TRADING TECHNOLOGIES, INC.'S MD TRADER®
U.S. PATENT NO. 6,766,304

CLAIM 1	TT'S MD TRADER® WINDOW	TRADESTATION'S MATRIX WINDOW	INTERACTIVE BROKER'S BOOKTRADER WINDOW
1. A method for displaying market information relating to and facilitating trading of a commodity being traded in an electronic exchange	Trading Technologies, Inc.'s ("TT") MD Trader® window ("MD Trader window") displays market information for commodities (*e.g.*, futures, etc.) traded on an electronic exchange (*e.g.*, eCBOT, CME-Globex, Euronext LIFFE, Eurex, Eurex US, CME iTOPS and NYMEX). *See* Figure 1; Ex. 1, X_TRADER® Version 7.12.X User Manual, p. 329 ("MD Trader dynamically displays the market depth for a product.").	TradeStation's Matrix window connects to and displays market information from electronic exchanges, (*e.g.*, eCBOT, CME-Globex, Euronext LIFFE, Eurex, Eurex US, CME iTOPS and NYMEX) so that users may place a trade order for a commodity (*e.g.*, fuures, etc.). *See* Figure 1 ("TradeStation's MATRIX window combines the benefits of the market depth window, a highly advanced order entry tool, and an order tracking system, all in one window.").	IBG's BookTrader Window ("BookTrader") connects to and displays market information from electronic exchanges so that users may place a trade order for a commodity (futures, etc.) in the BookTrader window. *See* Figure 1.

TRADING TECH EXHIBIT 2233
TRADESTATION v. TRADING TECH
CBM2015-00161

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having an inside market with a highest bid price and a lowest ask price	The commodity being traded has an inside market with a highest bid price and a lowest ask price. In Figure 1, the MD Trader window displays the inside market with a highest bid price (*e.g.*, 129195) and a lowest ask price (*e.g.*, 129200). *See* Figure 1; Ex. 1, X_TRADER® Version 7.12.X User Manual, p. 376 ("To make it easier to identify the mid-point of the inside market, MD Trader places a bold line across the width of its grid. The mid-point line appears midway between the best bid and the best offer in the market.").	The commodity being traded has an inside market with a highest bid price and a lowest ask price. In Figure 4, TradeStation's Matrix window displays the inside market with a highest bid price and a lowest ask price ("53.85" and "53.86" respectively). *See* Figure 4.	The commodity being traded has an inside market with a highest bid price (*e.g.*, 84.67 as shown in Figure 1) and a lowest ask price (*e.g.*, 84.68 as shown in Figure 1).
on a graphical user interface, the method comprising:	The MD Trader window uses a graphical user interface which may be displayed on a computer monitor. *See* Figure 1.	The Matrix window provides a graphical user interface; the graphical user interface may be displayed on a computer monitor. *See* Figure 1.	BookTrader provides a graphical user interface; the graphical user interface may be displayed on a computer monitor. *See* Figure 1.

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dynamically displaying a first indicator in one of a plurality of locations in a bid display region,	The MD Trader window dynamically displays a first indicator in one of a plurality of locations (*e.g.*, 2262, 3586, 3336, etc.) in a bid display region (*e.g.*, "Bids" Column). with a plurality of graphical locations that each correspond to a different price level along a price axis. The labels of the price levels of the price axis are displayed in the Price column. *See* Figure 1.	The bid display region is shown in the Bid Size column in Figure 4. A first indicator (*e.g.*, "32552" at the price level of "53.85") is dynamically displayed in one of a plurality of locations in the bid display region. *See* Figure 4. The first indicator is updated to reflect new market information.	BookTrader displays a first indicator (*e.g.*, the highest "Bid Size" indicator—330 in Figure 1) in one of a plurality of locations in a bid display region (*e.g.*, yellow cells in Figure 1). The first indicator is displayed dynamically, *e.g.*, it is updated to reflect new market information.
each location in the bid display region corresponding to a price level along a common static price axis,	The MD Trader window displays each location in the bid display region (*e.g.*, 2262, 3586, 3336, etc.) corresponding to a price level (*e.g.*, 129195, 129190, 129185, etc.) along a common static price axis (*e.g.*, "Price" column). *See* Figure 1; Ex. 1, X_TRADER® Version 7.12.X User Manual, p. 338 ("Click the ladder next to the price at which you want to place an order.")	The Matrix window displays each location in the bid display region corresponding to a price level along a common static price axis (*e.g.*, "Price" column). *See* Figure 4.	The Matrix window displays each location in the bid display region corresponding to a price level along a common static price axis (*e.g.*, "Price" column). *See* Figure 1.

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the first indicator representing quantity associated with at least one order to buy the commodity at the highest bid price currently available in the market;	The MD Trader window displays the first indicator representing quantity associated with at least one order (*e.g.*, 2262) to buy the commodity at the highest bid price (*e.g.*, 129195) currently available in the market. *See* Figure 1.	The first indicator represents a quantity associated with at least one order to buy the commodity at the highest bid price currently available. For example, the first indicator of "32552" represents a quantity of 32552 offers to buy, coming from at least one order, at the highest bid price level of 53.85. *See* Figure 4.	The first indicator represents a quantity associated with at least one order to buy the commodity at the highest bid price currently available. For example, in Figure 1, the first indicator represents a quantity of 330 offers to buy, coming from at least one order, at the highest bid price level of 84.67.
dynamically displaying a second indicator in one of a plurality of locations in an ask display region,	The MD Trader Window dynamically displays a second indicator (*e.g.*, 3409, 3347, 3563, etc.) in one of a plurality of locations in an ask display region (*e.g.*, "Asks" column). *See* Figure 1.	The ask display region is shown in the Ask Size column. A second indicator (*e.g.* "19210" at the price level of "53.86") is dynamically displayed in one of a plurality of locations in the ask display region. *See* Figure 4. The first indicator is updated to reflect new market information.	BookTrader displays second indicator (*e.g.*, the lowest "Ask Size" indicator—26 in Figure 1) in one of a plurality of locations in an ask display region (*e.g.*, green cells in Figure 1). The second indicator is displayed dynamically, *e.g.*, it is updated to reflect new market information.
each location in the ask display region corresponding to a price level along the common static price axis,	The MD Trader Window displays each location in the ask display region (*e.g.*, 3409, 3347, 3563, etc.) corresponding to a price level (*e.g.*, 129245, 129240, 129235) along the common static price axis (*e.g.*, "Price" column). *See* Figure 1.	Each location (*e.g.*, cell) in the ask display region corresponds to a price level along the common static price axis. *See* Figure 4.	Each location (*e.g.*, cell) in the ask display region corresponds to a price level along a common static price axis. *See* Figure 1.

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the second indicator representing quantity associated with at least one order to sell the commodity at the lowest ask price currently available in the market;	The MD Trader Window displays the second indicator representing quantity associated with at least one order (*e.g.*, 1223) to sell the commodity at the lowest ask price (*e.g.*, 129200) currently available in the market. *See* Figure 1.	The second indicator represents a quantity associated with at least one order to sell the commodity at a lowest ask price currently available. For example, the second indicator of "19210" represents a quantity of 19210 offers to sell, coming from at least one order, at the lowest ask price level of "53.86"). *See* Figure 4.	The second indicator represents a quantity associated with at least one order to sell the commodity at the lowest ask price currently available. For example, in Figure 1, the second indicator represents a quantity of 26 offers to sell, coming from at least one order, at the lowest ask price level of 84.68.
displaying the bid and ask display regions in relation to fixed price levels positioned along the common static price axis	The MD Trader Window displays the bid and ask display regions (*e.g.*, "Bids" and "Asks" columns) in relation to fixed price levels positioned along the common static price axis (*e.g.*, "Price" column). *See* Figure 1.	The bid and ask display regions are displayed in relation to fixed price levels positioned along the common static price axis. *See* Figure 4.	The bid and ask display regions are displayed in relation to fixed price levels positioned along the common status price axis. *See* Figure 1.
such that when the inside market changes, the price levels along the common static price axis do not move and	When data reflecting a change in the inside market is received, the static display of prices does not change positions based on the change in the inside market. *See* Figure 1.	When data reflecting a change in the inside market price is received, the price levels along the common static price axis do not change positions based on the change in the inside market. The first and/or second indicators, however, do change positions based on the change in the inside market.	When data reflecting a change in the inside market is received (*e.g.*, a new highest bid price and lowest ask price, as shown in Figure 3), the price levels along the common static price axis do not move. The first and/or second indicators, however, do change positions based on the change in the inside market. *See* Figure 3.

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at least one of the first and second indicators moves in the bid or ask display regions relative to the common static price axis;	When data reflecting a change in the inside market is received, at least one of the first and second indicators change positions based on the change in the inside market. *See* Figure 1.	The first and/or second indicators in the Matrix window change positions in the bid and ask display regions relative to the common static price axis.	The first and/or second indicators in BookTrader change positions in the bid and ask display regions relative to the common static price axis. *See* Figure 3.
displaying an order entry region comprising a plurality of locations for receiving commands to send trade orders,	The MD Trader window displays an order entry region (*e.g.*, the blue column under "Bids" and the red column under "Asks") for receiving commands to send trade orders; orders are entered by single clicking on a cell in the order entry region. *See* Figure 1; p. 377 ("MD Trader lets you buy or sell products using one click of a mouse.").	The Matrix window displays an order entry region that has a plurality of locations for receiving commands to send trade orders. The order entry region in the Matrix window comprises the bid and ask display regions. *See* Figure 1 ("With just a single click on any row in the Bid or Ask column, you're able to immediately place an order."); Figure 4; Ex. 2, Lesson Three ("Click on a **Bid Size** cell to place a buy order at the price level for that row. Click on an **Ask Size** cell to place a sell order at the price level for that row.").	BookTrader displays an order entry region (*e.g.*, yellow "Bid Size" column and green "Ask Size" column, as shown in Figure 1) that has a plurality of locations (*e.g.*, cells) for receiving commands to send trade orders. *See* Figure 1 ("Click the Bid Size at a price level to transmit a BUY limit order at that price. Click the Ask Size at a price level to transmit a SELL limit order at that price.").

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each location corresponding to a price level along the common static price axis; and	The MD Trader window displays each location (*e.g.*, the blue column under "Bids" and the red column under "Asks") corresponding to a price level along the common static price axis (*e.g.*, "Price" colum). *See* Figure 1; Ex. 1, X_TRADER® Version 7.12.X User Manual, p. 338 ("Click the ladder next to the price at which you want to place an order.");	Each location in the order entry region corresponds to a price level along the common static price axis. *See* Figure 1; Figure 4; Ex. 2, Lesson Three ("Click on a **Bid Size** cell to place a buy order at the price level for that row. Click on an **Ask Size** cell to place a sell order at the price level for that row.").	Each location in the order entry region corresponds to a price level along the common static price axis. *See* Figure 1.

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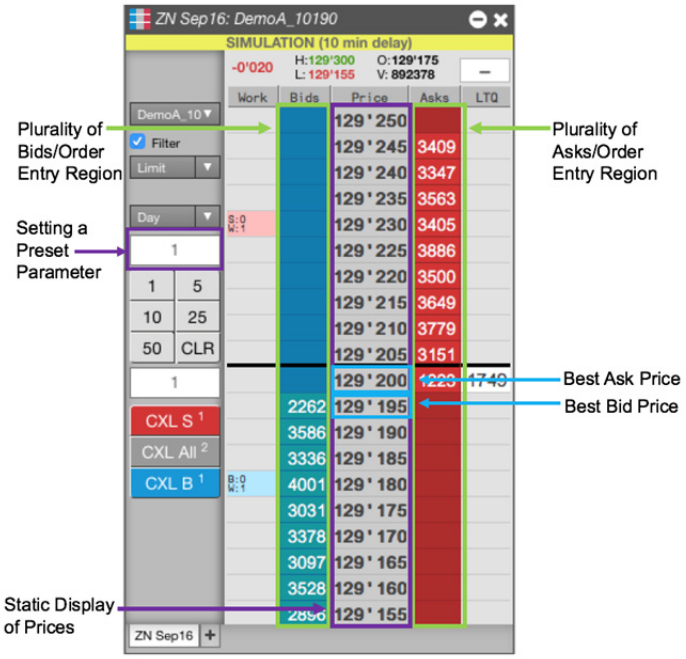
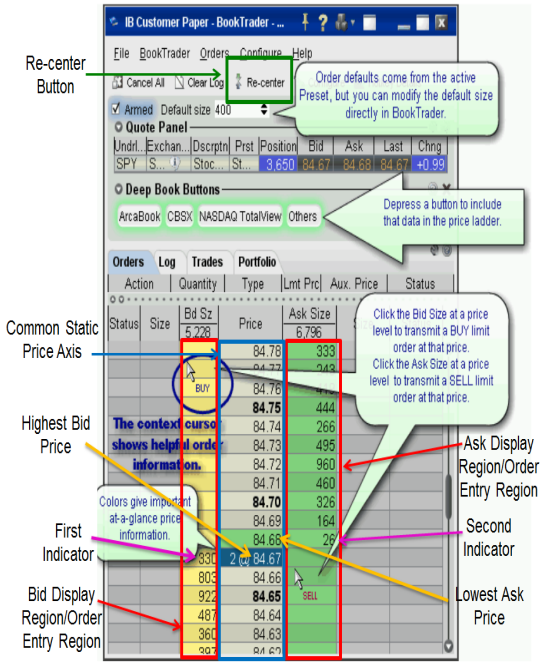
in response to a selection of a particular location of the order entry region by a single action of a user input device, setting a plurality of parameters for a trade order relating to the commodity and sending the trade order to the electronic exchange.	The MD Trader window allows a particular location to be selected (*e.g.*, one of the cells in the order entry region) through a single action (*e.g.*, single click) of the user input device with a pointer of the user input device positioned over a particular area to set a plurality of additional parameters for the trade order (*e.g.*, type of order (buy or sell), price); this selection sends the trade order relating to the commodity to the electronic exchange. Any cell in the bid display region may be selected to enter a buy order; any cell in the ask display region may be selected to enter a sell order. *See* Figure 1; Ex. 1, X_TRADER® Version 7.12.X User Manual, p. 338 ("Click the ladder next to the price at which you want to place an order."); p. 377 ("MD Trader lets you buy or sell products using one click of a mouse.").	Clicking on one of the cells in the order entry region sets a plurality of parameters for the order (*e.g.*, type of order (buy or sell), price, quantity) and sends the order to the electronic exchange. A single action (*e.g.*, single or double click) results in an order being sent at a preset default quantity. *See* Figure 1 ("With just a single click on any row in the Bid or Ask column, you're able to immediately place an order."); Figure 4; Ex. 2, Lesson Three ("Click on a **Bid Size** cell to place a buy order at the price level for that row. Click on an **Ask Size** cell to place a sell order at the price level for that row.").	In BookTrader, a selection of a particular location (*e.g.*, a cell) of the order entry region by a single action of a user input device sets a plurality of parameters (*e.g.*, price and order type) for a trade order and sends the trade order to the electronic exchange. *See* Ex. 3, IBG00003784 at p. 246 ("Create an order at any price, including the best bid and ask, with a single click in the BookTrader price ladder."); *id*. at p. 247 ("To trade with BookTrader, you click the Bid Size or Ask Size at a certain price level in the price ladder . . . 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.").

FIGURE 1

MD TRADER



BOOKTRADER



MATRIX

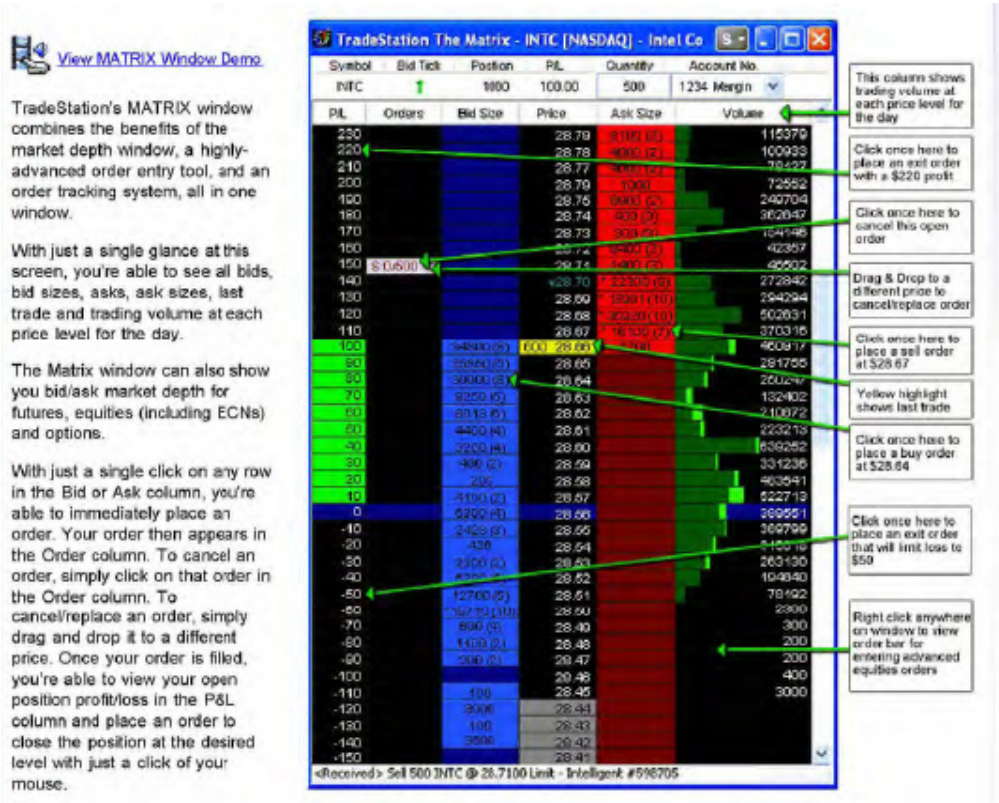


FIGURE 2A
BOOKTRADER, November 2015

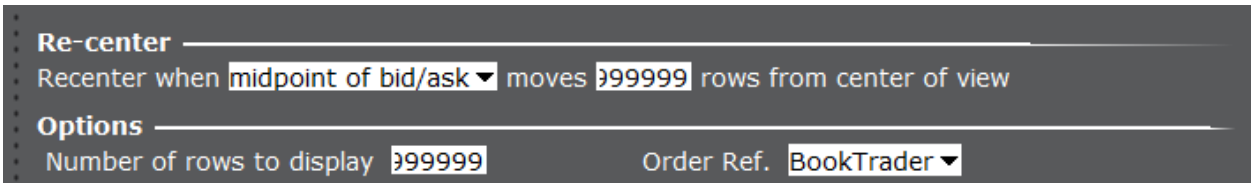


FIGURE 2B
BOOKTRADER, November 2015

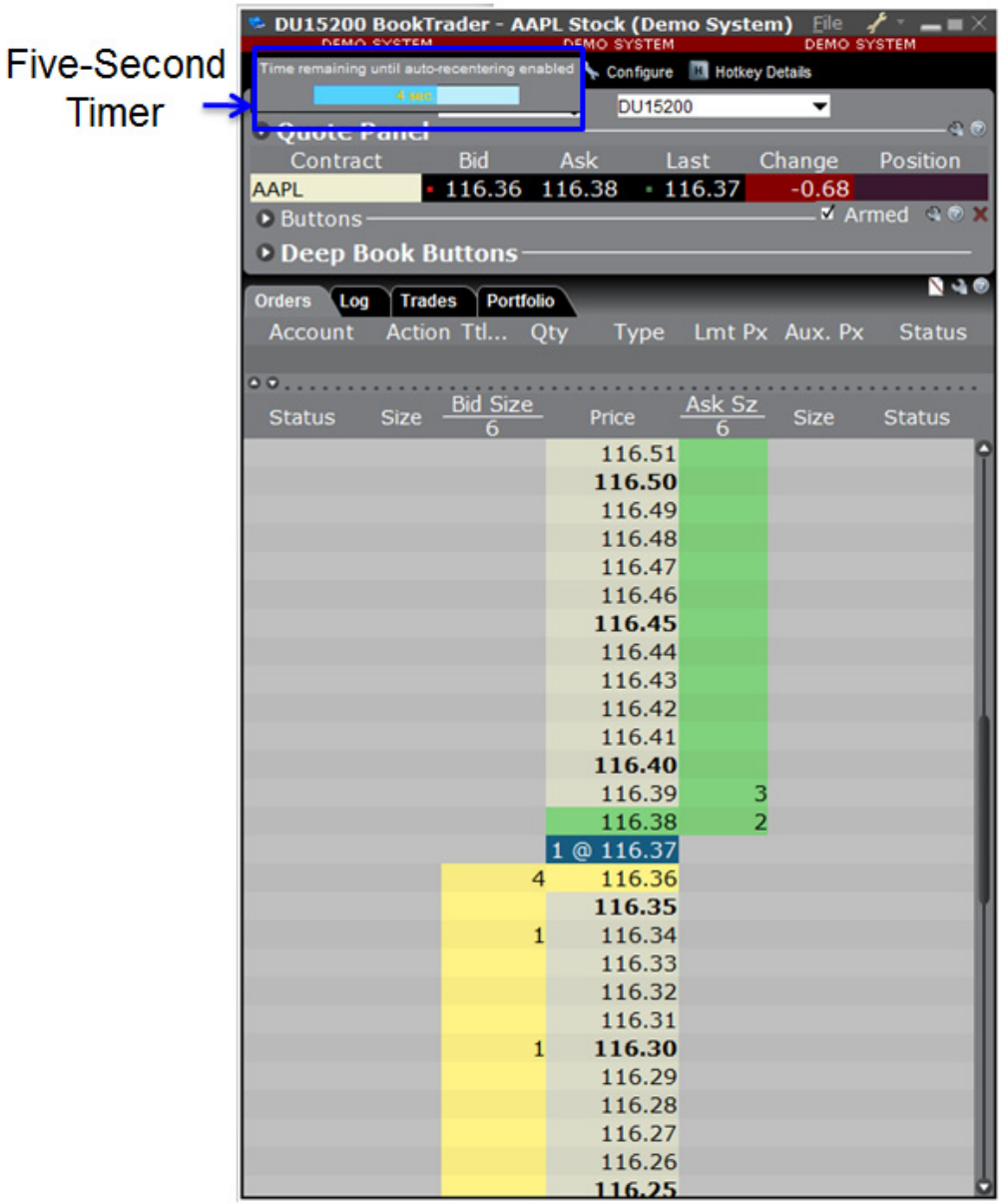


FIGURE 3
BOOKTRADER, November 2015

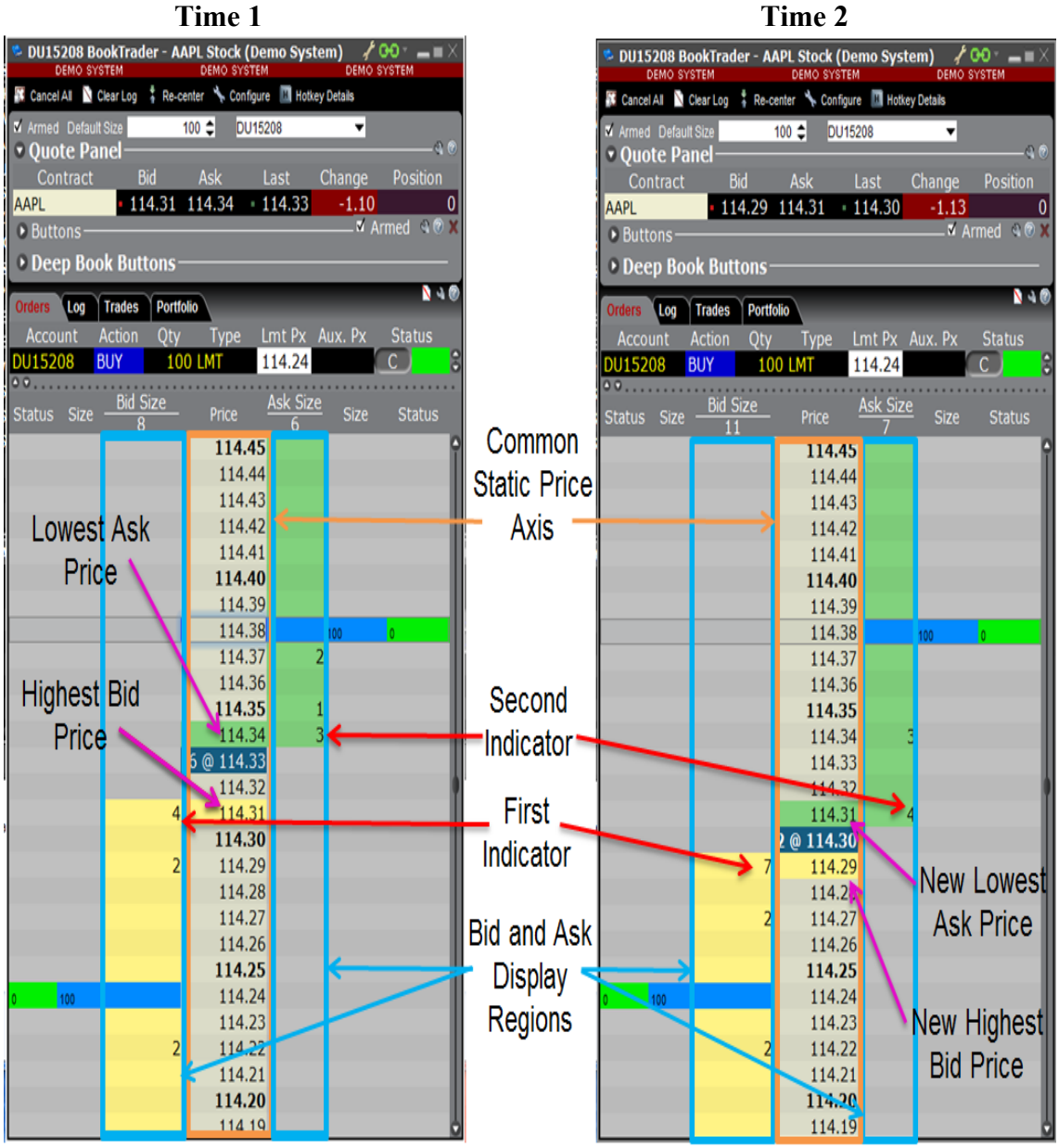


FIGURE 4

MATRIX

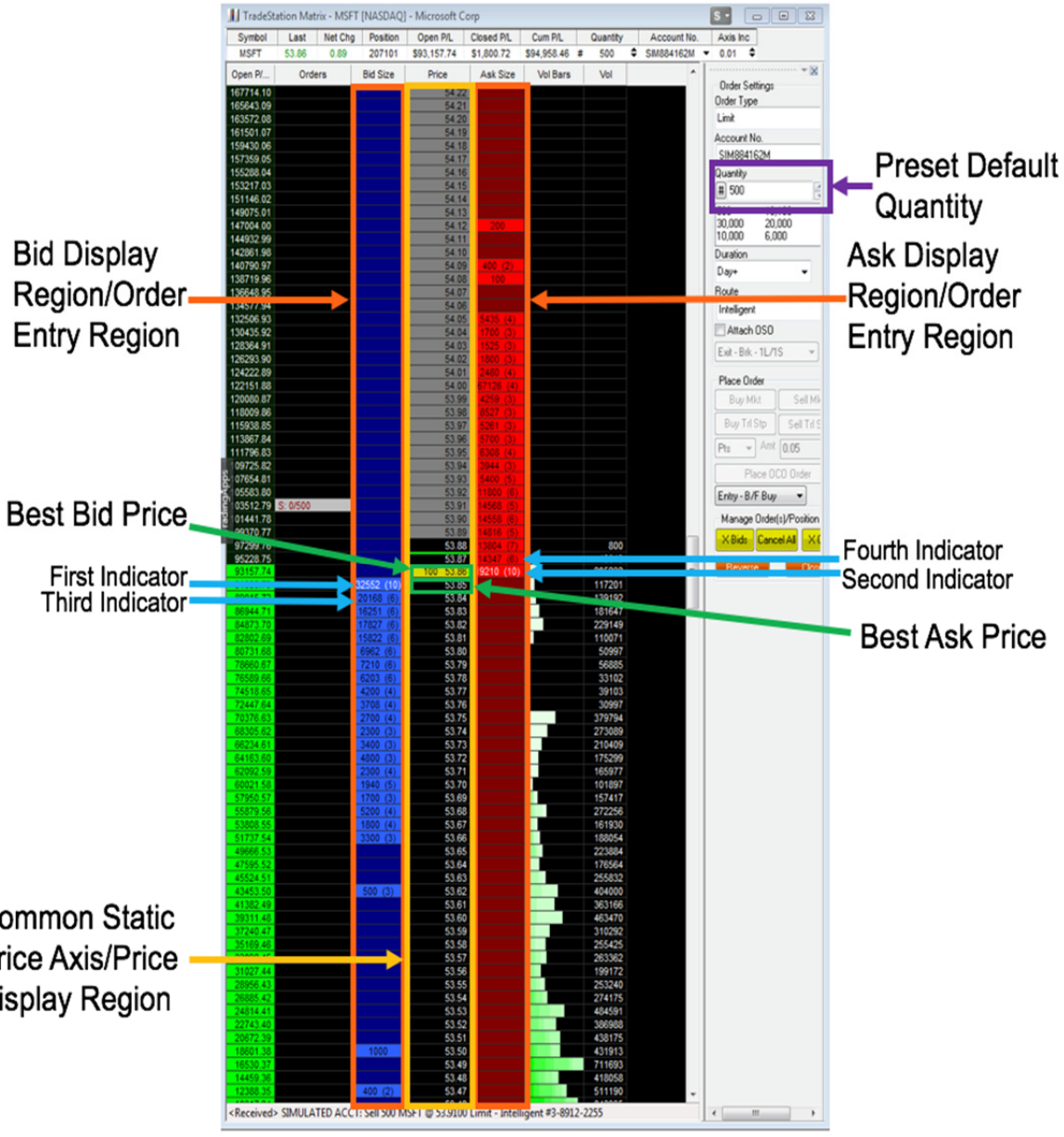


FIGURE 5A

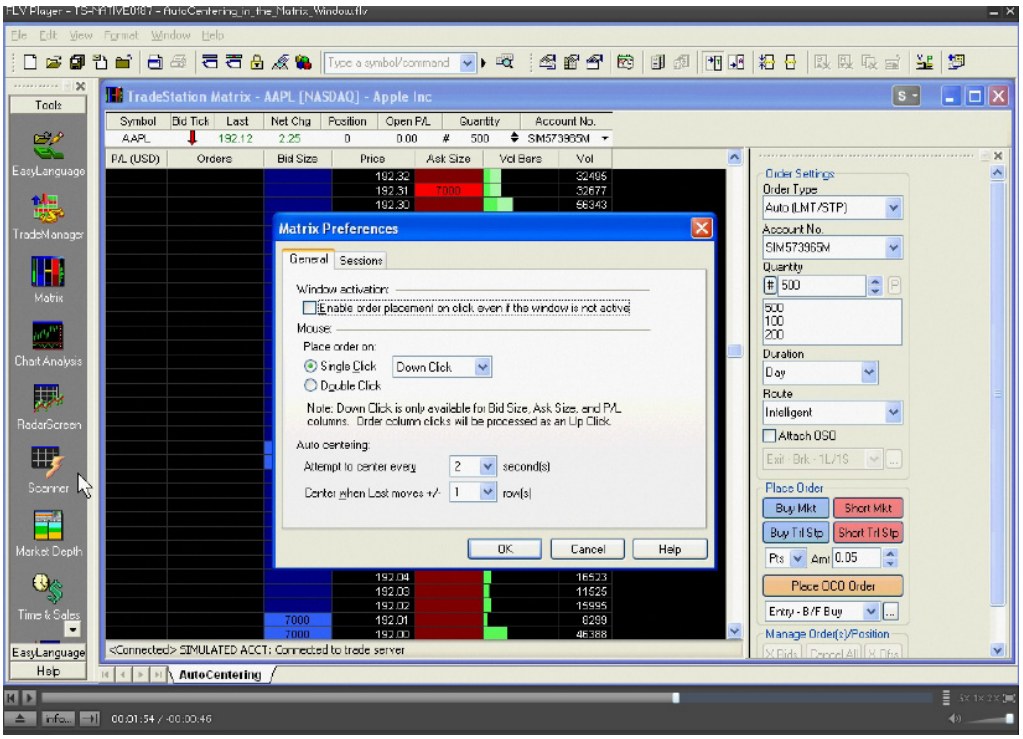


FIGURE 5B

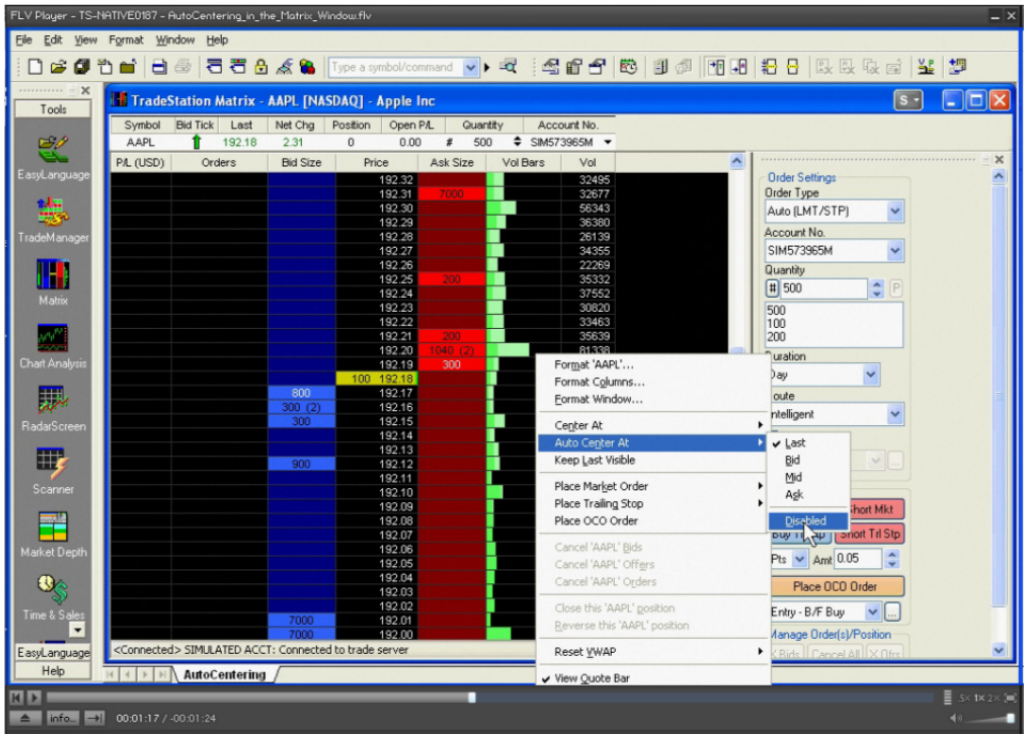


Exhibit 1

X_TRADER®
Version 7.12.X
User Manual

VERSION 7.X
DOCUMENT VERSION 7.12.0.DV1 3/5/14

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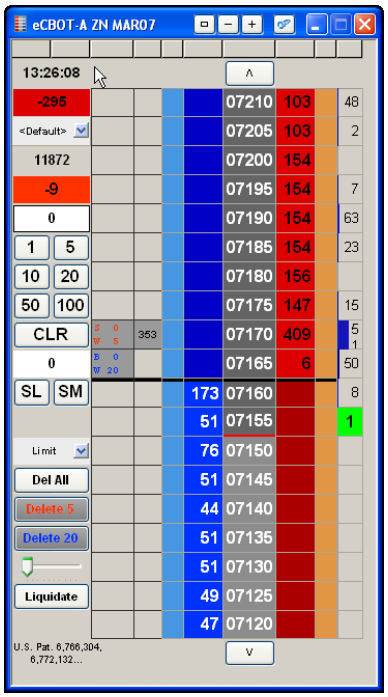
Chapter 10:
MD Trader® Overview

Note: MD Trader is protected by U.S. Patents Numbers 6,766,304 and 6,772,132.

MD Trader dynamically displays the market depth for a product. It lets you quickly buy or sell products across the depth using one click of the mouse.



This section breaks into the following categories:

- **Populating MD Trader** on page 336
- **Submitting and Order in MD Trader** on page 338
- **Confirming an Order in MD Trader** on page 340
- **Using the MD Trader Context Menu** on page 342
- **Using MD Trader** on page 343
- **Setting MD Trader Properties** on page 353
- **Customizing MD Trader** on page 383
- **Keyboard Trading in MD Trader** on page 393

To open MD Trader from the Control Panel:

From the **Control Panel,** click the **Window** menu and choose **MD Trader**.

- or -

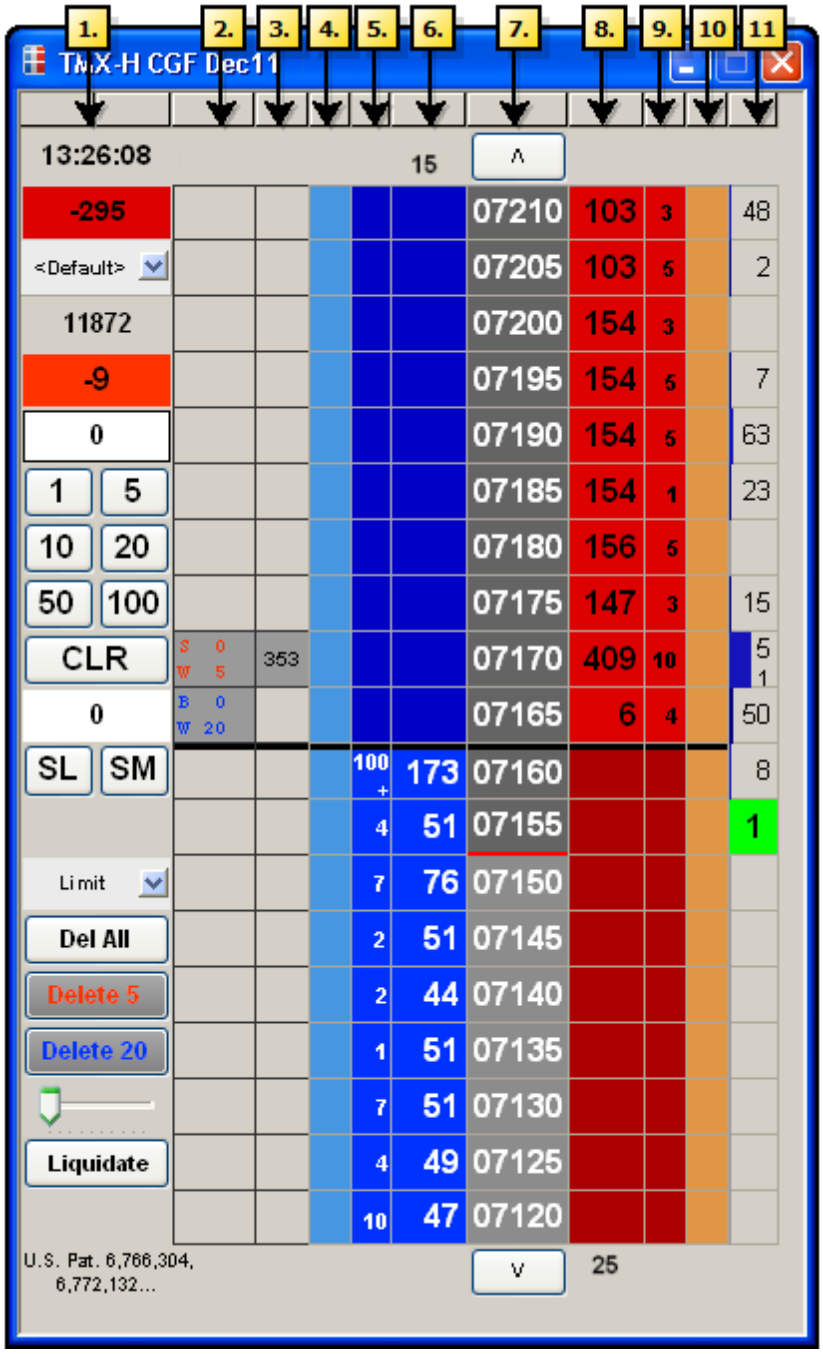
From the **Control Panel,** click the icon.

You successfully opened MD Trader.

MD Trader Field Descriptions

The **MD Trader** window maintains default settings that can be modified in its **Properties** menu. Enable the **Show Tooltips** property to see a small text description of certain fields when you hover the cursor over them.

Note: MD Trader is protected by U.S. Patents Numbers 6,766,304 and 6,772,132.



Property	Description
System Clock	Displays the current time according to your workstation.
Net Change	Displays the net changes. Net change is the difference between the last traded price and the settlement price.
Customer List	Let you select any customer to trade for from the customer list.
Total Contract Volume	Displays the total volume traded for that contract.
Net Position	Displays your net position. Click the **Net Position** field to trade out your position. This automatically populates the **Order Entry** field with your net position.
Order Quantity	Indicates the order quantity sent to market. After you submit the first trade of the day, this field populates with the value you place in the **Default Quantity** field. **Note**: An **Invalid Parameter Combination** warning displays at the top of the **MD Trader** window when the quantity entered is incompatible with the selected order default parameters. X_TRADER adjusts the parameters automatically to resolve the issue before the order enters the market.
1 / 10 / 50 / 5 / 20 / 100	Preset order quantity buttons. To customize a pre-set order quantity, right-click a button. Enter a value using the keyboard, and press `Enter`.
CLR	Clears the **Order Quantity** field.
Default Order Quantity	Populates the **Order Quantity** field after each trade with the value entered in this field.
Order Type buttons	Lets you choose an order type, order template, or algorithm to your apply to your next order. Access the **MD Trader Properties** menu from the context menu to add more order type buttons. **Note**: Order templates appear in italics and algorithms appear in italics with yellow border.
Del All	Deletes all working, held and stop orders for this series of contracts. This feature behaves differently for an exchange trader versus a proxy (TTORD) trader: • If an exchange trader uses this feature, all working for that contract for all sponsored proxy traders are deleted. • If a TTORD trader attempts to use this feature, it converts one message into to multiple individual delete requests by the client application to prevent a trader from deleting the exchange trader's working orders (for that contract).
Delete *n* (red)	Deletes working sells (indicating the number of working sells).
Delete *n* (blue)	Deletes working buys (indicating the number of working buys)
Price Consolidation Slider	Consolidates price depth in the **Price** column. Slide it to the right to consolidate price levels. Slide it to the left to flatten your price depth.
Liquidate	Flattens your position. Refer to **Liquidating a Position** on page 380.

Property	Description
	When you use the **Liquidate** button, MD Trader deletes all working orders on both sides of the market and sends an order that removes you from your position, long or short, regardless of your credit limit.

Column 2	Description
Working Quantity Column	Displays all working quantities (W) and executions (S or B) for an order. **Note:** If an Autospreader, Autotrader, or algo order has been assigned a color it displays within this column. When multiple Autospreader, Autotrader, algo orders are running at the same price level the color displays as black.

Column 3	Description
Estimated Position In Queue (EPIQ)	Indicates how many contracts are in front of your order at any given price. Refer to **Viewing your Estimated Position in Queue** on page 382.

Column 4	Description
Bid Indicator Column	Indicates price settings when you enable the **Bid indicator column** property. You may paste a value in the column from a spreadsheet. The value of the spreadsheet appears in a white box. In pre-market trading, when X_TRADER receives an indicative price, X_TRADER highlights the price column using the Last Traded Price color scheme (as configured for this X_TRADER instance): • X_TRADER highlights the initial indicative price using the Last Trade Price Unchanged color. • If the indicative price is higher than that previous indicative price, X_ TRADER highlights the price using the Last Traded Price Up color. • If the indicative price is lower than the previous indicative price, X_ TRADER highlights the price using the Last Traded Price Down color. **Note:** For information about changing the Last Traded Price colors, refer to MD Color TabMD Trader Field Descriptions

Column 5	Description
Number Of Bid Orders Column	Displays the number of bid orders associated with the reported market depth. The exact number will display up to 100, after that the number rounds up with an estimate (e.g., 100+, 200+, 300+). The value displays as inexact by placing a plus (+) sign after the number when: • Implied orders are included in depth. • Inexact values are included when merging implied and direct values. • As a result of a merge, the number of orders exceeds the maximum value allowed by TT.

Column 6	Description
Buy Column	Displays current market bids, implied bid outright prices, implied bid spread prices and implieds from implieds bid values. When you enable Keyboard Trading, a colored cursor appears in the **Buy** column, indicating the current price level for an order. Refer to **Enabling Keyboard Trading in MD Trader** on page 396. If supported by the Gateway, the total quantity of resting buy orders displays at the top of the column. **Note:** For inverted price ladders, the total quantity of resting buy orders displays at the bottom of the column.

Column 7	Description
Price Column	Indicates market price and depth. Arrows appear at the top and bottom of this column, letting you page up or page down to view more prices: • To move the market view upwards, click the up arrow: • To move the market view downwards, click the down arrow: A yellow line indicates the highest price of the day. A red line indicates the lowest price of the day. A darkened background indicates the prices fall between the high and low. **Note:** If no other price is available, but you still want to scroll up and down, use the arrow keys on your keyboard. In pre-market and auction trading, when X_TRADER receives an indicative price, X_TRADER highlights the price column using the Last Traded Price color scheme (as configured for this X_TRADER instance): • X_TRADER highlights the initial indicative price using the Last Trade Price Unchanged color. • If the indicative price is higher than that previous indicative price, X_TRADER highlights the price using the Last Traded Price Up color. • If the indicative price is lower than the previous indicative price, X_TRADER highlights the price using the Last Traded Price Down color. **Note:** For information about changing the Last Traded Price colors, refer to MD Color TabMD Trader Field Descriptions

Column 8	Description
Sell Column	Displays current market offers, implied offer outright prices, implied offer spread prices and implied from implied offer values. When you enable Keyboard Trading, a colored cursor appears in the **Sell** column, indicating the current price level for an order. Refer to **Enabling Keyboard Trading in MD Trader** on page 396. If supported by the Gateway, the total quantity of resting sell orders displays at the bottom of the column.

Column 8	Description
	Note: For inverted price ladders, the total quantity of resting sell orders displays at the top of the column.

Column 9	Description
Number Of Sell Orders Column	Displays the number of sell orders associated with the reported market depth. The exact number will display up to 100, after that the number rounds up with an estimate (e.g., 100+, 200+, 300+). The value displays as inexact by placing a plus (+) sign after the number when: • Implied orders are included in depth. • Inexact values are included when merging implied and direct values. • As a result of a merge, the number of orders exceeds the maximum value allowed by TT.

Column 10	Description
Ask Indicator Column	Indicates price settings when you enable the **Ask indicator column** property. You may paste a value in the column from a spreadsheet. The value of the spreadsheet appears in a white box.

Column 11	Description
Last Traded Quantity Column	Indicates the last traded quantity at that price. Also, you can configure this column to display Volume by Price in bar, text, or tool tip format. Refer to **MD Display Tab** on page 359.

Additional Fields	Description
Scroll Bar	Indicates orders exist above or below what is visible in the window. Use a mouse to scroll up or down MD Trader.
Market Mid-Point Bar	Designates the midpoint of the inside market with a bold black line. Refer to **Displaying the Mid-Point of Inside Market** on page 376.

MD Trader Features

Some MD Trader features include:

- View in small mode. Keep all the functionality but take up less space on your desktop. Refer to **Displaying a Small MD Trader** on page 375.
- Set so all floating order entry windows launched in the Market Grid, Spread Matrix, Butterfly Condor Matrix, Autotrader, or Quote Board are **MD Trader** windows. Refer to **Using Floating Order Entry** on page 278 to enable.
- Rename the window using the titlebar context menu.
- Continually send Good to Cancel orders by enabling the **GTC** checkbox. Refer to **MD Trader Field Descriptions** on page 330.
- Globally recenter all windows using the **Recentering** properties. When you recenter one **MD Trader** window, all open **MD Trader** windows recenter as well. Refer to **MD Display Tab** on page 359.
- Customize color coding, mouse wheel behavior, and sound notifications.
- Designate a second default quantity for your right-click trading.

Other options MD Trader displays include:

- Implied prices and quantities.
- Daily high and low trades.
- Contract's price range.
- Resting market orders.
- Volume by price bar chart or text.
- Your customer profiles.
- Time and sales for quick view of recent price, quantity and time transaction details. Refer to **Adding Time and Sales** on page 384.

Populating MD Trader

Follow these procedures to populate MD Trader with contracts:

- Populating MD Trader from Market Explorer
- Populating MD Trader using drag-and-drop from Market Explorer
- Populating MD Trader using drag-and-drop from the Market Grid
- Populating MD Trader using the Market Grid context menu

To populate MD Trader from Market Explorer:

1. From the **Control Panel**, click the **Window** menu and choose **Market Explorer**.

   - or -

   From the **Control Panel**, click the icon.
2. If you are logged into more than one exchange, in the **Exchanges** box, click the exchange whose product you want to find.
3. In the **Products** section, click the **down arrow** and choose your search filter.
4. Type your search criteria in the available space.

   The **Instruments** field updates as you type.
5. From the **Instrument Type** box, click to toggle between the displayed types.
6. Press and hold the CTRL key and click the products you want to open.

   - or -

   To open all products in the **Instruments** field, click the **>>** button and skip to step 7.
7. Click the **>** button to transfer the products from the **Instruments** box to the **Selected Instruments** box.
8. Click the **Function** box in the upper right corner of the Market Explorer and choose **MD Trader**.
9. Click **Start**.

You successfully populated MD Trader from Market Explorer.

To populate MD Trader using drag-and-drop from Market Explorer:

1. If MD Trader is not open, use the **Control Panel** to open it.
2. From the **Control Panel**, click the **Window** menu and choose **Market Explorer**.

   - or -

   From the **Control Panel**, click the icon.
3. If you are logged into more than one exchange, in the **Exchanges** box, click the exchange whose product you want to find.
4. In the **Products** section, click the **down arrow** and choose your search filter.
5. Type your search criteria in the available space.

   The **Instruments** field updates as you type.
6. From the **Instrument Type** box, click to toggle between the displayed types.
7. From the **Instruments** box, press and hold the CTRL key and click the products you want to open.
8. With the cursor over one of the selected products in the **Instruments** box, click and hold the mouse button.
9. Continue holding the mouse button and drag the cursor to the open MD Trader.

   When the cursor leaves the window, it changes to a circle with a diagonal line through it. When the cursor enters a window, it changes to include a plus [+] sign.
10. Release the mouse button.

You successfully populated MD Trader using drag-and-drop from the Market Explorer.

To populate MD Trader using drag-and-drop from the Market Grid:

1. If MD Trader is not open, use the **Control Panel** to open it.
2. From an open Market Grid, click the product and hold the mouse button.
3. Continue holding the mouse button and drag the cursor to the open MD Trader.

   When the cursor leaves the window, it changes to a circle with a diagonal line through it. When the cursor enters a window, it changes to include a plus [+] sign.
4. When the cursor enters MD Trader, release the mouse button.

You successfully populated MD Trader using drag-and-drop from the Market Grid.

To populate MD Trader using the Market Grid context menu:

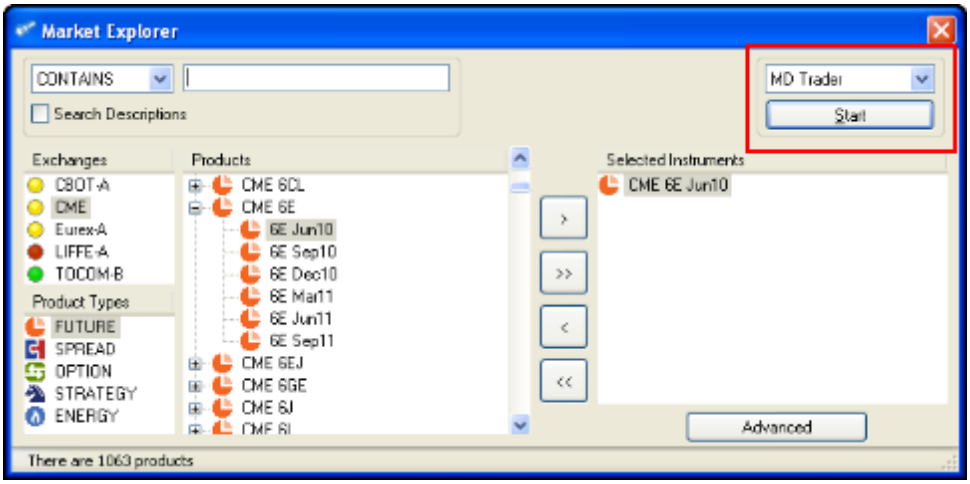
1. In the Market Grid, right-click the row of the product you want to open in MD Trader.
2. Click **MD Trader**.

You successfully populated MD Trader using the Market Grid context menu.

Submitting and Order in MD Trader

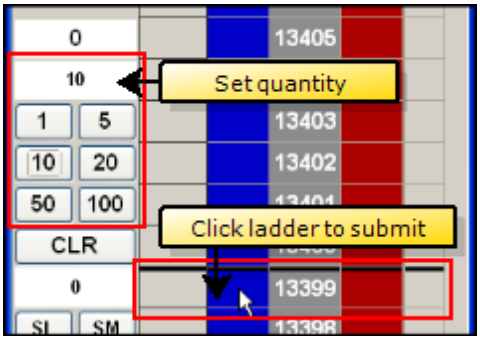
To enter an order in MD Trader:

1. Select your products from **Market Explorer** window and launch them in the **MD Trader**.



2. In MD Trader, right-click the grid to access the context menu and choose **Properties**.
3. Set your **Maximum order quantity** and click **OK**.

4. Click the pre-set quantity buttons to set your quantity.
5. Click the ladder next to the price at which you want to place an order.



Note: Blue side is a buy. Red side is a sell. Thick black line is the inside market.

If you have entered valid data, the order is sent to market. The **Audit Trail** window displays a message with a status of OK and an Action of Add.

You successfully entered an order in MD Trader.

Launching an Algo in MD Trader

You can quickly launch an algo from MD Trader as you would any other type of order. You can also assign an algo to a MD Trader Order Button within the **MD Trading** tab. After an algo has been launched you can manage and monitor its progress from the **Parent Order Book** window or the **Algo Dashboard** window.

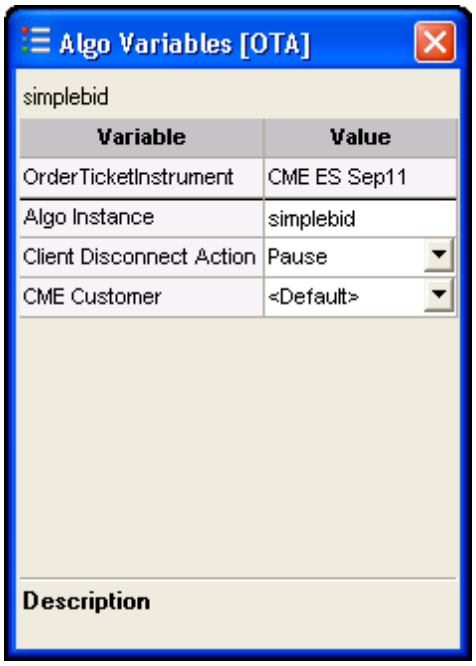
Warning! TT strongly recommends that you test algos with TT SIM before running them in a live production environment. Refer to **Running X_TRADER in Simulation Mode** on page 54 for more information.

To launch an OTA in MD Trader

1. Launch a product in MD Trader.
2. Select a quantity.
3. Do one of the following:
   - From the **Order Type** menu, select the algo type.

     - or -
   - Click to select an order button that has been assigned an algo.

   The **Algo Variables [OTA]** dialog box appears.



Ago Variables [OTA] dialog box

4. Edit the algo variables as needed.
5. Move the cursor to the **Buy** or **Sell** column.
6. Click the mouse button.

You successfully launched an OTA in MD Trader.

To launch an OMA in MD Trader

1. Ensure you set the Floating Order Book property in the **Trading** tab on the **Properties** menu.
2. Depending on your property setting, hover over or click a cell with a working order.
   The Floating Order Book appears.
3. Place your cursor on the desired order to display the modification buttons.
4. Click the **Algo** button.
   The **Algo Variables [OMA]** dialog box appears.

Ago Variables [OMA] dialog box

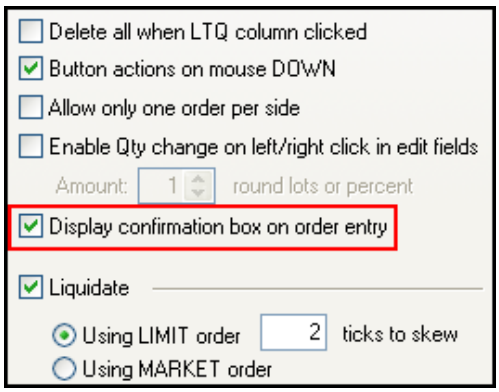
5. Select the desired OMA from the drop-down list.
6. Edit the algo variables as needed.
7. Click **Start**.

You successfully launched an OMA in MD Trader.

Confirming an Order in MD Trader

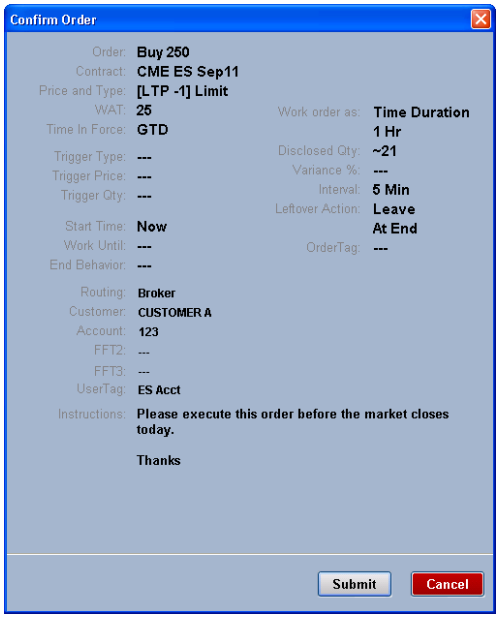
X_TRADER has controls in place that let you confirm your order prior to submitting it.

In the **MD Trading** tab on the **Properties** menu, you can choose to set the **Display confirmation box on order entry**.



Setting the property means the **Confirm Order** window appears each time you submit an order.

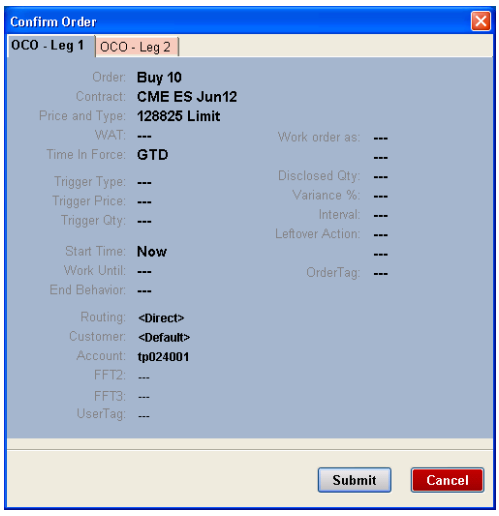
Click **Submit** to confirm the order.



In addition, the **Confirm Order** window appears with two tabs when confirming an OCO order.

Each tab appears in the appropriate Blue (Buy) / Red (Sell) color format, including the tab headers.

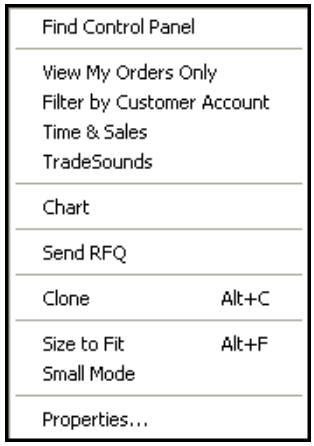
Clicking the **Submit** or **Cancel** buttons applies the action to both orders.



Using the MD Trader Context Menu

Right-click MD Trader to access the context menu.

The available menu options include:



- **Find Control Panel**: Displays the **Control Panel**.
- **View My Orders Only**: Displays just your orders and fills in MD Trader, removing the orders and fills of another trader with whom you share an Order Book.
- **Filter by Customer Account**: Displays the orders and fills of just the customer account you select.
- **Time & Sales**: Adds the time and sales pane, showing price, quantity and time columns.
- **TradeSounds**: Enables sounds you associate with your trades based on quantity.
- **Chart**: Opens an X_STUDY chart for the selected contract.
- **Send RFQ**: Opens the **Request For Quote** dialog box for a specific contract and quantity.
- **Clone**: Creates a duplicate **MD Trader** window.

  Note: You cannot clone a Floating Order Entry window displayed as MD Trader (has a yellow border).

- **Size to Fit**: Resizes to show all viewable data.
- **Small Mode**: Makes a smaller version of the window. When enabled, this context menu changes to **Standard Mode**.
- **Properties**: Opens the **MD Properties** menu.
- **Paste Link**: Inserts a copied link from Excel into the **Bid** or **Ask indicator** columns. Only available when data is copied.
- **Delete Link**: Removes pasted link from the **Bid** or **Ask indicator** columns. Only available when a formula has been pasted.

Note: You cannot access the context menu from the following locations:

- **Last Traded Quantity** column
- **Working order, bid** or **ask** columns
- **Delete Bids** or **Delete Offers** quantity buttons
- Numerical quantity buttons

Using MD Trader

Follow these procedures to use MD Trader:

- Recognizing the Average Price of Open Position
- Centering the Market
- Changing order quantity
- Reading Working Column Abbreviations
- Changing working orders
- Deleting trades from the market
- Reading the net change indicator
- Selecting a customer profile
- Setting the default quantity
- Setting the trade quantity
- Setting Time In Force
- Reading the text and grid colors

Recognizing Average Price of Open Position

The average price of your open position is the average price of all your fills at different price levels. You can use this price point to gauge whether trading out of your position will provide you with a realized gain, loss, or scratch.

The average price is calculated as follows:

- If the position is long, average the price of all buys and ignore all sells.
- If the position is short, average the price of all sells and ignore all buys.
- If no open position exists, the average price equals zero.

This method is used because there can be a major difference between FIFO and LIFO methods for calculating the average price of an open position. Likewise, there can be a major difference using the FIFO method but reversing the order of the Buys.

Example: If Trader A bought in the manner shown below, and Trader B sold at 96, then 97, then 98, etc., the traders would show two different average prices even if they both used the FIFO method.

The example below compares FIFO, LIFO and the MD Trader method:

Trader A	Average Price of Open Position based on...		
Buys	**FIFO**	**LIFO**	**MD Trader**
Buy 1 @ 100	100	100	100
Buy 1 @ 99	100	100	100
Buy 1 @ 98	99	99	99

Trader A	Average Price of Open Position based on...		
Buys	**FIFO**	**LIFO**	**MD Trader**
Buy 1 @ 97	99	99	99
Buy 1 @ 96	98	98	98

Trader B	Average Price of Open Position based on...		
Sells	**FIFO**	**LIFO**	**MD Trader**
Sell 1 @ 96	98	99	98
Sell 1 @ 97	97	99	98
Sell 2 @ 98	96	100	98

Note: When calculating average price, MD Trader rounds longs up and shorts down.

Centering the Market

Note: You can change the hotkeys associated with this command.

To center the market:

Press the `Spacebar`.

This centers the market in MD Trader, but does not affect the position or location of the buy or sell side cursors, which are adjusted using a different set of mapped key strokes.

You successfully centered the market.

Changing Order Quantity Using a Mouse

In MD Trader most users use the keyboard to enter order quantity amounts in the **Order Quantity** field. However, you can also use the mouse wheel to change order quantity.

Using the mouse wheel to change the order quantity is subject to the following constraints:

- The restrictions established by Guardian firstly, and the maximum trade quantity defined on the **MD Trading** tab secondarily.
- Orders increase or decreases by a quantity of ten.

Follow these procedures to change the order quantity using the mouse:

- Setting quantity change property
- Changing the order quantity using the mouse wheel

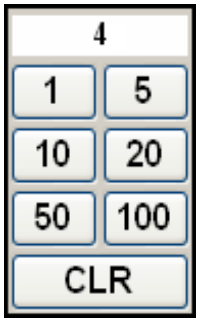
▶ To set the quantity change property:

1. Open MD Trader.
2. Right-click anywhere in MD Trader and click **Properties**.
3. Click to select the **Enable qty change on left/right click in edit fields** option.
4. To set this property for all subsequently opened MD Trader windows, click to select **Set as Global default**.
5. Click **OK**.

You successfully set the quantity change property.

▶ To change order quantity using the mouse wheel:

1. Set the quantity change property.
2. Click in the **Order Quantity** box.

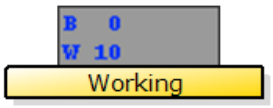


3. Move the mouse wheel to increase or decrease the order quantity.

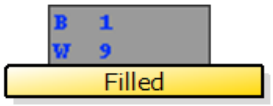
You successfully changed order quantity using the mouse wheel.

Reading Working Column Abbreviations

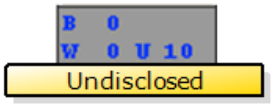
Abbreviations in the working column help you track your working orders.



Your order is **Working (W)**when it has been sent but has not received fill.



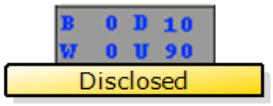
Your **Buy (B)** or **Sell (S)** order has received a fill but may still have a working quantity.



An **Undisclosed (U)**quantity appears when you place an order that has not yet entered the market.

Order restrictions with undisclosed quantities include:

- Stop Order
- If Touched



A **Disclosed (D)**quantity appears when you place an order that hides a portion of its overall quantity. When you have a disclosed quantity, the **undisclosed** abbreviation shows the portion of the order still hidden.

Order restrictions with disclosed quantities include:

- Iceberg
- Time Sliced
- Volume Sliced

Example: A time sliced order to buy 100 contracts, 10 at a time with no variance in 10 second intervals at the same price appears like this:

After 15 seconds, two child orders of 10 contracts each have entered the market, with one contract executed:

Changing Working Orders

You can drag-and-drop working orders from one location to another in MD Trader.

To drag-and-drop a working order:

1. Right-click and continue holding down any price and working cell information in the **Working Quantity** column.

   Warning! Be very careful. A right-click and release deletes the order!

2. Drag and drop the price/quantity to the cell where you want to place the order and release the button.

You successfully dragged and dropped a working order.

Deleting Orders

Follow these procedures to delete your orders in MD Trader:

- Deleting all your orders
- Deleting a single order
- Deleting all bids or all offers
- Deleting orders using the working quantity column

To delete all your orders:

If you have the **Delete all when LTQ column clicked** property enabled, left or right-click on any grid cell in the **Last Traded Quantity** column to delete all of your working bids and offers.

- or -

Click the **Delete All** button.

You successfully deleted all your orders.

To delete a single order:

To delete a single order, click its cell in the **Working Quantity** column.

You successfully deleted a single order.

To delete all Bids or all Offers:

If you have the **Delete Bid/Ask** property enabled:

- Click the blue **Delete *n*** to delete all workig bids.
- Click the red **Delete *n*** to delete all working offers.

You successfully deleted all Bids or all Offers.

▶ **To delete the working quantity of all orders at a given price level:**

Left or right click on any cell in the **Working Quantity** column.

If the working quantity is for 50 orders, for example, in five separate 10-lot orders, all five orders delete. If there is only a single 50-lot order, this single order deletes.

You successfully deleted the working quantity of all orders at a given price level.

Reading the Net Change Indicator in MD Trader

In MD Trader the **Net Change indicator** is a small box immediately below the system clock. It displays a net change in price for a traded product in the current day measured against the previous day's settlement price. If there is no settlement price, the closing price is used.

The net change is color coded:

- red for a negative change
- green for a positive change.

The unit of measure is in tick increments for the product.

Selecting a Customer Profile in MD Trader

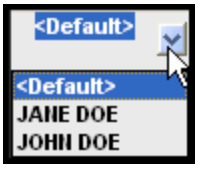
Certain markets require a customer name be selected before any trades enter the market.

Example: CME requires it.

The customer profile is one of any in the **Customer List**. To manage the **Customer List**, from the **Control Panel**, point to the **Settings** menu and click **Customer Defaults**.

▶ **To select a customer profile in MD Trader:**

1. Click on the **down arrow** two cells beneath the clock ticker.



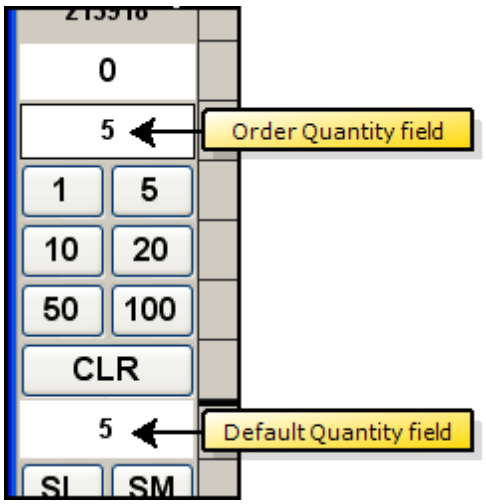
2. Click a customer name from the list.

You successfully selected a customer profile in MD Trader.

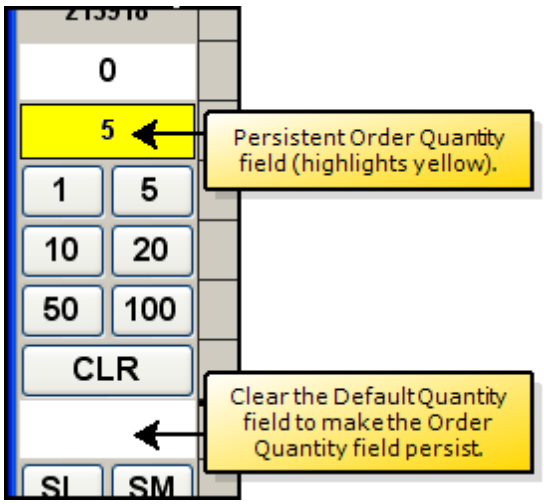
Setting the Default Quantity

In MD Trader setting the **Default Quantity** field is not required, but once you send an initial order, the **Order Quantity** field continually resets itself to the default quantity.

Alternatively, you can clear the **Default Quantity** field and make the **Order Quantity** persistent.



Default Qty field populates Order Qty field



Order Qty field persists

You set the maximum quantity for trades with the **Maximum order quantity** property. However, the restrictions established by Guardian take precedence over this property.

To set the default quantity:

1. Click in the **Default Quantity** field under the **CLR** button.
2. Use the `Delete` key on the keyboard to clear the contents of the field.
3. Enter a default quantity.

   - or -

   Leave the **Default Quantity** field blank to have the **Order Quantity** field persist.
4. Press `Enter` to set the default quantity.

You successfully set the default quantity.

Setting the Trade Quantity

In MD Trader you must set a value in the **Order Quantity** field to trade. Once you send an initial order, this field resets itself with the value in the **Default Quantity** field.

Setting the Maximum Trade Quantity

In MD Trader you must set a value in the **Maximum order quantity** property on the **MD Trading** tab before you trade. This quantity prevents you from entering an order larger than your limit. For example, if the maximum trade quantity is 50, you are not permitted to sweep the market with an order quantity of 300.

Note: The following are exceptions to the maximum trade quantity setting:

- Enabling Liquidate
- Restrictions established by Guardian

To set the maximum trade quantity:

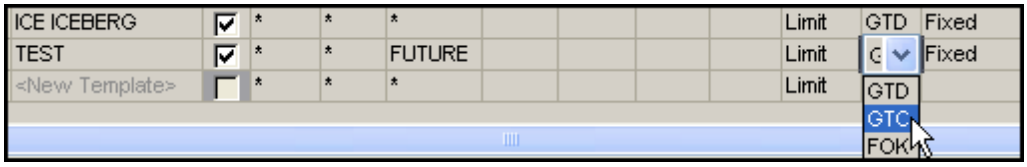
1. Open MD Trader.
2. Right-click anywhere in MD Trader and click **Properties**.
3. In the **Order Parameter** section, type a maximum order quantity.
4. To set this property for all subsequently opened **MD Trader** windows, click to select **Set as Global Default**.
5. Click **OK**.

You successfully set the maximum trade quantity.

Setting Time In Force

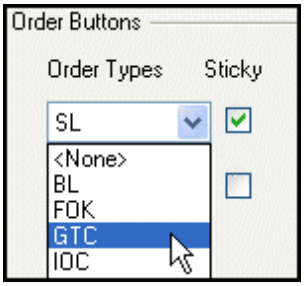
By default all orders sent in MD Trader are GTD (good until the end of the day). However, you can override this setting in multiple ways.

- First, you can create an order template using the **Order Defaults** window. Once created, you can assign the order template to a customer profile. Then, you can select the customer prior to placing your order in MD Trader.

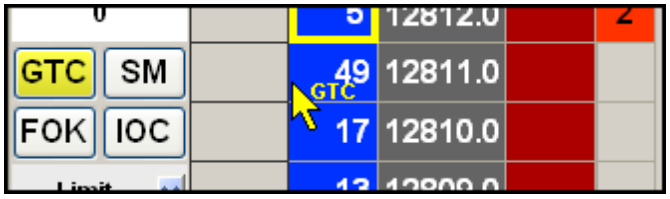


Set your Time in Force on the Order Defaults window.

- Second, in the **MD Trading** tab on the **Properties** menu, you can set **GTC** or a created order template as an order button. Then, you can select the button prior to placing your order in MD Trader.



Set GTC as an Order Button



Click GTC before placing an order

Text and Grid Colors

Many of the grids, text boxes, and indicators in MD Trader are color coded to give you a visual indication of market position and other information. The grid below summarizes the default colors:

Column or Text Box	Associated Colors
Working Quantity Column	Foreground color: Gray Working Sell Text: Red Font Working Buy: Blue Font Executed Sell: Red Font Executed Buy: Blue Font
Net Position Box	Background color: Red or Blue depending on position. Short Position: Black Font Long Position: White Font
Bid Column	Foreground color: Blue Font Color: White
Sell Column	Foreground color: Red Font Color: Black
Last Traded Quantity Column	Font color: Black Trade at decreased price: Red background Trade at increased price: Green background Trade at same price: White background

You can customize many colors using the **MD Color** tab on the **Properties** menu. Among the colors you can customize include:

- LTP Up, Down, or Unchanged
- Net Change Up, Down or Unchanged
- Net Position Flat, Long or Short
- Buy and Sell side columns
- Working Buys or Sells
- Best Bid and/or Ask
- Average Price of Long and/or Short Position

Setting MD Trader Properties

You set properties for your local **MD Trader** window from the **MD Properties** menu, accessed from the context menu.

Note: The **Set as Global Default** checkbox at the bottom of each tab applies properties to all subsequently opened **MD Trader** windows. Alternatively, you can set global properties via the **Settings** menu on the **Control Panel**.

Tab Name	Description
MD Trading	Set trading parameters for MD Trader, including maximum order quantity.
MD Display	Set display options for MD Trader, including EPIQ and volume at price.
MD Color	Customize color specific options and features for MD Trader.
MD Advanced	Enable and define the User-Defined Price (UDP) column in MD Trader which, among other things, allows you to trade in yield.

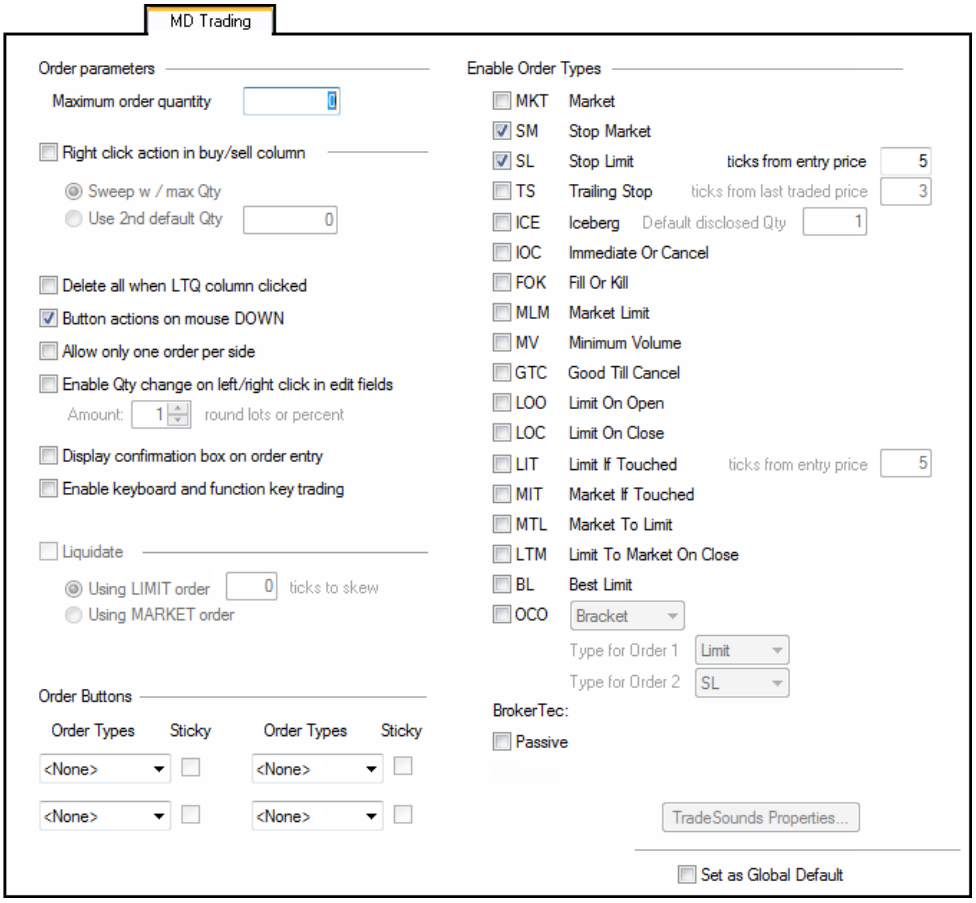
Use the properties menu to set these properties:

- Auto Centering
- Average Price Highlighting
- Recognizing the Average Price of Open Position
- Consolidating Prices
- Creating a User-Defined Price (UDP) Column
- Displaying a Small MD Trader Window
- Displaying the Mid-Point of Inside Market
- Keeping MD Trader on Top
- One-Click Trading
- Placing Stop Orders
- Setting the Maximum Trade Quantity
- Liquidating a Position Using One-Click
- Trading in Yield
- Viewing your EPIQ

MD Trading Tab

Use the **MD Trading** tab to customize trading parameters for MD Trader.

Note: When accessed via the context menu, the **Set as Global Default** checkbox at the bottom of the tab applies these properties to all subsequently opened **MD Trader** windows.



Order Parameters	Description
Maximum order quantity	Displays the maximum order quantity permitted during trading. **Note:** To use MD Trader, this field must be greater than zero (0).

Right-click action in Buy/Sell column	Description
Right-click action in Buy/Sell column	Enables your right-click in the **Bid** and **Ask** columns to either: • **Sweep w/ max Qty:** Sweep the market using your maximum order quantity and up to the defined by price depth level at the exchange. (e.g., Some exchanges go up to 5 depth levels.) • **Use 2nd default Qty:** Submit a second default quantity in the **Bid** and **Ask** column at the price where you right-click. When using this option, you must type a quantity in the box to the right of the option.

General	Description
Delete all when LTQ column clicked	Lets you delete all your working orders by clicking in the **Last Traded Quantity** column.
Button actions on Mouse DOWN	Sets mouse button actions to immediately activate when the mouse is clicked (not released).
Allow only one order per side	Replaces an existing Buy or Sell order, when you add a new one. **Note:** For BrokerTec products, the Leave order type overrides this property.
Enable Qty change on left/ right click in edit fields	Changes quantity down with a left-click and up with a right-click. **Amount:** Sets how much a quantity changes with one click.
Display confirmation box on order entry	Enables the **Confirmation Order** dialog, which will appear every time you place an order. Refer to **Confirming Your Order** on page 249.

Liquidate	Description
Liquidate	Lets you flatten your position. Before MD Trader submits an offsetting order, it sends delete requests for all working orders for that contract. You need to send a second tradeout request if an existing working order fills.
Using LIMIT order	Indicates the tradeout method is by Limit order. **Note:** This property does not guarantee your order will be executed because the market may move before you enter the order.
# ticks to skew	Determines how many ticks you will trade out to flatten your position. Assigning a specific number of ticks to skew ensures your order, once entered, (not necessarily executed) is only a pre-determined distance from the inside market. When you click the **TradeOut** button, you enter a Limit order based on the current price. If the market moves and the offsetting price is not available, your limit order remains working at the price you entered it.
Using MARKET order	Indicates the tradeout method is a Market order. When enabled, **# ticks to skew** field grays. When you click the **TradeOut** button, a market order seeks out the available offsetting order and executes against it.

Order Buttons	Description
Order Types	Assigns buttons to order types enabled in the **Enable Order Types** section. **Note:** The order types set up as buttons will no longer appear in the **Order Type Selection** menu.
Sticky	Lets you continuously execute the same order type without having to click the order type button again. The button and cursor highlight in yellow while the order type is in effect. To discontinue sending the same order type, click the selected button again or select another order type.

Enable Order Types	Description
MKT	Enables Market. Market orders cross the inside market to immediately fill.
SM (Stop Market Orders)	Enables Stop Market. Stops set the stop price for limit or market orders. X_TRADER supports Stop orders on all exchanges. • A Stop Market order to buy becomes a market order when the futures contract trades (or is bid) at or above the Stop Price. • A Stop Market order to sell becomes a market order when the futures contract trades (or is offered) at or below the Stop Price.
SL (Stop Limit Orders)	Enables Stop Limit. Stops set the stop price for limit or market orders. X_TRADER supports Stop orders on all exchanges. **# ticks from stop entry price**: Sets the number of ticks the stop limit price is from the stop entry price. (Range is 0-10000)
TS (Trailing Stop Orders)	Enables Trailing Stop. Trailing Stop sets the price for a stop order a fixed distance from the current market price and moves dynamically. Trailing Stops can be limit or market orders. **# ticks from last traded price**: Sets the number of ticks from the LTP your order trails.
ICE (Iceberg)	Enables Iceberg. Sends only a portion of the order quantity to the market at a time. Each order quantity is equal. When one portion fills, the next portion is sent until the entire order quantity fills. **Default Disclosed Qty**: Pre-sets disclosed quantity.
IOC (Immediate or Cancel)	Enables Immediate or Cancel. IOC Immediately fills the order to the extent possible and cancels the balance.
FOK (Fill or Kill)	Enables Fill or Kill. FOK immediately fills the entire order or immediately cancels the entire order.
MLM (Market Limit)	Enables Market Limit Market. MLM sets a buy order placed above the best offer to fill by the best offer, and a sell order placed below the best bid to fill by the best bid.
MV (Minimum Volume)	Enables Minimum Volume. MV sets the minimum order quantity that must be available in the market or the entire order cancels.

Enable Order Types	Description
GTC (Good 'til Cancel)	Keeps order in the market until you cancel it or the contract expires. **Note:** TTUS credentials are required to use this TIF.
LOO (Limit On Open)	Enables Limit On Open. LOO sets limit orders that only execute at the open. Any portion not filled at the open cancels.
LOC (Limit On Close)	Enables Limit On Close. LOC sends Limit orders during the closing auction of the current business day. Any portion not filled at the close cancels.
LIT	Enables If Touched. LIT submits the Limit order a set number of ticks away from the inside market and is activated when the market touches the price level. **# ticks from stop entry price:** Sets the number of ticks the limit price is from the entry price.
MIT	Enables If Touched. MIT submits the Market order a set number of ticks away from the inside market and is activated when the market touches the price level.
MTL	Enables Market to Limit. MTL send a Market order with the condition that on a partial fill, the remaining quantity rests as a Limit order at the price that was just hit or taken. Available on TOCOM, SGX, and OSE (J-Gate).
LTM (Limit To Market On Close)	Enables Limit to Market. LTM sets a limit order where any unfilled portion converts to a market order at the close.
BL	Enables Best Limit. BL lets you join the best bid or offer without entering a price. Available on TOCOM.

OCO	Description
Bracket	Indicates the OCO strategy in use. Strategies are designed to accomplish specific goals. A Bracket applied to a current Long position is intended to exit the position at either a profit or a protective stop. Hence both orders must be Sell orders: • **Bracket:** First OCO order is Limit. Second OCO order is Stop Limit or Stop Market. Both orders must be on same side of market. (i.e., 2 Buys or 2 Sells) • **Breakout:** Both OCO orders can be Stop Limit or Stop Market. Both orders must be on opposite sides of market. (i.e., 1 Buy and 1 Sell) • **Custom:** Both OCO orders can be Limit, Stop Limit or Stop Market. No restrictions other than check for invalid price levels by order type.
Type of Order 1 Type of Order 2	Sets the order type the two orders in an OCO relationship follow. When one of the orders executes, the other cancels. **Note:** If your OCO gets partially filled, the second order is reduced by the quantity the first order was filled.

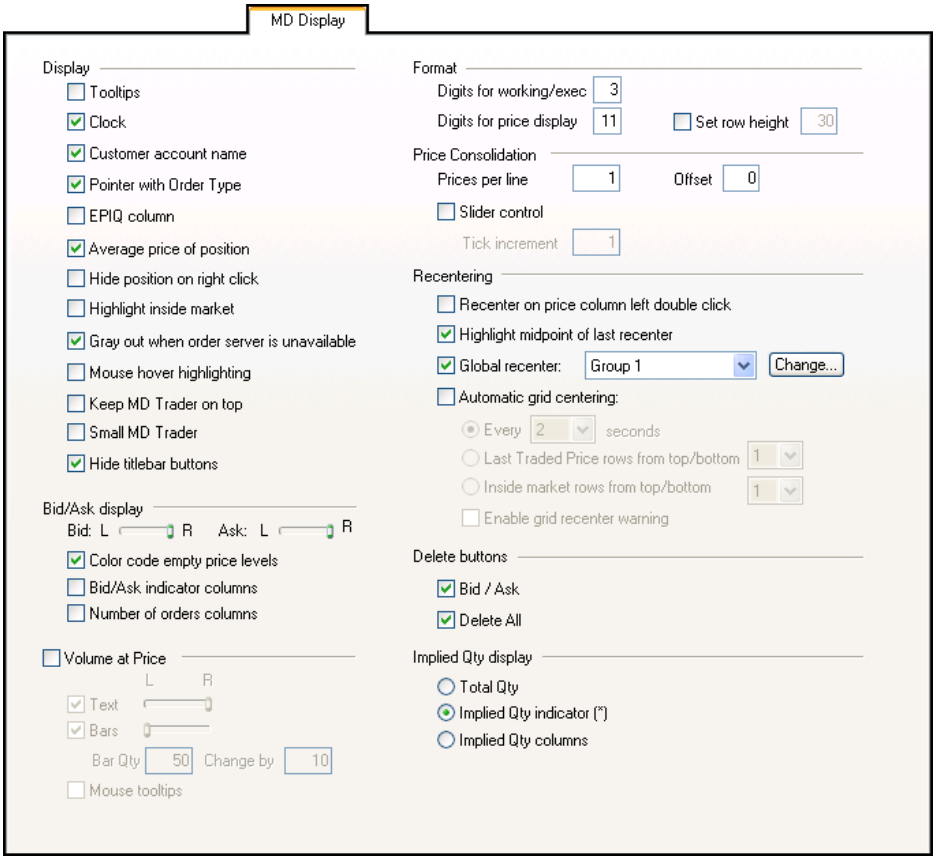
BrokerTec	Description
Passive	Sends orders which can only be filled by an Aggressive order.

TradeSounds Properties Button	Description
TradeSounds Properties	Opens the **TradeSounds Properties** dialog box. Refer to **Managing TradeSounds** on page 135.

MD Display Tab

Use the **MD Display** tab to customize the appearance of MD Trader.

Note: When accessed via the context menu, the **Set as Global Default** checkbox at the bottom of the tab applies these properties to all subsequently opened **MD Trader** windows.



Display	Description
Tooltips	Displays a popup tip when you hover the cursor over select fields.
Clock	Displays the system clock.
Customer account name	Displays the **Customer List** box.
Pointer with Order Type	Controls whether or not the cursor displays the bold, yellow custom pointer for the selected order type.
EPIQ Column	Displays the Estimated Position in Queue (EPIQ) columns to the left of the bid order column.
Average price of position	Highlights the average open price long and short in the **Price** column. **Note:** Rounds longs up and shorts down.
Hide position on right click	Lets you hide your position with a right-click on the position field. Right-click again to show your position. Disabled by default.

Display	Description
Highlight inside market	Highlights the best bid and best ask. Grays out when the order server is down. Disabled by default.
Gray out when order server is unavailable	Turns MD Trader gray when the order server is unavailable. Enabled by default.
Mouse over highlighting	Highlights the cell as your cursor rolls over it so you can identify where it is. You can customize the highlighting color in the **MD Color** tab.
Keep MD Trader on top	Displays MD Trader on top of other applications.
Small MD Trader	Shrinks window to maximize your desktop space. Disabled by default. **Hide Titlebar Buttons**: Hides the zoom buttons that normally display in the titlebar. Enabled by default.
Hide titlebar buttons	Hides the zoom buttons in the titlebar so product names can be easily read.

Bid/Ask Display	Description
Bid	Aligns the text in the **Buy** column to the right or left.
Ask	Aligns the text in the **Sell** column to the right or left.
Color code empty price levels	Keeps bid and ask column colors even if they have not traded.
Bid/Ask indicator column	Displays the **Bid Indicator** column and **Ask Indicator** column, used for pasting Excel links.
Number of orders columns	Displays the number of orders associated with each reported market depth quantity.

Volume at Price	Description
Volume at Price	Enables the view of traded contracts in the **Last Traded Quantity** column.
Text	Displays total volume at price in numbers. The slide bar to the right sets the text alignment.
Bars	Displays total volume at price in bar chart format. The slider bar to the right sets the bar alignment. **Bar Qty**: Sets the number of contracts each bar represents: • A lower number increases the number of bars displayed when several trades have occurred at that price. • A higher number decreases the number of bars displayed when several trades have occurred at that price. **Change By**: Sets the number that the **Bar Qty** changes when you press CTRL and the ARROW RIGHT or ARROW LEFT keys. • The CTRL and ARROW RIGHT combination decreases the **Bar Qty** by the value you type in this box. • The CTRL and ARROW LEFT combination increases the **Bar Qty** by the value you type in this box. Using these shortcuts, you can adjust the bar size while trading without reentering the **MD Display** tab.
Mouse tooltips	Displays total volume at price as text when you hover the mouse over the particular cell in the **Last Traded Quantity** column.

Volume at Price Notes:

- MD Trader generates and displays approximate values. They are not guaranteed to be the exact trading volumes for any given trading period.
- Incorrect or under-reported actual volume may occur due to price consolidations at the exchange or Gateway levels.

Format	Description
Digits for working/exec	Sets the number of spaces between the letters and numbers in the working order quantity column. Maximum number is 11.
Digits for price display	Sets the number of digits displayed in the price column. Right side digits are truncated. Maximum number is 11.
Set row height	Sets the height of each row in pixels.

Price Consolidation	Description
Prices per line	Sets the number of rows to condense when consolidating prices. (Refer to **Consolidating Prices** on page 371) **Note**: You can also consolidate prices using the Price Consolidation slider. See the **Slider Control** property.

Price Consolidation	Description
Offset	Sets the offset to use when consolidating rows. **Example:** A product ticks 10, 11, 12, 13, 14, 15, but you consolidate it to show 10, 15, 20, 25, 30. If you then want to show 12, 17, 22, 27, 32, you need an offset of 2.
Slider control	Shows a slider control that consolidate prices by the number of ticks set in the **Tick Increment** property.
Tick increment	Sets the number of ticks the **Price** column consolidates for each movement of the slider control.

Recentering	Description
Note: These properties work independently of the **Automatic Grid Centering** property on this tab.	
Recenter on price column left double click	Double-click the **Price** column to recenter the MD Trader grid.
Highlight midpoint of last recenter	Bolds dividing line between the best bid and best ask.
Global recenter	**Note:** This property enables by default. New and existing workspaces are automatically affected by the property. Recenters all **MD Trader** windows when you recenter one. You can disable this property for individual windows.

Automatic Grid Centering	Description
Automatic grid centering	Enables MD Trader to automatically recenter itself based upon the parameters you set.
Every *X* seconds	Sets the number of seconds before MD Trader automatically recenters.
Last Traded Price within *X* rows from top/bottom	Recenters when the last traded price is a set number of rows from the top or bottom of the grid.
Inside Market Within *X* rows from top/bottom	Recenters when the inside market is a set number of rows from the top or bottom of the grid.
Enable grid recenter warning	Flashes MD Trader before it recenters.

Automatic Grid Centering Notes:

- This feature works independently of the **Recentering** section on this tab.
- When MD Trader recenters, it recenters the window within the current view.

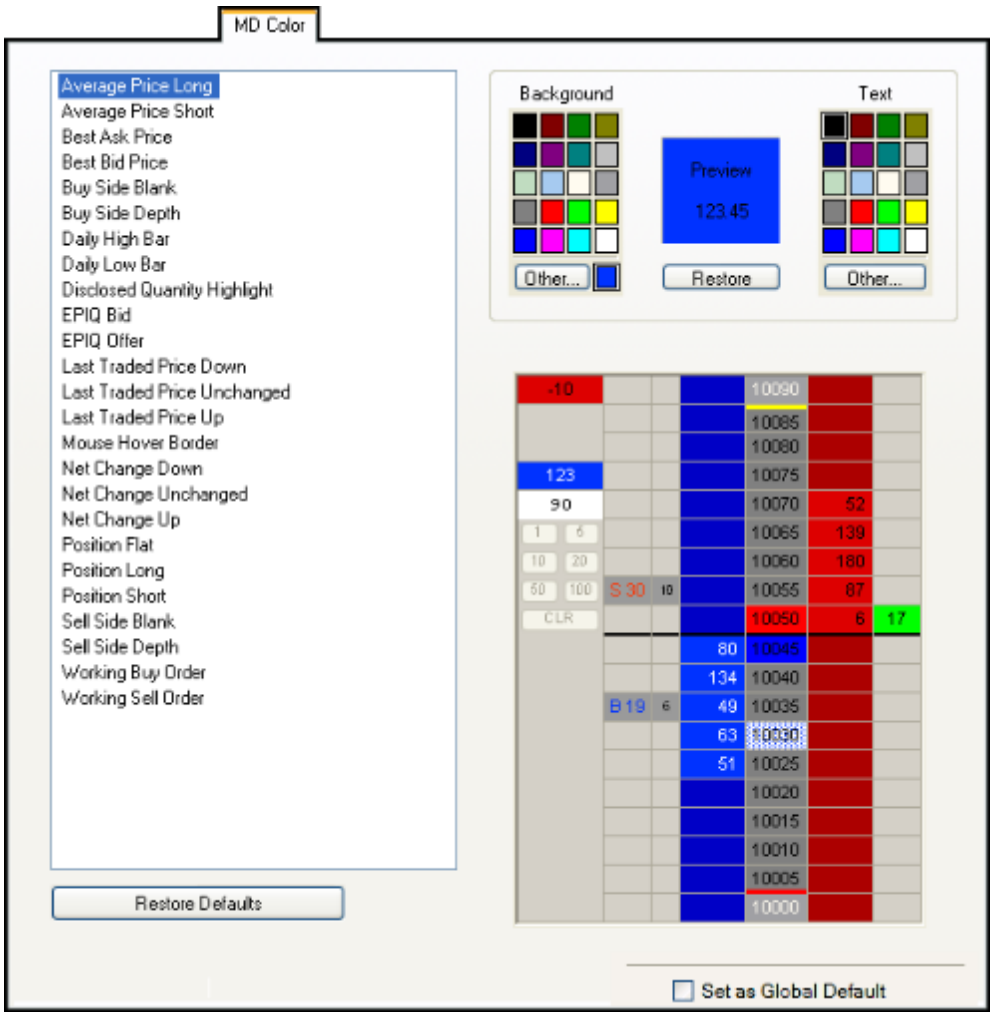
Delete Buttons	Description
Bid/Ask	Displays separate delete buttons for your working bids and offers.
Delete All	Displays a delete all button for clearing both your working bids and offers.

Implied Quantity Display	Description
This property lets you choose how the quantity of the ¼ 32nd price displays when it is available.	
Total Qty	Displays entire quantity at the correct tradable price, rounding bids down and offers up.
Implied Qty indicator (*)	Displays the entire quantity, rounding bids down and offers up, with an asterisk (*) next to the closest price. Enabled by default.
Implied Qty columns	Creates secondary bid and offer columns to display the quantity based on implieds. These columns display in the same color as **Bid** and **Ask** columns, but display the better quantity in a smaller font.

MD Color Tab

Use the **MD Color** tab to customize your colors for MD Trader. To change your color options, refer to **Changing Global Colors of Windows or Text** on page 124.

Note: When accessed via the context menu, the **Set as Global Default** checkbox at the bottom of the tab applies these properties to all subsequently opened **MD Trader** windows.



Average Price	Default Colors
Average Price Long	Blue with black text
Average Price Short	Red with black text

Best Ask or Bid	Default Colors
Best Ask Price	Red with black text
Best Bid Price	Blue with black text

Buy Side	Default Colors
Buy Side Blank	Dark Blue

Buy Side	Default Colors
Buy Side Depth	Blue

Daily High and Low	Default Colors
Daily High Bar	Yellow
Daily Low Bar	Red

Disclosed Quantity Highlight	Default Colors
Disclosed Quantity Highlight	Black

EPIQ	Default Colors
EPIQ Bid	Dark gray with black text
EPIQ Offer	Dark gray with black text

Last Traded Price	Default Colors
Last Traded Price Down	Red with black text
Last Traded Price Unchanged	White with black text
Last Traded Price Up	Green with black text

Mouse Hover Highlight	Default Colors
Mouse Hovering Border	White

Net Change	Default Colors
Net Change Down Background	Red with black text
Net Change Unchanged Background	White with black text
Net Change Up Background	Green with black text

Position	Default Colors
Position Flat	White with black text
Position Long	Blue with white text
Position Short	Red with black text

Sell Side	Default Colors
Sell Side Blank	Dark Red
Sell Side Depth	Red with black text

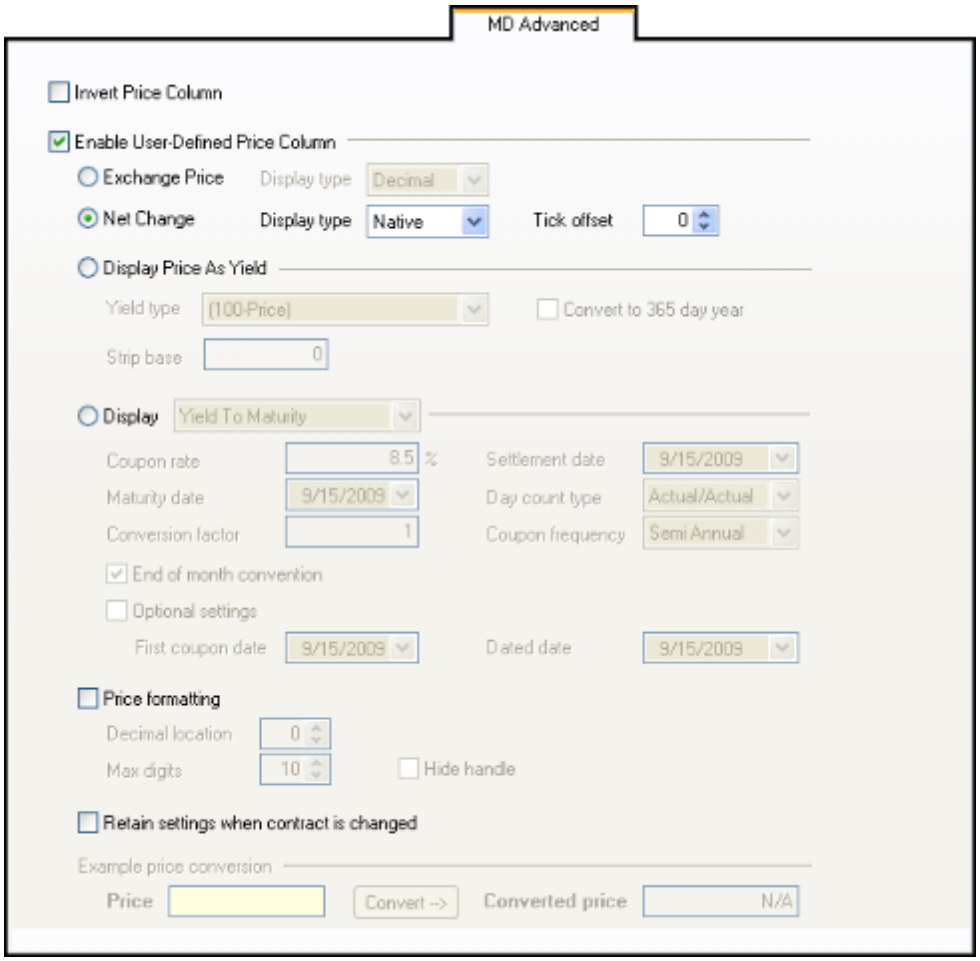
Working Orders	Default Colors
Working Buy Order	Dark Gray with blue text
Working Sell Order	Dark Gray with red text

Restore Defaults Button	Description
Restore Defaults	Changes the color selections to what they were on first install

MD Advanced Tab

Use the **MD Advanced** tab to enable and define the User-Defined Price (UDP) column. This column appears to the left of the standard price column and can be set to show the **Net Change, Price As Yield**, or **Yield-To-Maturity** for a given contract.

Note: When accessed via the context menu, the **Set as Global Default** checkbox at the bottom of the tab applies these properties to all subsequently opened **MD Trader** windows.



Invert Price Column	Description
Invert Price Column	The **Invert price column** checkbox lets you invert the entire MD Trader price column, placing the low price at the top and the high price on the bottom. Additionally, your Buy orders will be on top of the chart, and your Sell orders will be on the bottom. This property does not affect the direction of prices displayed in attached Time and Sales.

Enable User-Defined Price Column	Description
Enable User-Defined Price Column	Lets you create and define a new price column.

Exchange Price	Description
Exchange Price	The **Exchange Price** radio button lets you further customize a user-defined price column, which appears next to the normal MD Trader price column. A user-defined price column lets you display the contract price in a way that appeals to you. • **Native** (default selection): Creates a copy of the normal MD Trader price column, which displays prices in their native format. You can use this option in conjunction with other options, like the **Price formatting** section to differentiate the price. • **Decimal**: Displays the native prices formatted as their decimal equivalent. • **Ticks**: Displays each price as the equivalent number of ticks from the inside market. • **1 / Price**: Displays the price as a decimal value 1 divided by the decimal equivalent of the price. The **Price formatting** section further customizes the price. **Note**: This property will create a user-defined price column that is in ascending order, rather than descending order. You can use the **Invert Price column** setting to flip MD Trader so this column appears in descending order.

Net Change	Description
Net Change	Displays the price of the contract minus the settlement price. **Display Type**: Defines how the price is formatted. • Native • Ticks • Decimals **Tick Offset**: Adds value to the Net Change price. (-999 to 999 ticks)

Display Price As Yield	Description
Display Price As Yield	Displays price as a percentage representing annual rate of return. **Yield Type**: • **No Conv**: The instrument price is in yield. Conversion not necessary. • **(100-Price)**: The yield is calculated by subtracting the instrument price from 100. Calculation for the Euribor. • **((10000-Price)/100)**: The yield is calculated by subtracting the instrument price from 10000 and dividing the result by 100. Calculation for the Eurodollar. • **(((10000-(Price+Strip Base))/100)**: Eurodollar Strip type yield, a base (settlement) is added to the instrument price before the Eurodollar conversion. Calculation for the exchange traded Strip, Pack or Bundle.

Display Price As Yield	Description
	• **((100000-Price)/1000):** 30 Day Fed Fund. The yield is calculated by subtracting the instrument price from 100000 and dividing the result by 1000. **Convert to 365 day year:** Converts 360 days to 365 days. **Strip base:** Average settlement price of the contracts in an exchange traded Strip, Pack or Bundle. The Strip Base is added to the instrument price before the conversion.

Display	Description
Display	Options for this field include: • **Yield-To-Maturity:** Displays price based on the rate of return if held until the maturity date. An algorithm calculates the price accurate to six decimal places. **Note:** When you are trading BrokerTec products, the coupon rate, maturity date, and settlement date are provided for you as of BrokerTec Gateway 7.13. • **Custom Pricing Model:** A pricing model you created and activated.
All other fields are required unless otherwise noted.	
Coupon rate	Annual interest rate (as a decimal). Must be greater than 0.1 and less than 100.00 and accurate to 4 digits.
Maturity Date	The date of the bond. Must be greater than the settlement date and greater than today.
Conversion factor	(Not required): The factor by which the futures price will be multiplied if the specified bond is delivered against it. Must be greater than 0.1 and less than 5.0 and accurate to 4 digits. (Must be specified if yield is being calculated for a future)
Settlement Date	The date the contract settles. Must be less than the maturity date and greater than today.
Day count type	The convention used for counting the days between two dates. Where the values mean: • **Actual:** The real number of days between two dates. Leap year counts for 366 days. • **360:** The year has 360 days. • **365:** The year has 365 days. • **30:** If the second date falls on the 31st of the month it is changed to the 30th only if the first date falls on the 30th or 31st. • **30E:** If the second date falls on the 31st of the month it is always changed to the 30th.
Coupon frequency	Number of coupons per year. (Annual, Semi-Annual, Quarterly, Monthly)
End of month convention	Determines whether coupon payments always occur on the last day of the month if the settlement date falls on the last day of the month.

Display	Description
Optional Settings	The following settings must be specified if the bond has an odd first coupon period and the settlement date falls within this odd first coupon period. Otherwise, these settings can be set as needed: • **First coupon date:** The first real coupon date. Must be less than the maturity date and be a valid coupon date. • **Dated date:** The date upon which interest accrual begins. Must be less than the first coupon date.

Price formatting	Description
Price formatting	Customizes the price format. Watch the **Converted price** field to see how your changes affect the price. • **Decimal location:** Moves the decimal place one spot to the left or right, depending on the price. • **Max digits:** Determines the maximum number of digits to show. • **Hide handle:** Hides the whole number in front of the decimal.

Retain settings when contract is changed	Description
Retain settings when contract is changed	Retains new price column settings when you drag a new contract onto this window.

Example price conversion	Description
Example price conversion	Lets you view the converted price based on the parameters that you select above. For this to work, you must first open MD Trader with a contract.

Auto Centering in MD Trader

When enabled, the auto-centering feature available in MD Trader automatically centers the grid display.

Note: This feature works independently of the **Participate in Global Recentering** property. Refer to **MD Display Tab** on page 359 for more information.

To set automatic grid centering:

1. Open MD Trader.
2. Right-click anywhere in MD Trader and click **Properties**.
3. Click the **MD Display** tab.
4. Click to select the **Automatic Grid Centering** option.
5. Choose the option that determines when MD Trader recenters:
   - Every _ seconds
   - Last Traded Price Within _ rows from top/bottom
   - Inside Market Within _ rows from the top/bottom
6. If you want MD Trader to flash prior to recentering, click to select the **Enable Grid Recenter Warning**.
7. To set this property for all subsequently opened **MD Trader** windows, click to select **Set as Global Default**.
8. Click **OK**.

You successfully set Auto Grid Centering.

Average Price Highlighting

When enabled, the average price highlighting feature automatically displays the average open price short and long. Enabled by default.

The average open price short highlights **bold blue**, while average open price long highlights **bold red**.

Note: MD Trader average price rounds longs up and shorts down.

To set average price highlighting:

1. Open MD Trader.
2. Right-click anywhere in MD Trader and click **Properties**.
3. Click the **MD Display** tab.
4. Click to select the **Display Average Price of Position** option.
5. To set this property for all subsequently opened **MD Trader** windows, click to select **Set as Global Default**.
6. Click **OK**.

You successfully set Average Price Highlighting.

Consolidating Prices

Price consolidation condenses the display of price information in the static price column. This lets you view a greater range of prices without clouding the total quantity available.

You can configure price consolidation to select an offset and an order distribution method (join the bid or offer) that enters orders for the consolidated price rows.

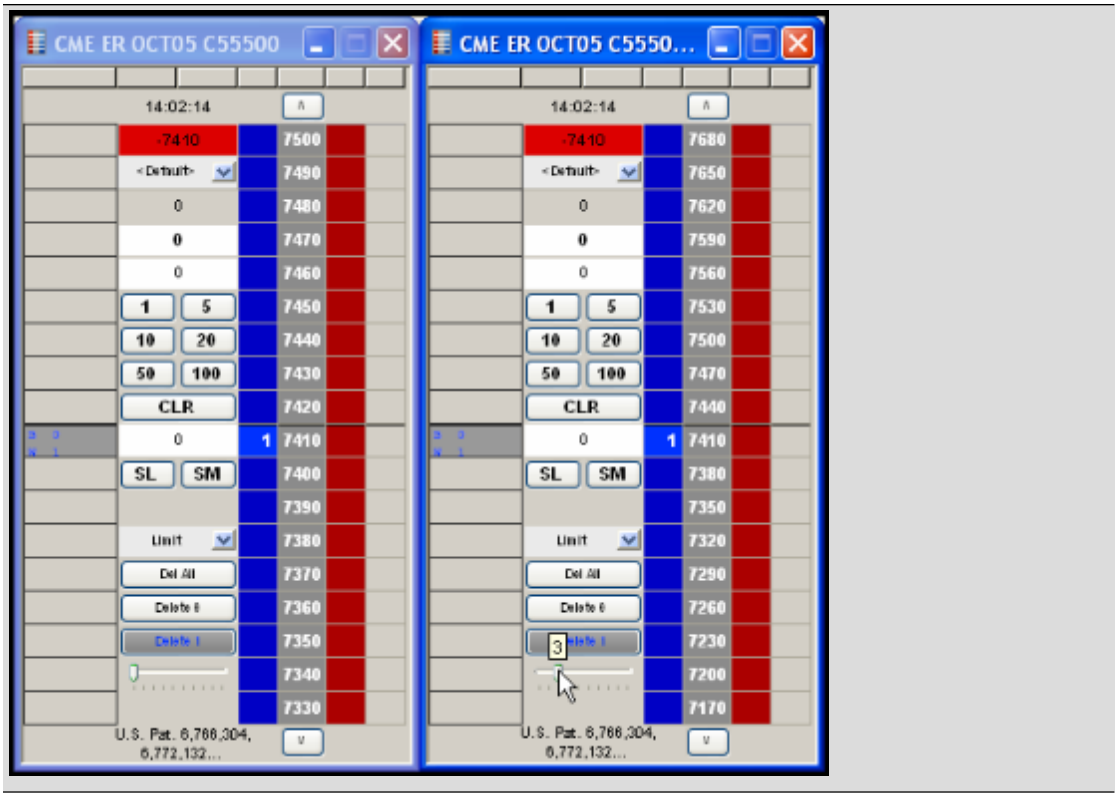
To consolidate your prices:

1. Open MD Trader.
2. Right-click anywhere in MD Trader and click **Properties**.
3. Click the **MD Display** tab.
4. In the **Price Consolidation** section, type in the **# Prices per line** and **Offset**.
5. If you want to see the slider, click the **Show Slider Control Increment** and type in how many ticks each increment stands for.
6. To set for all subsequently opened **MD Trader** windows, click to select **Set as default**.
7. Click **OK**.

You successfully consolidated your prices.

Example:

The right **MD Trader** window in the following screen shot displays a consolidated price with the increment moved to 3.

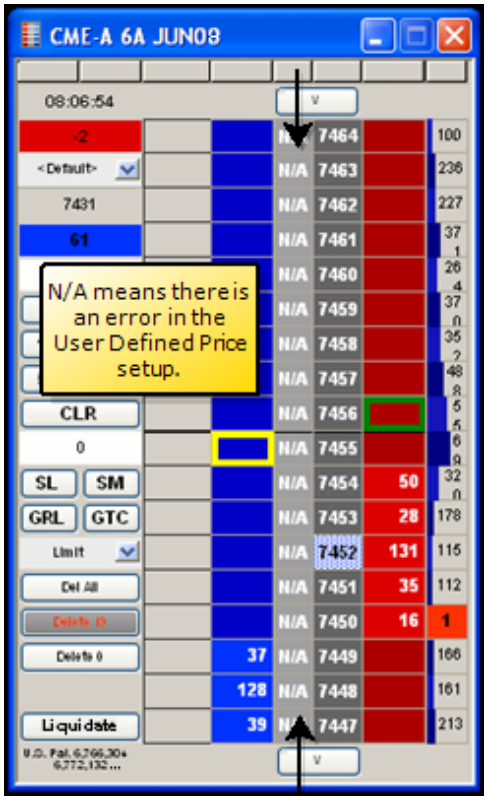


Note: MD Trader is protected by U.S. Patents Numbers 6,766,304 and 6,772,132.

Creating a User-Defined Price Column

You can create a User-Defined Price (UDP) column in MD Trader using the **MD Advanced** tab. This column appears to the left of the standard price column and can be set to show the **Net Change**, **Price As Yield**, **Yield-To-Maturity**, or a custom pricing model for a given contract.

In the following example, the Net Change is shown in decimals.



For help creating the User-Defined Price column, see the **MD Advanced Tab** on page 366.

Note: When you enable both **Price Consolidation** (on the **MD Display** tab) and the **Enable User-Defined Price Column** (on the **MD Advanced** tab), the prices consolidate first. The consolidated price is then used to perform any calculations.

Invalid Calculations in the UDP

Because the **Display Yield-To-Maturity** setting is based on an algorithm, N/A values can appear in the User-Defined Price column. This occurs when you set inaccurate values in the property's parameters for a given contract.

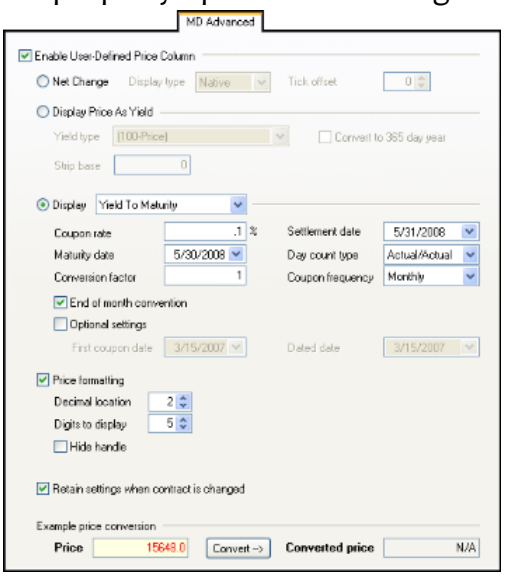


Fig 1. MD Advanced tab

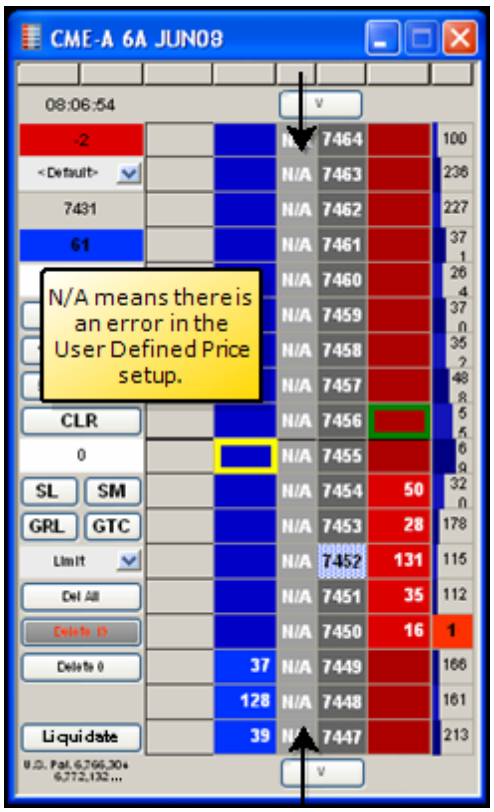


Fig. 2 New User-Defined Price Column

Displaying a Small MD Trader

Follow these procedures to display a smaller MD Trader.

- Displaying a small MD Trader using the **Properties** menu
- Displaying a small MD Trader using the context menu

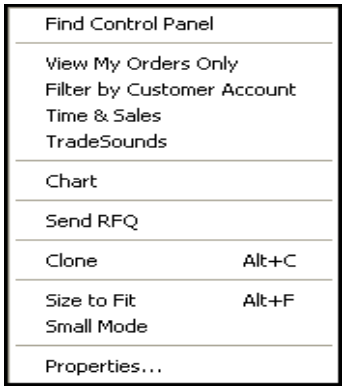
To display a small MD Trader using the Properties menu:

1. Right-click MD Trader and click **Properties**.
2. Click the **MD Display** tab.
3. Click to select the **Use Small MD Trader as Default** option.
4. To set this property for all subsequently opened **MD Trader** windows, click to select **Set as Global Default**.
5. Click **OK**.

You successfully displayed a small MD Trader.

To display a small MD Trader using the context menu:

1. Open MD Trader.
2. Right-click to access the context menu.



3. Click **Small Mode**.

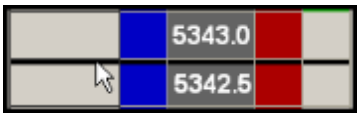
You successfully displayed a small MD Trader.

Titlebar Buttons

The **Zoom** and **Market Explorer** buttons do not automatically display in this smaller version of the window. This lets you view the product and contract in the MD Trader titlebar. If you want to view the titlebar buttons, go to the **MD Display** tab on the **Properties** menu and disable the **Hide Titlebar Buttons** property. Alternatively, you can use the **Show/Hide Titlebar Buttons** option on the context menu to show or hide the titlebar buttons for that particular MD Trader.

Displaying the Mid-Point of Inside Market

To make it easier to identify the mid-point of the inside market, MD Trader places a bold line across the width of its grid (see the cursor below).



Here are some rules for mid-point placement:

- The mid-point line appears midway between the best bid and best offer in the market.
- If there is a one-sided market the mid-point line appears directly above or below the best bid or offer in the market, respectively.
- If there is no market, then the line appears at the last trade price.
- If the number of price rows (or ticks) between the best bid and best offer is an odd number, then the mid-point line appears in the upper cell of the middle value.
- If the number of price rows is an even value (or zero), then the mid-point appears between the middle values.

▶ **To display the mid-point of the inside market:**

1. Open MD Trader.
2. Right-click anywhere in MD Trader and click **Properties**.
3. Click the **MD Display** tab.
4. Click to select the **Highlight Midpoint of Last Recenter** option.
5. To set for all subsequently opened **MD Trader** windows, click to select **Set as Global Default**.
6. Click **OK**.

You successfully displayed the mid-point of the inside market.

Keeping MD Trader on Top

MD Trader has a property in the **MD Display** tab that serves to keep the MD Trader always on top of other X_TRADER windows on the desktop.

▶ **To enable the on top feature:**

1. Open MD Trader.
2. Right-click anywhere in MD Trader and click **Properties**.
3. Click the **MD Display** tab.
4. Click to select the **Keep MD Trader on Top** option.

5. To set for all subsequently opened **MD Trader** windows, click to select **Set as Global Default**.
6. Click **OK**.

You successfully enabled the on top feature.

One-Click Trading with MD Trader

MD Trader lets you buy or sell products using one click of the mouse. It offers a trader the ability to one-click trade across the depth of a market for either a buy or sell order. The grid format dynamically displays the market depth for a given product, and lets you enter orders quickly by simply clicking in specific cells of the grid.

Follow these procedures to use one-click trading with MD Trader:

- Setting one-click trading
- Using one-click trading with MD Trader

▶ To set one-click trading:

1. Open MD Trader.
2. Right-click anywhere in MD Trader and click **Properties**.
3. In the **Order Parameter** section, enter a Maximum Order Quantity.
4. To set this property for all subsequently opened **MD Trader** windows, click to select **Set as Global Default**.
5. Click **OK**.

You successfully set one-click trading.

▶ To use one-click trading with MD Trader:

1. Set one-click trading.
2. Open MD Trader.
3. Select a customer profile.
4. Enter an order quantity.
5. Refer to the tables below to perform one-click trading:

Left-click in the Buy or Ask columns

Immediately sends a buy or sell order to the market. The quantity field dictates the quantity for the order. The row you click dictates the price.

To...	Left-click...	Market Result...
Buy	The **Buy** column.	If the cell does not have bid quantities and the adjacent **Sell** column has offer quantities, you are lifting the ask. If the cell has bid quantities, you are joining the bid.

To...	Left-click...	Market Result...
Sell	The **Sell** column.	If the cell does not have offer quantities and the adjacent **Buy** column has bid quantities, you are hitting the bid. If the cell has offer quantities, you are joining offer.

Right-click in the Buy or Ask columns

Immediately sends a sweeping buy or sell order to the market. The row you click dictates the price.

To...	Right-click...	Market Result...
Buy	The **Buy** column.	Sends in a buy for as many contracts as exist from the best ask price up to that price level.
Sell	The **Sell** column.	Sends in a sell for as many contracts as exist from the best bid price down to that price level.

If you right-click a cell populated with either a bid or offer, no orders are placed.

You successfully used one-click trading with MD Trader.

Placing Stop Orders

MD Trader supports the Stop Market and Limit order types. In the case of the Stop Limit order, you also set the number of ticks from the stop entry price. Enable Stop orders in the **MD Trading** tab.

Follow these procedures to place Stop orders in MD Trader:

- Enabling the Stop Market feature
- Enabling the Stop Limit feature
- Setting a Stop Market Order
- Setting a Stop Limit Order

▶ **To enable the Stop Market feature:**

1. Right-click in the **MD Trader** window to open the context menu and click **Properties**.
2. Click the **MD Trading** tab.
3. In the **Enable Order Types** section, click to select the **Stop Market Orders** option.
4. To set for all subsequently opened **MD Trader** windows, click to select **Set as Global Default**.
5. Click **OK** to return to MD Trader.

   A button labeled **SM** appears in MD Trader.

You successfully enabled the Stop Market feature.

To enable the Stop Limit feature:

1. To enable the Stop Limit feature locally, right-click in the **MD Trader** window to open the context menu and click **Properties**.
2. Click the **MD Trading** tab.
3. In the **Enable Order Types** section, click to select the **Stop Limit Orders** option.
4. If you want to set the stop limit price a set number of ticks from the stop entry price, type the number of ticks in the **Set Stop Limit Price** field.
5. To set for all subsequently opened **MD Trader** window, click to select **Set as Global Default**.
6. Click **OK** to return to MD Trader.

   A button labeled **SL** appears on MD Trader.

You successfully enabled the Stop Limit feature.

To set a stop market order:

1. Select a quantity to go into the market.
2. Click the **SM** button in MD Trader.

   The cursor and **SL** button turns yellow.

3. Move the yellow cursor to the price **Buy** or **Sell** column opposite the tick value where you want to put the stop.
4. Click the mouse button.

   The stop is placed and indicated in the **Working Quantity** column as a stop.

You successfully set a stop market order.

To set a stop limit order:

1. Select a quantity to go into the market.
2. Click the **SL** button in MD Trader.

   The cursor and **SL** button turns yellow.

3. Move the yellow cursor to the price **Buy** or **Sell** column opposite the tick value where you want to put the stop.
4. Click the mouse button.

   The stop is placed and indicated in the **Working Quantity** column as a stop.

You successfully set a stop limit order.

Setting the Maximum Trade Quantity

In MD Trader you must set a value in the **Maximum order quantity** property on the **MD Trading** tab before you trade. This quantity prevents you from entering an order larger than your limit. For example, if the maximum trade quantity is 50, you are not permitted to sweep the market with an order quantity of 300.

Note: The following are exceptions to the maximum trade quantity setting:

- Enabling Liquidate
- Restrictions established by Guardian

To set the maximum trade quantity:

1. Open MD Trader.
2. Right-click anywhere in MD Trader and click **Properties**.
3. In the **Order Parameter** section, type a maximum order quantity.
4. To set this property for all subsequently opened **MD Trader** windows, click to select **Set as Global Default**.
5. Click **OK**.

You successfully set the maximum trade quantity.

Liquidating a Position

The Liquidate feature lets you flatten your position. Before MD Trader submits an offsetting order, it sends delete requests for all working orders for that contract. You need to send a second liquidate request if an existing working order fills. You can liquidate a position using a Limit order or a Market order.

If you choose to liquidate using a Limit order, MD Trader determines your position (long or short) and calculates the ticks to skew off the inside market price at which your position is flattened. If long, it evaluates the bid price. If short, it evaluates the ask price.

Assigning a specific number of ticks to skew ensures your order, once entered, (not necessarily executed) is only a pre-determined distance from the inside market. When you click the **Liquidate** button, you enter a Limit order based on the current price. If the market moves and the offsetting price is not available, your limit order remains working at the price you entered it.

Follow these procedures to liquidate a position:

- Setting the liquidate method locally
- Liquidating a position using the mouse
- Liquidating a position using the keyboard

To set the liquidate method:

1. Open MD Trader.
2. Right-click anywhere in MD Trader and click **Properties**.
3. In the **Liquidate** section, choose your method:
   - Using LIMIT Order <n#> of ticks to skew
   - Using MARKET Order
4. To set this property for all subsequently opened **MD Trader** windows, click to select **Set as Global Default**.
5. Click **OK**.

You successfully set the Liquidate method.

To liquidate a position using your mouse:

1. Set your liquidate method locally or globally.
2. Click the **Liquidate** button in MD Trader.

   Before sending the offsetting order, MD Trader sends delete requests for all working orders for that contract. MD Trader then sends an order that allows you to liquidate your position regardless of your credit limit.

You successfully liquidated a position using the mouse.

- Liquidating a position using the keyboard

To liquidate a position using the keyboard:

1. Set your liquidate method locally or globally.
2. Press the `Shift+T` key.

   Before sending the offsetting order, MD Trader sends delete requests for all working orders for that contract. MD Trader then sends an order that allows you to liquidate your position regardless of your credit limit.

You successfully liquidated a position using the keyboard.

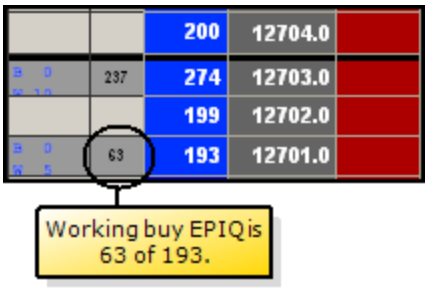
Viewing your Estimated Position in Queue

You can view your Estimated Position in Queue (EPIQ) in MD Trader and the Market Grid. EPIQ estimates how many contracts are in front of your order at any given price.

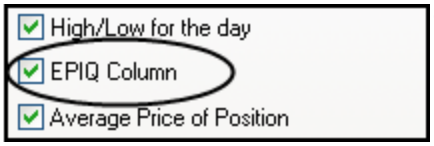
- If your EPIQ is 10, there are approximately 10 contracts ahead of your order.
- If 3 contracts trade, your EPIQ changes to 7.
- If your EPIQ is 0, your order should be the next to fill.

Note: EPIQ is not sent from the exchanges. X_TRADER calculates an EPIQ based on quantity of trades occurring in front of the order, and does not account for cancelled orders nor pro-rata allocations.

MD Trader



In MD Trader the EPIQ is a set of columns to the left of the buy quantities.



To display the EPIQ, click to select the property on the **MD Display** tab.

Color Codes

In MD Trader, the EPIQ number is color-coded to give you even more information about your order.

- By default your EPIQ number is black.
- If your order is the inside market, the color turns white.
- If your order is the first in the queue, the color turns yellow.

You can configure EPIQ colors on the **MD Color** tab.

Customizing MD Trader

To customize MD Trader, perform these procedures:

- Adding Sound
- Adding Time and Sales
- Customizing the Default Quantity Buttons
- Filtering by Customer
- Managing Links
- Moving Grid Columns
- Resizing the MD Trader Grid
- Viewing Just Your Orders
- Zooming In and Out

Adding Sound to MD Trader

If your computer is equipped with a sound card and speakers, you can set MD Trader to make sounds. There are two property windows that control the sounds you can use:

- The **Sounds** tab
- The **TradeSounds** dialog box

The **Sounds** tab controls what you hear when you left or right-click. These sounds are heard when you click on the following columns:

- Buy Side
- Sell Side
- Working Quantity
- Last Tra.ded Quantity

Other sounds associated with X_TRADER are also set on the **Sounds** tab.

The **TradeSounds** dialog box controls what you hear when trade updates come from an exchange. They are completely configurable and can be set for up to five quantity levels.

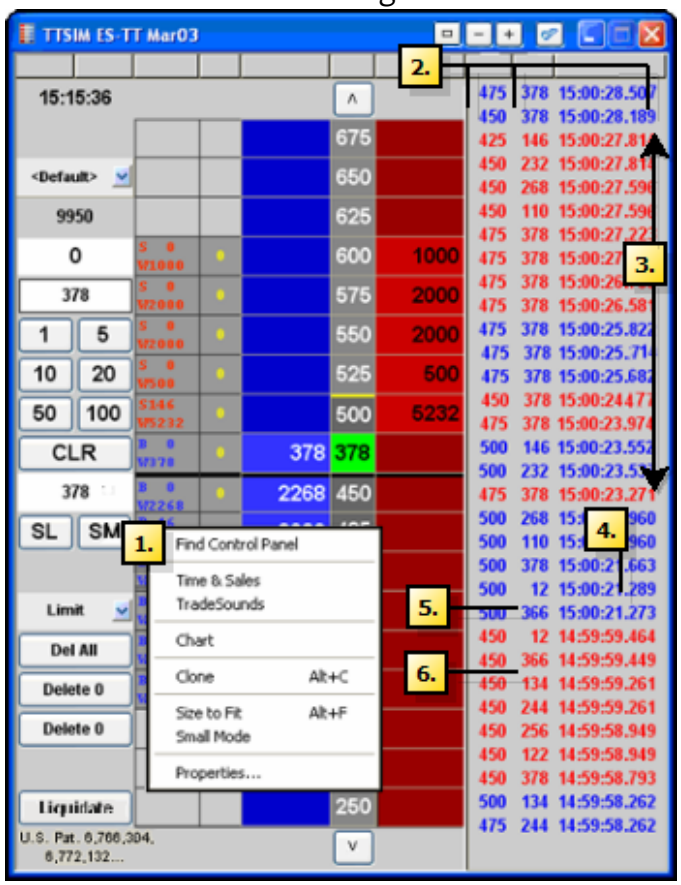
Adding Time and Sales

You can add a time and sales pane to MD Trader to show the price, quantity, time , bid member, and ask member of the latest trades. Initially, when you add time and sales, the pane is blank. However, as trades occur, the pane begins to scroll like the **Time and Sales** window, with the most recent trades at the top.

Note: The time and sales pane is not available for display in Autospreader.

Follow these procedures to use time and sales in MD Trader:

- Adding time and sales to MD Trader
- Showing the time column
- Removing time and sales from MD Trader



1. To show time and sales, select **Time & Sales** from the context menu.
2. The time and sales pane shows:price, quantity, bid member, and ask member in that order.

   Note: If supplied by the TT gateway, the counterparty members will display in the **BidMbr** and **AskMbr** columns.
3. The time column is initially hidden. (Right-click to **Show/Hide columns**.)
4. Time is to the second. (hh:mm:ss)
5. Blue text means the ask was lifted.
6. Red text means the bid was hit.

To add time and sales to MD Trader:

1. Right-click an open **MD Trader** window.
2. Click **Time & Sales**.

You successfully added time and sales to MD Trader.

To show the Time column:

1. Right-click the time and sales pane and click **Select Columns**.
2. Click to select the **Time** column.
3. Click **OK**.

You successfully shown the **Time** column.

To show the BidMbr and AskMbr columns:

1. Right-click the time and sales pane and click **Select Columns**.
2. Click to select the **BidMbr** and **AskMbr** columns.
3. Click **OK**.

You successfully shown the **BidMbr** and **AskMbr** columns.

To remove time and sales from MD Trader:

Right-click an open **MD Trader** window and deselect **Time & Sales**.

- or -

Right-click the Time and Sales pane and click **Close**.

You successfully removed time and sales from MD Trader.

Customizing the Default Quantity Buttons in MD Trader

You can customize the preset order quantity buttons in MD Trader. These buttons are stored as part of a workspace.

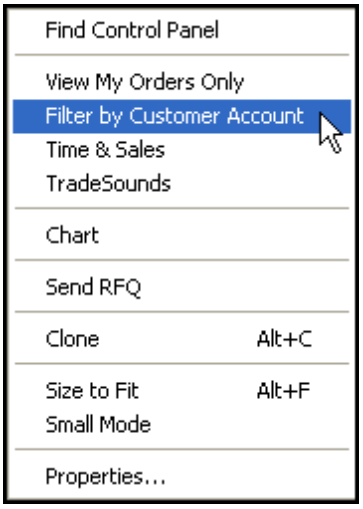
To define a custom preset order quantity:

1. Right-click the **Preset Order Quantity** button.
2. Type a value using the keyboard.
3. Press `Enter`.

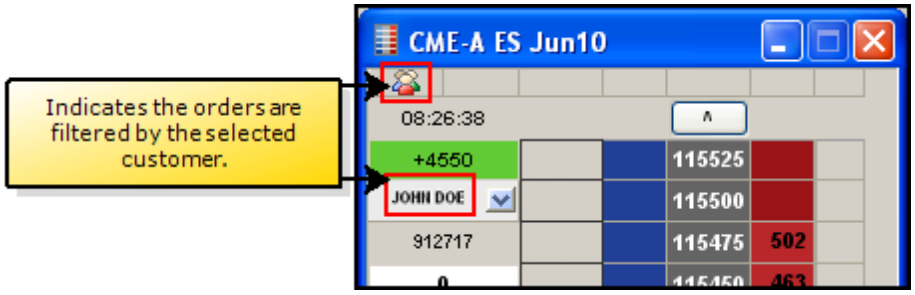
You successfully defined a custom preset order quantity.

Filtering by Customer

You can now filter orders you see in MD Trader by customer. You can do this using a new context menu option called **Filter by Customer Account.**



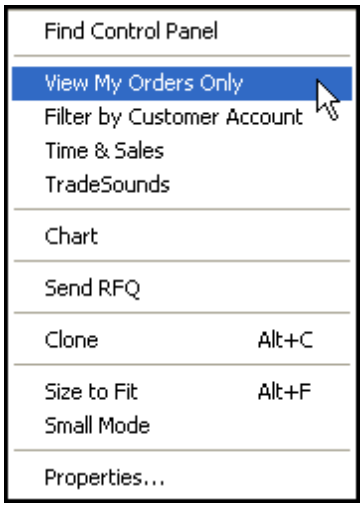
Once selected, a icon appears above the first column. This indicates you are only seeing orders specific to the customer selected in the drop-down menu.



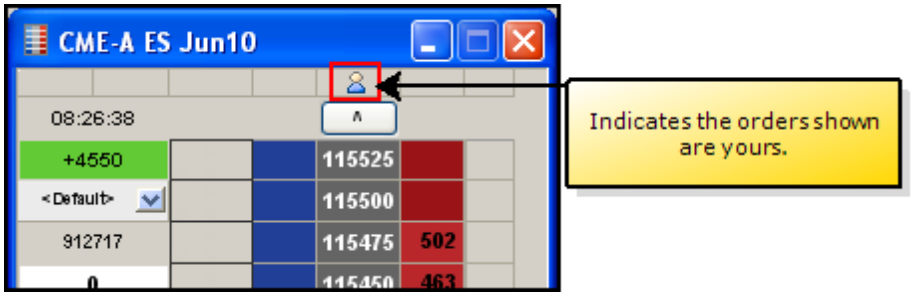
Viewing Just Your Orders

If you are trading using Multibroker or sharing an Order Book with other traders, you can now filter MD Trader to just show your orders.

You can do this using a new context menu option called **View My Orders Only**.



Once selected, a icon appears above the price column. This indicates you are only seeing your orders in MD Trader.



Moving Grid Columns

You can drag-and-drop the columns in MD Trader to a different locations in the grid.

▶ **To drag and drop columns to a different location in MD Trader:**

1. Click the top of the column you want to move.
   A box outline appears beneath the mouse pointer.
2. Click a second time and hold the mouse button on the column you want to move.
3. Move the column left or right to the desired position.
   A red line indicates where the column is moving.
4. Release the mouse button.
   The column moves to its new location.

You successfully moved columns to a different location in MD Trader.

Resizing the MD Trader Window

If you make MD Trader a smaller size using the mouse, it does not display a horizontal scroll bar and your view of the depth is cut off on the right side.

Follow these procedures to resize MD Trader and maintain full view of the depth:

- Resizing MD Trader to fit the window
- Resizing the window to fit MD Trader

To resize the window to fit MD Trader:

Right-click MD Trader to access the context menu and click **Size to Fit**.

MD Trader expands to the proper size and removes the scroll bars.

You successfully resized the grid in MD Trader.

Using the Mouse to Control the Zoom Feature

To control the zoom using the mouse wheel:

1. Hold down the `Ctrl` key on the keyboard.
2. Depress and use the mouse wheel to zoom MD Trader in or out.
3. Release the `Ctrl` key to freeze the view in its current position.

You successfully controlled the zoom.

Managing Links in MD Trader

You can create links between the MD Trader and both X_STUDY and Excel.

MD Trader accepts links in the:

- **Price column**: The values appear in the price column as laser lines. Line thickness and color properties set in X_STUDY apply to the laser line.
- **Bid/Ask Indicator columns**: The bid and ask indicator columns highlight with the color properties from X_STUDY or Excel.

Using X_STUDY, you can link the current market value of horizontal markers and technical indicators. Once linked, values in X_TRADER update in real-time as new values are generated in X_STUDY .

Using Excel links, you can indicate price points based on a proprietary algorithm. For example, you can paste the Last Traded Price for a product from X_TRADER to a spreadsheet with a proprietary formula. After the formula produces a new price value, you can paste that value into the indicator columns in MD Trader. This can help you make buy and sell decisions.

Links are retained if you hide the indicator columns. They also save with your workspaces.

Tip: Shade your cell in Excel so you can better see the results in MD Trader. This is very useful when using the laser line feature.

Refer to:

- **Creating Links from X_STUDY** on page 389
- **Creating Links from Excel** on page 390

Creating Links from X_STUDY

Follow these procedures to establish links between X_TRADER and X_STUDY.

- Creating a link from X_STUDY to X_TRADER
- Changing the color of an X_STUDY link
- Removing an X_STUDY link

To link to X_TRADER

1. In X_STUDY, right-click the horizontal marker or technical indicator you want to link.
2. Highlight **Link to X_TRADER** and click **Copy**.
3. Open the Market Grid, Autotrader, or MD Trader to paste the value.
4. Right-click in the cell area and select **Links...Paste** from the context menu.

You successfully linked to X_TRADER.

To change the color of an X_STUDY link:

1. In X_STUDY, right-click the horizontal marker or technical indicator.
2. Click **Properties**.
3. Change the **Color** property and click **OK**.

You successfully changed the color of an X_STUDY link:

To remove an X_STUDY link:

1. In X_STUDY, right-click the horizontal marker or technical indicator whose link to X_TRADER you want to remove.
2. Highlight **Link to X_TRADER** and click **Delete**.

You successfully removed an X_STUDY link.

Creating Links from Excel

Follow these procedures to manage Excel links in MD Trader:

- Displaying the indicator columns
- Pasting a link from Excel into MD Trader
- Deleting a link from MD Trader

To display the indicator columns:

1. Right-click MD Trader to open the context menu and click **Properties**.
2. Click the **MD Display** tab.
3. In the **Bid/Ask display** section, click to select **Bid indicator column** and **Ask indicator column**.
4. To set for all subsequently opened **MD Trader** windows, click to select **Set as Global Default**.
5. Click **OK**.

You successfully displayed the indicator columns.

To paste a link from Excel into MD Trader:

1. In Excel, right-click the cell you wish to copy.
2. Click **Copy**.
3. Right-click in MD Trader to access the context menu.

   The context menu appears.
4. Click **Paste Link**.

   An indicator appears opposite the price level of the pasted value.

You successfully pasted a link from Excel into MD Trader.

To delete a link from MD Trader:

1. Right-click in MD Trader to access the context menu.
2. Click **Delete Link**.

The indicator is removed.

You successfully deleted a link from MD Trader.

Using the Laser Line

When you paste a link from Excel into MD Trader, the indicator columns shade the color of the cell in Excel. This shade indicates the approximate value of the link in relation to the MD Trader **Price** column.

This functionality still exists, however it has been enhanced.

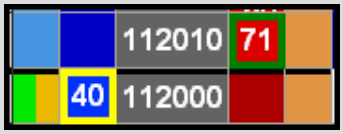
Now, when you paste a link from Excel into the price column, a laser line appears over the number in the **Price** column to indicate a realistic approximation of the value of the link created in Excel.

Example:

In Excel we have two formulas saved. The values of which have the following attributes:

- A green shaded cell has a value of 112007
- An orange shaded cell has a value of 112003

With the indicator columns shown, you paste the respective links in MD Trader, and get a green and orange shaded cell indicating values in Excel rounding down closest to 112000 in the MD Trader **Price** column.



- or -

You hide the indicator columns, paste the respective links in MD Trader, and the laser lines give direct indications of where the values in Excel are in relation to the MD Trader **Price** column.

To use the laser line indicator:

1. Create your formula or value in Excel.
2. In Excel, click the **Format** menu and choose **Cells**.
3. Click the **Pattern** tab.
4. Click the color you want to shade the cell and click **OK**.
5. Right-click the shaded cell and click **Copy**.
6. In MD Trader, if the indicator columns are shown, go to the next step.

   - or -

   In MD Trader, if the indicator columns are not shown, go Step 11.
7. Right-click MD Trader and click **Properties**.
8. Click the **MD Display** tab.

9. Click to de-select **Bid indicator column** and **Ask indicator column**.
10. Click **OK**.
11. Right-click MD Trader and click **Paste Link**.

You successfully used the laser line indicator.

Keyboard Trading in MD Trader

In addition to click-trading in MD Trader using a mouse, you can use the keyboard to make trades. Enabling keyboard trading provides an alternative for entering orders and does not disable the mouse.

Follow these procedures to manage keyboard trading:

- Enabling Keyboard Trading
- Changing Hotkeys for MD Trader

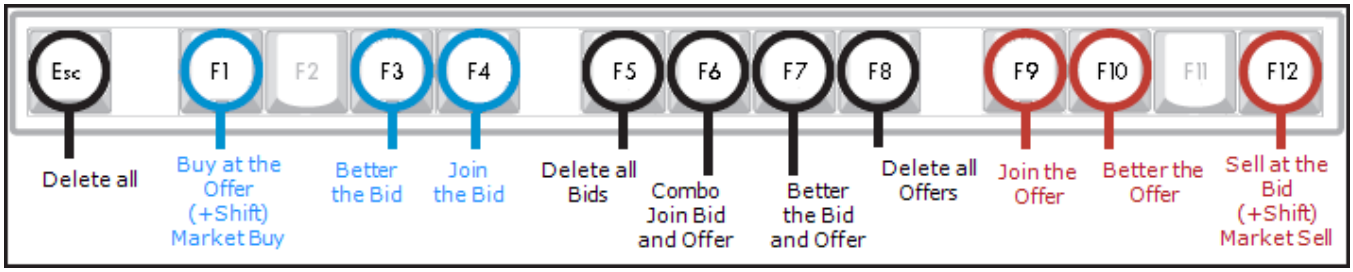
The keyboard hotkeys in MD Trader break into two categories:

- Function Hotkeys
- Main Hotkeys

Function Hotkeys

The function hotkeys consist of the `Esc` and `F` keys at the top of your keyboard.

TT Default Map

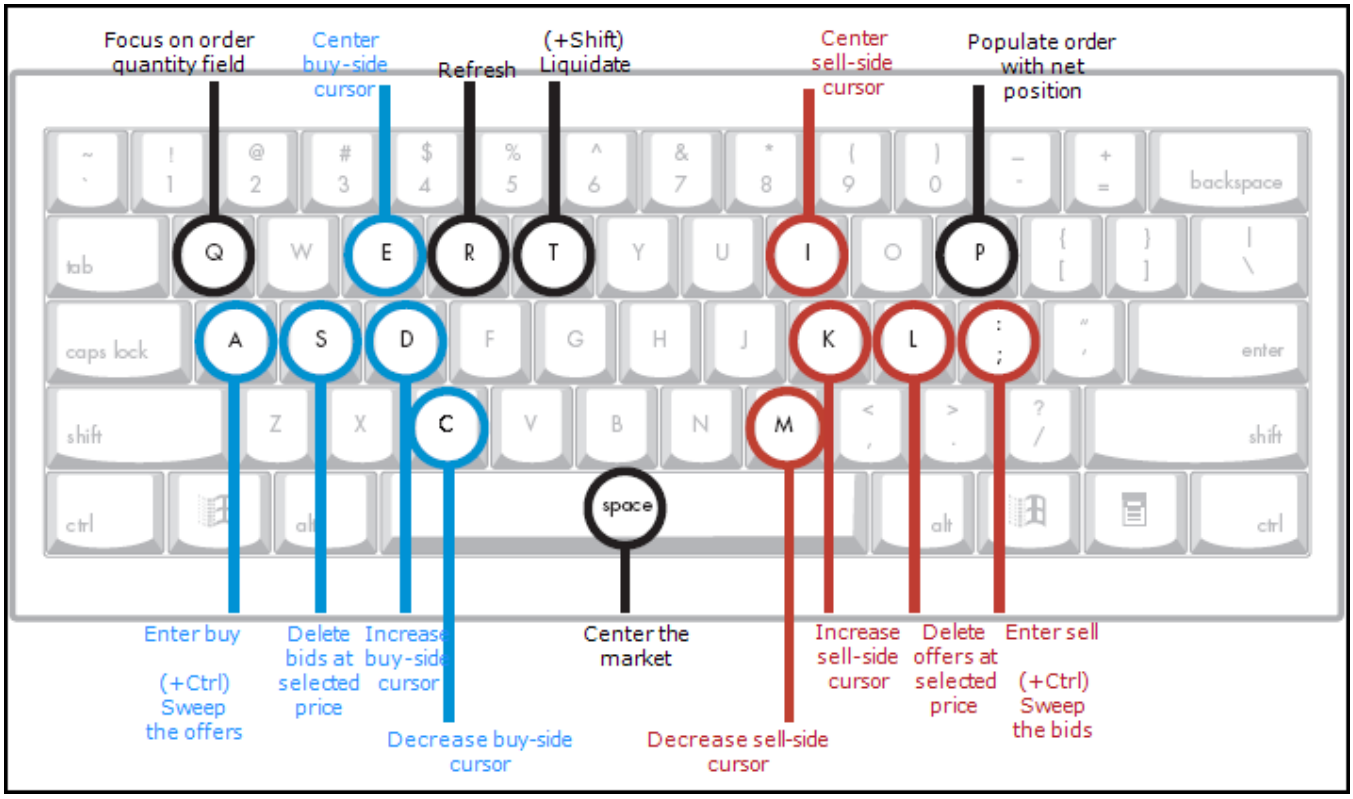


Hotkey	Command	Description
F1	Buy at the Offer	Enter buy order at best offer
Shift+F1	Market Buy	Enter market buy order
F3	Better the Bid	Enter buy order one tick above the best bid
F4	Join the Bid	Enter buy order at best bid
Esc	Delete All	Delete all working orders
F5	Delete All Bids	Delete all bids
F6	Combo Join Bid and Offer	Enter both a buy order at best bid and a sell order at best offer
F7	Better the Bid and Offer	Enter a buy order one tick above the best bid and a sell order one tick below the best offer
F8	Delete All Offers	Delete all offers
F9	Join the Offer	Enter sell order at best offer
F10	Better the Offer	Enter sell order one tick below the best offer
F12	Sell at the Bid	Enter sell order at best bid
Shift+F12	Market Sell	Enter market sell order

Main Hotkeys

The main hotkeys are in the body of your keyboard.

TT Default Map



Hotkey	Command	Description
A	Buy at Buy-Side Cursor	Enter buy order at price of buy-side cursor
S	Delete Bid(s) at Buy-Side Cursor	Delete the working order(s) at price of buy-side cursor
Ctrl+A	Sweep Offers up to Buy-Side Cursor	Enter buy order(s) to sweep the market from inside market up to price of buy-side cursor
D	Increase Buy-Side Cursor	Increase cursor one price level
C	Decrease Buy-Side Cursor	Decrease cursor one price level
E	Center Buy-Side Cursor	Move buy-side cursor to best bid price; if no bids, move cursor to center of grid
Q	Bring Focus to Order Quantity Field	Apply focus to the Order Quantity field
P	Load Net Position in Order Quantity Field	Load the current net position into the Order Quantity field
Spacebar	Center the Market	Center the grid on the inside market
Shift+T	Liquidate	Delete all working bids and offers and enter orders to offset position
;	Sell at Sell-Side Cursor	Enter sell order at price of sell-side cursor
L	Delete Sell(s) at Sell-Side Cursor	Delete the working order(s) at price of sell-side cursor

Hotkey	Command	Description
Ctrl+;	Sweep Bids Down to Sell-Side Cursor	Enter sell order(s) to sweep the market from inside market down to price of sell-side cursor
K	Increase Sell-Side Cursor	Increase cursor one price level
M	Decrease Sell-Side Cursor	Decrease cursor one price level
I	Center Sell-Side Cursor	Move sell-side cursor to best offer price; if no offers, move cursor to center of grid

Unrestricted Keyboard Functions

Certain keyboard functions can be used with or without enabling keyboard trading.

If you press a key specified below, MD Trader performs the related function:

If you press...	Then MD Trader...
A numeral key **Note:** This does not refer to the number keypad.	Enters the order quantity in the **Order Quantity** field.
The `P` key	Loads your current position in the **Order Quantity** field.
The `Spacebar`	Centers the grid.
The `up arrow`	Scrolls the grid up.
The `down arrow`	Scrolls the grid down.
The `Page Up` key	Pages up. You may no longer see available prices because it paged up too far.
The `Page Down` key	Pages down. You may no longer see available prices because it paged down too far.

Enabling Keyboard Trading in MD Trader

Keyboard trading is disabled by default.

Notes:

- You do not need to enable the keyboard to perform some functions in MD Trader. Refer to **Unrestricted Keyboard Functions** on page 395.
- For a map of MD Trader keyboard functions refer to **Keyboard Trading in MD Trader** on page 393.
- You can change the hotkey associated with mapped keys. Refer to **Changing Hotkeys in MD Trader** on page 397.

Follow these procedures to enable keyboard trading:

- Enabling keyboard trading using the local context menu
- Enabling keyboard trading from the global **Properties** menu

To enable keyboard trading using the local context menu:

1. Open MD Trader.
2. Right-click anywhere in MD Trader and click **Properties**.
3. Click to select the **Enable keyboard and function key trading** option.
4. To set this property for all subsequently opened **MD Trader** windows, click to select **Set as Global Default**.
5. Click **OK**.

You successfully enabled keyboard trading using the local context menu.

To enable keyboard trading from the global Properties menu:

1. From the **Control Panel**, click the **Settings** menu and choose **Properties**.
2. Click the **Hotkeys** tab.
3. In the **Component** section, click to select **MD Trader**.
4. Click **OK**.

You successfully enabled keyboard trading from the global **Properties** menu.

Changing Hotkeys in MD Trader

You can change the hotkeys associated with commands in MD Trader using the **Hotkeys** tab on the **Properties** menu.

Note: You must enable keyboard trading to use the hotkey commands.

To change a hotkey:

1. From the **Control Panel**, click the **Settings** menu and choose **Properties**.
2. Click the **Hotkeys** tab.
3. In the Keyboard Layout field, click to select **Custom**.
4. In the **Component** section, click **MD Trader**.
5. In the **Command** section, click the command for which you would like to change the hotkey.
6. Click in the **Press new shortcut key** field.
7. Type your new hotkey.
8. Click **Assign**.

   If the hotkey is already assigned to a different command, you are prompted.

You successfully changed a hotkey.

Keyboard Procedures

Use the following procedures to trade using the keyboard in MD Trader:

- Entering a Buy Order
- Entering a Sell Order
- Entering the Order Quantity
- Deleting All Orders, Bids and Offers
- Centering the Market
- Loading the Net Position
- Sending a Market Order
- Setting the Limit Price
- Sweeping the Market
- Hitting the Bid
- Taking the Offer
- Dime the Offer
- Dime the Bid
- Join the Bid
- Join the Offer
- Combo Dime the Bid or Offer
- Combo Join the Bid and Offer

In addition, refer to **Keyboard Trading in MD Trader** on page 393 for a comprehensive keyboard maps and descriptions.

Entering a Buy Order Using the Keyboard

In MD Trader once keyboard trading is enabled, you can enter a buy order using the keyboard.

Note: You can change the hotkeys associated with these commands.

To enter a buy order:

1. Enable keyboard trading.
2. Press the D and C keys to select the desired limit price.
3. Press the Q key to focus keyboard entry on the **Order Quantity** field.
4. Type in the desired quantity of the buy order on the keypad.
5. Press the A key to send the buy order.

You successfully entered a buy order.

Entering a Sell Order Using the Keyboard

In MD Trader once keyboard trading is enabled, you can enter a sell order using the keyboard.

Note: You can change the hotkeys associated with these commands.

To enter a sell order:

1. Enable keyboard trading.
2. Press the `K` and `M` keys to select the desired limit price.
3. Press the `Q` key to focus keyboard entry on the **Order Quantity** field.
4. Type in the desired quantity of the sell order on the keypad.
5. Press the `;` key to send the sell order.

You successfully entered a sell order.

Enter the Order Quantity Using the Keyboard

In MD Trader once keyboard trading is enabled, you can enter the order quantity using the keyboard.

To enter an order quantity into the Order Quantity field of MD Trader:

1. Enable keyboard trading.
2. Press a numeric key on the keyboard.

   A cursor appears in the **Order Quantity** field.
3. Type the desired quantity.
4. Press `Enter`.

You successfully entered the order quantity using the keyboard.

Deleting All Orders, Working Bids, or Working Offers Using the Keyboard

In MD Trader once keyboard trading is enabled, you can delete all orders, working bids, or working offers using the keyboard.

Note: You can change the hotkeys associated with these commands.

To Delete	Press
All orders	`Shift+Esc`
All working bids	`Shift+V`
All working offers	`Shift+N`

Loading the Net Position in the Order Entry Field Using the Keyboard

In MD Trader once keyboard trading is enabled, you can load the net position in the **Order Entry** field using the keyboard.

Note: You can change the hotkeys associated with these commands.

To load the Net Position in the Order Entry field:

1. Enable keyboard trading.
2. Press the `P` key.

   The **Order Entry** field is populated with the net position (in order to go flat in the market).

You successfully loaded the net position in the **Order Entry** field.

Sending a Market Order Using the Keyboard

In MD Trader once keyboard trading is enabled, you can enter a market order using the keyboard.

Note: You can change the hotkeys associated with these commands.

To send a market order:

1. Enable keyboard trading.
2. Press the `Shift+F1` key.

   The only time in force supported is a Good Till Day (GTD) order, and the only order restriction you can use is Immediate or Cancel (IOC), available from the button in MD Trader. The quantity sold would be based on the amount in the order quantity field or on the preset default order quantity.

You successfully sent a market order.

Setting the Limit Price Using the Keyboard

In MD Trader once keyboard trading is enabled, you can set the limit price (position of the cursor) for either the buy or sell side with the following keys.

Note: You can change the hotkeys associated with these commands.

Key	Action
`E`	Center buy side cursor
`D`	Increase buy side cursor
`C`	Decrease buy side cursor
`I`	Center sell side cursor
`K`	Increase sell side cursor
`M`	Decrease sell side cursor

Sweeping the Market Using the Keyboard

In MD Trader once keyboard trading is enabled, you can sweep all the buys or sells up to a point set by the buy or sell side cursor using the keys listed below. How deep you can sweep the market depends on the level of price depth set by the exchange.

Note: You can change the hotkeys associated with these commands.

To sweep the market up to a specified price point on the Buy side:

1. Use a combination of the `D` and `C` keys to set the position of the buy side cursor.
2. Use the combination of the `Ctrl` and `A` keys to sweep the offers up to the price level indicated by the buy side cursor.

You successfully swept the sells in the market up to a specified price point.

To sweep the market up to a specified price point on the Sell side:

1. Use a combination of the `K` and `M` keys to set the position of the sell side cursor.
2. Use the combination of the `Ctrl` and `:/;` keys to sweep the bids up to the price level indicated by the sell side cursor.

You successfully swept the sells in the market up to a specified price point.

Hitting the Bid Using the Keyboard

In MD Trader once keyboard trading is enabled, you can "hit the bid" using the keyboard.

Note: You can change the hotkeys associated with these commands.

To hit the Bid:

1. Enable keyboard trading.
2. Press the `F12` key.

   MD Trader enters a sell order at the current best bid in the market. The quantity sold is based on the amount in the order quantity field or on the preset default order quantity.

You successfully hit the bid.

Taking the Offer Using the Keyboard

In MD Trader once keyboard trading is enabled, you can take the offer using the following actions:

Note: You can change the hotkeys associated with these commands.

To take the offer:

Press the `F1` key.

MD Trader enters a buy order at the current best offer in the market. The quantity sold is based on the amount in the order quantity field or on the preset default order quantity.

You successfully took the offer.

Dime the Offer Using the Keyboard

In MD Trader once keyboard trading is enabled, you can dime the offer using the keyboard.

Note: You can change the hotkeys associated with these commands.

To dime the offer:

1. Enable keyboard trading.
2. Press the F10 key.

   MD Trader enters a sell order one tick below the current best offers in the market.

You successfully dimed the offer.

Dime the Bid Using the Keyboard

In MD Trader once keyboard trading is enabled, you can dime the bid using the keyboard.

Note: You can change the hotkeys associated with these commands.

To dime the bid:

1. Enable keyboard trading.
2. Press the F3 key.

   MD Trader enters a buy order one tick above the current best bid in the market.

You successfully dimed the bid.

Join the Bid Using the Keyboard

In MD Trader once keyboard trading is enabled, you can join the bid using the keyboard.

Note: You can change the hotkeys associated with these commands.

To join the bid:

1. Enable keyboard trading.
2. Press the F4 key.

   MD Trader enters a buy order at the current best bid in the market. The quantity sold is based on the amount in the order quantity field or on the preset default order quantity.

You successfully joined the bid.

Join the Offer Using the Keyboard

In MD Trader once keyboard trading is enabled, you can join the offer using the keyboard.

Note: You can change the hotkeys associated with these commands.

To join the offer:

1. Enable keyboard trading locally or globally.
2. Press the F9 key.

   MD Trader enters a sell order at the current best offer in the market. The quantity sold is based on the traders current position or on the preset default order quantity.

You successfully joined the offer.

Combo Dime the Bid or Offer Using the Keyboard

In MD Trader once keyboard trading is enabled, you can combo dime the bid and offer.

Note: You can change the hotkeys associated with these commands.

Combo dime the bid or offer:

1. Enable keyboard trading.
2. Press the F7 key.

   MD Trader enters a sell order one tick better than the current best offer in the market and a buy order is sent one tick better than the current best bid price in the market. The quantity sold is based on the amount in the order quantity field or on the preset default order quantity.

You successfully combo dimed the bid or offer.

Combo Join the Bid and Offer Using the Keyboard

In MD Trader once keyboard trading is enabled, you can combo join the bid and offer using the keyboard.

Note: You can change the hotkeys associated with these commands.

Combo join the bid and offer:

1. Enable keyboard trading.
2. Press the F6 key.

   MD Trader enters a sell order at the current best offer in the market and a buy order is sent at the current best bid price in the market. The quantity sold is based on the amount in the order quantity field or on the preset default order quantity.

You successfully combo joined the bid and offer.

Game Pad Control in MD Trader

It is possible with keyboard functionality enabled to use a game pad control, which emulates keyboard key presses. In effect, using a gamepad maps the buttons on the gamepad to specific key strokes on the keyboard which, in turn, are mapped to specific MD Trader functionality. The gamepad plugs into the keyboard port on the workstation.

Warning! Trading Technologies has tested gamepad functionality in connection with keyboard mapping using a product by Suncom. Trading Technologies will not provide instructions on how to set up the gamepad with a keyboard nor does the company support users who do attempt to use this add-on in their trading. Traders wanting to use this functionality are encouraged to contact the gamepad manufacturer for specific instructions on how to connect this add-on to their system.

Exhibit 2

Lesson 3
Placing Orders Using Different Order-Entry Tools

Table of Contents

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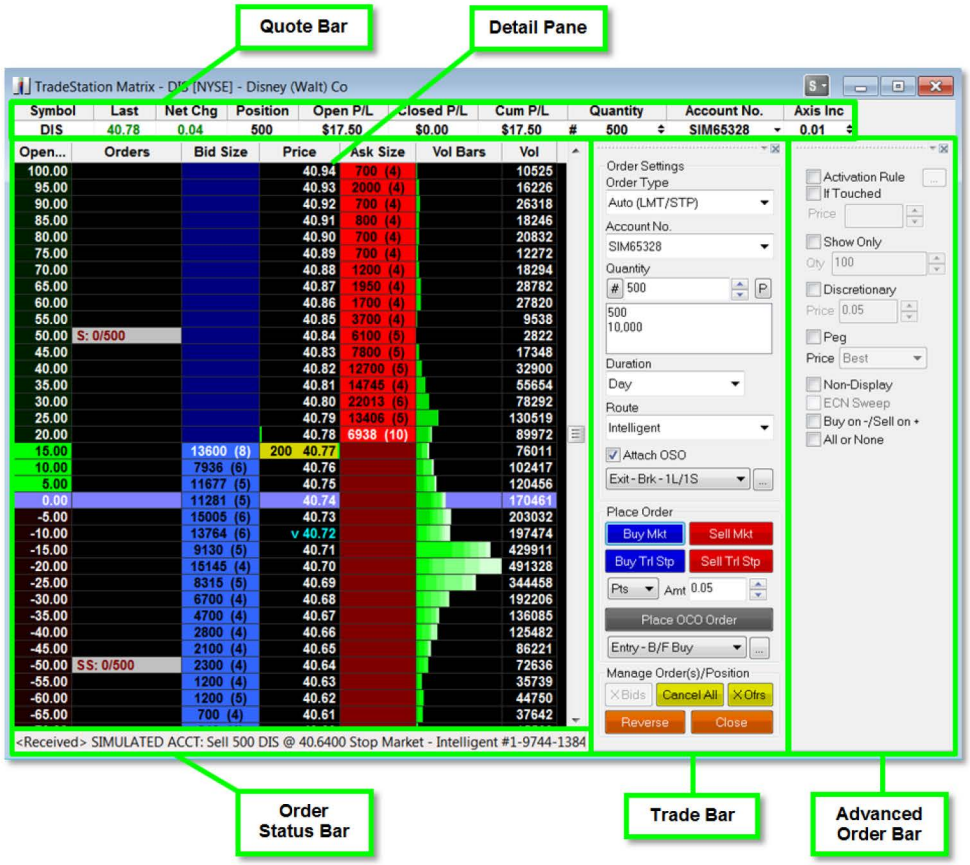
The Matrix Window

The Matrix window combines market depth information, information about your orders and positions, and order-entry features and advanced order settings in a single window. The Matrix also displays the day's price information, volume traded at each price and VWAP (Volume Weighted Average Price).

You may place, cancel and cancel/replace orders directly in the Matrix window. The Matrix and TradeManager are linked in real time, such that the Matrix displays any open positions or active orders placed using it or other means (such as the Order Bar, Market Depth window, automated strategies, etc.). The Trade Bar, the Advanced Order Bar, the Order Status Bar and the Quote Bar can be removed or enabled by right-clicking on the Matrix and selecting them from the right-click menu.



Matrix Window Geography

Quote Bar
The Quote Bar displays basic price and order information for the specified symbol.

Detail Pane
Default columns displaying data at each price level:

P/L (USD): displays a scale consisting of the position's break-even point with profit and loss values in the currency of the account; values are displayed only when there is an open position in the symbol.

Orders: displays all open orders in the symbol; buy orders will be preceded by a "*B*" and sell orders by an "*S*"; each open order cell displays two numbers: the number of shares/contracts filled followed by the number of shares/contracts still working on the order.

Bid Size: displays current Bid Size for each price level; depth is shown in parentheses.

Price: a column of prices, in minimum increments for the symbol, e.g., .01 for stocks; color-coded cells identify traded prices between the high and low of the day.

- **Open, High and Low:** noted with green lines at the appropriate price cells.
- **Last:** noted with a yellow background in the price cell; includes the share/contract volume of the last trade.
- **VWAP:** VWAP (Volume Weighted Average Price) is noted with a small "v" in the *Price* column.

Ask Size: displays current Ask Size for each price level; depth is shown in parentheses.

Vol Bars: color-shaded bars indicate volume at each price level during each of the day's 30-minute time periods. The darker the shade, the earlier in the day the volume occurred.

Vol: number of shares/contracts traded at each price level.

Position (Avg Price): average price of the open position is highlighted across all columns; position size is displayed in the Quote Bar.

Order Status Bar
Displays the last message sent or received for an order.

Trade Bar
Order-entry tools for the current symbol in the window.

Advanced Order Bar
Advanced order settings for orders placed via the Trade Bar.

***Notes**: The Matrix Quote Bar and Detail Pane may be customized using the* **Format – Columns** *menu sequence for each section. P/L in Symbol Currency is also available as an additional column in the Detail Pane.*

Placing Orders Using the Matrix Window

Placing orders through the Matrix is as simple as clicking on the **Bid Size** or **Ask Size** column at the price at which you want to buy or sell on *stop*, *limit*, or *stop limit*.

Buy and Sell orders
Click on a **Bid Size** cell to place a buy order at the price level for that row. Click on an **Ask Size** cell to place a sell order at the price level for that row.

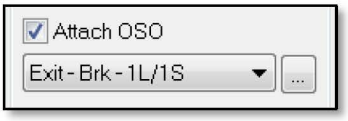
Cancel/Replace orders
To cancel/replace an order, click and drag an active open order in the **Order** column from its current limit or stop price to the new limit or stop price.

Market orders
To place a market order, click on **Buy Mkt** or **Short Mkt** buttons from the Trade Bar.

Trailing Stops
To place a trailing stop on an open position, set the trail amount to **Pts** or **%** and enter the amount in the **Amt** field, then click the **Sell Trl Stp** button to exit long positions or the **Cover Trl Stp** button to exit short positions.

Order Cancels Order - Multiple exit orders
To place profit targets and stops on open positions, select the number of targets and stops from the drop-down menu under the **Place OCO Order** button. Click the ellipsis button to adjust the target and stop amounts, then click on the **Place OCO Order** button to place your orders.

Order Sends Order – Entry order with attached exit orders
To automatically send your profit targets and stops with your entry order, put a checkmark in the **Attach OSO** checkbox. In the drop-down menu, select the type of exit orders you wish to attach, click the ellipsis button to adjust the quantities and prices for your exits, and then proceed to place your entry order. Once the entry order is placed, it will have the specified exits automatically attached.



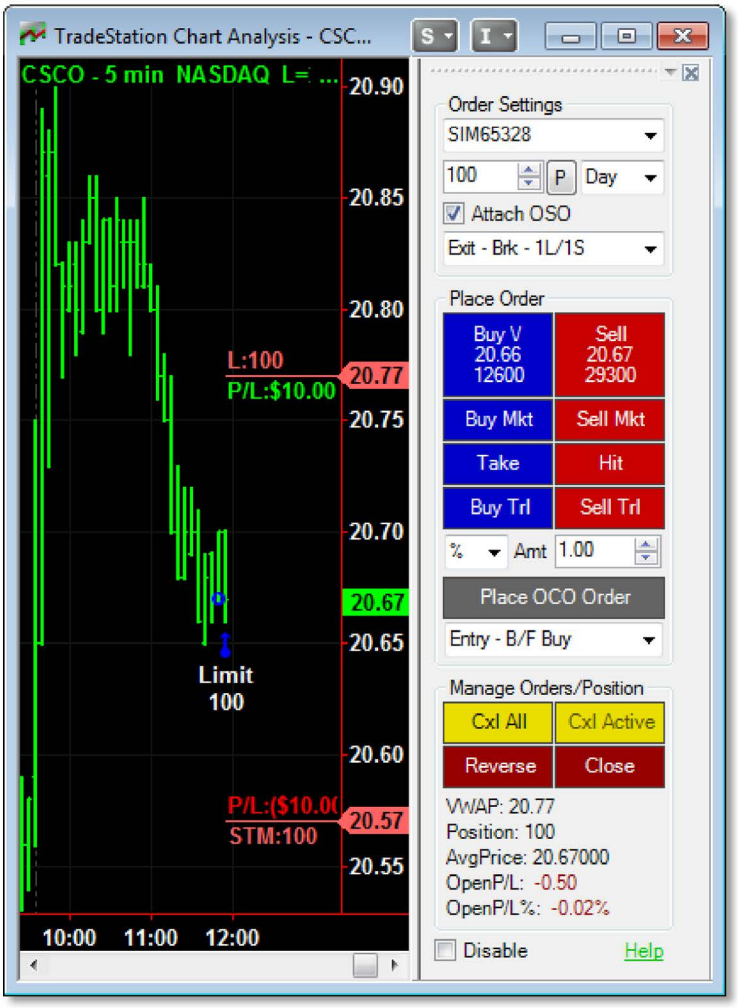
Cancel orders
To cancel an order, click on any active order in the Orders column to cancel it. Orders may also be cancelled using one of the three cancel buttons in the **Manage Order(s)/Position** section of the Trade Bar: **X Bids** (cancel all bids), **Cancel All** (cancel all active orders for this symbol), and **X Ofrs** (cancel all offers).

Reverse position
Click on the **Reverse** button to reverse your current position from long to short, and vice versa.

Close position
Click the **Close** button to immediately exit the current position by placing the appropriate market order.

Placing Orders Using Chart Trading

TradeStation Chart Trading is an application that docks to your chart windows and allows you to quickly and easily place trades and manage positions and orders from a chart. To enable chart trading in the active chart, click on the **Format – Chart Trading** menu sequence, or click the **Chart Trading** icon from the Chart Analysis toolbar.



Trades can be placed by clicking on the various order-entry buttons in the Order Panel or by clicking directly on the chart.

When placing orders by clicking on the chart, Ctrl + Left Click mimics the behavior of clicking on the bid side in the Matrix window and Alt + Left Click mimics clicking on the ask side in the Matrix window.

Open orders can be moved to new price levels by simply dragging their corresponding order lines.

Right-clicking an order line will allow you to edit the order's quantity and/or price.

Selecting an order line and pressing the delete key will delete the order.

Key + Mouse Click Combination	Order Action
Ctrl + Left Click (Above the Ask)	Buy Stop Market @ selected price
Ctrl + Left Click (Below the Ask)	Buy Limit @ selected price
Alt + Left Click (Above the Bid)	Sell Limit @ selected price
Alt + Left Click (Below the Bid)	Sell Stop Market @ selected price
Drag & Drop Open Order Line	Cancel/Replace Price
Right Click on Open Order Line	Edit Order Quantity and/or Price
DELETE key on Open Order Line	Cancel Order

Placing Orders Using the Quick Trade Bar

The layout and functionality of the Quick Trade Bar are different depending on the asset class being traded. For equities and futures, the layout and buttons are identical, but for forex a different layout is used.

Forex Layout

The **Sell** button displays the bid and the **Buy** button displays the ask. Click the **Sell** or **Buy** buttons to place limit orders at the prices displayed. Adjust the Quantity between the two buttons using the directional arrows, by typing a new amount, or by using the preset quantities displayed as buttons at the bottom of the Quick Trade Bar. Click the **Sell Mkt** or **Buy Mkt** buttons to place market orders. Click **Close** to exit positions.

A simple view of the Quick Trade Bar with just the Buy and Sell buttons is available by right-clicking on the Quick Trade Bar and selecting **Quick Trade Bar Layouts – Simple FX** menu sequence.

Equities and Futures Layout

Click the **Buy** or **Sell Short** buttons to place limit orders at the prices displayed. Adjust the Quantity between the two buttons using the directional arrows, typing a new amount, or using the preset quantities displayed as buttons below the quantity field. Click the **Sell Mkt** or **Buy Mkt** buttons to place market orders.

The **Take**, **Split**, **Bid+1**, **Ask-1** and **Hit** buttons allow you modify the bid or ask price of your order. Click **Close** to exit positions or **Cancel All** to cancel all active orders.

By default, the **Buy** button displays the bid and the **Sell Short** button displays the ask. You may switch these buttons around to buy at the ask or sell at the bid by right-clicking the Quick Trade Bar and selecting **Quick Trade Bar Layouts – Alternate Sell/Buy** menu sequence.

Placing Orders Using the Market Depth Window

The Market Depth window provides a view of market-based bid and ask activity for a given instrument along an integrated Trade Bar for fast and convenient order execution. Color-coding is used to group common price levels together, so you can see what is happening at a glance. Market Depth data is available for stocks, electronic futures and options, depending on your data subscriptions.

Quote Bar: shows basic price and order information for the symbol in the Market Depth window.

Summary Pane: The left pane lists the Bid and Ask for each price level. The right panel graphs the relative size or depth of Bid and Ask for each level.

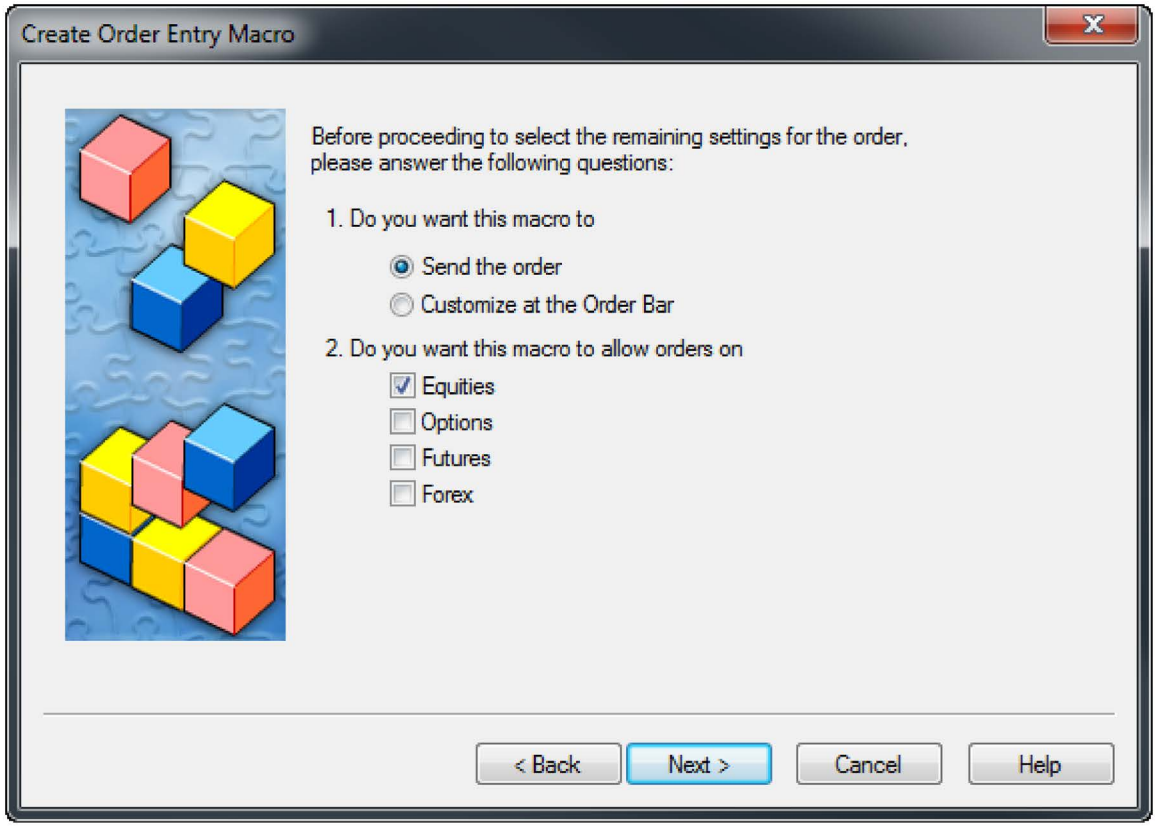
Detail Pane: displays Bid prices (left) and Ask prices (right) grouped by price level. Your open positions and open orders for this symbol will be highlighted at the appropriate price row in the Detail Pane.

Trade Bar: order-entry tools for the current symbol in the window.

Advanced Order Bar: advanced order settings for orders placed via the Trade Bar.

Placing Orders Using Order Entry Macros

An Order Entry Macro contains order instructions that can be sent directly to the market or can populate the Order Bar with the order information. A macro may be created to run on multiple asset classes: equities, options, futures and forex. To create a macro, click on the **View – Macros** menu sequence and in the Macros dialog click the **Create** button. Select **Order Entry Macro**, click **Next**, and the Order Entry macro wizard will guide you through the process of creating the macro.



Some of the options in the wizard are: whether to send the order directly to the market or customize it using the Order Bar; the types of asset classes that the macro will trade; whether to use a specific symbol or use the symbol from the current active window in TradeStation; the number of shares or contracts to trade; the account number to use; and specific information about the order, such as order action, order type, price, route and duration.

Once the Order Entry Macro is complete, you can run it from the Command Line, Macros dialog, and from the TradeStation Development Environment. In addition, you can assign a macro to a toolbar button and/or Hot Key as a shortcut as explained in the first lesson of this series.

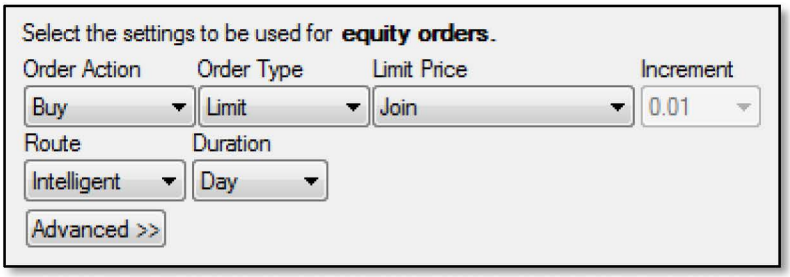


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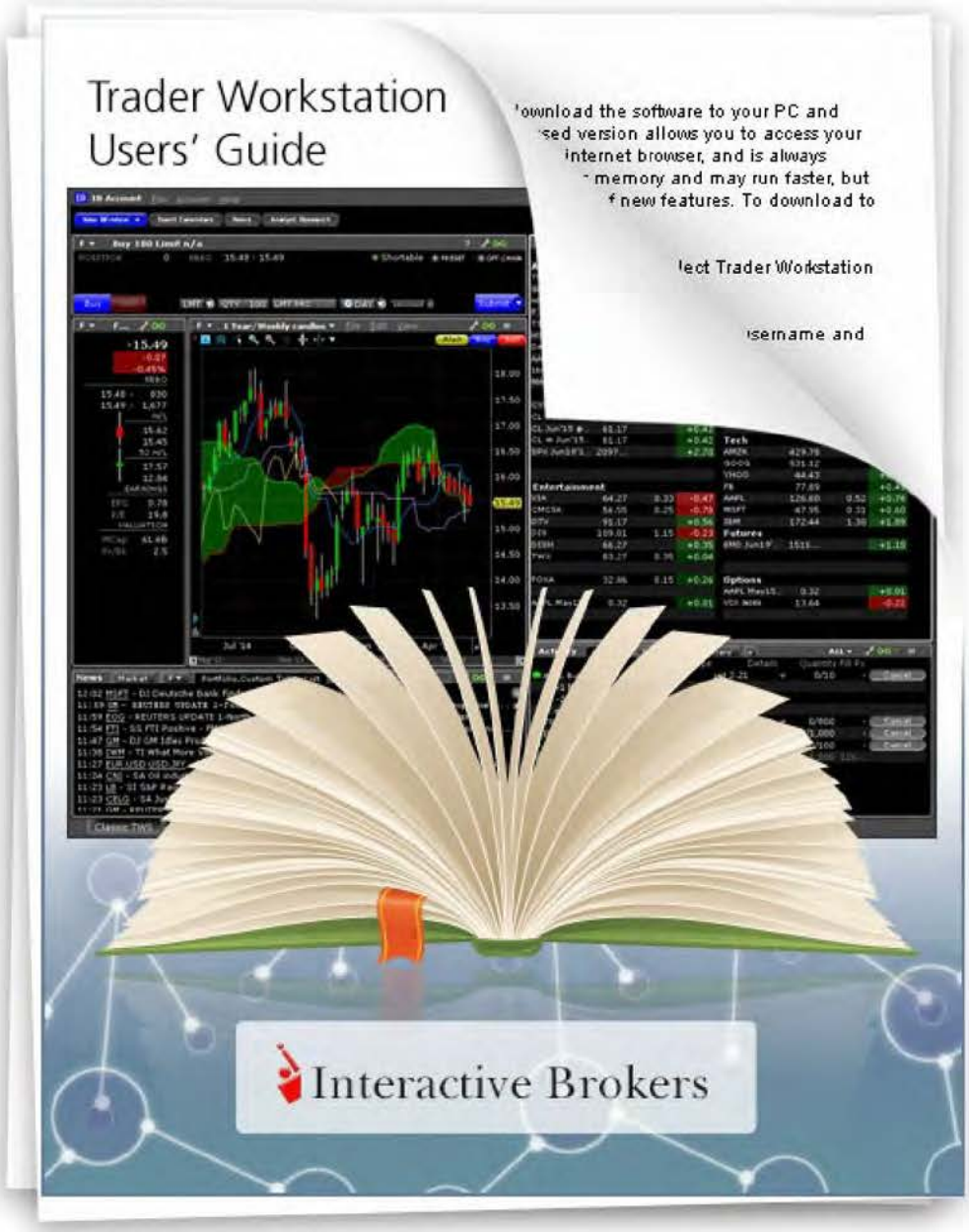
Exhibit 3

TWS Build 950 - June 25, 2015



BookTrader

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

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.