Precautions

Specify whether or not to bypass precautionary warnings for API orders that trigger a red flag.



Bypass Order Precautions for API Orders - check to allow orders that fall outside the size or value limits to be submitted without a warning.

Bypass Bond warning for API Orders - check to allow bond orders that fall outside the specified face value and other limits to be submitted without a warning.

Bypass negative yield to worst confirmation for API Orders - check to bypass any warning that your API order will result in a negative yield to worst excluding commissions.

Suppress market cap - check to suppress the existing market cap for API stock and warrant orders.

Display Configuration

Display Settings **1288**

Style Settings **1292**

Ticker Row Settings **1294**

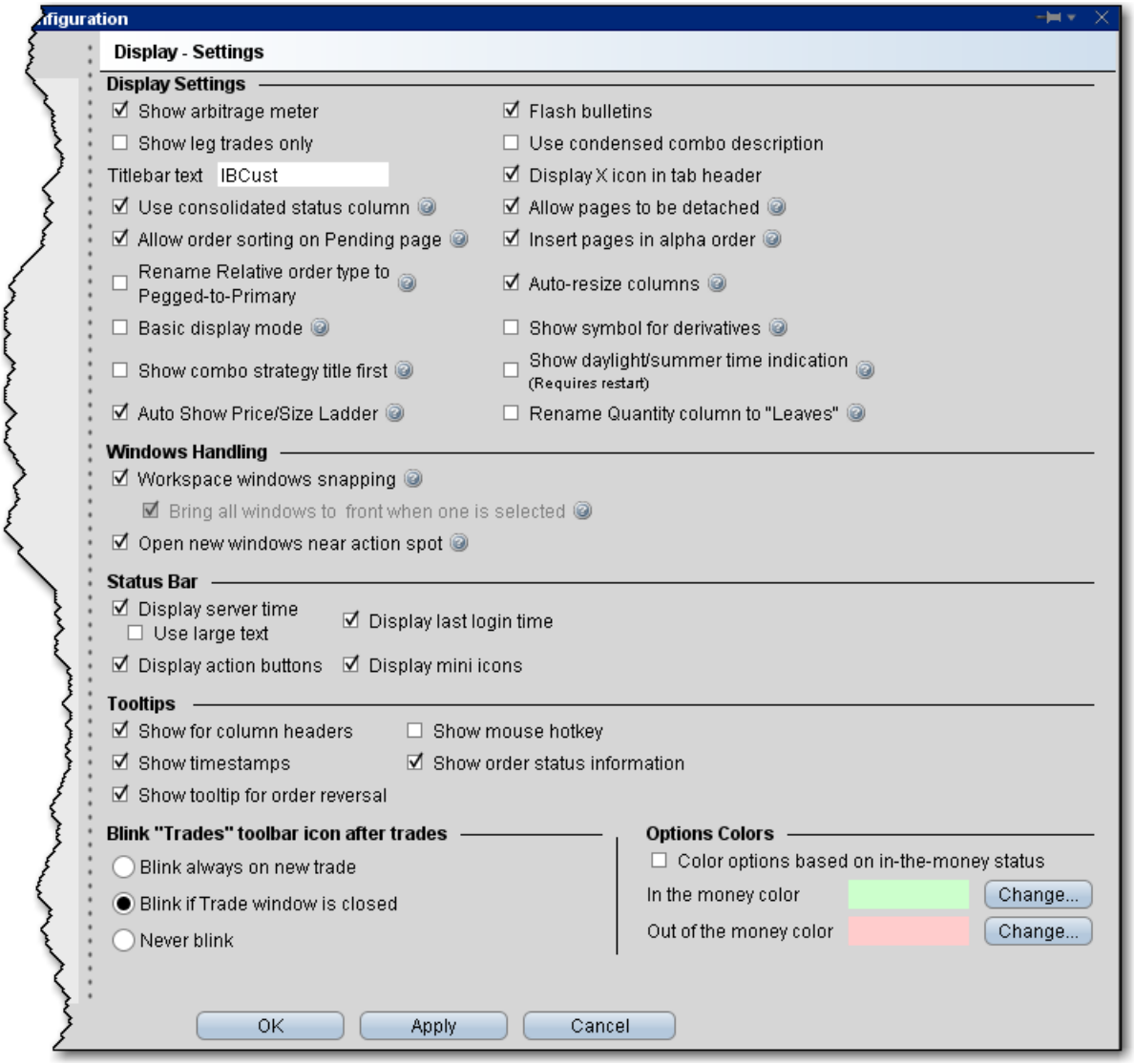
Date Formats Configuration **1299**

Toolbar **1300**

Display Settings

To define display configuration settings

1. On the **Edit** menu select *Global Configuration.*
2. In the left pane, click **Display** and then *Settings*.
3. Use the right pane to set these parameters:



Display Settings

Show arbitrage meter - check to automatically show the index arb meter if you have index instruments listed in your market data.

Show leg trades only - When checked, spreads and combination executions will be shown in individual legs. If unchecked, the entire combination will be displayed, and you can click to expand the line and show the individual leg executions.

Titlebar Text - Text entered here will be used in place of your account number in the TWS titlebar.

Use consolidated status column - When checked, the Status column will split and show both the Transmit/Cancel buttons and the status color. You must manually remove the Transmit field to activate this feature.

Allow order sorting on Pending page - When checked, the pending page will go into compressed view when you click an order field header to sort orders. Compressed view displays only orders, no market data lines and no blank lines are shown.

Rename Relative order type to Pegged-to-Primary - If checked, "relative" orders will display as "Pegged-to-Primary" orders wherever the title occurs. This only changes the name. The relative functionality remains the same.

Basic display mode - When checked, the display mode remains basic to potential improve system performance. Check to turn off animation and other aesthetic actions.

Show combo strategy title first - When checked, the strategy title of a combo will display first in the description, as in Calendar Spread + Feb 19 ‘10, - JAN 15 ‘10 14 Call. Uncheck to display the title last, as in + Feb 19 ‘10, - JAN 15 ‘10 14 Call Calendar Spread.

Auto Show Price/Size Wand - When checked, the price and size wands will display automatically when you put the cursor into an applicable field. If unchecked, the wand will display when you click and hold the mouse in the field.

Flash bulletins - Check to have trading notifications flash in red at the top of the screen.

Use condensed combo description - When checked, only the local symbols are displayed in the Description field for combination and spread orders.

Display X icon in tab header - When checked, the X icon to delete a trading page will appear on the active page, next to the trading page title.

Allow pages to be detached - When checked, you can detach trading pages from the main trading window.

Insert pages in alpha order - When checked, newly added pages are automatically inserted alphabetically into your existing tabset of page names.

Auto-resize columns - When checked, tables such as the trading window etc. will automatically resize table columns when a field has been added or removed.

Show symbol for derivatives - When checked, the local symbol will be shown as part of the contract description.

Show daylight/summer time indication - When checked, the visible, displayed time zone reflect change for daylight's savings (EST to EDT). When unchecked, this change occurs in the background. Enabling a change to this setting requires you to restart TWS for it to take affect.

Rename Quantity column to "Leaves" - If checked, the Quantity column across all tools will be renamed to "Leaves" but ONLY IF the Total Quantity column is also displayed.

Windows Handling

Workspace windows snapping - When checked, newly opened windows will easily snap to the primary application window and become grouped.

Bring all windows to front if one is selected - When checked, all windows in the application are functionally linked, so that selecting one window will bring all windows to the front. This feature is automatically enabled if you enable *Workspace windows snapping* (above).

Open new windows near action spot - When checked, new windows or tools will open next to the spot where you initiated the action. This feature is especially helpful for smaller windows and tools that might otherwise open behind or away from the current window, making it difficult to find.

Status Bar

Display server time - Check to display the current time in the bottom right corner of the status line which displays at the bottom of the Advanced Order Management interface. Check to use large text if needed.

Display action buttons - When checked, the action buttons (Minimize all windows, Bring all open windows into view, and Display current hotkey definitions) are displayed along the bottom of the Advanced Order Management interface.

Display last login time - When checked, the last time you logged in is displayed along the bottom of the Advanced Order Management interface.

Display mini icons - When checked, mini icons that make it easy to quickly switch to other open TWS windows are displayed along the bottom of the Advanced Order Management interface.

Tooltips

Show for column headers - When checked, you will see descriptive text when you hold your cursor over any of the main Trading screen column names.
Show timestamps - If checked, when you mouse over the last price you will also see the time of the trade.
Show tooltip for order reversal - If checked, you will see a tooltip when you elect to reverse an order from the trading window.
Show mouse hotkey - When checked, you will see a description of the hotkey when you mouse over any fields for which you have created a mouse-click shortcut.
Show order status information - If checked, when you mouse over the Status field for an order the status of the order, such as Submitted, Pending, Filled, is shown.

Blink "Trades" toolbar icon after execution

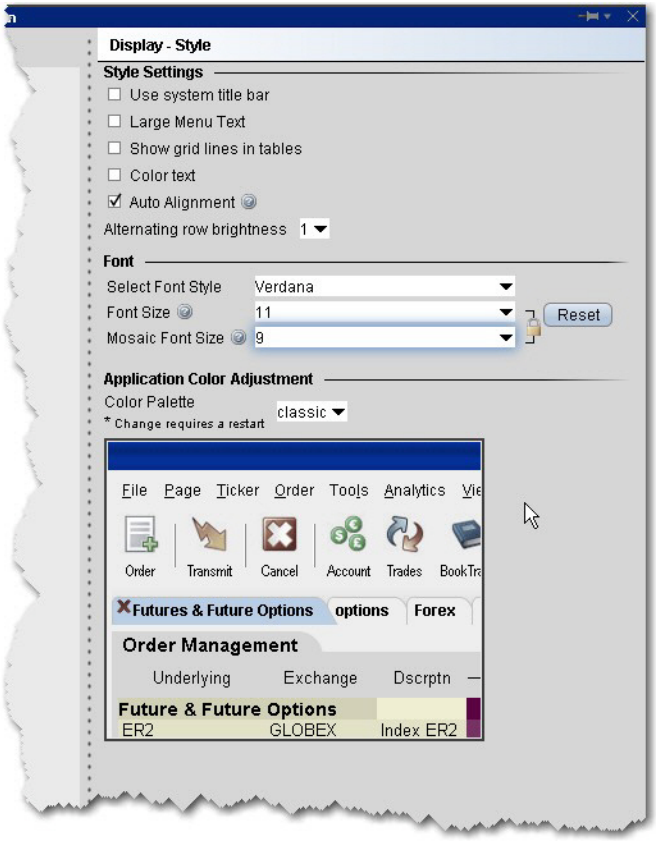
Blink always on new trade - If selected, the Trades icon on the trading toolbar will blink each time an order executes.
Blink if Trade window is closed - If selected, the Trades icon on the trading toolbar will only blink on new executions if you have the Executions window closed.
Never blink - If selected, the Trades icon on the trading toolbar will never blink.

Options Colors

Color options based on in-the-money status - Check this box to use color-coding to identify an option's in-the-money status at a glance.
Use the *Change* button to modify the default in-the-money or out-of-the-money background colors.

Style Settings

Use the Style configuration page to define style settings such hiding or showing gridlines, changing fonts and modifying the color palette.



To define style configuration settings

1. On the **Edit** menu select *Global Configuration.*
2. In the left pane, click **Display** and then *Style*.
3. Use the right panel to set these parameters:

Style Settings

Use system title bar - if checked, the TWS menus will be moved down a level and the original system title bar will be displayed.

Large menu text - if checked, the menu titles on the titlebar will display larger.

Show grid lines in tables- check to display solid gridlines on your trading pages.

Color Text- check to display a text description of status colors on top of the colored field. For example, the status field turns red when you transmit an order. With this feature checked, the colored area will display the word "red" as well as displaying the color.

Auto Alignment - if checked, text will align left and numerical values will align right in all TWS fields.

Alternating row brightness - this setting provides a contrast level for better row by row readability on trading pages. A setting of "4" provides the brightest contrast between alternating rows, "0" provide the least contrast.

Font

Select Font Style - choose a new font.

Font Size - choose a new font size.

Mosaic Font Size - choose a font size that will be applied only to Mosaic windows.

If you "lock" the sizes, this will keep the ratio between Advanced Order Entry and Mosaic fonts intact. For example, if current sizes are 11 and 13 and you change "11" to "12," the font size for Mosaic will automatically change from "13" to "14" to keep the ratio intact.

Reset- click to reset font style and size to the default values.

Application Color Adjustment

Select a palette to apply a color scheme across the application. Please note that the new setting will not be applied until the next time you log in. A sample view of your selection is shown using the TWS image.

Ticker Row Settings

Use the Ticker Row configuration settings to specify the look of tickers on your trading pages.

To define Ticker Row configuration settings

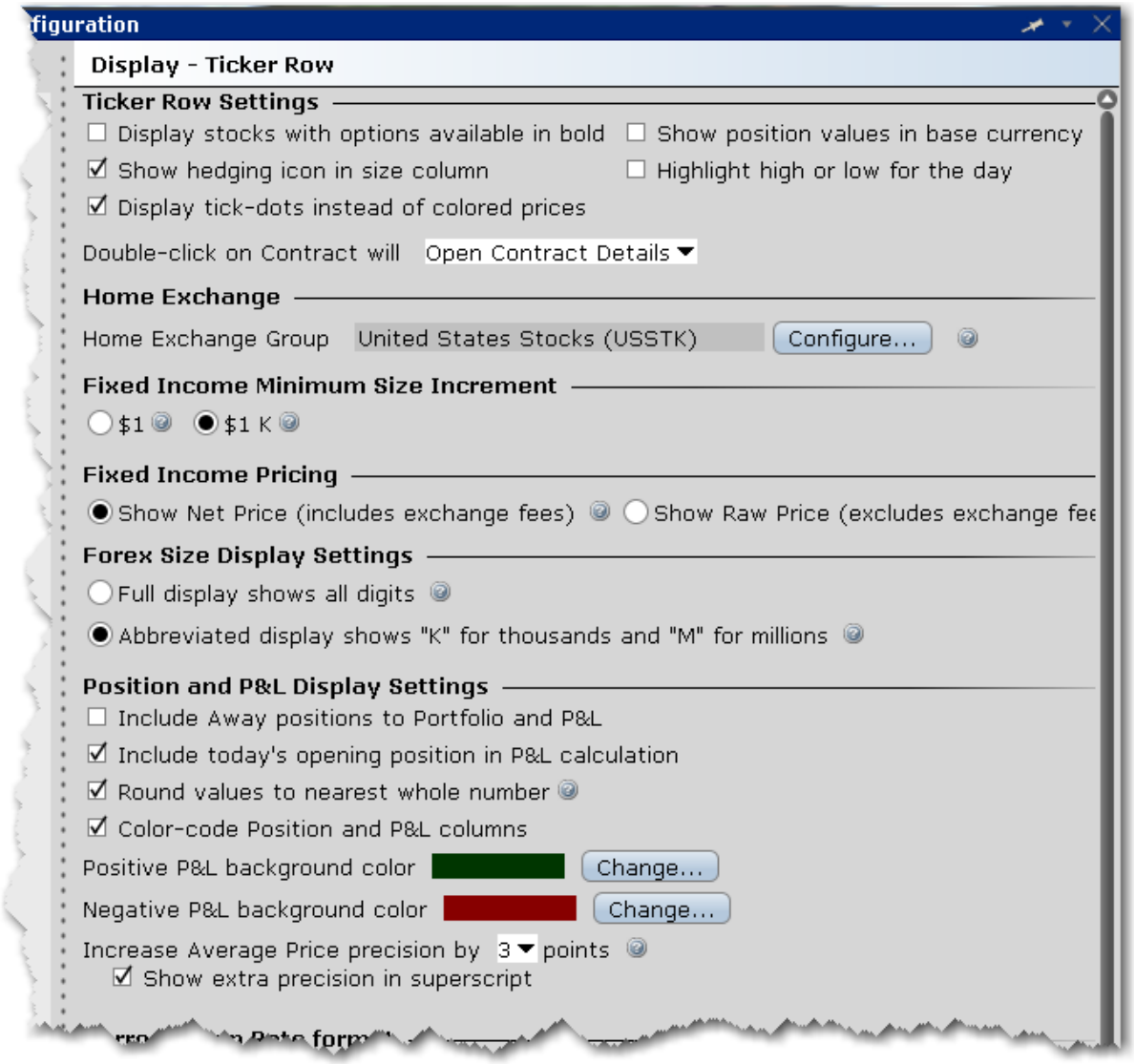
Open Global Configuration

From within Mosaic, use the **File** menu.

From within Classic TWS, use the **Edit** menu.

In the left pane, click **Display** and then *Ticker Row*

Use the right panel to set the custom ticker row parameters.



Ticker Row Settings

Display stocks with options available in bold - when checked, stocks that have options will display in bold font on the trading screen.

Show hedging icon in size column - check to have the delta hedge icon shown in the Quantity field for volatility orders with an attached delta hedge.

Display tick-dots instead of colored prices - when checked, price display on the Quote Monitor will be in white with a colored tick dot indicating upward or downward price movement.

Show position values in base currency - If checked, all position and P&L values are recalculated to display in your base currency, and are shown in italics to identify them as having been converted from the local currency to your base currency.

Highlight high or low for the day - when checked, the **Last** price will display in RED if it is also the day's low, and will display in BLUE if it is also the day's high.

Double click on contract will - Specify whether double-clicking an instrument will open the full Contract Details page, or make the field editable allowing you to change the instrument .

Home Exchange

Set a Home Exchange Group that identifies your most-used exchange groups. Each time the primary listing exchange for an instrument matches a home exchange group, that exchange is hidden from the contract description on the ticker line. This feature can help to clean up your trading page by removing the repetitive listing of your most-used exchanges.

Fixed Income Minimum Size Increment

Customize the quantity display for fixed income products.

Select $1 to size in face value.

Select $1 K to size in multiples of 1000.

Fixed Income Pricing

Shows the bond price including or excluding the away platform fees. Bond orders are frequently created on the condition that they should only trade when the quantity meets or exceeds a minimum acceptable trade size (set when the order is created) becomes available at their price. IB calculates and displays the net price for each order or quote that it receives from away platforms assuming that the quoted price will trade in full.

Given the platform fee and any possible minimum size requirements the displayed "total" bid or ask prices may only be achieved by trading the full size.

Show Net Price - Displays full bond price including away platform fees.

Show Raw Price - Displays the bond price only, exclusive of away platform fees.

Forex Size Display Settings

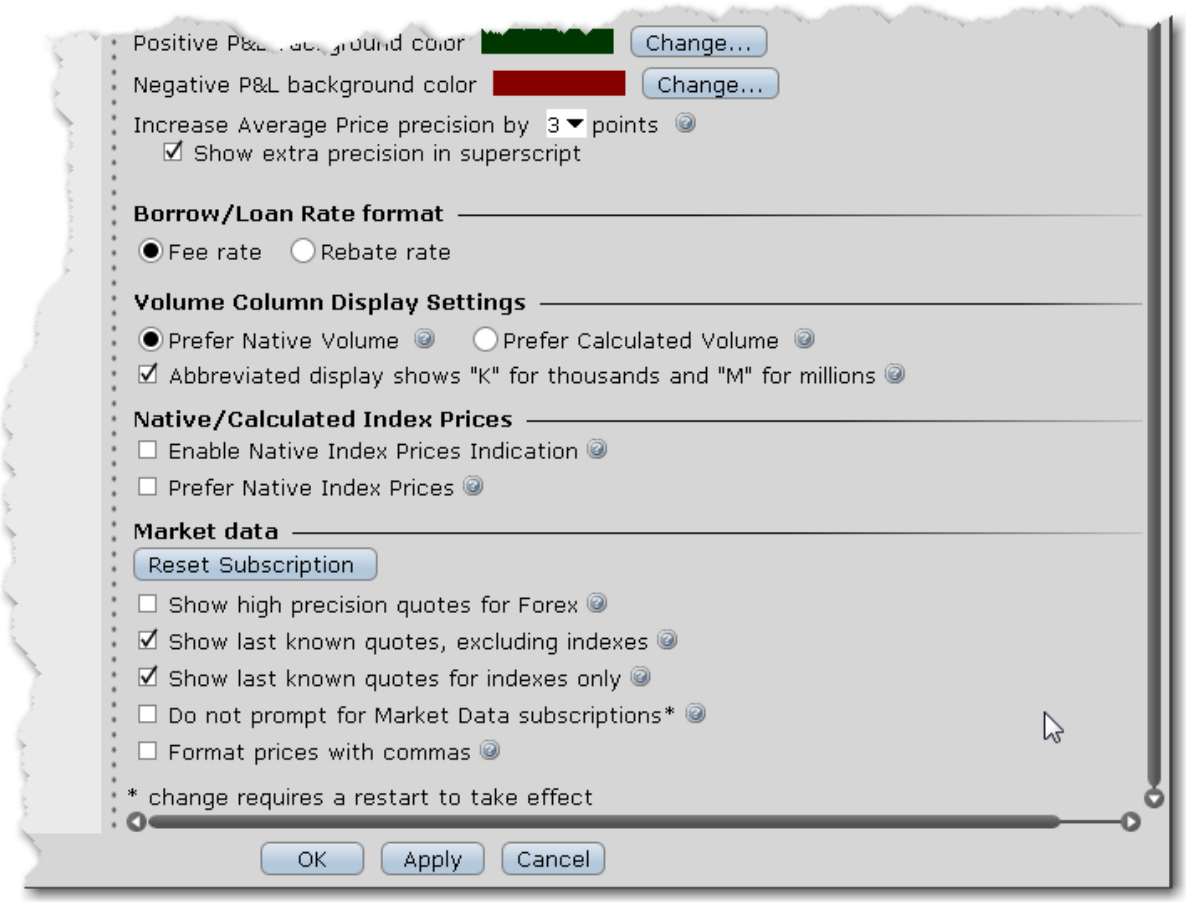
Full display shows all digits - If selected, a sample size would show as 5,000,000.
Abbreviated display shows “K” for thousands and “M” for millions - If selected, the above size of 5,000,000 would display as 5M.

Position and P&L Display Settings

Include Away positions to Portfolio and P&L - check to show away positions on a new tab in the Positions section of the **Account** window, in the Positions field displayed on any TWS trading page, and on the **Portfolio** page.

> **Note:** For display purposes, position values are aggregated to include both IB-held positions and “away” positions on the same contract. However for trading purposes, if you elect to “close” a position, only the portion held at IB will be traded.

Include today’s opening position in P&L calculation - Check to include existing positions in the calculation for the P&L column only.
Round values to nearest whole number - When checked, the Cost Basis, Market Value and all other P&L value column will be rounded to the nearest whole number.
Color-code position and P&L columns - When checked, the Position and all P&L columns will use color-coding to indicate positive and negative values at a glance. Set the colors using the selection boxes below.
Increase average price precision by "n" points - Increase precision of Market Value and Average Price fields by adding more decimals places. Elect to show the extra precision in superscript, i.e. 23.45^{21}



Borrow/Loan Rate Format

The default Fee Rate format shows the borrow/lend rate from the perspective of a fee owed. The Rebate Rate mode shows the borrow/lend rate from the perspective of a rebate received. When in rebate mode, data is italicized.

Volume Column Display Settings

Prefer native volume - Does not update with every tick, but will include delayed transactions, busts, late-reported trades and combos.

Prefer calculated volume - Updates with every tick, but may not include delayed transactions, busts, late-reported trades and combos.

Abbreviated display shows "K" for thousands and "M" for millions - Check to show abbreviated instead of exact volume display using letters. This display saves space but may not show enough detail for all cases.

Native/Calculated Index Prices

Enable Native Index Prices Indication - Check to display calculated index prices, but show an indicator per index that the exchange-native price is available. When checked, the Contract field displays a “c” to indicate the calculated price, and the tick dot is purple if exchange-native price is supported.
Prefer Native Index Prices - Check to display the exchange-native index price for indexes whenever available.

Market Data

Click *Reset Subscription* to modify settings for delayed market data.

Show high precision quotes for Forex - When checked, forex quote precision will be increased to 1/10 of a PIP (from usual 1/2 PIP). This is for quotes only.
Show last known quotes, excluding indexes - When checked, a static snapshot of the bid, ask, bid size and ask size is displayed when the markets are closed, for all tickers that are subscribed to market data excluding indexes.
Show last known quotes for indexes only - When checked, a static snapshot of the last price on the index is displayed when the markets are closed, for all index tickers that are subscribed to market data.
Do not prompt for Market Data subscriptions - When checked, you will not be prompted to see delayed market data for those tickers that have no market data subscription. A change to this parameter requires that you restart your system before the change takes effect.
Format prices with commas - Check to see commas in price quotes where applicable.

Date Formats Configuration

Customize how dates are formatted and displayed throughout TWS.

To use Date Formats

Open Global Configuration.

In the left pane select **Display** and then select *Date Formats*.

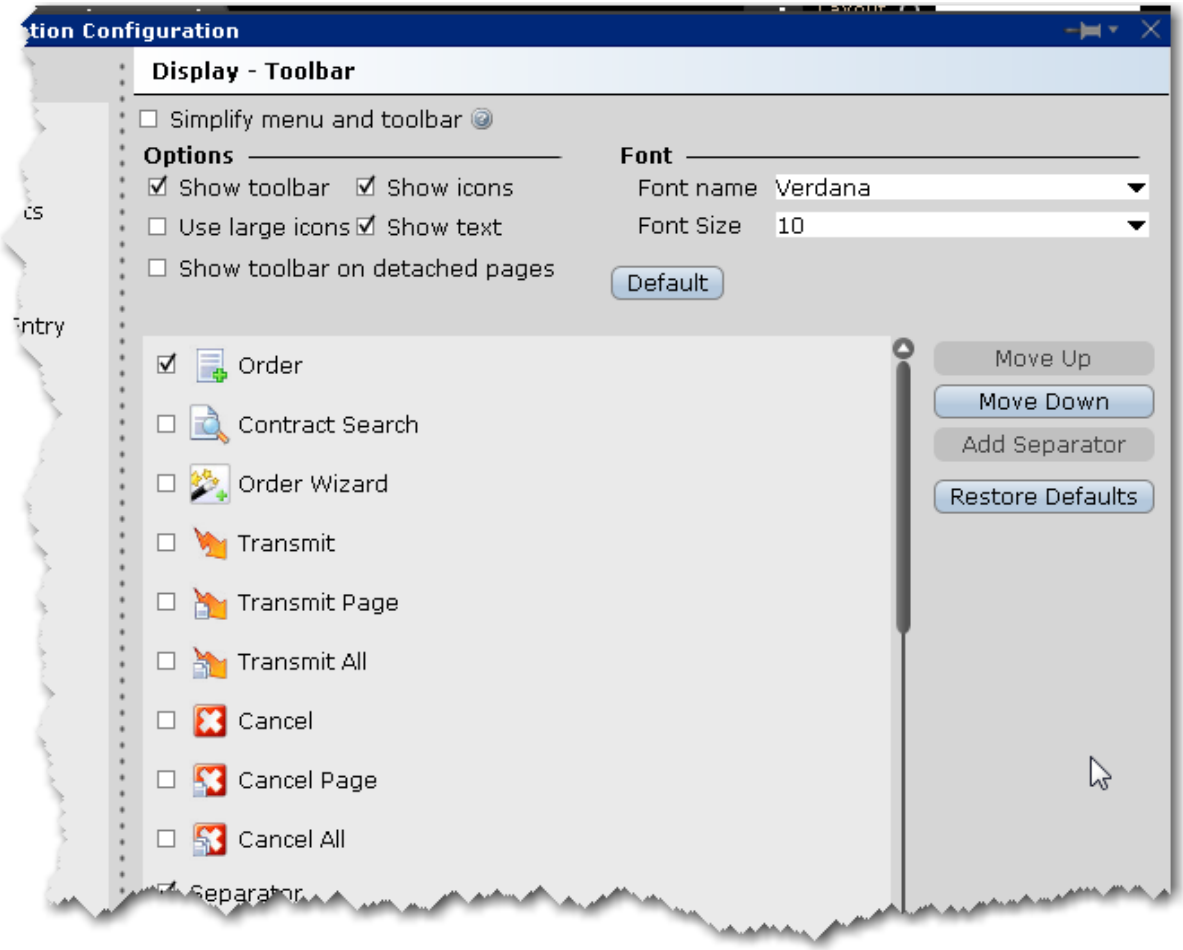
In the right pane, define the Global Date settings in the top section.

If desired, use the drop down selector on a section to define a unique date format just for that section.

Click OK to apply. You can modify these settings at any time.

Toolbar

Use the Toolbar configuration page to define settings for the main Trading toolbar.



To define toolbar configuration settings

Open Global Configuration

From within Mosaic, use the **File** menu.

From within Classic TWS, use the **Edit** menu.

In the left pane, click **Display** and then click *Toolbar*.

Use the right pane to set the below parameters.

Simplify menu and toolbar - when checked, the Classic TWS layout will use the simplified Mosaic menu instead of the traditional TWS menu and toolbar.

Options

Show toolbar - check to display the main Trading toolbar.

Show icons - check to display icons on the main Trading toolbar.

Use large icons - check to increase the size of the icons on the main Trading toolbar.

Show text - check to display text descriptions of buttons on the toolbar. Use this feature in conjunction with the Show icons selection to see both the icon and the text name of the toolbar buttons.

Show toolbar on detached pages - if you elect to detach some trading pages, the toolbar will remain visible.

Font

Font name - choose a new font.

Font Size - choose a new font size.

Default - click to reset font style and size to the default values.

Toolbar Items

The items in the screen can be added to/removed from the trading toolbar. Change the order of the buttons and separators using the Move Up and Move Down buttons on the right. Use the Remove button to remove a feature from the toolbar. Use the Add Separator button to add a line separator above the selected toolbar feature. Click Reset to put back all removed features and separator lines. Click Default to configure the toolbar based on the default layout.

Configure Trading Tools

Accumulate/Distribute **1303**

BasketTrader **1304**

BookTrader **1305**

FXTrader **1310**

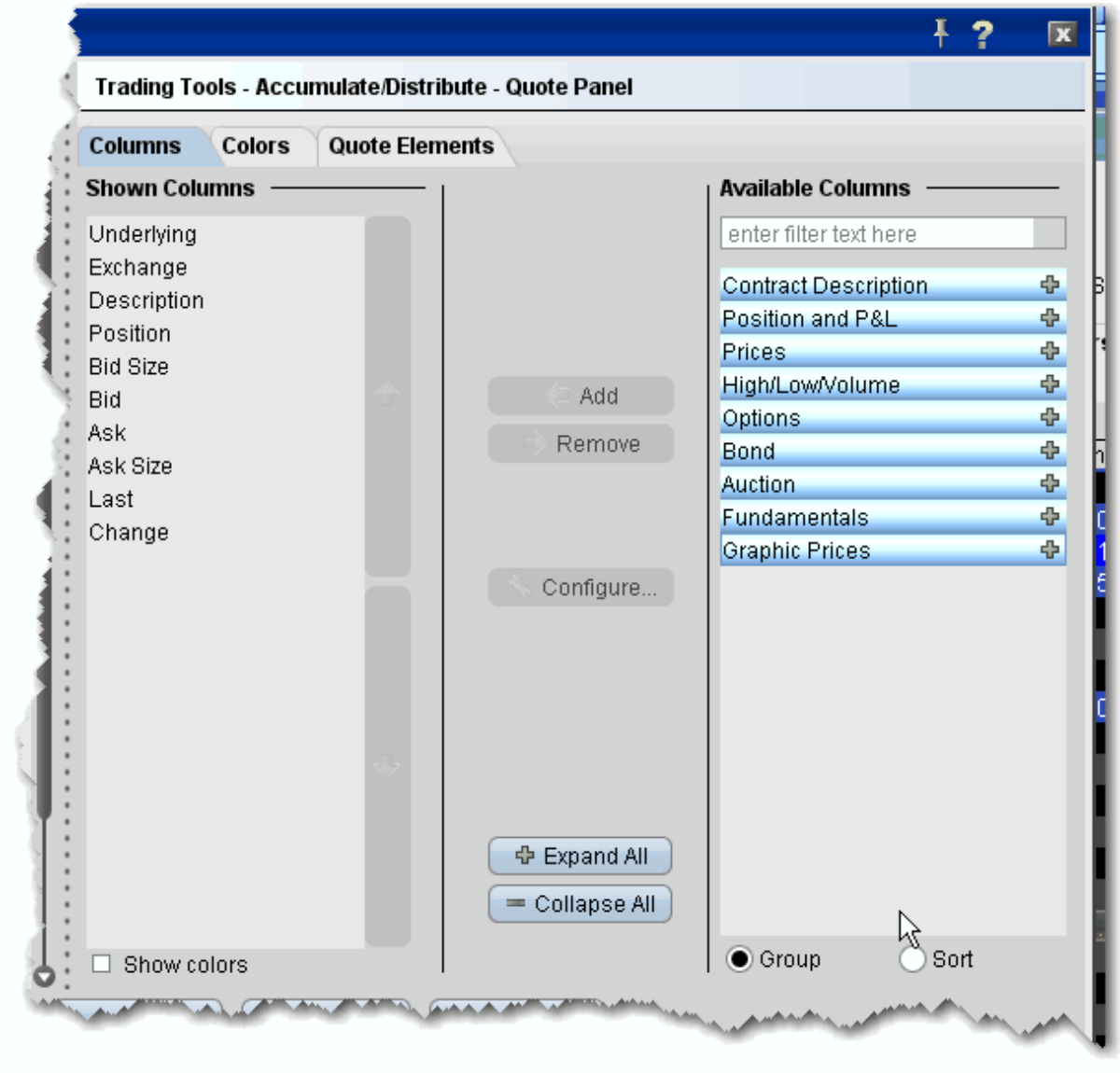
OptionTrader **1313**

Portfolio Window **1316**

Configure the Quote Monitor **1317**

Accumulate/Distribute

Configure the Quote Panel, the Orders tab and the Trades tab.



To configure Accumulate/Distribute

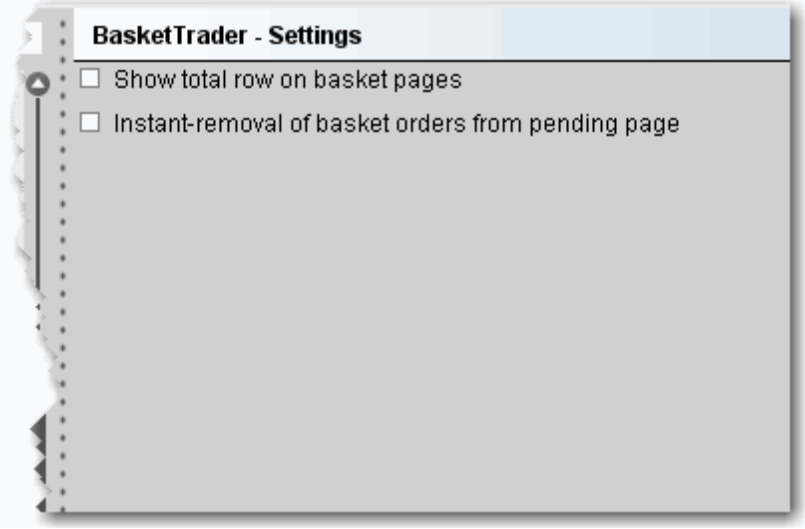
1. Click the *Configure* wrench icon from Accumulate/Distribute, or from the **Edit** menu select Global Configuration.
2. In the left pane under Trading Tools, click **Accumulate/Distribute**, and then choose *Quote Panel, Order Columns* or *Trade Columns*.
3. Use the right pane to set the Accumulate/Distribute parameters.

BasketTrader

Use the BasketTrader configuration section to modify the layout of existing pages, or apply a new layout to a page.

To define BasketTrader configuration settings

1. On the **Edit** menu select *Global Configuration,* or click the configure wrench icon from the BasketTrader window.
2. Click *BasketTrader Layout* in the left pane.
3. Use the right pane to configure the following fields:

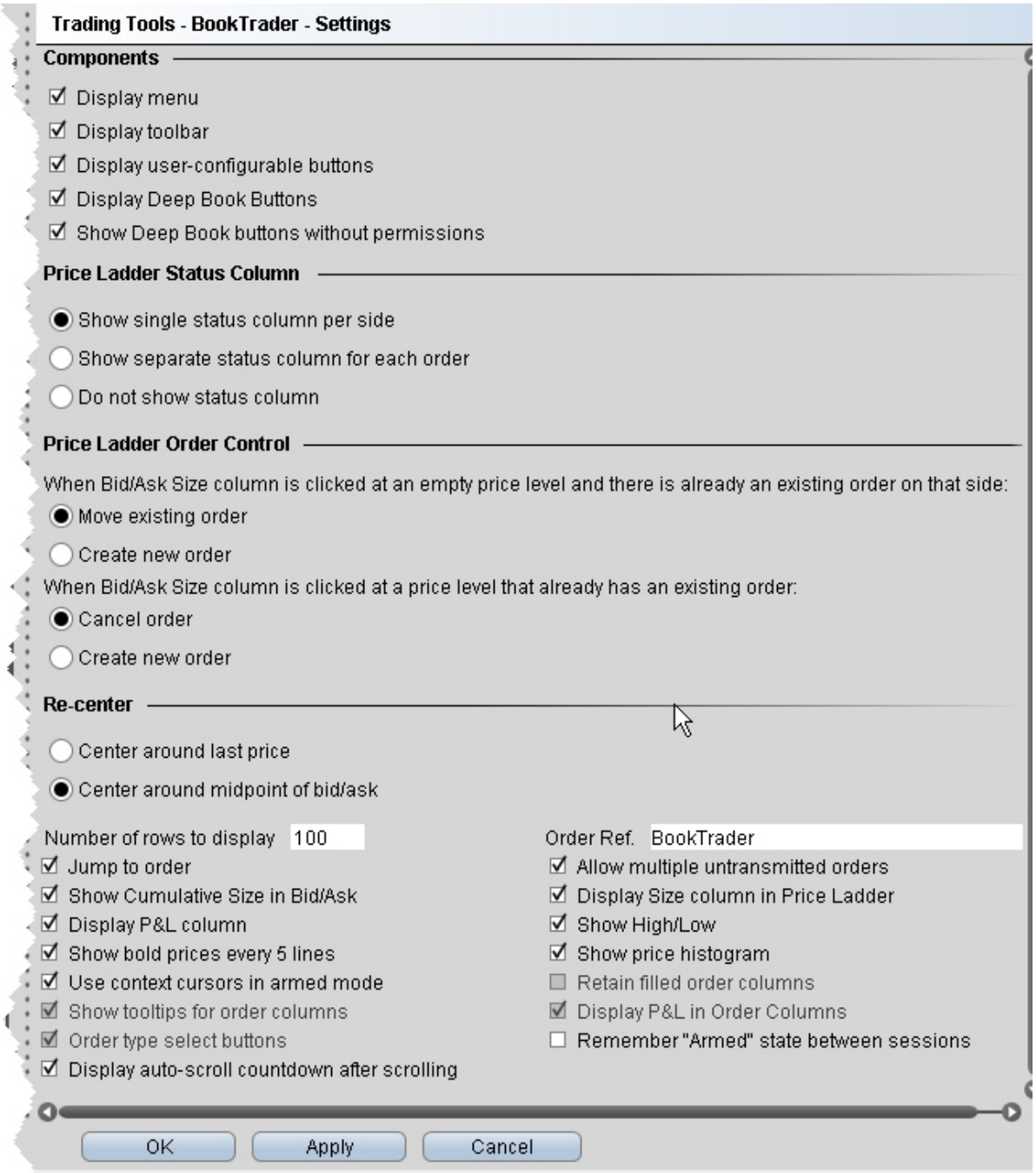


Settings

Show total row on basket pages - Check to display the *Total* row on the BasketTrader. The Total row displays the total P&L values for all P&L fields you have displayed.
Instant removal of basket orders from pending page - Check to have executed trades instantly removed from the pending page.

BookTrader

Use the BookTrader configuration page to define basic settings, hotkeys, buttons and to control the visibility of column fields.



To define BookTrader configuration settings

1. Click the *Configure* wrench icon on any window.
2. Click **BookTrader** and then *Settings* in the left pane.

3. Use the right pane to set the following:

Components

Display menu - Check to see the BookTrader menu.

Display toolbar - Check to see the BookTrader toolbar.

Display user-configurable buttons - opens the Buttons panel on the BookTrader window.

Display Deep Book Buttons - check to show the Deep Book buttons panel in BookTrader. Depress a button on the panel to include that data in the price ladder.

Show Deep Book buttons without permissions - check to display buttons for any subscribable deep book data to which you don't currently subscribe.

Price Ladder Status Column

Show single status column - check to display one Status column on the Bid side, and one Status column on the Ask side. When this status is selected, use the **Order control** section to tell TWS how to handle multiple orders on the same side.

Show separate status column for each order - check to have a new Status column created for each order. When this status is selected, the Order control section is unnecessary and becomes inactive.

Do not show status column - check to hide the status from BookTrader. When this status is selected,use the Order control section to tell TWS how to handle multiple orders on the same side.

Price Ladder Order Control

Move existing order - select if you want an existing order to be moved when an empty price level on the same side is clicked. This selection does not allow multiple orders on the same side.

Create new order - select if you want to allow multiple orders on the same side at different price levels.

Cancel order - select if you want to cancel an existing order at a specific price level when that same price level is clicked. This selection does not allow multiple orders on the same side at the same price level.

Create new order - select if you want to allow multiple orders on the same side at the same price level.

Re-center

Center around last price - If selected, when you click the Re-center button the BookTrader ladder puts the central focus back around the last traded price.

Center around midpoint of bid/ask - If selected, when you click the Re-center button the BookTrader ladder puts the central focus back around the midpoint of the bid/ask price.

Number of rows to display - Enter a value that defines the number of rows, or prices, you will see.

Jump to order - If checked, your cursor will jump to the order in the Orders panel after you transmit.

Allow multiple untransmitted orders - If checked, you can create more than one order in the Underlying panel. Otherwise, only one untransmitted order is allowed.

Show Cumulative Size in Bid/Ask - If checked, the cumulative size is shown at the top of the Bid column and Ask column.

Display Size column in Price Ladder - check to display a *Size* column on the Bid side and Ask side. Note that this checkbox is only active if Cancel order when Bid Size /Ask Size column is clicked at a price level that already has an existing order is selected in the **Order control** section.

Display P&L column - Click to display the P&L column on both the bid and ask sides of the BookTrader ladder. The P&L column.

Show High/Low - When checked, identifies the high and low prices by displaying different colored backgrounds.

The **High** price is highlighted by a **Bright Blue** background.

The **Low** price is highlight by a **Red** background.

Show bold prices every 5 lines - Use this feature to help make prices easier to follow by having every 5th row bolded.

Show price histogram - Checked by default. If checked, a colored field displays the volume of trading each day at each price level on the BookTrader price ladder. The bar colors coincide with colors in the Price field, for example the last trade is teal blue, the current best ask is green, etc. See the topic on BookTrader colors for details.

Use context cursors in armed mode - Check to include a text description below your cursor. For example, if you hold your cursor in the yellow Bid Size column, the text Buy appears to let you know that clicking at a price level in this field will initiate a buy order.

Retain filled order columns - Valid only in Advanced Mode. When checked, the new Order column will remain visible after the order has filled.

Show tooltips for order columns - Valid only in Advanced Mode. When checked, displays an order-relevant tooltip when you hold your mouse cursor over a field in the Order column.

Display P&L in Order Columns - Valid only in Advanced Mode. When checked, the P&L will display in the new Order column when an order executes

Order type select Buttons - Valid only if *Show separate status column for each order* is select in the Status section. Displays a toolbar with order type buttons. Click a button to put the mouse cursor into that specific order type mode.

Remember armed state between sessions - check to keep BookTrader armed so that it is in armed mode the next time you log in to TWS.

Display auto-scroll countdown after scrolling - When the inside market (or last trade price) moves outside the display area, the ladder will automatically re-center on the inside market (or last trade price). When the user is scrolling the ladder using either the Up/Down arrow keys or the scrollbars, and the inside market (or last trade price) falls outside of the display area, auto-recentering will occur five seconds after the user has completed scrolling. Check this feature to see an animated progress countdown bar.

Hotkeys

Opens the **Hotkeys and Mouse Shortcuts** dialog box. You can modify the configuration of existing shortcuts by selecting an action and clicking *Configure*. For more information see the

BookTrader Hotkeys topic.

Buttons

Create custom buttons to add to the toolbar, or edit existing buttons.

Quote Panel

Hide or display fields in the Quote Panel using the *Columns* page of the Page Layout. Modify text and background colors using the *Colors* page.

Order Columns

Hide or display fields in the Orders area using the Columns page of the Page Layout.

Trade columns

Hide or display fields in the Trade panel.

BookTrader Colors

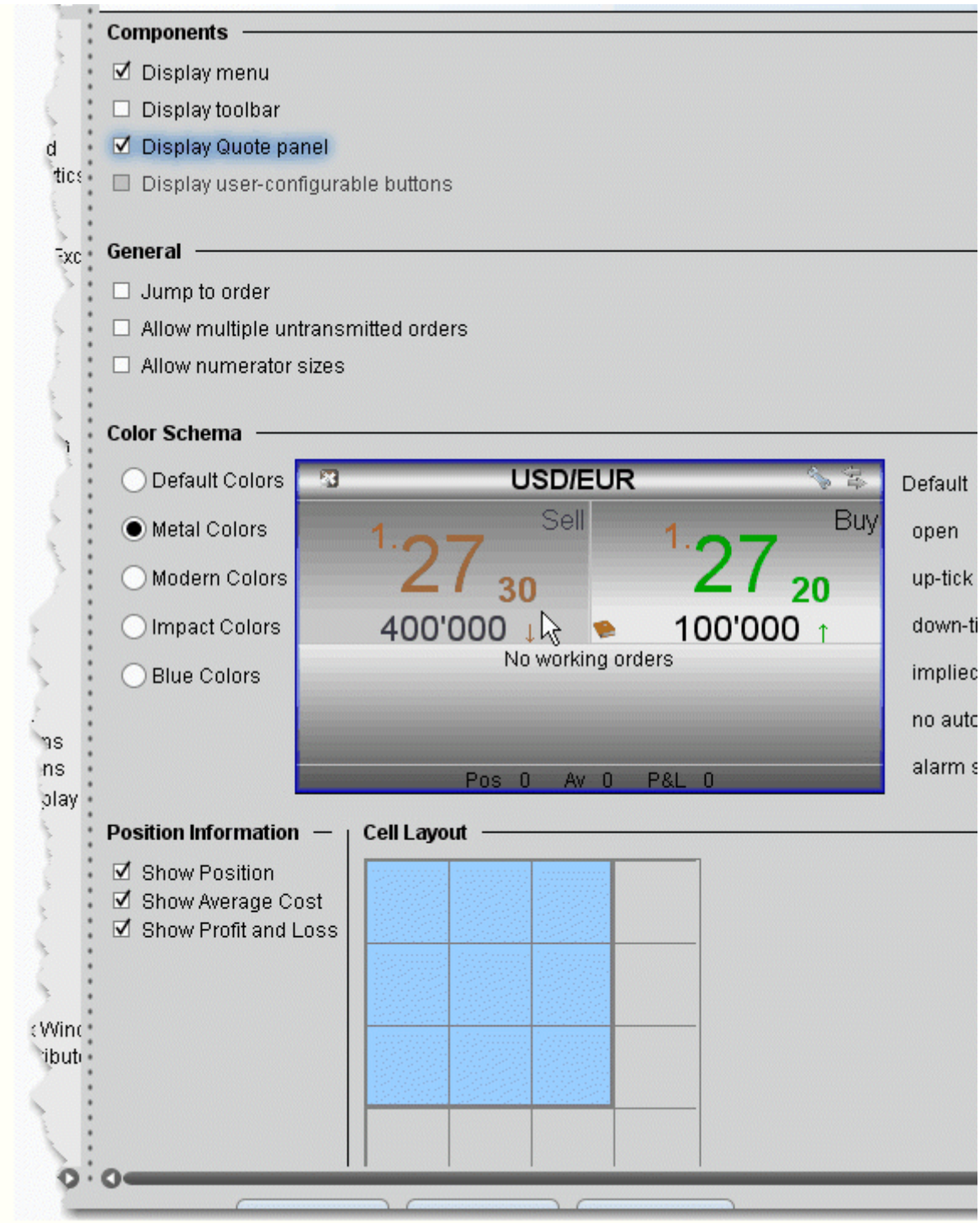
Allows you to change text/ background colors for many of the BookTrader fields. To change a color, click the Text or Background button in the appropriate row and select a new color from the palette.

BookTrader Sound Manager

Opens the Sound Manager for the BookTrader where you apply sound settings for placing a limit order (click bid or ask price), cancelling an order, and placing a stop order (right-click bid or ask price). You can also elect to disable an event sound by unchecking the checkbox in the appropriate row.

FXTrader

FXTrader is customizable on many levels, from the color and number of cells to the method used to calculate order quantity.



To define FXTrader configuration settings

1. On the **Edit** menu select *Global Configuration,* or click the *Configure* wrench from the FXTrader page.
2. Click *FXTrader* in the left pane.
3. Use the right panel to set these parameters:

Settings Page

Components

Display menu - Check to see the FXTrader menu.

Display toolbar - Check to see the FXTrader toolbar.

Display Quote panel -Check to show the Quote panel with market data at the top of the window.

Display user-configurable buttons - check to show customizable buttons.

General

Jump to order- Automatically positions the cursor on a newly created order in the **Orders** panel.

Allow multiple untransmitted orders - If checked, you can create more than one order in the Underlying panel. Otherwise, only one untransmitted order is allowed.

Allow numerator sizes - adjusts the display to allow trading the numerator instead of the denominator.

Color Schema - Use these settings to change the look of your FXTrader interface by changing the color of cells and text.

Position Information and Cell Layout

Show Position - When checked, the position is displayed at the bottom of the trading cell.

Show Average Cost - When checked, the average cost of the position is displayed at the bottom of the trading cell.

Show Profit and Loss - When checked, the unrealized P&L is displayed at the bottom of the trading cell.

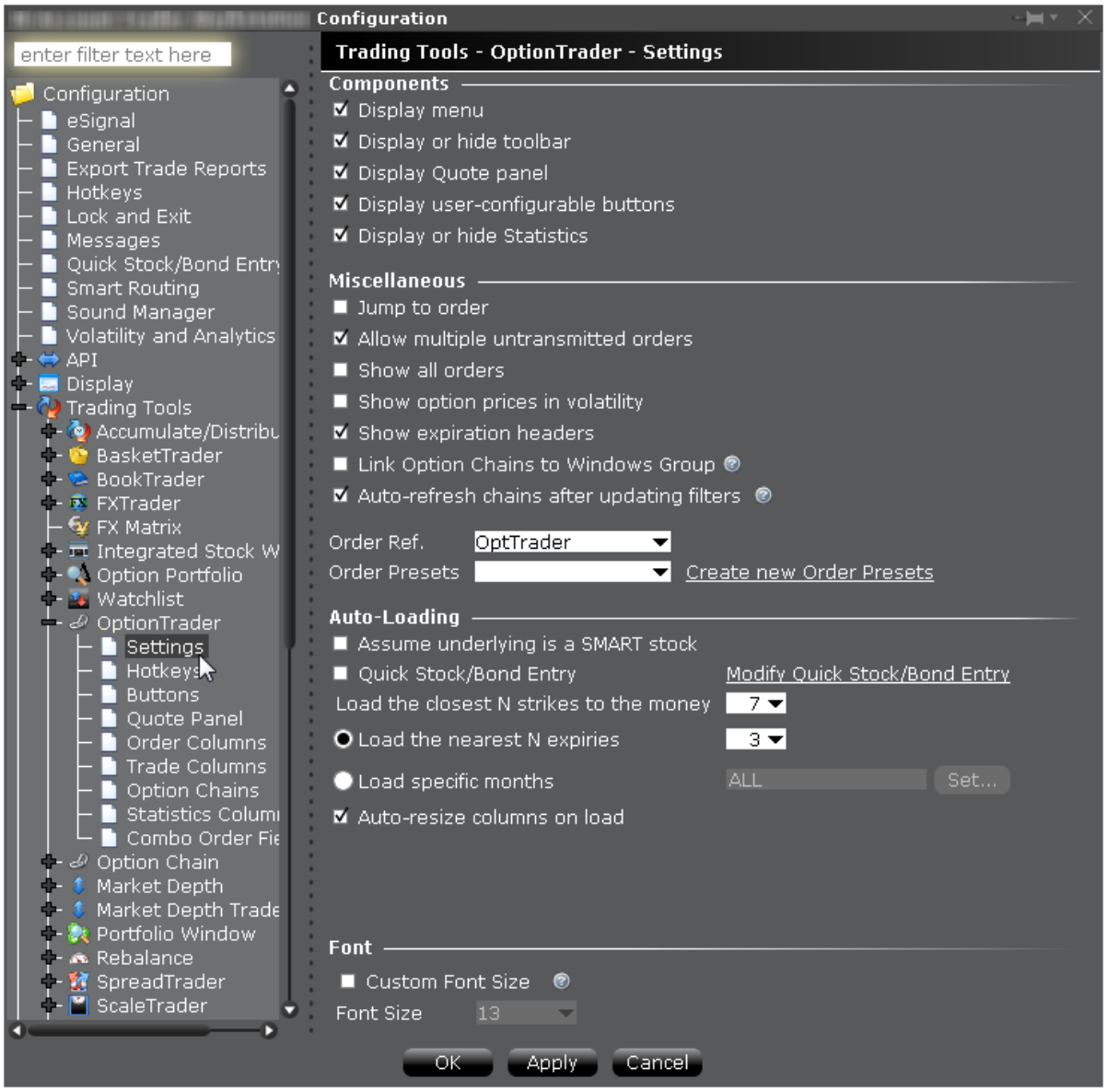
Cell Layout Grid - Modify your FX Trader grid to be as small as one cell or as large as 4x4. The blue cells will display in your FX Trader.

OptionTrader

Use the OptionTrader configuration page to define basic settings, order presets, hotkeys, buttons and to control the visibility of column fields.

To define OptionTrader configuration settings

1. Click the *Configure* wrench from any window.
2. Click *OptionTrader* in the left pane and then click *Settings*.
3. Use the right pane to set these parameters:



Settings

Components

Display menu - Check to see the OptionTrader menu.

Display or hide toolbar - Check to see the Option Trader toolbar.

Display Quote panel - check to display the Quote Panel, which displays a single line of market data for the asset. You can create an order from the Quote panel by click the bid or ask price.

Display user-configurable buttons - hide or display buttons you create using the Buttons panel.

Display or hide Statistics - a configurable, optional panel that shows option-related data and statistics.

Miscellaneous

Jump to order- automatically puts the cursor on the newly created order in the **Orders** panel.

Allow multiple untransmitted orders - if checked, you can create more than one order in the Underlying panel. Otherwise, only one untransmitted order is allowed.

Show all orders - check to view all orders for the underlying.

Show option prices in volatility - check to view volatility instead of dollar prices.

Show last trading day headers - check to sort option chains using a single header for the Last Trading Day followed by a list of strike prices. This helps save room in the option chain *Description* column.

Link option chains to windows groups - If checked, the Mosaic Option Chains window (not full OptionTrader) will be linked to the windows group allowing selected option chain contracts to act as the source and change focus in all grouped windows.

Auto refresh chains after updating filters - If checked, option chains update immediately when any filter criteria (strike, right etc) are changed. If unchecked, you must manually update chains using the Load Chains button.

Order Ref - A user-defined reference name to help identify where the order originated.

Order Presets - OptionTrader-specific default order settings. The OptionTrader preset is linked to the selected Order Ref. above. Create a preset for both Stock and Options with the same title and link to the Order Ref by selecting it or by creating a new preset. These presets will control the default order parameters for any stock and options orders created from the OptionTrader. If you do not create a stock preset for the OptionTrader, the default stock pre-set will be used for stock orders created in the OptionTrader.

Auto-Loading

OptionTrader automatically loads option chains based on the criteria you set in this area.

Assume underlying is a SMART stock - Uses Smart instead of a specific exchange.
Quick stock entry - Check to auto load stock and bring up the exchange dialog immediately when you enter an underlying.
Load the closest N strikes to the money - Choose a number to limit how many options load in the chain.
Load the nearest N expiries - Only shows you those options with the N closest expiries.
Load specific months - Specify the exact months' options you want to see.
Auto-resize columns on load - When checked, data columns will resize appropriately to accommodate revised data.

Portfolio Window

The Portfolio window is an automated trading page you can elect to create based on the current content of your portfolio. Configure the Portfolio window to hide or show panels, market data and order management columns by default. You can modify any of these settings directly from the window at any time.

To configure the Portfolio window

1. On the **Edit** menu select *Global Configuration.*
2. Click ***Trading Tools*** and then *Portfolio Window* in the left pane.
3. Configure Settings, Trade Columns, Order Management columns or the Market Value panel.
4. Use the right panel to set these parameters:

Settings

Display market value panel - opens the Market Value panel populated with data from the Account Information window.
Display orders panel - Opens the Orders panel in the Portfolio window. New orders will be displayed in this separate panel rather than directly below the ticker.
Display trades panel - Opens the Trades panel to display executions.

Jump to order - if checked, automatically places the cursor on newly created orders in the **Orders** panel.

Trade Columns

Check the columns you want to show in the Trades panel.

Order Management

Customize the layout of the main window by adding or removing columns from the Market Data and Order columns.

Market Value

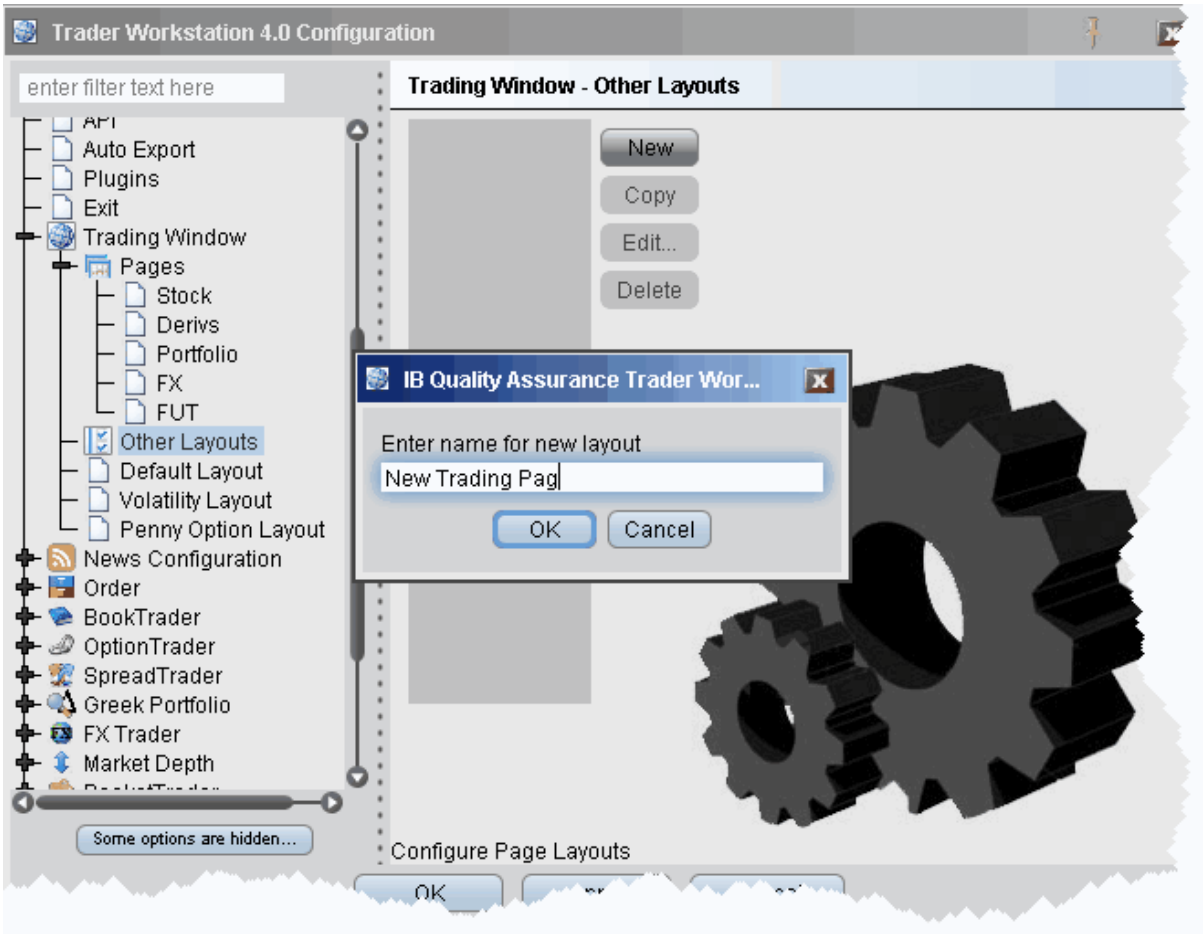
Check the columns you want to show in the Market Value panel.

Configure the Quote Monitor

Create a Page Layout

The Layout feature lets you create custom layouts that you can then apply to your trading pages. Use the **Layout** editor to identify which columns you want to display, where you want the columns to be in relation to each other, and the text and background colors used to convey trading information for a specific layout.

If you want to change the way your pages display but want them all to look the same, you can simply change the **Default** page layout. If you want to apply different layouts to specific pages or save the default settings, create a new layout by copying the **Default**, renaming and editing it.



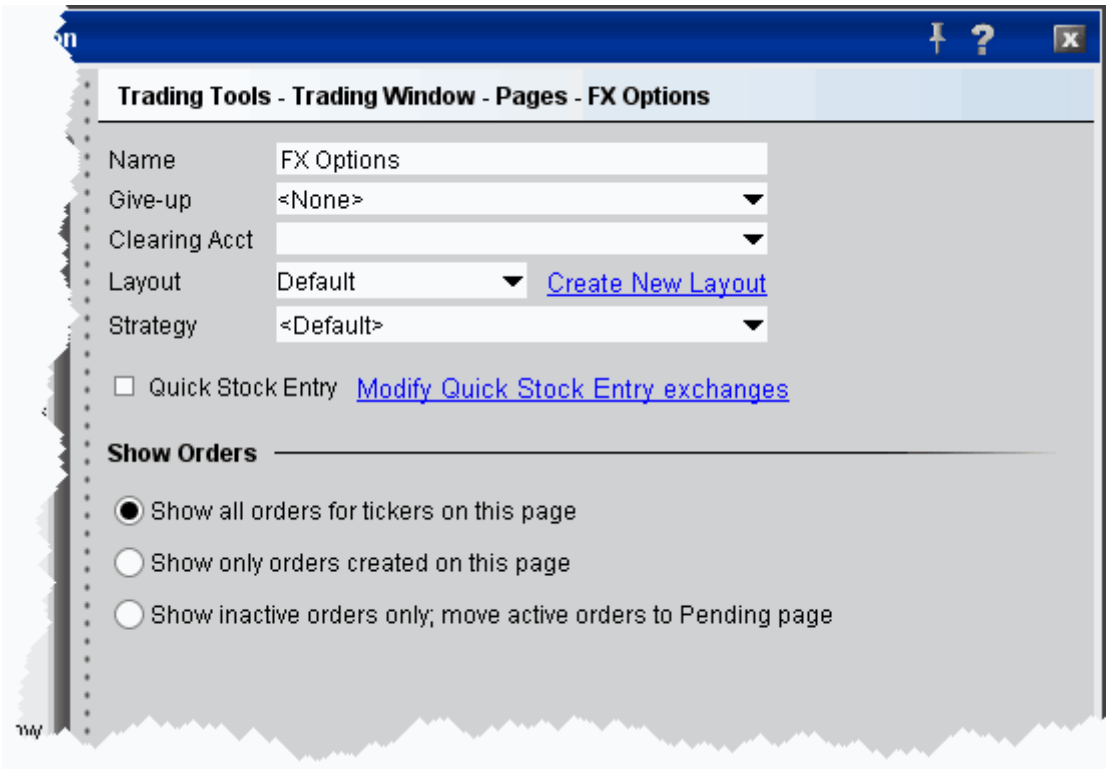
To create a page layout

To create a new layout, you must copy an existing layout, rename it, and then edit it to your specifications.

1. On the **Edit** menu, click *Global Configuration* and then click *Trading Window*.
2. Select *Other Layouts* in the left pane, and then click the **New** button in the right pane.
3. Enter a name for the new page layout and click **OK**.
4. Click *Edit* to open the **Page Layout** editor.
5. Modify column visibility, column order, and text and background colors and click OK. The layout remains unused until you apply it to a page.

Apply a Page Layout

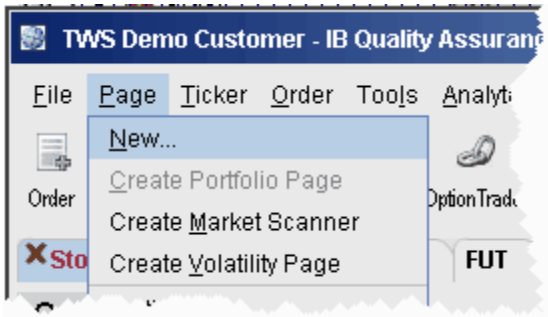
You can apply a layout to existing trading pages one page at a time, or to a new page when you create it.



To apply a layout to an existing page

1. On the **Edit** menu, select *Global Configuration*.
2. In the left pane, select *Trading Window* and then *Pages*.
3. Choose the page on which you want to apply a layout.
4. In the *Layout* dropdown list, select the layout you want to apply.
5. Choose an order default strategy.
6. Click **OK**.

All pages use the **Default** layout and **Default** strategy until you specify otherwise.



Edit a Page Layout

The Layout feature lets you create custom layouts that you can then apply to your trading pages. Use the **Layout** editor to identify which columns you want to display, where you want the columns to be in relation to each other, and the text and background colors used to convey trading information for a specific layout.

If you want to change the way your pages display but want them all to look the same, you can simply change the **Default** page layout. If you want to apply different layouts to specific pages or save the default settings, create a new layout by copying the **Default**, renaming and editing it.

To edit a page layout

1. On the **Edit** menu, click *Global Configuration* and then click *Trading Window*.
2. In the left pane, select the layout you want to edit.

3. Use the *Market Data Columns* and *Order Columns* tabs to **Add** or **Remove** fields.

4. Fields in the Market Data Columns page display along the TOP row of field headings on a Trading page. Fields in the Order Columns page display along the bottom row of fields headings. If you display the same field on both the Market Data and Order row pages, it appears as a single field like the Underlying, Exchange and Description fields above.
5. If desired, change text and background color using the *Colors* tab and click OK.

The layout remains unused until you apply it to a page.

Display Market Data Columns

You can choose to display or hide many of the columns on the trading page using the Layout manager in Global Configuration.

To display/remove market data columns on a page

1. Right click and column heading on a trading page, and select *Customize Layout*.

2. Click the **Market Data Columns** tab to view columns.The columns already displayed on your trading window appear in the *Shown Columns* list on the left side of the page. The remaining columns are grouped by category in the *Available Columns* list to the right.
3. To display columns, select one from the *Available Columns* list and click the **Add** button to move the column into the *Shown* list.
4. To remove a column, select a column in the *Shown Columns* list and click the **Remove** button.

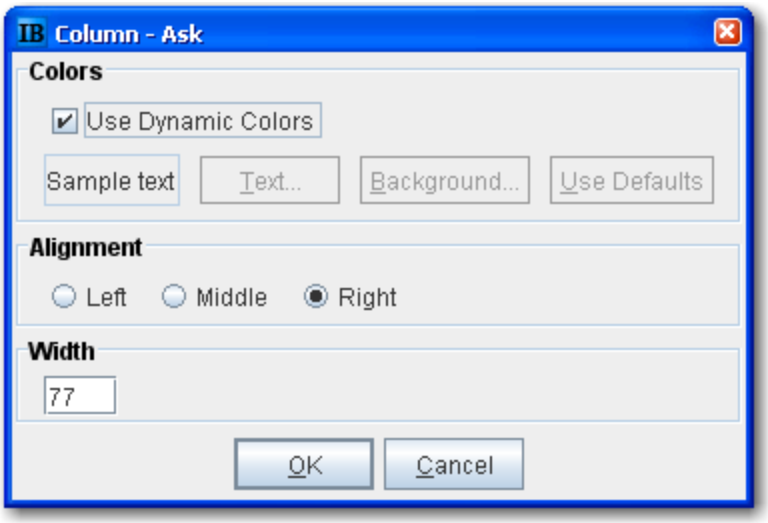
Column titles in **bold** are always visible and cannot be removed. Use the Filter field to help find the column you're looking for, or click the Sort radio button to list all columns alphabetically.

For descriptions of data displayed in Market Data columns, see the Market Data Fields topic.

Configure Columns

You can configure the text and background on individual columns in the trading window.

For price and size columns, you can turn off the dynamic coloring, which indicates upward movement in price or size in green and downward movement in red, by unchecking the *Use Dynamic Colors* box.



To configure columns

1. Right click the column name and select *Configure xyz Column*.
2. If dynamic coloring is available, you can uncheck the feature if desired.
3. Modify the background and text color of the column using the *Text* and *Background* color-pickers. Click User Defaults to return to original TWS colors.
4. Alignment moves the data within the column.
5. Width controls the column size.

Display Order Management Columns

You can choose to display or hide many of the columns on the trading page using the Layout manager in Global Configuration.

To display/hide order columns on a page

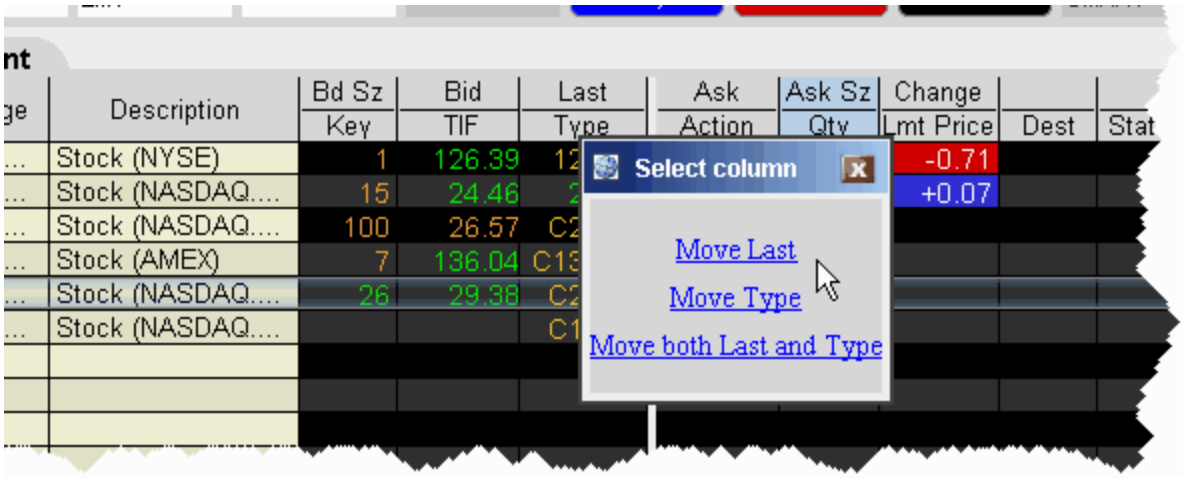
1. Right click the field labels on a trading page, and select *Customize Layout*.
2. Click the **Order Columns** tab to view columns.The columns already displayed on your trading window appear in the *Shown Columns* list on the left side of the page. The remaining columns are grouped by category in the *Available Columns* list to the right.
3. To display columns, select one from the *Available Columns* list and click the **Add** button to move the column into the *Shown* list.
4. To remove a column, select a column in the *Shown Columns* list and click the **Remove** button.

Column titles in **bold** are always visible and cannot be removed. Use the Filter field to help find the column you're looking for, or click the Sort radio button to list all columns alphabetically.

For a description of data displayed in Order columns, see the Order Management Fields topic.

Rearrange Trading Page Columns

You can reposition columns on a trading page by dragging and dropping a column into a new location. Since order management and market data columns are stacked, you will be asked if you want to move one of the columns, or both together.

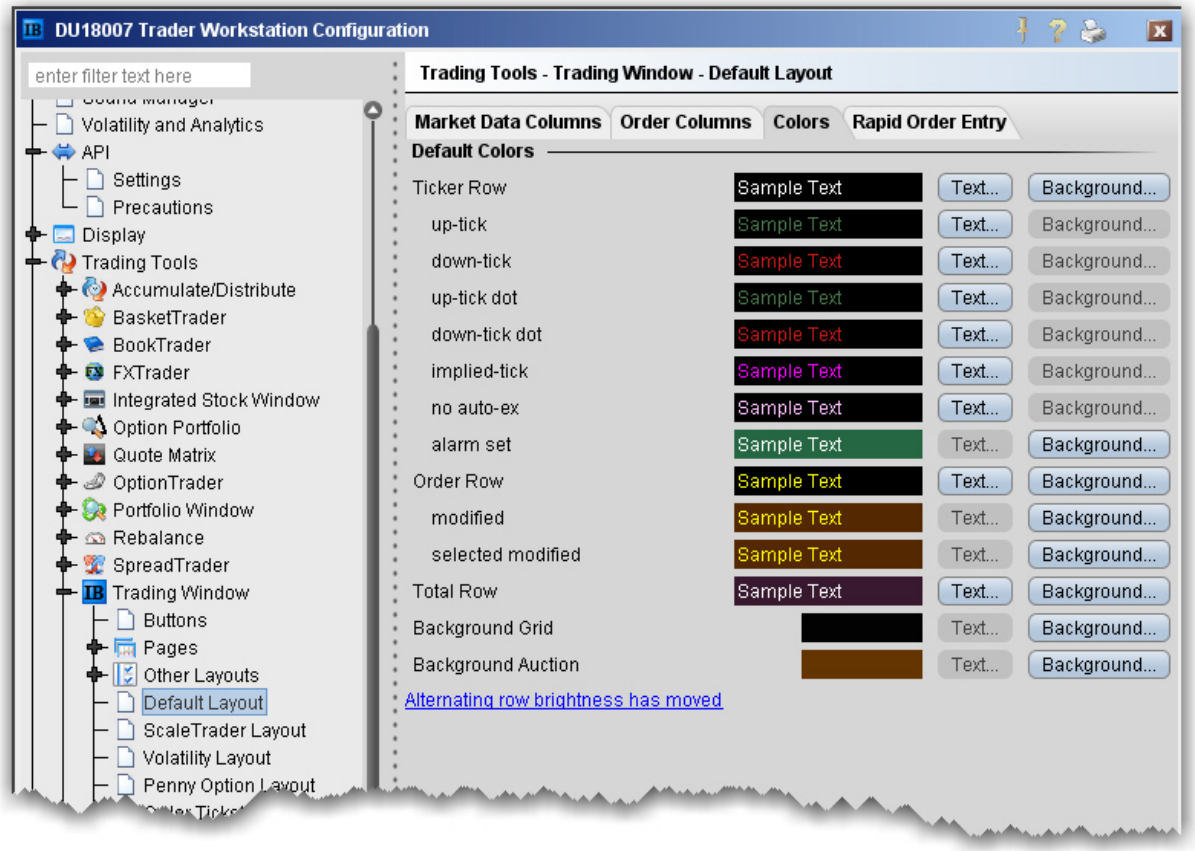


To reposition a column

1. Click your mouse on the column you want to move.
2. Holding the mouse key, drag the column left or right to its new position.
3. Release the mouse button.
4. In the confirmation message, select a single column, or elect to move both columns together.

Change Background and Text Colors

You can modify the background and text color for specific columns and rows using the *Layout Editor.*



To change colors in a page layout

1. On the **Edit** menu, click *Global Configuration*, then click Trading Tools and then *Trading Window* in the left pane.
2. Select a layout (use **Default** to change the basic layout, click **Other Layouts** to find a custom layout you designed).
3. Click the **Colors** tab and elect to modify either the text or the background color.

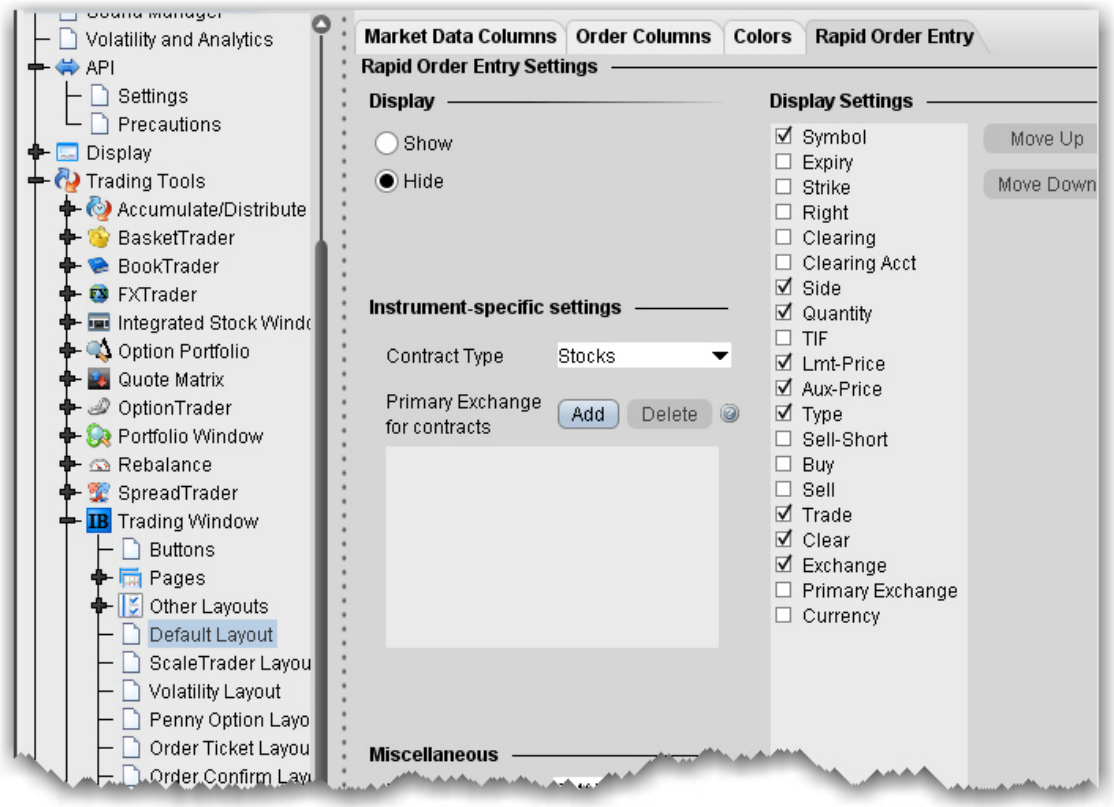
You can modify text and/or background colors for the following items:

Ticker Row (*text & background*) - row that contains the market data for the product.
Up-tick (*text only*) - a tick that is moving up.
Down-tick (*text only*) - a tick that is on the decline.
Implied-tick (*text only*) - the implied tick for a combo order that is \simulated by adding the values of the legs, as opposed to market data which represents an actual order for the combo.
No auto-ex (*text only*) - for options, tells you that orders placed against this market will not execute electronically.
Alarm set (*background*) - tells you that this line has an alarm set against it.
Order Row (*text & background*) - the order row that is created when you click on a bid or ask price for a product.
Modified (*background*) - the background for orders that have been modified.
Selected modified (*background*) - the background for modified orders you have highlighted (to transmit or cancel, etc.)
Total Row (*text & background*) - the optional total rows displays in different color to help it standout.
Background Grid (*background*) - the background of the entire trading page grid.
Background Auction (*background*) - the background of an order row whose instrument is participating in an auction, and cannot be cancelled.

Modify Rapid Order Entry Settings

The Rapid Order Entry panel is one component of a trading page, and consequently its settings are managed through the Page Layout Manager. Any changes you make to the Rapid Order Entry settings are applied via that page's assigned page layout. If you have not created or

applied page layouts to specific pages, all pages are controlled through the default page layout. The procedure below assumes some familiarity with the page layout manager.



To modify Rapid Order Entry settings

1. On the **Edit** menu, select Global Configuration.
2. Select Trading Tools then *Trading Window* in the left pane.
3. Click the **Rapid Order Entry** tab to view the current settings.
4. Use the checkboxes, editable fields and Display Settings described in the table below to enable/disable features, set default values and select a default order type.
5. Click **OK**.

Note: Note that you are making changes to a component of a page layout, not to a specific page. These changes will also be applied to all other pages using this layout.

Rapid Order Entry Settings

You can record hot key assignments for rapid order entry actions. Note that your standard hot keys (Buy, Sell etc) are not valid within the Rapid Order Entry panel.

Display

Show - displays the Rapid Order Entry panel at the top of any pages using the layout.
Hide - hides the Rapid Order Entry panel at the top of any pages using the layout.

Contract type

Stocks - automatically configures the Rapid Order Entry panel to allow you to trade stocks. You will see the Display Settings list to the right from which you can select the fields you want to use.
Stocks/Options - automatically configures the Rapid Order Entry panel to allow you to trade stocks or options. You will see the Display Settings to the right from which you can select the fields you want to use.
Combos - automatically configures the Rapid Order Entry panel to allow you to create and trade combination and spread orders. The Display Settings list is not relevant to this layout.

Miscellaneous

Primary Exchange - enter the default routing exchange. We recommend using Smart to get the best execution.
Default size - set the default order size. You may edit the value in this field from the panel.
Default order type - sets the default order type. You may edit this value from the panel.
Request market data - controls whether you will see a line of market data above the order management line that is created when you transmit an order.
Save contract info - when checked, the information for the current instrument will remain after you transmit an order. Unchecked, all fields are cleared after you transmit an order.

Display Settings

Check any fields that you want to appear on the Rapid Order Entry panel.

Move up/move down - puts the checked fields in order. The order in which they appear in this list determines the order in which they will appear on the Rapid Order Entry panel, and the order in which the cursor will be inserted as you tab through the fields if Include in tab order is checked.
Include in tab order - this box must be checked or unchecked for each of the selected fields in the list. Checking instructs your cursor to land in that field as you tab through.

Configure Information Tools

Configure Alerts **1332**

Configure Alerts **1334**

Configure Market Depth **1336**

Configure News Feeds **1338**

Time & Sales **1340**

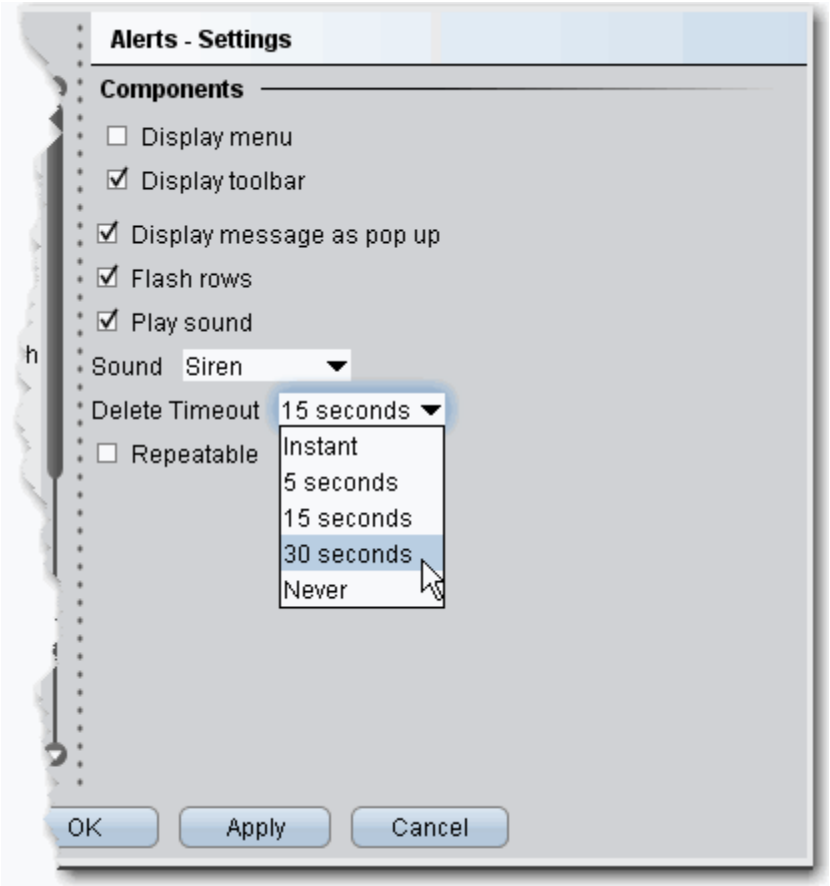
Trader Dashboard **1340**

Configure Alerts

Use the Alerts configuration page to define basic settings, hotkeys, buttons and to control the visibility of column fields.

To define Alerts configuration settings

1. On the **Edit** menu select *Global Configuration,* or click *Configure* from the Alerts menu.
2. Click *Alerts* in the left pane. You can expand the options in the left pane or in the right panel.
3. Use the right panel to set these parameters:



Settings

Components

Display menu - check to see the Alerts menu.

Display toolbar - check to see the Alerts toolbar.

Display message as pop up - if checked, the default for Alerts is a pop up message.

Flash rows - if checked, the rows of market data used for the Alerts will flash when the Alert has been activated.

Play sound - if unchecked, *None* is selected by default on the **Audio** tab of the Alerts page.

Sound - select a default alert sound.

Delete Timeout - set the time after which the alert notifications will stop.

Repeatable - if checked, this feature will be checked by default in the Duration area of the Alerts page.

Hotkeys

Opens the **Hotkeys and Mouse Shortcuts** dialog box. You can modify the configuration of existing shortcuts by selecting an action and clicking *Configure*. For more information see the Assign Mouse Shortcuts topic.

Buttons

Create custom buttons to add to the toolbar, or edit existing buttons. Click New to create a new button.

Order Columns

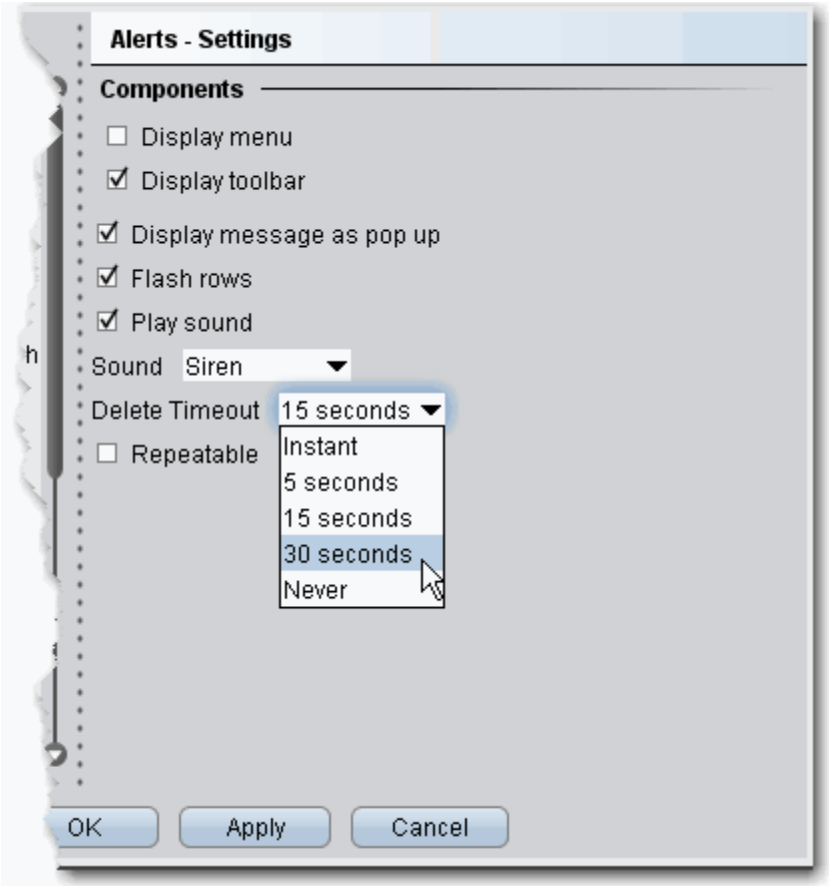
Hide or display fields in the Orders area using the *Columns* page of the Page Layout.

Configure Alerts

Use the Alerts configuration page to define basic settings, hotkeys, buttons and to control the visibility of column fields.

To define Alerts configuration settings

1. On the **Edit** menu select *Global Configuration,* or click *Configure* from the Alerts menu.
2. Click *Alerts* in the left pane. You can expand the options in the left pane or in the right panel.
3. Use the right panel to set these parameters:



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Display menu - check to see the Alerts menu.

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Opens the **Hotkeys and Mouse Shortcuts** dialog box. You can modify the configuration of existing shortcuts by selecting an action and clicking *Configure*. For more information see the Assign Mouse Shortcuts topic.

Buttons

Create custom buttons to add to the toolbar, or edit existing buttons. Click New to create a new button.

Order Columns

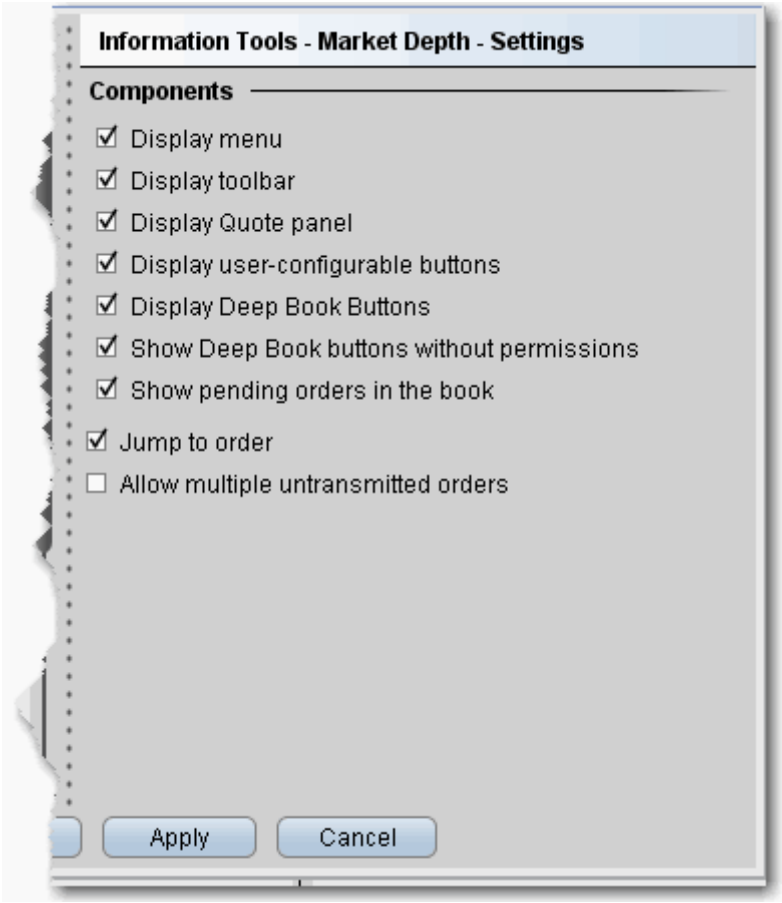
Hide or display fields in the Orders area using the *Columns* page of the Page Layout.

Configure Market Depth

Use the Market Depth configuration page to define basic settings, hotkeys, buttons and to control the visibility of column fields.

To define Market Depth configuration settings

1. On the **Edit** menu select *Global Configuration,* or click *Configure* from the Market Depth menu.
2. Click *Market Depth* in the left pane. You can expand the options in the left pane or in the right panel.
3. Use the right panel to set these parameters:



Settings

Components

Display menu - check to see the Market Depth menu.

Display toolbar - check to see the Market Depth toolbar.

Display Quote panel - check to display the Quote Panel, which displays a single line of market data for the asset. You can create an order from the Quote panel by click the bid or ask price.

Display user-configurable buttons - if checked, the buttons that allow configuration are displayed.

Display Deep Book Buttons - if checked, the Deep Book Buttons panel will display, with a button for each market center for which you have deep book data permissions.

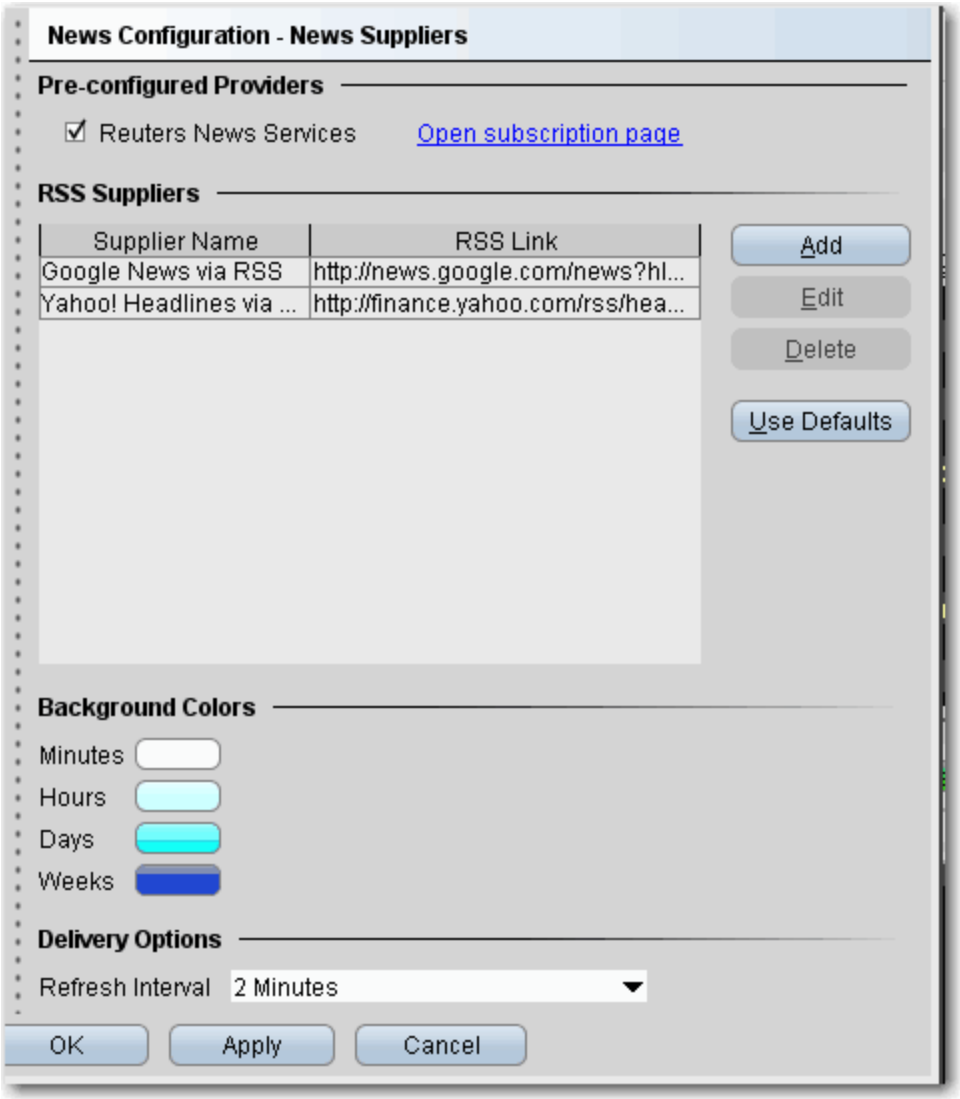
Display Deep Book buttons without permissions - if checked and Deep Book Buttons panel is also displayed, the buttons for deep data will display even if you do not have permissions. These buttons will be visible but inactive.
Show pending orders in the book - if checked, any orders you transmit from the DepthTrader window will show, highlighted in white, in the Deep Book data.
Jump to order - automatically puts the cursor on the newly created order in the **Orders** panel.
Allow multiple untransmitted orders - if checked, you can create more than one order in the Underlying panel. Otherwise, only one untransmitted order is allowed.

Configure News Feeds

You can elect to add more pre-configured news feeds to your workstation browser. You can also subscribe to Reuters News Service via the Market Data subscriptions page in Account Management.

To view Reuters News

1. On the **Edit** menu, select *Global Configuration*.
2. In the left pane, click the horizontal key to expand the **News Configuration** feature, then select *News Suppliers*.
3. In the **Pre-configured Providers** section at the top of the right page, check *Reuters News Service*.



If this selection is grayed-out, it means you have not subscribed to this service in Account Management.

To add existing news feeds

1. On the **Edit** menu, select *Global Configuration*.
2. In the left pane, click the horizontal key to expand the **News Configuration** feature, then select *News Suppliers*.

3. The right pane displays the current list of news suppliers whose headlines you can access. Click the **Add** button to configure a new supplier.
4. Select a supplier name from the dropdown list. The RSS Link is automatically loaded. Click **OK.**
5. The new supplier appears in the list of available news feeds.

   Note: You can elect Refresh Intervals of 1, 2, 3, 4, 5, 10 and 15 minutes. Note that refreshing the news feeds requires some system resources, and more frequent refresh intervals may have a minor impact on your system performance depending on your connection type.

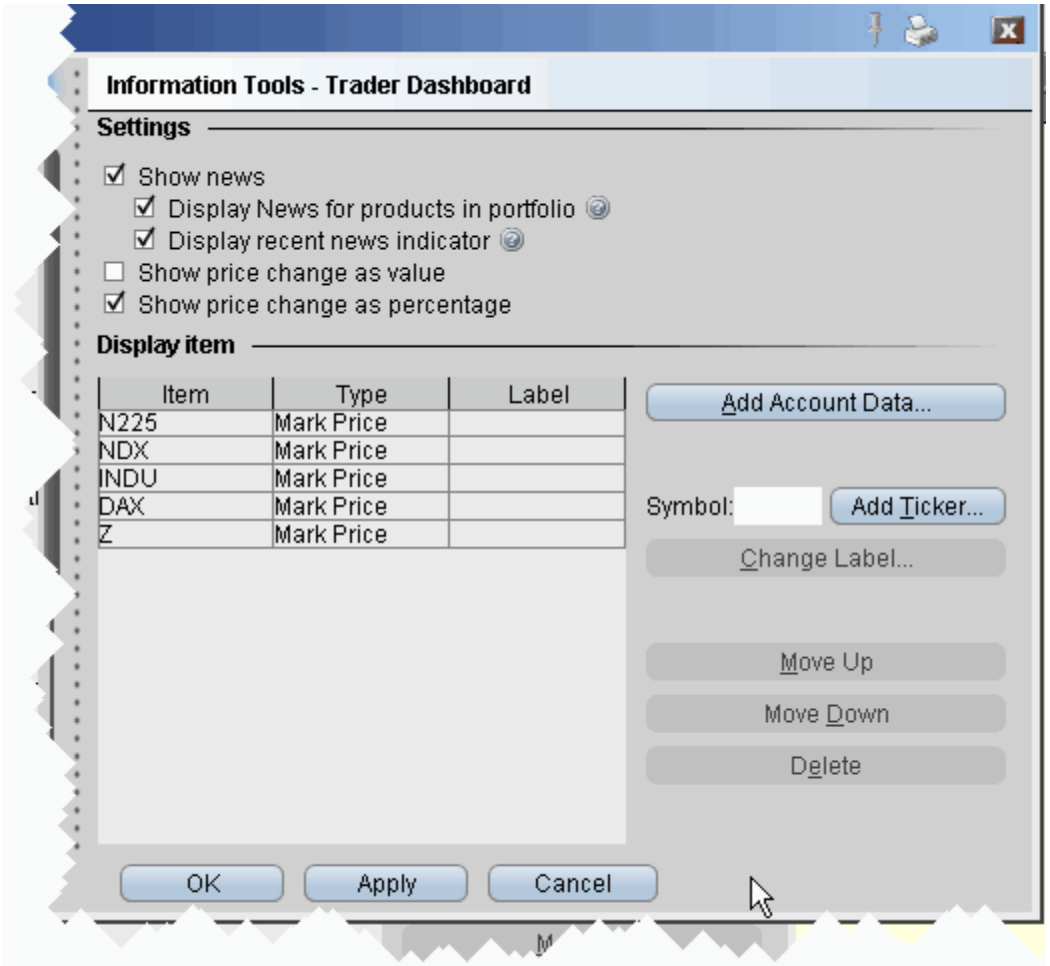
Time & Sales

Define the layout of the Time & Sales page that you can display for a chart.

Settings - choose to show quote line and show last only.
Hotkeys - define Time & Sales hotkeys and shortcuts.
Quote Panel - Hide or display fields in the Quote Panel area.
Colors - modify colors.
Columns - uncheck to remove columns from the Time & Sales main data area.

Trader Dashboard

The real-time Trader Dashboard is an optional tool that can be displayed at the top of the pages tabset. This customizable panel allows you to monitor data fields from your Account Information window, keep abreast of the most recent activity for specific contracts, and view current real-time news headlines for products in your portfolio and for any tickers you are watching.



To configure the Trader Dashboard

1. On the **Edit** menu, select *Global Configuration*.
2. In the left pane, click *Trader Dashboard*.
3. Use checkboxes in the right pane to set the following:

   Check *Show news* to display news headlines for any products in your portfolio and to alert you to recent news on any tickers you elect to display.

   To see only portfolio-relevant news, check *Display News for products in portfolio* only.

   To only see indicators of recent news next to individual tickers that you are watching, check *Display recent news indicator* only.

Check *Show price change in percentage* to view the last price and price change values as percentages in ticker lines.

Check Show price change in value to view the last price change as an absolute value.

4. Click the **Add Account Data** button, and scroll down the list. Double-click each Account field that you want to add to the dashboard. Each field you double-click is added to the *Display Item* list on the configuration pane. Click OK to close the *Add* box.

   The descriptions for Account Information fields are in the Account Information topic.

5. To add a last price/price change field for a contract, enter the underlying in the *Symbol* field and click **Add Ticker,** then define the contract parameters just as you do when you add market data to the trading page. The last price/price change displays in red to indicate downward movement and blue to indicate upward movement.
6. Click **OK**. The **Trader Dashboard** is displayed at the top of your trading window, just above the pages tabset.

You can change the display name for selected dashboard fields using the Change Label feature.

Configure Charts

Charts Settings **1342**

Charts Toolbar **1353**

Charts Colors **1354**

Charts Quote Zone **1356**

ChartTrader **1357**

Charts Settings

To define Charts configuration settings

1. On the **Edit** menu select *Global Configuration,* or click the configure wrench from within a chart.
2. Click *Charts* in the left pane. You can expand the options in the left pane or in the right panel. Sections of the Settings page include:

Display

Layout

Highlight

What to show when switching contract

Trendlines

Tooltips

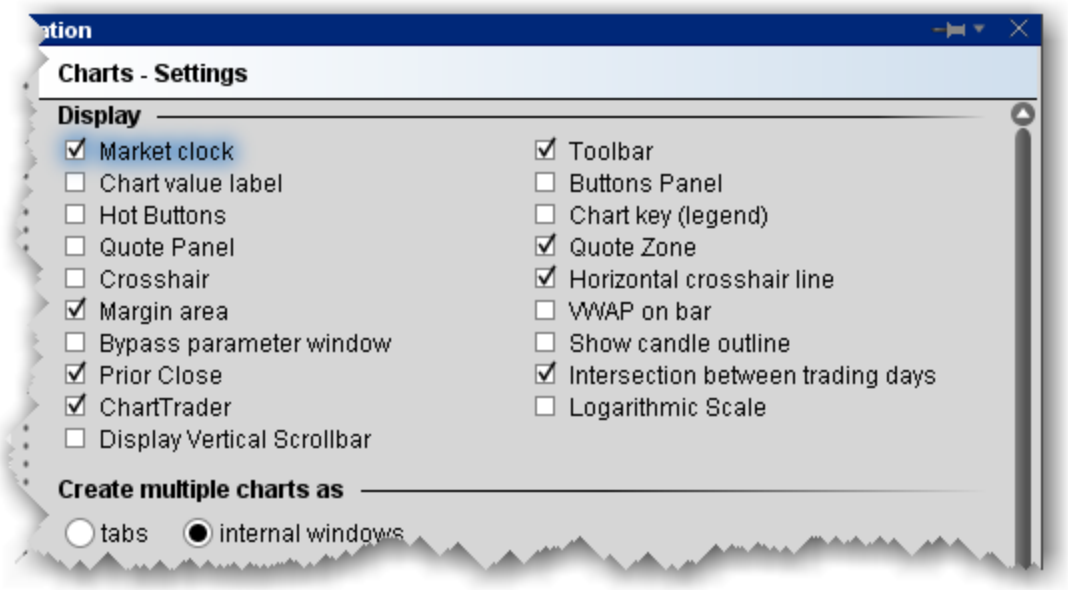
Graphical position indicator

Order Display

Miscellaneous

Display

Define global default display settings for charts.

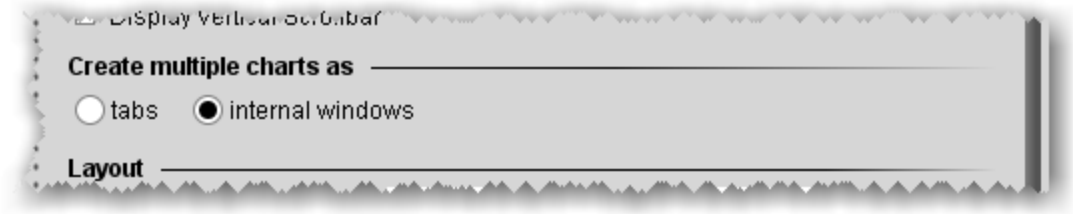


Name - Description	Name - Description
Market clock - if checked, displays the time in the top title bar.	**Toolbar** - check to display the**Charts**toolbar.
Chart value label - if checked, the Price, Volume and other axis labels are displayed.	**Buttons Panel** - check to display configurable ChartTrader buttons.
Hot Buttons - check to display the floating Buy/Sell/Alert set of hot buttons that you use to create orders. Hot buttons can be armed to transmit instantaneously.	**Chart key (legend)**- if checked, displays a key to the color, type of chart and asset charted along the bottom of the chart.
Quote panel- if checked, the Quote panel, which shows market data for the instrument , displays at the bottom of the chart window.	**Quote Zone** - check to display the Quote Zone, which floats within the chart along the top.
Crosshair - puts the cursor into crosshair mode and displays the vertical crosshair line.	**Horizontal Crosshair Line** - when checked, both the vertical and horizontal crosshair lines are displayed on a chart when you are in Crosshair Mode. When unchecked, only the vertical crosshair line displays.
Margin area - check to	**VWAP on bar** - check to show the volume-weighted average price on the bar.

display a small, left-facing arrow at the bottom of the chart. Drag the margin in to increase the horizontal buffer.	
Bypass parameter window - check to open charts using specified data without opening the Chart Parameters window.	**Show candle outline** - check to shows outlines for candlesticks.
Prior close - check to show the prior close price on the chart.	**Intersection between trading days** - check to show a dotted line as a separator
ChartTrader - Displays the Orders, Log, Trades and Portfolio tabs along the top of the chart. These panels will also open automatically when you create an order.	**Logarithmic Scale** - Change the increments on the price axis to represent price change by "percentage change"- rather than "dollar-value" change. Using Log Scale, a $5.00 change from 10 to 15 represents a 50% price change, while a $5.00 change from 20 to 25 is a 25% change.
Display Vertical Scrollbar - Adds a vertical scrollbar.	

Create multiple charts as

Specify the layout for multiple charts.



Tabs - each charts goes into its own tabbed page.

Internal windows - charts are tiled within the same frame.

Layout

Set up global default layout options for charts.

Price axis on: Left, Right, or Both	**Quote panel on:** Top or Bottom
Time axis on: Top, Bottom or Both	**ChartTrader on:** Top or Bottom
Fibonacci label at: Left, Middle or Right side of the top red Alerts bar.	**Alert label at:** Left, Middle or Right side of the top red Alerts bar.
Horizontal trendline label at: Left, Middle, Right or None	

Highlight on ...

Define which items you want highlighted on the Y (price) axis and on the chart.

Check the prices to highlight along the price axis. “Cursor price” is the price over which your cursor is currently hovering within the chart.

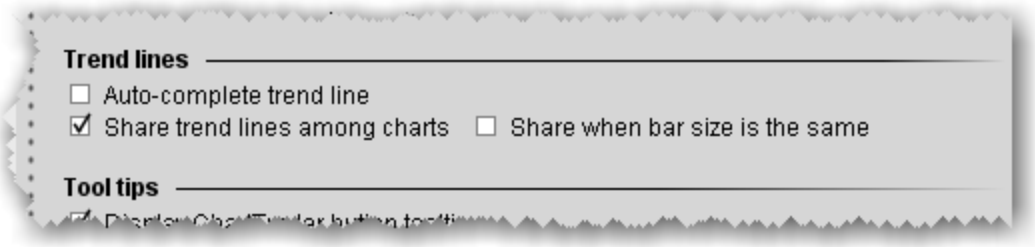
Check the events to highlight in the chart itself. Holding your cursor over any of the highlighted events will display a text description of the event.

What to show when switching contract

When adding a new chart, choose to either use the default “What to show” selection (i.e. Trades for stocks, Midpoint for Forex) or keep the selection from the current chart.

Trendlines

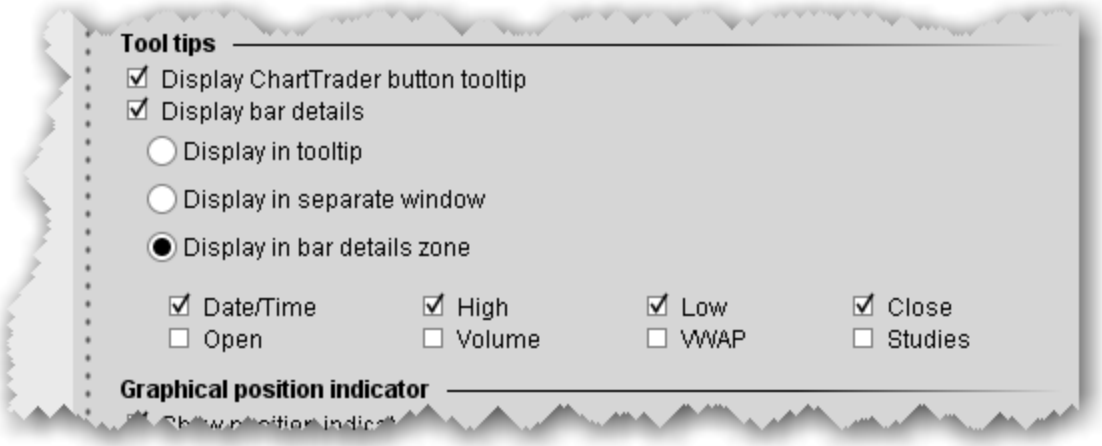
Set trendline characteristics for charts.



Field	Description
Auto-complete trendline	If checked, you can instruct TWS to complete a freehand trendline. Begin your trendline by clicking and holding the mouse. To use auto-complete, release the mouse key, then click again. TWScompletes the trendline across the chart, following your trajectory.
Share trend line among charts	If checked, a trendline drawn on one chart will appropriately be reflected on other active charts using the same instrument .
Share when bar size is the same	Check to share trendlines only when the bar size on charts is the same, e.g. 5 min bar, 4 hour bar, daily bar etc. This feature is only enabled when *Share trend line among charts* is checked.

Tooltips

Specify whether to show tooltips on the chart, and how to display.

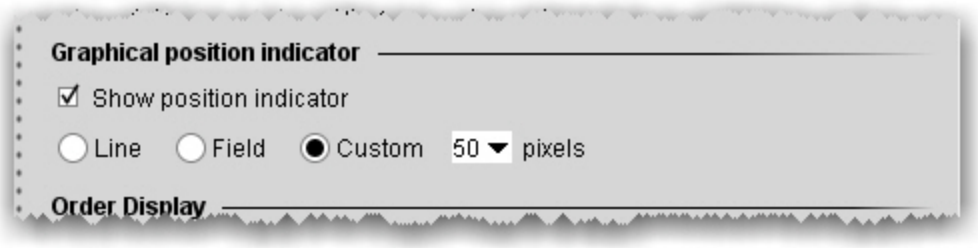


Field	Description
Display ChartTrader button tooltip	Check to see mouse-over tooltips of the buttons on the button panel.
Display bar details	Check to show details for bars in a bar chart. Use the radio buttons to specify where the information will be displayed. If you select "bar details zone" you can pick the data fields that display. "tooltip" shows details in the mouse-over information. "separate window" opens a small pop-up window in the chart each time you mouse over a bar. "bar details zone" displays information in the bottom right corner. Details change as you mouse over each bar. Display any of the following fields in the Bar

	Details Zone: Date/Time, High, Low, Close, Open, Volume, VWAP and Studies.

Graphical position indicator

Use colors to show the current position in the chart.



Check to indicate your current position using lines or color in the chart

Line - draws a line at the price point of the position.

Field - shades the chart from the position up (long position) or down (short position).

Custom - define the height of the shaded field.

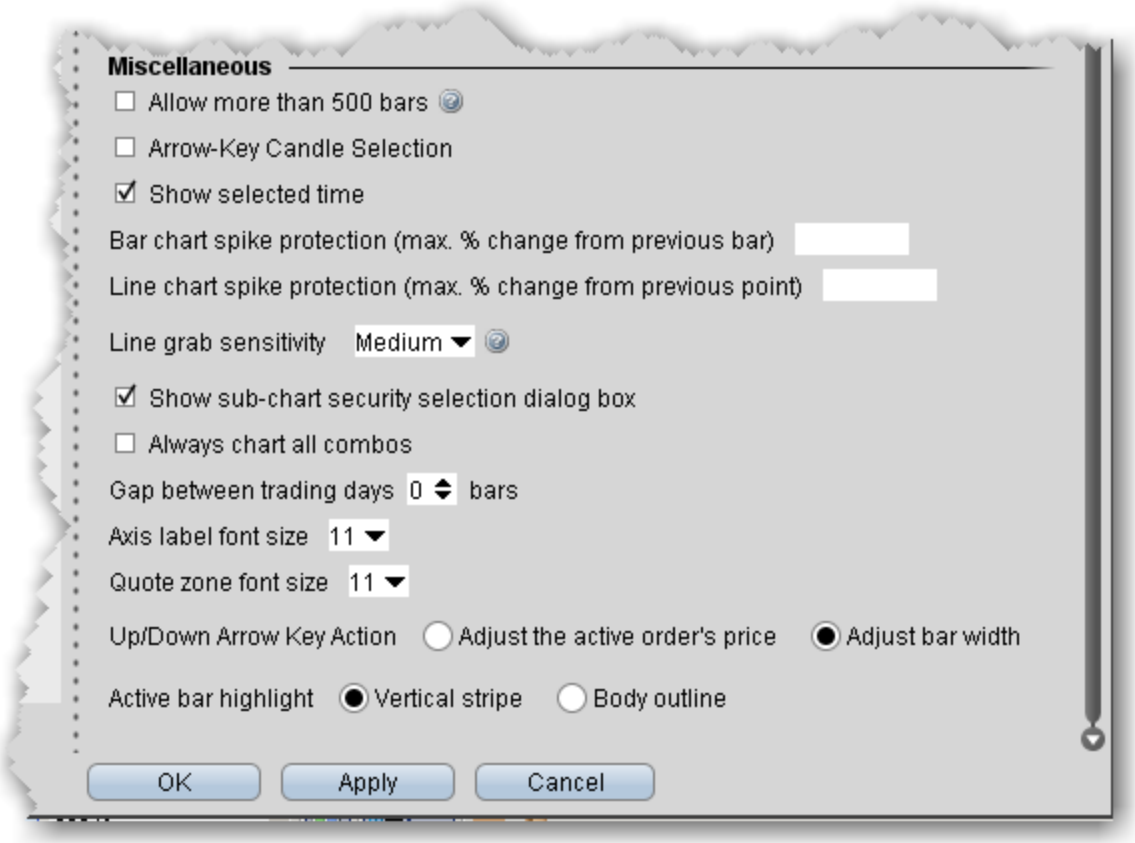
Order Display

Define display features for orders shown in your chart. Set for both ChartTrader orders (orders submitted from within the chart) and for all other orders (including orders submitted from any tool or window other than ChartTrader).

Field	Description
Show live orders	Display working orders on the chart.
Show filled orders	Display filled orders on the chart.
Show cancelled orders	Display cancelled orders on the chart.

Miscellaneous

Define other miscellaneous chart features.



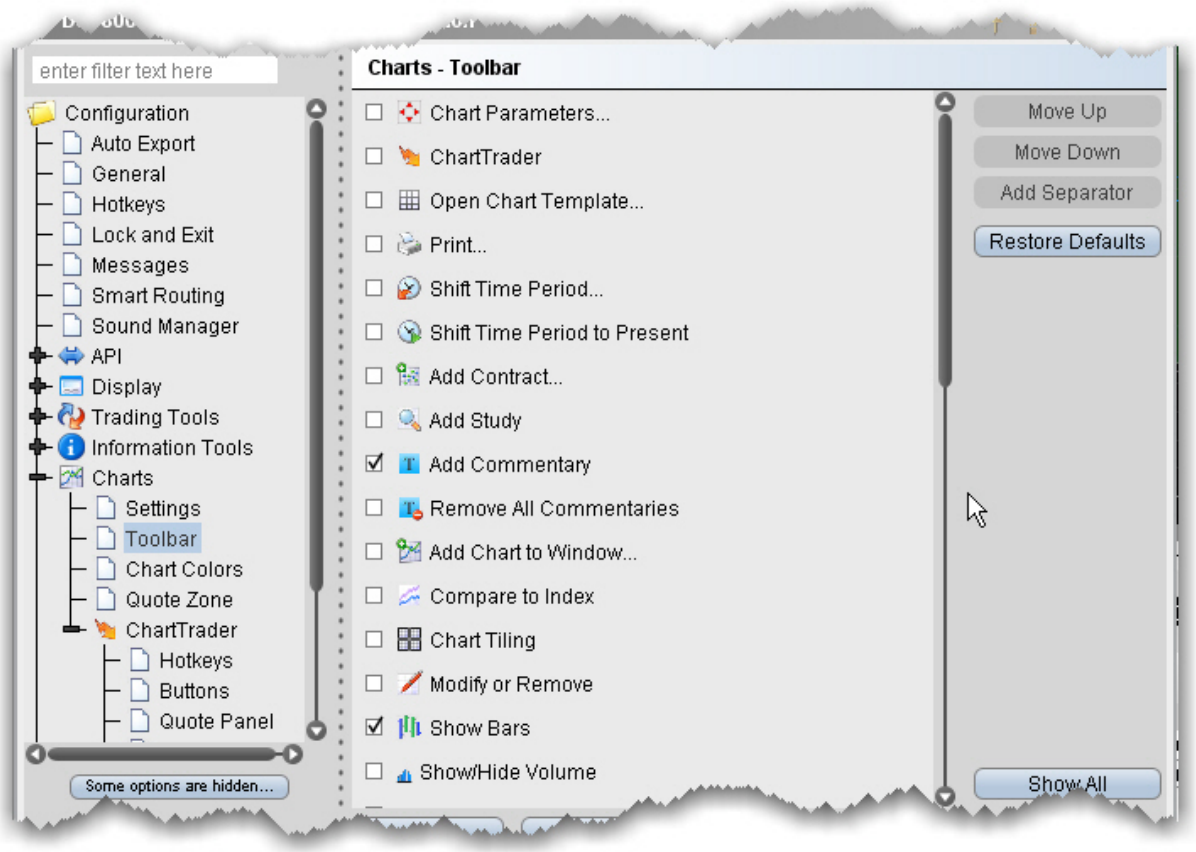
Field	Description

Allow more than 500 bars	Enables smaller bar size for the same time periods. Note that some bars may be too small to read.
Arrow-Key Candle Selection	Moves the control for moving from bar to bar from the mouse cursor to the keyboard arrow keys.
Show selected time	When checked, the specific time displays in highlighted yellow along the bottom axis of the chart as you move the cursor.
Bar chart spike protection (max. % change from previous bar)	If you want to apply spike protection, enter a percentage value. If any bar exceeds this percentage relative to the previous bar, it is automatically eliminated from the chart.
Line chart spike protection (max. % change from previous point)	If you want to apply spike protection, enter a percentage value. If any point exceeds this percentage relative to the previous point, it is automatically eliminated from the chart.
Line grab sensitivity	The higher the sensitivity, the more precise you will need to be to grab and move lines. Higher sensitivity makes it easier to draw trendlines close together.
Show sub-chart security selection box	When checked, a box asking if you want the sub-chart to use the same security as the selected chart is displayed when you

	elect to Add New Chart.
Always chart all combos	Check to chart combos. If you leave unchecked, you will be asked on an individual basis. Charting combos uses more system resources than charting individual contracts.
Gap between trading days	Define the number of missing bars (up to 9) allowed between trading days.
Axis label font size	Select a font size to be used along the price and time axes.
Quote zone font size	Select a font size to be used in the chart's Quote Zone.

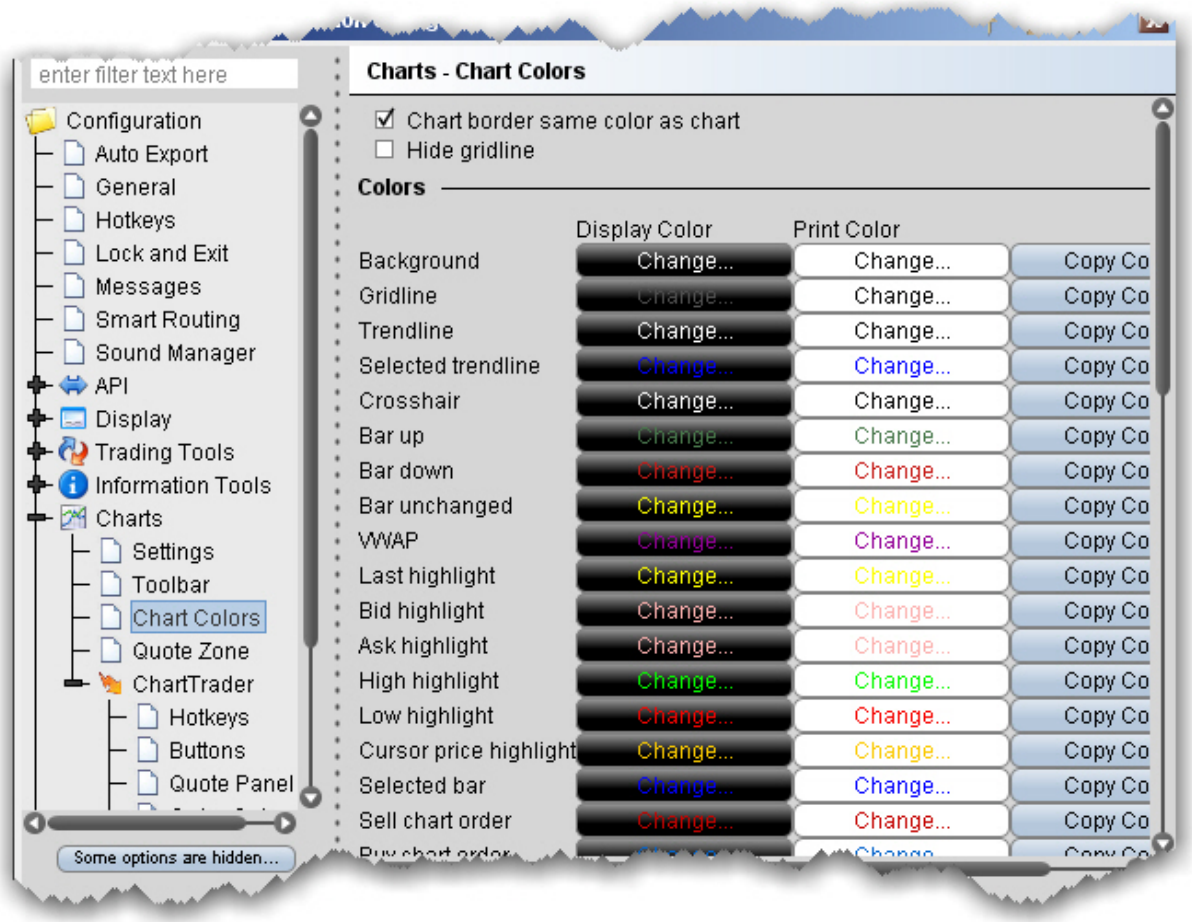
Charts Toolbar

Configure the toolbar by adding, removing and re-ordering toolbar icons.



Charts Colors

You can customize the display and print colors for many aspects of your charts using the Chart colors matrix. Note that your changes are global and will be applied to all charts.

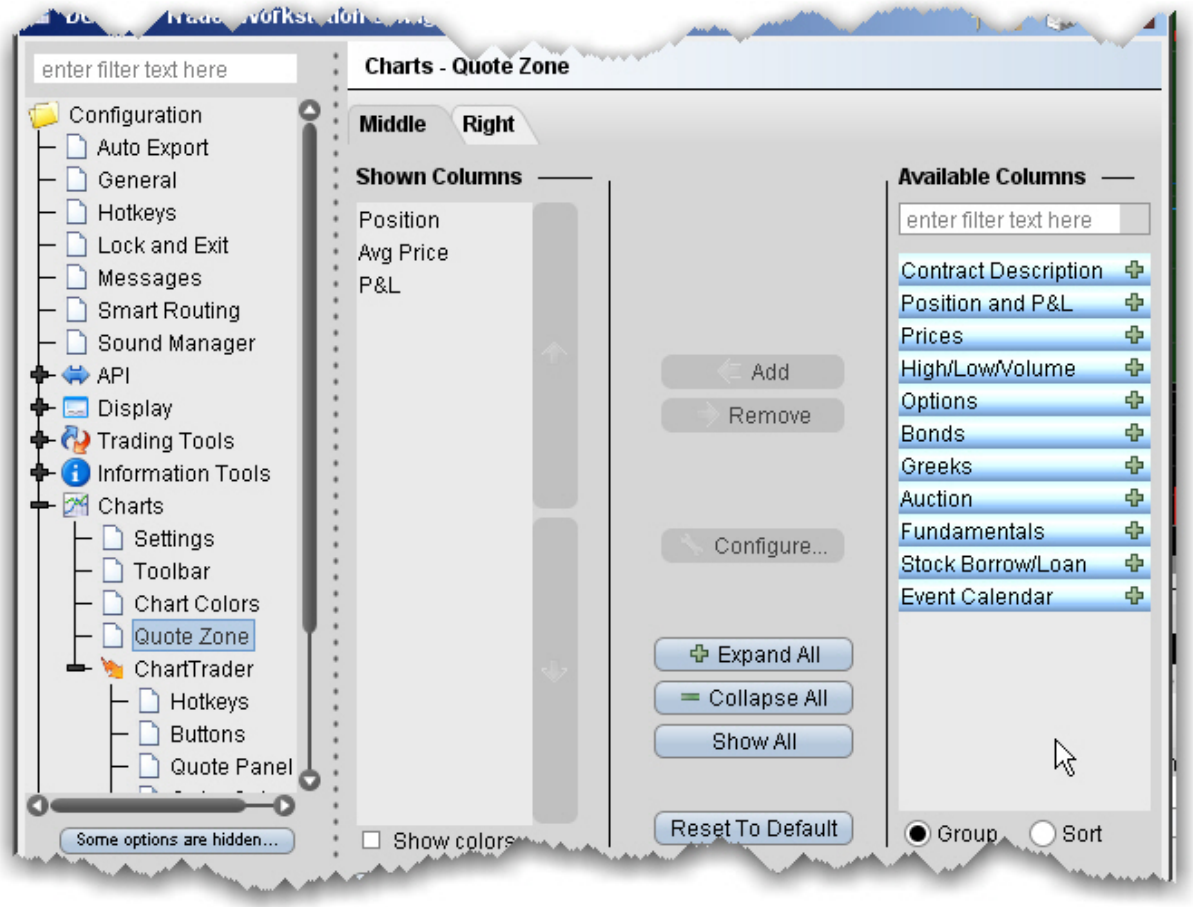

enter filter text here
Configuration
Auto Export
General
Hotkeys
Lock and Exit
Messages
Smart Routing
Sound Manager
API
Display
Trading Tools
Information Tools
Charts
Settings
Toolbar
Chart Colors
Quote Zone
ChartTrader
Hotkeys
Buttons
Quote Panel
Some options are hidden...
Charts - Chart Colors
Chart border same color as chart
Hide gridline
Colors
Display Color
Print Color
Background
Gridline
Trendline
Selected trendline
Crosshair
Bar up
Bar down
Bar unchanged
VWAP
Last highlight
Bid highlight
Ask highlight
High highlight
Low highlight
Cursor price highlight
Selected bar
Sell chart order
Change...
Copy Co

Line #18
Line #19
Line #20
Line #21
Change...
Restore Defaults
Apply
Cancel

You can restore the original colors by clicking *Restore Defaults* at the bottom of the colors list.

Charts Quote Zone

Specify the fields you want displayed in the middle and right areas of the Quote Zone. Note that the left area cannot be modified.



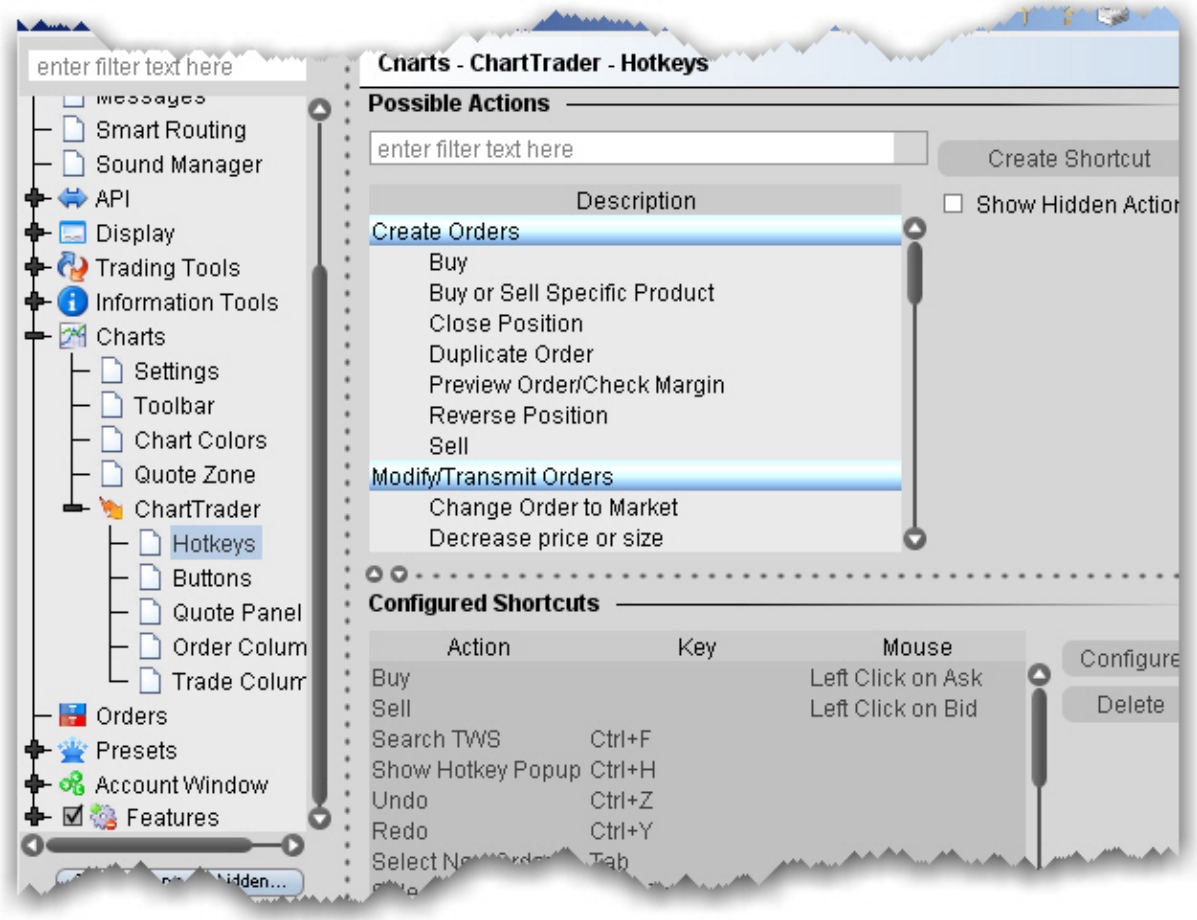
To add and remove Quote Zone fields

1. Select the Middle or Right tab to edit the appropriate Quote Zone area.

   To display a field, use the Add button to move a field from the Available Columns list to the Shown Columns list.
   To remove a field, select the field in the Shown Columns list and use the Remove button to put the field back into the Available Columns list.

ChartTrader

Create hotkeys and shortcuts and action buttons, and add/remove fields from the Quote panel, Orders panel and Trades panel.



Orders

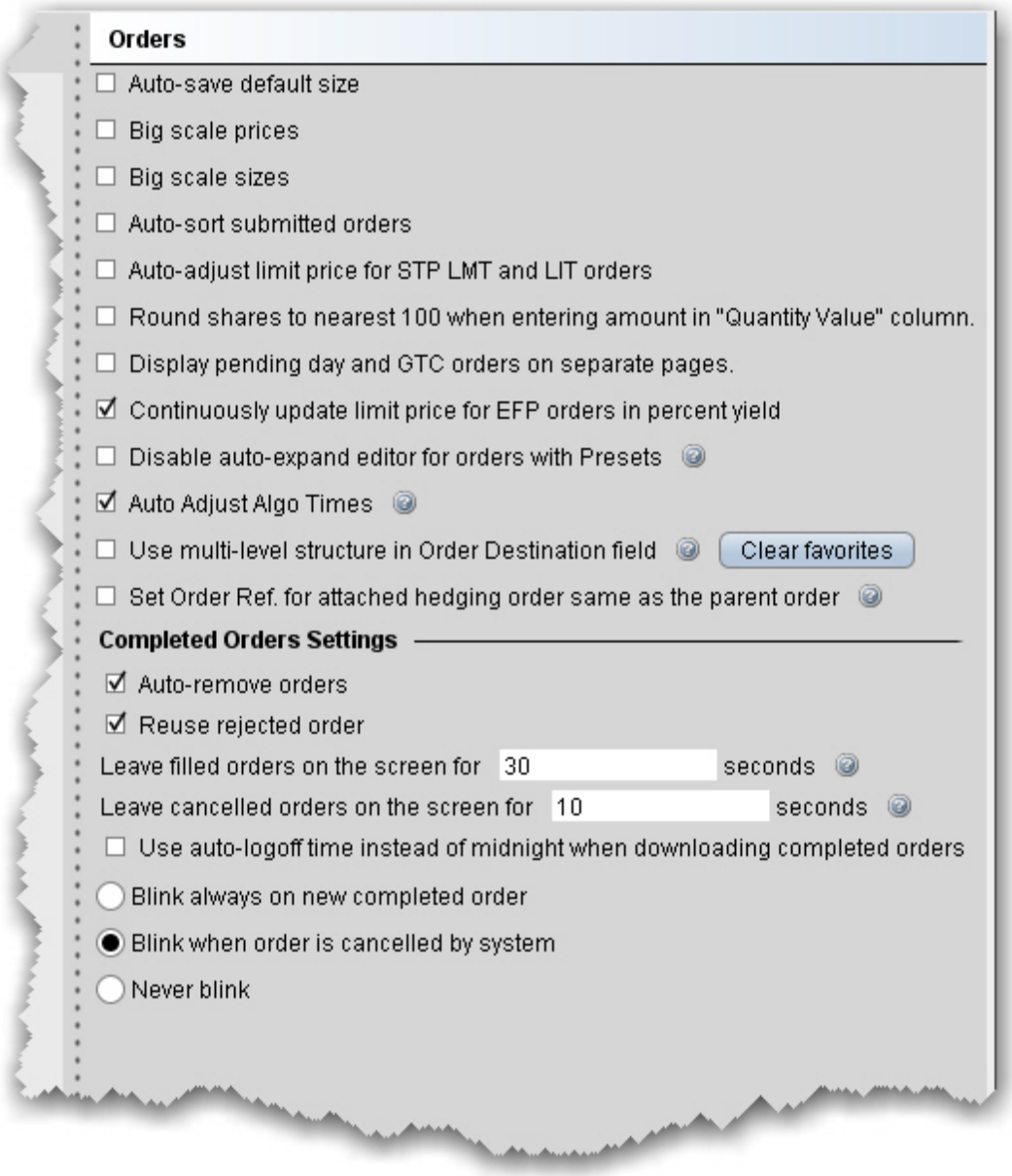
Orders - Default Settings **1358**

Configure SmartRouting **1361**

Configure IB Algo Favorites **1366**

Orders - Default Settings

Use the Orders page to define general, global default settings.



To define General order configuration settings

1. On the **Edit** menu select *Global Configuration.*
2. Click *Orders* in the left pane and then select Settings.
3. Use the **Settings** page to set the following parameters:

Orders

Auto-save default size- when checked, any change you make to the quantity of an order is saved as the default size for that instrument type, after the order is transmitted.

Big Scale prices - when checked, the increment used in the price wand is increased. The price wand presents a selection of prices above and below the order price, and is invoked when you click and hold the cursor in the *Price* field on an order line.

Big scale sizes - when checked, the increment used in the size wand is increased. The size wand presents a selection of quantities higher and lower than the order size, and is invoked when you click and hold the cursor in the *Quantity* field on an order line.

Auto-sort submitted orders - this feature is checked by default. When unchecked, orders created on the same underlying are no longer sorted by limit price.

Auto-adjust limit price for STP LMT and LIT orders - if checked, the limit price in stop limit and limit if touched orders will automatically be adjusted when you modify the stop price. The limit price adjusts based on the offset amount you define when you create the order.

Round shares to nearest 100 when entering amount in “Quantity Value” column - if checked, the system will round the order quantity to the nearest 100 shares.

Display pending day and GTC orders on separate pages - if checked, pending orders will be separated by GTC and DAY times in force to display on different pages.

Continuously update limit price for EFP orders in percent yield - if checked, TWS will continuously update the limit price for EFP orders where the price is entered in "percent yield." To enter price in percent yield, right-click on price column header and select *Show Percent*.

Reset Short Sell Locations button - for non-cleared customers or customers who can clear-away only. By default, TWS remembers how many shares you located when doing a sell short order. Clicking this button clears out that memory.

Disable auto-expand editor for orders with Presets - if checked, orders that generally invoke the inline order editor that displays when you create an order (for example, algo orders) will not display IF an order preset is assigned. Only check this if you will not want to edit these orders on a per-order basis.

Auto adjust algo times - If checked, algos that are submitted at the close or use an invalid start or end time will be automatically adjusted to use the valid trading date. This setting could be useful for VWAP orders entered when the markets are closed.
Use multi-level structure in Order Destination field - if checked, the display of order destinations in the Destination field will use collapsible categories with sub-entries.
Set order ref for attached hedging order same as the parent order - if checked, child orders will be assigned the same order reference number as the parent order. If unchecked, the child order reference will show a message that includes the parent ID.

Completed Orders Settings

Auto-remove orders - this feature is checked by default. When unchecked, executed and cancelled orders remain on the both the trading and the pending pages.
Reuse rejected order - if checked, rejected orders will remain on the trading page.
Leave filled orders on the screen for - lets you increase or decrease the number of seconds before filled orders are deleted from the Trading window.
Leave cancelled orders on the screen for - lets you increase or decrease the number of seconds before cancelled orders are deleted from the Trading window.
Use auto-logoff time instead of midnight when downloading completed orders - if checked, TWS will download orders from the time of the last auto-logoff. Otherwise completed orders from midnight to the current time are downloaded.

Configure SmartRouting

You can define event-specific directives for contracts routed through IB SmartRouting, such as excluding quotes, setting a price cap by defining the acceptable distance from the NBBO, and specifying a strategy for non-marketable orders.

To modify SmartRouting functionality

1. Open *Global Configuration.*

   From within Mosaic, use the **File** menu.

   From within Classic TWS, use the **Edit** menu.

2. Click *Smart Routing* in the left pane.
3. Use the right panel to set these parameters:

Excluded Quotes

Exclude exchanges with non-firm quotes

Exclude exchanges with non-electronic quotes

If this option is selected, IB will use its best efforts to determine which exchanges' quotes are immediately automatically executable, and which exchanges' quotes would require manual (human) handling, and IB will route only to those exchanges offering automatic execution. Please note that while IB will use its best efforts, it is not always possible to determine whether a quote is automatically executable.

Maximum allowable distance from NBBO

Define the NBBO price cap by entering the "maximum allowable distance from NBBO." Note that NBBO price capping supersedes the exclusion of non-firm quotes, i.e. your order will be routed to a non-firm quote within the price cap over a firm quote outside the price cap.

> **Note: IMPORTANT** If you choose to: a) exclude quotes from certain exchanges; b) exclude non-firm quotes; or c) exclude non-electronic quotes, your order may not be executed at the best posted price nationally (the "NBBO"). This is because one of the exchanges that you chose to exclude might have the best posted price but that exchange will be bypassed by the IB SmartRouting system on your instruction.

In addition, if you exclude certain exchanges from the eligible SmartRouting destinations and your order is routed to another exchange with an inferior posted price, your order may not be executed by the exchange to which it is sent because that destination may not be willing to execute at an inferior price, or your order may not be marketable at that exchange. You should carefully evaluate all of these factors before deciding whether to exclude certain exchanges from the eligible IB SmartRouting destinations.

Routing Configuration

Seek Price Improvement

If checked, Smart routing will sweep certain exchanges for hidden liquidity at more favorable prices. This may result in slower executions.

Pre-Open Re-route

This allows you to route orders to major exchanges three minutes before the open. For orders submitted before the open, checking this box ensures your orders are routed prior to the open. This directive only applies to stocks listed on a major exchange, and cannot be used if the *Ignore Opening Auction* order attribute is set.

SMART Stock Routing Algorithms

Do not route to dark pools - For stock and warrant orders only. When checked, all dark pool destinations will be bypassed by the IB Smartrouter.

Customers who have the unbundled "Cost Plus" commission structure for stocks have the ability to choose from a list of Smart routing strategies for non-marketable stock orders to complement their trading strategy.

Use the checklist to select a single "Default" strategy which will automatically be applied to any non-marketable, Smart routed stock order, and any number of "Display" strategies, each of which will be available from the **Destination** field as a per-order selection.

Available strategies include:

SMART Multipurpose (SMART) - This is the basic smart-routing algorithm. Routes your non-marketable order to the default exchange for the contract.
SMART Dark Only - Will probe the dark pools for liquidity and use the immediate-or-cancel time in force.
Highest Rebate (SMART Rebate) - Routes your non-marketable order to the exchange offering the highest rebate for added liquidity.
Primary exchange (SMART Primary) - Routes your non-marketable order to the listing exchange for the contract.

Highest volume exchange with rebate (SMART VRebate) - Routes your non-marketable order to the exchange with the most volume that also offers the highest rebate for added liquidity.

On a best efforts basis, the IB SmartRouting system will attempt to capture a rebate on your order. However, not all trades will receive a rebate, as best execution *at the best possible price* remains the top priority.

Highest volume exchange with lowest fee (SMART VLowFee) - Routes your non-marketable order to the exchange with the most volume that also charges the lowest fee for taking liquidity.

To change your pricing structure from bundled to unbundled and take advantage of this feature, log in to Account Management, and select **Account Administration** and then *Pricing Structure* from the left contents pane.

SMART Option Routing Algorithms

Choose how to route a smart-routed, non-marketable options order.

SMART Multipurpose (SMART) - this is the basic smart-routing algorithm. Routes your non-marketable order to the default exchange for the contract.
SMART Maximize Rebate (SMART MaxRebate) - Routes the order to the exchange offering the highest rebate.
SMART Prefer Rebate (SMART PreferRebate) - Routes the order with the bias toward getting a rebate vs. getting the order filled.
SMART Prefer Fill (SMART PreferFill) - Routes the order with the bias toward getting a fill vs. getting a rebate.
SMART Maximize Fill (SMART MaxFill) - Routes the order with the sole objective of getting a fill.

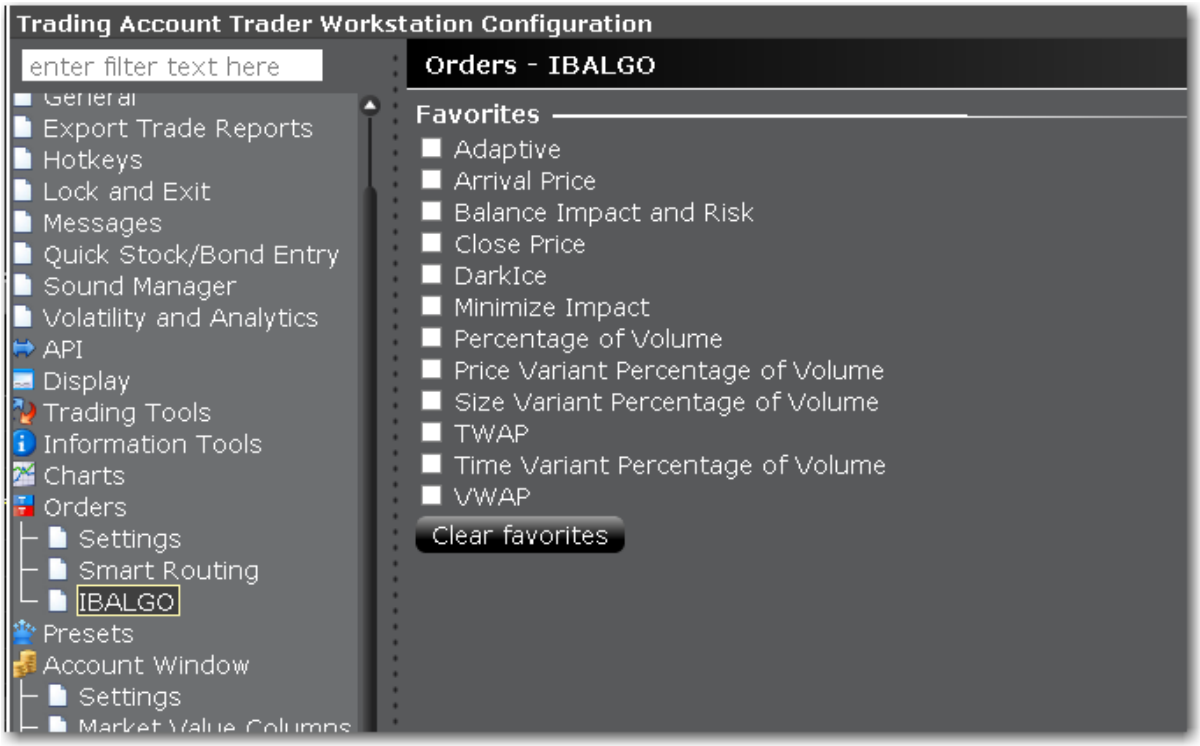
Try to post where the order will be on the top

Smart-routing will attempt to post your order to an exchange where it will be at the top of the book. Enabling this feature does not guarantee that the order will be at the top of the book, and may reduce the likelihood of getting a fill on the order.

Configure IB Algo Favorites

Configure IB Algos to be "Favorites" or clear Favorites settings. When an algo is marked as a favorite, it will become available from the Order Type drop down box from an order, eliminating one full click. When NOT a favorite, you need to select IBALGO from the Order Type drop down and then pick the algo.

Check to enable, uncheck to disable as a favorite.



Order Presets

About Order Presets **1367**

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Define Order Preset Values **1373**

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Target Order (Profit-taker) Settings **1380**

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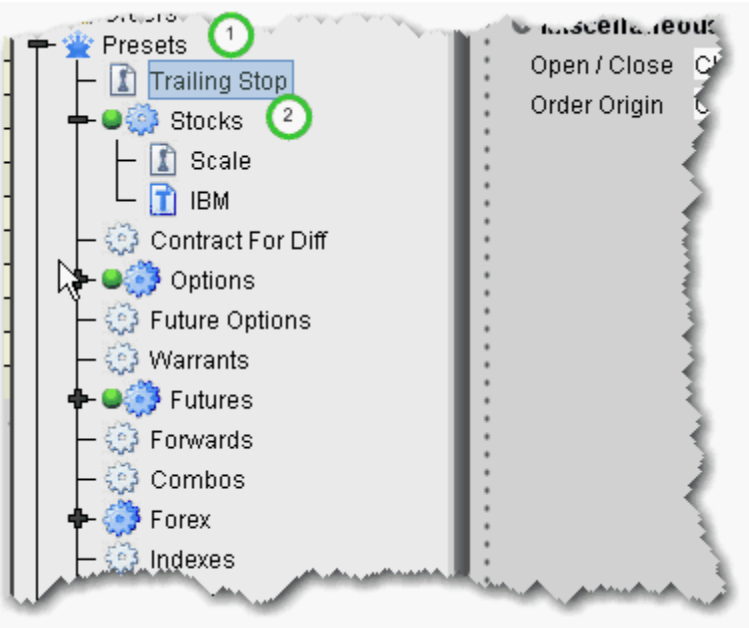
About Order Presets

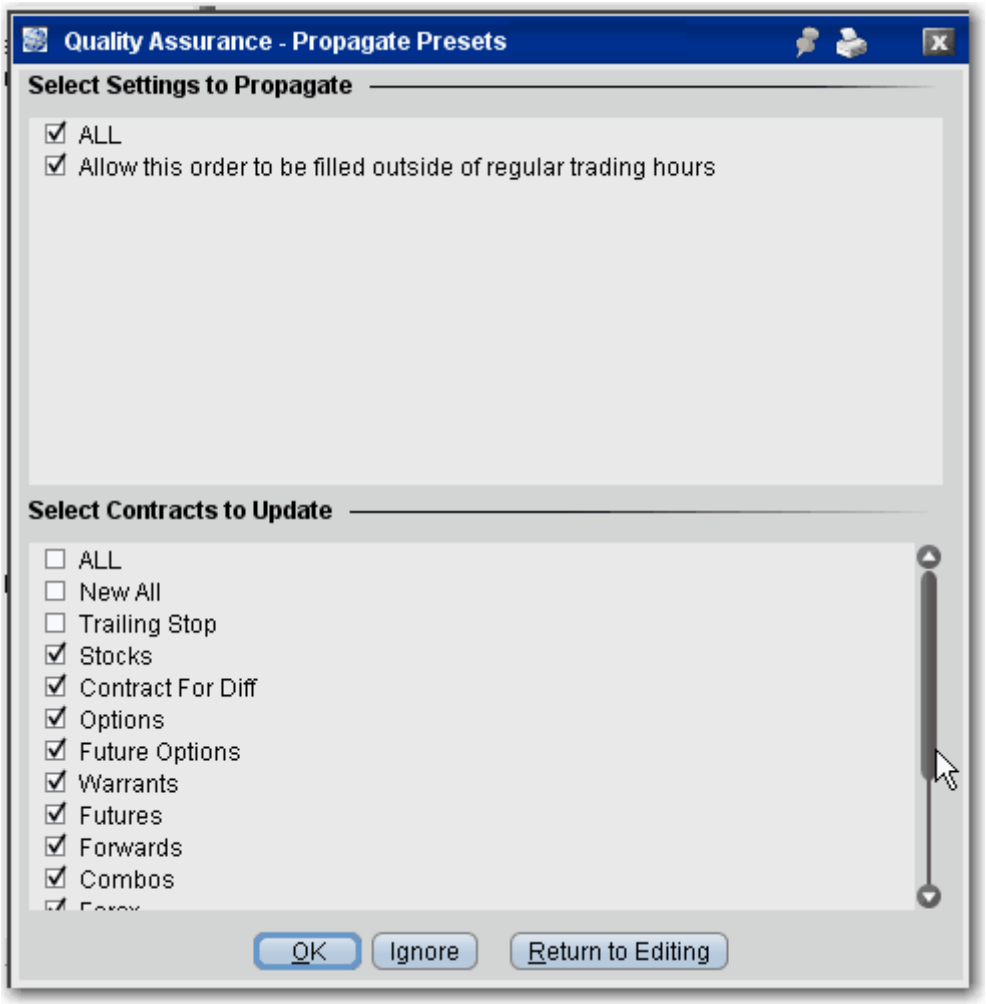
Order presets present a hierarchical layout of order strategies whose characteristics and values are set ahead of time, and can be set as the default order strategy or can be selected prior to the creation of an order. The below sections explain the hierarchy of presets and the function of each section on a preset page based on its position in the hierarchy.

The Hierarchy

Order presets are laid out as shown below, in a three-level hierarchy. Each sub-level inherits the settings from its parent preset. In the image below, the named preset *Scale* inherits the default values from its parent *Stocks(2)* preset, while the *Stocks* preset inherits applicable default values from the highest level **Presets(1)** preset. This hierarchy is described in more detail below.



The top level preset contains settings that apply to orders of all types on all asset classes. If you create named presets at the top level, the preset can be applied to orders on all asset types. Settings at the top level are inherited by and can be changed on the asset-level presets. Use this level to make a change that you want to affect all presets; for example, you may want to allow all orders to activate outside regular trading hours. Define this setting at the top level and elect to propagate some or all of the changes to other applicable presets using the Propagate Settings box shown below:



The **Propagate Settings** box is displayed any time you make a change in a higher level preset that could be applied to sub presets.

Asset Level

The second level, or asset-level presets, contain both the top level settings and asset-specific settings. For example, the Stock preset contains all the fields on the top level preset as well as *Algorithm* and *Display Settings* areas that are valid only for stocks.

Under the asset-level presets, you can create named and ticker-specific presets.

Named presets inherit all settings from the asset-level preset, and also include instrument - specific settings you can define for your strategy. You can create multiple named presets for an

asset type, for example one that creates a trailing stop order, one for scale orders, one for bracket orders, and select the preset strategy from the market data line before you create an order.

Ticker presets will be active by default for that ticker. As with all presets you can select a different strategy on a market data line before you create an order.

Create Order Presets

Presets expand the usefulness of default order settings by allowing you to create multiple sets of order defaults at the instrument level or ticker level, and apply them from the trading page *prior to creating an order* using the drop down selection in the **Presets** field.

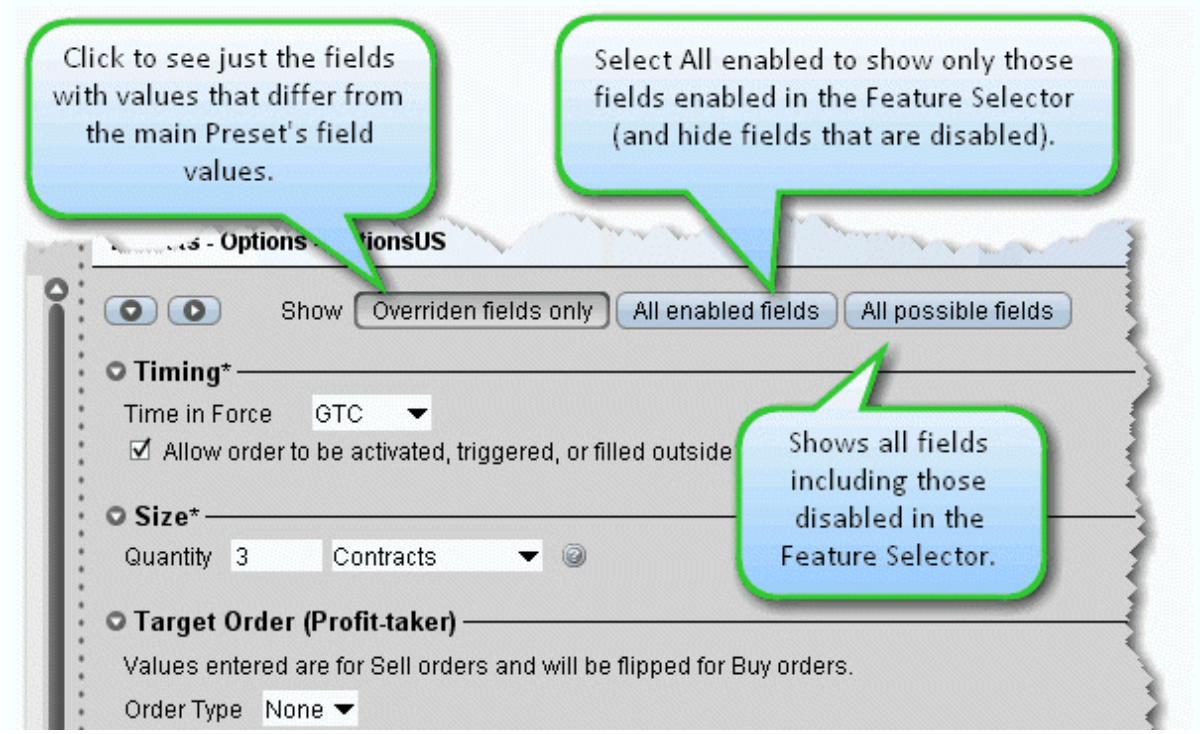
To configure presets

1. Open Global Configuration:

   From within Mosaic, use the **Edit** menu.
   From within Classic TWS, use the **File** menu.

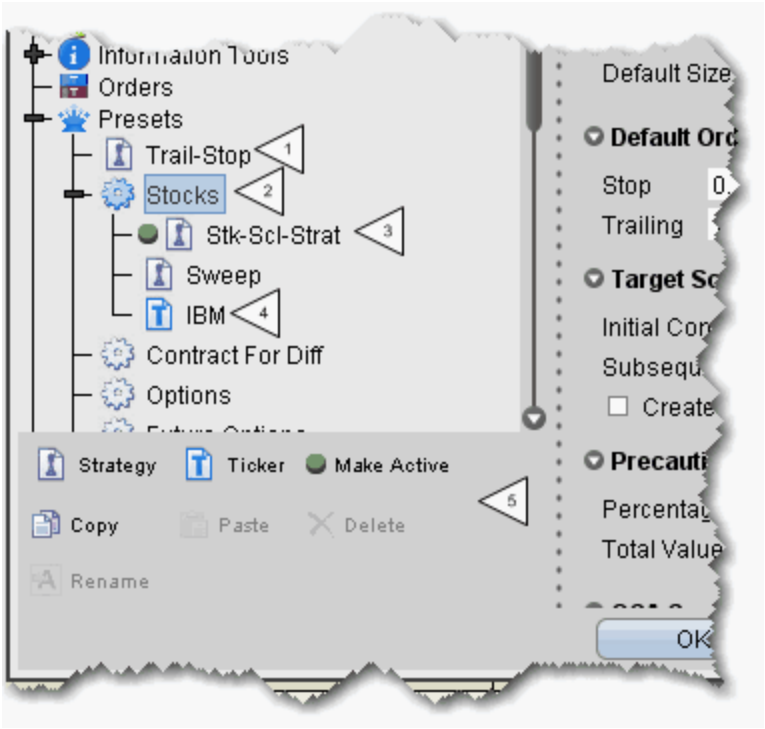
2. Select the instrument for which you want to define a preset.
3. Use the right-click menu and select *Preset*.

4. Enter a name and click *OK*.



The settings for the new preset are derived from the default settings defined at the main preset level identified by the crown. This upper level page includes all possible settings. When you create a sub-preset and modify the basic settings, you can elect to view only the differences between the sub and main presets by depressing the *Overridden fields only* button.

> **Note:** The asterisk next to a group label indicates that you made changes but haven't yet saved your settings.



5. The new strategy is highlighted in the left pane with its associated order defaults page in the right. Edit the order fields you want to associate with the order strategy and click OK. The numbered descriptions in the table below correspond to the image above:

1	Strategies defined at the top Preset level, such as Trail-Stop in this example, can be applied to any instrument type, but cannot be designated as “Active.”
2	The top-level instrument type is the default order preset for all contracts of that type, until another is made Active. Instrument-level presets appear below the top-level instrument type and will only be available from the Preset drop-down for tickers of that instrument type.
3	One preset for each instrument can be active. The Active preset is identified by the green ball, and becomes the default order strategy for all

contracts of that type. In the above example, all Stock contracts on all pages will use the Stk-Scl-Strat order defaults when you create an order. Select a different preset for any contract using the Preset drop-down list on the market data line.

4. Ticker-level presets become the default for that ticker and are not available for any other tickers even on the same instrument.

5. The Preset icons function as follows:

   Strategy - click to create a new preset strategy for the selected level, either top, instrument-level, or ticker-level.

   Ticker - becomes available when you select an instrument type. Click to create a ticker-level preset.

   Make Active - click to make the selected preset active for all symbols of the instrument type, except those with a ticker-level preset defined.

   Copy - copies the strategy settings from the selected preset.

   Paste - overwrites the settings from the selected preset with the copied settings.

   Delete - removes the selected preset strategy with no confirmation message.

   Rename - change the name of the selected preset.

The default values that you can define for each Preset vary slightly based on the instrument/contract you select. The defaults you can set are defined in the tables in the Define Order Preset Values topics.

Define Order Preset Values

The presets pages are broken into categories, including:

Timing and Size Settings

Primary Order Settings

Scale and Adjusted Stop Fields

Target Order (Profit-taker) Settings

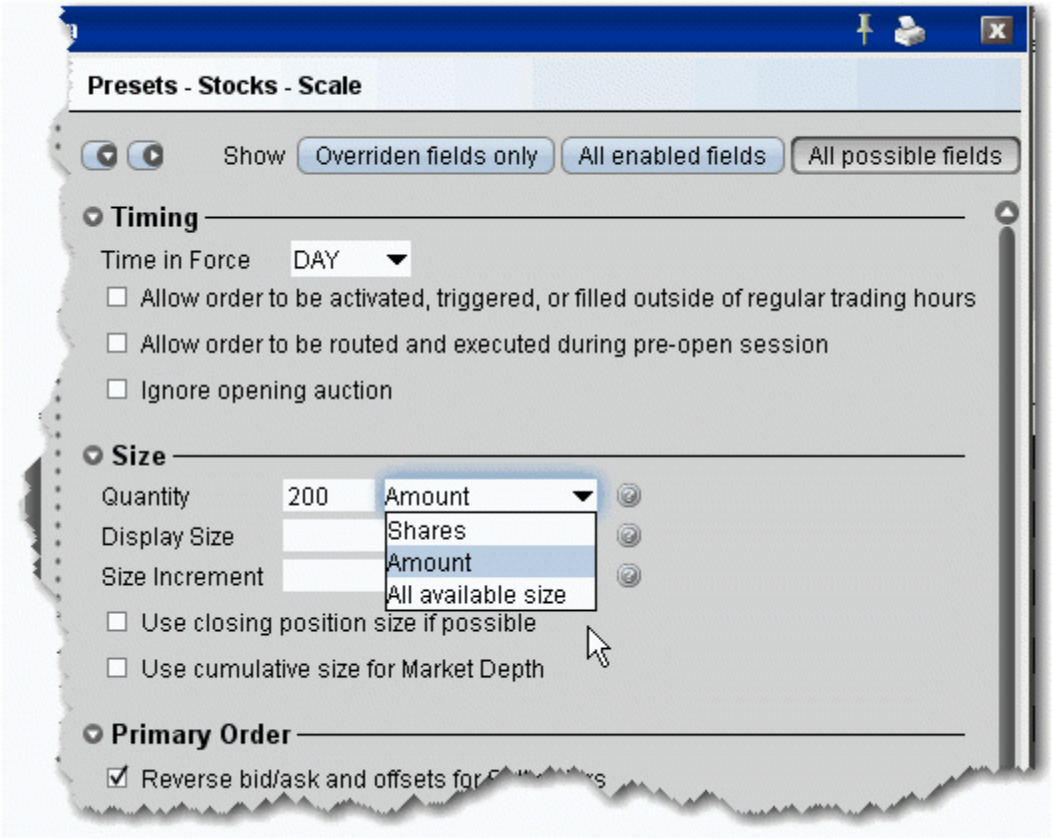
Attached Stop Order Settings

Miscellaneous Defaults

Define Precautionary Settings

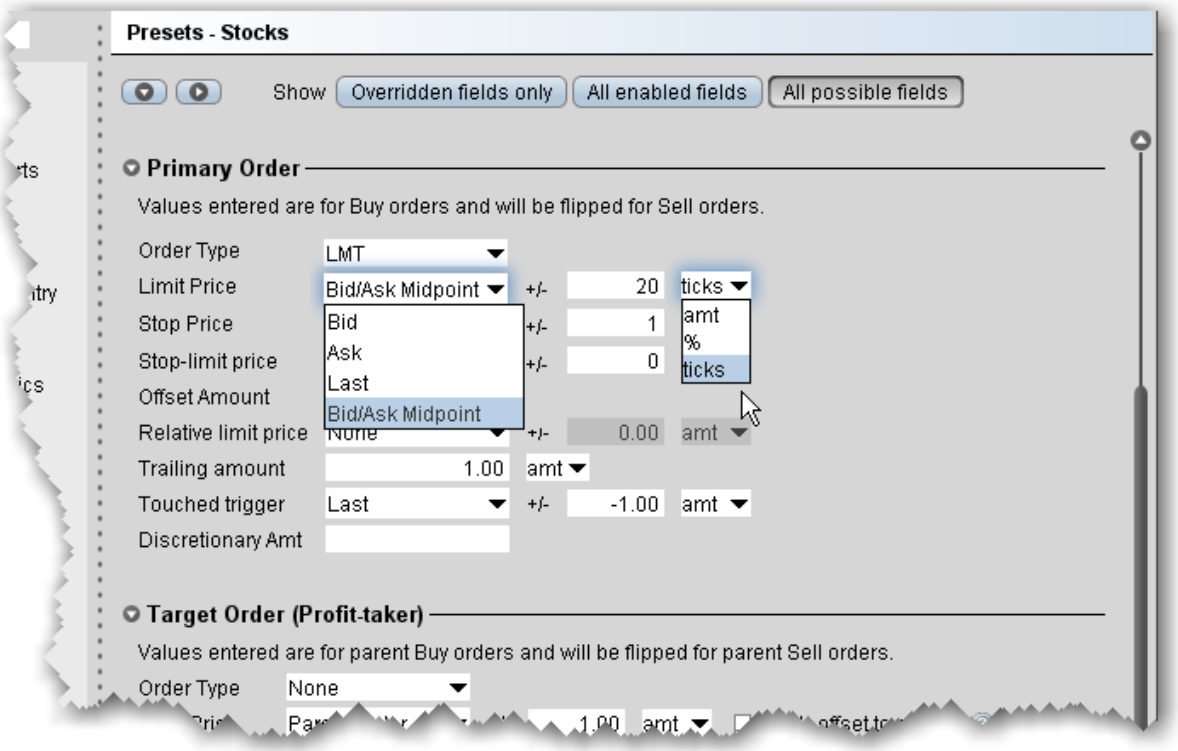
Algorithm Settings

Default Display Settings



Primary Order Settings

The primary order is also called the parent order. Values you set will be used when you select the associated order type, for example, the Stop Price value will only be used if you select *Stop* as the order type. Based on the settings below, the default order type is a LIMIT order.



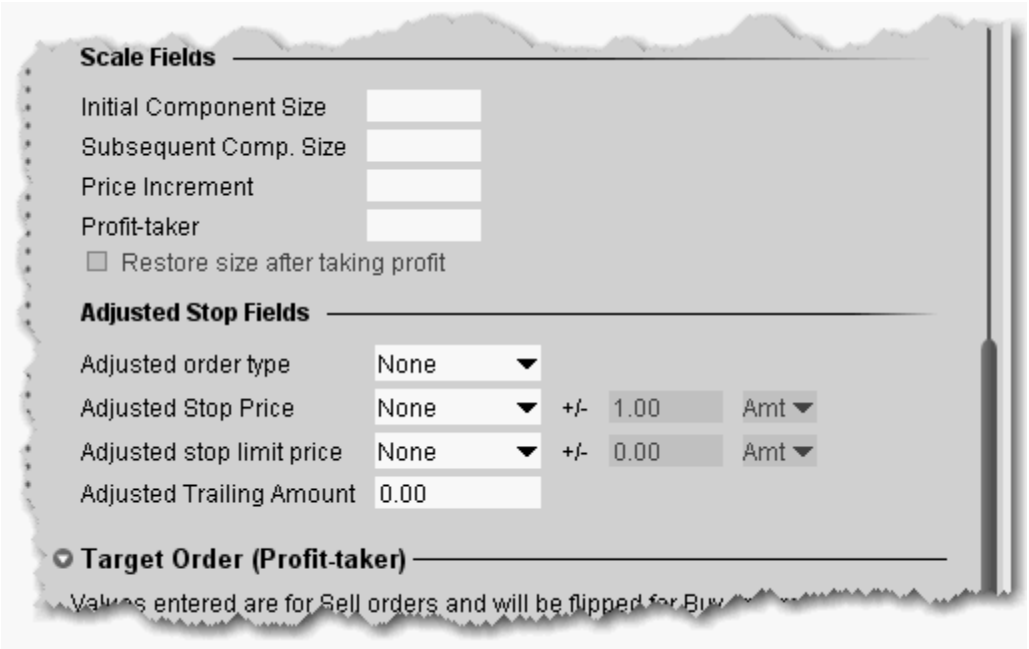
Field Name	Description	Notes
Values entered are for buy orders and will be flipped for sell orders.	Relevant properties will be inverted for sell orders.	NOTE: This feature can only be turned off in the user-defined named presets.
Order Type	The default order type that will be used	

	any time you create an order using this preset.	
Limit price	The value used for the default limit price, if your order uses a limit price. Pick from Bid, Ask, Last or Bid/Ask Midpoint.	Use the +/- offset field to enter an offset amount, percentage or ticks that will be added to/subtracted from the price. Note that you can enter a positive or negative value.
Stop Price	The value used for the default stop price. Pick from Bid, Ask, Last or Bid/Ask Midpoint. This value is used if the default order type is a stop order, and also if the default order type is not a stop order, but in the order line you elect to change the order type to a Stop order.	Use the +/- offset field to enter an offset amount, percentage or ticks that will be added to/subtracted from the price. Note that you can enter a positive or negative value.
Stop-limit price	The value used to determine the limit price in a stop limit order. Pick from Bid, Ask, Last or Bid/Ask Midpoint.	Use the +/- offset field to enter an offset amount, percentage or ticks that will be added to/subtracted from the price. Note that you can enter a positive or negative value.
Offset Amount	The relative offset amount used for relative orders. This amount will be	

	added to the best bid (for a buy order) and subtracted from the best ask (for a sell order) to create the limit price at which the relative order will be submitted.	
Relative limit price	The value used to calculate the starting price for a Relative order. Choose from Bid, Ask, Last, Bid/Ask Midpoint or None. If you choose None, the price defaults to the Bid price for Sell, and the Ask price for a Buy.	
Trailing amount	The trailing value used for a trailing stop order.	
Touched trigger	Value used to calculate the Trigger Price for Limit if Touched and Market if Touched orders. Pick from Bid, Ask, Last or Bid/Ask Midpoint.	
Discretionary Amt.	The default value that will be applied when you use the discretionary order attribute.	

Scale and Adjusted Stop Fields

These fields show only for named presets and apply to the primary order.



Field Name	Description	Notes
Initial Component Size	Set a default size for the initial component of a scale order.	
Price Increment	The incremental amount by which the price of each successive component will change.	
Subsequent Component Size	Set the component size for all remaining order components of the scale order.	Leave blank to use the *Initial Component Size* for all components.
Profit-taker	Define the amount that will be added to/subtracted from the last filled component price for the opposite side	

	profit order.	
Restore size after taking profit	Check to have the size of the order restored at a specific price level after the profit order fills.	

Field Name	Description	Notes
Adjusted order type	When you select an adjusted order type, the stop order you're adjusting will not trigger when the stop price is hit. Instead, it will be changed to this order type, and use the other parameters below. Select one of the stop order types. When your current stop price is penetrated, it will change to this order type and use the instructions you set in the following fields.	
Adjusted stop price	When the trigger price is hit, the adjusted stop price is implemented for the new order.	
Adjusted stop limit price	Used for Stop Limit and Trailing Stop Limit orders. This value will be the limit price of the order if it is triggered and submitted.	
Adjusted trailing amount	Used for Trailing Stop and Trailing Stop Limit orders. This value will replace the original trailing amount if the adjusted order is triggered.	

Target Order (Profit-taker) Settings

The target order fields are linked to the parent or Primary order, and will not be available if you elect a scale primary order with *Restore size after taking profit* enabled.

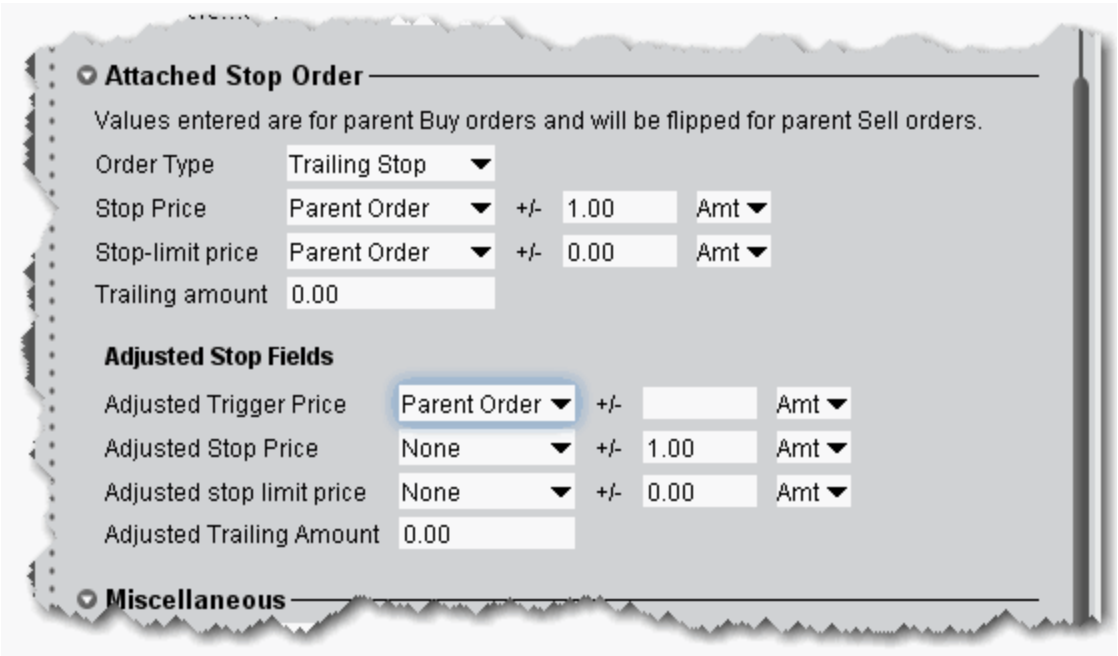
Note that you must enter these values as if the parent order were a Buy order. In the case that the parent order is a sell, the values will automatically be flipped.

Field Name	Description	Notes
Order Type	The order type for the child profit-taking order.	If you select *None* no target order will be created.
Limit Price	The limit price for the profit taker.	Select Parent order to create a target price equal to the price of the parent order +/- a defined offset amount or percent.
Apply offset to parent	If you elect to apply the offset to the parent order price, check to have the offset applied to the actual fill price of the parent order.	
Offset Amount	If the Relative order type is selected, define the relative	

	offset amount.	
Initial Component Size	Set a default size for the initial component of a scale order.	
Price Increment	The incremental amount by which the price of each successive component will change.	
Subsequent Component Size	Set the component size for all remaining order components of the scale order.	Leave blank to use the *Initial Component Size* for all components.

Attached Stop Order Settings

The attached stop fields are related to the parent order.



Field Name	Description	Notes
Order Type	The order type for the attached child order.	If you select *None* no attached order will be created.
Stop Price	The stop trigger price for the attached stop order.	Select Parent order to create a stop price equal to the price of the parent order +/- a defined offset amount or percent.
Stop-limit Price	The limit price at which the attached order will be submitted when triggered.	Only used if the order is a stop limit or trailing stop limit order type.
Trailing Amount	If the order is a trailing order, this value represents the amount by which the order will trail the market price.	The order trails in only one direction.

Attached Stop Order

Adjusted Stop Fields

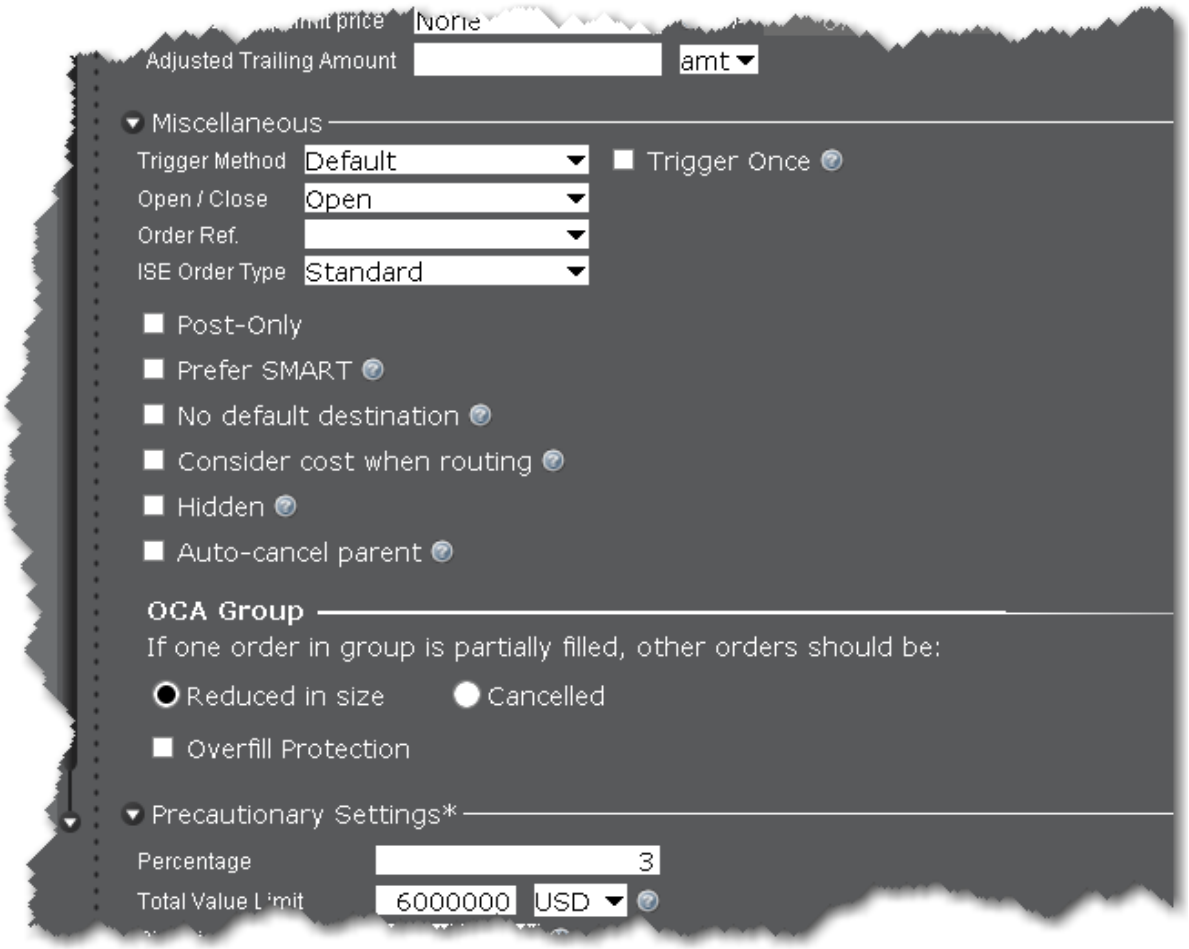
These fields are used if the **Attached Stop Order** type above is *Adjustable Stop*.

Field Name	Description	Notes
Adjusted Trigger Price	The trigger price that triggers adjustments to the existing stop order.	
Adjusted Stop Price	The adjusted stop trigger price for the order.	
Adjusted Stop Limit	The adjusted limit price at which the order will be submitted.	

Price		
Adjusted Trailing Amount	The new trailing amount which defines the amount by which the order will now trail the market price.	

Miscellaneous Defaults for Presets

Define defaults to be used for all sub-presets (i.e. stocks, options, specific symbols etc) that you don't set.

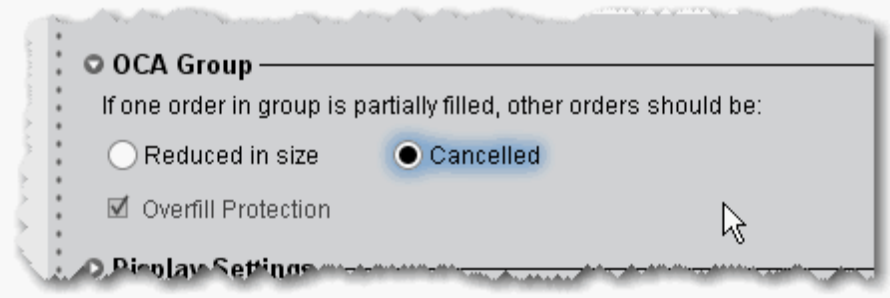


Field Name	Description	Notes

Trigger Method	The trigger method is used to trigger Stop, Stop Limit, Trailing Stop and Trailing Stop Limit orders.	You can Modify the Stop Trigger Method.
Trigger Once	Check to keep triggered orders active. If unchecked, triggered orders are deactivated at the end of the day, and will only trigger again if defined trigger criteria are met.	
Open/Close	Identifies the default action to either open or close a position.	For non-cleared customers.
Order Ref.	A user-controlled field to identify orders.	This setting will be overridden by the page level setting.
Clearing Acct	Select the clearing account.	For non-cleared customers.
Order Origin	Defines the origin of your order in relation to the market.	
ISE Order Type	The Standard order is completely anonymous. The SOI order broadcasts the symbol to other ISE MPM members and may get execution priority.	

Post only	If checked, when there is non-displayed liquidity at the same price point, the order price is adjusted low (for a buy) or higher (for a sell) by one penny to avoid taking that liquidity. If the order comes in at a price higher (for a buy) or lower (for a sell) than an order already sitting on the book, it becomes an IOC (immediate-or-cancel) order at the better price.	For smart-routed US stocks and options.
Prefer SMART	If checked, TWS will SMART route all orders if Smart-routing is available, regardless of the routing selection defined for the ticker.	
No default destination	If checked, all orders using this preset will be created with a blank default routing destination.	
Consider cost when routing	If checked, Smart routing will consider the total cost of executing the order, including commissions and other fees, when deciding where to route the order. If unchecked, only the exchange price is considered.	For smart-routed European stocks.
Hidden	Check to hide the entire order quantity from the market.	
Auto-cancel parent	For orders with a parent-child pair, check to have the parent order canceled when the child order is canceled.	

OCA Group Defaults

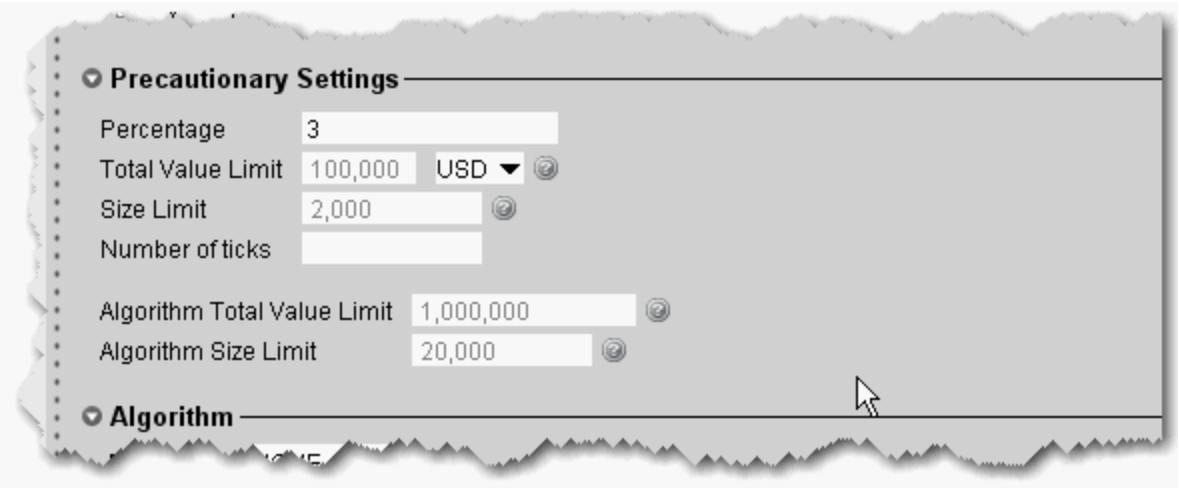


Use the One-Cancels-All order attribute to work related orders in conjunction with one another.

Field Name	Description	Notes
If one order in group is partially filled, other orders should be...		
Reduced in size	The default is to have other orders in the OCA group proportionately reduced in size based on the quantity of the filled portion.	
Cancelled	All other orders in the group are cancelled	
Overfill Protection	If checked, this dictates that only 1 order in the group will be routed to an exchange at a time. This strategy completely removes the possibility of an overfill.	

Define Precautionary Settings

Precautionary values are used by the system as safety checks. If you submit an order that violates any of these custom settings, you will have to confirm your intent to transmit the order before TWS submits it.



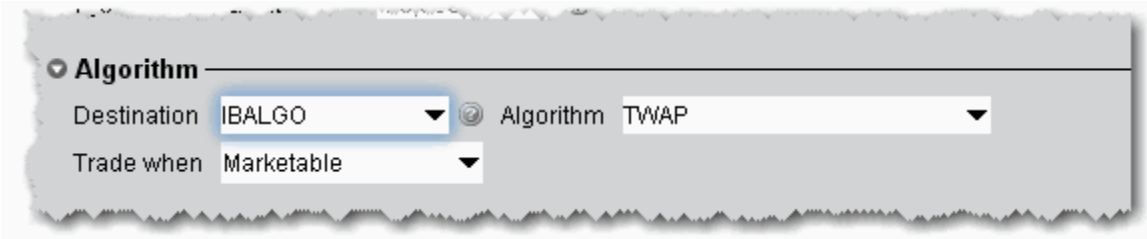
Field Name	Description	Notes
Percentage	This option was created as a safety net to prevent you from transmitting a limit order that has a mistyped limit price. If you attempt to transmit a limit order with a price outside of this calculated percent off the market price, you will receive a message asking you to verify that you meant to enter that off-percentage price before it will transmit the order. The market price used is the price displayed in either the bid (sell) or ask (buy) field at the time you transmit the order. This option can be left blank.	
Total Value Limit	If you transmit an order with a price that exceeds the total dollar amount you specify, you will receive a message informing you that the Total Value constraint has been violated, and you must confirm that you want to submit the order regardless.	
Size Limit	Limits the value in the *Quantity* field. If you enter a higher value, you can override the default size limit by clicking	

	Yes in the warning box.	
Number of Ticks	Like the *Percentage* option above, number of ticks is also a safety net to prevent you from transmitting a limit order that has a mistyped limit price. If you attempt to transmit a limit order with a price outside of this calculated number of ticks off the market price, you will get a message asking you to verify that you meant to enter the off-percentage price before it will transmit the order. The market price used is the price displayed in either the bid (sell) or ask (buy) field at the time you transmit the order. This option can be left blank.	
Algorithm Total Value Limit	If you transmit an algo order with a price that exceeds the total dollar amount you specify, you will receive a message informing you that the Total Value constraint has been violated, and you must confirm that you want to submit the order regardless.	Enter “0” to disable the limit. If you do not enter a value, the algo value limit defaults to the Total Value Limit (above)

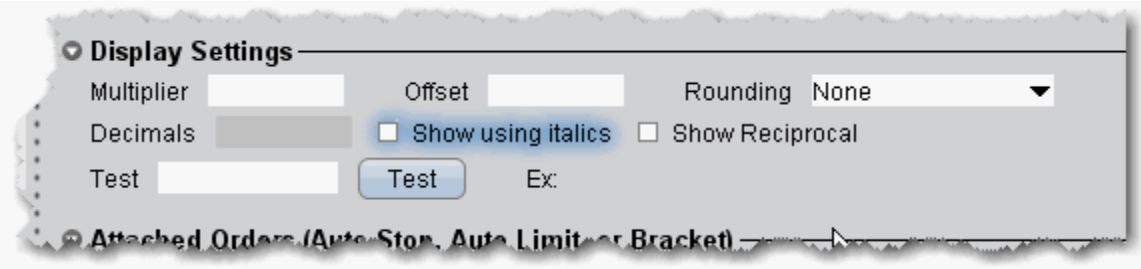
		x 10.
Algorithm Size Limit	Limits the value in the *Quantity* field for algo orders. If you enter a higher value, you can override the default size limit by clicking Yes in the warning box.	Enter “0” to disable the limit. If you do not enter a value, the algo size limit defaults to the Size Limit (above) x 10.

Algorithm Settings

Choose an algo destination to use the algo order as the default order type.



Default Display Settings



Display settings change the way values are displayed on the trading window.

Field Name	Description	Notes
Multiplier	Multiplies the price by this value.	
Offset	You can use this to offset a displayed price for instance for a specific futures contract. Say ES bid/ask is 1314.75/1315.00. First, select *Futures* in the middle pane, then click the **Add** button at the bottom of the column and enter ES. Enter an offset of 1300. To see how this will display, in the *Test* box enter 1314.75 and click the **Test** button. The example displays as 14.75.	
Rounding	Change the default of None to Round, Nearest Valid Price or Truncate. Use the Test entry field to enter a value, can click Test to see the result.	

Decimals	Overrides the default 2 decimal-place price display.	
Show using italics	Displays price data italicized.	
Show Reciprocal	Re-calculates the quote to 1/quote. This setting allows Asian contracts to be viewed in the familiar local format.	You can apply the reciprocal display to specific contracts using the Add button beneath the left-pane list. Select an instrument type, click Add, and enter a symbol. Highlight that symbol and click Show Reciprocal.
Test	Used to test the display changes you have made. Enter a hypothetical price value, then click the *Test* button. All of the Display Setting changes are applied and the result shows as the Example.	

Using Presets from the Trading Window

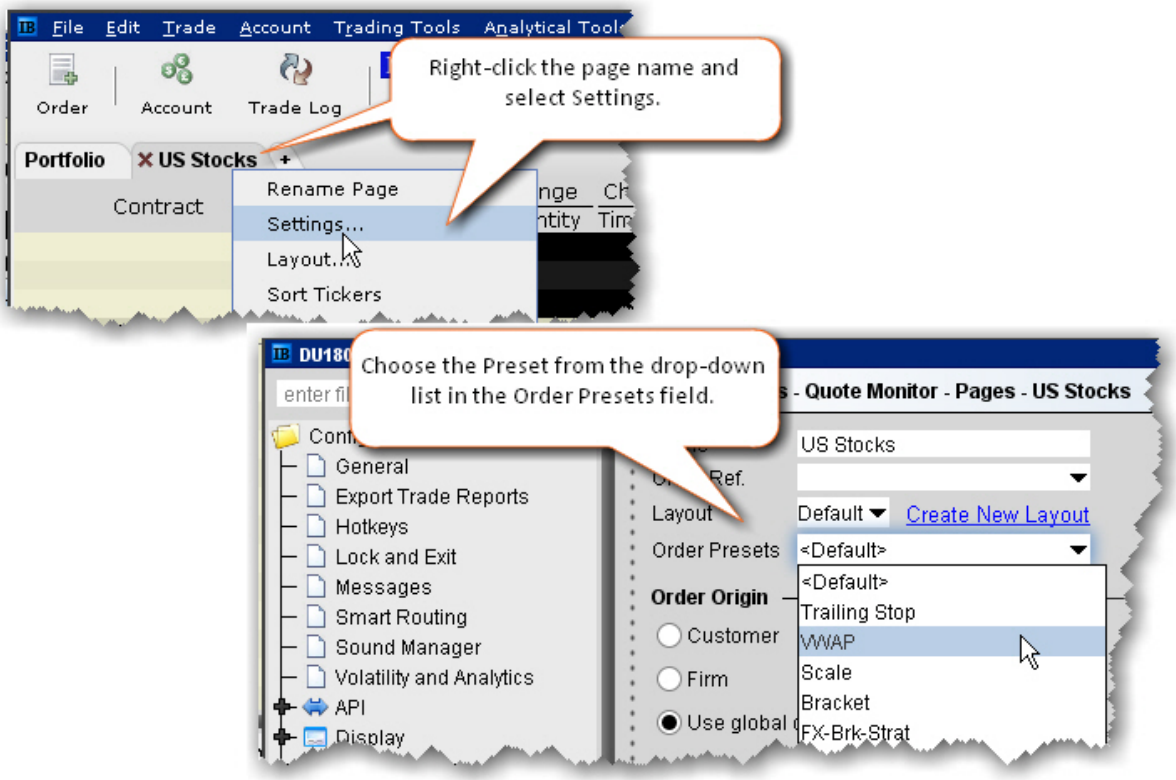
To use a Preset order default strategy, simply select it from the Preset field in the ticker line on your trading window. Note the following:

Presets created at the top Presets level are available on any instrument.

Presets created at the instrument level are available only for that instrument.

Ticker level - only one preset can be created for a specific symbol, and it can only be used for that symbol. A ticker-level preset is used as the default for the symbol.

Alternatively, you can associate a preset strategy with a Quote Monitor to guarantee that all orders created on a specific page will use a specified preset.



To associate a Preset with a Quote Monitor

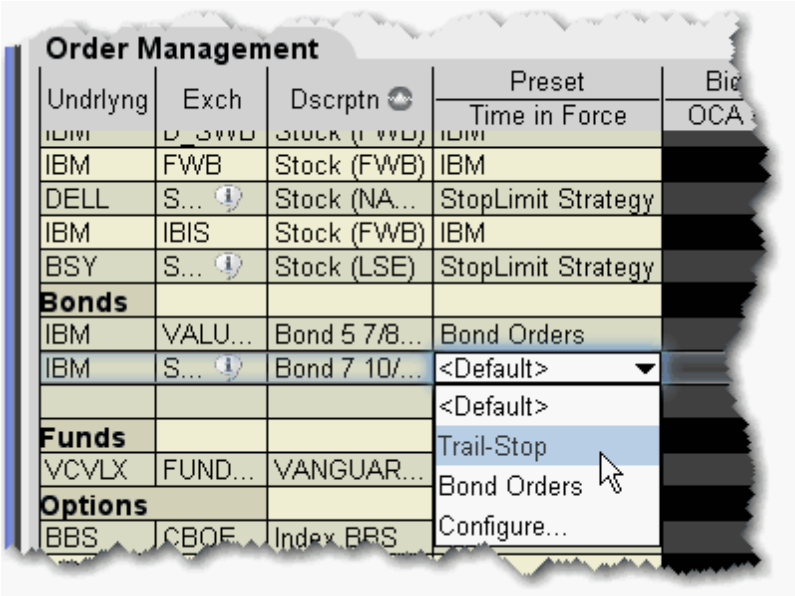
This procedure assumes that you have already created the preset you want to associate. If you have not, please **Create Order Presets**

1. Right-click the title of a page and select *Settings*.
2. In the Order Presets field, select the name of the preset to associate with the page.
3. Click OK.

To use the Preset field from the Trading Window

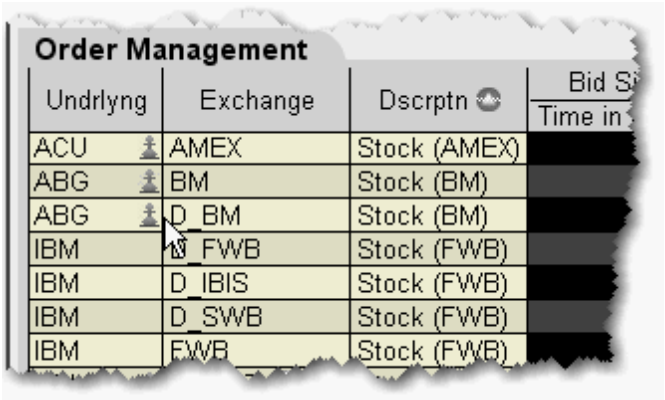
1. Right-click the row of field headings and select *Customize Layout*.
2. From the Order Presets category, select *Preset* and **Add** to the Shown Columns list.

3. Click the Preset drop-down from a market data line to see the preset strategies available for the selected ticker.



Note: Existing customers: Each top level instrument strategy uses the original order defaults you defined, unless you elect to copy and paste a new set of values.

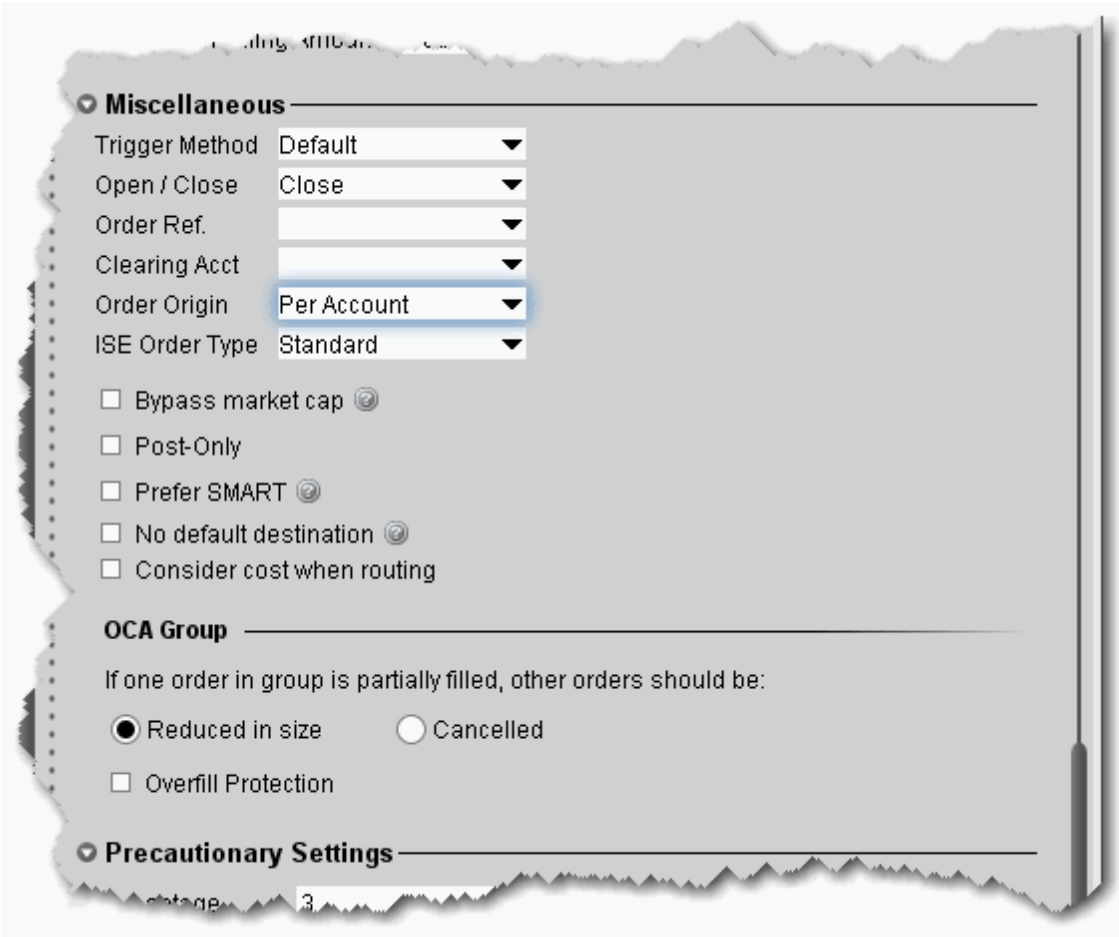
The displayed value is the default strategy for that instrument or ticker; select a new strategy from the drop-down list. The list includes all global presets and all instrument-level presets. The Default is the current active strategy defined in Global Configuration. New orders will use the displayed preset strategy. If you change the strategy, the change will not apply to existing orders.



If the page does not have the *Preset* column displayed, a Strategy icon appears next to any tickers that have a custom strategy applied. If no strategy icon is displayed, the ticker uses the default instrument-type set of order defaults.

Modify the Stop Trigger Method

You can modify the trigger method for Stop, Stop Limit, Trailing Stop and Trailing Stop Limit orders on a per-order basis using the Order Ticket. You can also set the default trigger method for a strategy using the *Trigger Method* dropdown in the **Miscellaneous** section of the order Preset.



To change the default Trigger Method

1. On the **Edit** menu, select *Global Configuration*.
2. In the left pane, select *Presets*.
3. In the **Trigger Method** dropdown list, select the preferred trigger method that will be used for all orders affected by the preset.

To modify the stop trigger method for the current order

1. Display the Trigger Method field on the trading window.
2. Highlight a stop, stop-limit, trailing stop or trailing stop limit order and select a method from the *Trigger Method* field.

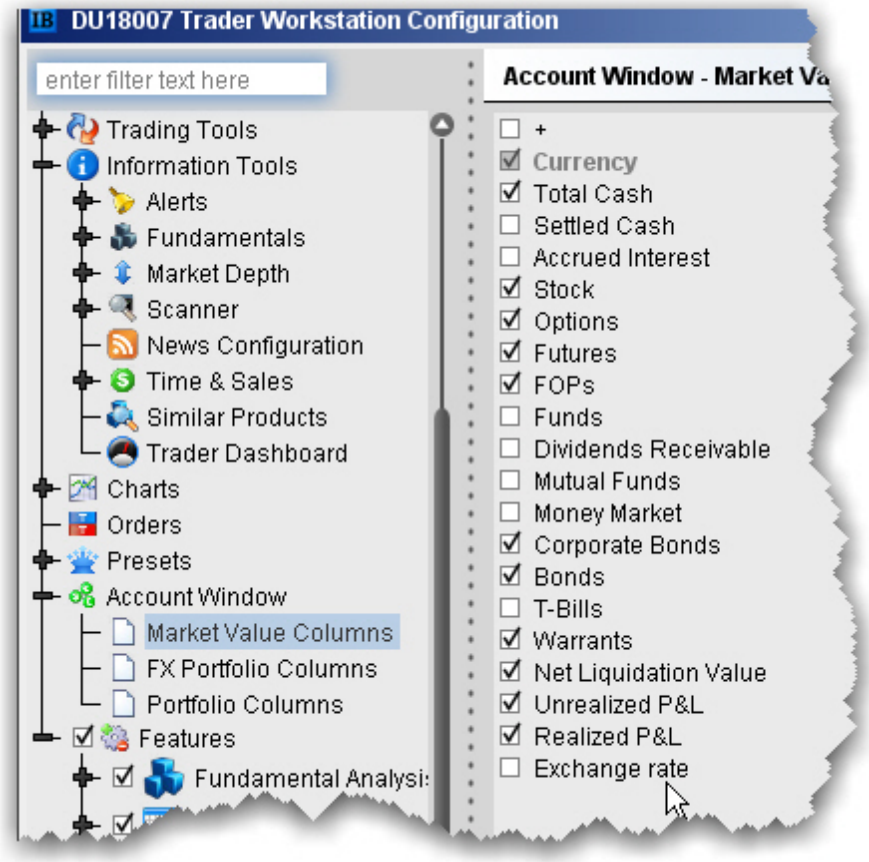
Trigger Method	Description
Default	Unless the customer modifies any of these features, the default trigger method for all stocks is the Last method, described below. For US options, the default trigger method is the double bid/ask method, where two consecutive ask price (bid price) values must be less than (greater than) or equal to the trigger price, and the second bid or ask must have greater size if it is at the same price level as the first bid or ask. For Forex contracts (for example EUR/USD currency pair), the default trigger method is bid/ask, where the ask price (bid price) value must be less than (greater than) or equal to the trigger price. For all other contracts, the default trigger method is the Last method, described below.
Last	For a buy (sell) order to be triggered: One last price value must be greater than (less than) or equal to the trigger price; and The exchange or other market center where the order is to be executed must also publish (and the system must also receive) a bid price and an ask price; and Last must be within the bid/ask (i.e. >=bid and <= ask) or within leeway percentage outside the bid/ask (i.e. >=bid-0.5% of last and <=ask+0.5% of last). This 0.5% amount of leeway is subject to change at any time without notice. With the exception of OTCBB- and Pink Sheets-listed stocks, stop and stop-limit order in US stocks will also only be triggered if the primary exchange on which the stock trades is open, is holding regular trading hours, and has a valid bid/ask quote for the stock. Regular trading hours

	are usually between 9:20 am - 4:00 pm Eastern Time, Monday through Friday for exchange-listed stocks. NOTE: This limitation does not apply to stop or stop-limit orders in futures contracts).
Double Last	For a buy (sell) order to be triggered: • Two consecutive last price values must be greater than (less than) or equal to the trigger price; **or** • The last price value must be greater than (less than) or equal to the trigger price and the last size must be an increase.
Bid/Ask	For a buy (sell) order to be triggered: • A single bid (ask) price must be greater than (less than) or equal to the trigger price.
Double Bid/Ask	For a sell order to be triggered: • Two consecutive ask prices must be less than or equal to the trigger price; or • One ask price value must be less than or equal to the trigger price and the ask size must be an increase. For a buy order to be triggered: • Two consecutive bid prices must be greater than or equal to the trigger price; or • One bid price value must be greater than or equal to the trigger price and the bid size must be an increase.

Last or Bid/Ask	For a buy (sell) order to be triggered: • A single bid (ask) or a single last price must be greater than (less than) or equal to the trigger price.
Mid-point	For a buy (sell) order to be triggered: • The midpoint of the bid/ask must be greater than (less than) or equal to the trigger price.

Configure the Account Window

Specify the fields you want to include in the sections of the Account information window.



Features

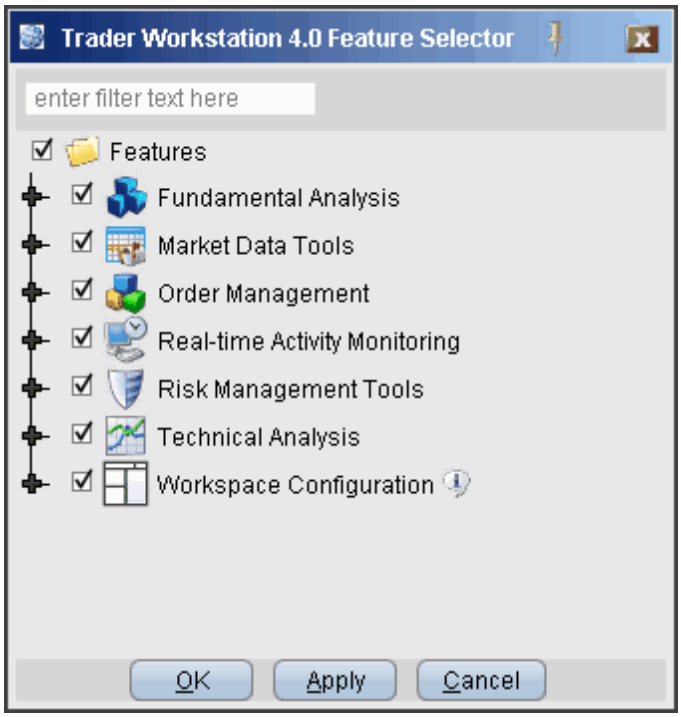
Introduction

Open the Feature Selector

Enable Features through Menus

Open the Feature Selector

The Feature Selector groups features in categories and subcategories. To help you find what you're looking for, use the text **Search** box at the top of the window. The list is filtered to show only those features which include the text you've entered in their title. To clear the search and display all categories again, click the *Clear* icon that appears to the right of the **Search** box.



To open the Feature Selector

On the **Edit** menu select Global Configuration and then choose *Features* in the left pane.

You can disable an entire category of features with a single click, or drill down to a specific feature within a group using the expand/collapse icon.

To disable/enable a feature using the Feature Selector

1. Click to remove the checkmark next to a feature or a feature group.
2. Click the expand icon to drill down in a group.

You can also enable features from the menus.

Enable Features through Menus

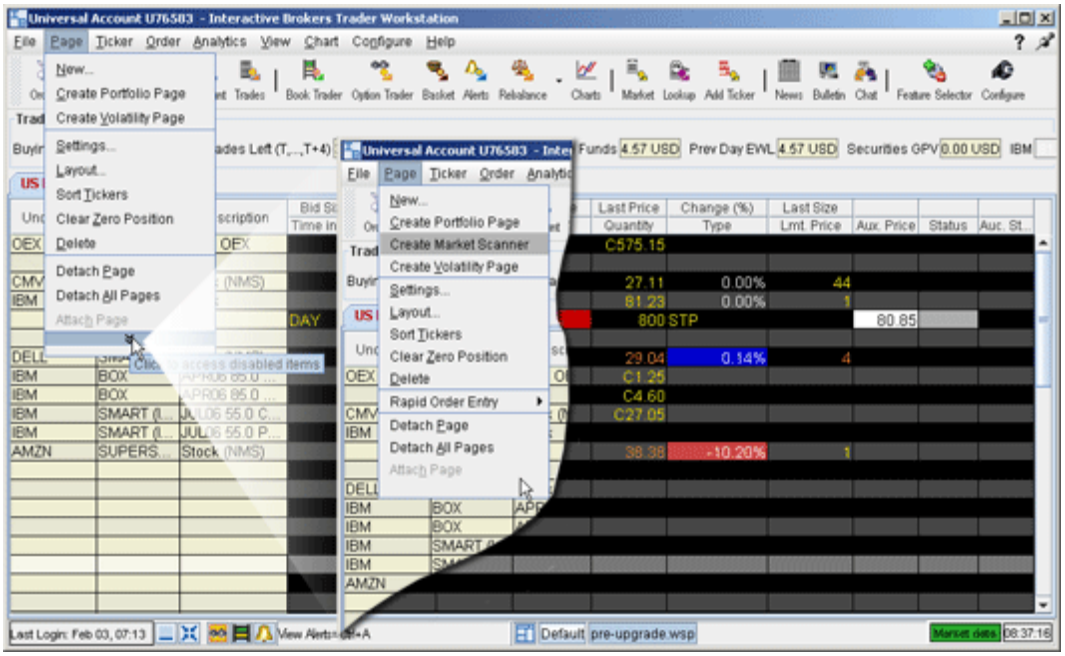
The Feature Selector, accessible through the **Configuration** menu or by clicking the **Configure** icon on the toolbar, allows you to disable features you don't use. These disabled features are hidden from the menus and screens. You can now enable these features at any time without having to search for them within the Feature Selector by expanding the menu to show disabled features.

Enable a feature from its menu

Menus which contain disabled features show a double "expand" arrow following the final menu command.

1. Click the double arrows at the bottom of the selected menu.
2. Disabled features now appear in the menu, highlighted in dark grey. Select the feature you want to use.
3. Click **Yes** to the question "Would you like to enable this feature now?"

The feature is enabled, and will become active if appropriate. For example, if you have an underlying selected and elect to enable Market Depth, the Market Depth window will open for the selected underlying after you click "Yes." If you don't have an underlying selected, the Market Depth feature will be enabled but will not open since it has no data to display.



Workspaces and Panels

Introduction

Managing Workspaces

Quote Panel

Orders Panel

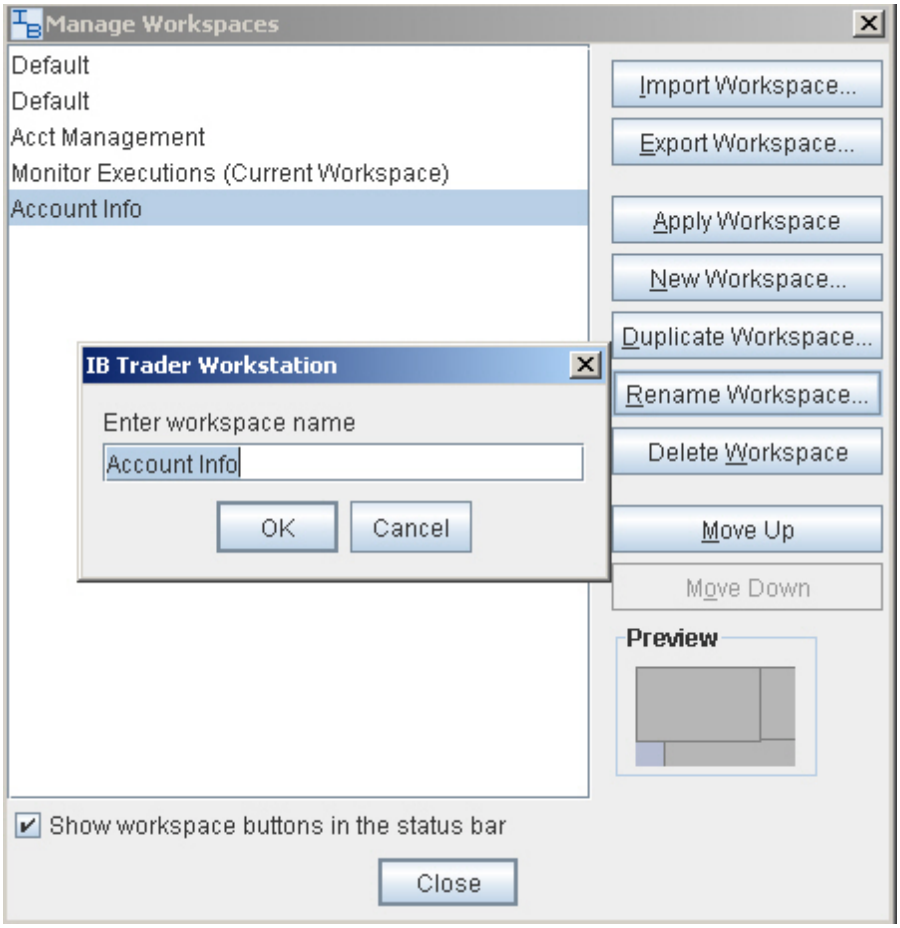
Log Panel

Trades Panel

Portfolio Panel

Managing Workspaces

Create a custom trade environment on your desktop based on your trading needs. When you log in, select a workspace from the set of buttons on your toolbar. You can create a workspace that includes any of the TWS self-contained windows.



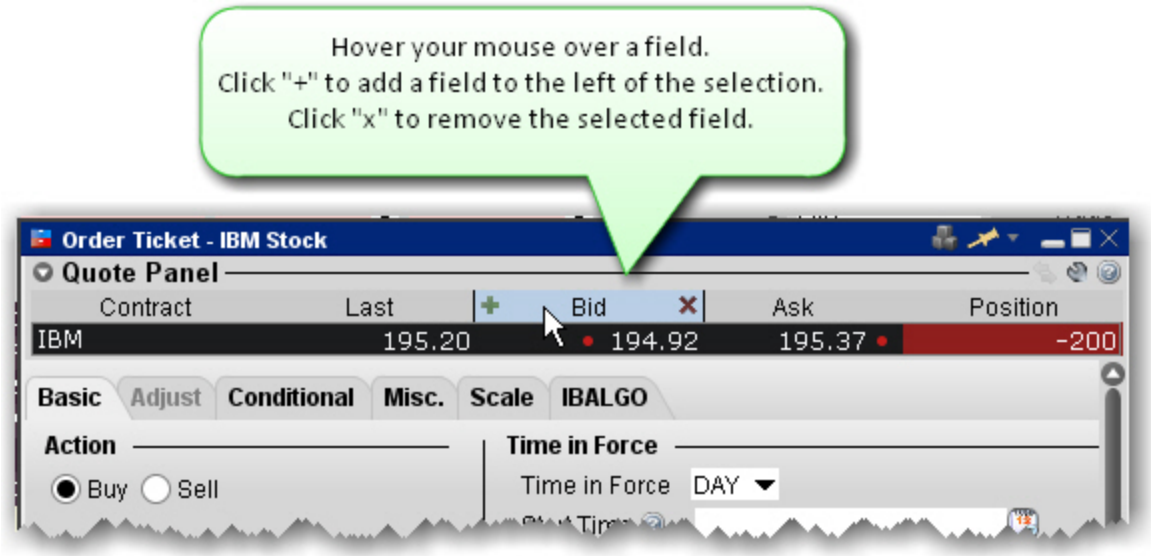
Create a workspace

1. Arrange windows on your desktop in any combination and any design.
2. On the bottom status bar, click the Manage Workspaces icon.
3. Click *New Workspace* and enter a workspace name.
4. Click OK, and the new workspace appears in the list. The last used workspace is loaded when you login.

To delete a workspace, right-click on the appropriate workspace icon on the status line at the bottom of the application, and select *Remove Workspace*.

Quote Panel

The Quote panel appears at the top of the self-contained trading modules (such as the Order Ticket, OptionTrader, BookTrader, FXTrader, Market Depth Trader etc) and displays market data for the specified instrument . This panel works similar to the market data line on the Quote Monitor as it creates a sell order when you click the Bid and a buy order when you click the Ask, but instead of creating the order directly below the market data line, the orders are created in the Orders panel. You can customize by adding fields to and removing fields from the Quote Panel.



Add and Remove Fields

Hold your mouse over a field title until the "+" and "x" signs appear.

a. Click the "+" sign to invoke a drop-down list of available fields. The new field will be added to the left of the selected field.
b. Click the "x" to remove the selected field.

Orders Panel

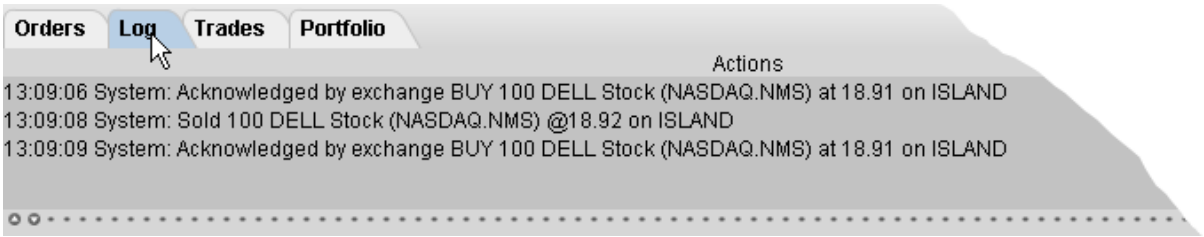
Use the Orders panel to manage orders created from the Quote Panel in a self-contained trading module. Manage your orders just as you would from the main trading screen. You can configure the Orders panel to hide or display columns.

To configure the Orders Panel

1. Click the Configure wrench icon in the top right corner of the panel. This opens Global Configuration for the module-specific panels.
2. Add fields for display by selecting a field from the **Available Columns** list, and clicking *Add*.
3. Remove fields by selecting a field from the **Shown Columns** list and clicking *Remove*.
4. Click **OK**.

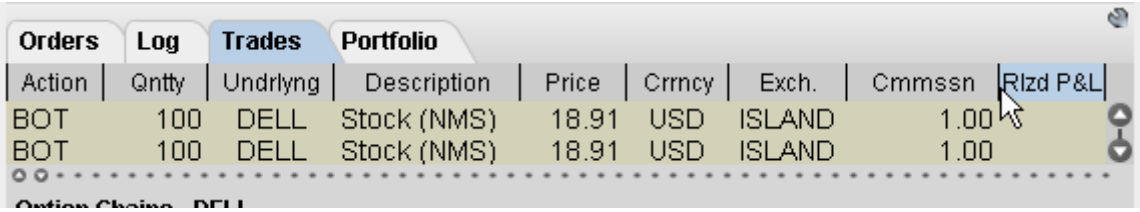
Log Panel

The Log Panel displays all order actions including transmission, exchange acknowledgement, fills, and cancellations from a tab in one of the self-contained trading modules. You can delete the content of the log by clicking the Clear Log icon at the top of window.



Trades Panel

The Trades panel shows real-time trade reports for orders transmitted from the active tab.

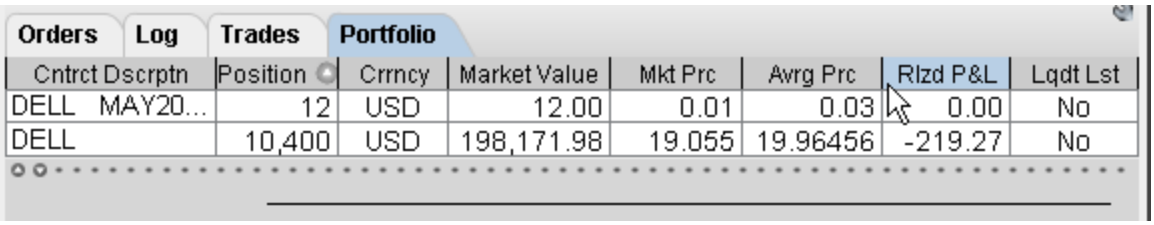


To configure columns on the Trades panel

1. Click the *Configure* wrench icon in the top right corner of the panel. This opens Global Configuration for the module-specific panels.
2. Add fields for display by selecting a field from the **Available Columns** list, and clicking *Add*.
3. Remove fields by selecting a field from the **Shown Columns** list and clicking *Remove*.
4. Click **OK**

Portfolio Panel

The Portfolio panel shows position-relevant information as seen in the Portfolio section of the Account window.



To configure columns on the Portfolio panel

1. Click the *Configure* wrench icon in the top right corner of the panel. This opens Global Configuration for the module-specific panels.
2. Add fields for display by selecting a field from the **Available Columns** list, and clicking *Add*.

3. Remove fields by selecting a field from the **Shown Columns** list and clicking *Remove*.
4. Click **OK.**

For more information on the fields in the Portfolio panel, see the Account Information topic.

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Menus

To accommodate multiple views, TWS provides multiple menu structures. The menu structure you see depends on the tool and view you choose. While the menus are arranged differently, they all provide access to most of the same tools and features.

Mosaic Menus

File Menu
Mosaic Account Menu
Mosaic Help Menu

Classic TWS Menus

File Menu
Edit Menu
Trade Menu
Account Menu
Trading Tools
Analytical Tools
View Menu
Help Menu
Right-click in a Blank Line
Right-click on a Market Data Line
Right-click on an Order Management Line

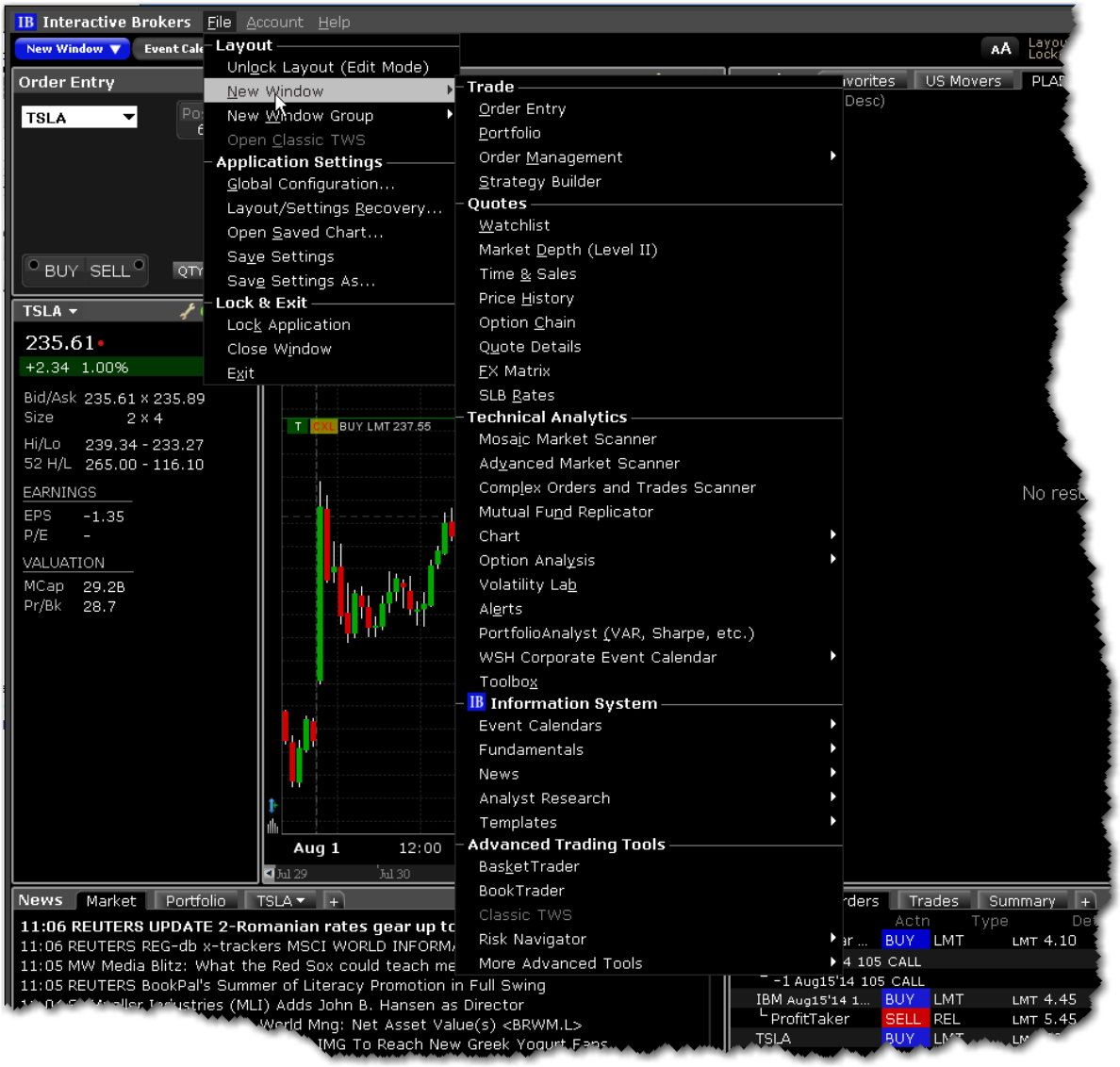
Simplified View for Classic TWS Menus

Simplified TWS: File Menu
Simplified TWS: Trade Menu
Simplified TWS: Account Menu
Simplified TWS: Help Menu

Mosaic Menus

File Menu
Mosaic Account Menu
Mosaic Help Menu

Mosaic File Menu

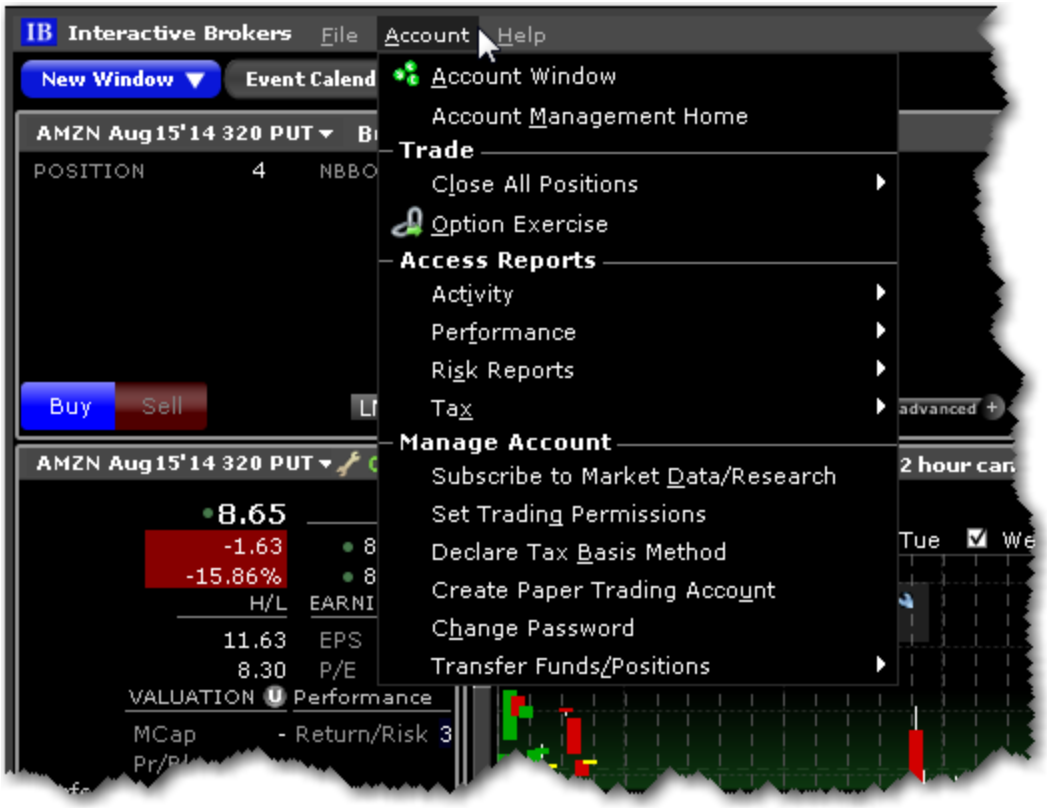


Menu Command	Description
Unlock Layout (Edit Mode)	Unlocks the Mosaic frame to allow you to edit, including adding and removing tools and resizing windows.
New Window	Provides access to most TWStools.
New Window Group	Create a new workspace based on a blank frame, the Mosaic, or Classic TWS. Note that only one Classic TWStab is allowed.

Menu Command	Description
Open Classic TWS	Available only when there is no version of Classic TWSrunning.
Global Configuration	Opens Global Configuration which includes configuration pages for all TWS elements. You can also access tool-specific configuration pages from the wrench icon displayed in the title bar of most windows.
Layout/Settings Recovery	Opens the Settings Recovery box, where you can choose to restore your layout from a previous day.
Open Saved Chart	Allows you to select and open a previously saved interactive chart.
Save Settings	Locally saves any changes you made to your trading screen layout, defaults, and menu selections.
Save Settings As...	Allows you to name your settings file and save it to any directory.
Lock Application	Locks the application and requires a password to unlock.
Close Window	Shuts down the application and saves settings.
Exit	Shuts down the application and saves settings.

Mosaic Account Menu

Many commands on the Account menu bring you conveniently into Account Management without requiring further login or security credentials.

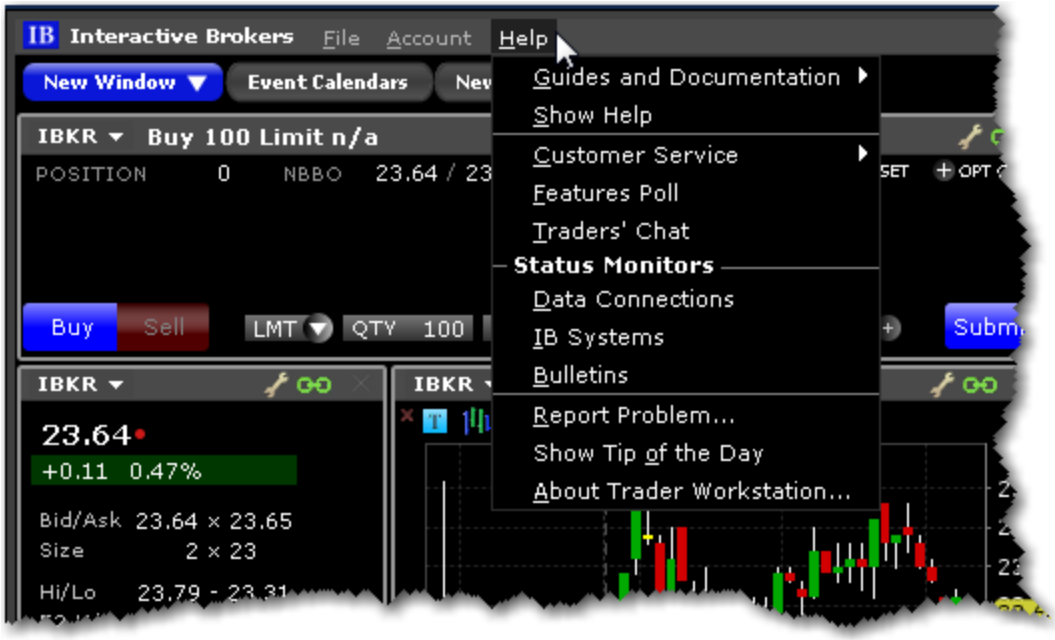


Menu Command	Description
Account Window	Opens the TWS Account Information window.
Account Management Home	Logs you directly into your Account Management home page without requiring further credentials.
Close All Positions	Submits closing orders for all or a specified percentage of your open positions using the **Close Position** dialog box. Note that selecting OK immediately sends closing orders for the positions.
Option Exercise	Opens the Option Exercise window (for US options only) to exercise options prior to their expiration date, or to exercise options on Expiration Friday that would normally be allowed to lapse.
Activity >	Activity Statement - Takes you directly to the

Menu Command	Description
	Activity Statements page in Account Management. Export Activity - Takes you directly to the Activity Downloads page in Account Management. Export activity to MS Excel, MS Money, Quicken, CapTools, TradeLog, or Gainskeeper. Trade Confirm Report - Takes you directly to the Trade Confirmations page in Account Management.
Performance >	Takes you directly to the Portfolio Analyst tool in Account Management.
Risk Reports >	Takes you directly to the risk reports in Account Management including: Margin Reports Value at Risk Report Stress Test
Tax >	Takes you directly into the Tax section of Account Management. Tax Forms Tax Optimizer
Subscribe to Market Data/Research	Takes you directly into the Research Subscription page in Account Management.
Set Trading Permissions	Takes you directly to the Trading Permissions page in Account Management.
Declare Tax Basis Method	Takes you directly into Account Management.

Menu Command	Description
Create Paper Trading Account	Takes you into the settings page in Account Management to set up a Paper Trading account.
Change Password	Takes you directly into the Change Password page in Account Management.
Transfer Funds/Positions >	Takes you directly into the Funding section of Account Management where you can: Begin a Fund Transfer Begin a Position Transfer See your Transaction History Specify the Position Transfer Basis

Mosaic Help Menu



Menu Command	Description
Guides and Documentation >	

Menu Command	Description
• Quick Start Guide	Opens the TWS quickstart
• Online Users' Guide	Opens the complete online help set for TWS.
• Tutorials	Opens the suite of tours that focus on specific TWS tools and features.
• Algo Documentation Center	Displays information on our automated algos including ScaleTrader and Accumulate/Distribute.
• Release Notes	Opens the TWS Release Notes page.
Show Help	Opens TWS Javahelp.
Customer Service >	
• Customer Service Info	Displays the Customer Service information web page.
• Customer Service Chat	Connects you to the live chat accessed from within Account Management.
• Open Message Center	Opens the customer service message center within Account Management.
Features Poll	Use the Features Poll to suggest new features and to vote on suggestions made by other IB customers.
Traders' Chat	Brings up the login for Traders' Chat. To create a chat account, log into Account Management and select the

Menu Command	Description
	User Management menu, then Voting Subscription.
Status Monitors >	
Data Connections	Displays the connection status of all Market Data Connections.
IB Systems	Opens IB's System Status page with current issues and availability.
Bulletins	Shows the system bulletin board with recent messages.
Report Problem	Allows you to send a problem message to our development team.
Show Tip of the Day	Hide or show the Tip of the Day. When checked the tip will also display at login.
About Trader Workstation	Display TWS version and other information.

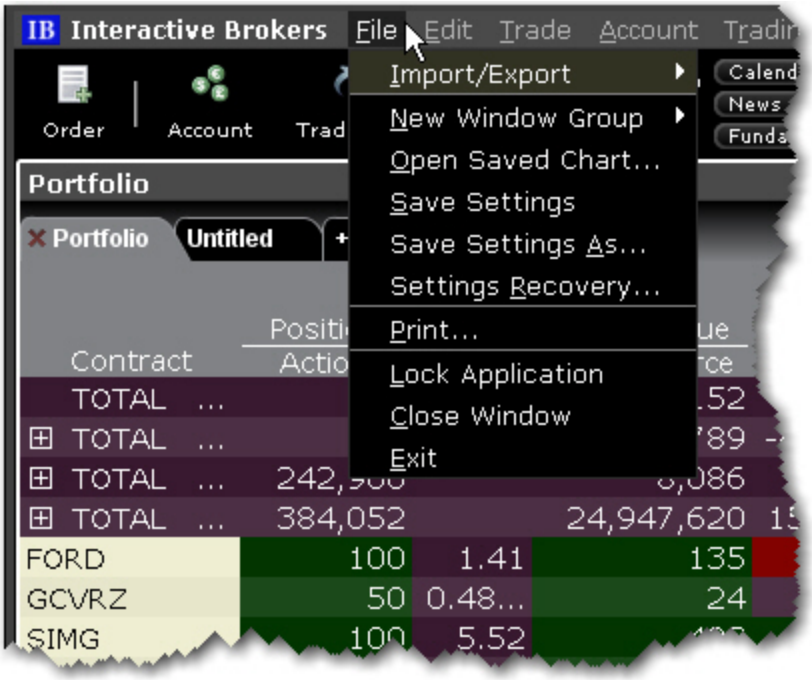
Classic TWS Menus

File Menu
Edit Menu
Trade Menu
Account Menu
Trading Tools
Analytical Tools
View Menu
Help Menu

Right-click in a Blank Line
Right-click on a Market Data Line
Right-click on an Order Management Line

Classic TWS File Menu

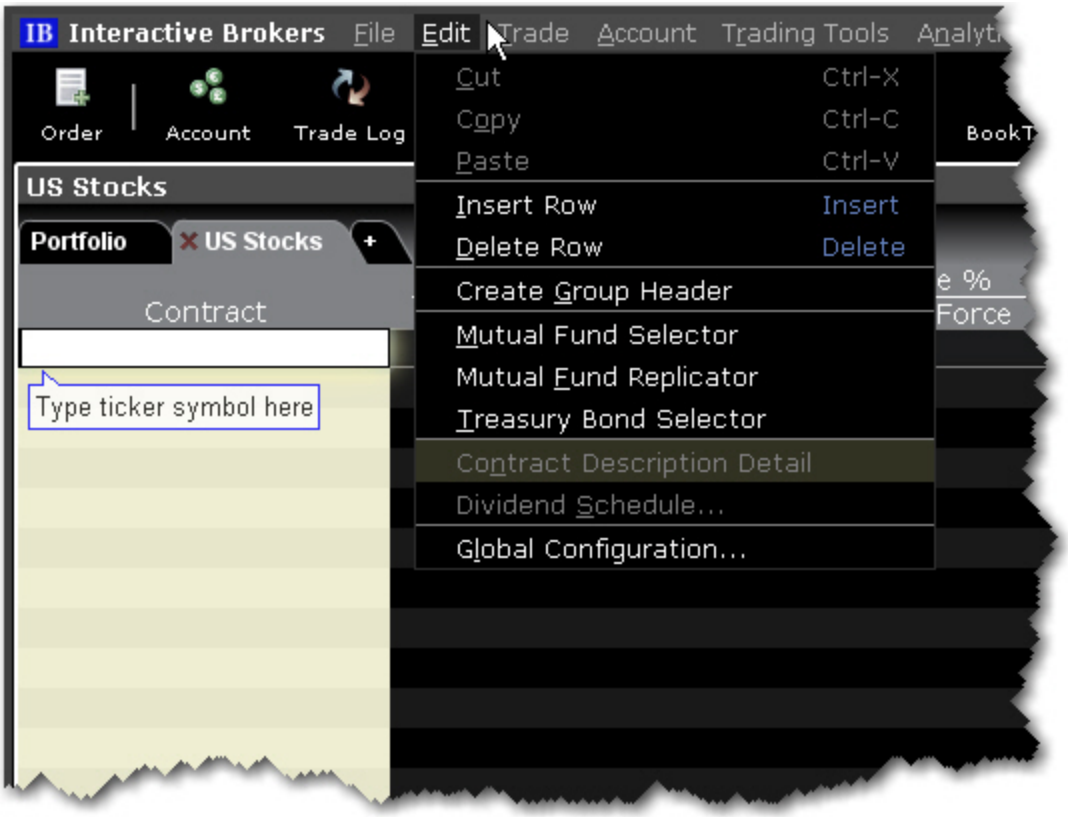
Use the **File** menu commands to export reports to your PC, save settings and create a basket file. The **File** menu commands are described in the table below.



Menu Command	Description
Import/Export	Allows you to import or export contracts, or export the contents of the quote monitor to Excel or to another quote monitor.
New Window	Create a new workspace based on a blank frame, the

Menu Command	Description
Group	Mosaic, or Classic TWS. Note that only one Classic TWS tab is allowed.
Open Saved Chart	Allows you to select and open a previously saved interactive chart.
Save Settings	Locally saves any changes you made to your trading screen layout, defaults, and menu selections.
Save Settings As...	Allows you to name your settings file and save it to any directory.
Settings Recovery	Opens the Settings Recovery box, where you can choose to restore your layout from a previous day.
Print	Prints the active page.
Lock Application	Locks the application and requires a password to unlock.
Close Window	Shuts down the application and saves settings.
Exit	Shuts down the application and saves settings.

Classic TWS Edit Menu



Menu Command	Description
Cut	Cuts the selected ticker.
Copy	Copies the selected ticker.
Paste	Pastes the last copied or cut ticker as a new row.
Insert Row	Inserts a blank row above the selected row.
Delete Row	Deletes the row you have selected.
Create Group Header	Inserts a non-data row into the page. Enter a title or label to use this row as a separator or label for a group of tickers.

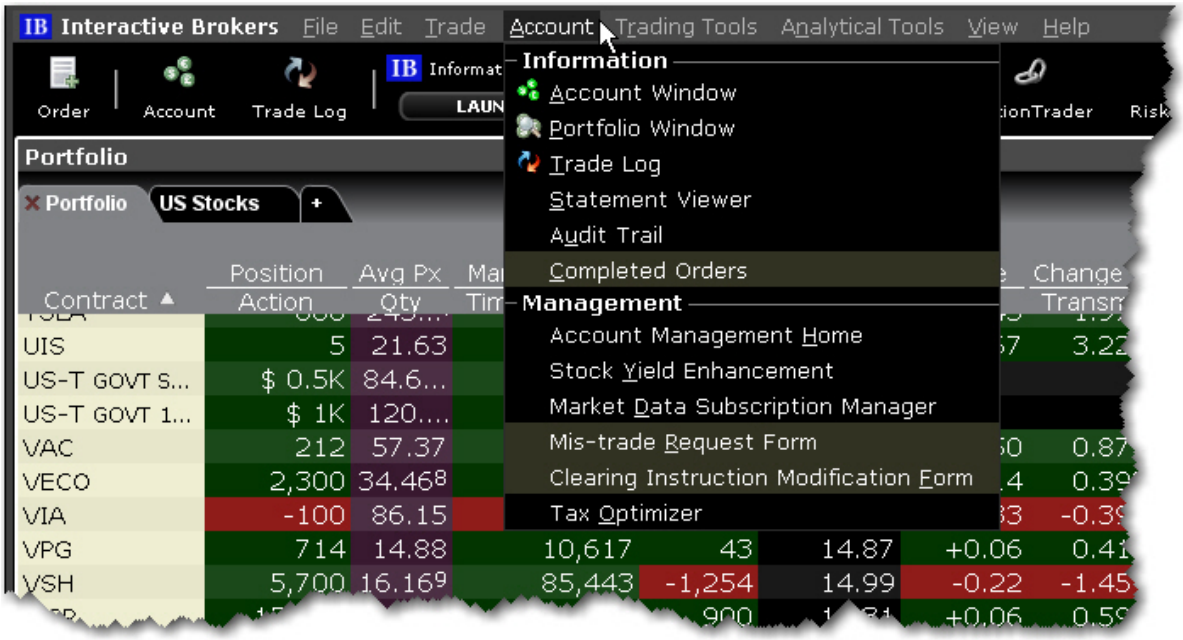
Menu Command	Description
Mutual Fund Selector	Opens the Contract Selection box showing available families of no-load mutual funds.
Mutual Fund Replicator	The Mutual Fund Replicator finds an ETF(s) whose performance parallels that of a user-specified mutual fund.
Treasury Bond Selector	Opens the Contract Selection box showing available T-Bonds, Bills and Notes.
Contract Description Detail	Displays the Ticker Description box which contains information about the selected underlying.
Edit Dividend Schedule	Opens the Dividend Editor window.
Global Configuration	Opens the TWS Global Configuration tool which includes the Feature Selector and configuration pages for all TWS elements.

Classic TWS Trade Menu

Menu Command	Description
Buy	Creates a buy order for the selected contract; opens the order ticket when used from a blank line.
Sell	Creates a sell order for the selected contract; opens the order ticket when used from a blank line.
Close Selected Positions	Submits a closing order for all selected positions. Choose to close: • 50% of each selected position • 100% of each selected position • A customer percentage of each selected position. Note that orders are transmitted instantaneously.
Close All	Submits closing orders for all or a specified percentage

Menu Command	Description
Positions	of your open positions usng the **Close Position** dialog box. Note that selecting OK immediately sends closing orders for the positions.
RFQ	Use to request market data for instruments not showing data, or to get a size quote.
Check Margin Impact	Shows a preview of the created order and how it would affect your margin requirements.
Transmit	Transmit the selected order(s), all of you orders, or all of the orders on the current page.
Pause Execution	Submits a cancel request on the selected orders, all of your orders, or all of the orders on the current page. Leaves the order line on the page for quick re-transmittal.
Cancel	Submits a cancel request on the selected orders, all of your orders, or all of the orders on the current page.
Modify Multiple Orders	Define parameters to automatically update the order type, time in force, limit price (with or without a limit offset) for one or multiple orders. Additionally, specify a validation procedure to be used when attributes are not applicable to all orders.
Save Orders as Basket	Saves the selected group of orders as a basket file that can be accessed via the BasketTrader.
Option Exercise	Opens the Option Exercise window where you can exercise an option prior to expiration.

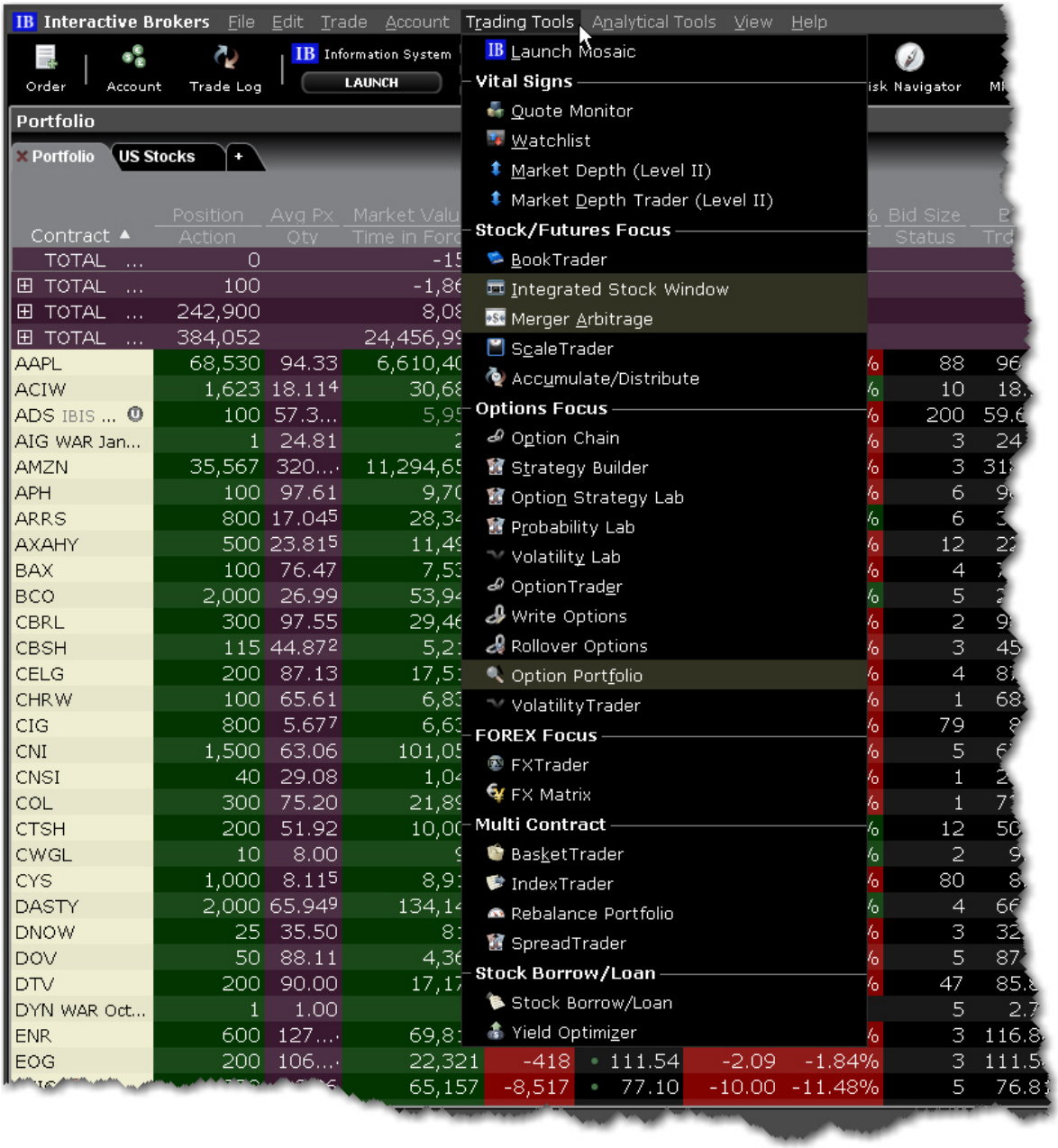
Classic TWS Account Menu



Menu Command	Description
Account Window	Displays your balances, margin, P&L, equity, market value and more.
Portfolio Window	Creates a Portfolio trading page that includes all current positions.
Trade Log	Displays trade reports and a trade summary of up to seven days' activity.
Statement Viewer	Displays your account activity statement within Account Management.
Audit Trail	View a log of your daily trade activity for the current week in HTML. Choose from condensed or expanded version. Each week's audit trail overwrites those from the previous week.

Menu Command	Description
Completed Orders	Shows all completed orders in a new tab.
Account Management Home	Puts you directly into Account Management.
Stock Yield Enhancement	Opens the page to join the Stock Yield program, which automatically lends out stock that you own to borrowers who want to short the stock.
Market Data Subscription Manager	Puts you into the Market Data Subscription section of Account Management.
Mistrade Request Form	Enter a Trade Cancellation Request from the Customer Service tools section of Account Management.
Clearing Instruction Modification Form	Add or modify settlement instructions from within Account Management.
Tax Optimizer	Puts you into the "Launch" page for the Tax Optimizer in Account Management.

Classic TWS Trading Tools Menu



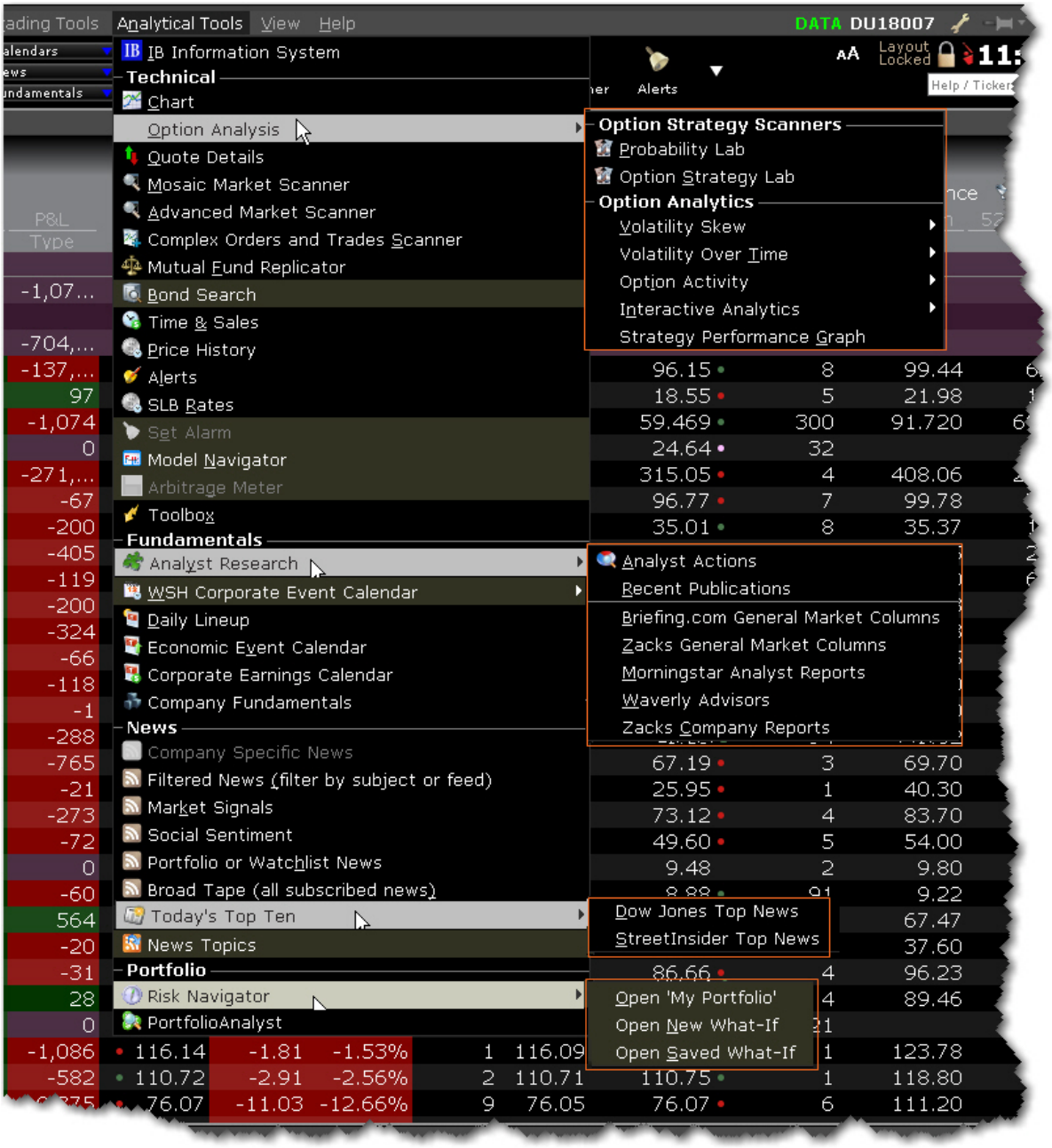
Menu Command	Description
Launch	Opens the Mosaic workspace.

Menu Command	Description
Mosaic	
Quote Monitor	A trading page that holds market data lines for all products, and algo provides complete order management.
Watchlist	Opens a new floating watchlist window that allows you to view multiple tickers in a single, small window.
Market Depth (Level II)	Shows Level II quotes with no trading capabilities.
Market Depth Trader (Level II)	Displays aggregated Level II market data. The Market Depth Trader also displays shows the Quote Panel and allows for complete order management.
BookTrader	Create, modify and transmit orders for a single contract from within the book price ladder.
Integrated Stock Window	A dynamic, customizable tool that includes all of the data and order management tools to analyze the current market, track activity, make trading decisions and place orders for a selected security.
Merger Arbitrage	Use the Merger Arb window to take advantage of arbitrage opportunities associated with takeovers or mergers.
ScaleTrader	An automated trading algorithm designed to help you effectively buy into a declining market at ever-lower prices, scale into a toppy market, or scale out of a long position.
Accumulate/ Distribute	An automated trading algorithm that helps you effectively trade large blocks of stock without being detected in the market.

Menu Command	Description
Option Chain	Displays the Option Chain section of the OptionTrader, with data only (no order management).
Strategy Builder	Strategy Builder allows you to quickly and easily build option combination strategies directly from the Option Chains.
Option Strategy Lab	Option Strategy Lab helps you to create and submit both simple and complex multi-leg option orders, based on your own price and volatility forecasts.
Probability Lab℠	The Probability Lab offers a practical way to think about options without the complicated mathematics.
Volatility Lab	Volatility Lab comprises a comprehensive toolkit of volatility tools designed to help you uncover superior trading opportunities.
OptionTrader	An integrated suite of options tools that allows provides market data and statistics, lets you create and manage options orders, view available option chains and easily create combination strategies, all in a single screen.
Write Options	Opens the Write Options tool.
Rollover Options	Opens the Rollover Options tool.
Option Portfolio	An automated trading algorithm that helps you adjust the risk profile of your portfolio by any of the Greek risk dimensions.
Volatility Trader	Creates a trading page that lets you trade in terms of volatility rather than price.
FXTrader	Custom-designed trading tool with optimized display for

Menu Command	Description
	FX traders that emphasizes the key price component.
FX Matrix	Light version of the FXTrader that shows FX pairs quotes with no trading capabilities.
BasketTrader	Designed to trade previously-created basket files or baskets based on a selected index.
IndexTrader	Easily create and trade a basket based on a selected index.
Rebalance Portfolio	Simplifies periodic portfolio balancing.
SpreadTrader	Create futures spreads, EFPs and option combos.
Stock Borrow/Loan	Creates a Stock Borrow/Loan page that provides access to the borrow/loan marketplace.
Yield Optimizer	Compare borrow rates on hard-to-borrow stocks using different borrow strategies, view the best rates for lending your own shares, and see the most cost-effective EFPs for investing your excess cash.
Blotter	Institutional only - Receive and manage large volume electronic orders.

Classic TWS Analytical Tools Menu



Menu Command	Description
Information System	Opens the Mosaic tab workspace tab.
Chart	Opens the new chart window with the Contract

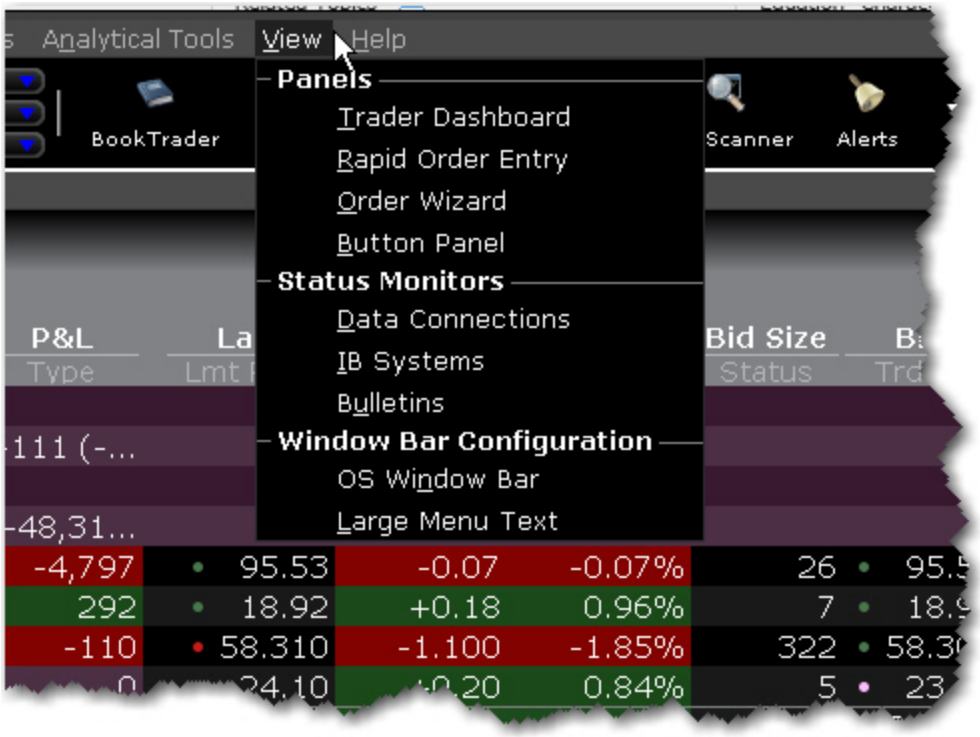
Menu Command	Description
	Description populated based on the contract you selected in the trading window.
Option Analysis	Displays a list of analytical option tools: Probability Lab Option Strategy Lab Multi Expiry or Time Lapse Volatility Skews Implied and Historical Volatility Option Volume and Open Interest Activity Interactive Analytics including Option Analytics window, the Greeks and Put & Call P&L The Strategy Performance Graph
Quote Details	Opens a floating window that shows quote, high/low and volume data for a single underlying.
Mosaic Market Scanner	Scan the markets for the top-performing products based on user-selected criteria.
Advanced Market Scanner	Scan the markets for the top-performing products based on user-selected criteria.
Complex Orders and Trades Scanner	Returns all complex strategies on a specific underlying that has a native bid/ask quote or that has traded today. To find the strategy that has traded the most today, sort the results by Volume (click on the Volume column to sort).
Mutual Fund Replicator	The Mutual Fund Replicator finds an ETF(s) whose performance parallels that of a user-specified mutual fund.

Menu Command	Description
Bond Search	Opens the Bond Search query in a browser window.
Time & Sales	Displays Time & Sales for the selected contract.
Price History	Shows history for the Open, High, Low, Close and Volume history on the selected underlying.
Alerts	Set time, price or margin-based alerts.
SLB Rates	Shows current Borrow/Loan Fee and Rebate rates and historical rates on the selected underlying.
Set Alarm	Define an alarm for the selected underlying.
Model Navigator	Edit pricing assumptions to calculate model prices.
Arbitrage Meter	The Arbitrage Meter illustrates the extent of the premium (or discount) of the lead month futures price above (or below) its fair future value with respect to the index price.
Toolbox	Opens the Toolbox window which allows one-click access to useful analytical tools including : Market Depth, Time & Sales, Price History, SLB Rates, Option Chain, Fundamentals, Alerts, News, Charts and Analyst Research.
Analyst Research	Subscription-based research including: Briefing.com, Zacks, Morningstar and Waverly Advisors.
WSH Corporate Event Calendar	Available to subscribers to Wall Street Horizon. View events for the selected contract.
Daily Lineup	Designed to be viewed first thing in the morning, the

Menu Command	Description
	Daily Lineup provides a birds-eye view of upcoming market events.
Economic Event Calendar	Lists major economic events for specific date/region. Requires research subscription to Thomson-Reuters.
Corporate Earnings Calendar	Shows corporate earnings data and upcoming events for contracts in your portfolio, your Watchlists and/or your Quote Monitors. Requires research subscription to Thomson-Reuters.
Company Fundamentals	Displays business and financial summary data, charts, scanners and more for the selected contract.
Company Specific News	Displays industry-related news and commentary for the selected underlying.
Filtered News	Filter news by subject or newsfeed.
Market Signals	Our data servers continuously scan the markets for irregular price and volume actions and transmit these notifications directly to your trading interface in the form of Market Signal alerts. Available market signals include price spikes, irregular volume spikes, new 52 week highs/lows, put/call ratio spikes, trading halts and more.
Social Sentiment	Subscription-based news.
Portfolio or Watchlist News	Show news for all companies in your portfolio and/or all tickers in your Quote Monitors and Watchlists and/or a custom list of tickers with news on com-

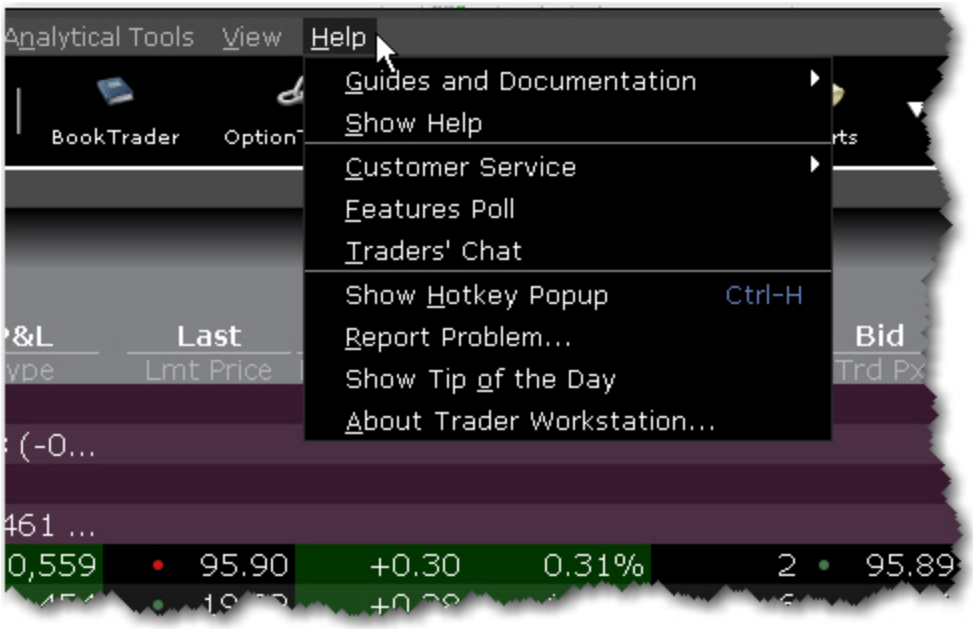
Menu Command	Description
	petitors of custom tickers.
Broad Tape	Shows all subscribed news.
Today's Top Ten	Tops news headlines by StreetInsider, or Dow Jones (based on subscription).
News Topics	Opens the New Topic Chooser that allows you to include industry-specific news in the ticker lines.
Risk Navigator	Opens the Risk Navigator real-time risk management tool.
Portfolio Analyst	Opens the Portfolio Analyst reporting tool in Account Management.

Classic TWS View Menu



Menu Command	Description
Trader Dashboard	Monitor key data from your Account window and view current real-time news headlines.
Rapid Order Entry	Allows for quick entry of stocks, options futures and combos.
Order Wizard	Provides assistance in modifying order parameters.
Button Panel	Provides access to quick-click trade buttons. Activate buttons for instantaneous transmit.
Data Connections	Shows the status and purpose of your market data connections.
IB Systems	Shows the current system status.
Bulletins	Shows the current customer bulletins.
OS Window Bar	Inserts the title bar back on the top of the TWS windows.
Large Menu Text	When checked, increases the font size of the menu titles.

Classic TWS Help Menu

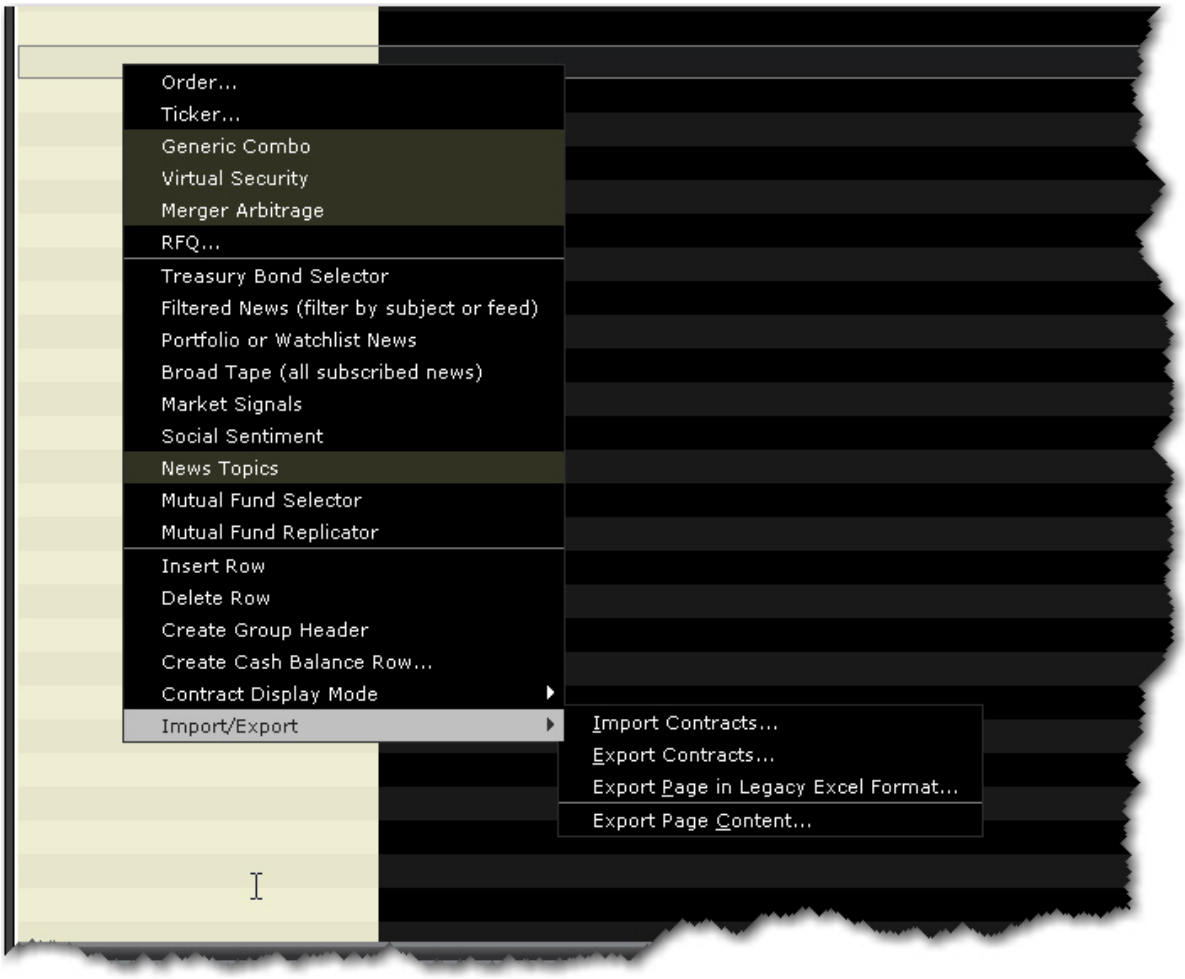


Menu Command	Description
Guides and Documentation >	
• Quick Start Guide	Opens the TWS quickstart
• Online Users' Guide	Opens the complete online help set for TWS.
• Tutorials	Opens the suite of tours that focus on specific TWS tools and features.
• Algo Documentation Center	Displays information on our automated algos including ScaleTrader and Accumulate/Distribute.
• Release Notes	Opens the TWS Release Notes page.

Menu Command	Description
Show Help	Opens TWS Javahelp.
Customer Service >	
• Customer Service Info	Displays the Customer Service information web page.
• Customer Service Chat	Connects you to the live chat accessed from within Account Management.
• Open Message Center	Opens the customer service message center within Account Management.
Features Poll	Use the Features Poll to suggest new features and to vote on suggestions made by other IB customers.
Traders' Chat	Brings up the login for Traders' Chat. To create a chat account, log into Account Management and select the User Management menu, then Voting Subscription.
Show Hotkey Popup	Displays a key to the current hotkeys set up in TWS.
Report Problem	Allows you to send a problem message to our development team.
Show Tip of the Day	Hide or show the Tip of the Day. When checked the tip will also display at login.
About Trader Workstation	Display TWS version and other information.

Classic TWS Right-Click Menu from a Blank Line

To see a right-click menu, select a line and then click the right mouse button. Select an item from a right-click menu using your mouse. The Right-click menu on in a blank line contains the following menu commands.



Menu Command	Description
Order	Opens the Order Ticket window which you use to create and transmit orders.
Ticker	Opens the Request Ticker box where you enter contract information. This creates a new market data line.

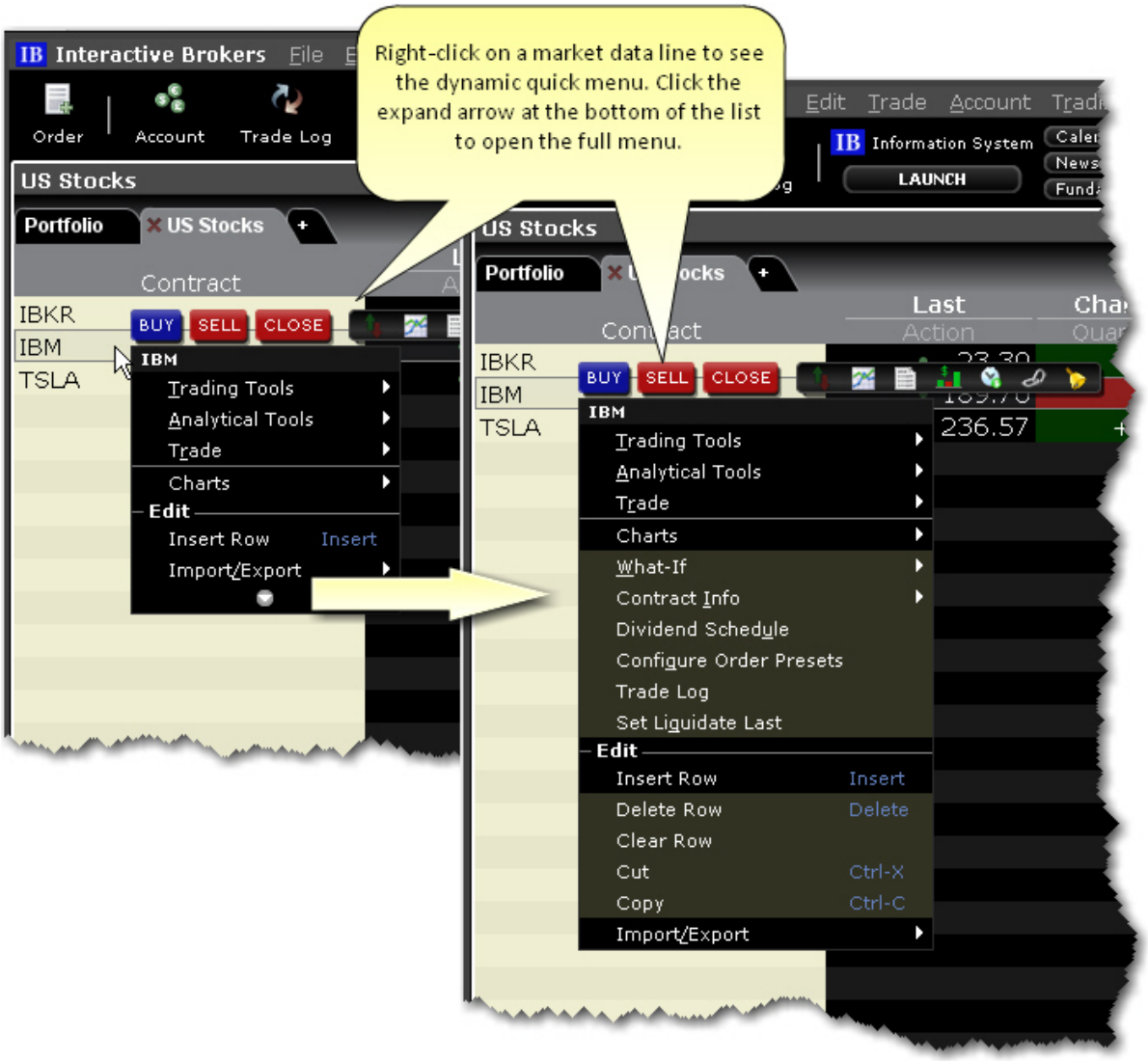
Menu Command	Description
Generic Combo	Opens the Combo Composition box to the Underlying field. Begin defining legs for a spread order.
Virtual Security	Opens the equation builder to create a Virtual Security.
Merger Arbitrage	Create a combination order for an anticipated merger.
RFQ	Enter contract information to request a quote.
Treasury Bond Selector	Opens the Contract Selections box, showing available T-Bonds, Bills and Notes.
Filtered News	Opens the News Topic Chooser, which lets you filter news by source, type and category.
Portfolio or Watchlist News	Show news for all companies in your portfolio and/or all tickers in your Quote Monitors and Watchlists and/or a custom list of tickers with news on competitors of custom tickers.
Broad Tape	Shows all subscribed news.
Market Signals	Our data servers continuously scan the markets for irregular price and volume actions and transmit these notifications directly to your trading interface in the form of Market Signal alerts. Available market signals include price spikes, irregular volume spikes, new 52 week highs/lows, put/call ratio spikes, trading halts and more.
Social Sentiment	Subscription-based news.

Menu Command	Description
News Topics	Opens the News Topics chooser.
Mutual Fund Selector	Opens the Contract Selections box, showing available fund families.
Mutual Fund Replicator	The Mutual Fund Replicator finds an ETF(s) whose performance parallels that of a user-specified mutual fund.
Insert Row	Inserts a blank line above the selected line.
Delete Row	Deletes the selected row or rows. This command deletes both blank lines and market data lines without a warning.
Create Group Header	Insert a row with a label that can be used to help organize tickers within a page.
Create Cash Balance Row	Select a currency to create a row that shows the total cash balance for that currency.
Contract Display Mode	Choose from the default “Underlying” mode and Symbol mode, which shows the exchange symbol.
Import/Export	Allows you to import or export contracts, or export the contents of the quote monitor to Excel or to another quote monitor.

Classic TWS Right-Click Menu from a Market Data Line

To see a right-click menu, select a market data line and then click the right mouse button. The Quick menu displays limited selections and adds commands that you use. *Click the Expand arrow at the bottom of the Quick list to see all commands.*

The right-click menu on a Market Data line contains the following menu commands. Please note that the menu is context sensitive and may not show all of the items in the list below for a selected data line.



Menu Command	Description
BUY hotbutton	Creates a buy order for the selected contract. Requires that you manually transmit the order.
SELL hotbutton	Creates a sell order for the selected contract. Requires that you manually transmit the order.

Menu Command	Description
CLOSE hot-button	Creates an order to close out the position in the selected contract. Requires that you manually transmit the order.
Action Toolbar	Quickly open the Quote Details, Chart, News, Company Fundamentals, Time & Sales, OptionTrader or Alert window for the selected ticker.
Trading Tools	Access available order entry tools. List of tools varies based on the asset type selected.
Analytical Tools	Access available analytical tools. List of tools varies based on the asset type selected.
Trade	Close Position - creates a closing order on the contract for all or a portion of the position. Only available if you currently hold a position in the selected contract. Pre-borrow Shares for Shorting - opens the Stock Borrow/Loan window. where you can check borrow rates on different stocks. Order Ticket - opens the Order Ticket from which you define order parameters. Order Entry - Opens the Order Entry panel.
Show Underlying	Available on options lines. Displays the underlying asset in a data line above the selected option, and disappears when you move your mouse off the option line. To keep, right-click the underlying row and select *Make Permanent*.
Show Legs	(Option combos) Displays each separate leg of a

Menu Command	Description
	combination order, with market data.
Adjust Combo Ratio	(Option combos) Allows you to modify the ratio of legs in a combination ticker.
Next Expiry	Options and Futures: Adds a new line below the selected contract for the next expiry.
Previous Expiry	Options and Futures: Adds a new line below the selected contract for the previous expiry.
Next Strike	Options: Adds a new line below the selected contract for the next strike.
Previous Strike	Options: Adds a new line below the selected contract for the previous strike.
Charts	Create a chart for the selected contract.
What-If	Opens a what-if scenario in Risk Navigator.
Contract Info	Shows the contract description, details and the margin requirements for contracts in which you currently hold a position.
Dividend Schedule	Opens the Dividend Editor window.
Configure Order Presets	Opens the order preset configuration page for selected product type.
Trade Log	Opens the Trades window which displays execution reports for up to seven days.

Menu Command	Description
Insert Row	Inserts blank row above the selected row.
Delete Row	Deletes the selected row and its data.
Clear Row	Deletes data from row and leaves a blank row.
Cut	Cut the selected market data line.
Copy	Copy the selected market data line.
Import/Export	Allows you to import or export contracts, or export the contents of the quote monitor to Excel or to another quote monitor.

Classic TWS: Right-click on an Order Management Line

To see a right-click menu, select an order management line and then click the right mouse button. Select an item from a right-click menu using your mouse. The right-click menu on an Order Management line contains the following menu commands:

Menu Command	Description
Transmit	Transmits the selected order.
Discard	Removes the order from the page.
Transmit All	Transmits all orders on the current Quote Monitor page.
Check Margin Impact	Opens the *Preview Order* box which shows the order parameters, commissions and margin impact of the order before you transmit.

Menu Command	Description
Attach	• **Bracket Orders** - Attach a set of opposite-side orders that "bracket" the current order in an attempt to limit loss. • **Target Limit** - Attach an opposite side limit order. • **Target Relative/Pegged** - Attach an opposite side relative order. • **Stop** - Attach a Stop order to the selected order. • **Stop Limit** - Attach a Stop Limit order to the selected order. • **Trailing Stop** - Attach a Trailing Stop order to the selected order. • **Trailing Stop Limit** - Attach a Trailing Stop Limit order to the selected order. • **Adjustable Stop** - Attach an adjustable stop order, which will be modified to the adjusted order type when the stop trigger is hit. • **Auto Combo Limit** - Flips the parent combination order and submits an opposite side limit order. You must enter a limit price. For example, if you have a BUY calendar spread, the parent order looks like this: *Buy 1 XYZ OPT NOV06 80.0 CALL* *Sell 1 XYZ OPT OCT06 80.0 CALL* When you attach an auto combo limit, TWS flips the combo and create a SELL calendar spread order like this: *Sell 1 XYZ OPT NOV06 80.0 CALL* *Buy 1 XYZ OPT OCT06 80.0 CALL*

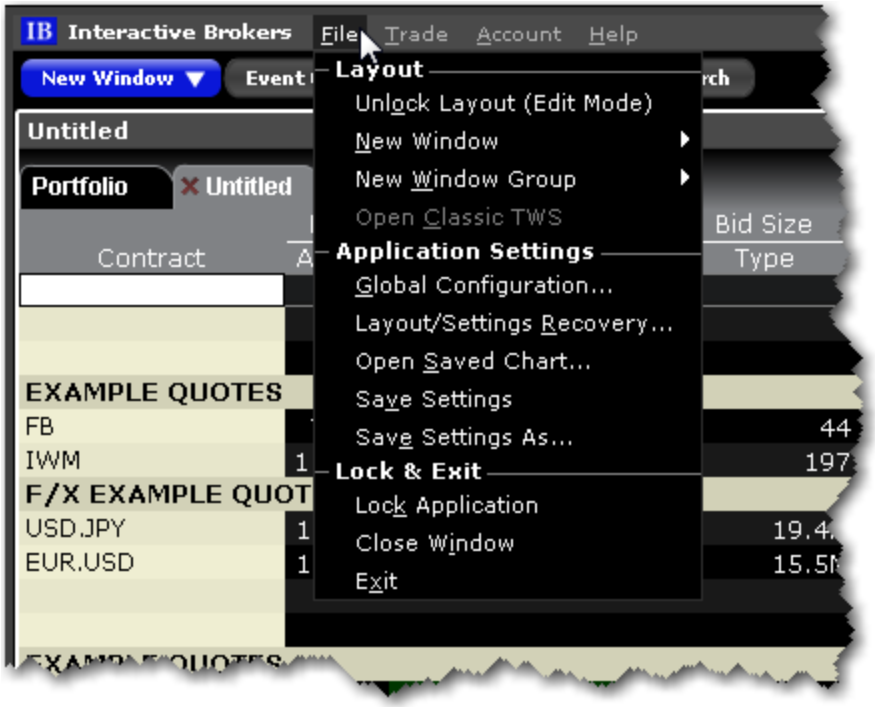
Menu Command	Description
	You must enter a limit price. Since the attached order is dependent on the parent order, it will not be transmitted until the parent order executes. • **Auto Combo Market** - Flips the parent combination order and submits an opposite side market order. See above. • **Beta Hedge** - Attach a Beta Hedge Order to the selected order. • **FX Order** - Attach an FX Order to the selected order. • **Pair Trade** - Attach a Pair Trade to the selected order.
Create	• **Duplicate** - Creates another order management line with the same order parameters directly below the selected line. • **Scale Orders** - Creates a series of orders at

Menu Command	Description
	incrementally decreasing/increasing price intervals.
Modify	• **Order Ticket** - Opens the **Order Ticket** window where you can modify parameters before you transmit the order. • **Condition** - Opens the Conditional tab on the Order Ticket where you can create or modify a conditional order, which is an order that will automatically be submitted or cancelled ONLY IF specified criteria for one or more defined contracts are met.
What if	Creates a new what-if scenario in Risk Navigator that includes the proposed order(s).
Configure Order Presets	Opens the Presets configuration page for the selected ticker/instrument type. Note that any changes you make to the order presets do not apply to the current existing order.
Integrated Stock Window	Opens the ISW.
Remove All Filled Orders	Removes filled orders from the page.
Save	Saves the order.

Simplified View TWS Menus

Simplified TWS: File Menu
Simplified TWS: Trade Menu
Simplified TWS: Account Menu
Simplified TWS: Help Menu

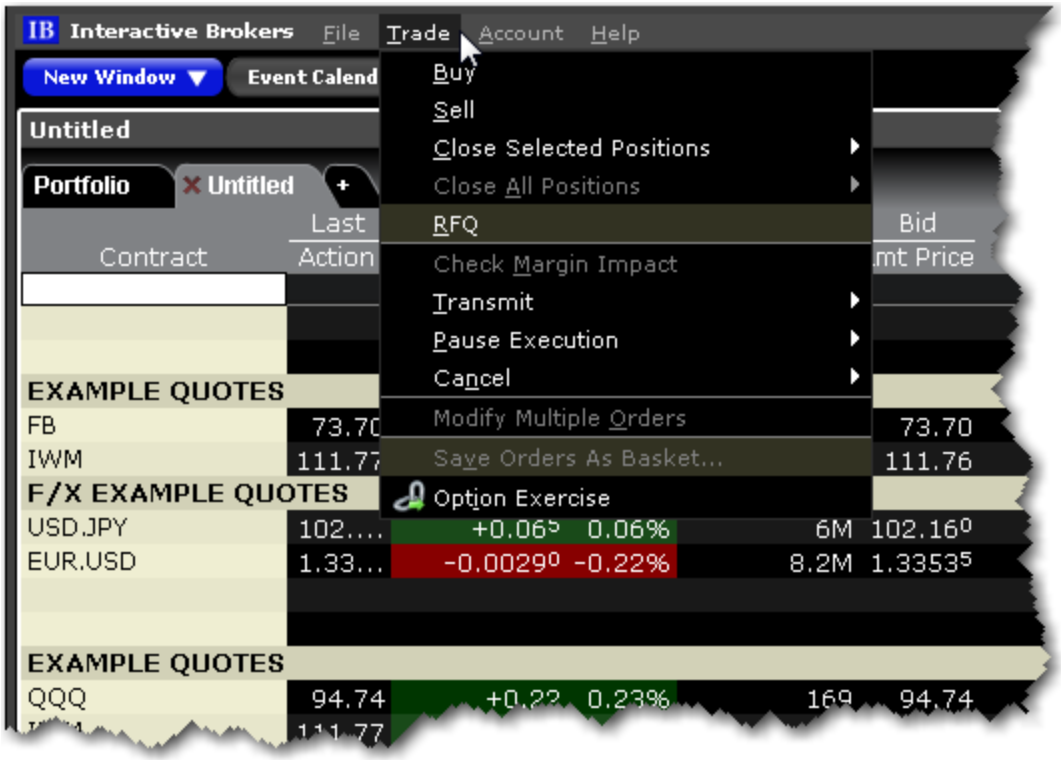
Simplified TWS: File Menu



Menu Command	Description
Layout >	
Unlock Layout (Edit Mode)	Unlocks the Mosaic frame to allow you to edit, including adding and removing tools and resizing windows.
New Window	Provides access to most TWStools.
New Window Group	Create a new workspace based on a blank frame, the Mosaic, or Classic TWS. Note that only one Classic TWStab is allowed.

Menu Command	Description
Open Classic TWS	Available only when there is no version of Classic TWSrunning.
Application Settings >	
Global Configuration	Opens Global Configuration which includes configuration pages for all TWS elements. You can also access tool-specific configuration pages from the wrench icon displayed in the title bar of most windows.
Layout/Settings Recovery	Opens the Settings Recovery box, where you can choose to restore your layout from a previous day.
Open Saved Chart	Allows you to select and open a previously saved interactive chart.
Save Settings	Locally saves any changes you made to your trading screen layout, defaults, and menu selections.
Save Settings As...	Allows you to name your settings file and save it to any directory.
Lock & Exit >	
Lock Application	Locks the application and requires a password to unlock.
Close Window	Shuts down the application and saves settings.
Exit	Shuts down the application and saves settings.

Simplified TWS: Trade Menu

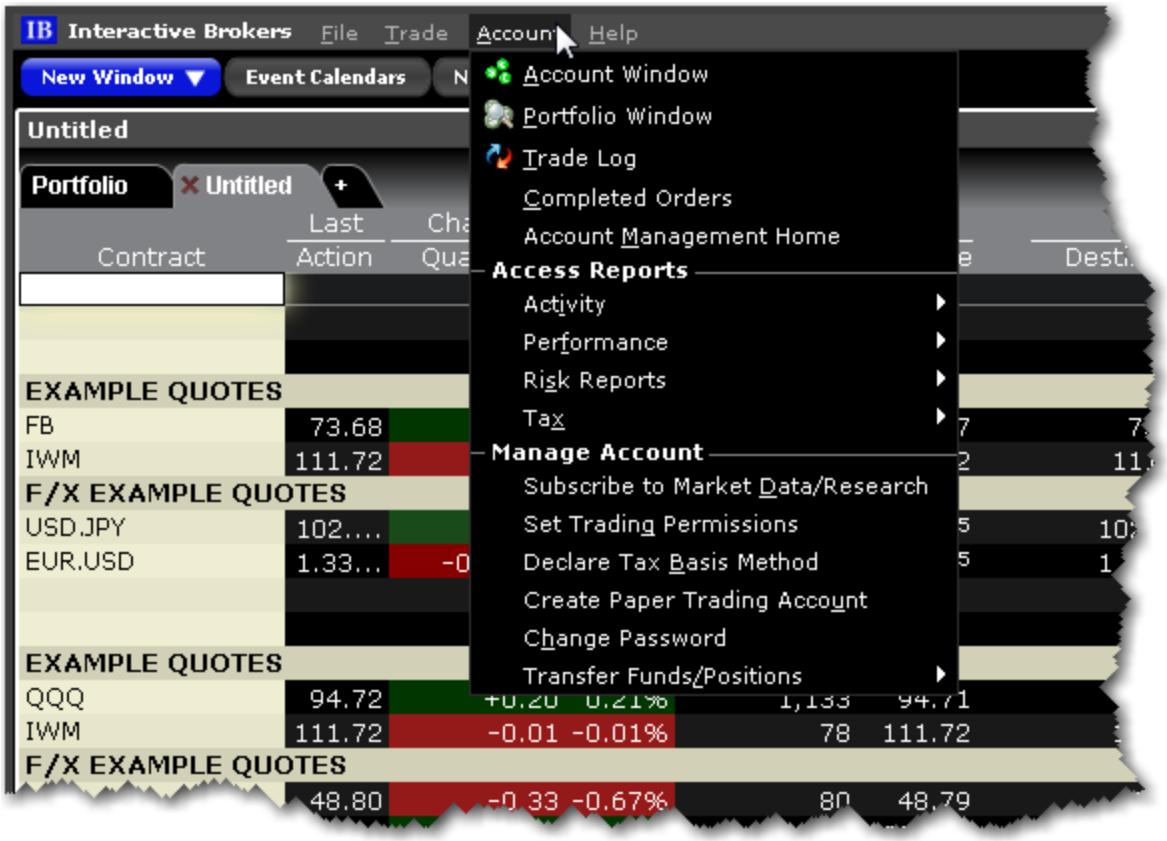


Menu Command	Description
Buy	Creates a buy order for the selected contract; opens the order ticket when used from a blank line.
Sell	Creates a sell order for the selected contract; opens the order ticket when used from a blank line.
Close Selected Positions	Submits a closing order for all selected positions. Choose to close: • 50% of each selected position • 100% of each selected position • A customer percentage of each selected position. Note that orders are transmitted instantaneously.

Menu Command	Description
Close All Positions	Submits closing orders for all or a specified percentage of your open positions usng the **Close Position** dialog box. Note that selecting OK immediately sends closing orders for the positions.
RFQ	Use to request market data for instruments not showing data, or to get a size quote.
Check Margin Impact	Shows a preview of the created order and how it would affect your margin requirements.
Transmit	Transmit the selected order(s), all of you orders, or all of the orders on the current page.
Pause Execution	Submits a cancel request on the selected orders, all of your orders, or all of the orders on the current page. Leaves the order line on the page for quick re-transmittal.
Cancel	Submits a cancel request on the selected orders, all of your orders, or all of the orders on the current page.
Modify Multiple Orders	Define parameters to automatically update the order type, time in force, limit price (with or without a limit offset) for one or multiple orders. Additionally, specify a validation procedure to be used when attributes are not applicable to all orders.
Save Orders as Basket	Saves the selected group of orders as a basket file that can be accessed via the BasketTrader.
Option	Opens the Option Exercise window where you can

Menu Command	Description
Exercise	exercise an option prior to expiration.

Simplified TWS: Account Menu



Menu Command	Description
Account Window	Opens the TWS Account Information window.
Account Management Home	Logs you directly into your Account Management home page without requiring further credentials.
Close All Positions	Submits closing orders for all or a specified percentage of your open positions using the **Close Position** dialog box. Note that selecting OK immediately sends closing orders for the positions.

Menu Command	Description
Option Exercise	Opens the Option Exercise window (for US options only) to exercise options prior to their expiration date, or to exercise options on Expiration Friday that would normally be allowed to lapse.
Activity >	Activity Statement - Takes you directly to the Activity Statements page in Account Management. Export Activity - Takes you directly to the Activity Downloads page in Account Management. Export activity to MS Excel, MS Money, Quicken, CapTools, TradeLog, or Gainskeeper. Trade Confirm Report - Takes you directly to the Trade Confirmations page in Account Management.
Performance >	Takes you directly to the Portfolio Analyst tool in Account Management.
Risk Reports >	Takes you directly to the risk reports in Account Management including: Margin Reports Value at Risk Report Stress Test
Tax >	Takes you directly into the Tax section of Account Management. Tax Forms Tax Optimizer
Subscribe to Market Data/Research	Takes you directly into the Research Subscription page in Account Management.

Menu Command	Description
Set Trading Permissions	Takes you directly to the Trading Permissions page in Account Management.
Declare Tax Basis Method	Takes you directly into Account Management.
Create Paper Trading Account	Takes you into the settings page in Account Management to set up a Paper Trading account.
Change Password	Takes you directly into the Change Password page in Account Management.
Transfer Funds/Positions >	Takes you directly into the Funding section of Account Management where you can: Begin a Fund Transfer Begin a Position Transfer See your Transaction History Specify the Position Transfer Basis

Simplified TWS: Help Menu

Menu Command	Description
Guides and Documentation >	
• Quick Start Guide	Opens the TWS quickstart
• Online Users' Guide	Opens the complete online help set for TWS.
• Tutorials	Opens the suite of tours that focus on specific TWS tools and features.
• Algo Documentation Center	Displays information on our automated algos including ScaleTrader and Accumulate/Distribute.

Menu Command	Description
• Release Notes	Opens the TWS Release Notes page.
Show Help	Opens TWS Javahelp.
Customer Service >	
• Customer Service Info	Displays the Customer Service information web page.
• Customer Service Chat	Connects you to the live chat accessed from within Account Management.
• Open Message Center	Opens the customer service message center within Account Management.
Features Poll	Use the Features Poll to suggest new features and to vote on suggestions made by other IB customers.
Traders' Chat	Brings up the login for Traders' Chat. To create a chat account, log into Account Management and select the User Management menu, then Voting Subscription.
Status Monitors >	
Data Connections	Displays the connection status of all Market Data Connections.
IB Systems	Opens IB's System Status page with current issues and availability.
Bulletins	Shows the system bulletin board with recent messages.
Show Hotkey Popup	Displays a key to the current hotkeys set up in TWS.

Menu Command	Description
Report Problem	Allows you to send a problem message to our development team.
Show Tip of the Day	Hide or show the Tip of the Day. When checked the tip will also display at login.
About Trader Workstation	Display TWS version and other information.

13

Exercise and Rollover

Automatic Rollover of Expiring Futures Contracts **1457**

Option Exercise with Notifications **1458**

Exercise Options - Manual File **1460**

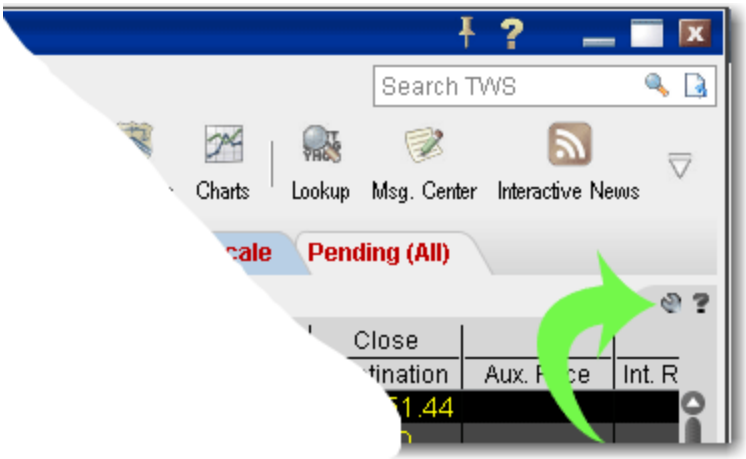
Automatic Rollover of Expiring Futures Contracts

When specified in Global Configuration, the system automatically rolls soon-to-expire futures data lines to the next lead month. Approximately three days prior to expiration, the new lead month contract will be added to quote monitor. Approximately one day after the contract expires it will automatically be removed from the display.

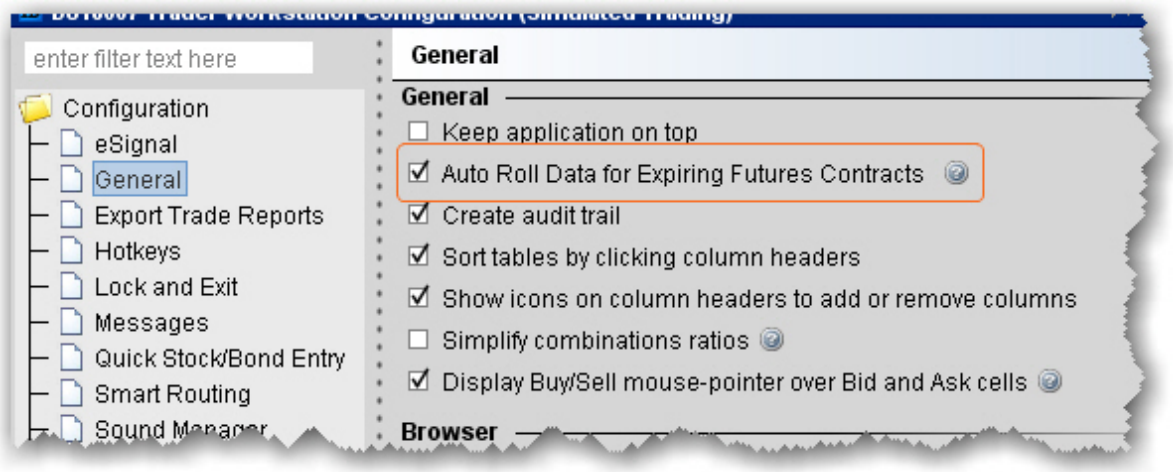
Additionally, you can instruct TWS to cancel open orders on expiring contracts. If you have the auto-roll option selected, anytime there are open orders on expiring futures contracts you will receive a pop-up message asking if you want TWSto cancel the listed open orders in anticipation of expiration. Once the contracts expire the orders will be canceled automatically.

To activate auto expiring futures rollover

1. Click the Configure wrench icon on the trading window.



2. In the left pane of **Global Configuration**, select *General*.
3. In the right pane, confirm that *Auto Roll Data for Expiring Futures Contracts* is checked.



Option Exercise with Notifications

Use the Option Exercise window (for US options only) to exercise options prior to their expiration date, or to exercise options on Expiration Friday that would normally be allowed to lapse according to clearing house rules. You can also import a file with instructions, using the *Load From File* command on the **File** menu.

To exercise an option

Open the Option Exercise window.

> *In TWS: From the Trade menu in select Option Exercise.*
> *In Mosaic: From the Account menu select Option Exercise.*

Select an option to see details, including your current position in the underlying, the current underlying NBBO, and the deadline to submit the exercise instruction.

Select the option(s) you want to exercise or lapse, and use the *Scheduled Action* field to set up the exercise instruction.

> *Choose Exercise to exercise the entire position.*
> *Choose Partial (when applicable) to exercise or lapse a portion of the position.*
> *Choose Lapse (only available on the last trade date).*

The instruction is displayed like an order row. Click “T” to transmit the instruction. To discard without submitting, use the right-click menu and select *Discard Modifications*.

The Details window displays when you select a contract, and shows a deadline for submitting the instruction today along with all options positions in the underlying and the accompanying market data.

Notification of Dividend-Related Early Exercise

Accounts that hold dividend-paying positions that may be affected by early exercise will receive notification via email and in the **Option Exercise** window in the *Optimal Action* field approximately two days before the underlying goes ex-dividend.

> This information is generated via the IB FYI which cannot be disabled.
> Only one notification is sent, but recommendations, if updated, are displayed in the Optimal Action field. For example, if the recommendation changes or a new position is established after the deadline on (exDiv – 2), no new emails will be sent but the user will see the latest recommendation in the Optimal Action field.
> The system does not make early exercise recommendations when the dividend amount is uncertain, e.g. for ETFs, halted stocks and stocks with other uncertainties.

To better understand the mechanics of dividend-related early exercise, see the IB Knowledge Base article Considerations for Exercising Call Options Prior to Expiration.

Display of Short Positions

The Option Exercise window displays actionable Long positions in the top half of the page, and non-actionable Short positions in the bottom half of the window. On ex-div – 1, for all short positions in OCC stocks with dividends, we will project whether the option will be assigned or not.

Note that the system does not make these projections when the dividend amount is uncertain, e.g. for ETFs, halted stocks and stocks with other uncertainties.

Exercise Options - Manual File

The Option Exercise window includes a **Load from File** button that lets you import a file with instructions to exercise or lapse specific options. You can create the file using any word

processing program, and the file must include a comma-delimited list of values, one line for each option. You can use one of two different formats. Table 1 illustrates using the underlying, Table 2 shows fields for symbol mode.

For each option you want to include in the file, create one line of text and observe the following rules:

Include one value for each field described in the table(s) below.
Separate field values by commas.
List field values in the order in which they appear in the table(s) below.

Field Name	Possible Values		Field Name	Possible Values
Table 1 - Underlying Mode			**Table 2- Symbol Mode**	
action	exercise, lapse		action	exercise, lapse
account #	IB acct number, i.e. U44982		account #	IBacct number, i.e. U44982
underlying	underlying symbol, i.e. IBM		local symbol	IBMSE
strike	i.e. 50		exchange	i.e. AMEX (smart is not accepted)
right	p, c		quantity	i.e. 3
LastTrading DayorContractMonth	i.e. 20150930		override*	yes, no

(yyyymmdd) or (YYYYMM)**	or 201509			
multiplier	i.e. 100			
exchange	i.e. AMEX (smart is not accepted)			
quantity	i.e. 3			
override*	yes, no			

* Specifies whether your settings will override the system's natural action. For example, if you have the action set to exercise an option and that contract is not in-the-money, you would receive a message saying that the contract was not in-the-money and would not exercise option. However, if you have the override set to "yes," this instruction will override the system and the option will exercise.

**If you use the format YYYYMMDD we understand that you are using the last trading day. If you use the format YYYYMM we understand that you are identifying the contract month.

Your lines in the file based on the examples in the tables above would look like this:

exercise, U44982, IBM, 50, C, 2001509, 100, AMEX, 3, no
exercise, U44982, IBMSE, AMEX, 3, no

14

Allocations and Transfers

Pre-Trade Allocations

Soft Dollar Tiers

FTP File Instructions

Allocating Shares

Create a Share Allocation Profile

Create an Account Group for Share Allocation

Create an Order for Multiple Clients

Default Clearing for Allocation Profiles

Edit a Share Allocation Profile

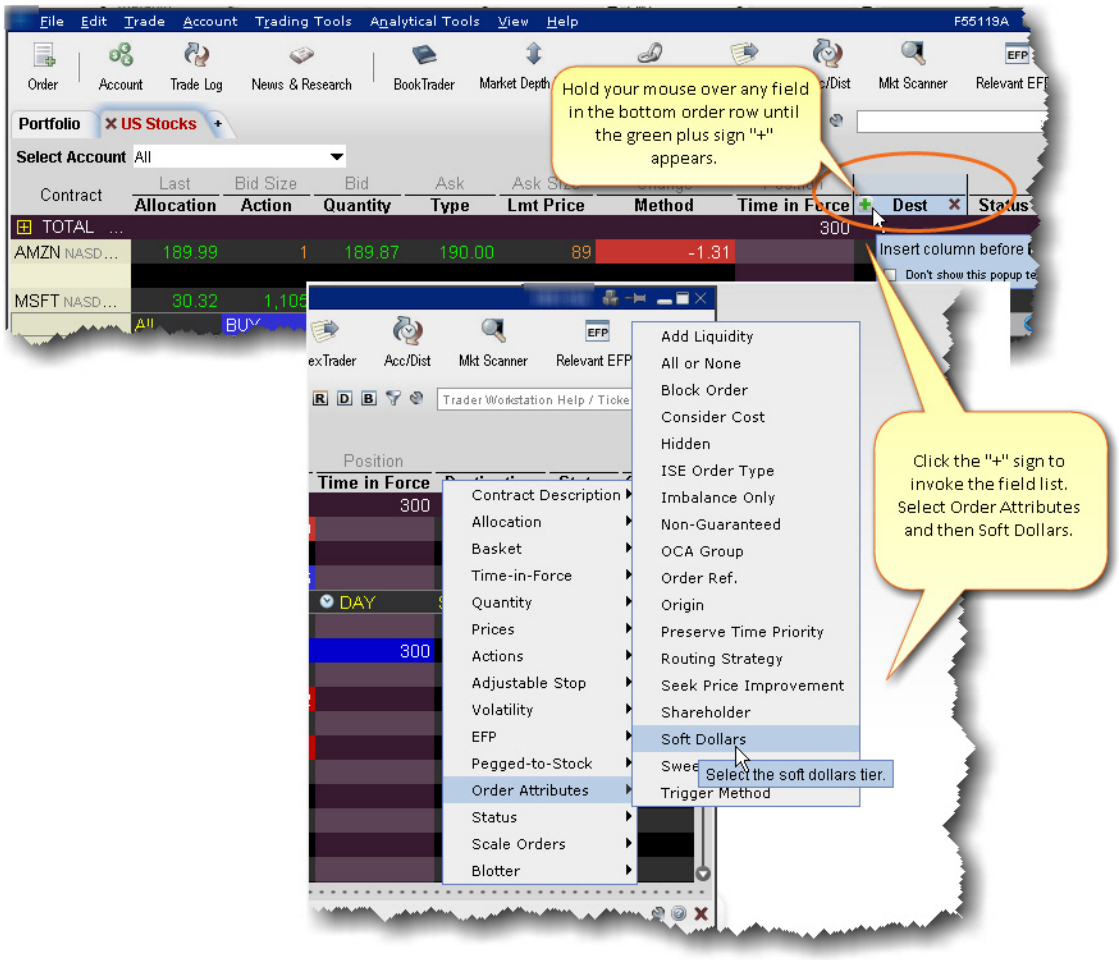
Rebalance for Advisors

Set Default Allocations

Soft Dollar Commission Tiers

Advisors and hedge and mutual funds have the option to offset the costs of approved research products and services using soft dollars. Once you have requested soft dollars via Account Management and defined the commission tiers, you can select the commission tier on a per-trade basis from within TWS. Soft Dollars are available on stock and option orders only, and can be applied on all pricing structures.

For instructions on requesting soft dollars via Account Management, see the Soft Dollars topic.



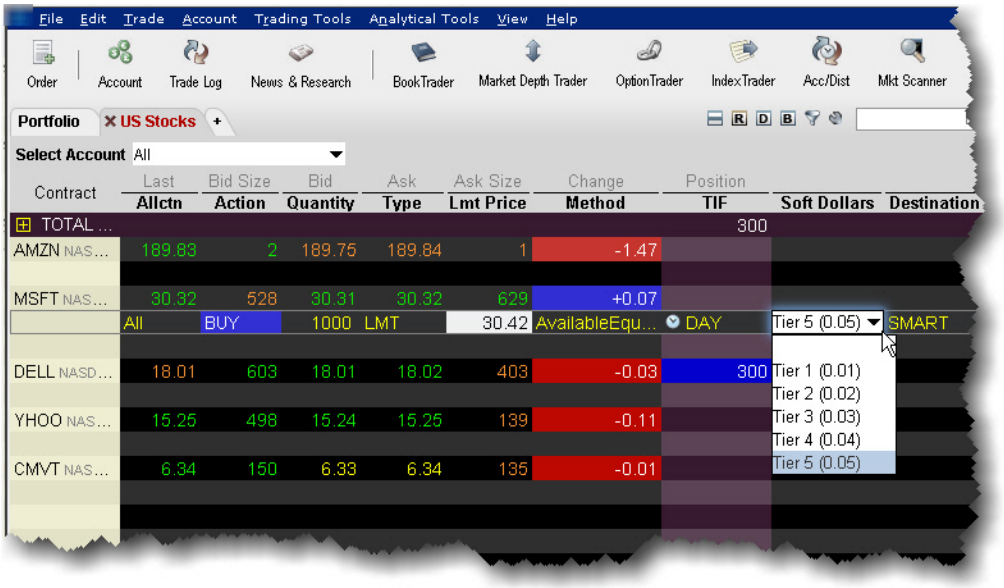
Soft dollar commission tiers can be selected from the Misc tab of the order ticket, or from the **Soft Dollars** order field directly from an order row using the drop-down list.

To display the Soft Dollars field

1. Hold your mouse over an order row field for two seconds, or until the green "+" sign appears.
2. Click the "+" sign to invoke the Order Row field list.
3. Select Order Attributes, then select Soft Dollars.

The Soft Dollars field is displayed to the left of the field you originally selected.

When you create a client stock or option order, you can specify the commission tier for the order by clicking in the Soft Dollars field and selecting a tier. Tiers must be defined in Account Management. Soft dollar commissions must be between 0 and 0.05 dollars per share.



Please note that this tier selection is used to calculate the total gross commissions, and the soft dollar disbursement amount is the remainder once all IB commissions have been deducted.

Let's look at a simple example on a stock order using the Fixed Rate commission structure. On the above order for 1000 shares with Tier 5 selected, total client commissions would be 1000 (shares) x 0.05 (tier rate) = $50.00. The IB Fixed Rate commission on this order ($.005/share) is 1000 x .005 = $5.00. The soft dollar amount would be equal to $45.00 for this order.

To choose a commission tier for an order

1. Click the Bid or Ask price to create a Sell or Buy order.
2. In the Soft Dollars field, select a commission tier.

If you do not select a tier for an order, no soft dollar markup is applied. There is no default value.

FTP File Instructions

Prime clients who trade with an away executing broker must submit a file reporting those trades to IB. Files are sent via an FTP login that is provided to you when Prime capabilities are setup. Instructions are as follows:

Files must be submitted on trade date when you execute away. The file has to be submitted in CSV format with a consistent and unique filename. For example: “[COMPANY]_ [YYYYMMDD].csv”.

US Options, Futures, and Future Option trades must be submitted no later than 5:00 pm ET. HK stock trades must be submitted no later than 6:00 pm HKT (6:00 am ET).

For each executing broker that IB approves you will be provided with a Broker and DTC/CMTA value to use in the upload file. The correct symbol format is required to avoid rejects and breaks. The symbol format for equities is self explanatory (MSFT = MSFT). Please see below for the symbology to use with Options, Futures, and Future Options.

Sample Trade File

To download a sample trade file (shown below) click here.

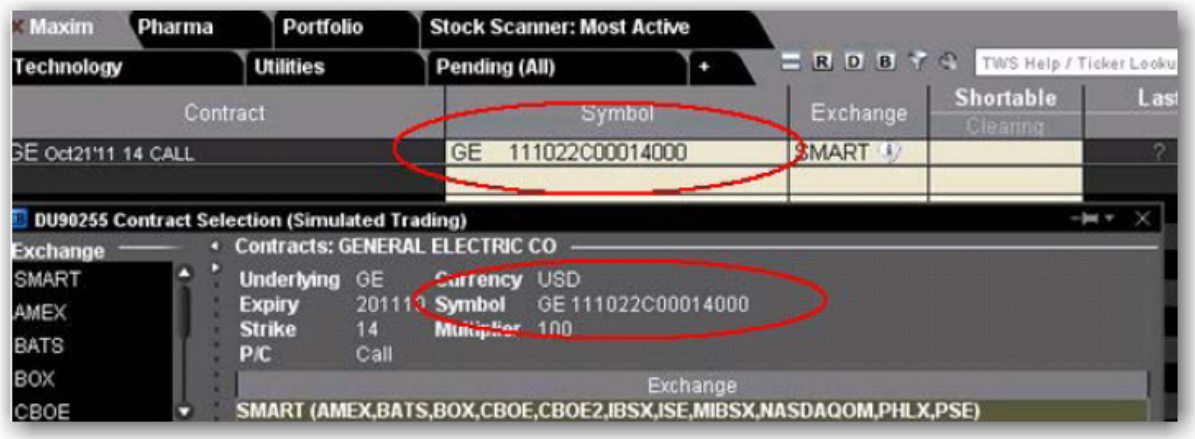
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	IB Acct #	Symbol	Security T	Action	# Shares	Trade Pric	Currency	Comm/	Cusip	Trade Date	S/D	Broker	Broker Cod	Exchange	Settlement	ISIN
2	U0000X12	JNPR	EQUITY	Buy	2000	27.25	USD	0		11/19/2015		JEFF	19			
3	U0000X12	NVS	EQUITY	Sell	10000	49.8177	USD	0.03		11/19/2015		RBC	235			
4	U0000X12	KERX	EQUITY	Sell Short	50000	6.3741	USD	0.02		11/19/2015		NITE	161			
5	U0000X12	KERX	EQUITY	Buy to Cover	50000	6.3741	USD	0.02		11/19/2015		NITE	161			
6	U0000X12	IBM 160115C0019500	OPTIONS	Sell to Open	20	16.1	USD	0.25		11/19/2015		BOFA	773			
7	U0000X12	IBM 160115C0019500	OPTIONS	Buy to Close	20	16.8	USD	0.25		11/19/2015		BOFA	773			
8	U0000X12	IBM 160115P0019500	OPTIONS	Sell to Close	67	17.35	USD	0.25		11/19/2015		BOFA	773			
9	U0000X12	IBM 160115P0019500	OPTIONS	Buy to Open	67	15.25	USD	0.25		11/19/2015		BOFA	773			
10	U0000X12	BDI	EQUITY	Sell Short	5000	19.48	CAD	0.04		11/19/2015		GMP	GMPT			
11	U0000X12	BDI	EQUITY	Buy to Cover	5000	19.22	CAD	0.04		11/19/2015		GMP	GMPT			
12	U0000X12	[No symbol required]	BOND	Buy	50	140.125	USD		459200AG	11/19/2015		LIBR	443			
13	U0000X12	[No symbol required]	BOND	Sell	50	140.25	USD		459200AG	11/19/2015		LIBR	443			
14	U0000X12	LOM8 C9500	FUT OPT	Buy	12	6.05	USD	2.25		11/19/2015		DRAX	102	CME		
15	U0000X12	CLQ8	FUT	Sell	1	94.31	USD	3		11/19/2015		DRAX	102	CME		
16	U0000X12	KCN6	FUT	Buy	5	1.2	USD	2		11/19/2015		BOFA	773	ICE		
17	U0000X12	KON6 P1.3	FOP	Sell	10	0.1	USD	2.5		11/19/2015		BOFA	773	ICE		
18	U0000X12	NFLX1DZ5	FUT	Buy	10	104.6	USD	2		11/19/2015		ADMS	509	IBONE		
19	U0000X12	122	EQUITY	Buy	400000	1.3363	HKD	1923.2		11/19/2015		CGI	B01929	HKEX	536443.15	HK012200068
20	U0000X12	700	EQUITY	Buy	3000	143.6	HKD	1549.8		11/19/2015		CGI	B01929	HKEX	432349.79	KYG87572163

Stocks

Enter the symbol which can be found on TWS. CUSIP is optional. Example, MSFT = MSFT, IBM = IBM.

Options

IB uses the 21-character “Option Symbology Initiative” (OSI) format. The easiest way to find this is to load the option in TWS and use the Symbol column:



OSI Details

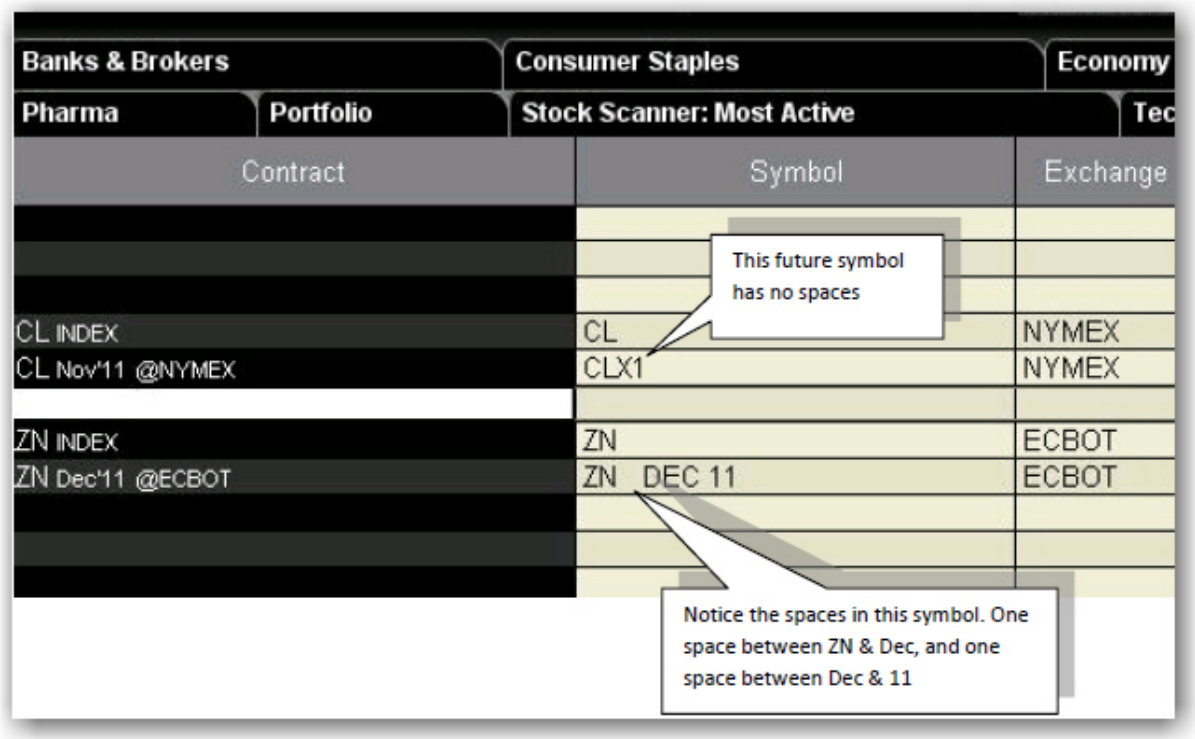
The OSI identifier comprises six data elements arranged in logical order, each with a minimum field size. Option Root Symbols must have 6 characters (if the symbol has less than 6 characters, spaces must be added to equal the six character minimum)

Futures, Future Options and Single Stock Futures (SSFs)

Futures, Future Options and SSFs do not follow a standard symbol convention like OSI for Options. Please confirm the symbol in TWS before loading the file. Load the product on TWS and refer to the Symbol column to see the correct format. Column N for the Exchange must be populated with the exchange. Note that for SSFs, the exchange should be "IBONE."

See Sample Trade File above, and examples below:

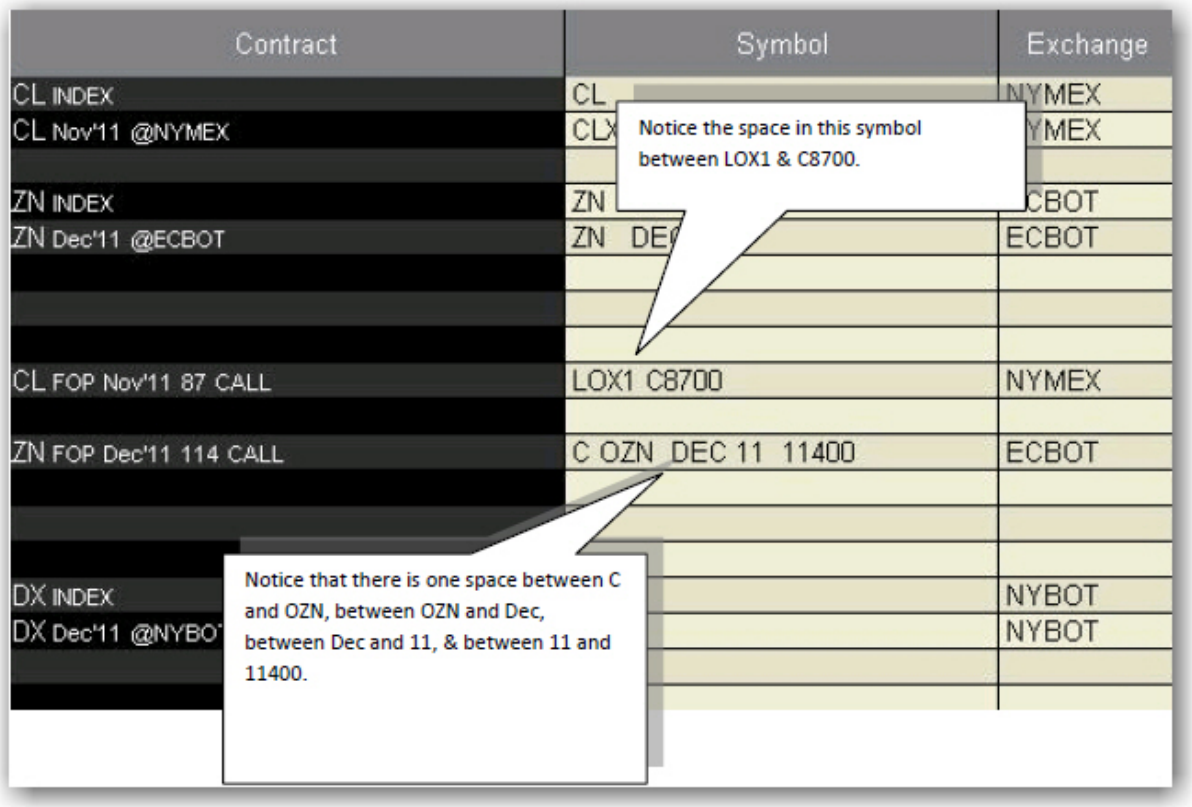
Futures



CL Nov 2011 Future: The TWS symbol has no spaces and would be entered on the trade file as CLX1.

ZN Dec 2011 Future: The TWS symbol has one space between ZN and DEC and between DEC and 11, therefore it would be entered on the file as ZN DEC 11.

Future Options



CL Nov 2011 87 Calls: The TWSsymbol has one space between LOX1 and C8700, therefore it would be entered on the file as LOX1 C8700.

ZN Dec 2011 114 Calls: The TWS symbol has one space between C and OZN, between OZN and Dec, between Dec and 11, & between 11 and 11400. Therefore it would be entered on the file as C OZN DEC 11 11400.

Futures and futures Options executed at the ICE or NYMEX need to be reported with security type "FUT ICE" or "FOP ICE". Additionally, any zeros in the strike price should be removed from the symbol, i.e. you would use "KOF3 P1.4" rather than "KOF3 P1.40"

HK Stocks

Enter the numeric underlying, which can be confirmed in TWS, in the symbol column. Enter currency HKD, exchange HKEX, and the appropriate Settlement amount and ISIN.

NOTES:

Remember not to trade with your executing broker (with intent to clear at IB) until we notify you that all agreements and booking instructions are in place.

FTP files are processed every half hour from Monday - Friday, and every 15 minutes from 4 pm-6 pm ET. Executing away is not a means to resolve real time deficits as away trades will not be taken into consideration for beneficial margin purposes until 9 pm ET on Trade Date or when the trades have been reported and matched with external confirms, whichever is later. Trading away for expiring options, on expiration day, is also discouraged due to the potential for late or inaccurate reporting which can lead to erroneous margin calculations or incorrect exercise and assignment activity. Clients who wish to trade expiring options, on expiration day away from IB, must load their FTP file no later than 2:50 pm ET, and do so at their own risk.

If an incorrect file is loaded, do not delete or overwrite it. Instead, contact the Prime Services group at 203-618-4060 or primeserve@interactivebrokers.com to be advised on the best way to resolve. Depending on the situation, IB may be able to stop processing, correct certain details, or require a new file be loaded. Certain details can be amended by IB, such as Trade Date, Commission, Price, and Quantity. The rest will require a new file to be submitted. If a new file is required please ensure the filename is unique and does not overwrite the previous file, i.e. add a suffix to the file like “2” or “B”. For Hong Kong stocks, please call +852-2156-7999 between 0800 - 1700 HKT.

If you do not know how to use FTP or need an FTP program you can use WinSCP – a free FTP management program – to post files to our servers. To download go to http://winscp.net/eng/download.php and select the “Installation Package” (not sponsored).

The "Exchange" is required for Futures, Futures Options, SSF, and Hong Kong stock trades.

The "Settlement Amount" and "ISIN" are required for Hong Kong stock trades.

Canadian stocks are only supported for settlement in Canadian dollars.

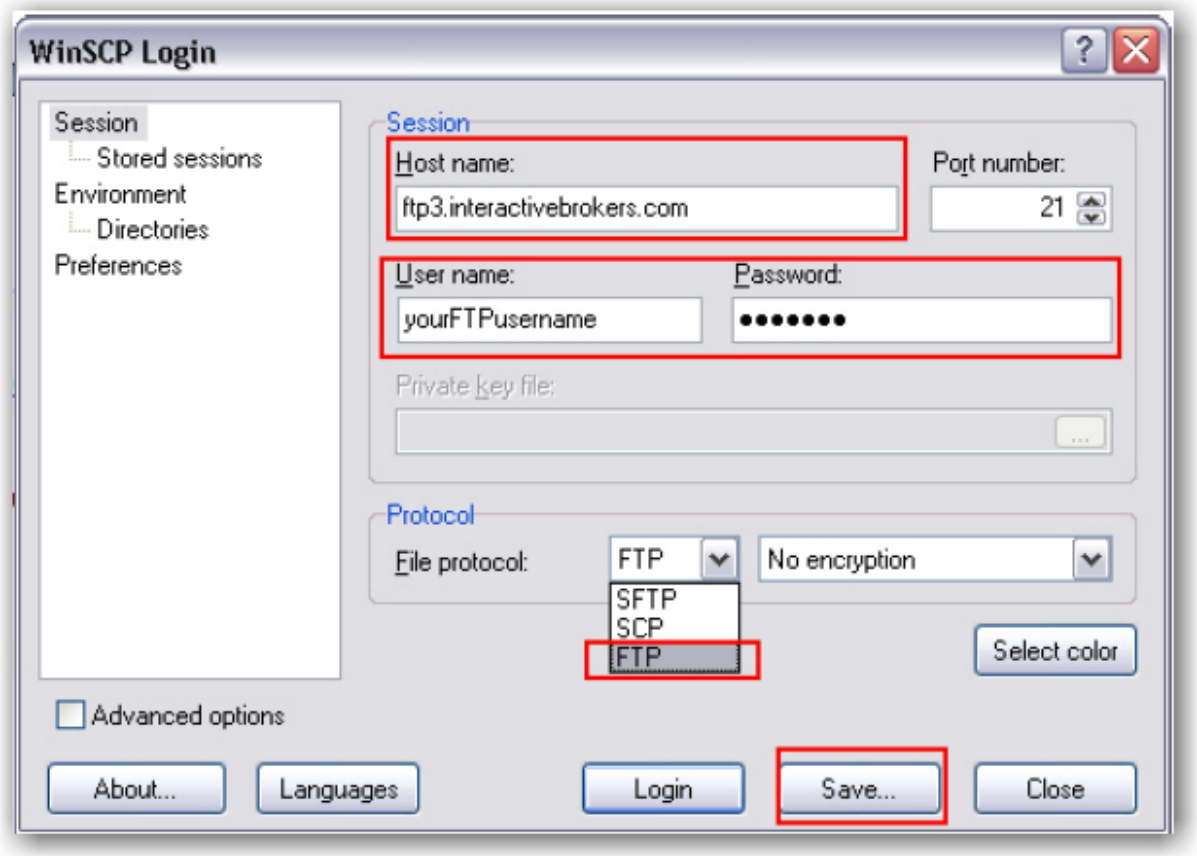
WinSCP – Store Session

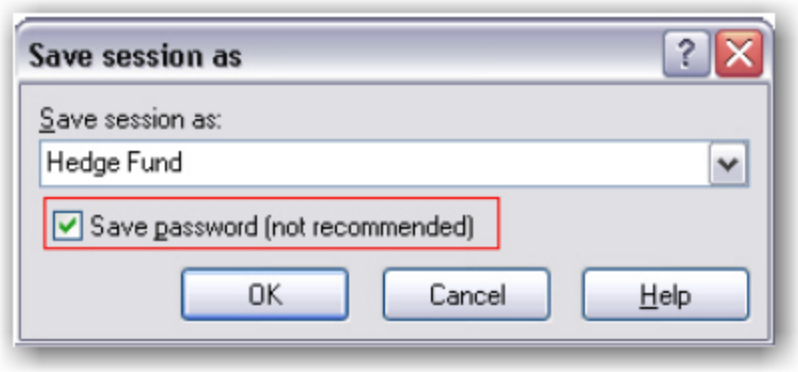
WinSCP allows you to “store a session” allowing future logins without the need to provide the username/password. To do so enter the following at the WinsSCP login window and select Save instead of Login. Create a session name, check “save password”, click OK. In the future you will have the option to log into this session each time you launch WinSCP.

FTP Host name: ftp3.interactivebrokers.com or ftp.interactivebrokers.com (as provided by Prime Services)

FTP username/password: Provided by Prime Services

File Protocol: FTP





Give-up

IBExecution - Order Ticket

IBExecution - Order Line

Configure a Default Give-Up

Create DVP/RVP Instructions

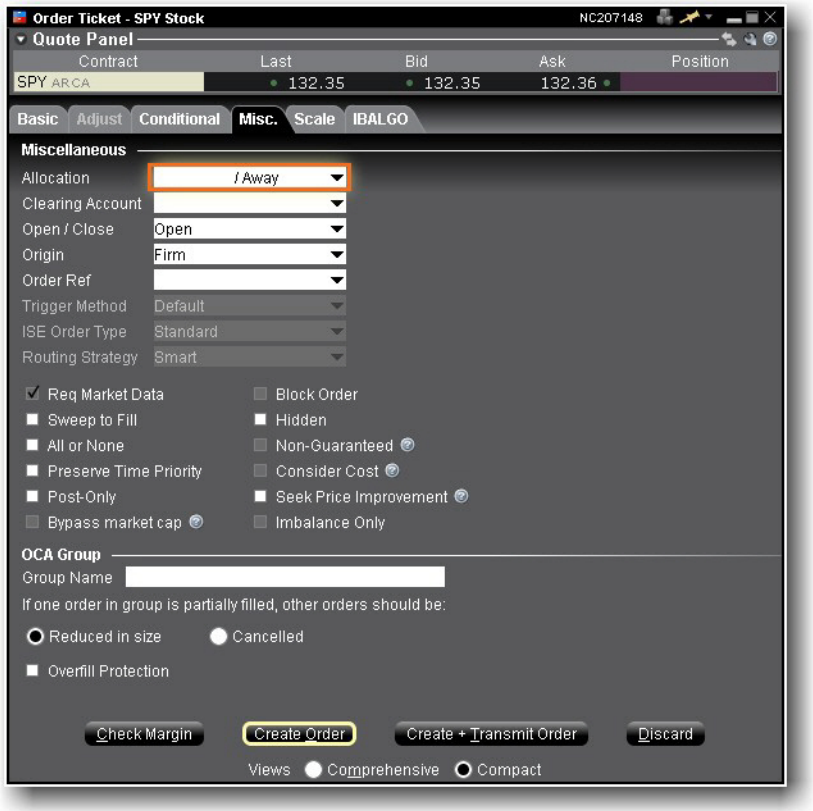
Short Sale Confirmation

Transfer a Position Using DVP/RVP

IBExecution Services

As an IBExecution Services customer, you can tell TWS where you want to clear your trades on a per order basis. Note that before you can use IBExecution Services, you must first apply and then provide us with your give-up instructions which you specify in Account Management. You can use IBExecution Services from both the Order Ticket and on an order management line to define pre-trade or post-trade give ups.

IBExecution Services on the Order Ticket



1. Right-click on a ticker and select *Trade*, then select *Order Ticket*.
2. Set up your order on the Basic tab, then click the **Misc**. tab to use IBExecution Services.
3. Use the Allocation drop-down to select your give up. Choose from your list of clearing choices including:

   Interactive Brokers (IB). This was the previous default clearing destination.

   Pre-trade Give Up. At the time of the trade, choose a third-party clearing give-up location from the instructions in the clearing field, which you defined through Account Management. If you defined multiple DTCID or CMTA settlement instructions via Account Management, you will see multiple pre-trade choices.

   Post Trade Allocation (PTA). This selection is available upon request, and puts your trades into the PTA pool after execution. Allocate post-trade using the Trading Access section of Account Management, which is directly accessible by selecting *Post Trade Allocations* on the **View** menu. The clearing choice you select will automatically be used as the default selection the next time you submit an order.

The clearing choice you select will automatically be used as the default selection the next time you submit an order.

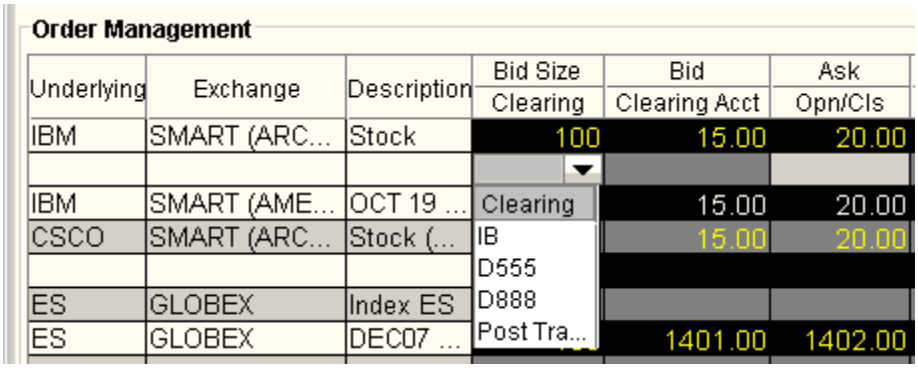
4. Use the **Open/Close** indicator for US Options orders to specify whether your order is designed to close/reduce a position or open/increase a position. You can set a default for this indicator in the Order Defaults section of Global Configuration.
5. The **Clearing Account** field is required for US futures and futures options orders that use *PTA* or *Away*clearing. You must specify the account number or other identity of the true beneficiary of the order. This information is reported to the exchange with the order. IB Execution clients with multiple clearing destinations can configure a default give-up. For Option and Stock orders, the clearing account number is in the settlement instruction and this field is optional.

IBExecution Services from an Order Line

As an IBExecution Services customer, you can instruct TWS where you want to clear your trades on a per order basis. Note that before you can use IBExecution Services, you must first apply, and then enter your give-up instructions through Account Management. You can use IBExecution Services from both the Order Ticket and on an order management line to define pre-trade or post-trade give ups.

IBExecution Services from an Order Management Line

1. Click the Ask or Bid price on a market data line to create a BUY or SELL order, respectively.
2. Use the **Clearing** dropdown to select to select your give up. Elect from one of three (3) types of clearing choice:



Interactive Brokers (IB). This was the previous default clearing destination.

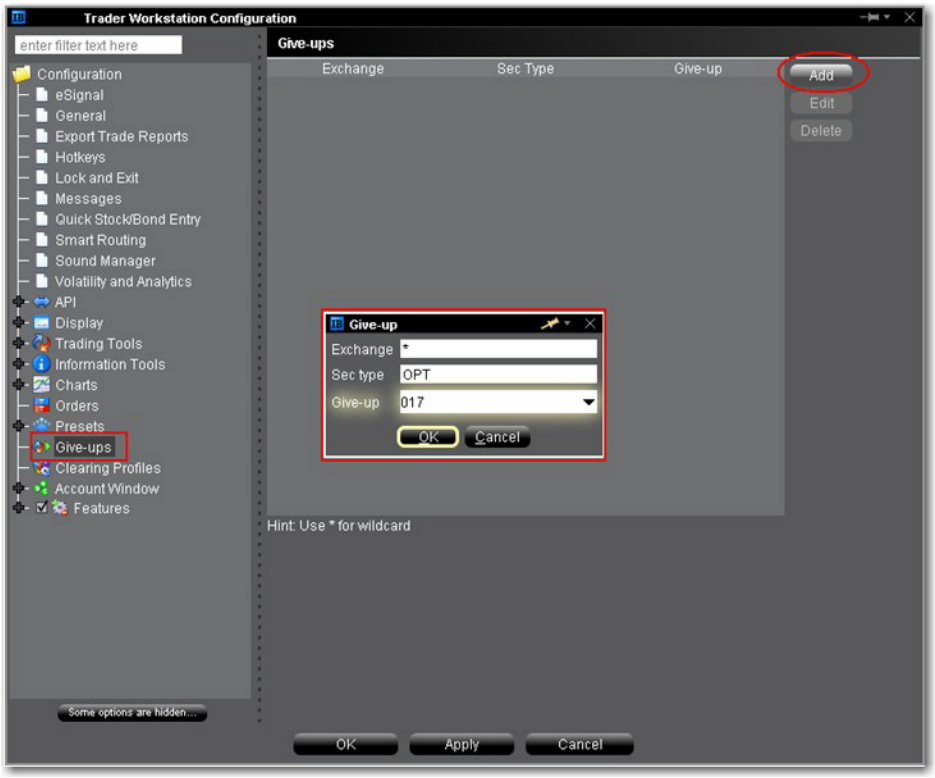
Pre-trade Give Up. At the time of the trade, choose a third-party clearing give-up location from the instructions you defined through Account Management. If you defined multiple DTCID or CMTA settlement instructions via Account Management, you will see multiple pre-trade choices.

Post Trade Allocation (PTA). This selection puts your trades into the PTA pool after execution. Allocate post-trade using the Trading Access section of Account Management, which is directly accessible by selecting *Post Trade Allocations* on the **View** menu. The clearing choice you select will automatically be used as the default selection the next time you submit an order.

3. Use the **Open/Close** indicator for US Options orders to specify whether your order is designed to close/reduce a position or open/increase a position. You can set a default for this indicator in the *Order Defaults* section of Global Configuration.
4. The **Clearing Account** field is required for US futures and futures options orders that use *PTA* or *Away* clearing. You must specify the account number or other identity of the true beneficiary of the order. This information is reported to the exchange with the order. For Option and Stock orders, the clearing account number is in the settlement instruction and this field is optional.

Configure a Default Give-Up

If you have multiple clearing destinations, you can define a default give-up for each asset type. The default will be shown each time you create an order, but can easily be changed by selecting another clearing destination.



To create a default give-up

From the TWS **Edit** menu, select *Global Configuration*.

In the left pane select Give-ups.

Click "Add" from the top right of the window and fill in the Give-up box.

Enter the exchange acronym or use "*" as the wildcard to include all exchanges.

Enter the security type.Valid acronyms include:

OPT

STK

FUT

FOP

Click OK to save the give-up

To include default give-ups for different security types, click "Add" and specify a separate give-up for each security type.

Click **OK** at the bottom of the pane to close Global Configuration and save the list of all default give-ups.

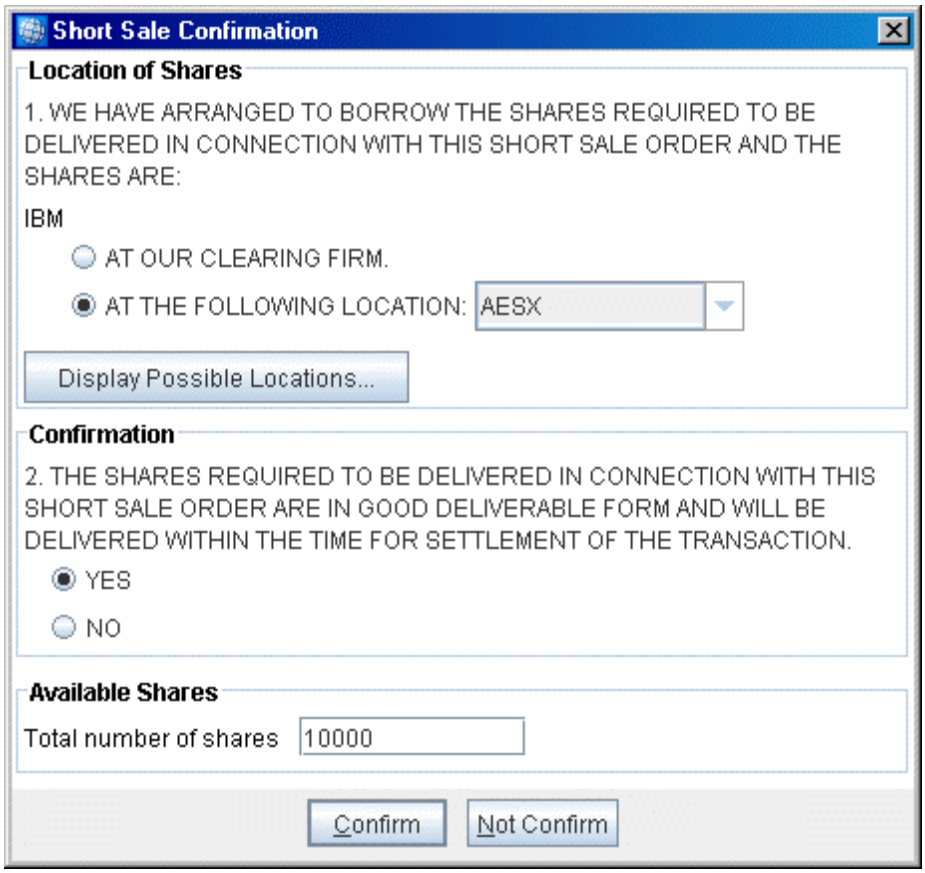
Short Sale Confirmation

Use the Short Sale Confirmation box to confirm that the shares you want to short are available at the clearing firm. This confirmation box pops up the first time you elect to short an underlying. If you enter the number of shares available, it will only require input once per underlying/per TWS session (a session lasts until you log out of TWS) as long as you stay within the available shares limit.

To confirm availability of shares for short sale

1. Select Short sell as the action on a buy/sell order line.
2. Enter confirmation information in the **Short Sale Confirmation** box.

   Enter the Total Number of Shares available to avoid having to confirm availability each time you short this underlying.



3. TWS will track the number of shares available based on the short sell orders you submit on the underlying. If the number of available shares does not cover the order quantity, you will be required to confirm availability again.

Pre-Trade Allocations

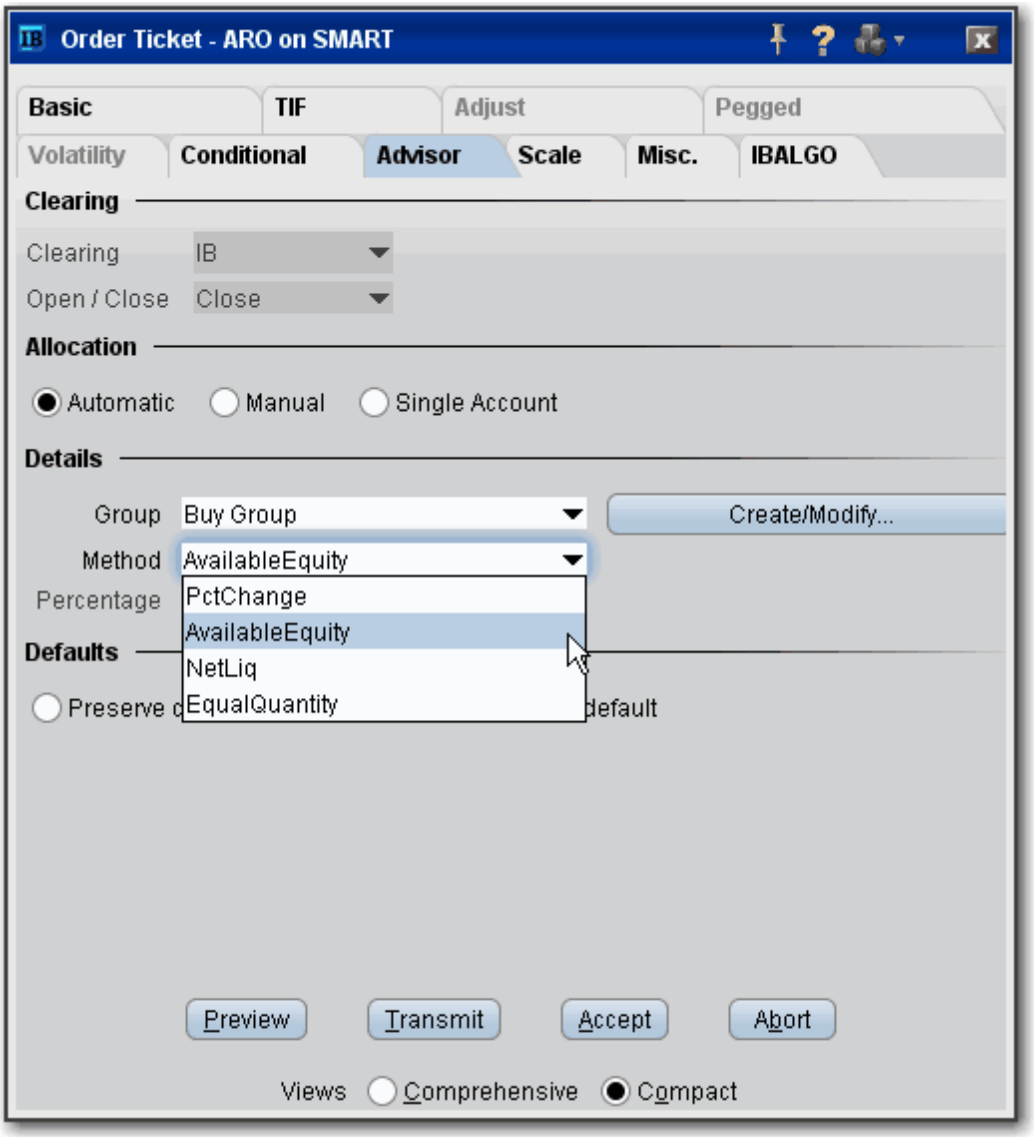
Create an Order for Multiple Clients

Allocating Shares

Rebalance for Advisors
Create an Account Group for Share Allocation
Create a Share Allocation Profile
Default Clearing for Allocation Profiles
Edit a Share Allocation Profile
Set Default Allocations

Create an Order for Multiple Clients

Advisors can also create orders and allocate shares using the **Allocation** column on an Order Management line.



To create an order for multiple clients

1. Click the "Ask" or "Bid" price on a market data line to create an order.

   Click the **Ask Price** to create a **Buy** order.

   Click the **Bid Price** to create a **Sell** order.

2. Use the Allocation field dropdown list to select an Account Group, Account Profile, a

single account or *All* accounts.

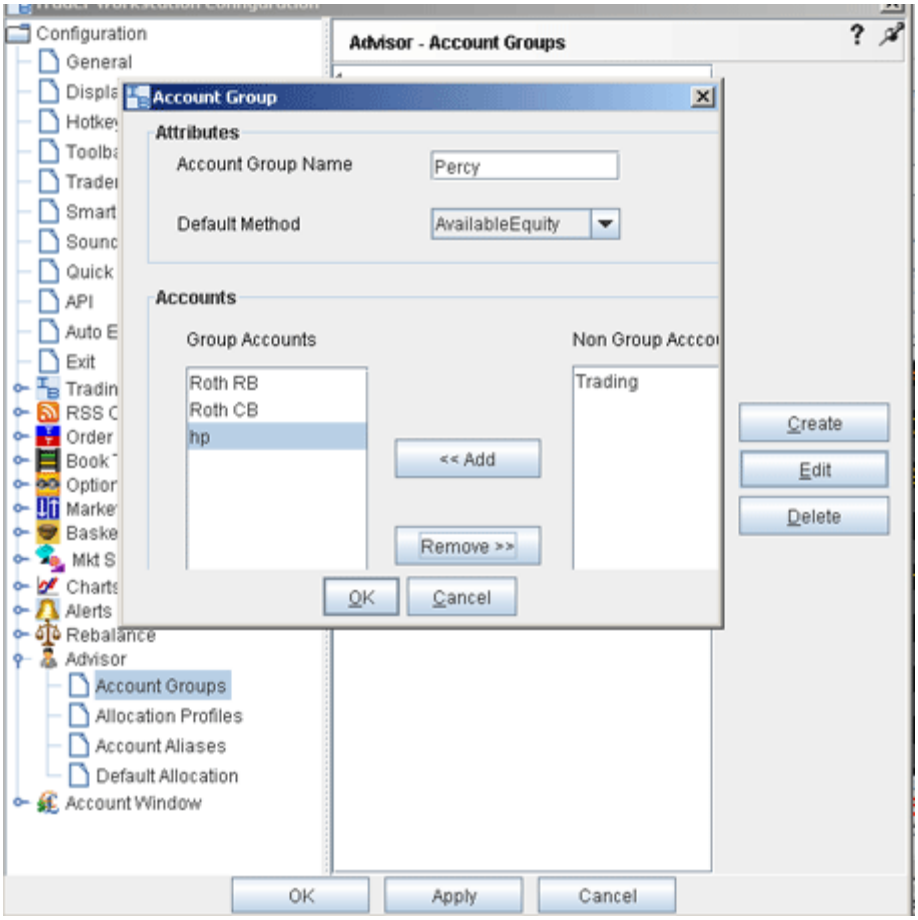
OR

*Right-click on the order and select **Modify** then select Share Allocation.*

3. In the **Allocation** dialog box, select an Account Group in the Automatic Allocation area, an Account Profile in the Manual Allocation area, or select a single account.
4. For the Account Group, modify the allocation method if necessary. If you choose the PctChange method, enter a positive or negative value in the *Percentage* field. All other automatic allocation methods are calculated using the order size.
5. If you use an Allocation Profile, select a group name.
6. To allocate all shares to one account, select a single account.
7. Click **OK** to complete the order.
8. To Transmit, click the red "T" in the Transmit field.

Allocating Shares

We provide several ways to distribute shares among accounts when you create an order. You can select an **Account Group**, which comprises a pre-defined subset of accounts and an associated allocation method. The Account Group allocates shares based on a ratio calculated by the system, or by a percentage. The numbers used to calculate the ratio derive from the method you chose when you created the group, or by the percent change you set.



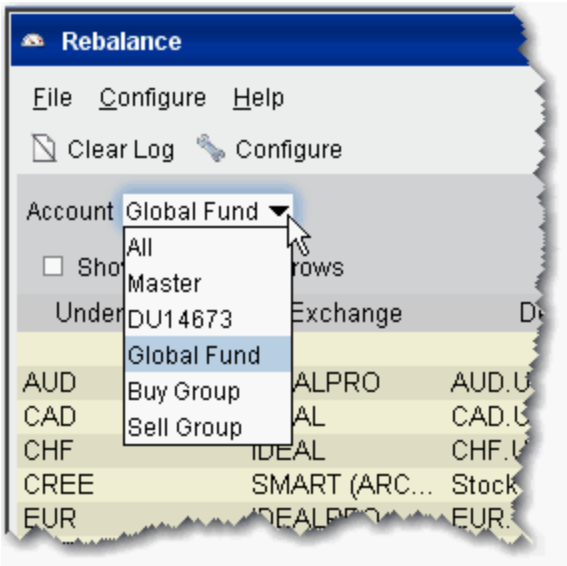
A second way to allocate shares is through an **Allocation Profile**, which distributes shares to each account in a profile based on a percentage, ratio or absolute number that you define. Both of these methods require that you create a group, assign accounts to the group, and define the group's allocation method.

You can also direct an order to a single account by selecting that account number or alias from the **Allocation** field on the order management line, or to all accounts by selecting *All* from the **Allocation** field. Set a default allocation from Global Configuration.

Rebalance for Advisors

Advisors can elect to have TWS automatically **Rebalance** ALL accounts, a single subaccount, or a user-defined Account Group, which includes a subset of accounts, by redistributing

percentages of positions in their subportfolio(s) that make up the current (signed) net liquidation value. TWS opens and closes positions to rebalance the selected accounts' portfolio based on the new percentages you enter. You can add contracts and create orders just as you would from the main trading screen.



Rebalance a SubPortfolio

1. Open the Rebalance window by clicking the **Rebalance** icon on the trading toolbar.
2. In the Account dropdown, select: *All* to rebalance All accounts; *Master* to rebalance the master account, an account number to rebalance that account, or an Account Group to rebalance all accounts in the group.
3. The **Rebalance** window shows three columns that are different from those on your trading screen:

   Deliv Value - this is the deliverable value of the position, which is the same as the Market Value for the position shown in the *Portfolio* section of the **Account** window.
   Current % - this is the current signed percent of the position to your net liquidation value shown in the *Balance* section of the **Account** window. This figure is calculated

by dividing the DLV by the NLV (Net Liq. Value).
Rebal% - Percentages are entered in terms of deliverable value.

Note: Please note that puts have a negative deliverable value since they deliver a short position. Consequently, to increase your put position, you must enter a negative deliverable value percentage.

4. In the **Rebal %** field, enter the new percent of the Net Liquidation Value that you want the position to have.

   If you have selected "All" in the Account dropdown, the rebalance percent for the instrument will be applied to all of your sub accounts' portfolios.

5. Click the **Create Orders** button to instruct the application to automatically create the orders to achieve the percent change.
6. Use the **Transmit All** button to send all orders, or click "Transmit" on an order line to transmit a single order.

Note: For options, the rebalance% is based on the value of the underlying stock price.

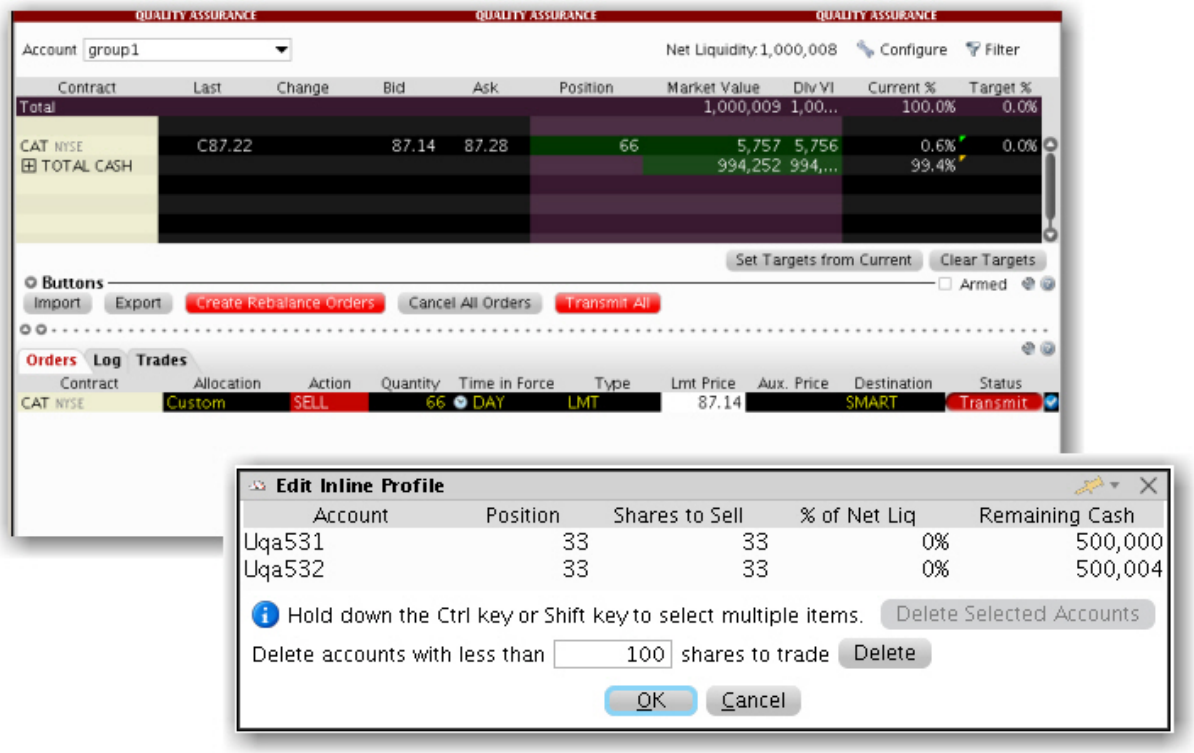
Open positions from the Rebalance window

1. First, add a ticker line to the **Rebalance** window by selecting the market data line on your trading screen, and then clicking the selection arrow attached to the Rebalance icon on the trading toolbar. Click *Add to Rebalance Window*. Or, enter an underlying symbol into a blank row on the **Rebalance** screen as you would on the main trading window.
2. Enter a value in the *Rebal %* column and click the **Create Orders** button.
3. Transmit the order.

Edit Inline Profile on Rebalance

Advisors using the Rebalance Portfolio window to simultaneously reset the Target % allocation for multiple accounts can edit the inline profile for rebalance orders before submitting. The inline profile for each order identifies the accounts that will be affected by the rebalance order and

allows you to delete accounts from the profile based on user-selection or specified "shares to trade" criterion.



To edit an inline profile

From the Rebalance account selector choose Group>All.

Reset target percents as needed and click *Create Rebalance Orders*.

Double-click the Allocation field on an order line to view and edit the Inline Profile.

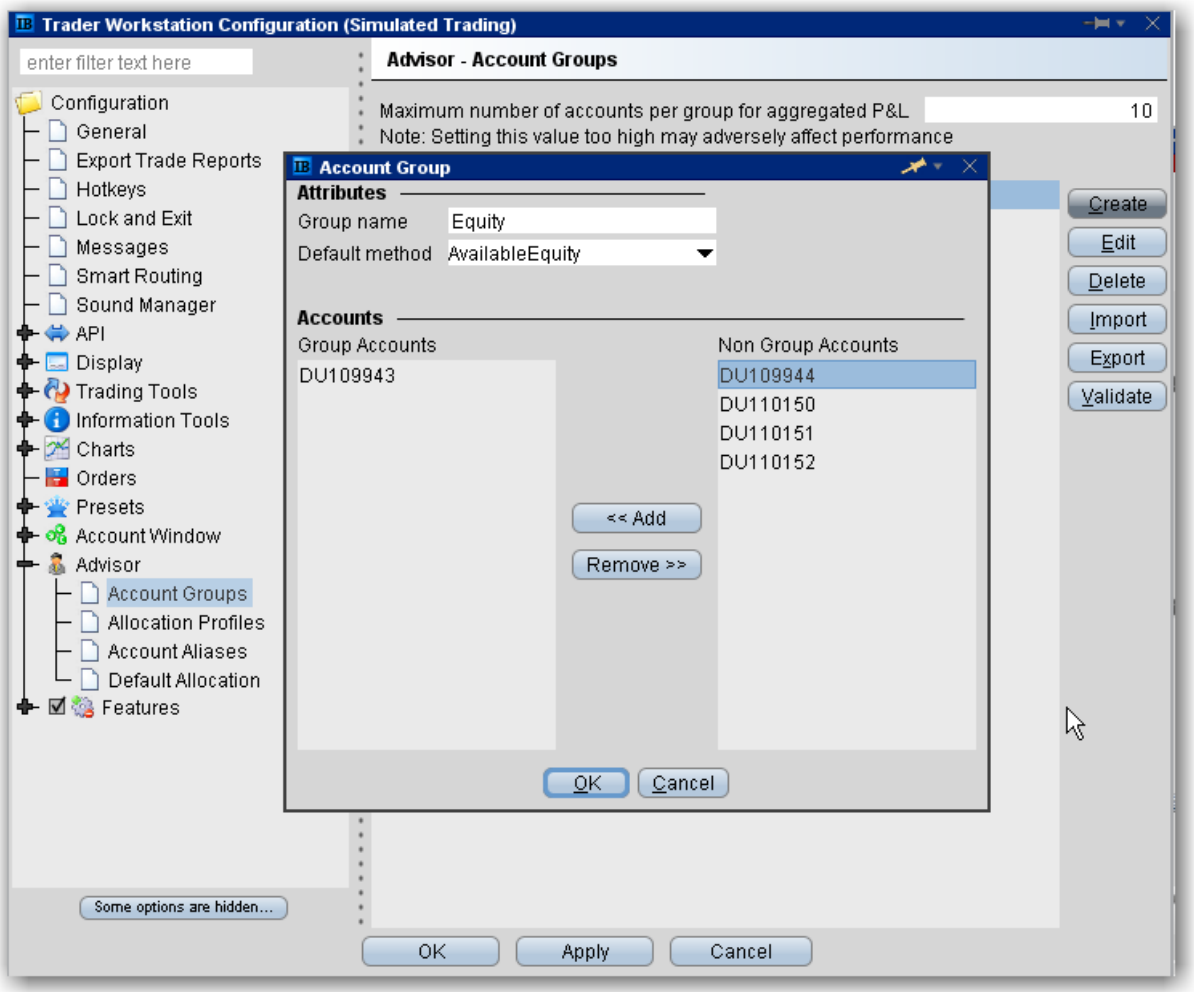
Specify criteria that will result in certain accounts being omitted.

Click OK when finished.

Create an Account Group for Share Allocation

You can use an Account Group to automatically calculate ratios and allocate shares to a pre-defined group of accounts based on a selected allocation method. When you create an order

and choose a group, the order uses the default method to allocate shares among the accounts in the group.



To create an Account Group

1. On the **Edit** menu select *Global Configuration*.
2. In the left pane select *Advisor*, then select *Account Groups.*
3. Click the **Create** button on the right side of the window.
4. Enter an Account Group name. Do not use the name "All" since this is reserved by the system.

Note: When you create an order, the choices displayed in the Allocation list are grouped first by Account Group, then Allocation Profile, and then individual accounts. However, they are not identified in any other way. When you create an account group, you may want to include a prefix such as "AG" in the name to identify the choice as an Account Group.

5. Select a default allocation method. You can change the allocation method for each order.

   EqualQuantity - Requires you to specify an order size. This method distributes shares equally between all accounts in the group.

   Example: You transmit an order for 400 shares of stock ABC. If your Account Group includes four accounts, each account receives 100 shares. If your Account Group includes six accounts, each account receives 66 shares, and then 1 share is allocated to each account until all are distributed.

   NetLiq - Requires you to specify an order size. This method distributes shares based on the net liquidation value of each account. The system calculates ratios based on the Net Liquidation value in each account and allocates shares based on these ratios.

   Example: You transmit an order for 700 shares of stock XYZ. The account group includes three accounts, A, B and C with Net Liquidation values of $25,000, $50,000 and $100,000 respectively. The system calculates a ratio of 1:2:4 and allocates 100 shares to Client A, 200 shares to Client B, and 400 shares to Client C.

   AvailableEquity - Requires you to specify an order size. This method distributes shares based on the amount of available equity in each account. The system calculates ratios based on the Available Equity in each account and allocates shares based on these ratios.

   Example: You transmit an order for 700 shares of stock XYZ. The account group includes three accounts, A, B and C with available equity in the amounts of $25,000, $50,000 and $100,000 respectively. The system calculates a ratio of 1:2:4 and allocates 100 shares to Client A, 200 shares to Client B, and 400 shares to Client C.

PctChange - Do not specify an order size. **Since the quantity is calculated by the system, the order size is displayed in the Quantity field after the order is acknowledged.** This method increases or decreases an already existing position. Positive percents will increase a position, negative percents will decrease a position.

BUY ORDER	*Positive Percent*	*Negative Percent*
Long Position	Increases position	No effect
Short Position	No effect	Decreases position
SELL ORDER	*Positive Percent*	*Negative Percent*
Long Position	No effect	Decreases position
Short Position	Increases position	No effect

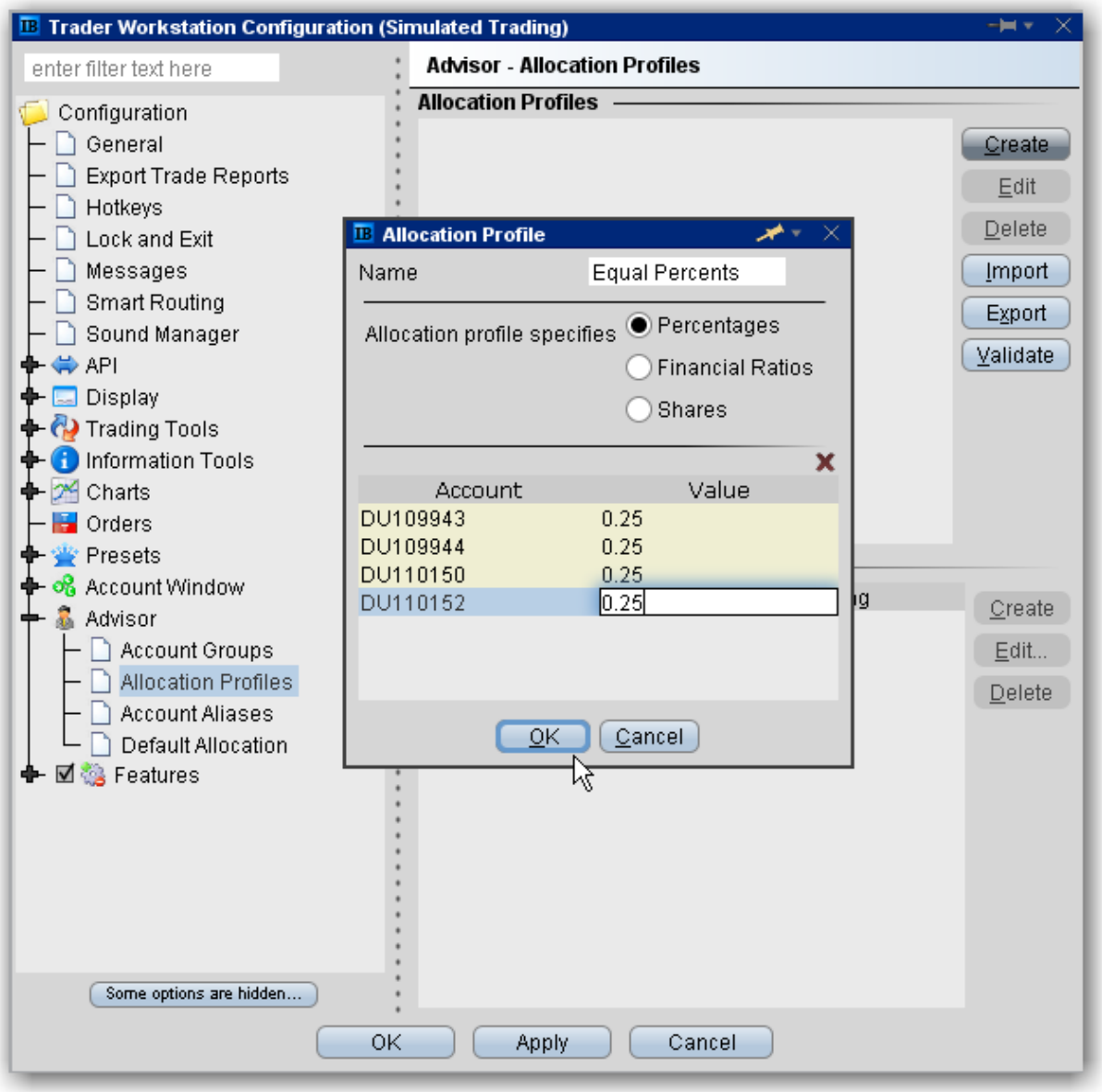
Example 1: Assume that three of the six accounts in this group hold long positions in stock XYZ. Client A has 100 shares, Client B has 400 shares, and Client C has 200 shares. You want to increase their holdings by 50%, so you enter "50" in the percentage field. The system calculates that your order size needs to be equal to 350 shares. It then allocates 50 shares to Client A, 200 shares to Client B, and 100 shares to Client C.

Example 2: You want to close out all long positions for three of the five accounts in a group. You create a sell order and enter "-100" in the Percentage field. The system calculates 100% of each position for every account in the group that holds a position, and sells all shares to close the positions.

6. The list of accounts in the *Non Group Account* section includes all accounts available to you. To add an account to the group, select a Non Group account and click **Add**.
7. Click *OK* to save the group and its settings.

Create a Share Allocation Profile

You can create profiles that allocate specific percentages or shares of each order to individual accounts based on the rules you set and values you input.



To create a share allocation profile

1. On the **Edit** menu, select *Global Configuration.*
2. In the left pane select *Advisor*, then select *Allocation Profiles*.
3. Click **Create** and enter a profile name, preferably one based on the way you plan to allocate shares between clients.

   When you create an order, the choices displayed in the Allocation list are grouped by Account Groups, then Allocation Profiles, and then individual accounts. However, they are not identified in any other way. When you create a profile, you may want to include a prefix such as "P" in the name to identify the choice as a profile.

4. In the **Allocation Profile specifies** area, select a method of allocating shares between accounts:

   Percentages - this method will split the total number of shares in the order between listed accounts based on the percentages you indicate. For example, an order for 1000 shares using a profile with four accounts at 25% each would allocate 250 shares to each listed account in the profile.

   Financial Ratios - this method calculates the allocation of shares based on the ratios you enter. For example, an order for 1000 shares using a profile with four accounts set to a ratio of 4, 2, 1, 1 would allocate 500, 250, 125 and 125 shares to the listed accounts, respectively.

   Shares - this method allocates the absolute number of shares you enter to each account listed. If you use this method, the order size is calculated by adding together the number of shares allocated to each account in the profile.

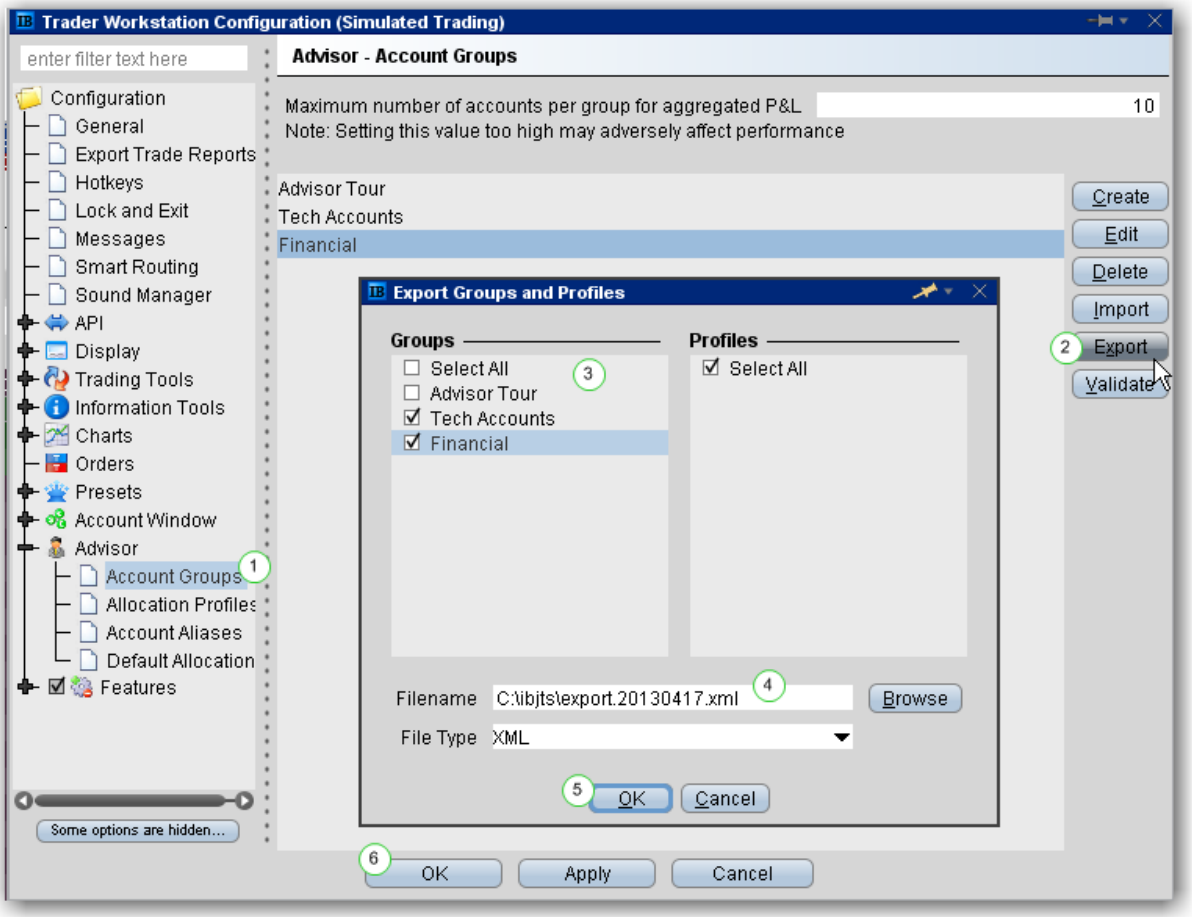
5. Click in the *Account* field to view all accounts. Select an account and tab over to the *Value* field.
6. Enter the percent, ratio or number of shares to be allocated to the selected account (you may need to delete the current value). Tab to create a new account line.

   If you use percentages to allocate shares, percentages allocated must equal 100. If you use ratios, The system automatically calculates these percentages.

7. Continue until you have listed all the desired accounts for the current profile, and click **OK**.

Import and Export Groups and Profiles

Advisors and other multi-client account users can import and export Account Groups and Allocation Profiles to and from an Excel .csv file.



To export account groups and allocation profiles

From within Global Configuration, go to the Advisor section and select *Account Groups* or *Allocation Profiles*.

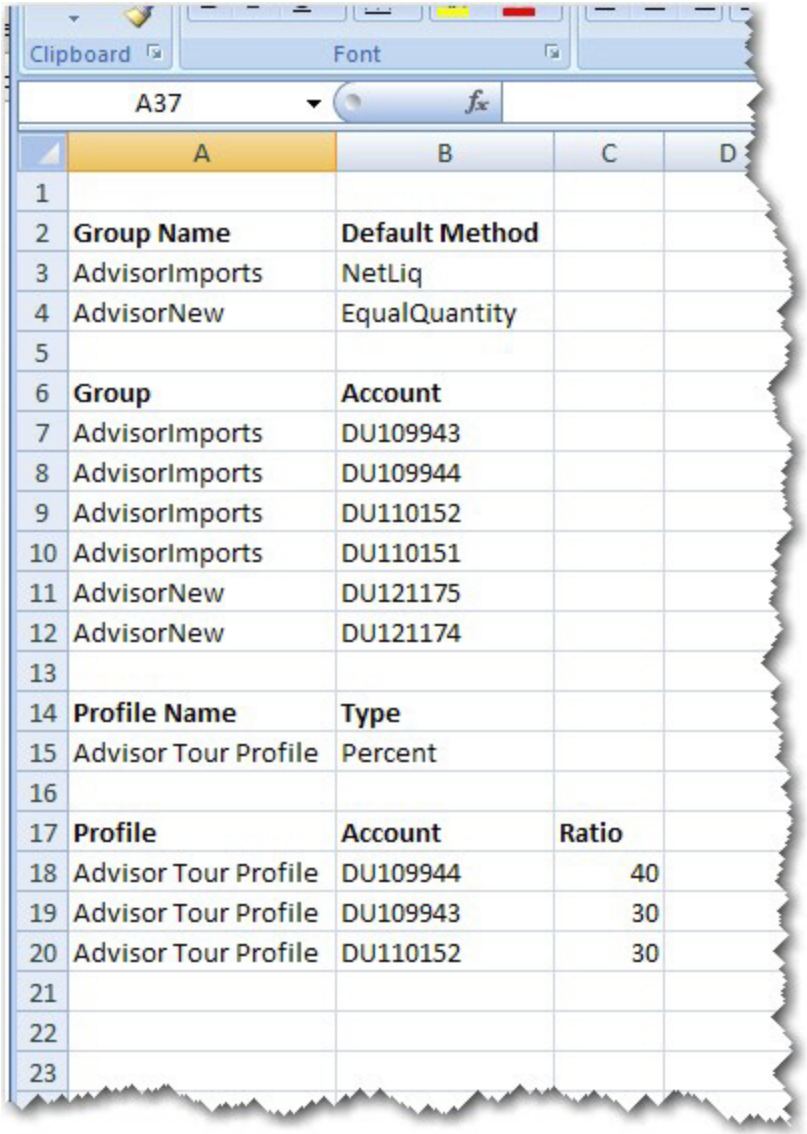
From the right side of the main pane click "Export."

In the **Export Groups and Profiles** box, select the groups and/or profiles to export.

Modify the file name and location if needed using the *Filename* field. A default directory and filename are included.

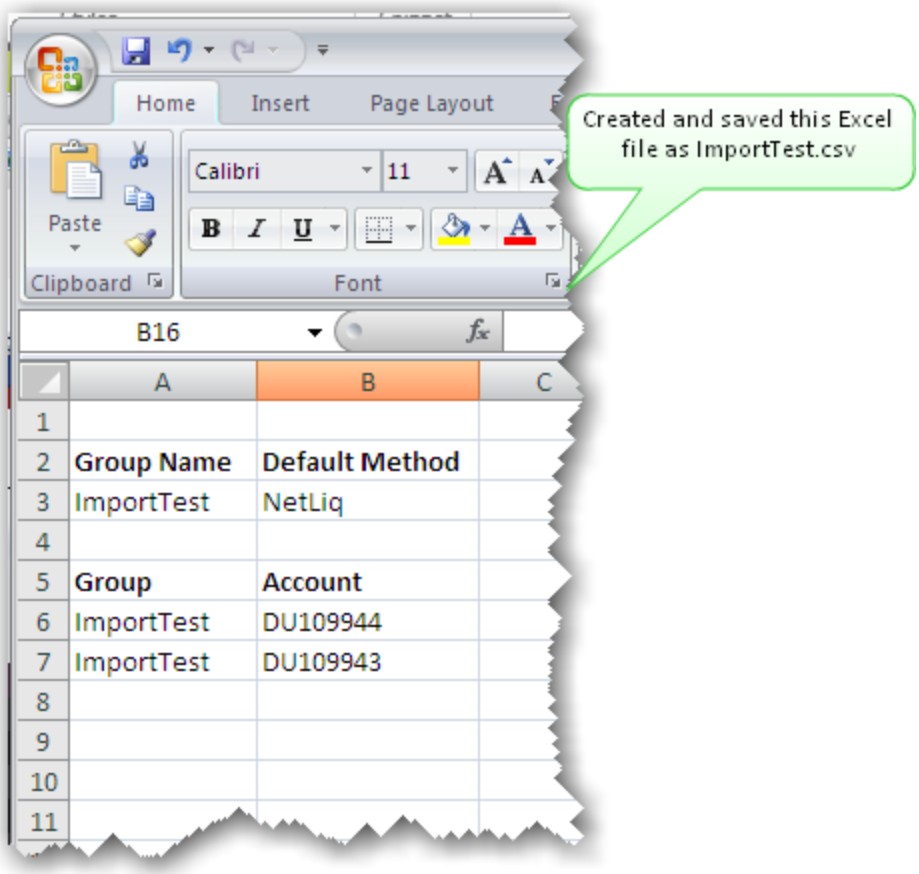
Click **OK** and then **OK** again to export the file.

The resulting file will display similar to the snippet shown below. Fields are required in the Excel file only if they are populated.



	A	B	C	D
1				
2	**Group Name**	**Default Method**		
3	AdvisorImports	NetLiq		
4	AdvisorNew	EqualQuantity		
5				
6	**Group**	**Account**		
7	AdvisorImports	DU109943		
8	AdvisorImports	DU109944		
9	AdvisorImports	DU110152		
10	AdvisorImports	DU110151		
11	AdvisorNew	DU121175		
12	AdvisorNew	DU121174		
13				
14	**Profile Name**	**Type**		
15	Advisor Tour Profile	Percent		
16				
17	**Profile**	**Account**	**Ratio**	
18	Advisor Tour Profile	DU109944	40	
19	Advisor Tour Profile	DU109943	30	
20	Advisor Tour Profile	DU110152	30	
21				
22				
23				

To import account groups and/or allocation profiles, create a .csv file following the same format as the images above and below. The image below is only for a new account group called ImportTest.



To import account groups and/or allocation profiles

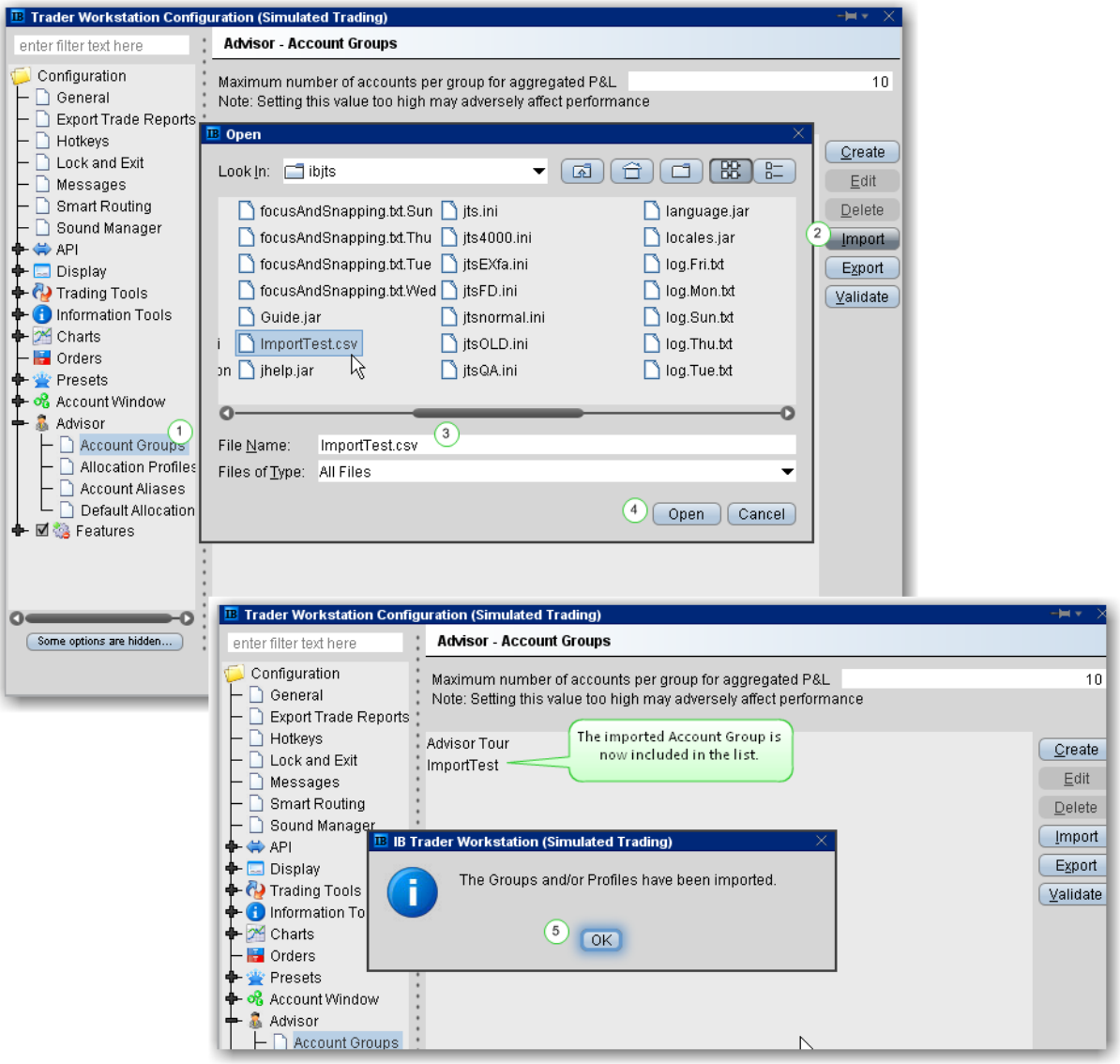
From Excel:

Open Excel, and create a new file that defines:

> *For Account Groups, the file contains the Group Name, Default Method, Group and Account fields.*
> *For Allocation Profiles, the file contains the Profile Name, Type, Profile and Account fields (additional fields are required for Ratio and Percentages.*

Save the file with the .csv file extension.

From within TWS:



From within TWS Global Configuration, go to the Advisor section and select *Account Groups* or *Allocation Profiles*.

From the right side of the main pane click "Import."

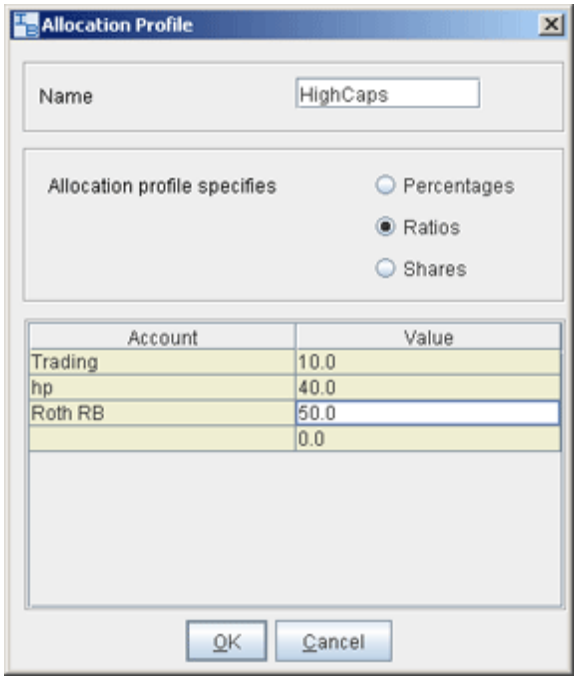
Find the directory and new file to import.

Click Open.

Say "OK" to the message indicating that the imported data is complete.

Edit a Share Allocation Profile

After you have created share profiles, you can select one when you create an order.



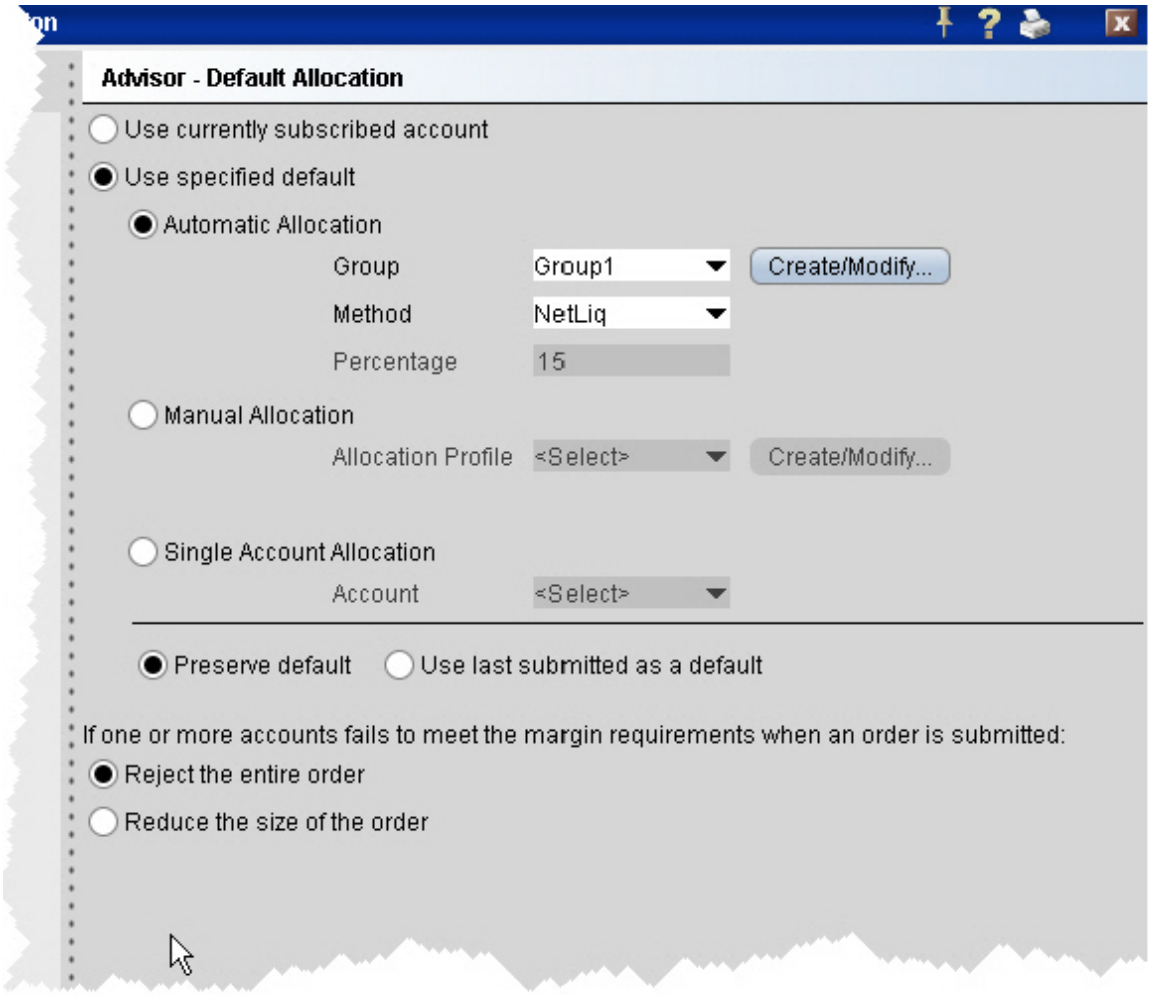
To edit a share allocation profile

1. From the **Edit** menu, select Global Configuration.
2. In the left pane, select Advisor then select *Allocation Profiles*.
3. Select an Allocation Profile and click **Edit.**
4. In the **Allocation Profile** window, you can add or delete accounts, select a different allocation method, or modify the allocated percentage or ratio for any accounts.
5. Click **OK** to save the edited profile.

Percentages allocated must equal 100. If you use ratios, the system will automatically calculate share percentages based on the ratios.

Set Default Allocations

The default allocation refers to the allocation that will be used automatically when you create an order. You can modify the allocation on a per trade basis, and change the default allocations at any time.



To set default allocations

1. On the **Edit** menu select Global Configuration.
2. In the left pane, select *Advisor* then select *Default Allocation.*

Define settings described below:

Use currently subscribed account - check this button to automatically allocate trades to the account or group selected in the *Account* dropdown on a trading screen, as shown above.

Use specified default - check this button to set a specified absolute default allocation.

Automatic Allocation - choose a user-defined Account Group and method to use for default allocation.

Manual Allocation - choose an Allocation Profile to use as the default.

Single Account Allocation - choose an individual account to use as the default allocation.

NOTE: To allow the last selected individual account to be used for the default allocation going forward, select the *Use currently subscribed account* radio button at the top of the page.

Preserve default - select to always use the default set up in the Default Allocation window regardless of changes you make on a per-order basis. If this is checked, you will need to use this window to modify the default allocation.

Use last submitted as a default - select if you want the default allocation to change to the allocation you set on a per-order basis. If this is checked, the default allocation automatically changes when you change the allocation on an order.

If one or more accounts fails to meet the margin requirements when an order is submitted...

For each order, all accounts designated for order allocation are vetted *before* the order is submitted, to ensure that each account has the capacity to support the designated allocation. In cases where one or some account(s) cannot hold the allocation as specified, the advisor can elect to:

Reject the entire order - The entire order is rejected.

Reduce the size of the order - The order size is reduced by the quantity that cannot be held, and this quantity is deactivated.

Note that once the order has been submitted and is working, the quantity of the working order may still change. For example, if an unrelated fill results in one or more of the accounts no longer being able to support the allocation, the order size will be reduced by that quantity. In an

opposite scenario, if an account whose allocation was deactivated can now support the allocation, a quantity that was deactivated during the initial order submission may be reactivated and submitted.

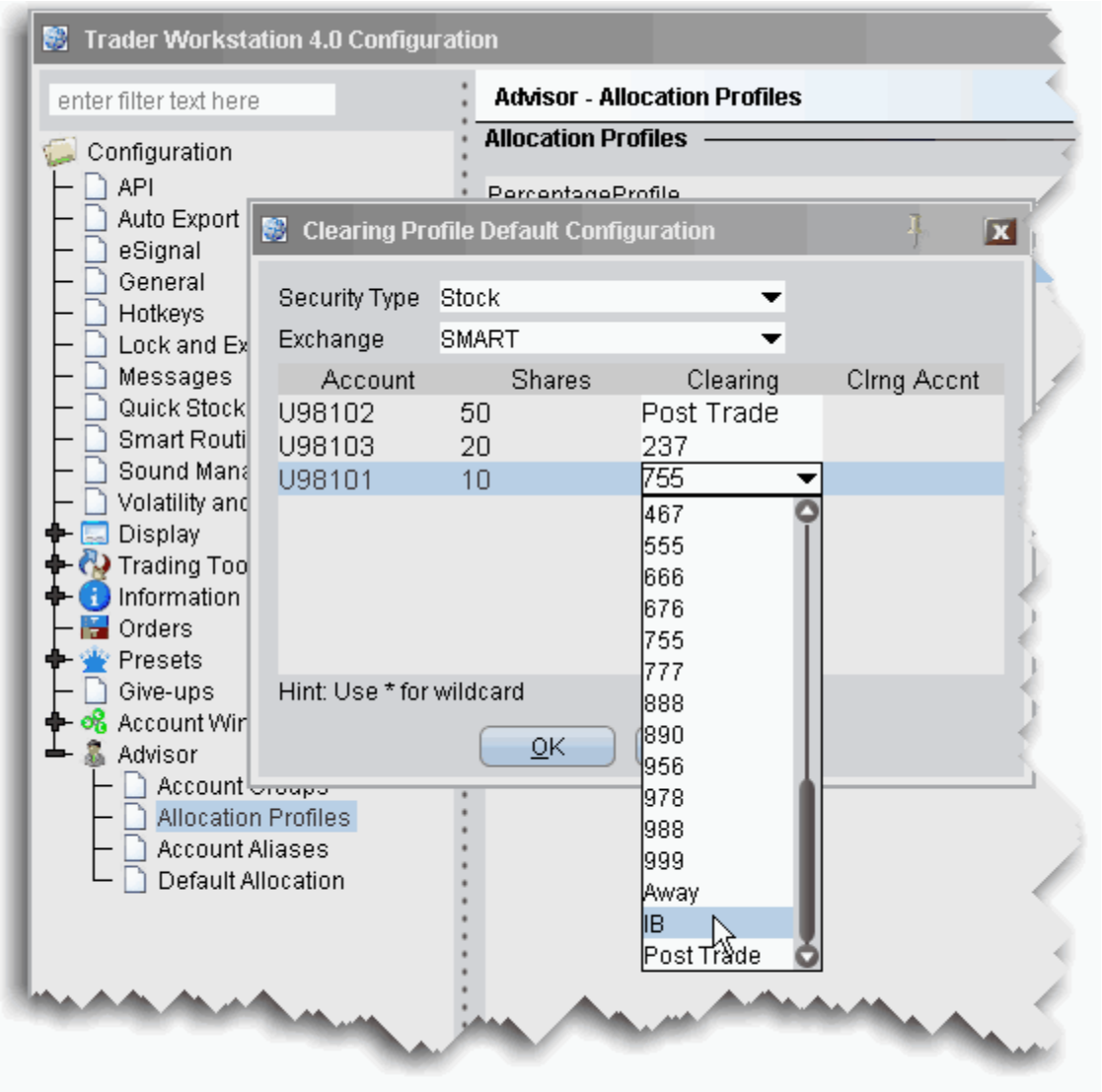
Default Clearing for Allocation Profiles

You can set up a default clearing profile as part of a manual Allocation Profile. The clearing defaults will be validated when you create an order.

To define a default clearing profile

1. From the **Advisor** configuration group, select *Allocation Profiles*.
2. In the top half of the window, choose the Allocation Profile for which you want to define clearing defaults.

3. In the Clearing Defaults section at the bottom of the window click *Create*.



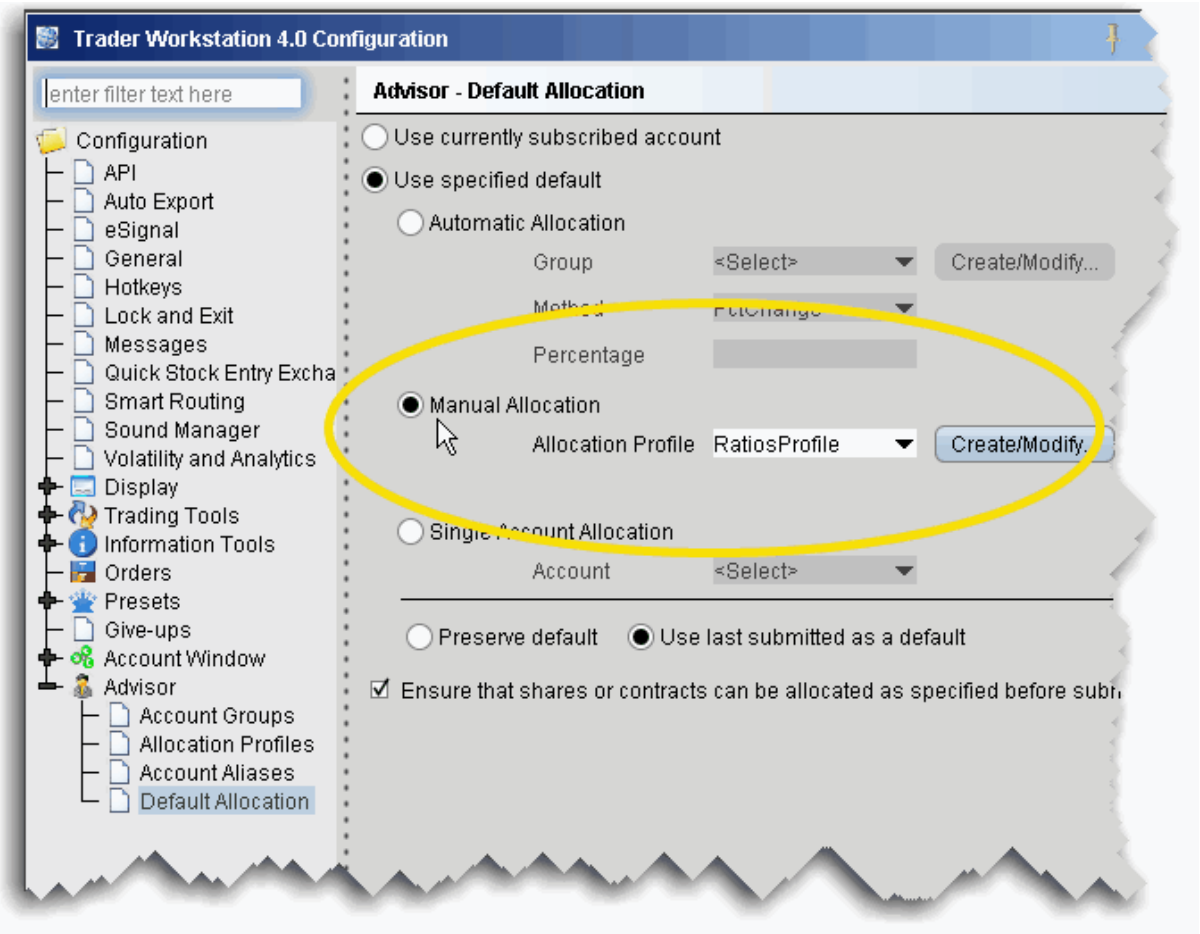
By default, all security types and all exchanges are included, indicated by the asterisk (*) in each selection field. If you prefer to define a clearing profile for a certain security type/exchange pair, select them from the dropdown lists.

4. Select a security type and exchange if desired. Otherwise, the asterisk indicates “all.”
5. For each account in the Allocation Profile, choose a **Clearing** selection, and click OK.

Note that the clearing rules are only received when an order is created. Consequently some clearing defaults will be invalid for some security type/exchange pairs. If the clearing rule is not valid for an order, you will receive an information message with a link that allows you to modify the clearing defaults.

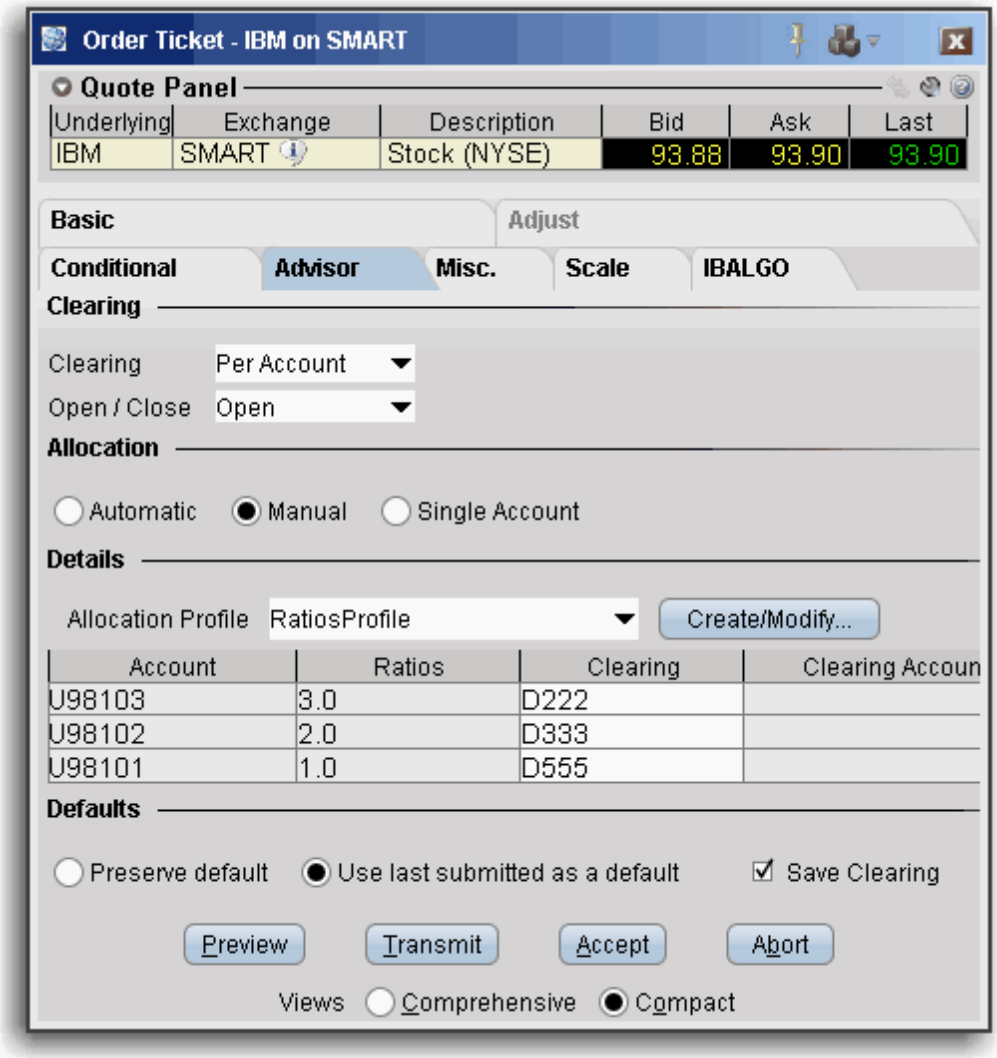
Using the Clearing Profile

If you are selecting an allocation, the clearing profile will not be active. You must either have the Manual Allocation selected in Global Configuration as the specified default, or you must select the Manual Allocation radio button from the Advisor tab of the order ticket on a per order basis. If you choose an Allocation Profile from the Allocation dropdown list of an order line, you must also choose the clearing.



To set Manual Allocation as the default

1. From the **Edit** menu, select Global Configuration.
2. In the left pane, select **Advisor** then select *Default Allocation*.
3. From the Default Allocation window, select *Use specified default*.
4. Select Manual Allocation, and choose the Allocation Profile for which you defined the clearing defaults. Click OK.



To select Manual Allocation on a per-order basis

1. From the order line, use the right-click menu to select *Modify* and then select *Order Ticket*.
2. On the **Advisor** tab, choose *Manual Allocation*, and then select the Allocation Profile for which you have defined the clearing defaults you want to use.

The clearing defaults in the Allocation Profile drive the default entry in the **Clearing** dropdown field. This list only contains clearing choices that are valid for ALL accounts in the profile.

If all clearing choices in the profile are valid but different, the **Clearing** entry reads *Per Account* and each individual clearing entry shows the clearing destination.
If all clearing entries are the same and valid, the **Clearing** entry shows the clearing destination, and the each individual clearing entry reads *Same*, indicating it is the same as the main **Clearing** entry.
If there is no common, valid clearing choice for all accounts in the Allocation Profile, the **Clearing** field becomes inactive, and each individual clearing entry shows either the valid clearing destination from the profile, or the valid default - in the image above it would display the last valid submitted clearing destination, since *Use last submitted as default* is selected.

Model Portfolios

Models provide an efficient process to manage multiple trading strategies for clients without requiring open multiple accounts. Client investments are allocated among instruments in the Model based on the Model's allocation ratios as defined by the account manager.

Before you can use Model Portfolios, you must contact IB Professional Services to have this featured enabled in your account.

Set up a Model Structure **1504**

Initial Funding and Populating **1505**

Establish Target Percent Allocations **1505**

Fund a Model **1507**

Purchase Model Investments **1510**

Models and Positions **1512**

Invest in a Model **1514**

Invest in Multiple Models **1514**

Divest Funds from a Model **1517**

Withdraw Cash from a Model **1519**

Rebalance a Model **1520**

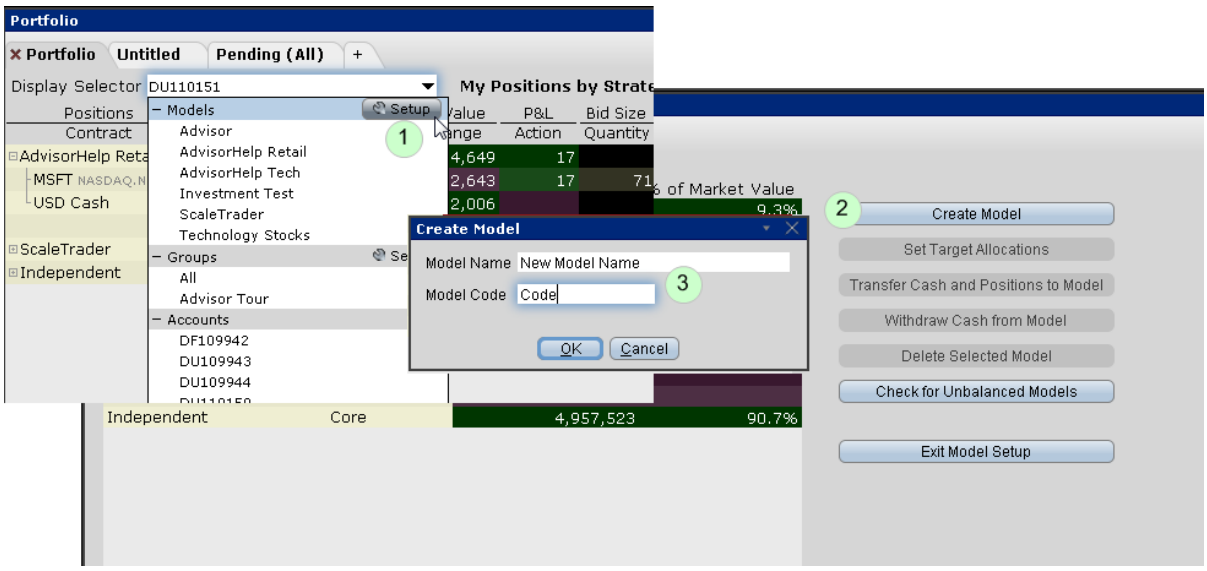
Reallocate Client Funds Among Models **1522**

Monitor Model Activity **1524**

Delete a Model **1525**

Set up a Model Structure

Create and manage Models from the Portfolio tab. To get started, first create the structure for the Model by providing a name and code.



To set up a Model

1. From the Portfolio tab select **Model Setup** from the Display Selector.
2. Click **Create Model** to specify a name and code.
3. Enter a name and code, and click OK.

The code cannot be changed once it has been created.

The structure for the new Model displays in the Models section of the Portfolio page. At this point the Model has no funds, no assets and no investors.

Next step: Fund and Populate the Model

Initial Funding and Populating

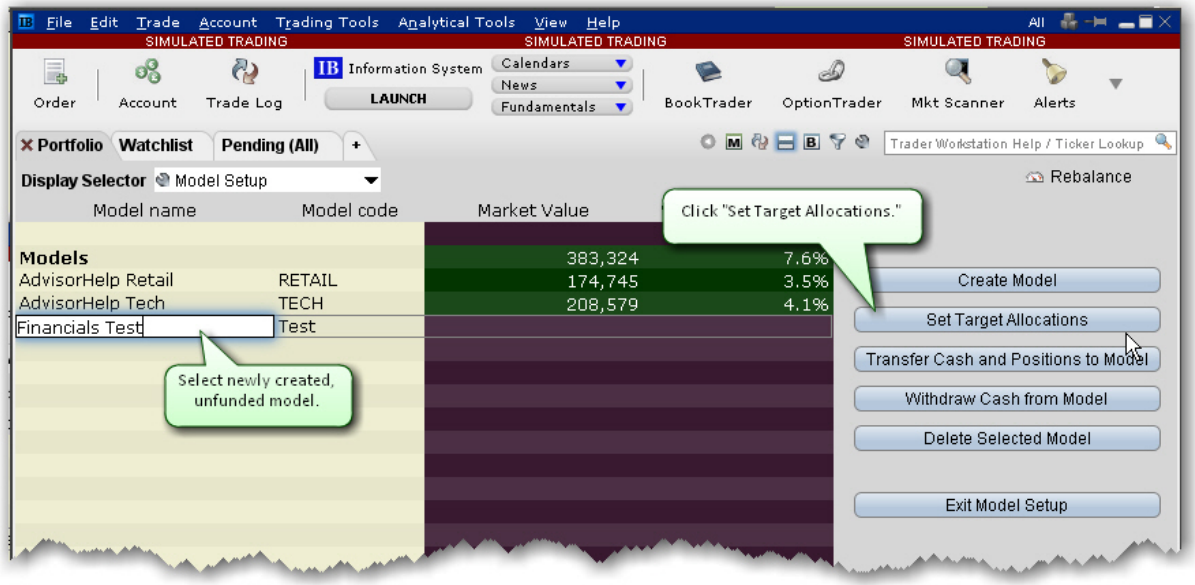
When you initially fund a model and populate it with investment instruments, the model's allocation targets for future investments are created. There are two ways to specify the model's instrument allocation percents with initial funding:

> You can specify the target percent allocation for each investment instrument first and fund the model second. In this case the system will automatically create orders to purchase assets in proportion to the defined target percentages when the model is funded.
> You can fund the model first and then trade the investment instruments (and consequently define the allocation percents) second.

Regardless of the method you use for initial funding, subsequent client investments are allocated based on these specified percents. To change the target allocation percents, use the Rebalance window.

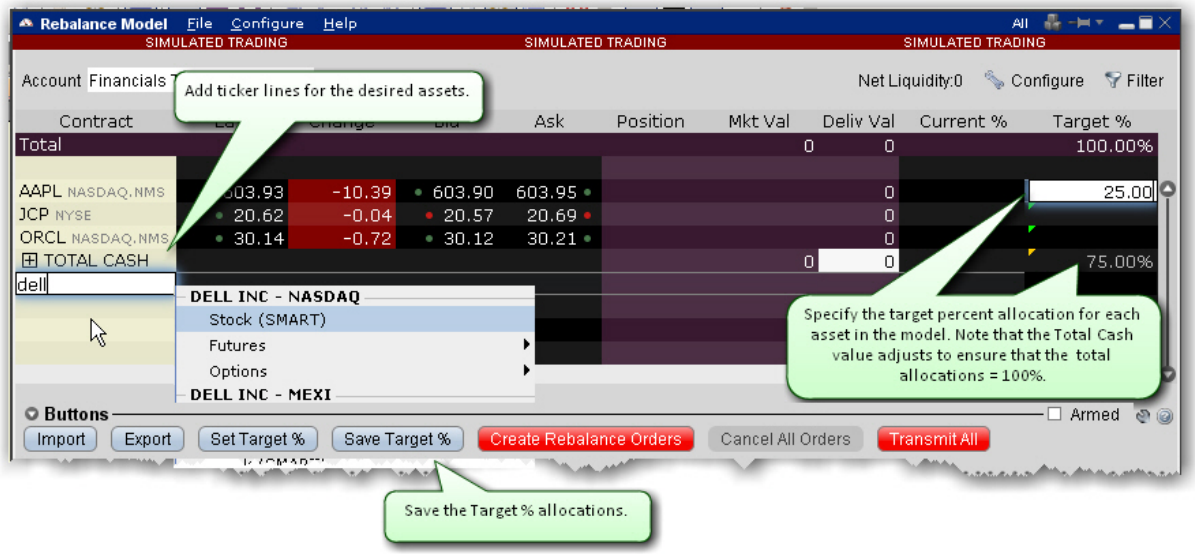
Establish Target Percent Allocations

Once you define target percent allocations, the initial investment is allocated automatically among the investment instruments through orders created to achieve the target percents.



To Set Target Allocations

1. Select Model Setup from the Display Selector.
2. Choose the model you want to fund, and click **Set Target Allocations**. The Rebalance window opens.
3. Add ticker lines for each asset you want to include in the model.
4. Specify the percent of allocation for each asset.
5. Click *Save Target %*.



Next Step: Fund the model.

Fund a Model

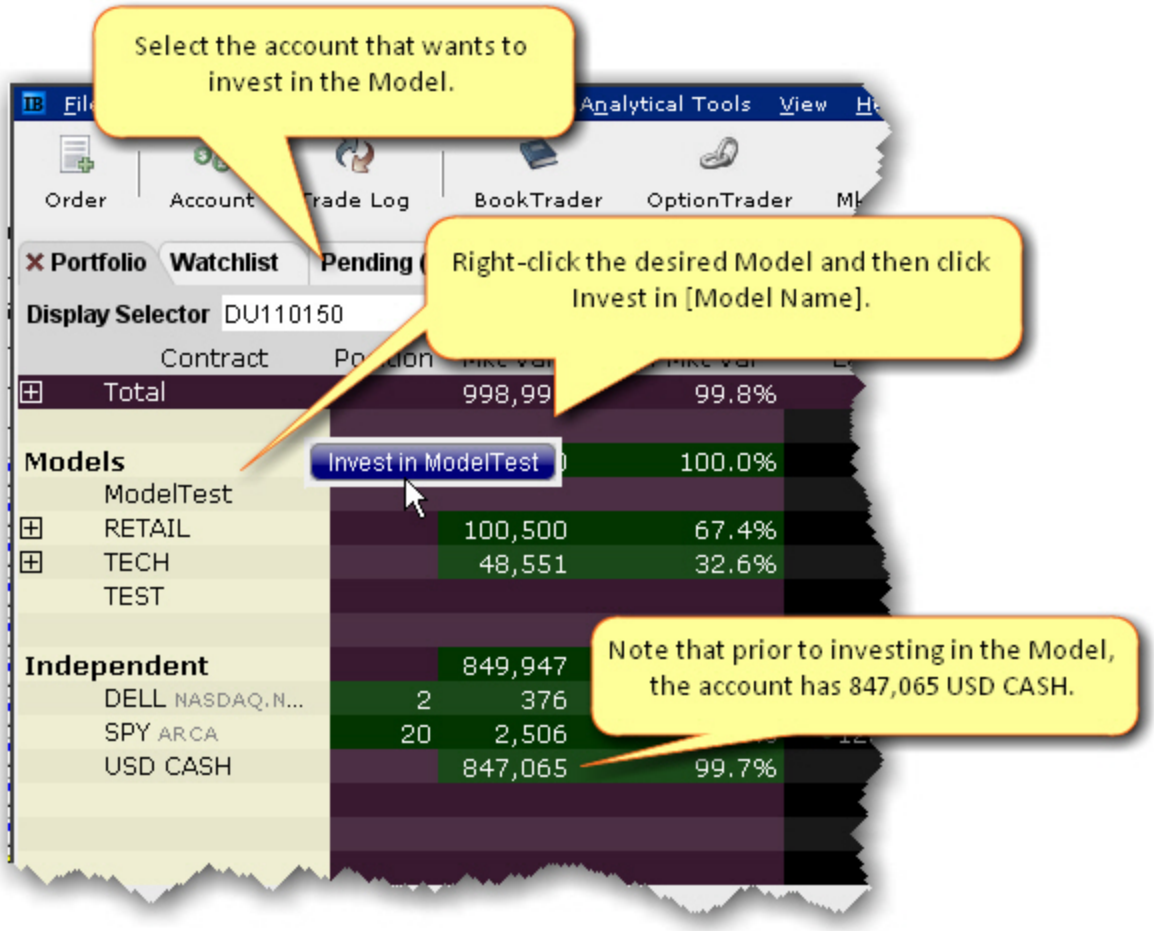
If you have defined target percent allocations, the initial investment will be automatically allocated based on the defined allocation percents. If you haven't defined target percent allocations, you will need to populate the model after it has been funded.

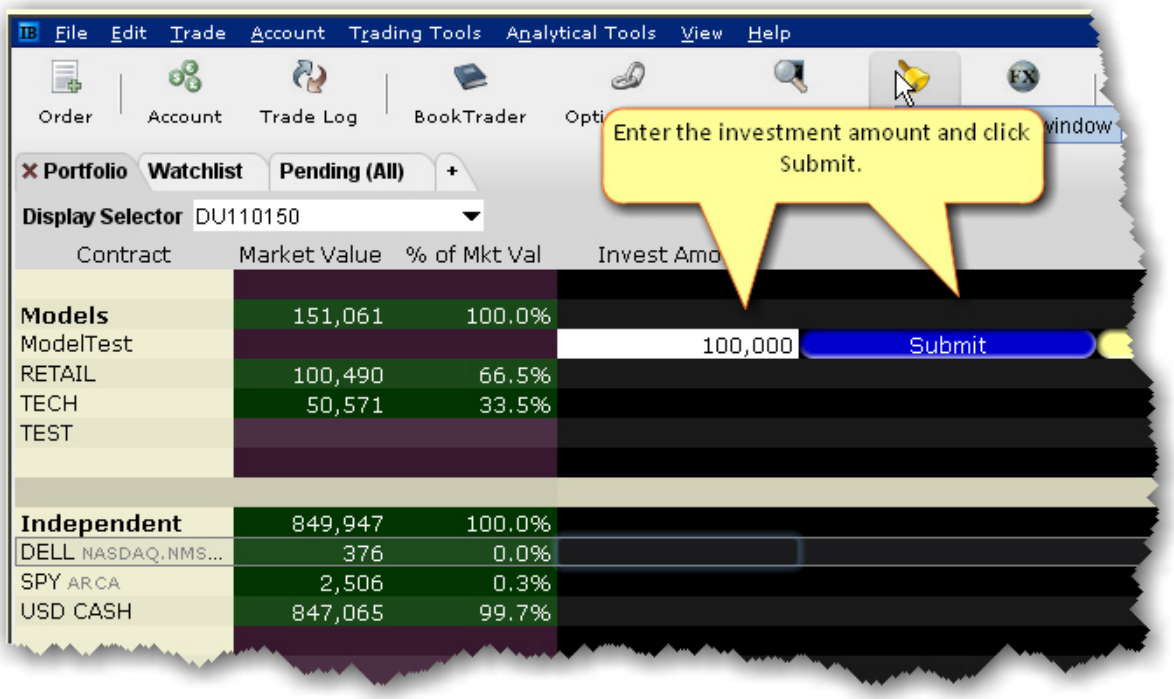
To fund a model

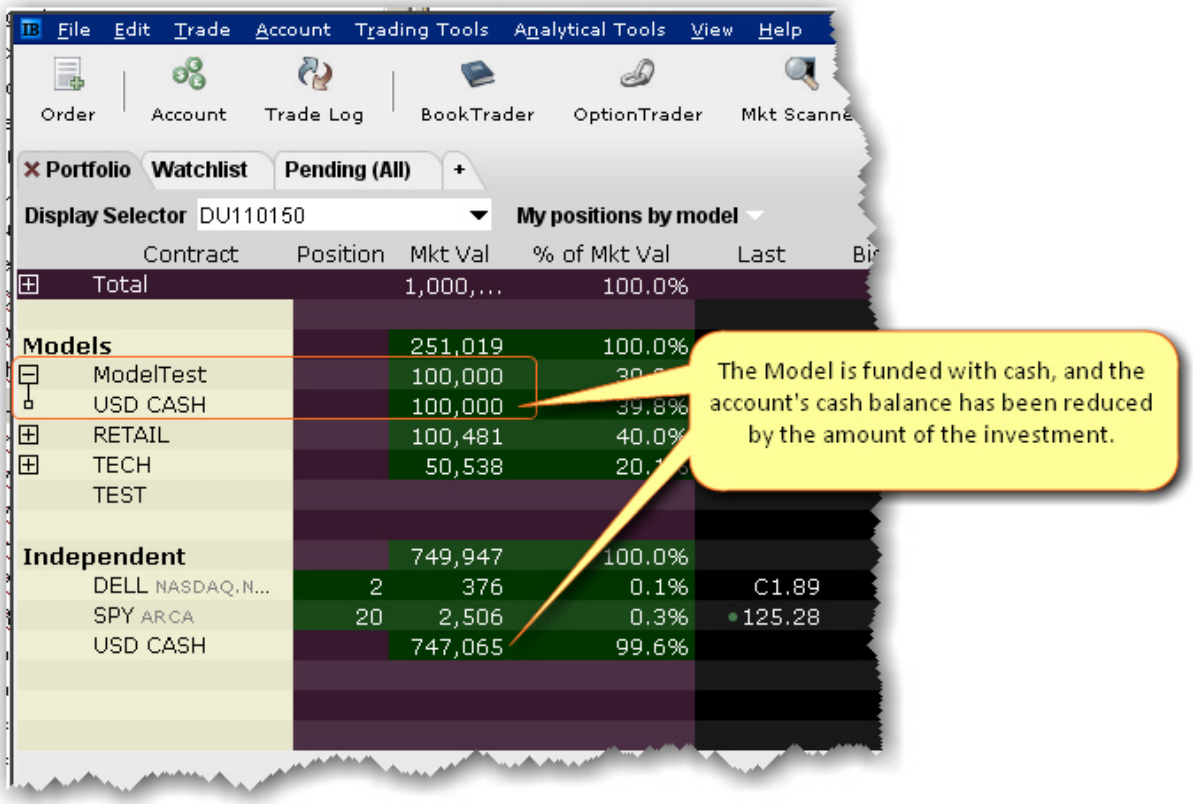
1. From the *Display Selector*, choose the client account that will be investing in the Model.
2. Right-click the Model in which the client wants to invest, and click *Invest in [MODEL NAME].*
3. Enter the investment amount and click *Submit*.

   If no target percents have been defined, the model will receive funds that will be available to trade investment assets. Populate the model with tradable assets.

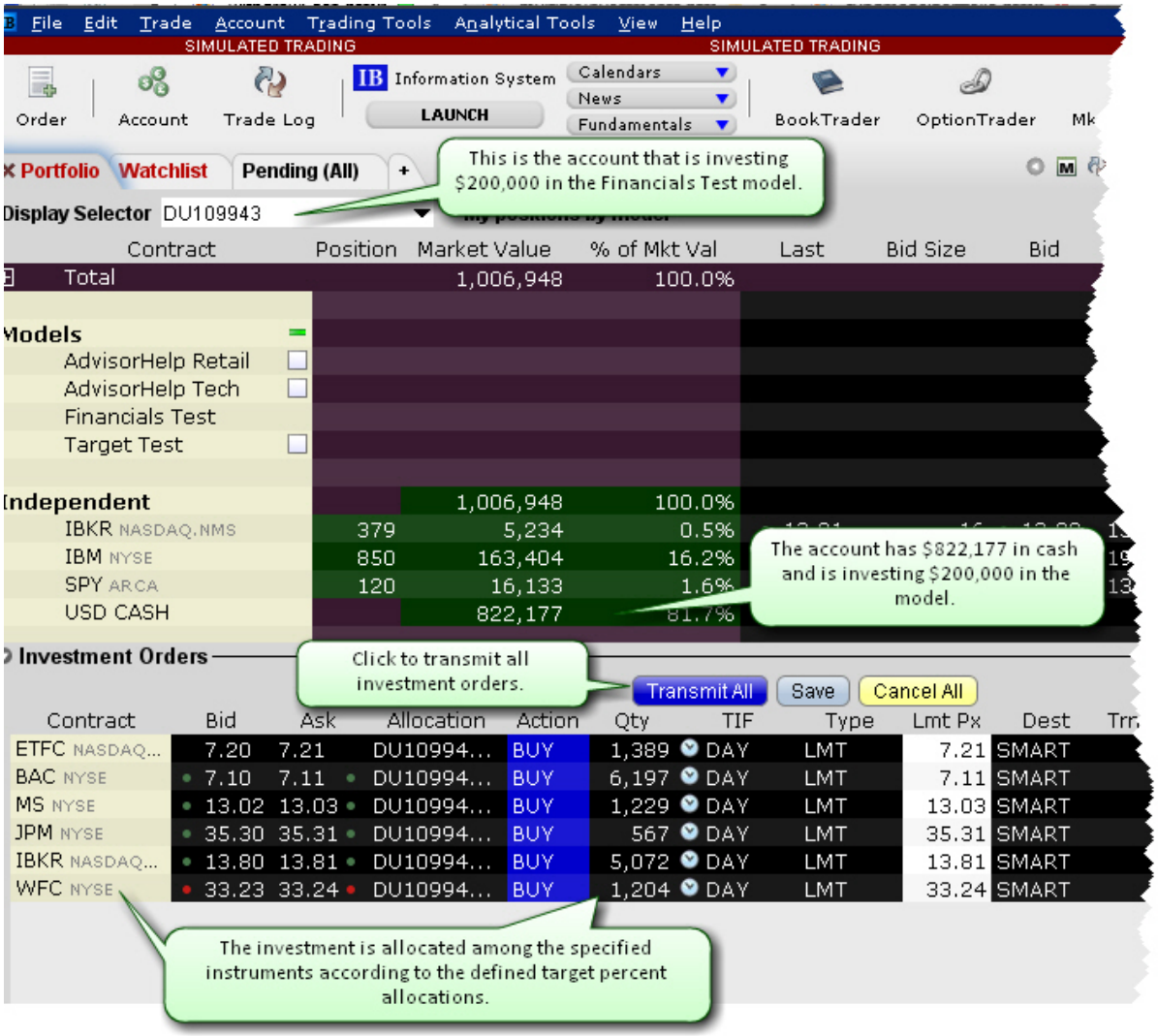
   If you have defined target percent allocations, this action will create investment orders in the lower panelthat you can transmit to achieve your target percent allocation.


Select the account that wants to invest in the Model.
Analytical Tools
View
Order
Account
Trade Log
BookTrader
OptionTrader
Portfolio
Watchlist
Pending
Display Selector
DU110150
Right-click the desired Model and then click Invest in [Model Name].
Contract
Total
998,99
99.8%
Models
Invest in ModelTest
100.0%
ModelTest
RETAIL
100,500
67.4%
TECH
48,551
32.6%
TEST
Independent
849,947
DELL NASDAQ.N...
2
376
SPY ARCA
20
2,506
USD CASH
847,065
99.7%
Note that prior to investing in the Model, the account has 847,065 USD CASH.


File Edit Trade Account Trading Tools Analytical Tools View Help
Order
Account
Trade Log
BookTrader
Enter the investment amount and click Submit.
Portfolio
Watchlist
Pending (All)
Display Selector DU110150
Contract
Market Value
% of Mkt Val
Invest Amo
Models 151,061 100.0%
ModelTest
100,000
Submit
RETAIL 100,490 66.5%
TECH 50,571 33.5%
TEST
Independent 849,947 100.0%
DELL NASDAQ.NMS... 376 0.0%
SPY ARCA 2,506 0.3%
USD CASH 847,065 99.7%


File Edit Trade Account Trading Tools Analytical Tools View Help
Order
Account
Trade Log
BookTrader
OptionTrader
Portfolio
Watchlist
Pending (All)
Display Selector DU110150
My positions by model
Contract
Position
Mkt Val
% of Mkt Val
Last
Total 1,000,... 100.0%
Models 251,019 100.0%
ModelTest 100,000
USD CASH 100,000
RETAIL 100,481 40.0%
TECH 50,538
TEST
Independent 749,947 100.0%
DELL NASDAQ.N... 2 376 0.1% C1.89
SPY ARCA 20 2,506 0.3% 125.28
USD CASH 747,065 99.6%
The Model is funded with cash, and the account's cash balance has been reduced by the amount of the investment.

If you have defined target percent allocations, the funds will automatically be allocated among the investment instruments and the appropriate orders will be created. Click "Transmit All" to submit the orders.



Purchase Model Investments

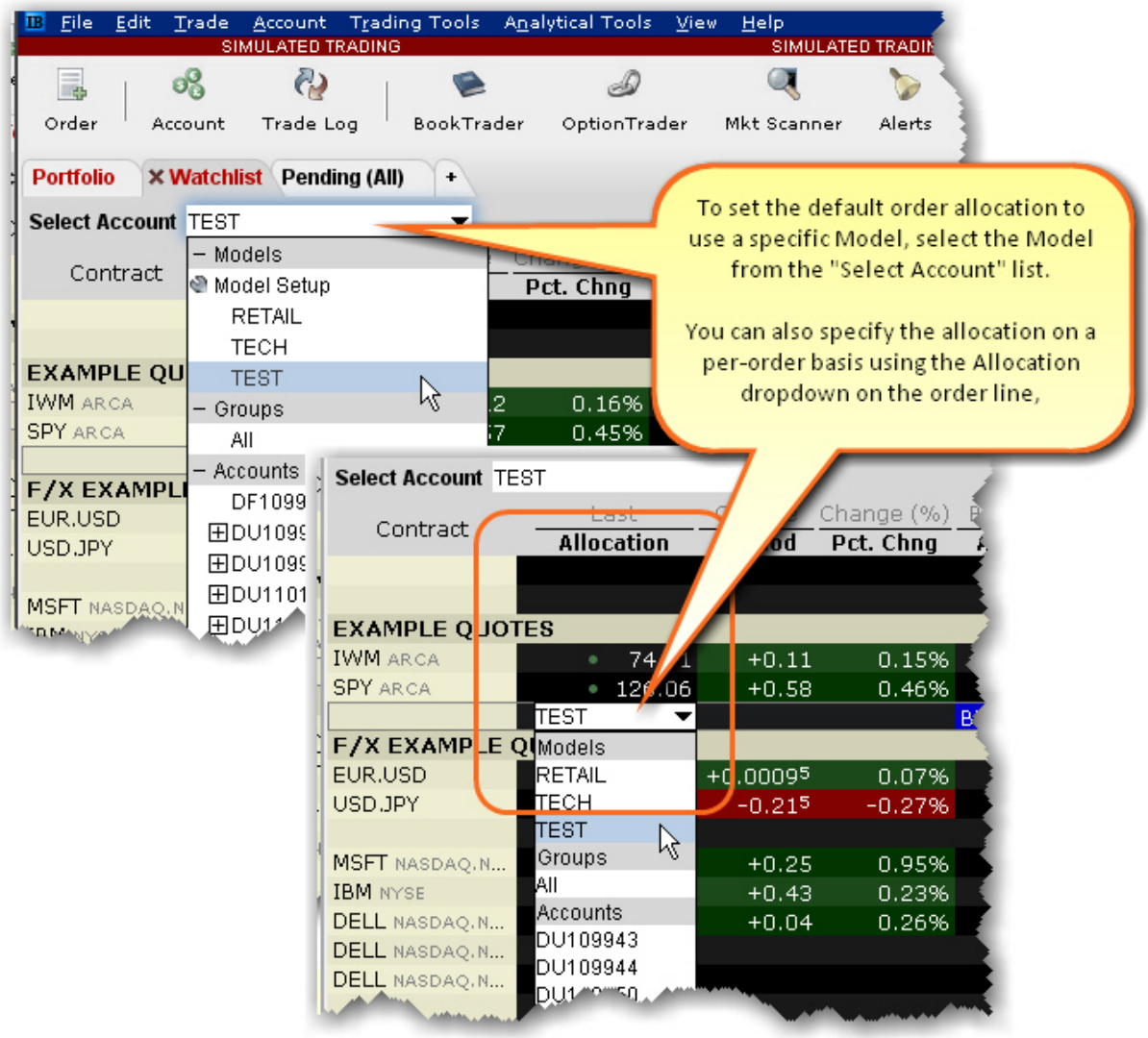
If you specified Target Percent Allocations before you funded with an initial investment, your model is already populated.

Once you have received an initial cash investment in a model, you can populate a model with investment instruments. Perform this action as if you were purchasing shares for a client account but select the *Model* as the allocation.

To populate a Model

1. From the Select Account dropdown, select the Model you want to populate.
2. In the Quote Monitor, create orders for all assets that you want to include in the selected Model.
3. Transmit the order(s).

The units are allocated amongst all invested accounts according to the percentage each account has invested in the Model. This also sets up the Model allocation ratios for all subsequent client investments.



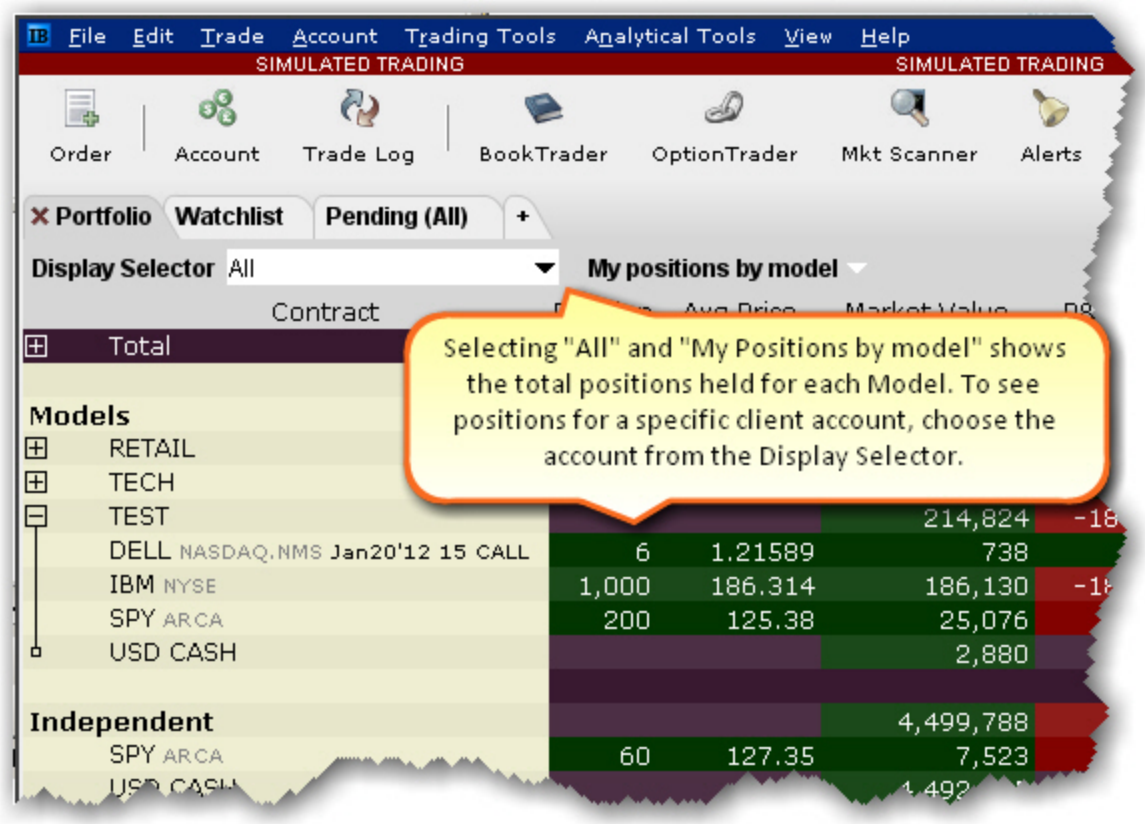
Next Step: Invest in the Model

Models and Positions

You can view models, accounts and positions sliced in many different ways.

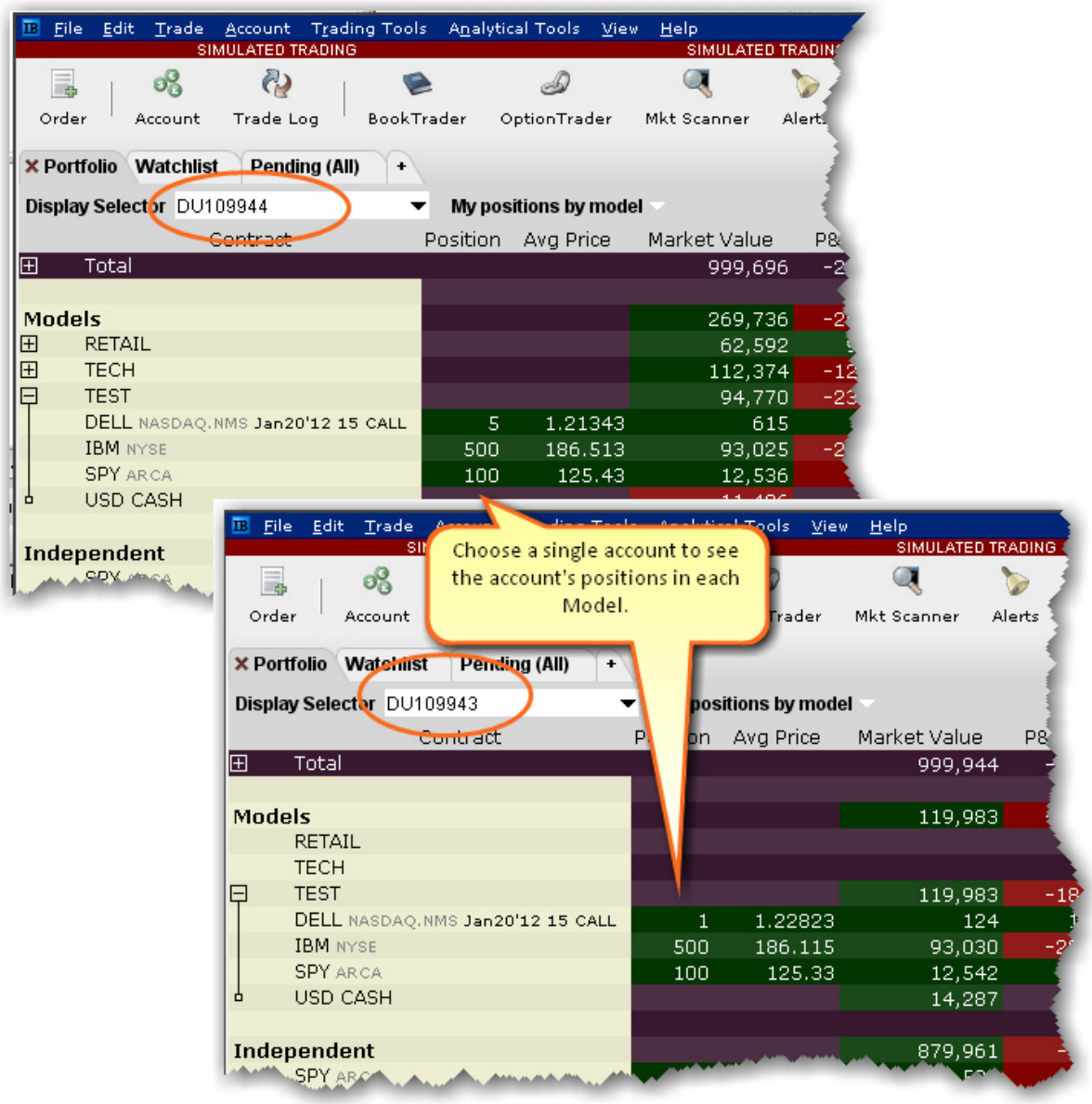
To see the total positions per Model

1. Open the Portfolio tab.
2. From the **Display Selector**, choose *All*.
3. Select *My positions by model*.
4. Click the "+" sign in the Models list to display the drill-down list of all investments per model.



To see model positions per account

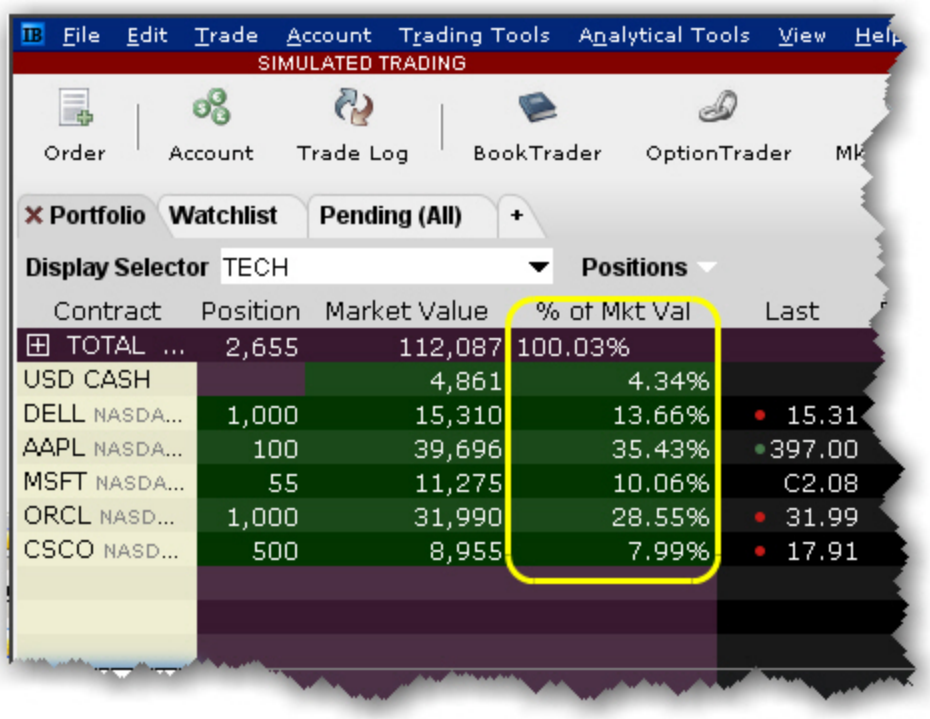
1. Open the Portfolio tab.
2. From the **Display Selector**, choose an account.
3. Click the "+" sign in the Models list to display the drill-down list of all investments per model.



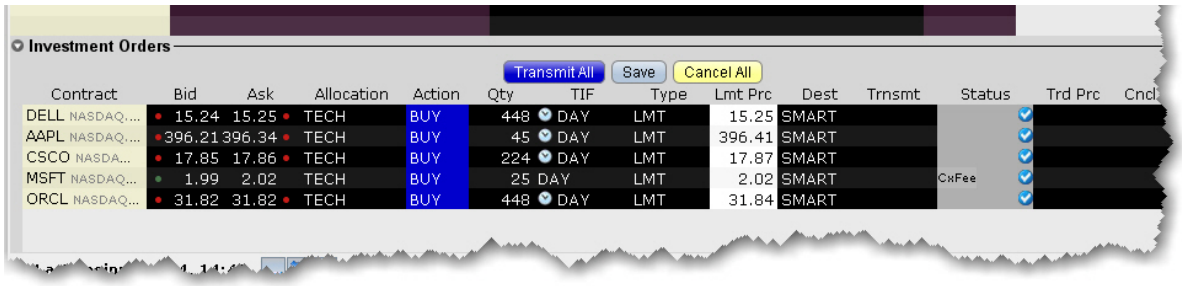
Invest in a Model

When you invest new client funds into an existing, populated Model, the new capital is invested using the Model's existing allocation ratios.

The TECH Model has the following investment allocation structure, as shown below. If another client invests 50,000 in the TECH Model, the investment is allocated to achieve the same percentages.



:



Invest in Multiple Models

A client can elect to allocate their investment across multiple Models.

To invest in multiple Models

1. From the *Display Selector*, choose the client account that will be investing in multiple Models.
2. Right-click the **Models** header row and select *Invest in Models*.
3. Specify the amount you want to invest in each available model. You can enter values by:

   Entering an investment amount or percentage in the entry field for each model. The system will total the investment in the header row.

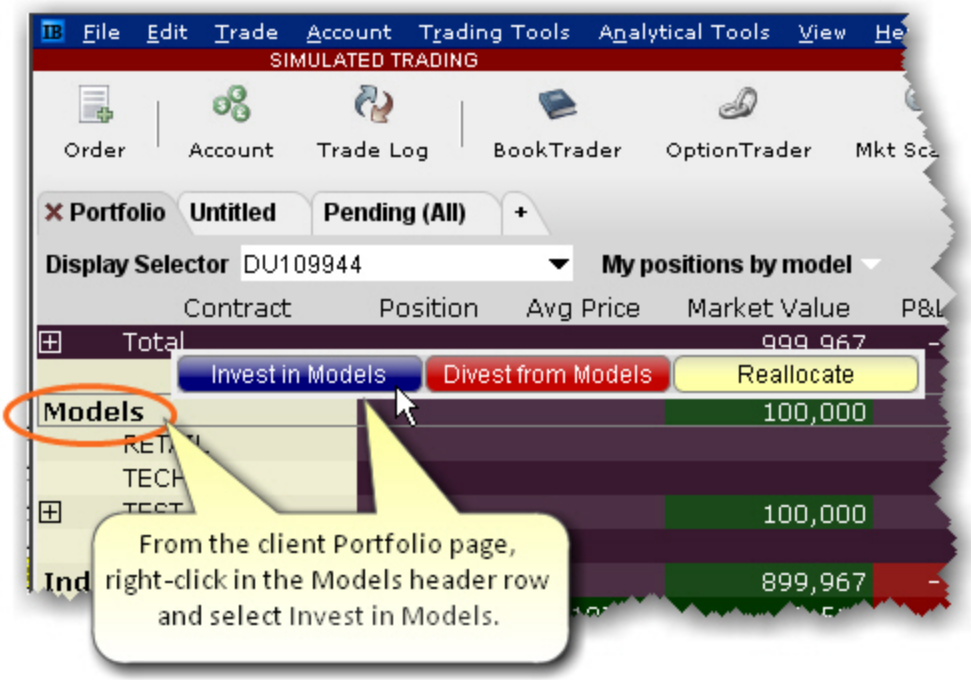
   Entering a total investment amount in the header row entry field and allowing the system to evenly allocate the total amongst all models. This method allows you to manually adjust percentages. Enter 0% for any model in which the client does not want to invest.

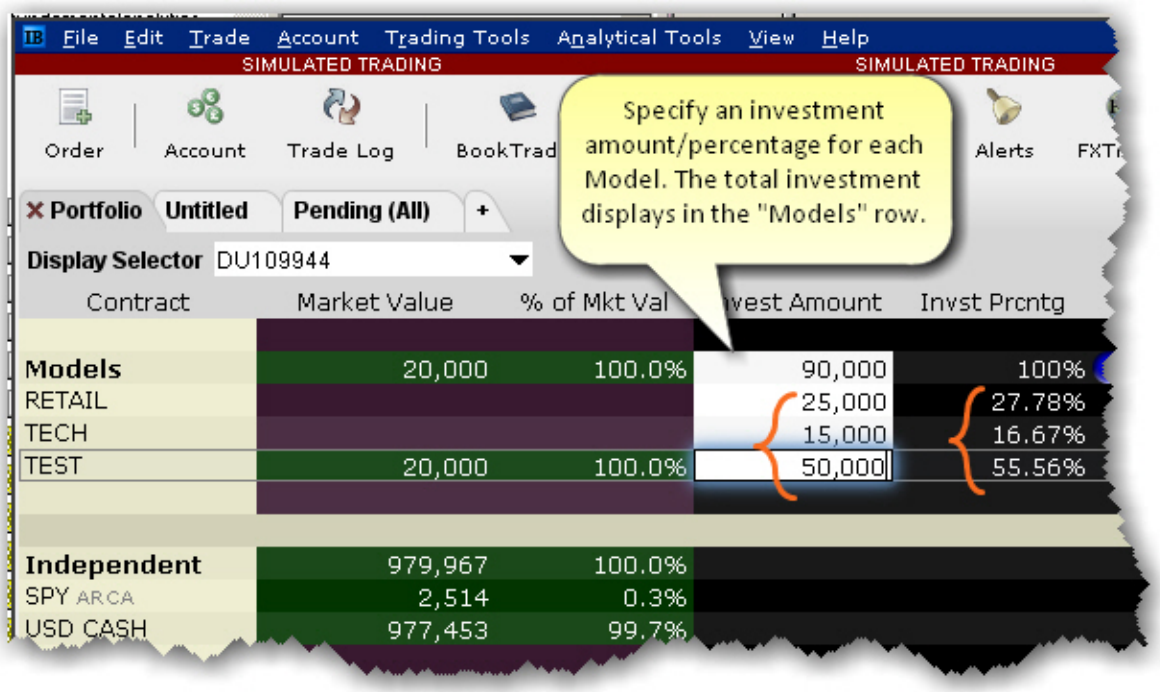
The investment is distributed amongst the selected Models based on the existing structure of each.

If the Model is not yet funded, the investment serves as the initial cash investment.

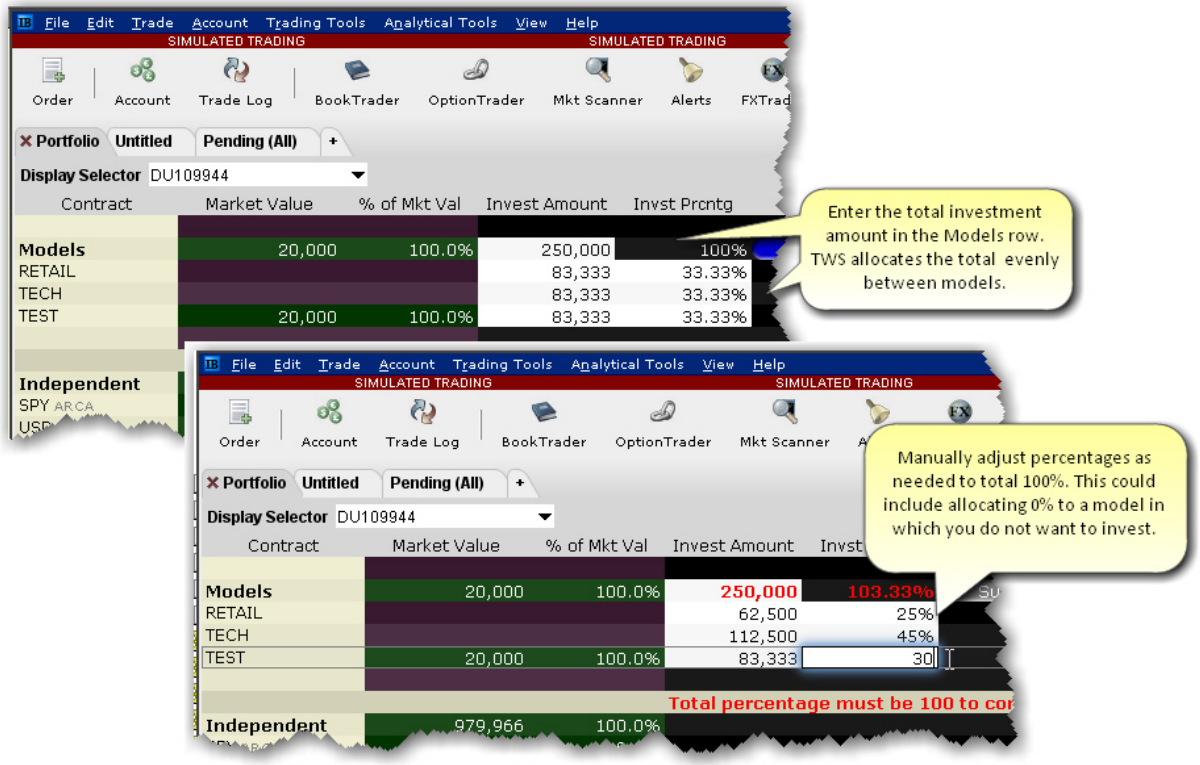
If the Model is funded with cash only, the investment is added to the current funding and will be used to purchase investment instruments.

If the Model has positions, the investment is used to purchase units in the same ratios currently held in the Model.


File Edit Trade Account Trading Tools Analytical Tools View
SIMULATED TRADING
Order
Account
Trade Log
BookTrader
OptionTrader
Portfolio
Untitled
Pending (All)
Display Selector
DU109944
My positions by model
Contract
Position
Avg Price
Market Value
Total
Invest in Models
Divest from Models
Reallocate
Models
100,000
100,000
899,967
From the client Portfolio page, right-click in the Models header row and select Invest in Models.


File Edit Trade Account Trading Tools Analytical Tools View Help
SIMULATED TRADING
SIMULATED TRADING
Order
Account
Trade Log
Alerts
Specify an investment amount/percentage for each Model. The total investment displays in the "Models" row.
Portfolio
Untitled
Pending (All)
Display Selector
DU109944
Contract
Market Value
% of Mkt Val
Invst Prcntg
Models
20,000
100.0%
90,000
100%
RETAIL
25,000
27.78%
TECH
15,000
16.67%
TEST
20,000
100.0%
50,000
55.56%
Independent
979,967
100.0%
SPY ARCA
2,514
0.3%
USD CASH
977,453
99.7%

OR



Divest Funds from a Model

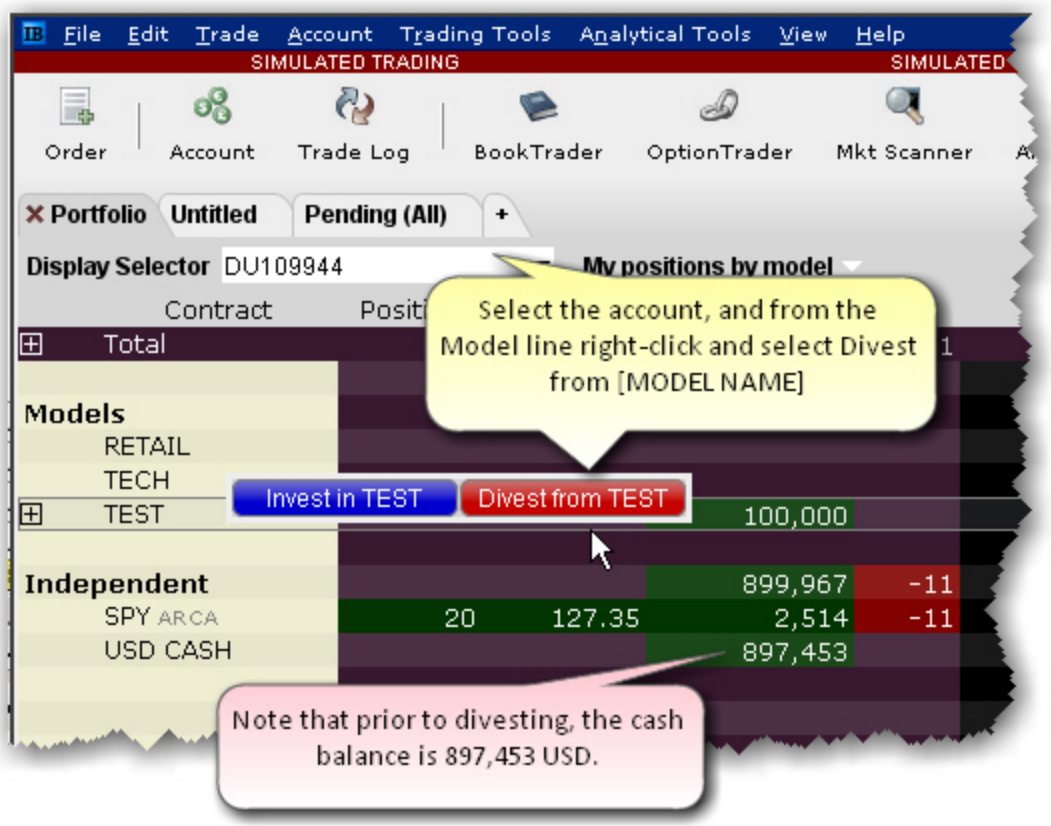
Quickly divest client funds from a Model.

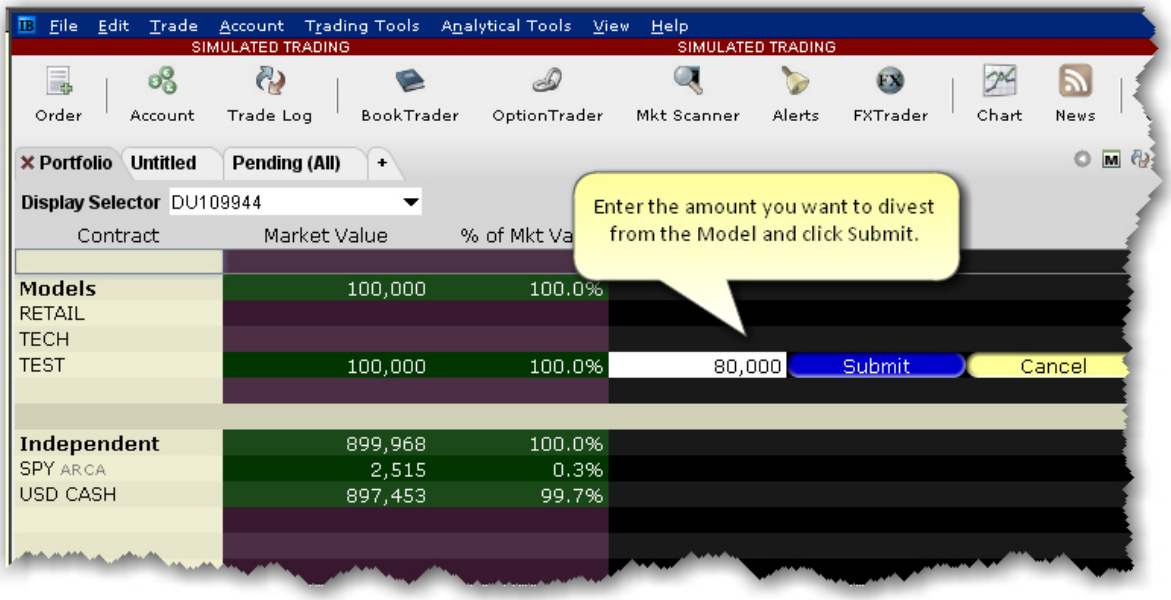
To divest from a Model

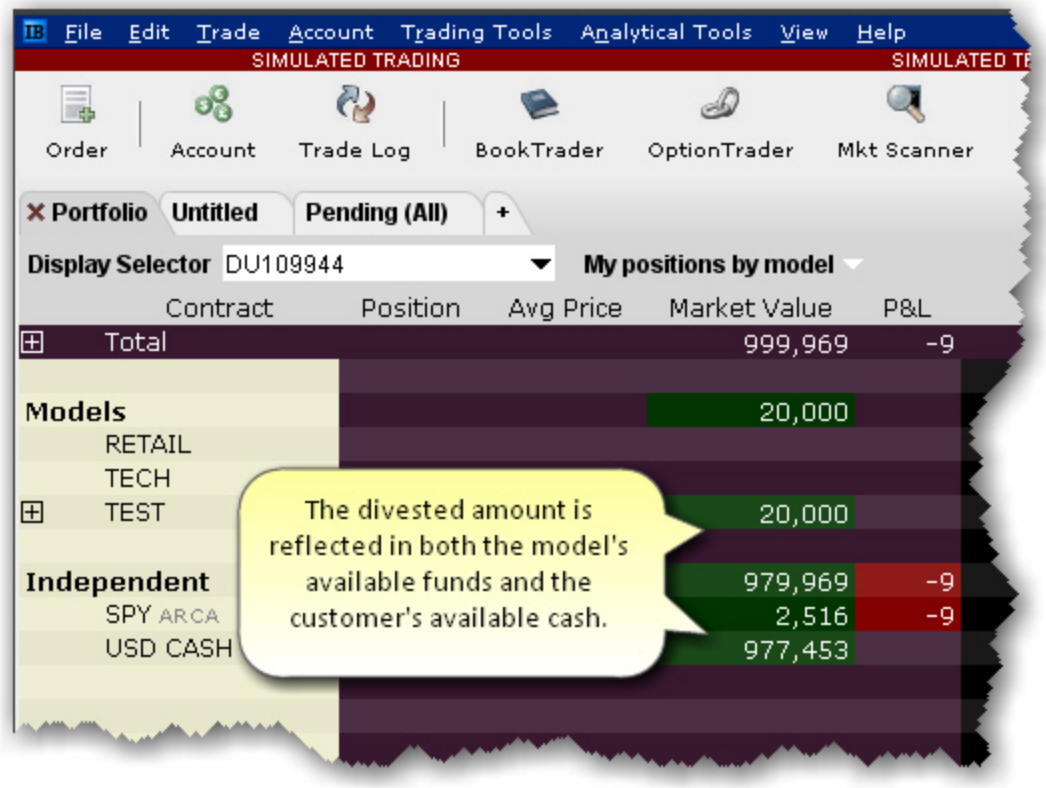
1. From the **Display Selector**, choose the client account that will be divesting from the Model.
2. Right-click the Model from which the client wants to divest, and click *Divest from [MODEL NAME].*
3. Enter the divestment amount and click *Submit*. This action triggers orders to sell assets in the Model equal to the value being divested, in the same proportion they are held in the Model.

   The model's available funds is decreased by the divestment amount.

   The client's cash balance is increased by the divestment amount.

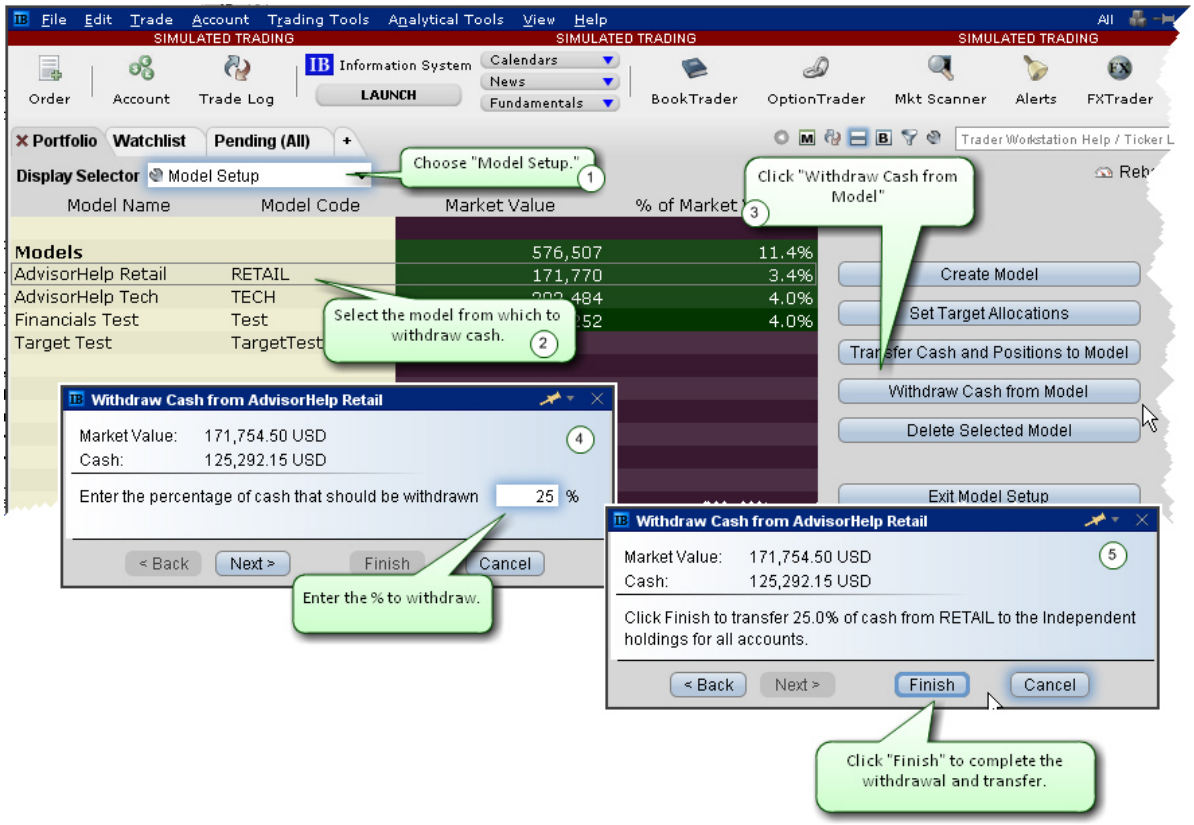

File Edit Trade Account Trading Tools Analytical Tools View Help
SIMULATED TRADING
SIMULATED
Order
Account
Trade Log
BookTrader
OptionTrader
Mkt Scanner
Portfolio
Untitled
Pending (All)
Display Selector DU109944
My positions by model
Contract
Total
Select the account, and from the Model line right-click and select Divest from [MODEL NAME]
Models
RETAIL
TECH
TEST
Invest in TEST
Divest from TEST
100,000
Independent
899,967
-11
SPY ARCA
20
127.35
2,514
-11
USD CASH
897,453
Note that prior to divesting, the cash balance is 897,453 USD.


File Edit Trade Account Trading Tools Analytical Tools View Help
SIMULATED TRADING
SIMULATED TRADING
Order
Account
Trade Log
BookTrader
OptionTrader
Mkt Scanner
Alerts
FXTrader
Chart
News
Portfolio
Untitled
Pending (All)
Display Selector DU109944
Enter the amount you want to divest from the Model and click Submit.
Contract
Market Value
% of Mkt Va
Models
100,000
100.0%
RETAIL
TECH
TEST
100,000
100.0%
80,000
Submit
Cancel
Independent
899,968
100.0%
SPY ARCA
2,515
0.3%
USD CASH
897,453
99.7%



Withdraw Cash from a Model

You can withdraw cash from a model and transfer it to the independent holdings for all accounts invested in the model.



To withdraw cash from a model

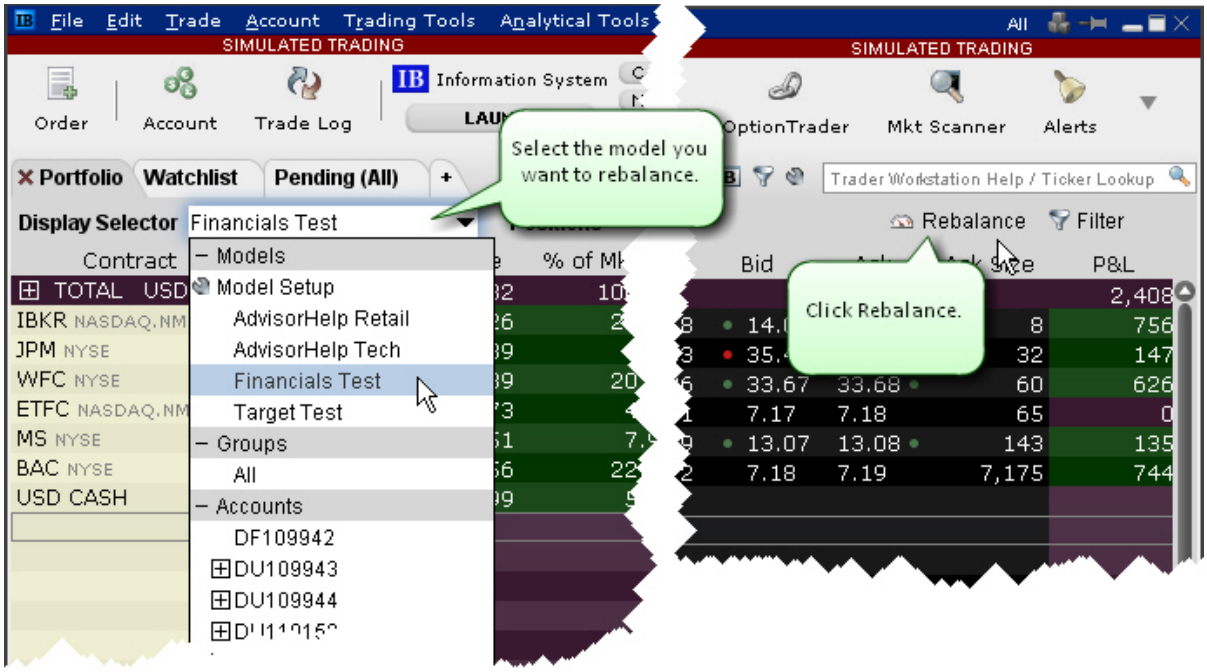
1. From the Display Selector on the Portfolio page, select *Model Setup*.
2. Select the model from which you want to withdraw cash.
3. Click "Withdraw Cash from Model."
4. Enter the percentage of cash to withdraw. Cash will be transferred to the independent holdings of all accounts that have invested in the model, based on the current amount of cash in the account.

If account A has 10,000 cash and account B has 20,000, a withdrawal of 25% would transfer 2,500 to Account A and 5,000 to Account B.

5. Click *Finish* to initiate the transaction(s).

Rebalance a Model

You can rebalance the investments within a model at any time using the Rebalance window.



To rebalance a model

1. From the Display Selector on the Portfolio window, select the model you want to rebalance.
2. Click the Rebalance icon on the right side of the window.
3. In the Rebalance window, review and revise the Target percents for each instrument.

The target percents were established with the initial funding of the model.

4. Define the new target percents for allocation several ways:

   Enter a new value in the desired Target % field by clicking the field and entering a number value representing the percentage (i.e. enter 5 for 5%).
   Enter new values in all Target % fields by clicking the **Clear Target %** button.
   Use the "Current %" values by clicking the **Set Target %** button. Once the target percents have been set to the current percents, you can make any modifications by clicking in the Target % field.

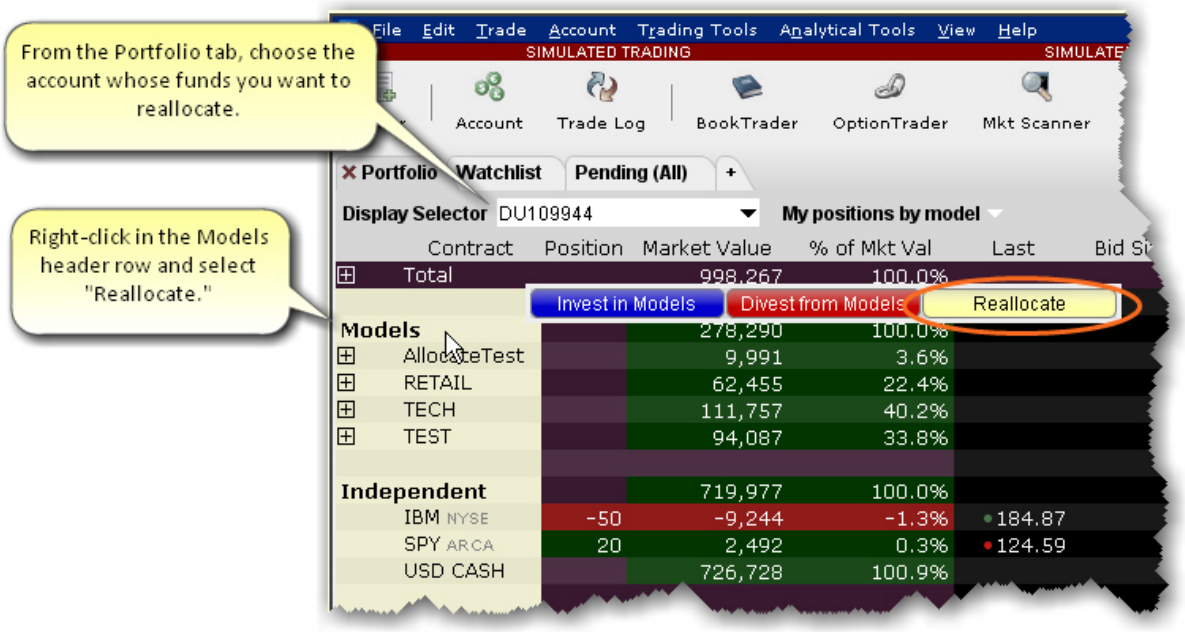
5. Click **Create Rebalance Orders**. Orders are created in the panel below the Rebalance window.
6. Confirm or modify the order parameters and click **Transmit All** to submit rebalance orders.

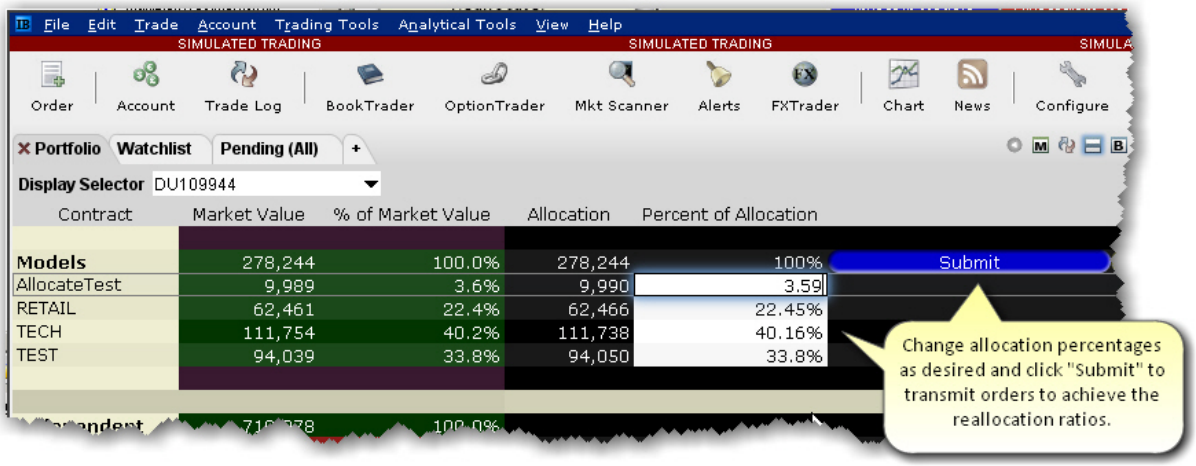
Reallocate Client Funds Among Models

Use the "Reallocate" feature from the sub account window to quickly redistribute invested funds among Models.

To reallocate funds among Models

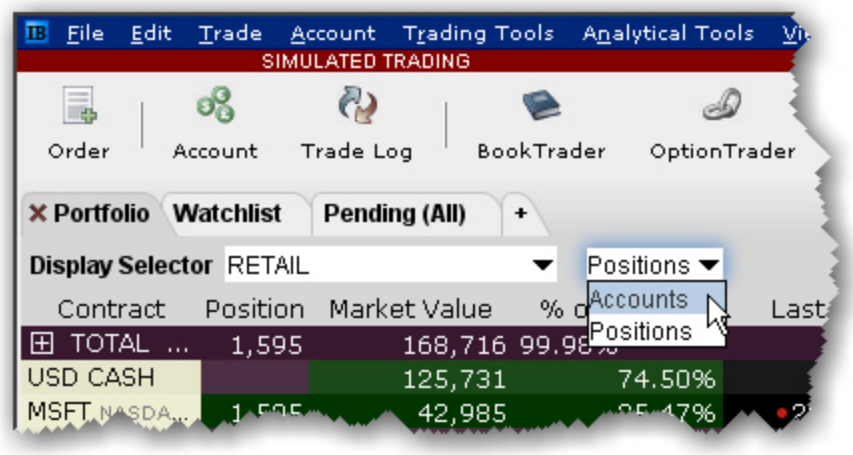
1. From the Portfolio tab, select the client whose investments you want to reallocate.
2. Right-click the **Models** header row.
3. Select *Reallocate*.
4. Modify the Percent of Allocation as desired for the existing models.
5. Click *Submit* to transmit reallocation orders.





Monitor Model Activity

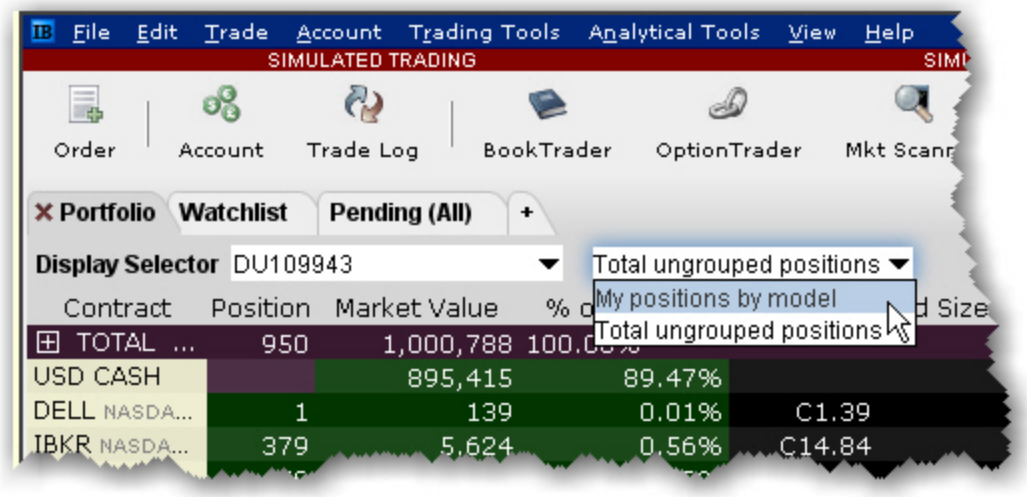
You can monitor all aspects of your models and investments using the **Display Selector** and Model information dropdown lists.



From the Display Selector, choose a Model and see:

Accounts: Invested accounts and the percentage of each account's total investment invested in the Model.

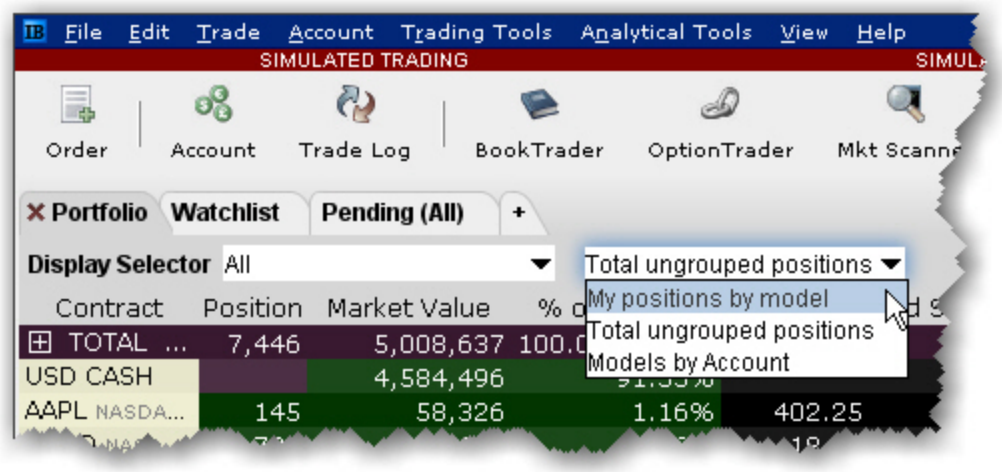
Positions: All Positions held in the selected Model, along with the market value and the allocation ratios.



From the Display Selector, choose an account and see:

My positions by Model: All positions held in each Model for the chosen account.

Total ungrouped positions: All positions held outside of the Models (ungrouped positions) for the chosen account.



From the Display Selector, choose All and see:

My positions by Model: All positions held by all accounts, sorted by Model.

Total ungrouped positions: All positions held outside of the Models (ungrouped positions).

Models by account: For each account, shows the market value invested in each Model and the account's percentage of total market value invested in each Model.

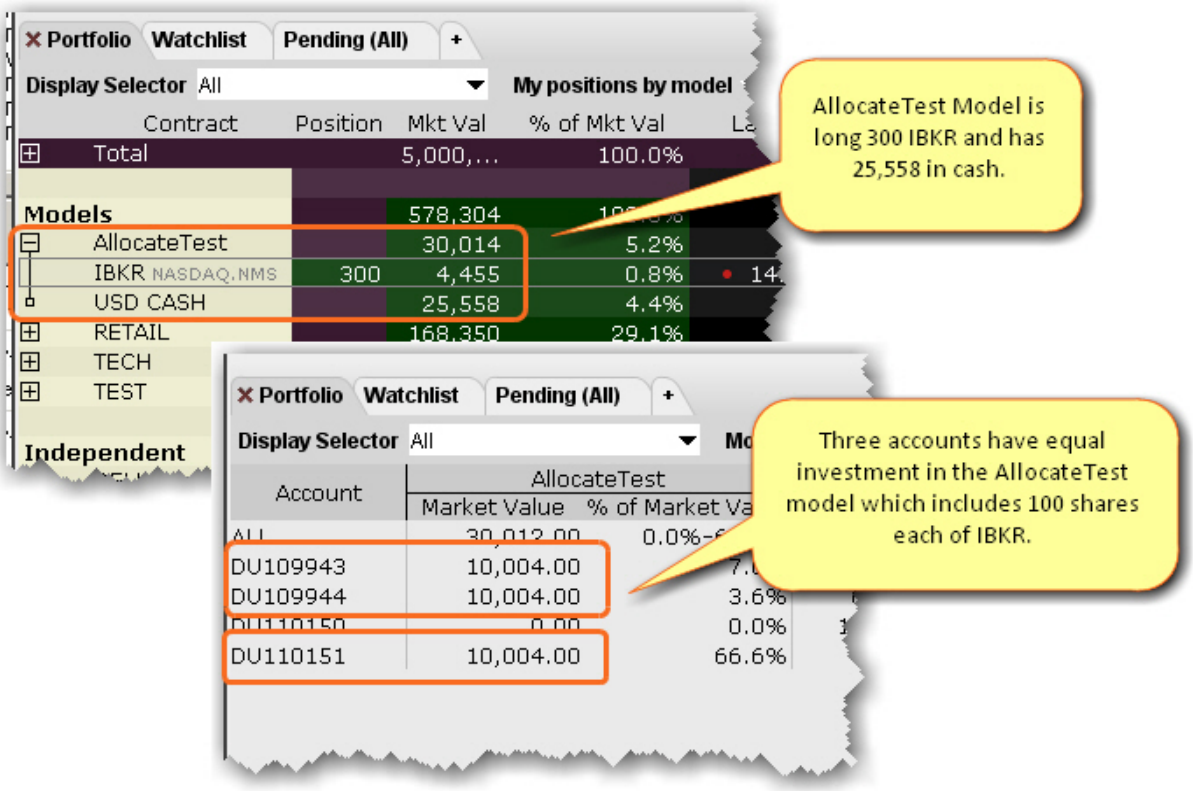
Delete a Model

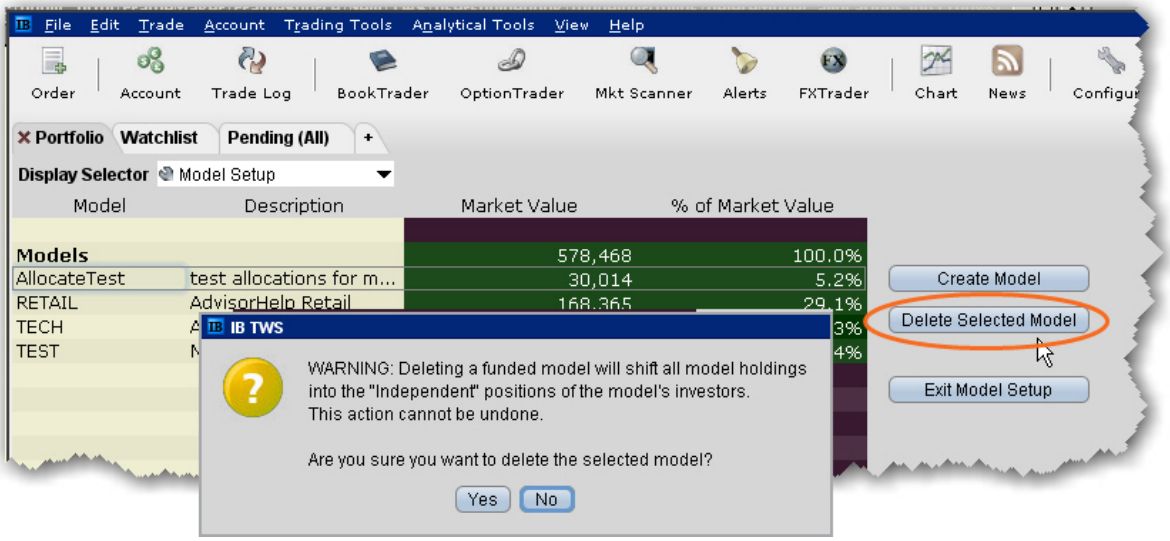
If you elect to delete a Model, all holdings will become "Independent" positions for all clients who are invested in the Model being deleted.

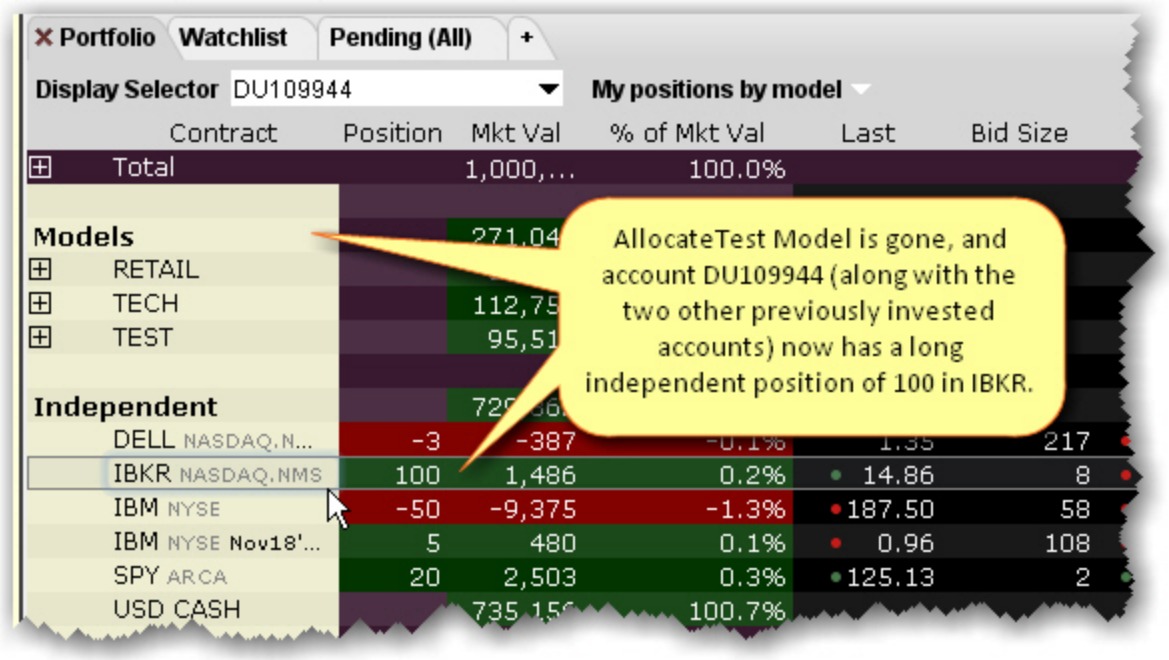
To delete a Model

1. Select *Model Setup* in the **Display Selector**.
2. Select the Model you want to delete.
3. Click *Delete Selected Model*.

Model holdings become "independent positions" for clients invested in the Model, in the proportion they were held in the Model. In the example below, holdings were held equally between three accounts.






Portfolio
Watchlist
Pending (All)
Display Selector DU109944
My positions by model
Contract Position Mkt Val % of Mkt Val Last Bid Size
Total 1,000,... 100.0%
Models
RETAIL
TECH
TEST
Independent
DELL NASDAQ.N... -3 -387 217
IBKR NASDAQ.NMS 100 1,486 0.2% 14.86 8
IBM NYSE -50 -9,375 -1.3% 187.50 58
IBM NYSE Nov18'... 5 480 0.1% 0.96 108
SPY ARCA 20 2,503 0.3% 125.13 2
USD CASH 100.7%
AllocateTest Model is gone, and account DU109944 (along with the two other previously invested accounts) now has a long independent position of 100 in IBKR.

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