



Trader's Guide

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Table of Contents

MACHINE CONFIGURATION AND NETWORK RESOURCE RECOMMENDATIONS AND REQUIREMENTS	6
SUPPORT	6
INSTALLATION AND LOGIN.....	7
MAIN CONSOLE.....	9
FILE MENU OPTIONS.....	10
ACTUAL ORDERS.....	10
<i>Modifying an Order through the Actual Orders Window.....</i>	<i>10</i>
<i>Cancelling an Order through the Actual Orders Window.....</i>	<i>11</i>
<i>Viewing Order Details.....</i>	<i>11</i>
OPTIONS BOARD.....	12
<i>Placing Orders from the Options Board.....</i>	<i>12</i>
ORDER BOOK	14
<i>Order Book Basics.....</i>	<i>15</i>
Position.....	16
P&L	16
Average Open Fill Price	16
Quantity to Fill.....	16
Account Balance.....	16
Bid and Offer Sizes and Counts.....	17
Last Trade Price, Net Change and Trade Volume	17
Confirm Box.....	17
Duration	17
Market Mode	17
Centering the Price Rows	17
Freezing the Movement of the Price Rows.....	18
Grid Lines	18
Tool Tips	18
<i>Standard Open Order Indicators.....</i>	<i>18</i>
<i>Placing Simple Orders through the Order Book</i>	<i>20</i>
Limit Orders	20
Market Orders.....	20
Stop (Market) Orders.....	20
Stop Limit Orders	20
If Touched Orders.....	21
<i>Modifying and Cancelling Orders through the Order Book.....</i>	<i>21</i>
<i>Reversing a Position through the Order Book.....</i>	<i>23</i>
<i>Placing One Cancel Other Orders through the Order Book.....</i>	<i>23</i>
<i>Placing Bracket Orders through the Order Book.....</i>	<i>27</i>
ORDER HISTORY.....	31
PERFORMANCE ANALYSIS	32
QUOTE BOARD	33
<i>Viewing Market Data in the Quote Board.....</i>	<i>33</i>
<i>Placing Orders from the Quote Board.....</i>	<i>34</i>
RMS.....	37
<i>View Risk Parameters.....</i>	<i>37</i>



View Positions	38
Open Order Book.....	38
Open Options Board.....	38
View Actual Orders	38
Pull Working Orders.....	38
Pull Working Orders and Exit Position.....	38
STRATEGY BOARD.....	39
Placing Orders from the Strategy Board.....	39
SYNTHETIC BOARD	41
Trading a Synthetic Instrument.....	43
TRADE MENU OPTIONS	44
PLACE ORDER	44
Account.....	45
Exchange	45
Duration	45
Release At.....	45
Trans.....	45
Symbol	45
Price Type.....	45
Qty	45
Limit Price.....	45
Stop Price 	46
Close after placing order.....	46
Place and Cancel Buttons.....	46
If Touched Orders.....	46
Price Field.....	47
Symbol.....	47
Exchange	47
Condition	47
Price 	47
WINDOW MENU OPTIONS.....	48
EXCEPTION WATCHER.....	48
ORDER ALERT HISTORY	48
PREFERENCES.....	49
Performance	50
LAUNCH BAR	52
APPENDIX A – SETTING AND SAVING WINDOW PROPERTIES, FILTERING AND SAVING DATA.....	53
CUSTOMIZING COLUMNS.....	53
FILTERING ROWS.....	53
SAVING WINDOW SETTINGS AND PROPERTIES AND SAVING DATA	54
Grid Lines.....	54
APPENDIX B – PRICE TYPES, ORDER DURATION AND MARKET MODE	55
PRICE TYPES.....	55
Limit.....	55
Limit If Touched 	55
Market.....	55



<i>Market If Touched</i> 	56
<i>Stop Limit</i> 	56
<i>Stop Market</i> 	57
ORDER DURATION	59
MARKET MODE	60
APPENDIX C – EXCHANGE AND OTHER TRADING VENUE IDS	61
APPENDIX D – ADD SYMBOL	62
SEARCHING FOR SYMBOLS WITHIN AN EXCHANGE OR WITHIN ALL EXCHANGES	62
SEARCHING FOR SYMBOLS WITHIN A PRODUCT GROUP OF AN EXCHANGE	63
REFINING YOUR SEARCH	64
ADDING A SYMBOL TO THE WINDOW THAT LAUNCHED THE ADD SYMBOL WINDOW	65
APPENDIX E – UNDERSTANDING AND CONFIGURING BRACKETS	66
WHAT IS A BRACKET?	66
CREATING A NEW BRACKET	67
DELETING A BRACKET	68
MODIFYING A BRACKET	68



Machine Configuration and Network Resource Recommendations and Requirements

Minimum hardware and network requirements for using the R | Trader™ application may vary based on a number of factors including, but not limited to, the number of contracts or instruments being traded and or monitored, the number of active windows, market data activity and the resource usage of other software running concurrently.

Operating System and .Net Framework Requirements

Operating Systems	Windows XP
Microsoft .NET Framework	1.1

Machine and Network Recommendations

CPU	Single Dual Core or more
RAM	2024MB or more
Disk Space	250MB Free Space
Internet Bandwidth	High Speed Cable or greater

Support

Support is available from your Futures Commission Merchant (FCM) and/or your Introducing Broker (IB). Under certain circumstances, and upon special arrangement with your FCM or IB, additional support may be made available from Rithmic, LLC directly.



Installation and Login



R | Trader™ is distributed as a standard Windows Installer file (a .msi file) named as

RithmicTrader-8.15.0.0-Setup-Name.msi,
where Name refers to the name of your FCM, IB or trading organization, as the case may be.

Once the .msi file is copied to your machine, run it to install and configure the R | Trader™ application. A shortcut will be placed on the desktop and an entry will be placed in the Start Menu under:

All Programs → Rithmic → Launch → Rithmic Trader



Obtain a user id and password from your FCM or IB and the name of the system to which you should connect. Only your FCM or IB is able to issue user ids and passwords. Through your user id you will have access to the various accounts that have been setup by your FCM or IB on your behalf. You will be able to place, modify and cancel working orders on any of these accounts, subject to your risk settings established and maintained by your FCM or IB (only your FCM or IB may establish or modify your risk settings).

After launching R | Trader™, a login screen will prompt you to enter your user id, password and system. Enter your user id and password, select the system and click on the Login button.

The R|Trader LOGIN login screen, showing the logo at the top and a form below. The form has three fields: "User ID" with the text "New User", "Password" with a masked password "*****", and "System" with a dropdown menu showing "Rithmic 01 Test Sim". There is a green arrow icon to the right of the System dropdown. At the bottom, it says "Powered by OMNE™".

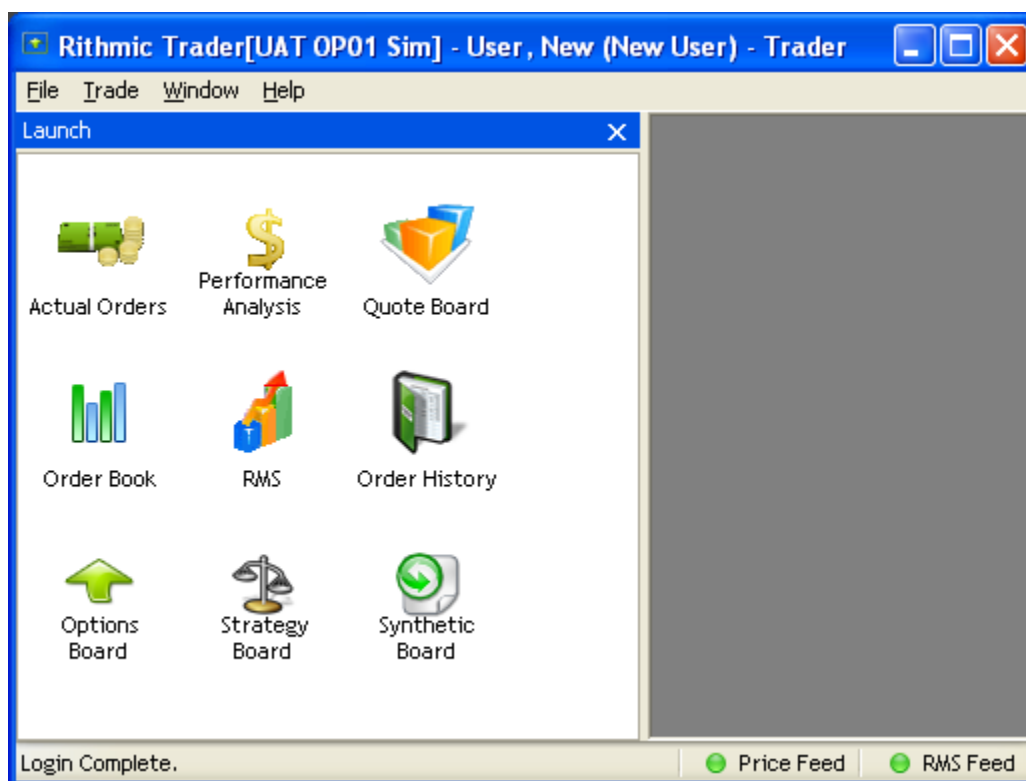
User ID	<input type="text" value="New User"/>
Password	<input type="password" value="*****"/>
System	<input type="text" value="Rithmic 01 Test Sim"/>  




Powered by OMNE™



Main Console

The Main Console provides access to the various market data, risk management, performance analysis and order entry and history screens. Each screen (window) may be launched through a selection under the file menu or from the launch bar, pictured below.



Many of the screens allow you to customize their appearance, from choosing the columns of data to display, to settings fonts, colors and gridlines. Refer to **Appendix A** for details and instructions. Some windows indicate the status of their data feeds with small round colors, shaped like an led. A  led displayed by a window for a data feed indicates that all data from that feed received by R | Trader™ destined for that window has been processed by that window. A  led displayed by a window for a data feed indicates that some data received by R | Trader™ destined for that window still needs to be processed by that window. A  led displayed by a window for a data feed indicates that the connection to that data feed has been broken.



File menu options

By selecting an option under the File menu, you have the ability to open a new window, change your password, save and retrieve settings or exit R | Trader™. Any of the windows pictured in the launch bar above, can be opened from the file menu. They are:



Actual Orders

The Actual Orders window displays information about working orders and completed orders (completed during the current trading day).

The screenshot shows the 'Actual Orders' window with two panes. The top pane is titled 'Working Orders (4/4)' and the bottom pane is titled 'Completed Orders (3/5)'. Both panes display a table of order data.

Account	Status	Buy/Sell	Qty To Fill	Qty Working	Symbol	Price Type	Limit Price	Order Number	Exchange Order Id	Application
Rithmic2	partial	S	202	197	GEH9	M		135915	20081126000770	Rithmic Trader
Rithmic2	open	B	2	2	GEH9	L	98.065	135914	20081126000761	Rithmic Trader
Rithmic2	trigger pending	B	0	3	CLH9	MIT		135910		Rithmic Trader
Rithmic2	open	S	3	3	CLH9	L	55.13	135905	20081126000001	Rithmic Trader

Account	Status	Rejection Reason	Buy/Sell	Qty Filled	Symbol	Price Type	Avg Fill Price	Limit Price	Order Number	User Id
Rithmic2	Filled		S	2	GEH9	M	98.135		135911	New User
Rithmic2	Filled		B	6	ESZ8	M	843.50		135908	New User
Rithmic2	Filled		S	6	ESZ8	L	843.25	840.00	135907	New User

Note: A trading day may begin on a prior calendar day.

Note: The start time and end time of a trading day for one product group may not be the same as the start time and end time of a trading day for other product groups.

The upper pane shows working orders (open orders). Orders that are working are live and in the market, though depending upon the price type of an order, an order may be live and acknowledged by an exchange, but may not yet be in an instrument's order book (some stop orders). Additionally, some open orders may not yet have even been sent to an exchange (some stop orders, if touched orders, etc.). See **Appendix B** for a description of price types.

The lower pane shows orders that have been completed. Orders that are completed are orders whose quantity to fill has been satisfied by a combination of quantity filled and quantity cancelled, i.e. orders that no longer have any quantity that may yet be filled.

Modifying an Order through the Actual Orders Window

To modify a working order through the Actual Orders window, right click on the order in the working orders pane and select modify order from the small window that pops up. A modify orders screen will appear through which you may change the quantity and/or the price of the order.



Modify Order 134512
✕

Account Rithmic3 (Rithmic-IB)		Exchange CME	Duration DAY
Trans BUY	Symbol ESZ8	Price Type Limit	Qty 6
			Limit Price 817.25

Close when done

Modify Order
Cancel

Cancelling an Order through the Actual Orders Window

To cancel (or pull) a working order through the Actual Orders window click on the ✕, which by default is located in the leftmost column of the order. Depending upon your preference settings the click itself will cause a cancellation request to be submitted to the exchange or it will cause a cancellation confirmation window to appear.

Viewing Order Details

Order details can be viewed by double clicking on an order in either the upper or lower pane. A new window will open showing the history and details of the order's creation, its acknowledgment by the exchange, any modifications, fills and/or cancellations, rejects or failures. It is through this window that you may determine the time taken for an order to be processed by the Rithmic system (order sent to exchange – Order received by client), but keep in mind that the accuracy of all times listed is subject to the synchronization of the clocks of the machines on which the Rithmic system runs.

History for Order 135907
✕

Date/Time (EST)	Status	Fill Price	Fill Size	Open Volume	Cancelled Qty	User Id
2008-11-26 09:12:08.230561	complete			0	0	New User
2008-11-26 09:12:08.230561	fill	843.25	6			New User
2008-11-26 09:12:08.228364	open			6	0	New User
2008-11-26 09:12:08.210522	order sent to exch			6	0	New User
2008-11-26 09:12:08.210382	order received by exch gateway			6	0	New User
2008-11-26 09:12:08.210060	open pending			6	0	New User
2008-11-26 09:12:08.209442	Order received from client					New User

Details

Exchange	CME	Limit Price	840.00
Symbol	ESZ8	Stop Price	
Price Type	Limit	Avg Fill Price	843.25
Exchange Order Id		IB	Rithmic-IB
Fill Id		FCM	Rithmic-FCM
Expiry Date	Dec-08	Order Create Time	2008-11-26 09:12:08
Account	Rithmic2	Exchange Timestamp	
Rejection Reason		Order Duration	DAY

≤<
>≥
Close



Options Board

The Options Board window displays real time market data for all options of a particular product group with a specific expiration date.

Options Board[2]

Exchange: CME Product: 6E

Order Parameters: Limit (selected), Market (deselected), Quantity: 1, Duration: DAY, Account: [blank]

December 2008

Nov-08 | Dec-08 | Jan-09 | Mar-09 | Jun-09 | Sep-09

Calls						Puts					
Bid Qty	Bid	Ask	Ask Qty	Last	Strike	Bid Qty	Bid	Ask	Ask Qty	Last	
25	0.0122	0.0130	15		1.3450	1	0.0557	0.1017	1		
25	0.0133	0.0141	15	0.0110	1.3400	1	0.0518	0.0977	1		
25	0.0145	0.0155	33		1.3350	1	0.0479	0.0939	1		
25	0.0157	0.0167	19		1.3300	1	0.0442	0.0901	1		
25	0.0172	0.0180	25	0.0175	1.3250	1	0.0405	0.0865	1		
37	0.0186	0.0196	22	0.0183	1.3200	1	0.0369	0.0829	1		
25	0.0202	0.0211	15		1.3150	25	0.0553	0.0573	25		
25	0.0219	0.0230	37	0.0234	1.3100	25	0.0520	0.0539	25		
25	0.0238	0.0248	28		1.3050	25	0.0489	0.0509	50		
25	0.0257	0.0267	23	0.0234	1.3000	25	0.0459	0.0473	47		
25	0.0278	0.0288	23		1.2950	25	0.0430	0.0443	47		
25	0.0300	0.0310	38		1.2900	25	0.0403	0.0415	47		
39	0.0322	0.0333	38		1.2850	25	0.0376	0.0387	22		
65	0.0346	0.0357	48		1.2800	25	0.0351	0.0361	47	0.0363	
39	0.0372	0.0384	12	0.0360	1.2750	25	0.0327	0.0336	27		
37	0.0400	0.0410	35		1.2700	25	0.0304	0.0313	15	0.0310	
25	0.0425	0.0440	25		1.2650	25	0.0282	0.0291	52		
35	0.0454	0.0470	44		1.2600	25	0.0262	0.0270	12	0.0271	
36	0.0484	0.0500	40		1.2550	25	0.0242	0.0251	26		
1	0.0272	0.0750	1		1.2500	25	0.0224	0.0233	48	0.0255	
1	0.0304	0.0782	1		1.2450	25	0.0207	0.0215	16		
1	0.0337	0.0815	1		1.2400	51	0.0190	0.0200	46	0.0198	

Price Feed | Fri, Nov 07, 2008 10:25:07 am EST

The Options Board window shows prices for call options on the left and prices for put options on the right.

Placing Orders from the Options Board

You may place orders for a specific option through the Options Board by clicking on a "Bid" or "Ask" column of the row that corresponds to the strike price of the option you wish to buy or



sell. A click on a "Bid" column on the left side of the window brings up a Place Order window populated to sell a call option with other fields containing the same contents as the Order Parameters of the Options Board window. A click on the "Ask" column of the same row on the left side of the screen brings up a Place Order window similarly populated but set to buy the call option.

Account	Exchange	Duration	<input type="checkbox"/> Release at (EST)	
Rithmic1 (Rithmic-IB)	CME	DAY	2008-11-16 21:21:32	
Trans	Symbol	Price Type	Qty	Limit Price
SELL	6EZ8 C1310	Limit	1	0.0060
<input checked="" type="checkbox"/> Close when done				<input type="button" value="Place Order"/> <input type="button" value="Cancel"/>

Though the Place Order window pops up pre-populated, you may change the contents of the fields that have an associated drop down box. Click the "Place Order" button to submit the order. Click the "Cancel" button to close the Place Order window without placing the order.



Order Book

Use the Order Book window to view real time market depth and to place and manage orders for a particular contract.

Order Book[47]-ZNZ8

Symbol.Exchange: ZNZ8.CME

Position: Open P&L (CUR): Avg Open Fill Price:

Account: [Dropdown] One Cancels All: Disabled Submit: [Button] Qty (Default is 0): [10] [20] [50] [Set Def]

Brackets: Disabled [Dropdown] Config: [Button] Account Balance: [Field] [1] [2] [5] [Clear] [0]

Stops	Limit Orders	Bid Size	S	+2'110	Ask Size	Trade Volume
				121'225		
				121'220		
				121'215		
				121'210	73	
				121'205	21	
				121'200	274	
				121'195	51	
				121'190	59	6
		10		121'185		
		37		121'180		
		50		121'175		
		77		121'170		
		51		121'165		
				121'160		
				121'155		
				121'150		
				121'145		

Reverse Pos Buy Market Cancel All Sell Market Cncl All & Fltn

Stop Price Type: Limit Market Confirm: Duration: DAY If Touched Price Type: Limit Market

Order Price RMS **OPEN** Thu, Nov 20, 2008 04:13:09 pm EST



Order Book Basics

Depending upon which columns you select to be displayed, an order book can show you an instrument's last trade price, its quantity available to be bought or sold at various prices and the number of buy and sell orders at each price. Additionally you may view an account's position, its open orders and its p&l for a particular instrument.

Order Book[1]-ESZ8

Symbol.Exchange: ESZ8.CME Position: 1 Open P&L (USD): 112.50 Avg Open Fill Price: 829.00

Account: Rithmic3 (Rithmic-IB) One Cancels All: Disabled Submit Qty (Default is 1): 10, 20, 50, Set Def, 1, 2, 5, Clear, 1

Brackets: Disabled Account Balance: 750522.50

Profit/Loss	Stops	If Touched	Limit Orders	Bid Count	Bid Size	S	-36.25	T	Ask Size	Ask Count	Trade Volume
712.50											
700.00											
687.50											
675.00											
662.50											
650.00											
637.50									468	77	
625.00									735	65	
612.50									317	55	
600.00									112	33	
587.50									44	7	4
575.00				26	108		830.25				2
562.50				64	403		830.00				
550.00				59	218		829.75				
537.50				66	373		829.50				
525.00				72	415		829.25				
512.50							829.00				
500.00							828.75				
487.50							828.50				
475.00							828.25				

Reverse Pos Buy Market Cancel All Sell Market Cncl All & Fltn

Stop Price Type: Limit Market Confirm: Duration: DAY If Touched Price Type: Limit Market

Order Price RMS OPEN Wed, Nov 19, 2008 02:14:57 pm EST



The Order Book above shows pricing information for ESZ8 at the CME and position, open orders and p&l on ESZ8 for account Rithmic3.

Position

The column labeled "Position" at the top of the Order Book indicates the net open position of the instrument (ESZ8) for the account (Rithmic3). A negative number indicates a short position.

P&L

The number to the right of the "Position" indicates the open p&l in the currency of the account (in this case USD). By clicking on the p&l you may toggle through several types of p&l to display – Total P&L in the currency of the account, in ticks or in price points, Open P&L in the currency of the account, in ticks or in price points or no p&l display.

Average Open Fill Price

The number to the right of the p&l is the average open fill price of the current open position, in this case of ESZ8 for Rithmic3. It is also highlighted in the price column by a colored bar, in this case blue. If the average open fill price is not a tradable price then it is highlighted in the price column at the first price at which a flattening of the position would yield a profit. For example, if the average open fill price for a long position were 829.125 of an instrument that trades in 0.25 increments, then the highlighted price would be 829.25.

Quantity to Fill

Below the average open fill price is a number pad that you may use to specify the default quantity to fill and the quantity to fill on the next order. You may specify a quantity in the box with the arrows directly or by clicking on a number in the number pad. Each click of a number in the number pad adds that number to the quantity in the box with the arrows. You may increase the quantity in the box by clicking on the up arrow and you may decrease the quantity in the box by clicking on the down arrow. To clear the quantity, click on the "Clear" button. To set the default quantity, click on the "Set Def" button.

When an order is placed through the Order Book, the quantity to fill on that order will be the quantity that is displayed in the box with the arrows at the time that the order is placed. After an order is placed through the Order Book, the quantity in the box with the arrows is automatically reset to display the default quantity. For example, if the default quantity is 5, and the number in the box with the arrows is 7, and an order is placed through the Order Book, that order will have a quantity of 7 and the quantity displayed in the box with the arrows will be reset to 5. The default quantity is displayed on the thin line that surrounds the number pad (just above the 10, 20 and 50 buttons).

Account Balance

Depending upon the type of risk management algorithm your FCM (or IB) has chosen for your account, the balance of your account may be displayed in the middle of the top part of the Order Book, left of the number pad.



Bid and Offer Sizes and Counts

The number of orders bid at a certain price is displayed in the column with the heading "Bid Count" on the row that displays that price. The quantity available to be bought at a certain price is displayed in the column whose heading is "Bid Size" on the row that displays that price. In the Order Book above, there are 26 orders bid at a price of 830.25 and with a quantity available to be bought of 108. Similarly, the number of orders offered at a certain price is displayed in the column with the heading "Ask Count" on the row that displays that price and the quantity available to be sold at a certain price is displayed in the column whose heading is "Ask Size" on the row that displays that price.

Last Trade Price, Net Change and Trade Volume

The price at which an instrument has last traded is highlighted in the price column by a colored bar, in this case orange.

The net change of the instrument is displayed at the top of the price column.

The quantity traded at the best bid price, since that price became the best bid price is displayed on the row that corresponds to the best bid price in the column with a heading of "Trade Volume". The quantity traded at the best offer price, since that price became the best offer price is displayed on the row that corresponds to the best offer price in the column with a heading of "Trade Volume".

Confirm Box

Check the Confirm box at the bottom of the Order Book if you would like an order ticket to be displayed prior to placing an order.

Duration

You may select the duration of an order (time in force) from the Duration drop down box at the bottom of the Order Book. Refer to **Appendix B** for details.

Market Mode

The market mode (trading status) of an instrument is displayed in the middle of the bottom of an Order Book. Refer to **Appendix B** for more information about market modes.

Centering the Price Rows

By default, the rows that display prices in the Order Book are centered around the midpoint of the current best bid and best offer price. As these prices change the Order Book will dynamically reposition the price rows accordingly, at an effective rate of about 1 row per second. For example, if the midpoint of an instrument's best bid and offer price suddenly drops by 5 ticks (5 rows), the Order Book will reposition the price rows by moving them up by 5 rows in about 5 seconds. While repositioning these rows, if the midpoint of the instrument's best bid and offer price suddenly rises by 10 ticks, the Order Book will switch the direction of its movement to reposition the rows accordingly. If you change the view of the price rows by scrolling, once you stop scrolling, the Order Book will begin to move the rows back to their default position. At any time you may




cause the Order Book to display the price rows in their default position by double clicking on any row in the price column.

Freezing the Movement of the Price Rows

If the "Hide sizes and counts on mouse over" box is checked on the General tab of the Preferences window, then, while your mouse is over any cell of a price row in an Order Book that permits you to place, modify or cancel an order, the sizes and counts will not be visible in that Order Book and the price rows of that Order Book will not move. As soon as your mouse is no longer over any such cell, the sizes and counts will become visible and the price rows will resume their movement.

Alternatively, if the "Hide sizes and counts on mouse over" box is checked on the General tab of the Preferences window, you may freeze the movement of the price rows and hide the size and counts of an in focus Order Book by pressing and holding the Ctrl key. As soon as the Ctrl key is released, the sizes and counts will become visible and the price rows will resume their movement.

Grid Lines

You may apply, change or remove gridlines from an Order Book by clicking on the  icon at its top and selecting "Grid Lines...". You may move horizontal gridlines in an order book by clicking on a price row, holding down the Ctrl key and then pressing the up arrow or down arrow key.

Tool Tips

If you would like to view tool tips when your mouse hovers over cells of a row in an Order Book that permit you to place, modify or cancel orders, uncheck the "Disable tooltips" box in the General tab of the Preferences window.

Standard Open Order Indicators

In the Order Book below, the column on the left shows the total profit or loss that the account would have if the current position were to be flattened at any particular price.



Order Book[1]-ESZ8

Order Book

Symbol.Exchange: ESZ8.CME Position: -15 Open P&L (USD): 0.00 Avg Open Fill Price: 827.75

Account: Rithmic3 (Rithmic-IB) One Cancels All: Disabled Submit Qty (Default is 5): 10, 20, 50, 1, 2, 5, Set Def, Clear, 5

Brackets: Disabled Account Balance: 751995.00

Profit/Loss	Stops	If Touched	Limit Orders	Bid Count	Bid Size	S	-42.00	T	Ask Size	Ask Count	Trade Volume
3125.00											
3312.50											
3500.00											
3687.50											
3875.00									439	57	
4062.50									1901	75	
4250.00		👉 b5							395	62	
4437.50									258	62	
4625.00									118	27	
4812.50				2	43		824.50				
5000.00			b5	28	112		824.25				
5187.50				82	662		824.00				
5375.00	🛑 s5			64	320		823.75				
5562.50				71	506		823.50				
5750.00							823.25				
5937.50							823.00				
6125.00							822.75				
							822.50				



Reverse Pos Buy Market Cancel All Sell Market Cncl All & Fltn

Stop Price Type: Limit Market Confirm: Duration: DAY If Touched Price Type: Limit Market

Order Price RMS OPEN Wed, Nov 19, 2008 02:22:28 pm EST

For example, if the current position were flattened at a price of 823.00 then the account would have a profit of \$5750.00 for ESZ8. The **b5** indicates that one or more limit orders have been placed on this account that remains open to buy a total quantity of 5 at a price of 824.25. The **🛑 s5** indicates that one or more stop orders have been placed on this account which remains open to sell a total quantity of 5 with a stop price of 823.50. The **👉 b5** indicates that at least one if touched order has been placed on this account which remains open to buy a quantity of 5 with a trigger price of 825.00.



A “b” before a number in the Stops, If Touched or Limit Orders column indicates a buy quantity. An “s” before a number in the Stops, If Touched or Limit Orders column indicates a sell quantity. The price on the row on which a “b” before a number or an “s” before a number resides indicates the price associated with that quantity to be filled. The type of price is indicated by the heading of the column in which the “b” before a number or the “s” before a number resides and is also indicated by  for stops and  for if touched.

Note: The quantity preceded by a “b” or an “s” indicates the total quantity open at that price, across all orders (of the account) for the instrument.

Note: Unless the instrument to be traded when an if touched trigger condition is met is the same as the instrument associated with the trigger condition, an Order Book does not show the id (Symbol) of the instrument that will be traded - they need not be same instrument. Refer to **Appendix B** for details on if touched price types.

Placing Simple Orders through the Order Book

Once an instrument, an account, a duration and a quantity have been set, you may place orders through the Order Book. All orders placed through the Order Book will be submitted for the instrument and on the account you have set and with the duration and quantity that you have set.

Limit Orders

Click in the Bid Size column, on the row that corresponds to the price at which you would purchase the instrument, to issue a “Buy Limit” order. Click in the Ask Size column, on the row that corresponds to the price at which you would sell the instrument, to issue a “Sell Limit” order. Shortly after the order is confirmed by the exchange as being open, you should see an entry in the Limit Orders column on the row on which you clicked, indicating the total quantity the account has open at that price for the instrument. As the order gets filled, the quantity displayed is reduced and when completely filled, removed.

Market Orders

Click on the button at the bottom of the Order Book labeled “Buy Market” to place an order to buy at the market. Click on the button at the bottom of the Order Book labeled “Sell Market” to place an order to sell at the market.

Stop (Market) Orders

Select Market in the Stop Price Type box at the bottom left of the Order Book.

Click in the column whose heading is an “S” on the row that corresponds to the stop price you would like to set. A stop (market) order will be placed immediately. If you clicked on a row whose price is above the last trade price, then the stop order will be a buy order. If you clicked on a row whose price is equal to or less than the last trade price, then the stop order will be a sell order.

Stop Limit Orders

Select Limit in the Stop Price Type box at the bottom left of the Order Book.



Click in the column whose heading is an "S" on the row that corresponds to the stop price you would like to set. An order ticket will pop up populated with the instrument, account, quantity and duration displayed in the Order Book and a price type of "Stop Limit". If you clicked on a row whose price is above the last trade price, then the order ticket will be set for a buy order. If you clicked on a row whose price is equal to or less than the last trade price, then the order ticket will be set for a sell order. In both cases, the limit price and the stop price will be set to the price displayed on the row on which you clicked. You may change the quantity, stop and limit price of the order by clicking on the arrows of their respective boxes or by typing in them directly. Click "Place Order" to submit the order or "Cancel" to close the window without placing the order.

If Touched Orders

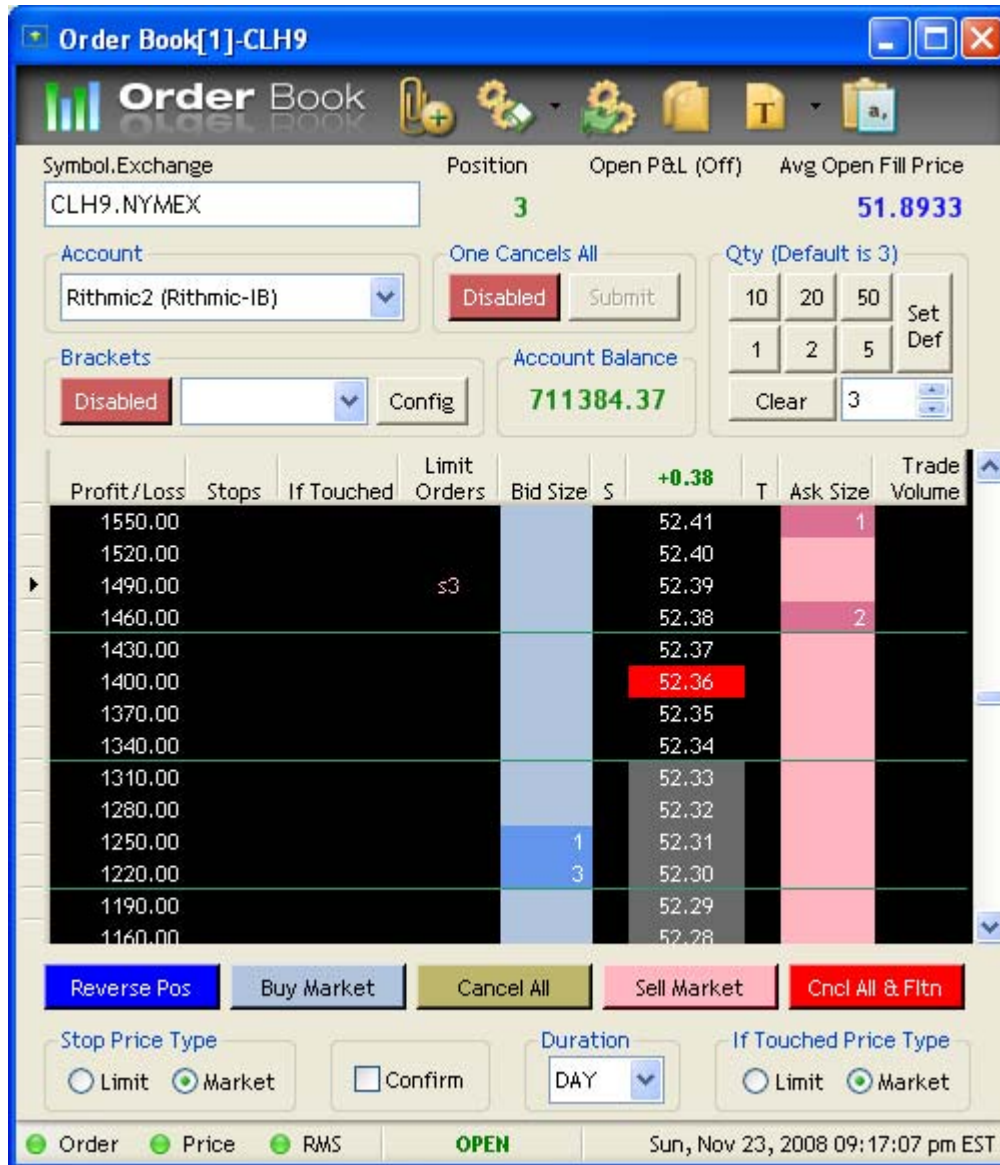
If you would like to place an if touched market order, select Market in the If Touched Price Type box at the bottom right of the Order Book. If you would like to place an if touched limit order, select Limit.

Click in the column whose heading is a "T" on the row that corresponds to the trigger price you would like to set. An order ticket will pop up populated with the instrument, account, quantity and duration displayed in the Order Book, with a price type of "Market if Touched" if you selected Market in the If Touched Price Type box, or a price type of "Limit if Touched" if you selected Limit in the If Touched Price Type box. In contrast to a stop order, the transaction type ("Buy" or "Sell") of an if touched price type order is not dependent upon where the trigger price (stop price) is relative to the last traded price. Therefore the transaction type it is not determinable based upon the trigger price and the last traded price. Consequently the order ticket pops up as a "Buy" order always, but you may change it by selecting Sell in the "Trans" drop down box.

When the order ticket pops up it will display a trigger price equal to the best offer price of the instrument. If the price type is Limit if Touched then the limit price will be set to the price displayed on the row on which you clicked. Refer to Appendix B for more information on populating an order ticket for an if touched order. Click "Place Order" to submit the order or "Cancel" to close the window without placing the order.

Modifying and Cancelling Orders through the Order Book

To modify the price of an open order through the Order Book click on an open order indicator and drag it to the row that displays the price at which you would like the quantity to be filled, stopped or triggered, as the case may be. A colored bar (usually red) will highlight the price as you drag the open order indicator. When you release it, a request will be sent to the exchange to modify the relevant price for all orders whose quantity was just dragged to the price that was last highlighted.



To cancel all open orders represented by a single open order indicator, double click on it.

To cancel all open orders (with respect to the account) for this instrument click on the "Cancel All" button at the middle of the bottom of the Order Book.

To cancel all open orders (with respect to the account) for this instrument and then flatten the current position of the instrument, click on the "Cncl All & Fltn" button at the bottom right of the Order Book. The Rithmic system will first cancel the account's open orders for the instrument and then issue a market order to flatten (close) its position.



Reversing a Position through the Order Book

To reverse a position of an instrument for an account, i.e. to go from a position of long 5 to a position of short 5, click on the "Reverse Pos" button at the bottom left of the Order Book. A single market order will be placed with a quantity equal to double the size of your position. The order will be a "Buy" order if your position is short or a "Sell" order if your position is long.

Placing One Cancel Other Orders through the Order Book

A One Cancels Other order (an OCO, also referred to as One Cancels All) placed through the Order Book is a set of orders that are placed simultaneously such that when any one of them is completed (either filled, cancelled or partially filled with its balance cancelled), the others will be cancelled (or balance cancelled, as the case may be), automatically by the Rithmic system.

To place an OCO through the Order Book you must first put the Order Book into OCO mode. Click on the red "Disabled" button in the One Cancels All box in the middle of the top part of the Order Book.

Order Book[1]-ESZ8

Symbol: Exchange: ESZ8.CME Position: -5 Open P&L (USD): 15687.50 Avg Open Fill Price: 813.00

Account: Rithmic3 (Rithmic-IB) One Cancels All: Disabled Qty (Default is 0): 10, 20, 50, 1, 2, 5, Clear, 0

Brackets: Disabled Account Balance: 762731.88

Profit/Loss	Stops	If Touched	Limit Orders	Bid Size	S	Ask Size	Trade Volume
15437.50						751.25	56
15500.00						751.00	45
15562.50						750.75	78
15625.00						750.50	32
15687.50						750.25	65
15750.00						750.00	
15812.50				47		749.75	
15875.00				26		749.50	
15937.50				56		749.25	
16000.00				27		749.00	

Reverse Pos Buy Market Cancel All Sell Market Cncl All & Fltn

Stop Price Type: Limit Market Confirm: Duration: DAY If Touched Price Type: Limit Market

Order Price RMS OPEN Mon, Nov 24, 2008 11:31:36 am EST



The button will turn green and display "Enabled" indicating that the Order Book is in OCO mode, as in the Order Book below.

Order Book[1]-ESZ8

Symbol.Exchange: ESZ8.CME Position: -5 Open P&L (USD): 15687.50 Avg Open Fill Price: 813.00

Account: Rithmic3 (Rithmic-IB) One Cancels 0 Orders: **Enabled** Qty (Default is 0): 10, 20, 50, 1, 2, 5, Clear, 5

Brackets: Disabled Account Balance: 762731.88

Profit/Loss	Stops	If Touched	Limit Orders	Bid Size	S	-79.75	Ask Size	Trade Volume
15250.00						752.00		
15312.50						751.75		
15375.00						751.50		
15437.50						751.25	56	
15500.00						751.00	45	
15562.50						750.75	78	
15625.00						750.50	32	
15687.50						750.25	65	
15750.00						750.00		
15812.50				44		749.75		3
15875.00				26		749.50		
15937.50				56		749.25		
16000.00				27		749.00		
16062.50				59		748.75		
16125.00						748.50		
16187.50						748.25		
16250.00						748.00		
16312.50						747.75		

Reverse Pos Buy Market Cancel All Sell Market Cncl All & Fltn

Stop Price Type: Limit Market Confirm: Duration: DAY If Touched Price Type: Limit Market

Order Price RMS **OPEN** Mon, Nov 24, 2008 11:34:42 am EST

Until the Order Book is taken out of OCO mode (by clicking the button again which will cause it to turn red and display "Disabled"), clicking to place an order will instruct the Order Book to include that order in the next OCO order and will not submit that order to the Rithmic system.

Click on the Order Book as if you were placing orders. Upon each click an open order indicator will appear except that it will be preceded by an asterisk ("*") indicating that that order will be



part of an OCO order and has not yet been submitted to the Rithmic system (nor to the exchange). In the Order Book below you can see that a sell limit and a sell stop order will be part of the next OCO order.

Order Book[1]-ESZ8

Symbol.Exchange: ESZ8.CME Position: 0 Open P&L (USD): 0.00 Avg Open Fill Price: 0.00

Account: Rithmic3 (Rithmic-IB) One Cancels 2 Orders: Enabled Submit Qty (Default is 0): 10, 20, 50, 1, 2, 5, Set Def, Clear, 5

Brackets: Disabled A Account Balance: 762719.38

Profit/Loss	Stops	If Touched	Limit Orders	Bid Size	Ask Size	Trade Volume
15687.50					752.00	
15687.50					751.75	
15687.50					751.50	
15687.50					751.25	56
15687.50			*s5		751.00	45
15687.50					750.75	78
15687.50					750.50	32
15687.50					750.25	44
15687.50					750.00	21
15687.50				39	749.75	8
15687.50				26	749.50	
15687.50				56	749.25	
15687.50	*s5			27	749.00	
15687.50				56	748.75	
15687.50					748.50	
15687.50					748.25	
15687.50					748.00	
15687.50					747.75	

Reverse Pos Buy Market Cancel All Sell Market Cncl All & Fltn

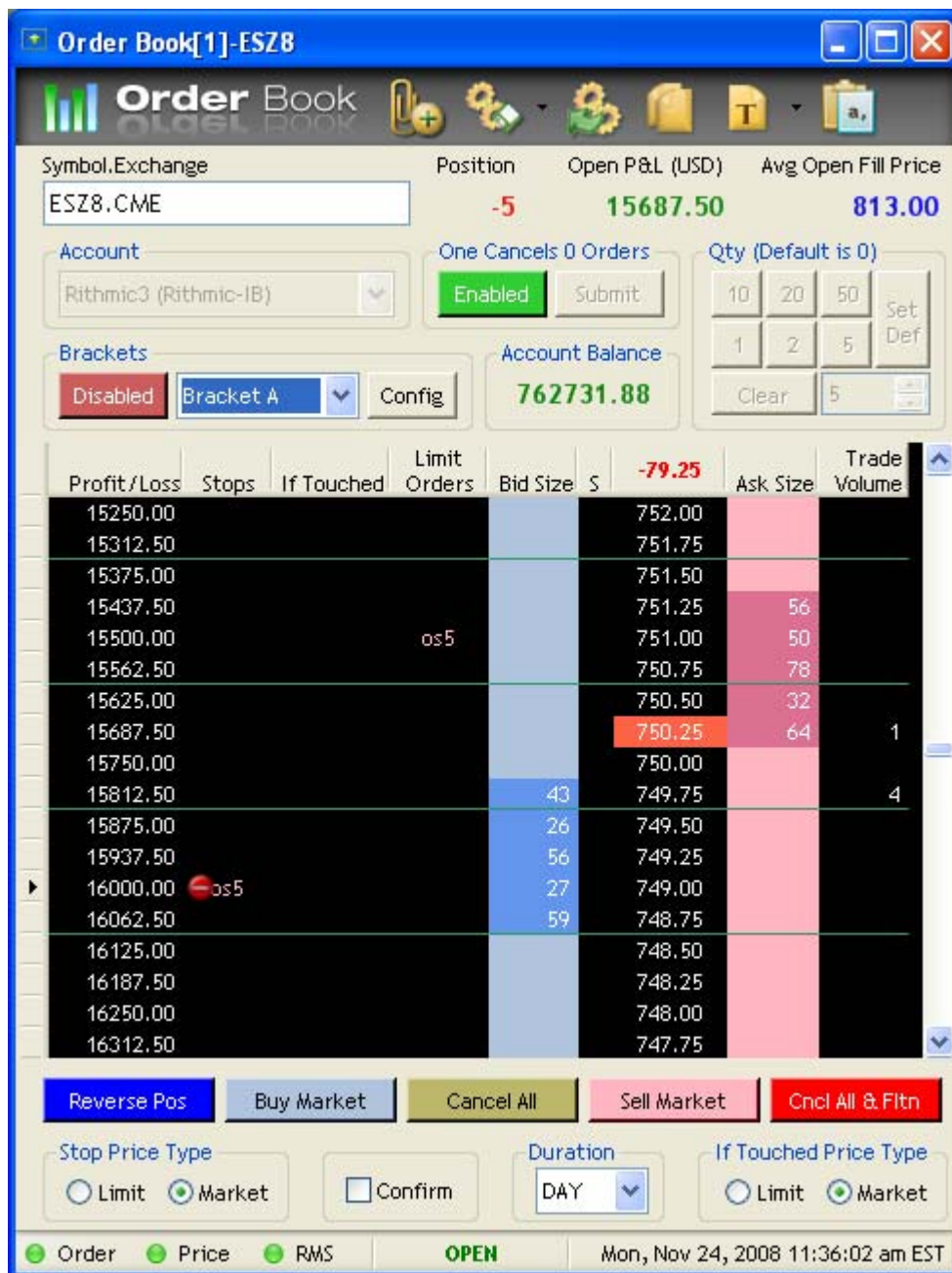
Stop Price Type: Limit Market Confirm: Duration: DAY If Touched Price Type: Limit Market

Order Price RMS OPEN Mon, Nov 24, 2008 11:41:35 am EST

When you have finished organizing the individual orders for an OCO order, click on the (blinking) "Submit" button in the One Cancels All box and the orders will be submitted to the Rithmic system as an OCO order (and then to the exchange as appropriate). As the individual orders of the OCO order are confirmed open by the exchange (or confirmed held by the Rithmic



system, as the case may be), each order of the OCO order will appear in the Order Book as usual but preceded by an "o".



The Order Book above shows 2 individual orders of an OCO order – an order to sell 5 at a limit price of 751.00 and an order to sell 5 stopped at a price of 749.00.

Continue clicking on the Order Book as if you were placing orders to set up the next OCO order and then click on the "Submit" button to submit them to the Rithmic system. Repeat this to



place as many OCO orders as you would like. When you are done placing OCO orders click on the (green) "Enabled" button to take the Order Book out of OCO mode.

Note: An Order Book cannot be in OCO mode and in Bracket mode simultaneously. If an Order Book is in Bracket mode and you click on the "Disable" button in the One Cancels All box then the Order Book will disable Bracket mode and enter into OCO mode. Disabling the OCO mode will not put the Order Book back into Bracket mode.

Placing Bracket Orders through the Order Book

A Bracket order is comprised of an entry order and one or more associated OCO orders. As the entry order gets filled, the Rithmic system (not the R | Trader™ application) automatically places OCO orders configured to capture a specified profit and configured to limit a specified loss.

To place a Bracket order you must first put the Order Book into Bracket mode. Click on the red "Disabled" button in the Brackets box on the left of the top part of the Order Book. The button will turn green and display "Enabled" indicating that the Order Book is in Bracket mode, as in the Order Book below.

Order Book[1]-6EZ8

Order Book

Symbol.Exchange: 6EZ8.CME Position: 0 Open P&L (USD): Avg Open Fill Price:

Account: Rithmic3 (Rithmic-IB) One Cancels All: Disabled Submit Qty (Default is 0): 10, 20, 50, 1, 2, 5, Clear, 0, Set Def

Brackets: Enabled Bracket A Config Account Balance: 762703.75

Profit/Loss	Stops	If Touched	Limit Orders	Bid Size	Ask Size	Trade Volume
				7	11	
				5	5	
					2	

Reverse Pos Buy Market Cancel All Sell Market Cncl All & Fltn

Stop Price Type: Limit Market Confirm: Duration: DAY If Touched Price Type: Limit Market

Order Price RMS OPEN Mon, Nov 24, 2008 01:09:51 pm EST



Next, select a bracket configuration to use from the drop down box next to the “Enabled” button. Refer to **Appendix E** for instructions on how to configure a bracket.

Order Book[1]-ESZ8

Symbol.Exchange: ESZ8.CME Position: 6 Open P&L (USD): 0.00 Avg Open Fill Price: 812.00

Account: Rithmic2 (Rithmic-IB) One Cancels All: Disabled Submit Qty (Default is 6): 10, 20, 50, 1, 2, 5, Set Def, Clear, 6

Brackets: Enabled ES Bracket Config Account Balance: 752738.12

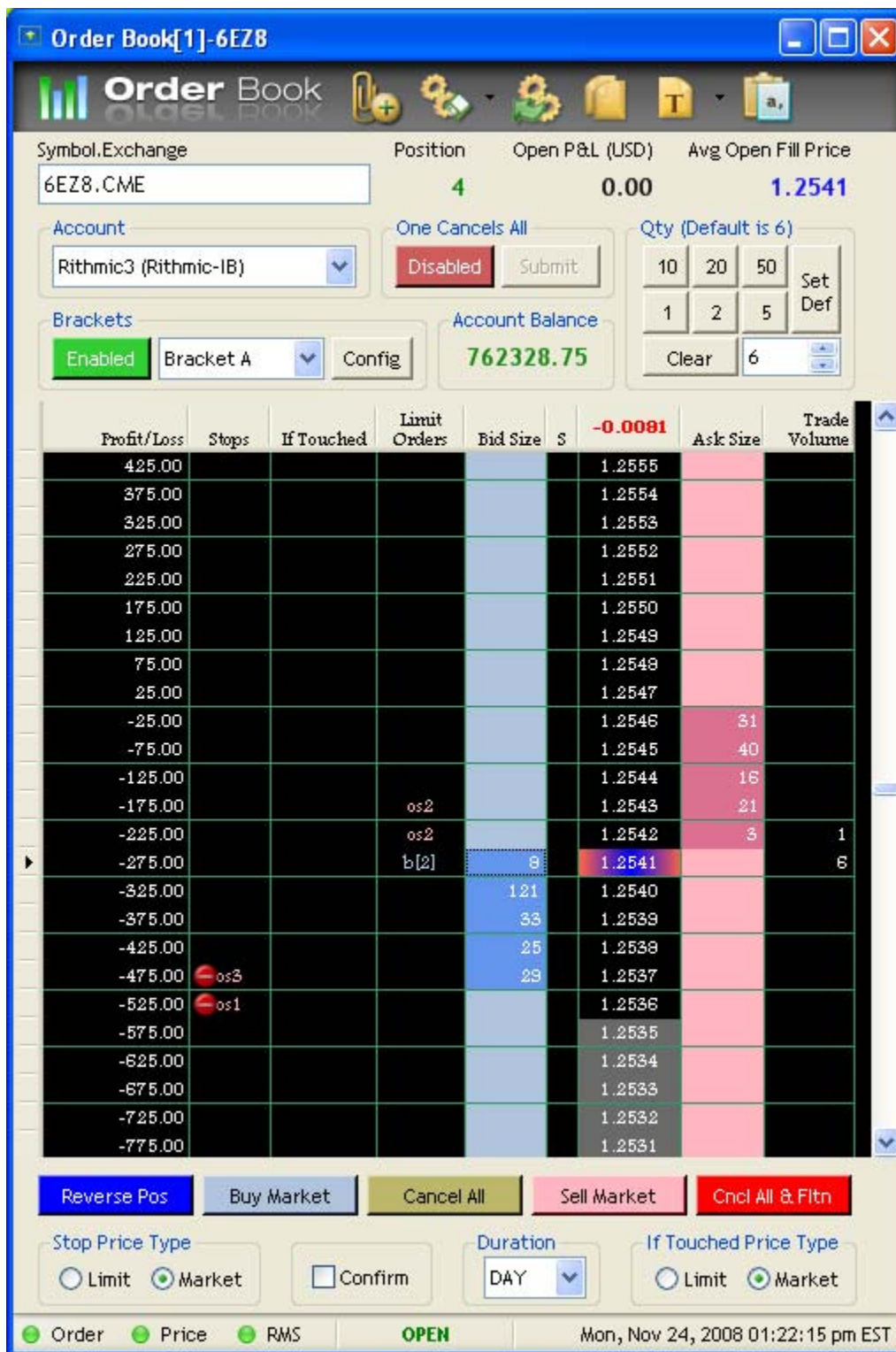
Profit/Loss	Stops	If Touched	Limit Orders	Bid Size	S	-17.50	T	Ask Size	Trade Volume
525.00						813.75			
450.00						813.50			
375.00						813.25		49	
300.00						813.00		45	
225.00						812.75		145	
150.00						812.50		114	
75.00						812.25		100	5
0.00			b [6]	6		812.00			
-75.00				313		811.75			
-150.00				105		811.50			
-225.00				98		811.25			
-300.00				96		811.00			
-375.00						810.75			
-450.00						810.50			

Reverse Pos Buy Market Cancel All Sell Market Cncl All & Fltn

Stop Price Type: Limit Market Confirm: Duration: DAY If Touched Price Type: Limit Market

Order Price RMS OPEN Fri, Nov 21, 2008 04:05:07 pm EST

Until the Order Book is taken out of Bracket mode (by clicking the “Enabled” button which will cause it to turn red and display “Disabled”), clicking to place an order will instruct the Order Book to send that order to the Rithmic system as an entry order together with the contents of the bracket that was displayed in the drop down box at the time the order was clicked. The Order Book above shows an open buy entry order for 6 ESZ8 at a limit price of 812.00, bracketed. The “[]” surrounding a quantity indicate that the orders for the (open) quantity are the entry orders of bracket orders. As the open bracket order gets filled, The Rithmic system places OCO orders consisting of limit orders and corresponding stop (market) orders based upon the configuration of the bracket that was sent along with the entry order.



The Order Book above shows OCO orders that were placed as the entry order was filled. The entry order was a buy order for 6 6EZ8 at a limit of 1.2541. 4 were filled which caused the



Rithmic system to place 3 OCO orders. The first OCO order consisted of a sell order for 2 6EZ8 at a limit price 1 tick above the entry order fill price and a sell market order for 2 stopped at 4 ticks below the entry order fill price. The second OCO order consisted of a sell order for 1 6EZ8 at a limit price 2 ticks above the entry order fill price and a sell market order for 1 stopped at 4 ticks below the entry order fill price. The third OCO order consisted of a sell order for 1 6EZ8 at a limit price 2 ticks above the entry order fill price and a sell market order for 1 stopped at 5 ticks below the entry order fill price. As only a quantity of 4 was filled, 2 remain open on the Order Book. The composition of the bracket used to place the bracket order (Bracket A) can be viewed in **Appendix E**.

You may place as many bracket orders as you wish, subject to your risk limits, by clicking on the Order Book to place orders while the Order Book is in Bracket mode. When you are done placing bracket orders click on the (green) "Enabled" button to take the Order Book out of Bracket mode.

Note: An Order Book cannot be in Bracket mode and in OCO mode simultaneously. If an Order Book is in OCO mode and you click on the "Disable" button in the Brackets box then the Order Book will disable OCO mode and enter into Bracket mode. Disabling Bracket mode will not put the Order Book back into OCO mode.



Order History

The Order History window displays information similarly to the Actual Orders window.

The screenshot shows the Order History window for account 'sbhat (HOUSE)' on the date '2008-10-27'. The window is split into two sections: 'Working Orders (0/0)' and 'Completed Orders (59/59)'. The 'Completed Orders' section displays a table of orders with the following columns: Account, Status, Rejection Reason, Buy/Sell, Qty To Fill, Symbol, Price Type, Avg Fill Price, Limit Price, and Order Number. A date dropdown menu is open, showing a list of dates from 2008-10-12 to 2008-10-27. The table shows various order statuses such as 'Rejected', 'Filled', 'Manually Cancelled', and 'Cancelled'.

Account	Status	Rejection Reason	Buy/Sell	Qty To Fill	Symbol	Price Type	Avg Fill Price	Limit Price	Order Number
sbhat	Rejected	Group state doesn't allow this func		2	ESZ8	M			23363
sbhat	Rejected	Group state doesn't allow this func		2	ESZ8	M			23362
sbhat	Filled			1	ESZ8	L	882.25	882.50	23356
sbhat	Manually Cancelled			1	ESZ8	L	1199.75	23355	
sbhat	Filled		S	1	ESZ8	L	871.00	871.00	23291
sbhat	Filled		S	1	ESZ8	L	871.00	871.00	23289
sbhat	Filled		S	1	ESZ8	L	871.00	871.00	23287
sbhat	Rejected	Stop price maxi-mini must be <= trigger price	S	1	ESZ8	STP			23286
sbhat	Filled		S	1	ESZ8	L	871.00	871.00	23284
sbhat	Filled		S	1	ESZ8	L	871.00	871.00	23282
sbhat	Filled		S	1	ESZ8	L	871.00	871.00	23280
sbhat	Filled		S	1	ESZ8	L	871.00	871.00	23278
sbhat	Filled		S	1	ESZ8	L	871.00	871.00	23276
sbhat	Filled		S	1	ESZ8	L	871.00	871.00	23274
sbhat	Cancelled		S	1	ESZ8	L		878.50	23273
sbhat	Cancelled		S	1	ESZ8	L		888.75	23259
sbhat	Cancelled		S	1	ESZ8	L		877.25	23258
sbhat	Filled		S	1	ESZ8	L	876.00	871.25	23256
sbhat	Rejected	Order price is outside daily limits	B	1	ESZ8	L		868.75	23255
sbhat	Rejected	Order price is outside daily limits	B	1	ESZ8	L		868.50	23254

You may review orders of accounts for which you have permission. Select the account and date of the orders you wish to review from their respective drop down boxes. Click on the and the orders for that account on that date, if any, will be displayed, just like in the Actual Orders window. Double click on an order and its details will be displayed in a pop-up window.




Performance Analysis

The Performance Analysis window displays information about contract positions and profit and loss for each account to which you have access. The upper pane shows the position by contract and account and the lower pane show fill reports for a selected contract-account pair.

The screenshot shows the Performance Analysis window with two panes. The top pane, titled 'Positions (2/6)', displays a table of contract positions. The bottom pane, titled 'Fills (2/5)', displays a table of fill reports for the selected contract.

Performance Analysis									
Accounts: ALL									
Positions (2/6)									
Contract Name	Net Quantity	Buy Quantity	Sell Quantity	Last Price	Open Profit/Loss	Closed Profit/Loss	Total Profit/Loss	Account	
YMM8	0	1	1	12209	0.00	-30.00	-30.00	30033	
ESM8	1	1	0	1317.50	-12.50	0.00	-12.50	30033	
Fills (2/5)									
Fill Id	Order Number	Exchange Order Id	Buy/Sell	Contract Name	Expiry	Exchange	Fill Size	Fill P	
63900420080330...	935936	20080331017124	B	YMM8	Jun-08	CME	1	12	
55300220080330...	935933	20080331017121	S	YMM8	Jun-08	CME	1	12	

To cancel open orders (if any) and flatten the position of a contract in an account, click on the , which by default is located in the leftmost column of the contract whose position you wish to flatten.



Quote Board

Use the quote board to view market data and to place new orders.

Viewing Market Data in the Quote Board

There are 2 ways to enter the symbol and exchange ids of the contract whose market data you wish to view into a cell of a row:

1. Click on the cell that corresponds to the row on which you wish to view the market data and to the column labeled "Symbol". Type the symbol in that cell followed by the symbol-exchange separator (a period "." by default) then followed by the id of the exchange or other trading venue on which that contract trades (refer to **Appendix C** for a list of exchange and other trading venue ids). Tab out of the cell, press enter or click outside the cell and the market data for that contract should appear; or
2. Select a contract from a search window. You may bring up the Add Contract search window by right clicking on the row on which you wish to see the market data and selecting "Search and Add Contract" from the ensuing popup window, or by double clicking on any column of the row on which you wish to view the market data, except the column labeled "Symbol". Refer to **Appendix D** for instructions on how to use the Add Contract window.

Symbol	Description	Trade Volume	Net Change	Bid Size	Bid Price	Last Trade...	Last Trade...	Offer Price	Offer Size
Currency Contracts									
GEZ8	Eurodollar	80734	0.0050	21	97.9575	97.9525	10	97.9600	1
6EH9	Euro Fx	693	0.0079	2	1.2627	1.2624	1	1.2633	12
Energy Contracts									
CLZ8	Light Sweet Crude Oil	47391	-0.42	1	53.95	53.97	1	53.97	1
CLZ8-CLH9	Light Sweet Crude Oil	562	-0.28	1	-2.35	-2.34	1	-2.31	16
CLH9	Light Sweet Crude Oil	6107	-0.33	1	56.29	56.12	1	56.32	1
WBS FMF0009!	WTI Crude Futures - WTI - Jan09	38369	-0.31	3	54.39	54.45	1	54.43	3
WBS FMF0009-BRN...	Brent/WTI Crude Spr - North Sea/WTI - Jan09	11802	-0.34	5	2.58	2.58	1	2.59	6
BRN FMF0009!	Brent Crude Futures - North Sea - Jan09	64826	0.06	7	51.88	51.90	1	51.87	2
Notes & Bonds									
ZBZ8	30 Year US Treasury Bond Futures	115999	1'075	154	121'125	121'125	19	121'125	6
ZNZ8	10 Year US Treasury Note Futures	350048	0'140	258	118'295	118'290	2	118'300	169
ZTZ8	2 Year US Treasury Note Futures	88487	-0'010	147	108'142	108'137	8	108'145	267
ZQZ8	30 Day Federal Fund Futures	5787	-0.025	166	99.565	99.570	1	99.570	280
Equity Indices									
ESZ8	E-Mini S&P 500	1097465	-26.75	49	839.75	839.75	1	840.00	141
ESZ8-ESH9	E-Mini S&P 500	781	0.05	1007	-1.80	-1.75	1	-1.75	48
ESH9	E-Mini S&P 500	1566	-25.75	15	838.25	839.00	1	839.00	14
FESX1208	FUT ON EURO STOXX 50 INDEX	1218640	-95.0	116	2313.0	2313.0	1	2314.0	1019
NQZ8	E-Mini Nasdaq-100	146003	-31.75	19	1141.75	1142.25	1	1142.25	19
TF FMZ0008!	Russell 2000 Index Mini Futures - NYCC - Dec08	53160	-19.80	1	434.20	434.30	1	434.30	5
YMZ8	mini-sized Dow Futures (\$5)	102422	-192	2	8288	8302	6	8298	4
Agricultural Commodities									
ZWZ8-ZWH9	Wheat Futures	4814	00	99891	-196	-196	1	-194	62446
ZWZ8	Wheat Futures	10257	-26	1	5270	5270	1	5274	10



In almost all cases the symbol must be of the form recognized by the exchange on which it trades.

Examples:

CLM8.NYMEX	Crude Oil June 2008 Future at the NYMEX
ESH8.CME	E-Mini S&P March 2008 Future traded at the CME
ESJ8 C1460.CME	E-Mini S&P April 2008 1460 Call at the CME
FESX0308.EUREX	March 2008 Future on the EURO STOXX 50 INDEX at the EUREX
LFI0308.LIFFE	March 2008 Euribor at the LIFFE
YMM8.CME	Mini Dow Jones March 2008 Futures at the CME

Placing Orders from the Quote Board

There are 4 ways to place an order for a contract from the quote board:

1. Right click on the row showing market data for the contract you wish to trade. A small window will pop up. Select "Order Book" from that window (refer to the section on the Order Book in this document for a description of placing orders from the Order Book window).
2. Set the default quantity to trade and the default account to use at the bottom of the Quote Board window. Click on either the column labeled "Bid Size" or "Offer Size" of the row showing market data for the contract you wish to trade. An order ticket will pop up, pre-populated with the symbol and exchange ids of the contract you wish to trade, and with the default quantity to trade and the default account to use (from the bottom of the Quote Board window). If you clicked on the "Bid Size" column then the order ticket will be for a sell order at the market. An order ticket for a buy order at the market will display if you clicked on the "Offer Size" column.

Click the "Ok" button to submit the order and close the confirmation ticket. Click the "Cancel" button to close the confirmation ticket without submitting the order.

3. Set the default quantity to trade and the default account to use at the bottom of the Quote Board window. Select the row showing market data for the contract you wish to trade and move your mouse pointer over the column of that row labeled "Bid Price" or "Offer Price" (or, if the row of showing market data for the contract you wish to trade has not been selected, click on the column labeled "Bid Price" or "Offer Price" of that



row). A small window displaying the price in the column over which your mouse is hovering (or of the column in which you clicked) and up to 5 related prices, each 1 tick apart, will pop up.

Symbol	Description	Trade Volume	Net Change	Bid Size	Bid Price	Last Trade...	Last Trade...	Offer Price	Offer Size
Currency Contracts									
GEZ8	Eurodollar	82455	0.0150	178	97.9600	97.9625	6	97.9625	142
6EH9	Euro Fx	693	0.0079	2	1.2645	1.2624	1	1.2650	12
Energy Contracts									
CLZ8	Light Sweet Crude Oil	48065	-0.30	38	54.07	54.09	1	54.09	3
CLZ8-CLH9	Light Sweet Crude Oil	610	-0.29	14	-2.37	-2.35	1	-2.35	6
CLH9	Light Sweet Crude Oil	6399	-0.10	19	56.43	56.35	1	56.45	1
WBS FMF0009!	WTI Crude Futures - WTI - Jan09	38994	-0.23	8	54.53	54.53	1	54.56	1
WBS FMF0009-BRN...	Brent/WTI Crude Spr - North Sea/WTI - Jan09	12917	-0.38	3	2.53	2.54	1	2.54	20
BRN FMF0009!	Brent Crude Futures - North Sea - Jan09	65726	0.18	1	52.00	52.02	1	52.03	3
Notes & Bonds									
ZBZ8	30 Year US Treasury Bond Futures	118264	1'080	67	121'125	121'130	1	121'130	69
ZNZ8	10 Year US Treasury Note Futures	355608	0'150	842.75	118'295	118'300	3	118'300	31
ZTZ8	2 Year US Treasury Note Futures	94155	-0'010	842.50	108'135	108'137	9	108'137	55
ZQZ8	30 Day Federal Fund Futures	6294	-0.025	842.25	99.570	99.570	1	99.575	41
Equity Indices									
ESZ8	E-Mini S&P 500	1115894	-24.75	841.50	841.50	841.75	1	841.75	48
ESZ8-ESH9	E-Mini S&P 500	792	0.00	993	-1.80	-1.80	5	-1.75	1052
ESH9	E-Mini S&P 500	1664	-25.00	18	839.50	839.75	1	840.50	27
FESX1208									
NQZ8	E-Mini Nasdaq-100	152237	-28.25	3	1145.75	1145.75	2	1146.00	16
TF FMZ0008!	Russell 2000 Index Mini Futures - NYCC - Dec08	53900	-19.10	3	434.90	435.00	1	435.00	2
YMZ8	mini-sized Dow Futures (\$5)	104621	-190	3	8304	8304	1	8306	7
Agricultural Commodities									
ZWZ8-ZWH9	Wheat Futures	5213	0'2	102858	-196	-19'4	1	-19'4	1499
ZWZ8	Wheat Futures	10835	-1'2	1	528'4	528'4	1	529'0	6

Price Feed Quantity 1 Account Rithmic3 (Rithmic-IB) Confirm before placing orders Wed, Nov 19, 2008 11:12:30 am EST

The 5 prices will be above the price of the bid price if you hovered over or clicked on the column labeled "Bid Price" and they will be below the offer price if you hovered over or clicked on the column labeled "Offer Price". Clicking on one of the prices will bring up a confirmation ticket for an order with a limit price of the price on which you clicked. The order will be a sell order if you hovered over or clicked on the column labeled "Bid Price" and the order will be a buy order if you hovered over or clicked on the column labeled "Offer Price". The confirmation ticket will be pre-populated with the symbol and exchange ids of the contract you wish to trade, and with the default quantity to trade and the default account to use (from the bottom of the Quote Board window). Click the "Ok" button to submit the order and close the confirmation ticket. Click the "Cancel" button to close the confirmation ticket without submitting the order.

- Set the default quantity to trade and the default account to use at the bottom of the Quote Board window. Select the row showing market data for the contract you wish to trade and press the "+" key or the "-" key. A Place Order window will pop up pre-populated with the symbol and exchange ids of the contract you wish to trade, with the default quantity to trade and the default account to use (from the bottom of the Quote



Board window), configured as a buy limit order with a limit price of the current offer price, if you pressed the "+" key. If you pressed the "-" key then the Place Order window will be configured as a sell limit order with a limit price of the current bid price.

Account	Exchange	Duration	Release at (EST)	
Rithmic2 (Rithmic-IB)	CME	DAY	2008-11-18 11:01:37	
Trans	Symbol	Price Type	Qty	Limit Price
BUY	NQZ8	Limit	1	1156.25

Close when done

Place Order Cancel

Though the Place Order window pops up pre-populated, you may change the contents of any of the fields. Click the "Place Order" button to submit the order. Click the "Cancel" button to close the Place Order window without placing the order.



RMS

The Risk Management System window displays position and profit and loss information for each account to which you have access.

Account	Fill Buy Qty	Fill Sell Qty	Open Profit/Loss	Closed Profit/Loss	PNL	Cash On Hand	Buy Margin Balance	Sell Margin Balance	Account Balance	Net Position
Rithmic1	7	532	139037.50	0.00	139037.50	3069982.50	3471520.00	2946520.00	3209020.00	-525
Rithmic3	0	0	0.00	0.00	0.00	750000.00	750000.00	750000.00	750000.00	0
Rithmic2	0	0	0.00	0.00	0.00	749585.00	749585.00	749585.00	749585.00	0

Double click on an account and you will bring up the Symbol Dashboard window. This window displays position and profit and loss information for each contract traded in that account.

Symbol	Buy Exposure	Sell Exposure	PNL	Order Buy Qty	Fill Buy Qty	Order Sell Qty	Fill Sell Qty	Net Position
NQZ8	-4	4	-1120.00	0	0	0	4	-4
GEH9	0	0	0.00	0	0	0	0	0
ESH9	1	0	0.00	1	0	0	0	0
HOH9	0	0	0.00	0	0	0	0	0
ZBZ8	0	0	0.00	0	0	0	0	0
6EH9	0	0	0.00	0	0	0	0	0
NGH9	0	0	0.00	0	0	0	0	0
ZNZ8	0	0	0.00	0	0	0	0	0
CLZ8	0	0	0.00	0	0	0	0	0
6CZ8	0	0	0.00	0	0	0	0	0
GEZ8	7	-7	-437.50	0	7	0	0	7
ESZ8	-532	533	39900.00	0	0	1	532	-532
ESZ8-ESH9	1	-1	0.00	0	1	0	0	1
YMZ8	1	-1	-55.00	0	1	0	0	1

Right click on an account and you will be able to select from the following options:

View Risk Parameters

View the risk parameters of each product code which may be traded on the selected account. Risk parameters may only be set or modified by your FMC or IB.



View Risk Parameters for Rithmic1 (Rithmic-IB) - Maximum Available Margin

Risk Management System

Account	Buy Limit	Sell Limit	Loss Limit	Max Order Qty	Min Account Balance	Net Open Value Limit	Min Margin Balance
Rithmic1	0	0	0	0	0.00	0	1000.00

Product	Buy Limit	Sell Limit	Loss Limit	Max Order Qty	Commission Fill Rate	Margin Rate
CL	0	0	0	0	2.50	500.00
CT	0	0	0	0	2.50	500.00
DX	0	0	0	0	2.50	500.00
E7	0	0	0	0	2.50	500.00
EMD	0	0	0	0	2.50	500.00
ER2	0	0	0	0	2.50	500.00
ES	0	0	0	0	2.50	500.00
EO	0	0	0	0	2.50	500.00

View Positions

Launch a Performance Analysis window for the selected account.

Open Order Book

Launch an Order Book window for the selected account.

Open Options Board

Launch an Options Board window for the selected account.

View Actual Orders

Launch an Actual Orders window for the selected account.

Pull Working Orders

Cancel all working orders for the selected account.

Pull Working Orders and Exit Position

Cancel all working orders then flatten all positions for the selected account.



Strategy Board

The Strategy Board window displays the composition of exchange listed strategy instruments and real time prices for these instruments, their legs and for the synthetic calculation of the strategy.

The screenshot shows the Strategy Board window with the following details:

- Exchange:** CME
- Product:** YM
- Strategy Type:** Futures Calendar
- Order Parameters:** Limit (selected), Quantity: 1, Duration: DAY, Account: [blank]
- Confirm before placing orders:** Checked
- Month:** December 2008

Symbol	Weight	Bid Qty	Bid	Ask	Ask Qty	Last
YMZ8-YMU9		5	-150			
Synthetic						
YMU9	+1					
YMZ8	-1	7	8818	8819	1	8819
YMZ8-YMH9		20	-38	-33	1	-38
Synthetic						
YMH9	+1	1	8776	8788	1	8778
YMZ8	-1	7	8818	8819	1	8819
YMZ8-YMM9		5	-75	-2	20	-75

Price Feed | Fri, Nov 07, 2008 10:10:04 am EST

Right click on a strategy contract and select "Show Order Book" and an order book window for that strategy contract will display. If you right click on a line labeled "synthetic" then an order book window for the strategy instrument of which the synthetic entry is a part will be displayed as well as an order book window for each of its legs.

Placing Orders from the Strategy Board

You may place orders for a listed strategy through the Strategy Board by clicking on a "Bid" or "Ask" column of the row that corresponds to the strategy you wish to buy or sell. A click on a "Bid" column price brings up a Place Order window populated to sell the strategy with other fields containing the same contents as the Order Parameters of the Strategy Board window. A click on the "Ask" column price brings up a Place Order window similarly populated but set to buy the strategy.



Account	Exchange	Duration	<input type="checkbox"/> Release at (EST)	
Rithmic1 (Rithmic-IB)	CME	DAY	2008-11-18 15:44:39	
Trans	Symbol	Price Type	Qty	Limit Price
SELL	YMZ8-YMM9	Limit	1	-76
<input checked="" type="checkbox"/> Close when done			Place Order Cancel	

Though the Place Order window pops up pre-populated, you may change the contents of the fields that have an associated drop down box. Click the "Place" button to submit the order. Click the "Cancel" button to close the Place Order window without placing the order.

Note: *As of the date of this publication the calculation of the synthetic value of a strategy may not be correct in all cases and should not be used in any trading decisions.* Contact your FCM or IB for more information.



Synthetic Board

The Synthetic Board displays information about strategy instruments that are not listed on an exchange. These instruments are defined by users of the Rithmic system and are visible to any Rithmic system user. A synthetic instrument may be composed of instruments of varying types (futures, options on futures, exchange listed strategies) and/or instruments that trade on different exchanges. To create a synthetic instrument, contact the support desk of your FCM or IB.

The screenshot shows the Synthetic Board window with the following details:

- Symbol:** R:1HO-1CL:Z8 Heating Oil - Crude Oil:Dec 08
- Quantity:** 1
- Duration:** DAY
- Account:** [Dropdown menu]
- Market:** Buy (blue), Sell (pink)
- Market If Touched:** Buy (blue), Trigger Price [Dropdown], Sell (pink)
- Confirm before placing orders

Symbol	Exchange	Weight	Bid Qty	Bid	Ask	Ask Qty	Last
R:1ES-1YM:H9			2	2180	2202	16	2190
R:1FESX-1ES:H9			478	-46606	-46593	146	-46594
R:1TF FMZ0008!-1ES:Z8			4	-48778	-48765	4	-48766
ESZ8	CME	-1	408	986.00	986.25	862	986.00
TF FMZ0008!	NYBOT	1	4	533.90	534.10	4	534.00
R:1ZB-1ZF:H9			76	921	960	85	937
ZFB8	CME	-1	254	115'127	115'130	76	115'130
ZBZ8	CME	1	121	116'105	116'115	85	116'110
R:1RB-1CL:Z8			1	-5371	-5267	1	-5300
CLZ8	NYMEX	-1	5	65.92	65.94	28	65.94
RBZ8	NYMEX	1	1	1.4421	1.4441	1	1.4438
R:1HO-1CL:Z8			10	20382	20461	1	20433

Price Feed | Wed, Nov 05, 2008 12:00:28 pm EST

To view composition and price information about a synthetic instrument, enter its id in the box labeled Symbol at the top of the Synthetic Board window and press Enter. If you do not know its id you may look it up by double clicking in the Symbol box. The Synthetic Board window will then display the Add Synthetic Contracts screen which shows all synthetic symbols known to the Rithmic System. To add a synthetic symbol to the Synthetic Board, select a symbol and click on the Add button or merely double click on the symbol you wish to add. You may sort the rows in the Add Synthetic Contract window by clicking on the column headings. Click on the Close button to close the Add Synthetic Contract screen.



Add Contract

Add Synthetic Contract

Instrument Type: Synthetic

Search: Symbol Description

Symbol	Symbol Name	Exchange
▶ R:1ES-1YM:H9	1 S&P - 1 DOW:JAN 09	SYN
R:1ES-1YM:Z8	1 S&P - 1 DOW:DEC 08	SYN
R:1FESX-1ES:H9	1 EURO STOXX - 1 S&P:JAN 09	SYN
R:1FESX-1ES:Z8	1 EURO STOXX - 1 S&P:DEC 08	SYN
R:1FESX-1NQ:H9	1 EURO STOXX - 1 NASDAQ:JAN 09	SYN
R:1FESX-1NQ:Z8	1 EURO STOXX - 1 NASDAQ:DEC 08	SYN
R:1HO-1CL:H9	HEATING OIL - CRUDE OIL:JAN 09	SYN
R:1HO-1CL:V8	HEATING OIL - CRUDE OIL:OCT 08	SYN
R:1HO-1CL:X8	HEATING OIL - CRUDE OIL:NOV 08	SYN
R:1HO-1CL:Z8	HEATING OIL - CRUDE OIL:DEC 08	SYN
R:1RB-1CL:H9	RBOB GAS NY - CRUDE OIL:JAN 09	SYN
R:1RB-1CL:V8	RBOB GAS NY - CRUDE OIL:OCT 08	SYN
R:1RB-1CL:X8	RBOB GAS NY - CRUDE OIL:NOV 08	SYN
R:1RB-1CL:Z8	RBOB GAS NY - CRUDE OIL:DEC 08	SYN
R:1TF FMZ0008!-1ES:H9	1 RUSSELL - 1 S&P:JAN 09	SYN
R:1TF FMZ0008!-1ES:Z8	1 RUSSELL - 1 S&P:DEC 08	SYN
R:1TF FMZ0008!-1YM:H9	1 RUSSELL - 1 DOW:JAN 09	SYN
R:1YM-1ES:H9	1 DOW - 1 S&P:JAN 09	SYN
R:1TF FMZ0008!-1YM:Z8	1 RUSSELL - 1 DOW:DEC 08	SYN
R:1YM-1ES:Z8	1 DOW - 1 S&P:DEC 08	SYN
R:1ZB-1ZF:H9	30 YEAR BOND - 5 YEAR NOTE:JAN 09	SYN
R:1ZB-1ZF:Z8	30 YEAR BOND - 5 YEAR NOTE:DEC 08	SYN
R:1ZB-1ZN:Z8	30 YEAR BOND - 10 YEAR NOTE:DEC...	SYN
R:1ZB-1ZN:H9	30 YEAR BOND - 10 YEAR NOTE:JAN...	SYN
R:1ZN-1ZF:H9	10 YEAR NOTE - 5 YEAR NOTE:JAN 09	SYN
R:1ZN-1ZF:Z8	10 YEAR NOTE - 5 YEAR NOTE:DEC 08	SYN
R:2NQ+1YM-2ES:Z8	2 NASDAQ + 1 DOW - 2 S&P:DEC 08	SYN
R:2NQ-1ES:H9	2 NASDAQ - 1 S&P:JAN 09	SYN
R:2NQ-1ES:Z8	2 NASDAQ - 1 S&P:DEC 08	SYN
R:2NQ-1TF FMZ0008!Z8	2 NASDAQ - 1 RUSSELL:DEC 08	SYN
R:2NQ-1TF FMZ0008!H9	2 NASDAQ - 1 RUSSELL:JAN 09	SYN

The weight of a component of a synthetic instrument indicates the number of contracts that would be traded for that component if the synthetic instrument were to be traded. As the synthetic instrument itself is not tradable on an exchange, trading the synthetic instrument really means trading its components. Effectively the Synthetic Board enables you to trade a synthetic instrument by issuing orders to trade its components, weighted accordingly. **By definition, the Synthetic Board will issue orders to buy components that have positive weights and to sell components that have negative weights when instructed to buy a synthetic instrument. Conversely it will issue orders to sell components that have**



positive weights and to buy components that have negatives weights when instructed to sell a synthetic instrument.

If you right click on a line in the synthetic board that contains a synthetic instruments' id a small window will pop up. Select Show Order Book to display an Order book for the synthetic instrument or select Delete to remove it from the Synthetic Board. **Note: An order book for a synthetic instrument is not capable of placing orders for the synthetic instrument.**

Trading a Synthetic Instrument

Once you have set the Quantity, Duration and Account for your trade, you may buy or sell a synthetic instrument at its calculated market price (more specifically, you may buy or sell the components of the synthetic instrument at each component's current market price) by selecting the row that displays the synthetic instrument you wish to trade (highlighting it) and then by clicking on the Buy or Sell button in the box labeled Market in the middle of the top part of the Synthetic Board.

You may condition the purchase or sale of a synthetic instrument by entering a trigger price in the box labeled Trigger Price and then by clicking on the Buy or Sell button in the box labeled Market If Touched. Market if touched orders will then be submitted to and held by the Rithmic system for each of the components until one of the following conditions is met (at which time the held orders will be submitted to the exchange):

- If the transaction type is Buy, market orders for the components will be submitted to the exchange when the offer price of the synthetic instrument is less than or equal to the trigger price; or
- If the transaction type is Sell, market orders for the components will be submitted to the exchange when the bid price of the synthetic instrument is greater than or equal to the trigger price.

The Market If Touched orders are sent as an OCO order with the condition that if one is cancelled then all are cancelled.



Trade menu options

From the Trade menu you may bring up an order entry ticket.



Place Order

The Place Order window is a small format order ticket. From this window you may configure and place market, limit, stop and if touched orders and, if so desired, you may instruct the Rithmic system to release an order at a specific date and time.

The screenshot shows the "Place Order" window with the following fields and values:

Account	Exchange	Duration	Release at
Rithmic1 (Rithmic-IB)	CME	DAY	<input type="checkbox"/> 2008-10-28 10:05:24

Trans	Symbol	Price Type	Qty	Limit Price	Stop Price
SELL	ESZ8	Stop Limit	1	877.75	877.75

Close after placing order

Place Cancel



Account

Select the account on which the order is to be placed. Only the accounts for which you have permission to trade are displayed in the Account drop down box.

Exchange

Select the id of the exchange or other trading venue on which you would like to place an order. Refer to **Appendix C** for a list of exchange and other trading venue ids. The Exchange drop down box shows all the exchanges to which the Rithmic system is connected (not just the exchanges on which you may trade).

Duration

Select the duration of the order to be placed. The Duration drop down box displays all the durations supported by the Rithmic system. Refer to **Appendix B** for details.

Release At

Check the Release At box if you would like to specify the date and time at which the Rithmic System should release the order to the exchange. For example, if you would like the Rithmic system to release the order at the New York market open on November 24, 2008, and you are in London as you fill out the Place Order window, set the date and time in the Release At box to 2008-11-24 14:30:00 (which corresponds to 9:30:00am New York time).

Note: The time zone of the time in the box is always the time zone of your local machine (local time) so be sure that you know to what time zone your machine has been configured.

Note: If the box is unchecked then, upon clicking the Place button, the order will be released to the exchange as soon as possible.

Trans

Select the transaction type of the order to be placed. The Trans drop down box displays all the transaction types supported by the Rithmic system.

Symbol

Type in the symbol that corresponds to the instrument which you would like to trade.

Price Type

Choose the price type of the order you would like to place. The Price Type drop down box shows all the price types supported by the Rithmic system. Refer to **Appendix B** for details.

Qty

Enter in the size of the order to be placed. You may change the size directly or by clicking on the up and down arrows.

Limit Price

Upon the selection of a price type that involves a limit price a Limit Price box appears to the right of the Qty box. If the order is a buy order, the Limit Price box is populated with the



current best ask price of the symbol to be traded. If the order is a sell order, the Limit Price box is populated with its current best bid price. You may change the limit price directly or by clicking on the up and down arrows. Clicking on the up and down arrows moves the price by 1 tick per click.

Stop Price

Upon the selection of a price type that involves a stop price, a Stop Price box appears to the right of the Qty box, leaving enough room for a Limit Price box to appear between them should the price type also require a limit price. If the order is a buy order, the Stop Price box is populated with the current best ask price of the symbol to be traded. If the order is a sell order, the Stop Price box is populated with its current best bid price. You may change the stop price directly or by clicking on the up and down arrows. Clicking on the up and down arrows moves the price by 1 tick per click.

Close after placing order

Check this box if you would like the window to automatically close after you click on the "Place" button. Otherwise the window will remain open (so you do not have to launch it each time you place an order).

Place and Cancel Buttons

Click the "Place" button to submit the order and close the Place Order window. Click the "Cancel" button to close the Place Order window without placing the order.

If Touched Orders

If the price type of the order to be placed is an "If Touched" price type then the Place Order window expands to display selections that pertain to if touched orders under the heading "Release Order When". Refer to **Appendix B** for details.



The screenshot shows the "Place Order" dialog box with the following fields and values:

- Account:** Rithmic1 (Rithmic-IB)
- Exchange:** CME
- Duration:** DAY
- Release at:** 2008-10-27 11:43:59
- Trans:** BUY
- Symbol:** ESZ8
- Price Type:** Limit if Touched
- Qty:** 1
- Limit Price:** 870.50

Under the "Release Order When" section:

- Price Field:** Offer Price
- Symbol:** YMZ8
- Exchange:** CME
- Condition:** is >=
- Price:** 8601

At the bottom, there is a checkbox for "Close after placing order" (unchecked) and two buttons: "Place" and "Cancel".



Price Field

Select the type of price to be used as part of the evaluation to release the "If Touched" order. The Price Field drop down box shows all the fields whose prices may be used as part of the release evaluation. See **Appendix B** for details.

Symbol

Type in the symbol that corresponds to the instrument whose price (as indicated in the Price Field box) should be used to evaluate whether or not the "If Touched" order should be released. This symbol need not be the same as the symbol that corresponds to the instrument to be traded.

Exchange

Select the exchange or other trading venue on which the instrument, whose price is to be used to evaluate whether or not the "If Touched" order is to be released, trades. Refer to **Appendix C** for a list of exchange and other trading venue ids. The Trigger Exchange drop down box shows all the exchanges to which the Rithmic system is connected (not just the exchanges on which you may trade). See **Appendix B** for details.

Condition

Select the condition (a logical comparison) to be used to evaluate whether or not the "If Touched" order is to be released. The Condition drop down box shows all the conditions supported by the Rithmic system. See **Appendix B** for details.

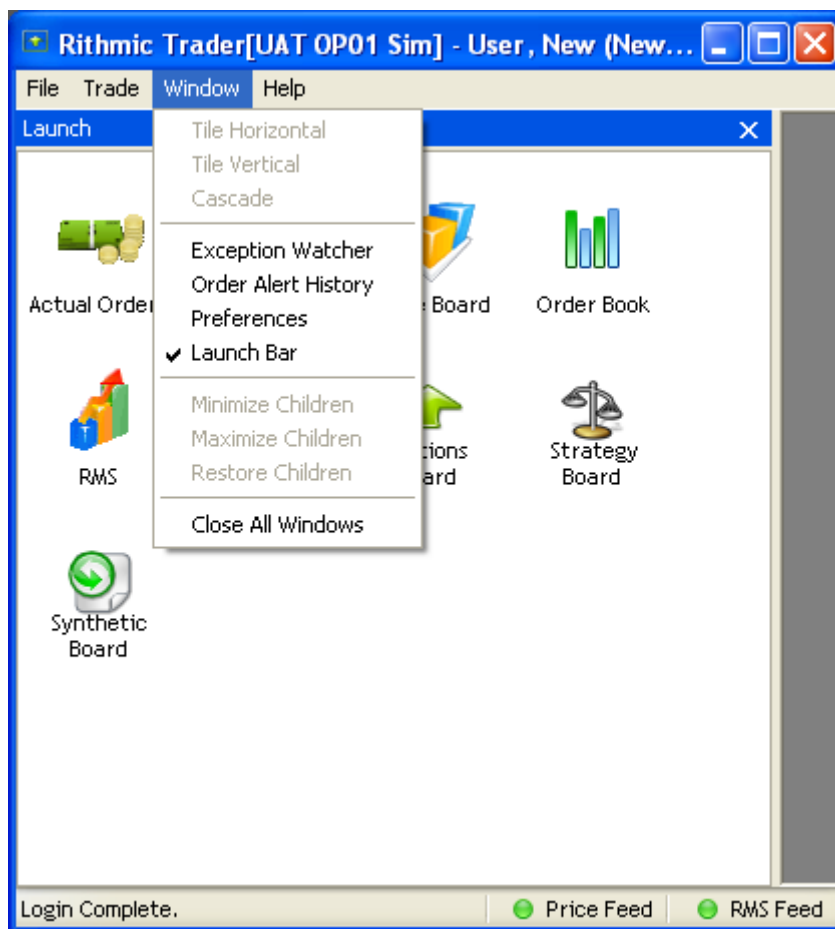
Price

Enter the price to be used as part of the evaluation to release the "If Touched" order.



Window menu options

The Window menu provides you with several ways to arrange the open windows. It also provides you with a way to close all windows, view processing exceptions detected by R | Trader™, view the history of order alerts and set window and application preferences.



Exception Watcher

R | Trader™ records the details of processing exceptions it detects about itself. A listing of such exceptions can be viewed by selecting Exception Watcher from the window menu. If a processing exception occurs, you may view its history in this window and then report the exception to Rithmic Operations Support.

Order Alert History

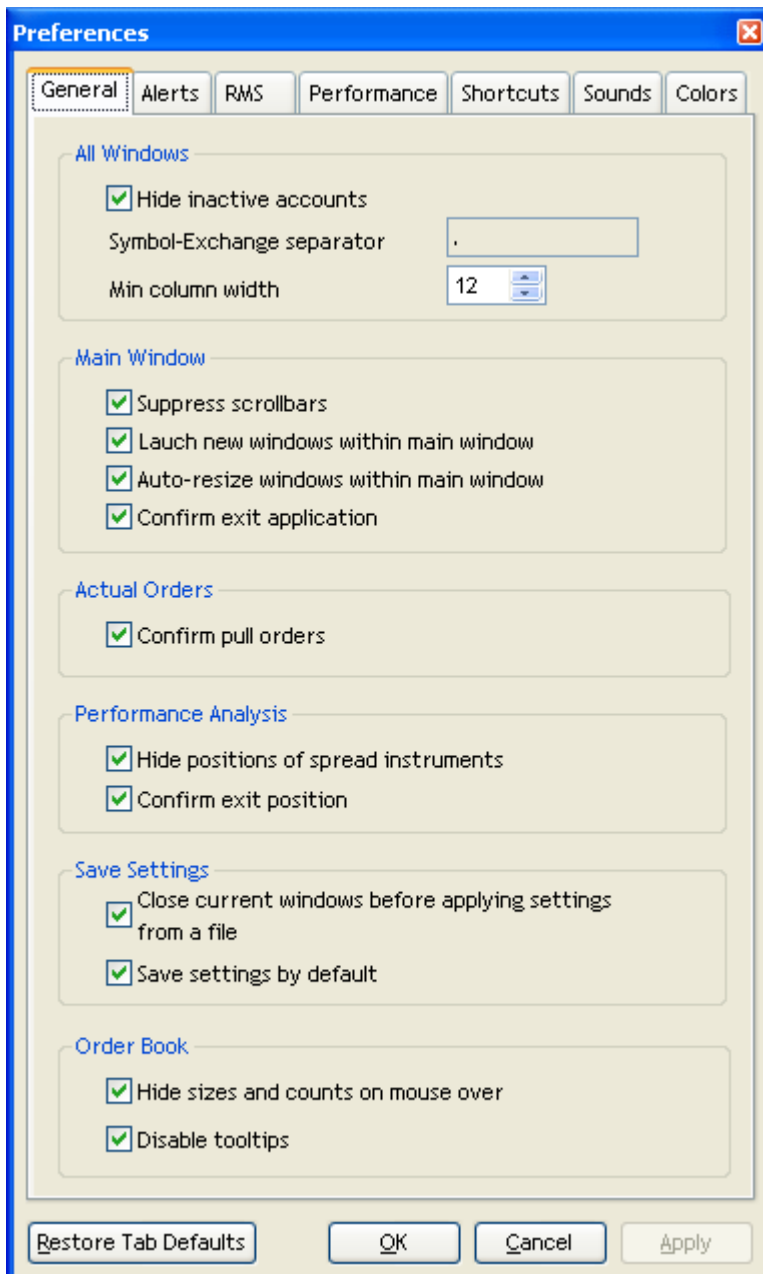
The Order Alert History window shows orders that failed or were rejected similarly to such orders shown in the Actual Orders window. This information is available in the Actual Orders



window as well, but for ease of monitoring only failed or rejected orders, this window has been provided.

Preferences

You may customize various window and application settings through the Preferences window.





Performance

Sometimes the rate at which market data is sent to and displayed by R | Trader™ is faster than can be discerned by the human eye. If the human eye cannot see all the updates then the trader cannot react to all of them. CPU cycles (of which there are a finite number on any machine) spent on displaying all market data updates, when not all can be seen, may be better spent by R | Trader™ on other tasks or by other applications, especially as market data rates seem to keep increasing.

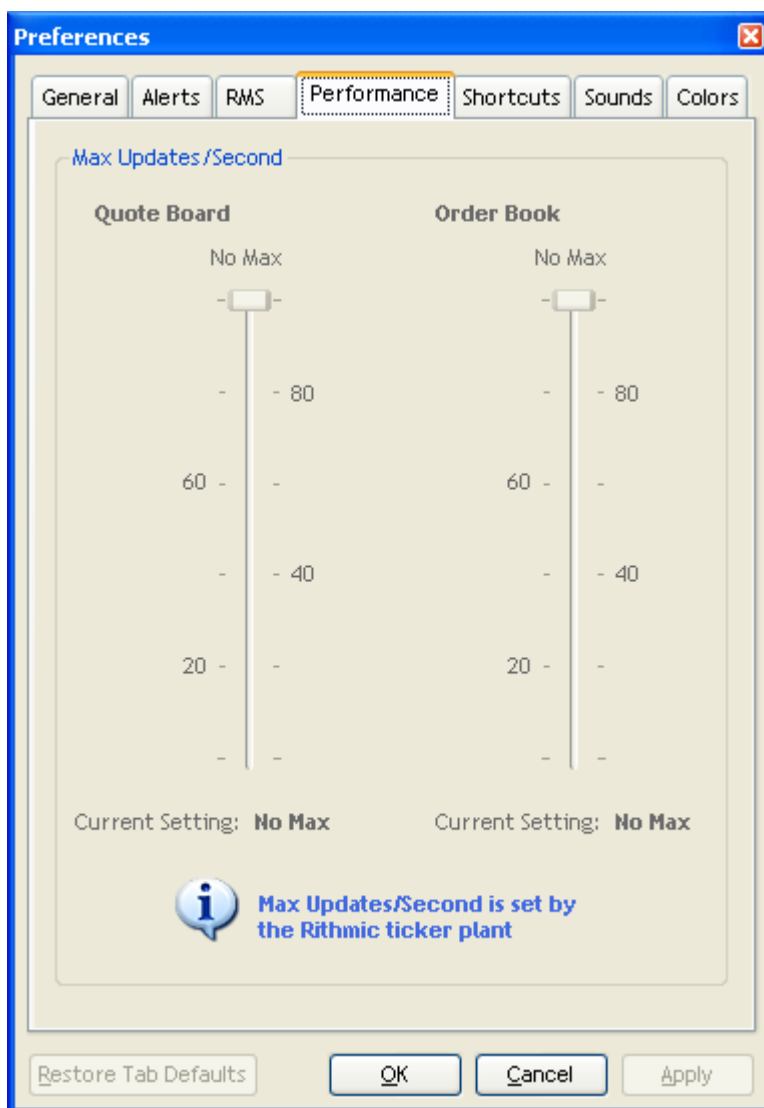
You may reduce the amount of CPU used by the Quote Board and Order Book windows by moving the sliders in the Performance tab of the Preferences window. The lower the slider, the less frequent these windows will update and the less CPU they will use. By default the sliders are set to limit these windows to update no more than 10 times per second.





In addition to providing unfiltered market data, some deployments of Rithmic's ticker plant are configured to provide aggregated market depth and best bid/ask updates on a separate channel (the aggregated channel). When so configured, the Rithmic ticker plant forwards best bid/ask and market depth updates periodically on the aggregated channel while still forwarding all (i.e. unfiltered) market data updates on the regular channel. Consequently, the aggregated channel requires less CPU to process and publish market data and less bandwidth to transport the published market data. Likewise recipients of aggregated market data require less bandwidth to receive it and less CPU to process and display it.

If R | Trader™ detects that the market depth updates and the best bid/ask updates it receives are aggregated by the Rithmic ticker plant then the sliders will show **No Max** for the Current Setting and the ability to adjust them will be disabled.





Note: At the time aggregated best bid/ask and market depth updates are published they are as current as the corresponding market data from the non-aggregated (unfiltered) channel.

Note: The Rithmic ticker plant **does not aggregate last trade price and size (also known as most recent trade price and size).**

Contact your FCM or IB's support group to find out how to get access to aggregated market depth and best bid/ask updates.

Launch Bar

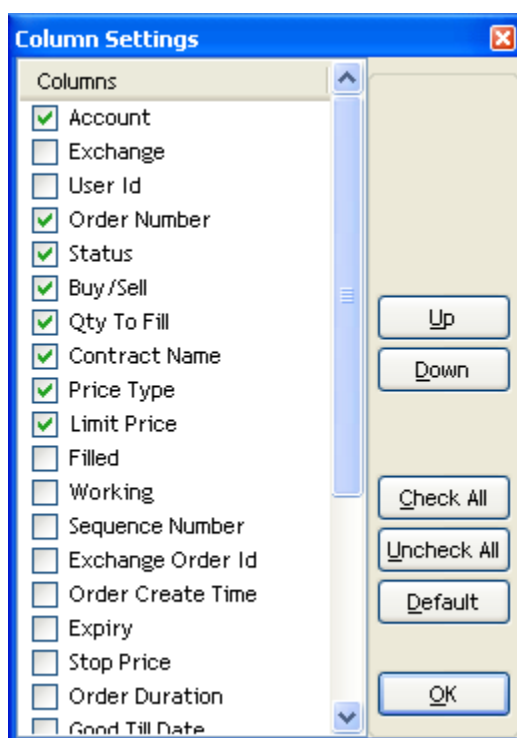
You may toggle the display of the launch bar by checking and un-checking the launch bar option of the window menu.



Appendix A – Setting and Saving Window Properties, Filtering and Saving Data

Customizing Columns

You may configure the display of data in columns for many of the windows. Right click on the column header line and a small window will popup and display several options. Clicking on “Add/Remove Columns” will bring up a “Column Settings” window, pictured below.





Data for columns which are checked will be displayed; data for unchecked columns will not be displayed. Clicking on a column in “Column Settings” will allow you to arrange the order in which columns are displayed (left to right) by moving the column name up or down in the “Column Settings” window (this change is applied as you click). You may also arrange the columns of a window by clicking on the column header you wish to move and dragging it to the desired position. Clicking (left clicking) on a column header will sort the rows by that column.

Filtering Rows

Several windows organize their data by account and/or by user id. If you have access to multiple accounts you may wish to configure some windows to show activity for specific accounts and/or for specific users. Use the drop down selection box (or boxes as the case may be) to select “All” or “Filtered”. Selecting “ALL” will display all accounts (or users as the case may be) while selecting “Filtered” will bring up a selection window through which you may indicate which accounts (or users as the case may be) whose information you wish to view.



Advanced filtering by order number, order size or order type can be applied to each window (or to each pane within a window separately) by clicking on the  and  icons located near the top left corner of each window (or pane).

Saving Window Settings and Properties and Saving Data

Each window has its own settings and properties that you can configure. You may save these settings either to your local machine or to the network. At the top of each window a set of icons are displayed that when selected, enable you to modify and save a window's various properties and settings or export its data to a csv file.



Release the window from the Main Console and allow it to be placed anywhere on the screen by clicking on the paperclip icon.



Save a window's settings by clicking on the cog icon with a picture of a floppy disk.



Restore a window's default settings by clicking on the cog icon with an arrow.



Clone a window by clicking on the icon of 2 sheets of paper.



Manage the fonts, foreground and background colors and grid lines of a window by clicking on the icon with the letter "T".



Save the data content of a window to a .csv file by clicking on the icon with the letter "a" followed by a comma.

Grid Lines

Most of the windows display some of their data in a grid format though grid lines may not always be visible by default. To adjust the position of the grid lines click on a row of the grid and hold down the Ctrl key. Press the up arrow key to move the gridlines up. Press the down arrow key to move the grid lines down.



Appendix B – Price Types, Order Duration and Market Mode

Price Types

Limit

An order with a price type of Limit requires a price to be submitted as part of the order. This price, known as the limit price, indicates the maximum price the trader will pay on a buy order, and the minimum price at which the trader will sell on a sell order.

Limit If Touched

An order with a price type of Limit If Touched is a limit order which is held by the Rithmic system and submitted to the exchange once a particular price of a specified contract or instrument (the trigger symbol) meets a specified value (the trigger value). The trigger symbol need not be the same as the contract of the limit order. For example:

Buy 10 ESM8.CME at 1300.00 Limit if Touched, Bid Price of YMM8.CME \geq 12300 means that the Rithmic system will submit a limit order to the CME to buy 10 contracts of ESM8 at a price of 1300.00, once the bid price of YMM8 at the CME meets or exceeds 12300.

The valid trigger conditions are:

!=	(not equal to)
<	(less than)
<=	(less than or equal to)
=	(equal to)
>=	(greater than or equal to)
>	(greater than)

The valid compare fields are:

Bid Price	
Last Price	(Last Trade Price)
Offer Price	(Ask Price)

The trigger symbol and the contract to be traded need not be the same. Additionally, the trigger symbol need not be a tradable (real) contract. For example, if the Rithmic system provides real time index values or synthetic instrument price calculations, the symbols identifying such indices and/or synthetic instruments can be used as trigger symbols.

Market

An order with a price type of Market is an order that will be filled by the exchange at the best available price. A buy order will be filled at the best available offer price and a sell order will be filled at the best available bid price.

When the quantity on a Market order is greater than the quantity available at the best price, not all exchanges treat the unfilled balance of the Market order the same way. Some exchanges convert the balance of the unfilled Market order to a Limit order at the price at which the Market order was partially filled; others may continue to fill the Market order at the next best prices until the Market order is filled completely. While other exchanges may continue to fill the Market order at the next best prices until it is filled completely, subject to some limits on the prices (offering some price protection for trading contracts that have thin and sparse sizes



on their order book). Refer to an exchange's website for information on how it treats the balance of unfilled market orders.

Note: Some exchanges (or other trading venues) do not support Market orders and some exchanges do not support Market orders for certain instrument types. Where a Market order is not supported by an exchange (or other trading venue) natively, the Rithmic system may simulate a Market order by sending a limit order with a price equal to an instrument's current best price offset by a specified number of ticks. For a buy order the limit price will be equal to the instrument's current best offer price, as known to the Rithmic system at that instant, plus a specified number of ticks. For a sell order the limit price will be equal to the instrument's current best bid price, as known to the Rithmic system at that instant, minus a specified number of ticks. The specified number of ticks by which a best price is offset is determined by you FCM or IB. See below for a list of exchanges and other trading venues that do not support Market orders.

Market If Touched

An order with a price type of Market If Touched is a market order which is held by the Rithmic system and submitted to the exchange once a particular price of a specified contract or instrument (the trigger symbol) meets a specified value (the trigger value). The trigger symbol need not be the same as the contract of the limit order. For example:

Sell 5 CLK8.NYMEX Market if Touched, Offer Price of UHO FMK0008!.ICE <= 3.2221 means that the Rithmic system will submit a market order to the NYMEX to sell 5 contracts of CLK8, once the offer price of UHO FMK0008! at the ICE meets or drops below 3.2221.

The valid trigger conditions are:

!=	(not equal to)
<	(less than)
<=	(less than or equal to)
=	(equal to)
>=	(greater than or equal to)
>	(greater than)

The valid compare fields are:

Bid Price	
Last Price	(Last Trade Price)
Offer Price	(Ask Price)

The trigger symbol and the contract to be traded need not be the same. Additionally, the trigger symbol need not be a tradable (real) contract. For example, if the Rithmic system provides real time index values or synthetic instrument price calculations, the symbols identifying such indices and/or synthetic instruments can be used as trigger symbols.

Stop Limit

An order with a price type of Stop Limit is a limit order that is held by the exchange and inserted into a contract's order book once that contract trades at or worse than a specified price (the stop price). For example:

Buy 6 ESU8.CME at 1300.25, Stop Limit at 1299.75 means that the CME will enter an order to buy 6 ESU8 with a limit price of 1300.25 into the ESU8 order book when ESU8 trades at the CME at a price of 1299.75 or higher. Similarly:

Sell 7 NQM8.CME at 1825.00 Stop Limit at 1825.75 means that the CME will enter an order to sell 7 NQM8 with a limit price of 1825.00 into the NQM8 order book when NQM8 trades at the CME at a price of 1825.75 or lower.



When a stop is triggered the corresponding Limit order becomes active. A stop is considered to have triggered when a contract trades at or worse than the stop price (at or worse for a buy order means greater than or equal to the stop price, at or worse for a sell order means less than or equal to the stop price). When constructing a Stop Limit order, the stop price for a buy order should be greater than the current trade price of the contract and the limit price should be greater than or equal to the stop price; the stop price for a sell order should be less than the current trade price of the contract and the limit price should be less than or equal to the stop price. If the stop price were less than or equal to the current trade price for a buy order, the stop would trigger upon receipt of the Stop Limit order by the exchange and the corresponding limit order would become active immediately. Similarly, if the stop price were greater than or equal to the current trade price for a sell order, the stop would trigger upon receipt of the Stop Limit order by the exchange and the corresponding limit order would become active immediately. Some exchanges may reject such Stop Limit orders.

Not all exchanges accept Stop Limit orders and not all exchanges accept Stop Market orders for all contracts. When a Stop Market order is not supported by an exchange the Rithmic system holds a Stop Market order until the stop triggers and then submits a Market order to the exchange. **In contrast to an exchange (which usually compares a stop price with the last trade price), the Rithmic system considers a stop to have triggered when the offer price of the contract in a buy order becomes greater than or equal to its stop price and, for a sell order, when the bid price of the contract becomes less than or equal to its stop price.** See below for a list of exchanges and other trading venues that do not support Stop Limit orders.

Stop Market

An order with a price type of Stop Market is a market order that is held by the exchange and inserted into a contract's order book once that contract trades at or worse than a specified price (the stop price). For example:

Sell 4 ESZ8.CME Stop Market at 1350.25

means that the CME will enter an order to sell 4 ESZ8 at the market into the ESZ8 order book when ESZ8 trades at a price of 1350.25 or lower. Similarly:

Buy 3 NQU8.CME Stop Market at 1816.75

means that the CME will enter an order to buy 3 NQU8 at the market into the NQU8 order book when NQU8 trades at the CME at a price of 1816.75 or higher.

When a stop is triggered the corresponding Market order becomes active. A stop is considered to have triggered when a contract trades at or worse than the stop price (at or worse for a buy order means greater than or equal to the stop price, at or worse for a sell order means less than or equal to the stop price). When constructing a Stop Market order, the stop price for a buy order should be greater than the current trade price of the contract; the stop price for a sell order should be less than the current trade price of the contract. Otherwise the stops would trigger upon receipt of the Stop Market order by the exchange and the corresponding market order would become active immediately - some exchanges may reject such Stop Market orders.

When a stop is triggered, some exchanges convert the market order to a limit order (with a limit price based upon a formula specific to that exchange) and enter the limit order into the



contract's order book. Refer to an exchange's website for information on how it treats stop market orders when the stop is triggered.

Not all exchanges accept Stop Market orders and not all exchanges accept Stop Market orders for all contracts. When a Stop Market order is not supported by an exchange the Rithmic system holds a Stop Market order until the stop triggers and then submits a Market order to the exchange. **In contrast to an exchange (which usually compares a stop price with the last trade price), the Rithmic system considers a stop to have triggered when the offer price of the contract in a buy order becomes greater than or equal to its stop price and, for a sell order, when the bid price of the contract becomes less than or equal to its stop price.** See below for a list of exchanges and other trading venues that do not support Stop Market orders.

Exchange and Other Trading Venues that do not Support Certain Price Types

Not all exchanges or other trading venues support all price types and when a price type is supported, it may not be supported for all instrument types (for example, sometimes Market orders are not supported for options). Furthermore, the Rithmic system may implement its own version of that price type for an exchange or other trading venue whether or not it is supported natively by that exchange or other trading venue.

The table below indicates whether a price type is supported natively by an exchange or other trading venue or synthetically by the Rithmic system.

Exchange Id	Stop Market	Stop Limit	Market	Limit
AEX	Synthetic	Synthetic	Native	Native
BMF	Synthetic	Synthetic	Synthetic	Native
BTEC	Synthetic	Synthetic	Synthetic	Native
CBOT	Synthetic	Synthetic	Native	Native
CME	Native	Native	Native	Native
DME	Synthetic	Native	Native	Native
EUREX	Native	Synthetic	Native	Native
FXCM	Native	Native	Native	Native
FXCM-R	Native	Synthetic	Native	Native
ICE	Native	Native	Native	Native
ICE-OTC	Native	Native	Native	Native
KCBT	Native	Native	Native	Native
LIFFE	Synthetic	Synthetic	Native	Native
MATIF	Synthetic	Synthetic	Native	Native
MGEX	Native	Native	Native	Native
NYBOT	Native	Native	Native	Native
NYMEX	Native	Native	Native	Native
WCE	Native	Native	Native	Native

Contact your FCM or IB's support group to find out if an exchange or other trading venue limits its support for certain price types to certain instrument types.



Order Duration

Order duration, also known as time in force, indicates the maximum time an order can remain open on the books of an exchange. The Rithmic system supports the following order durations:

Order Duration Id	Order Duration Description
DAY or Day	Any unfilled balance of a Day order is cancelled by the exchange automatically at the close of the trading day on which it was submitted to the exchange.
FOK*	Upon receipt by an exchange, an FOK order (Fill or Kill) is filled completely or, if it cannot be filled completely, it is cancelled in its entirety.
GTC	Any unfilled balance of a GTC order (Good 'Till Cancelled) remains open and on the books of the exchange until specifically cancelled by the trader or until the maximum time allowed by the exchange for a GTC order to remain open has transpired.
IOC	Upon receipt by an exchange, an IOC order (Immediate Or Cancel) is filled to the extent possible and any unfilled balance, up to and including the entire order, is cancelled.

* The Rithmic system supports FOK orders only on the following exchanges/venues:
BTEC, ICE, ICE-OTC, NYBOT, WCE, FXCM and FXCM-R



Market Mode

The Market Mode of a contract indicates the status of its order book at the exchange on which it trades. Each exchange has its own set of market mode indicators and meanings. Some exchanges have one set of market modes for futures and another set of market modes for options on futures. Refer to an exchange's website for information on its market modes. The table below shows the market modes that are common across the exchanges to which the Rithmic system connects:

Market Mode	Market Mode Description	Rithmic System Action
PREOPEN	A new trading day will begin shortly for this contract or trading will resume shortly after a trading halt or trading suspension. Generally, limit orders may be accepted and cancelled but none will be matched until trading matching of the contract opens.	When a new trading day for this contract will begin shortly, the previous day's trading statistics for the contract are cleared: <ul style="list-style-type: none"> open, high and low trade price, last trade price and size, net change and % change, daily trade volume and positions in all accounts for this contract are netted and marked to the previous day's close trade price.
OPEN or NORMAL	Trading matching of this contract in the new trading day has begun and is proceeding normally.	
EOD	Trading matching of this contract for the current trading day has ended.	A final profit and loss message is published for each account that placed an order for this contract during the current trading day. The best bid price, size and order count and the best ask price, size and order count are cleared. Close trade price is published.



Appendix C – Exchange and Other Trading Venue Ids

The exchanges and other trading venues to which the Rithmic system connects may vary from deployment to deployment.

The exchanges and other trading venues to which the Rithmic system can connect are listed in the following table:



Exchange Id	Exchange Name	Access Line
AEX	Amsterdam Exchange	LIFFE
BMF	BM&FBOVESPA	Globex
BTEC	BrokerTec	BrokerTec
CBOT	Chicago Board of Trade	CBOT (Metals)
CME	Chicago Mercantile Exchange	Globex
DME	Dubai Mercantile Exchange	Globex
EUREX	Eurex	Eurex
FXCM	Forex Capital Markets (Institutional)	FXCM
FXCM-R	Forex Capital Markets (Retail)	FXCM
ICE	The Intercontinental Exchange	ICE
ICE-OTC	The Intercontinental Exchange (OTC)	ICE
KCBT	Kansas City Board of Trade	Globex
LIFFE	London International Financial Futures Exchange	LIFFE
MATIF	Marché à Terme International de France	LIFFE
MGEX	Minneapolis Grain Exchange	Globex
NYBOT	New York Board of Trade	ICE
NYMEX	New York Mercantile Exchange	Globex
WCE	Winnipeg Commodity Exchange	ICE

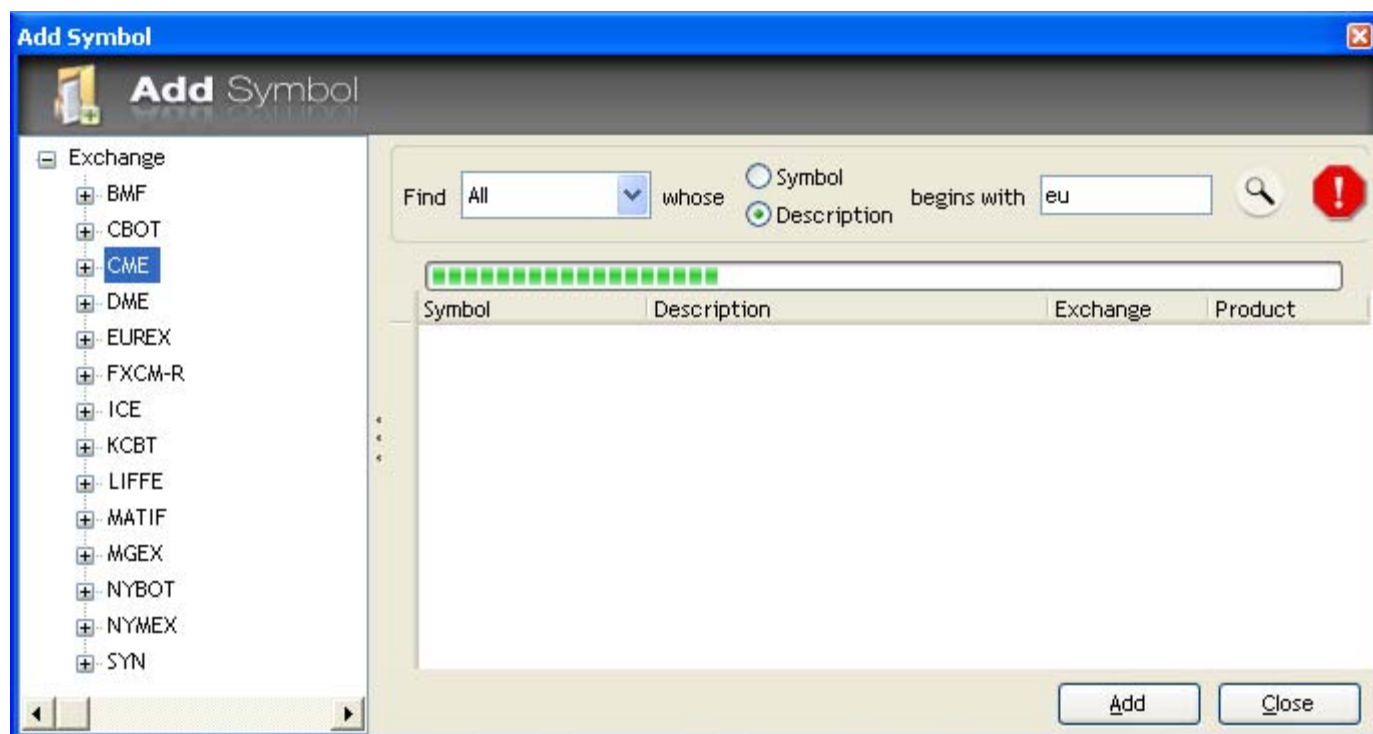


Appendix D – Add Symbol

Several windows that display market data allow you to enter symbols into the window directly or through the Add Symbol window. The left side of the window displays a list of exchanges and venues known to your deployment of the Rithmic system. The right side of the window allows you to enter criteria that will be applied to your exchange and/or venue selections.

Searching for Symbols within an Exchange or within All Exchanges

If you do not know the exchange (or venue) on which an instrument trades, select (highlight) “Exchange” from the list on the left and enter your best guess of the first few (a minimum of 2) letters of the instrument’s description in the box on the right. If you do know the exchange on which the instrument trades then select it from the list on the left instead of “Exchange”. Click on the  icon on the right to start a symbol search. To interrupt the search just click on the  icon.



If you know the instrument type of the instrument you wish to trade then select it from the drop down box at the top of the window. By default the search will look at an instrument’s description when matching the letters entered in the box at the right. You may change the search to look at an instrument’s symbol instead of its description by clicking on the radio button to the left of the word “Symbol” as in the picture below.



Add Symbol

Exchange

- BMF
- CBOT
- CME**
- DME
- EUREX
- FXCM-R
- ICE
- KCBT
- LIFFE
- MATIF
- MGEX
- NYBOT
- NYMEX
- SYN

Find Futures whose Symbol Description begins with kk

29 symbols found. [Search within these...](#)

Symbol	Description	Exchange	Product
▶ KKJ0	DETROIT COOLING DEGREE DAY	CME	KK
KKJ9	DETROIT COOLING DEGREE DAY	CME	KK
KKJK9	DETROIT APRIL COOLING DEGREE DAY	CME	KKJ
KKJM9	DETROIT APRIL COOLING DEGREE DAY	CME	KKJ
KKJN9	DETROIT APRIL COOLING DEGREE DAY	CME	KKJ
KKJQ9	DETROIT APRIL COOLING DEGREE DAY	CME	KKJ
KKJU9	DETROIT APRIL COOLING DEGREE DAY	CME	KKJ
KKJV9	DETROIT APRIL COOLING DEGREE DAY	CME	KKJ
KKK9	DETROIT COOLING DEGREE DAY	CME	KK
KKKM9	DETROIT MAY COOLING DEGREE DAY	CME	KKK

Add Close

Searching for Symbols within a Product Group of an Exchange

If you know the product group to which the instrument you wish to trade belongs, click on the "+" sign to the left of the exchange on which it trades. The "+" sign will become a "-" sign and a list of product groups will appear underneath the exchange.

Add Symbol

NYMEX

- AL - COMEX Alumin
- AX - Ardour Global
- BB - Brent Crude C**
- BBT - Brent financi
- BH - Heating Oil
- BHT - Heating oil fu
- BZ - Brent Crude C
- BZT - Brent Crude
- CAY - Crude Oil 1-t
- CCR - Carbon Cert
- CHY - Heating Oil

Find Spreads whose Symbol Description begins with

5332 symbols found. [Search within these...](#)

Symbol	Description	Exchange	Product
▶ BBU1-BBG6	BRENT CRUDE OIL - FINANCIAL..	NYMEX	BB
BBU1-BBG7	BRENT CRUDE OIL - FINANCIAL..	NYMEX	BB
BBG2-BBJ3	BRENT CRUDE OIL - FINANCIAL..	NYMEX	BB
BBG0-BBU3	BRENT CRUDE OIL - FINANCIAL..	NYMEX	BB
BBG0-BBU4	BRENT CRUDE OIL - FINANCIAL..	NYMEX	BB
BBN0-BBN2	BRENT CRUDE OIL - FINANCIAL..	NYMEX	BB

Add Close

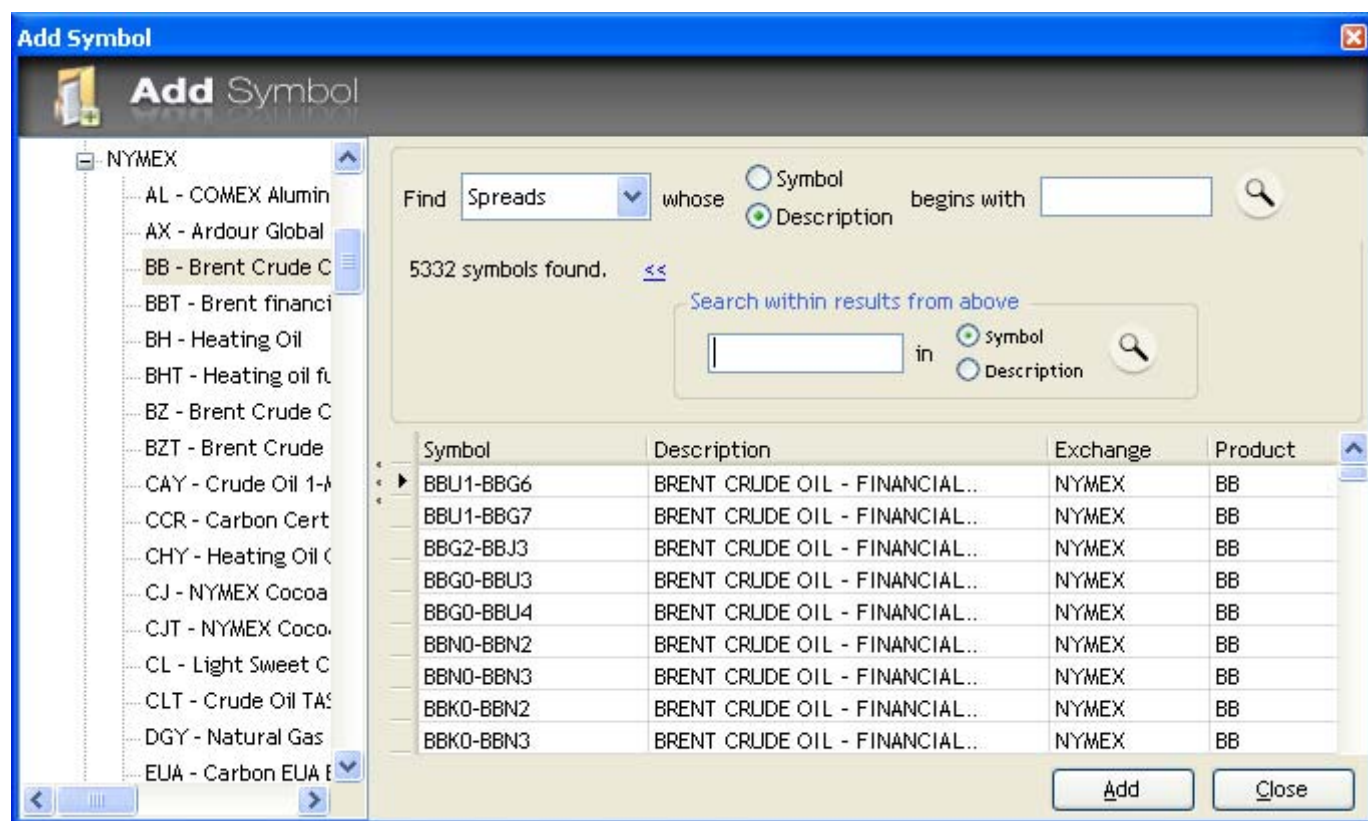


Double click on the product group to which the instrument you wish to trade belongs to start the search. At any time you may stop the search by clicking on the icon.

As with searching through an entire exchange or across all exchanges you may narrow your search by selecting an instrument type from the drop down box at the top of the window and/or entering at least 2 letters in the box on the right. You may also direct the search to look at an instrument's symbol instead of its description by clicking on the radio button to the left of the word "Symbol".

Refining Your Search

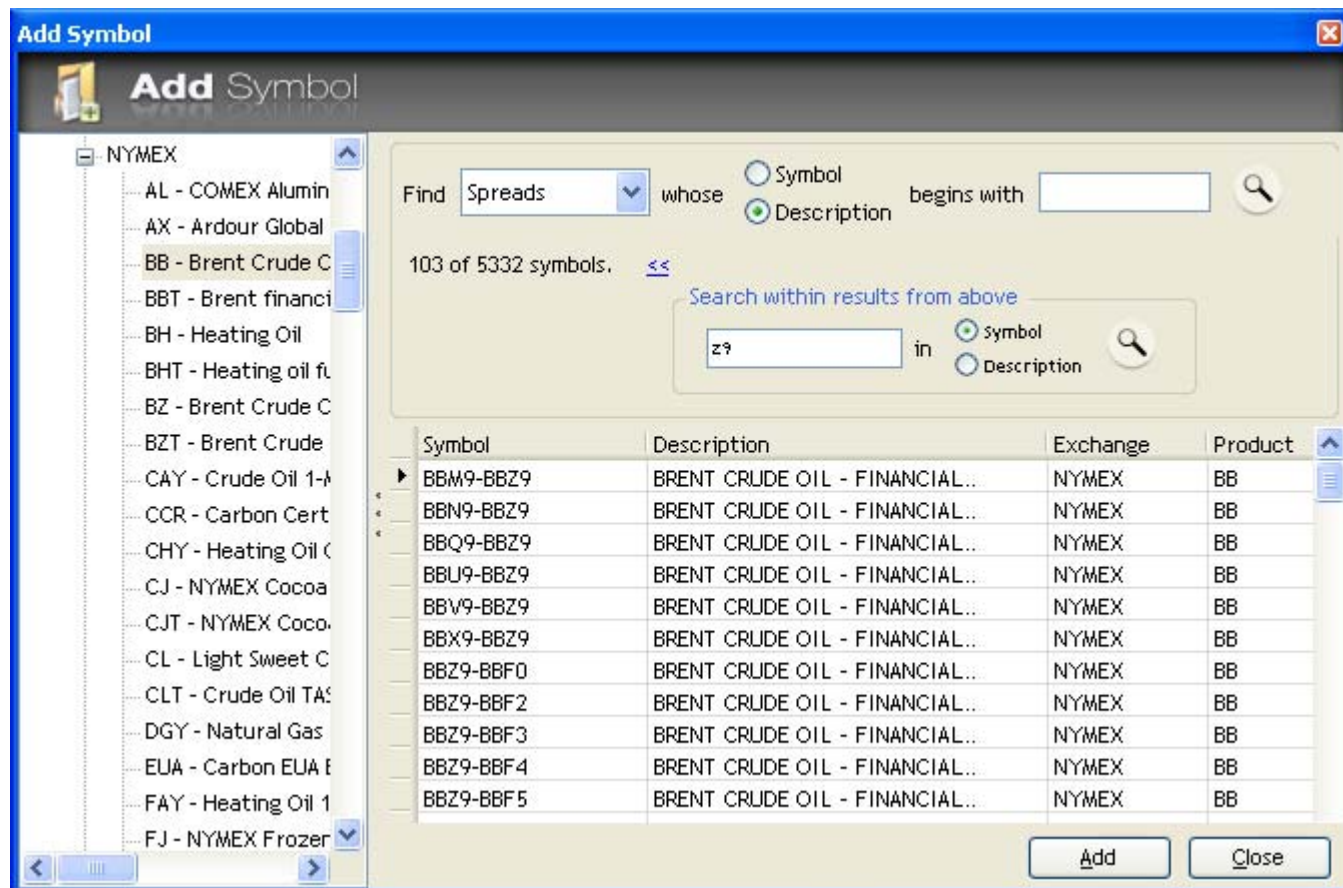
Once you have obtained a set of instruments from a multi-exchange, single exchange or product code search (the initial symbol set), you may refine your search. Click on "[Search within these...](#)" and the Add Symbol window will transform a bit to provide you with a mechanism to specify search criteria to be applied to the initial symbol set.



Type a set of characters in the box in the middle of the top part of the window, click on the Symbol or Description radio button (as above) and then click on the icon. The R | Trader™ screen will search within the initial symbol set for all instruments whose symbol or description, as the case may be, contain the characters as shown in the box (the characters need not begin the symbol or description as the initial search requires). For example, if you were to type "z9"



in the box above and apply it to the symbols in the initial symbol set pictured above, you would see a list of symbols similar to the ones pictured below.



Each instrument in the list obtained by the refined search (the secondary symbol set) contains the letters "z9" (case independent) somewhere in its symbol.

Adding a Symbol to the Window that Launched the Add Symbol Window

To insert an instrument into the window from which the Add Symbol window was launched double click on the instrument or highlight it and click the button labeled "Add" at the bottom.



Appendix E – Understanding and Configuring Brackets

What is a Bracket?

A bracket is a set of orders that are placed around an open position to simultaneously establish a point at which the open position should be closed and profits taken or losses realized and limited. A bracket is used to limit, or bound (or bracket), a position's profit and loss.

A Bracket order combines an entry order, which when filled or partially filled, establishes an open position around which brackets are then placed, and a series of OCO orders that are placed to implement the bracket. One part of the OCO order is a limit order, the other is a stop (market) order.

A bracket can be configured in tiers or levels. For example, if an entry order for a buy quantity of 6 is filled, the bracket may be configured to close the position and take profits by placing an order to sell a quantity of 2, 1 tick above the price at which the 6 were filled, a quantity of 2, 2 ticks above the price at which the 6 were filled and a quantity of 2, 3 ticks above the price at which the 6 were filled, as in the Configure Brackets window below. Correspondingly, the bracket may be configured to dump 3 at market when the price of the instrument falls 5 ticks below the price at which the 6 were filled and 3 at market when the price of the instrument falls 7 ticks below the price at which the 6 were filled.

Target Ticks	Target Qty	Stop Ticks	Stop Qty
1	2	4	3
2	2	5	3
3	3		
5	5		

The price levels for taking profit are called target ticks or target levels. The price levels for realizing and limiting losses are called stop ticks or stop levels.



Note: The quantity of an entry order may never exceed the lesser of (a) the sum of the target quantities of a bracket or (b) the sum of the stop quantities of the bracket. Consequently, a bracket may be configured to handle quantities larger than required for a particular entry order. Configuring brackets to handle larger than required entry order quantities enables you to use such brackets on orders containing various entry quantities without having to have one bracket for each entry quantity.

Creating a New Bracket

To configure a bracket click on the button labeled "Config" located in the Brackets box on the left of the top part of the Order Book. A Configure Brackets window will pop up empty if you do not have any brackets configured. Otherwise, select a bracket to view from the drop down box.

You may create a new bracket either by selecting (and even modifying) an existing bracket, overwriting its name and saving it, or by starting with a clear Configure Brackets window. If you have not previously saved any brackets then the Configure Brackets Window will be clear. Otherwise to start with a cleared window, click on the "Clear Window" button.

Bracket Name		Delete	
[Dropdown]		[Delete]	
Target Ticks	Target Qty	Stop Ticks	Stop Qty

[Clear Window] [Save] [Close]

Type the name in the Bracket Name box under which the bracket configuration will be identified and saved. Click in the Target Ticks boxes to set the target levels (in ticks) for this bracket. Click in a Target Qty box next to a Target Ticks box to set the quantity for that target level. Click in the Stop Ticks boxes to set the stop levels (in ticks) for this bracket. Click in a Stop Qty box next to a Stop Ticks box to set the quantity for that stop level.

You may change the target ticks levels and associated quantities and the stop ticks levels and associated quantities by clicking in the box you wish to change. Type in a new value directly or



click on the arrows to change the value. You may delete a Target or Stop level by right clicking on that level and selecting Delete from the pop window.

Target Ticks	Target Qty	Stop Ticks	Stop Qty
1	2	4	3
2	2	5	3
3	3		
5	5		

Save the bracket configuration by clicking on the "Save" button.

When you are done creating brackets click on the "Close" button.

Deleting a Bracket

To delete a bracket click on the button labeled "Config" located in the Brackets box on the left of the top part of the Order Book. Select the bracket you wish to delete from the drop down list and click the "Delete" button.

When you are done deleting brackets click on the "Close" button.

Modifying a Bracket

To modify a bracket click on the button labeled "Config" located in the Brackets box on the left of the top part of the Order Book. Select the bracket you wish to modify from the drop down list.

You may modify the target ticks levels and associated quantities and the stop ticks levels and associated quantities of the bracket by clicking in the box you wish to change. You may type in a new value directly or click on the arrows to change the value. You may delete a Target or Stop level by right clicking on that level and selecting Delete from the pop window.



Configure Brackets

Bracket Name: B [Delete]

Target Ticks	Target Qty	Stop Ticks	Stop Qty
1	10	5	10
5	15	7	20

[Clear Window] [Save] [Close]

Save the modified bracket configuration by clicking on the "Save" button.

When you are done modifying brackets click on the "Close" button.

