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analyze. trade. evolve.

MotiveWave™  
What's New in Version 6.3

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# 1 Introduction

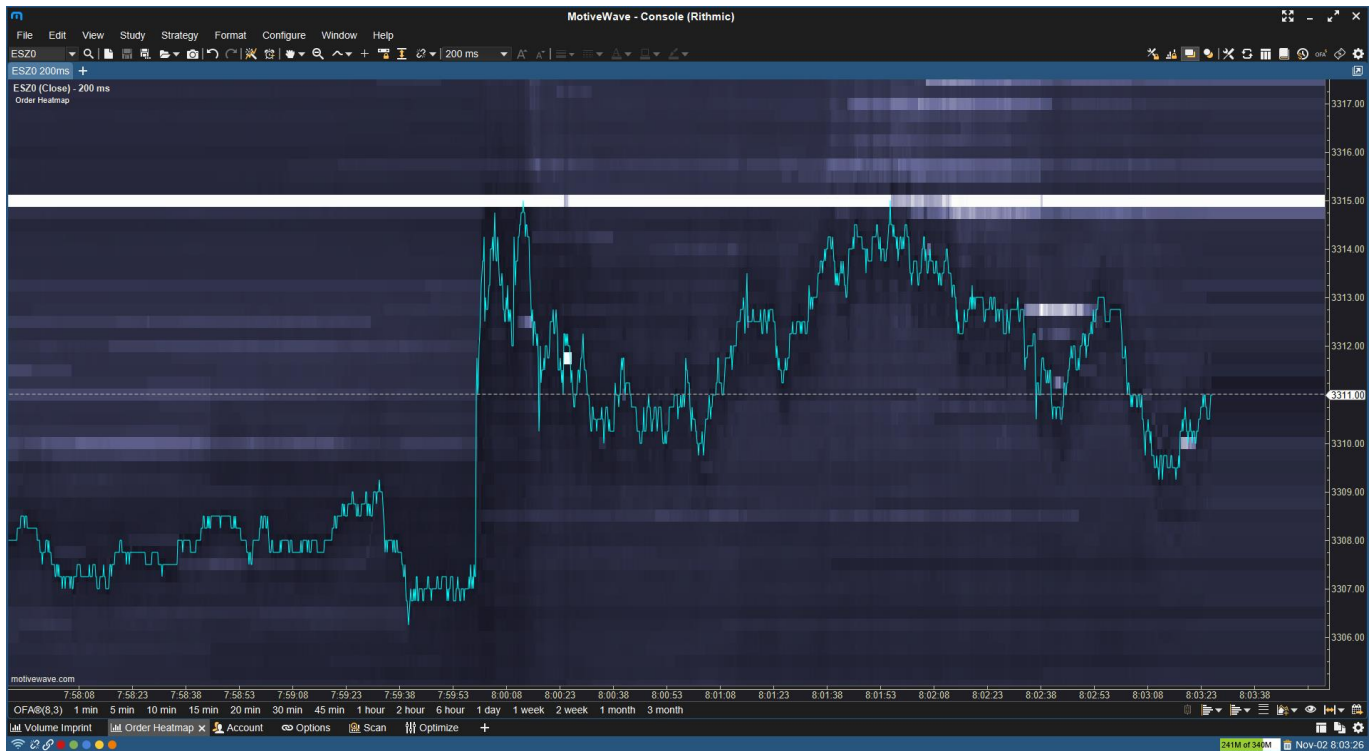
Welcome to MotiveWave™ version 6.3! This document will outline the features that have been added between version 6.2 and version 6.3.

## 2 Studies

Here are the new and updated studies.

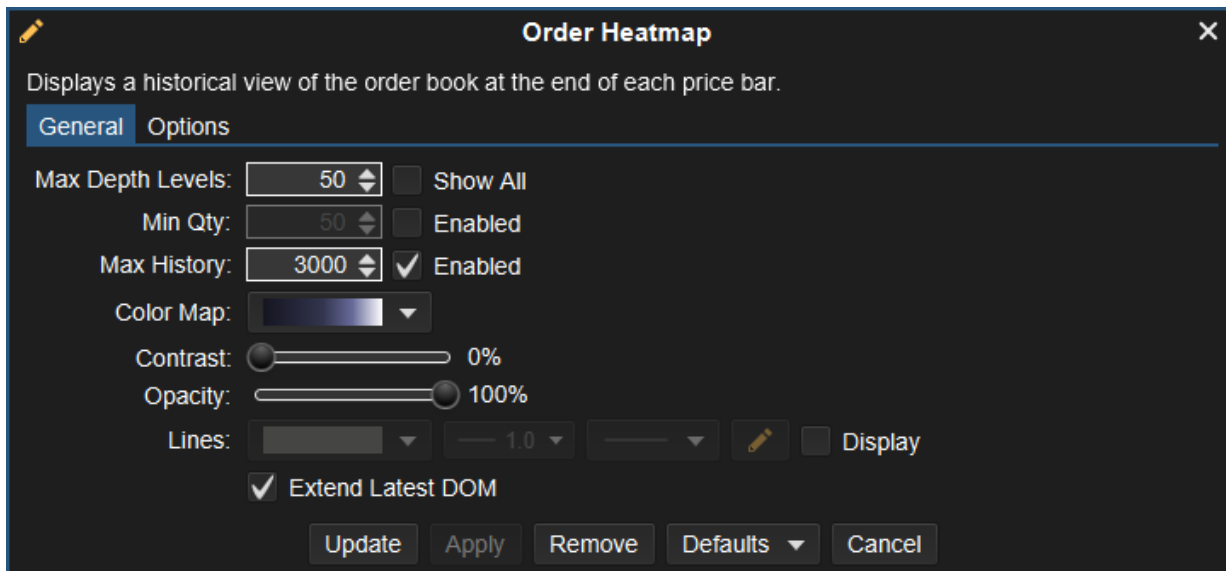
### 2.1 Order Heatmap

The Order Heatmap study replaces the existing DOM History study.

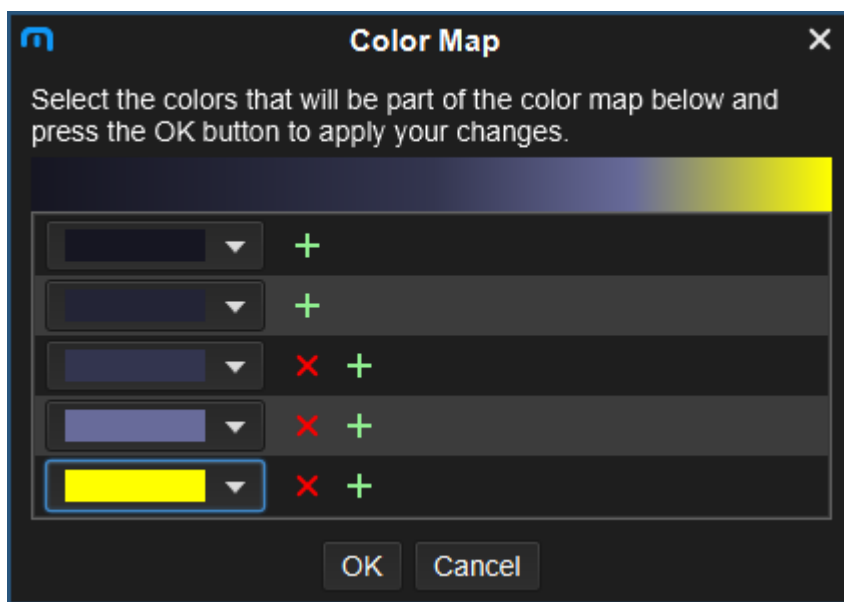


Here are the available options:

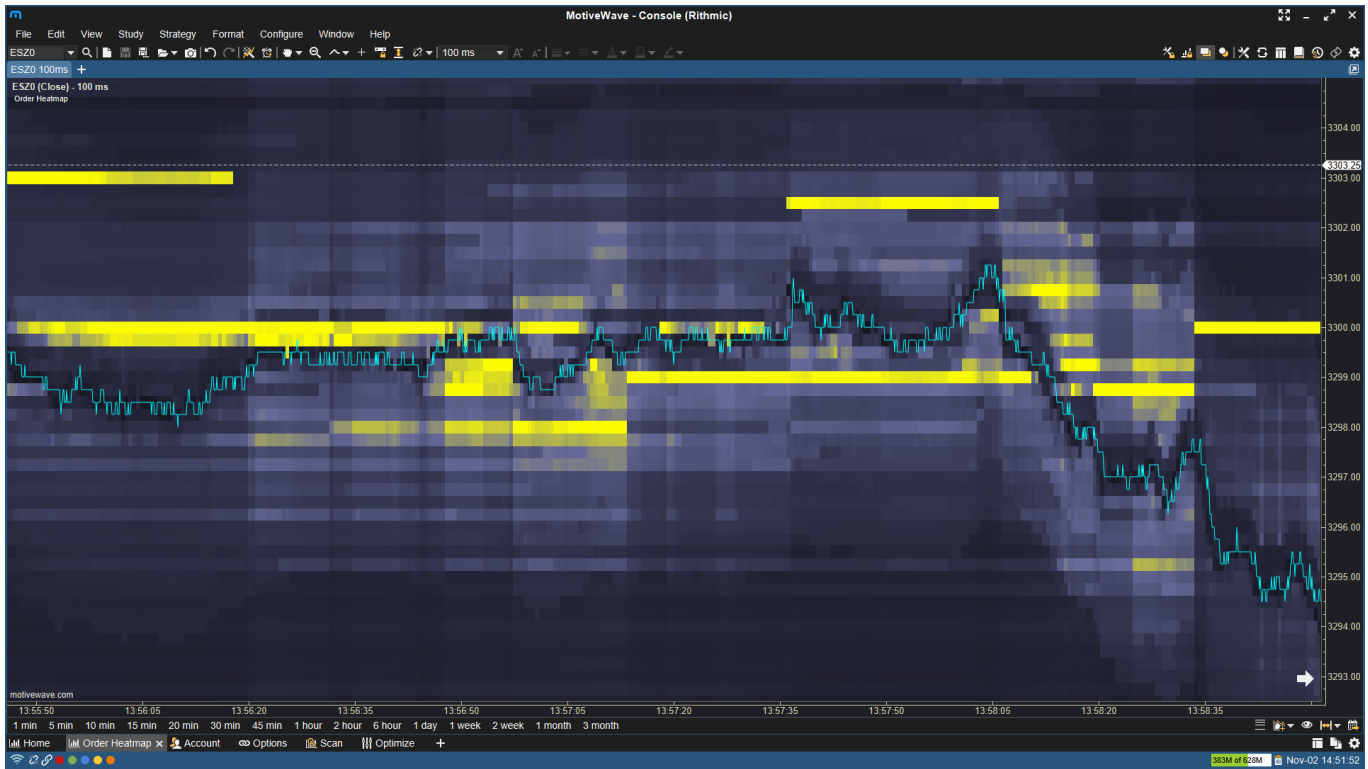
- Max Depth Levels – Limits the depth levels for better performance.
- Min Qty – Set a minimum depth level quantity that will display color shading.
- Max History – The maximum history of levels, decrease this for better performance.
- Color Map – Allows you to customize the color map.
- Contrast – Adjust the contrast, higher contrast will remove lower depth levels.
- Opacity – Adjust the opacity of the heatmap to allow it to blend in with the chart background.
- Extend Latest DOM – Extend the heatmap forward.



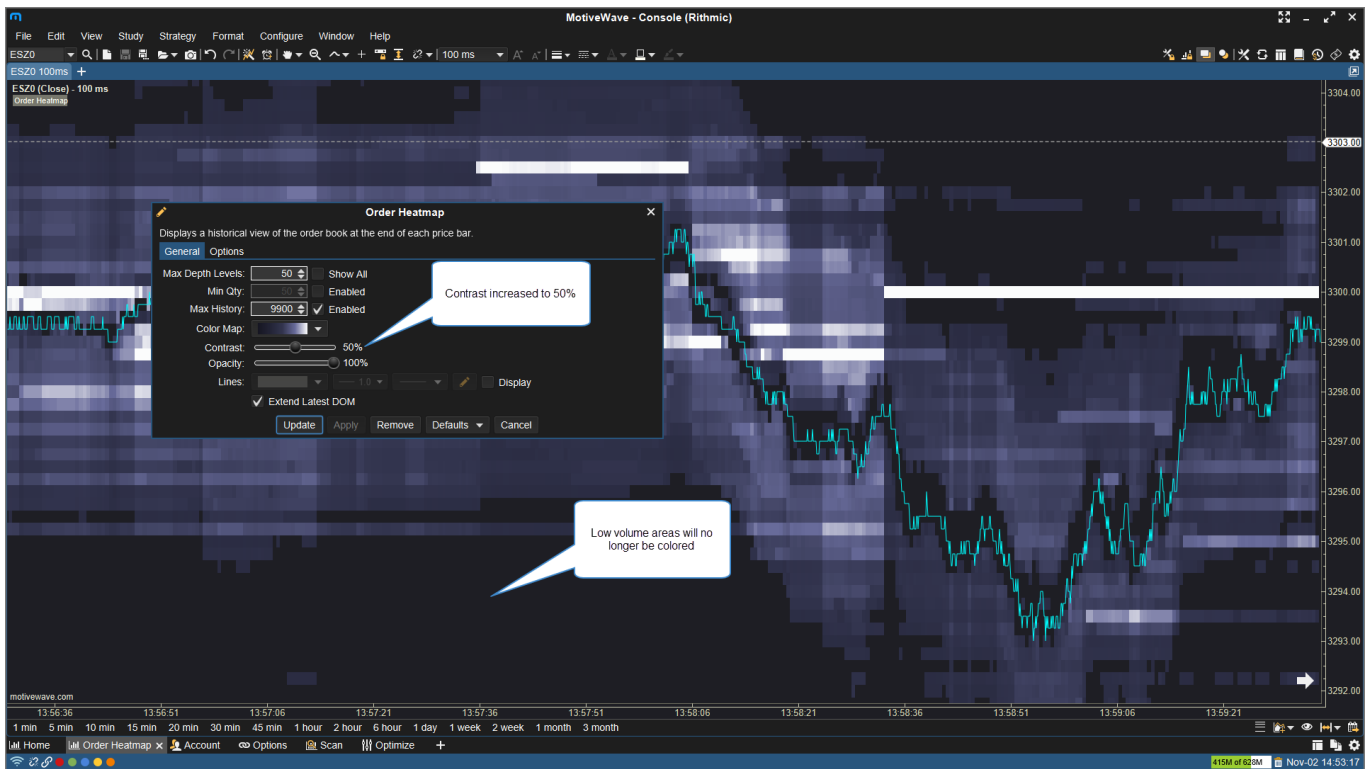
The Color Map can be customized with a gradient of colors, they are ordered from low volume to high volume in the color selector:



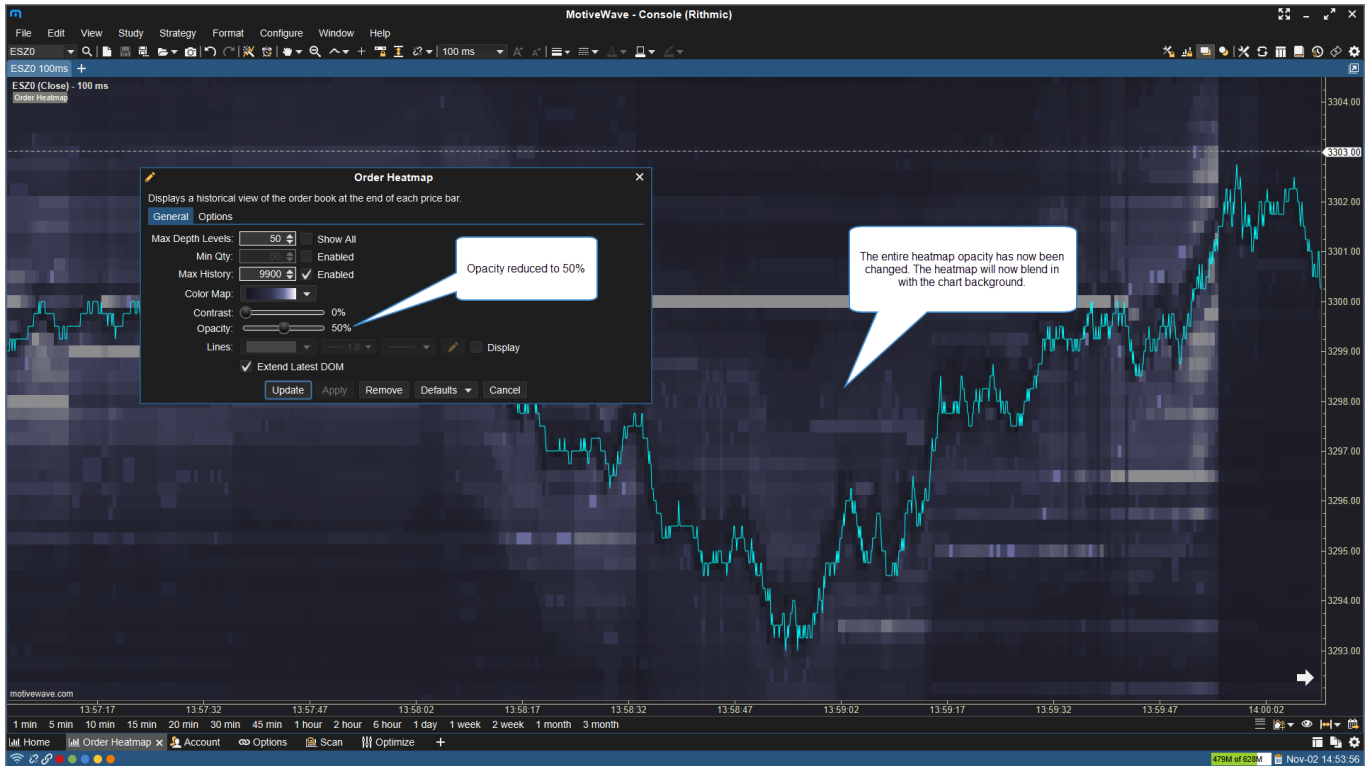
In the example below we have changed the high-volume areas to be colored in bright yellow so they stand out from the low volume areas:



Increasing the Contrast setting will remove low volume areas so you're able to concentrate on high volume areas only. In the example below I have increased contrast to 50% which has removed the low volume depth levels.



Decreasing the Opacity setting will allow the heatmap to blend in with the chart background. In this example I've decreased the opacity to 50%:



## 2.2 Big Trades

The Big Trades study has been updated.



Here are the options available:

- a) Aggregate Period – Aggregate orders that are within the specified interval.

- b) Aggregate By Order – Use Market By Order to aggregate by order number.
- c) Outline – Auto Circle has been added which will automatically size the trade circles according to trade size. All other options will use the Advanced tab settings for trade circle size.
- d) Max Circle Size – Only applicable for the Auto Circle outline.
- e) Max Days – Limit the amount of data that will display for this study.
- f) Min Trade Size – Sets the minimum quantity for a trade to be displayed.

### Big Trades

Plots historical trades that are  $\geq$  the given minimum size. The aggregate option will combine subsequent trades that occur at the same price within the given period (in milliseconds).

**General** | Advanced | Options

Aggregate Period (ms):   Enabled

Aggregate By Order:  (Rithmic Live Data Only)

Outline:

Max Circle Size:

Max Days:   Enabled

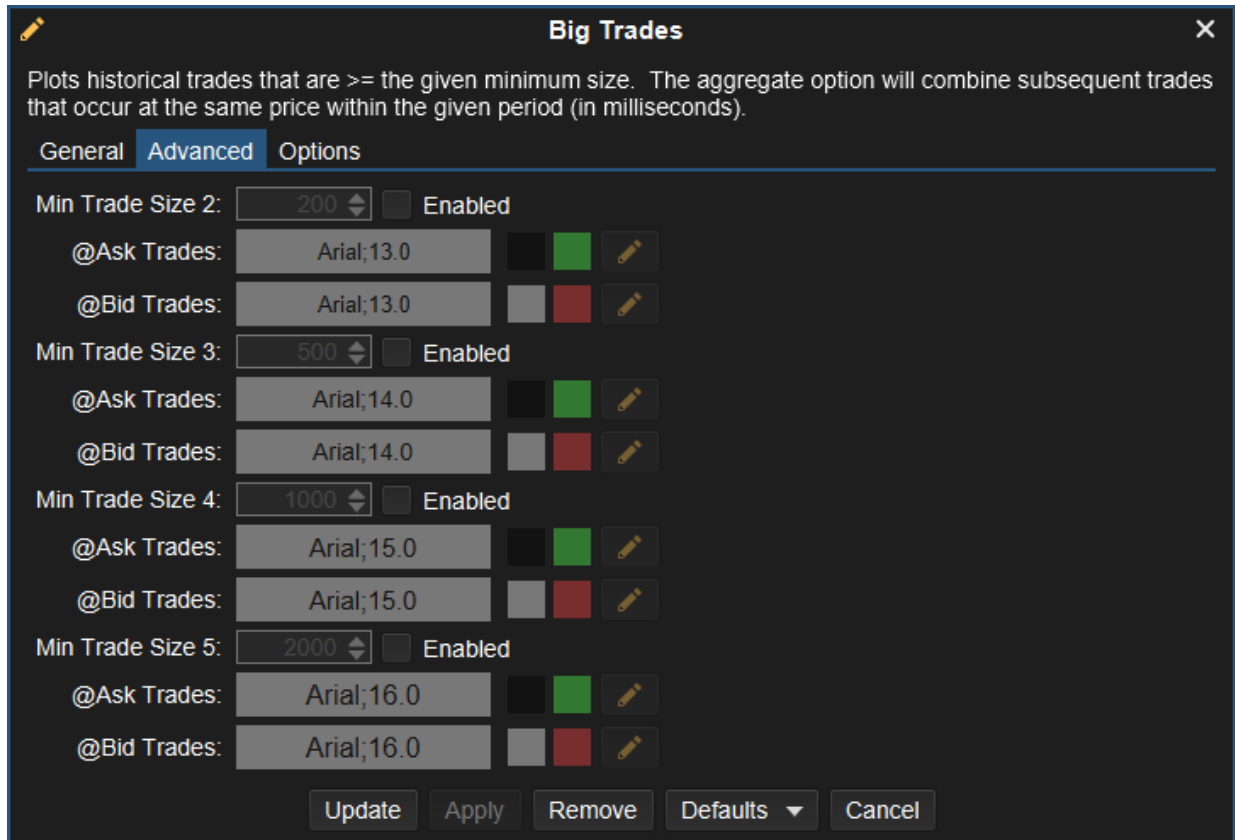
Min Trade Size:

@Ask Trades:

@Bid Trades:

Opacity:

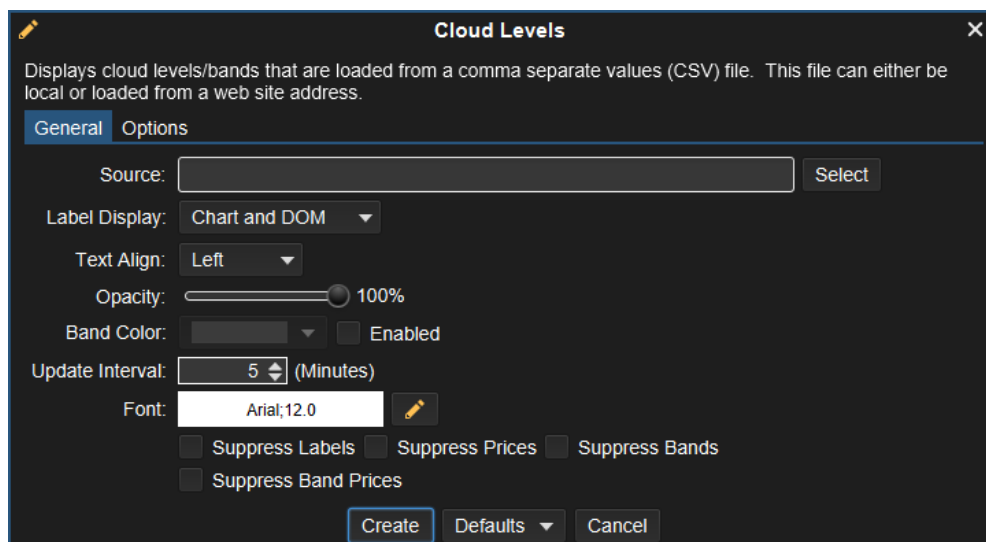




## 2.3 Cloud Levels

This new study displays cloud levels/bands that are loaded from a comma separated values (CSV) file. This file can either be local or loaded from a website address. This study can be used for subscription services that provide levels/bands.

Current supported formats include: Investor/RT (CSV) and Bookmap (CSV). More formats may be added in the future.



## 2.4 OHLC

The OHLC study now has an option to set an Opening Range in seconds:

**OHLC** [Close]

Plots the open, high, low and previous close values on the chart.

**General** | Options

Max Prints: 5  Show All

RTH Data Only: Extended Session

Font: Arial;12.0  Enabled

Label Align: Right

|                  |              |     |              |   |
|------------------|--------------|-----|--------------|---|
| Open Line:       | [Yellow]     | 1.0 | [Line Style] | <input checked="" type="checkbox"/> Display |
| High Line:       | [Green]      | 1.0 | [Line Style] | <input checked="" type="checkbox"/> Display |
| Mid Line:        | [Brown]      | 1.0 | [Line Style] | <input type="checkbox"/> Display            |
| Low Line:        | [Red]        | 1.0 | [Line Style] | <input checked="" type="checkbox"/> Display |
| Prev Close Line: | [Blue]       | 1.0 | [Line Style] | <input checked="" type="checkbox"/> Display |
| Prev Low Line:   | [Dark Red]   | 1.0 | [Line Style] | <input checked="" type="checkbox"/> Display |
| Prev High Line:  | [Dark Green] | 1.0 | [Line Style] | <input type="checkbox"/> Display            |

Opening Range (min): 30 **Seconds**

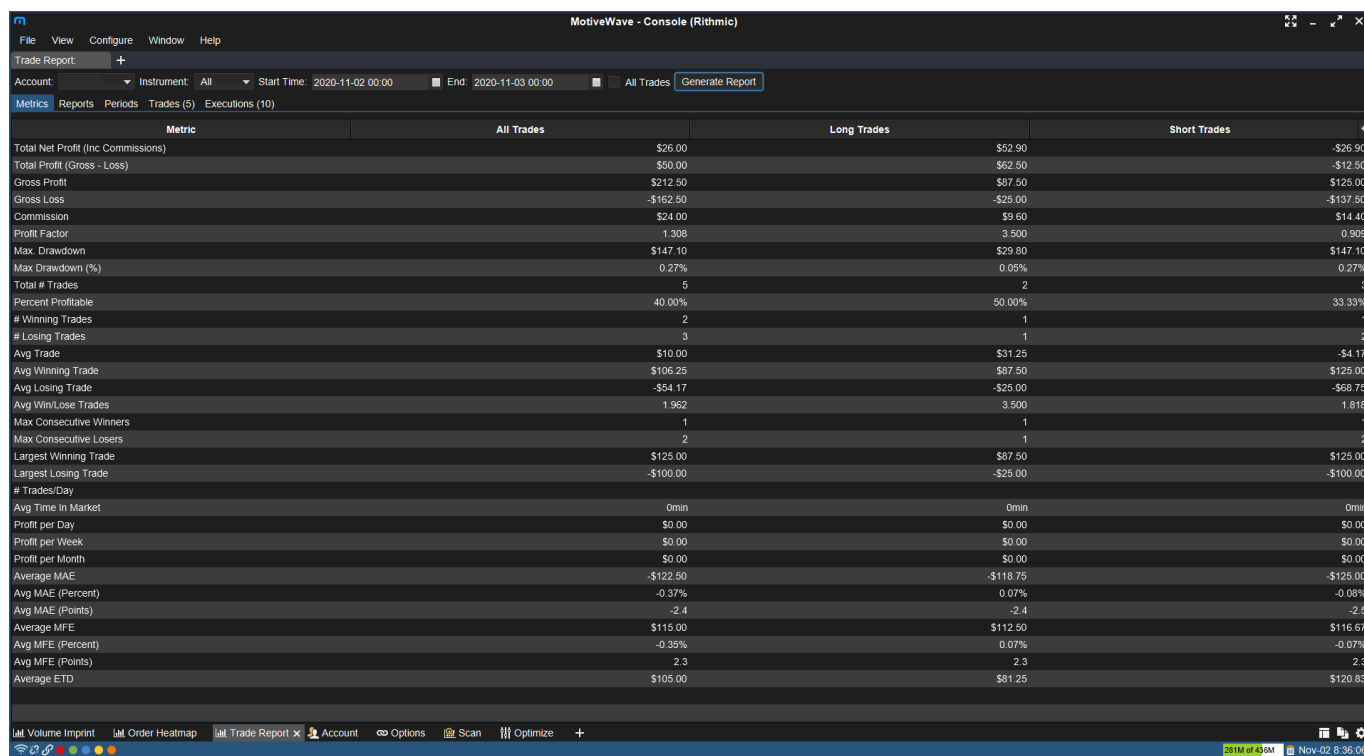
|                     |           |     |              |   |
|---------------------|-----------|-----|--------------|---|
| Opening Range High: | [Magenta] | 1.0 | [Line Style] | <input checked="" type="checkbox"/> Display |
| Opening Range Low:  | [Magenta] | 1.0 | [Line Style] | <input checked="" type="checkbox"/> Display |

Callout: Select Minutes or Seconds

Buttons: Create | Defaults | Cancel

## 3 Trade Report

Generates a report that can be filtered by account, instrument, and date. The Trade Report also works for Replay Mode accounts and it can estimate commissions for live accounts (set up commissions in the Edit Instrument dialog).



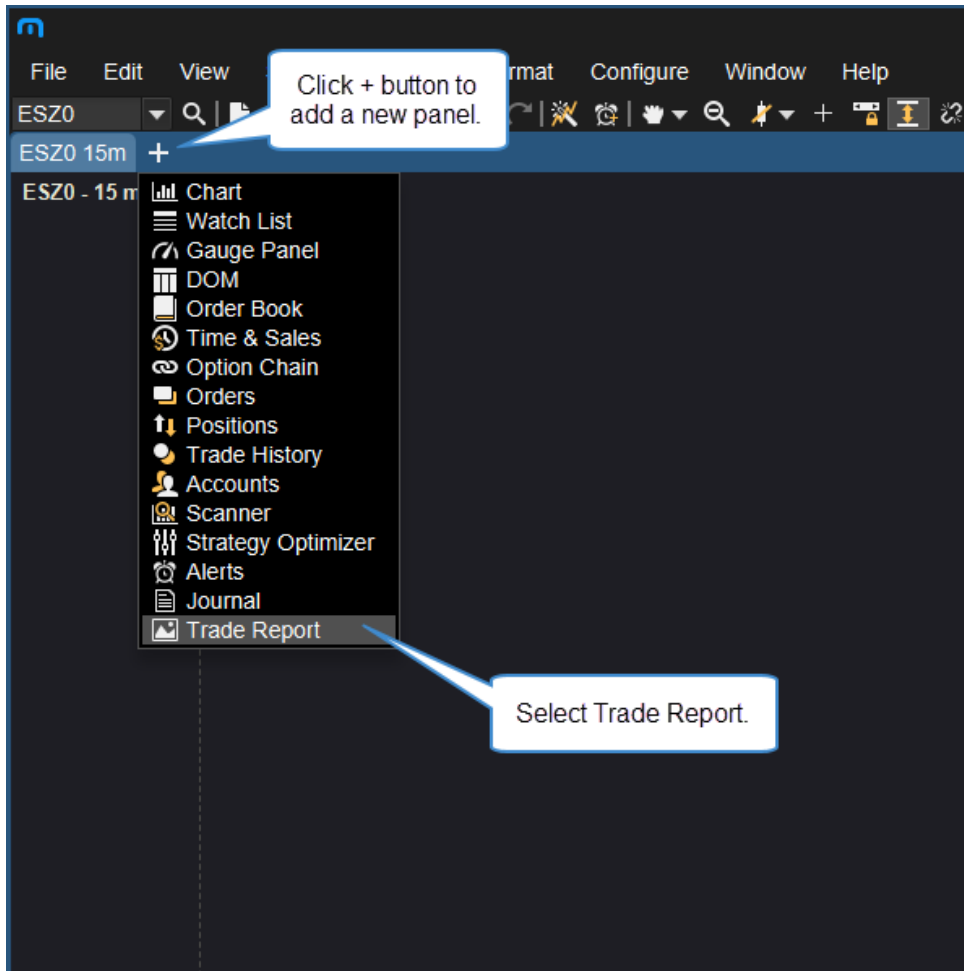
| Metric                             | All Trades | Long Trades | Short Trades |
|------------------------------------|------------|-------------|--------------|
| Total Net Profit (Inc Commissions) | \$26.00    | \$52.90     | -\$26.90     |
| Total Profit (Gross - Loss)        | \$50.00    | \$62.50     | -\$12.50     |
| Gross Profit                       | \$212.50   | \$87.50     | \$125.00     |
| Gross Loss                         | -\$162.50  | -\$25.00    | -\$137.50    |
| Commission                         | \$24.00    | \$9.60      | \$14.40      |
| Profit Factor                      | 1.308      | 3.500       | 0.908        |
| Max Drawdown                       | \$147.10   | \$29.80     | \$147.10     |
| Max Drawdown (%)                   | 0.27%      | 0.05%       | 0.27%        |
| Total # Trades                     | 5          | 2           | 3            |
| Percent Profitable                 | 40.00%     | 50.00%      | 33.33%       |
| # Winning Trades                   | 2          | 1           | 1            |
| # Losing Trades                    | 3          | 1           | 2            |
| Avg Trade                          | \$10.00    | \$31.25     | -\$4.17      |
| Avg Winning Trade                  | \$106.25   | \$87.50     | \$125.00     |
| Avg Losing Trade                   | -\$54.17   | -\$25.00    | -\$68.75     |
| Avg Win/Lose Trades                | 1.962      | 3.500       | 1.818        |
| Max Consecutive Winners            | 1          | 1           | 1            |
| Max Consecutive Losers             | 2          | 1           | 2            |
| Largest Winning Trade              | \$125.00   | \$87.50     | \$125.00     |
| Largest Losing Trade               | -\$100.00  | -\$25.00    | -\$100.00    |
| # Trades/Day                       |            |             |              |
| Avg Time In Market                 | 0min       | 0min        | 0min         |
| Profit per Day                     | \$0.00     | \$0.00      | \$0.00       |
| Profit per Week                    | \$0.00     | \$0.00      | \$0.00       |
| Profit per Month                   | \$0.00     | \$0.00      | \$0.00       |
| Average MAE                        | -\$122.50  | -\$118.75   | -\$125.00    |
| Avg MAE (Percent)                  | -0.37%     | 0.07%       | -0.08%       |
| Avg MAE (Points)                   | -2.4       | -2.4        | -2.5         |
| Average MFE                        | \$115.00   | \$112.50    | \$116.67     |
| Avg MFE (Percent)                  | -0.35%     | 0.07%       | -0.07%       |
| Avg MFE (Points)                   | 2.3        | 2.3         | 2.3          |
| Average ETD                        | \$105.00   | \$81.25     | \$120.83     |

Most of the metrics are self-explanatory, here are a few which may not be:

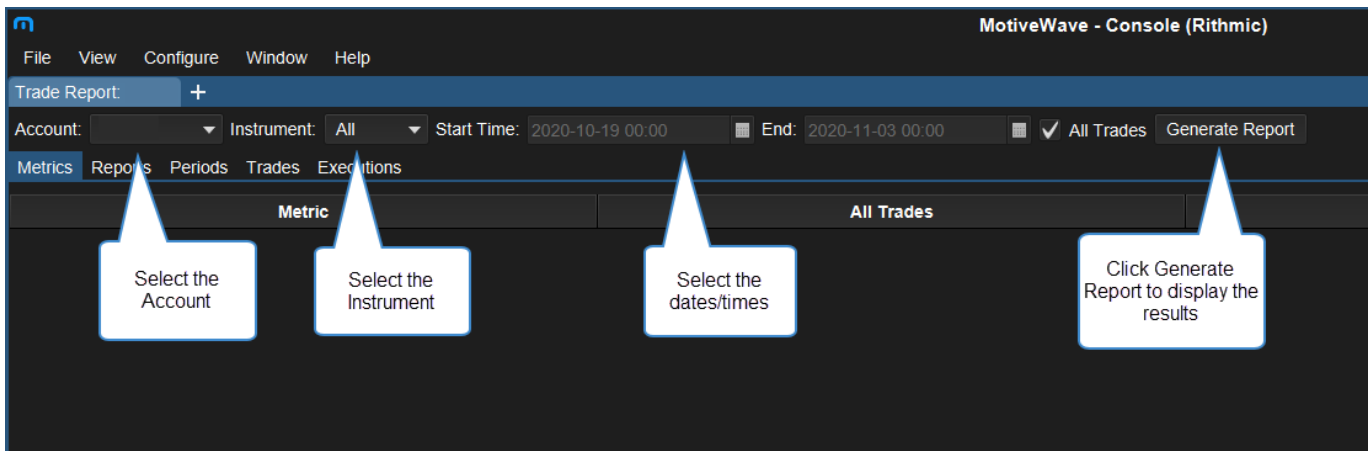
- 1) Profit Factor – Gross profit divided by gross loss.
- 2) Max Drawdown – Largest drawdown from equity peak to subsequent equity low.
- 3) Average MAE (Maximum Adverse Excursion) – How far on average a trade will go against you.
- 4) Average MFE (Maximum Favorable Excursion) – How far on average a trade will go in our favor.
- 5) Average ETD (End Trade Drawdown) – How much profit you give back until you exit the trade.  
The calculation is  $MFE - \text{Actual exit price}$ .

### 3.1 Creating a Trade Report

A Trade Report tab can be added by clicking the + button to the right of a chart tab. In this drop-down menu you can then select Trade Report.



To generate a trade report, select an Account, Instrument (All can be selected), and your desired dates/times (All Trades set by default). Click the Generate Report button to show the results.



You can now view your Trade Report stats by selecting the tabs (Metrics, Reports, Periods, Trades, and executions).

Trade Report: +

Account: Instrument: All Start Time: 2020-11-02 00:00 End: 2020-11-03 00:00 All Trades Generate Report

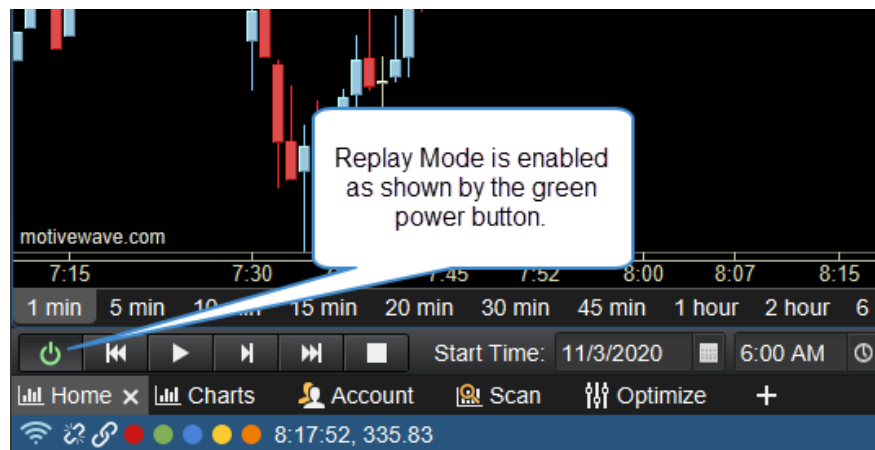
Metrics Reports Periods Trades (5) Executions (10)

| Trade # | Symbol | Position | Quantity | Remaining | Entry Price | Exit Price | Entry Time     | Exit Time      | P/L       | Cumulative P/L | Commission | Cum. Comm... | Max Price | Min Price | MAE       | MFE      | ETD       |
|---------|--------|----------|----------|-----------|-------------|------------|----------------|----------------|-----------|----------------|------------|--------------|-----------|-----------|-----------|----------|-----------|
| 1       | ESZ0   | 1        | 1        | 0         | 3301.25     | 3300.75    | Nov-20 7:50:22 | Nov-20 7:50:43 | -\$25.00  | -\$25.00       | \$4.80     | \$4.80       | 3301.75   | 3298.25   | -\$150.00 | \$25.00  | -\$50.00  |
| 2       | ESZ0   | 1        | 1        | 0         | 3300.00     | 3301.75    | Nov-20 7:50:52 | Nov-20 7:51:20 | \$87.50   | \$62.50        | \$4.80     | \$9.60       | 3304.00   | 3298.25   | -\$87.50  | \$200.00 | -\$112.50 |
| 3       | ESZ0   | -1       | -1       | 0         | 3301.50     | 3302.25    | Nov-20 7:51:26 | Nov-20 7:51:35 | -\$37.50  | \$25.00        | \$4.80     | \$14.40      | 3304.00   | 3299.75   | -\$125.00 | \$87.50  | -\$125.00 |
| 4       | ESZ0   | -1       | -1       | 0         | 3305.25     | 3307.25    | Nov-20 7:52:24 | Nov-20 7:54:31 | -\$100.00 | -\$75.00       | \$4.80     | \$19.20      | 3309.75   | 3303.25   | -\$225.00 | \$100.00 | -\$200.00 |
| 5       | ESZ0   |          |          | 0         | 3309.25     | 3306.75    | Nov-20 7:54:06 | Nov-20 7:54:46 | \$125.00  | \$50.00        | \$4.80     | \$24.00      | 3309.75   | 3306.00   | -\$25.00  | \$162.50 | -\$37.50  |

Select a tab to view Metrics, Reports, Periods, Trades, and Executions.

### 3.2 Reports in Replay Mode

The Trade Report can also be used for Replay Mode trades. Please note, Replay Mode will need to be enabled to be able to generate a report from a Replay Mode session. Once you disable Replay Mode, the trades will no longer be available.



## 4 Continuous Futures

Added support for custom internal continuous contracts that automatically roll based on your selected rollover settings. Choose File > New > Continuous Future to create a new instrument.

### 4.1 Create Continuous Future

The screenshot shows a 'Create Continuous Future' dialog box with the following fields and callouts:

- Base Symbol:** A dropdown menu with 'ES - E-Mini S&P 500' selected. A callout bubble points to it with the text: "Select the Base Symbol." on the **Next** button below
- Symbol:** A text input field containing '@ES'. A callout bubble points to it with the text: "Create a custom symbol for this continuous future."
- Contract:** A dropdown menu with 'Front Contract' selected.
- Trading Hours:** A dropdown menu with 'CME - Equity' selected and a '+' button next to it.
- Title:** A text input field containing 'E-Mini S&P 500 Cont'.
- Description:** A large empty text area.
- Minimum Tick:** A text input field containing '0.25'.

At the bottom right of the dialog are three buttons: 'Back', 'Next', and 'Cancel'.

Create Continuous Future - @ES

### Continuous Data Options

The options below allow you to choose how the historical data is computed for this instrument.

Use Default

Roll Method: Days Before Day of Week

Days Before: 8  Business Days

Week Of Month: Third

Day Of Week: Friday

Back Adjust Method: Unadjusted

Back Finish Cancel

## 4.2 Active Contract

You can display which contract is being used for the Continuous Future in two locations:

- Chart Label – A new chart label has been created for this. See Chart Settings > Labels tab.
- Watch List – A new column “Active Contract” has been added to the Watch List, Quote Sheet, Quote Board, and Buy Sell Boxes.

### Chart Settings

General Scaling Bar Settings Theme Display **Labels** Watermark Trade Data Elliott Wave OFA®

The list below shows the labels that are displayed on the price graph (such as Spread, Day Range etc).

#### Available Labels

- ATR
- Account
- Account Balance
- Account Session P/L
- Account Unrealized P/L
- Active Contract
- Ask Price
- Bar Countdown
- Bid Price
- Buy Button
- Change
- Change %
- Cursor Close
- Cursor High

#### Labels

Placeholder for selected labels

>  
<  
<<

↑  
↓  
✎

Indices (9) x +

| Symbol | Last Pr... | Change | % Chan... | Bid      | Bid Si... | Ask      | Ask S... | Last Time | Expiry Date | Open     | Close    | Settle   | Low      | High     | Volume | Open Inter... | Active Contract |
|--------|------------|--------|-----------|----------|-----------|----------|----------|-----------|-------------|----------|----------|----------|----------|----------|--------|---------------|-----------------|
| ESZ0   | 3300.25    | 35.50  | 1.09%     | 3300.00  | 42        | 3300.25  | 18       | 9:16:04   | 2020-12-17  | 3260.00  | 3278.25  | 3264.75  | 3243.25  | 3322.50  | 871.3K | 2.40M         | ESZ0            |
| MESZ0  | 3300.00    | 35.25  | 1.08%     | 3300.00  | 42        | 3300.25  | 25       | 9:16:04   | 2020-12-17  | 3262.25  | 3278.00  | 3264.75  | 3243.25  | 3322.50  | 696354 | 131514        | MESZ0           |
| YMZ0   | 26760      | 366    | 1.39%     | 26759    | 5         | 26762    | 6        | 9:16:04   | 2020-12-17  | 26372    | 26503    | 26394    | 26172    | 26927    | 136483 | 91292         | YMZ0            |
| MYMZ0  | 26759      | 365    | 1.38%     | 26759    | 5         | 26762    | 6        | 9:16:04   | 2020-12-17  | 26850    | 26523    | 26394    | 26173    | 26928    | 98355  | 15342         | MYMZ0           |
| RTYZ0  | 1556.9     | 20.1   | 1.31%     | 1556.8   | 2         | 1557.0   | 5        | 9:16:04   | 2020-12-17  | 1537.0   | 1544.5   | 1536.8   | 1526.0   | 1564.9   | 65467  | 519546        | RTYZ0           |
| M2KZ0  | 1556.8     | 20.0   | 1.30%     | 1556.8   | 7         | 1556.9   | 1        | 9:16:03   | 2020-12-17  | 1536.9   | 1544.5   | 1536.8   | 1525.6   | 1564.9   | 62641  | 13112         | M2KZ0           |
| NQZ0   | 11088.50   | 42.25  | 0.38%     | 11088.00 | 2         | 11088.75 | 2        | 9:16:04   | 2020-12-17  | 11034.50 | 11089.00 | 11046.25 | 10981.75 | 11212.00 | 310011 | 216173        | NQZ0            |
| MNQZ0  | 11088.00   | 41.75  | 0.38%     | 11088.00 | 3         | 11088.50 | 1        | 9:16:04   | 2020-12-17  | 11039.00 | 11087.25 | 11046.25 | 10982.00 | 11212.00 | 639613 | 159679        | MNQZ0           |
| @ES    | 3300.25    | 35.50  | 1.09%     | 3300.00  | 42        | 3300.25  | 18       | 9:16:04   | 2020-12-17  | 3260.00  | 3278.25  | 3264.75  | 3243.25  | 3322.50  | 871.3K | 2.40M         | ESZ0            |

Active contract for @ES is currently ESZ0.

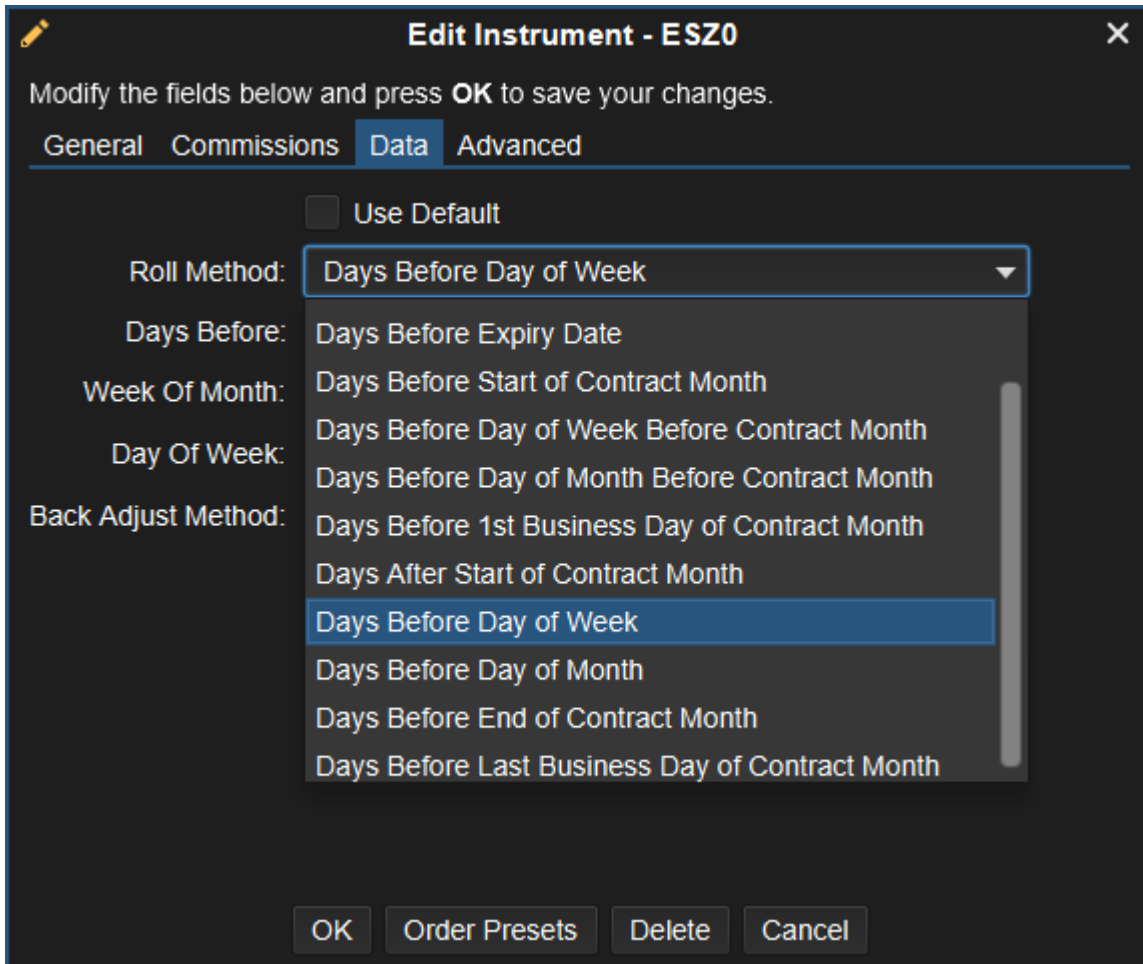
Volume Imprint Order Heatmap Trade Report Account Options Scan x Optimize +



## 5 Futures Roll Options

Additional futures rollover options have been added. These new options are for date-based rollover and are now the default rollover option for most major futures contracts. New options include:

- a) Days Before Start of Contract Month
- b) Days Before Day of Week Before Contract Month
- c) Days Before Day of Month Before Contract Month
- d) Days Before 1<sup>st</sup> Business Day of Contract Month
- e) Days After Start of Contract Month
- f) Days Before Day of Week
- g) Days Before Day of Month
- h) Days Before End of Contract Month
- i) Days Before Last Business Day of Contract Month



**Edit Instrument - ESZ0**

Modify the fields below and press **OK** to save your changes.

General Commissions **Data** Advanced

Use Default

Roll Method: Days Before Day of Week

Days Before: Days Before Expiry Date

Week Of Month: Days Before Start of Contract Month

Day Of Week: Days Before Day of Week Before Contract Month

Back Adjust Method: Days Before Day of Month Before Contract Month

Days Before 1st Business Day of Contract Month

Days After Start of Contract Month

Days Before Day of Week

Days Before Day of Month

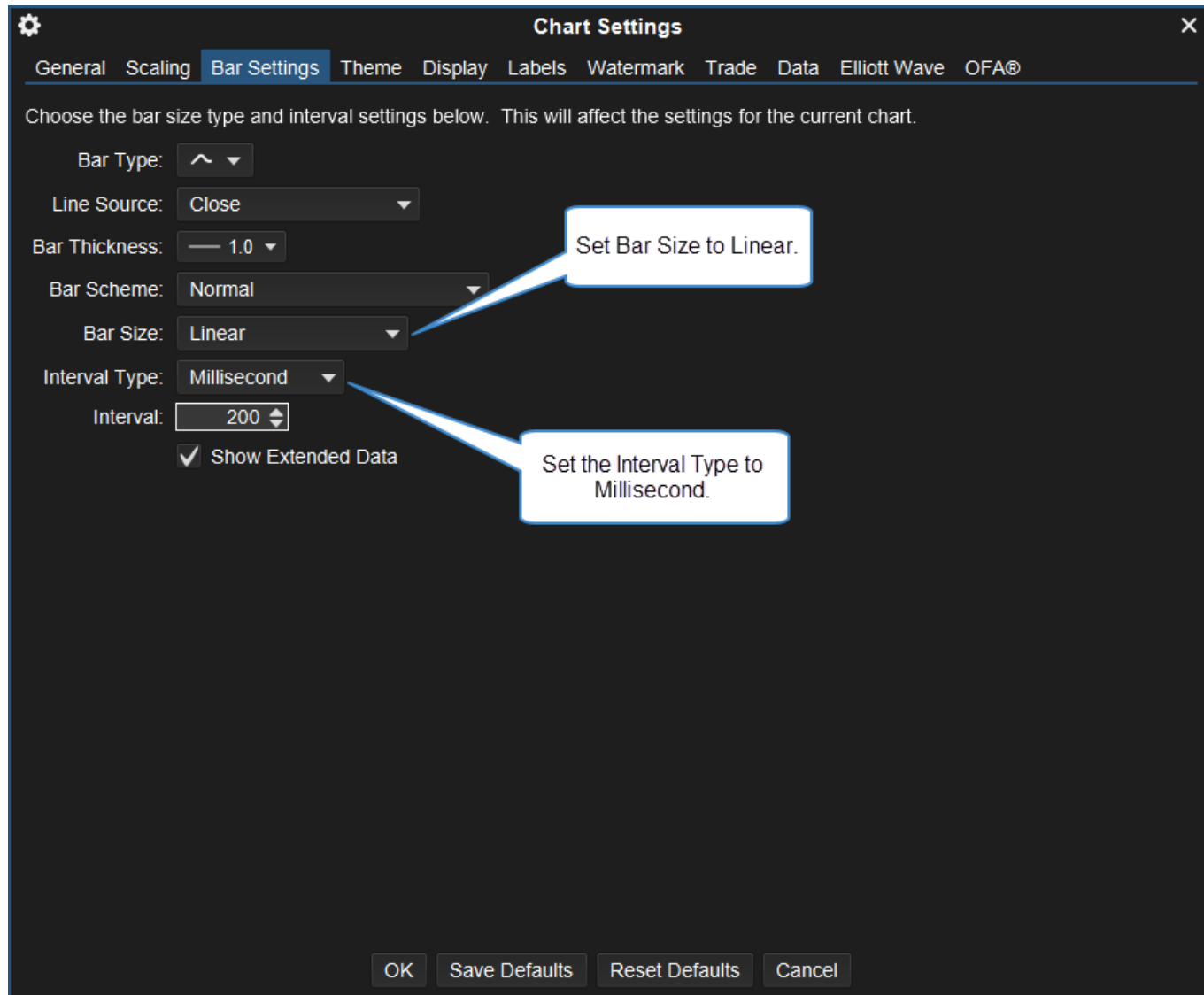
Days Before End of Contract Month

Days Before Last Business Day of Contract Month

OK Order Presets Delete Cancel

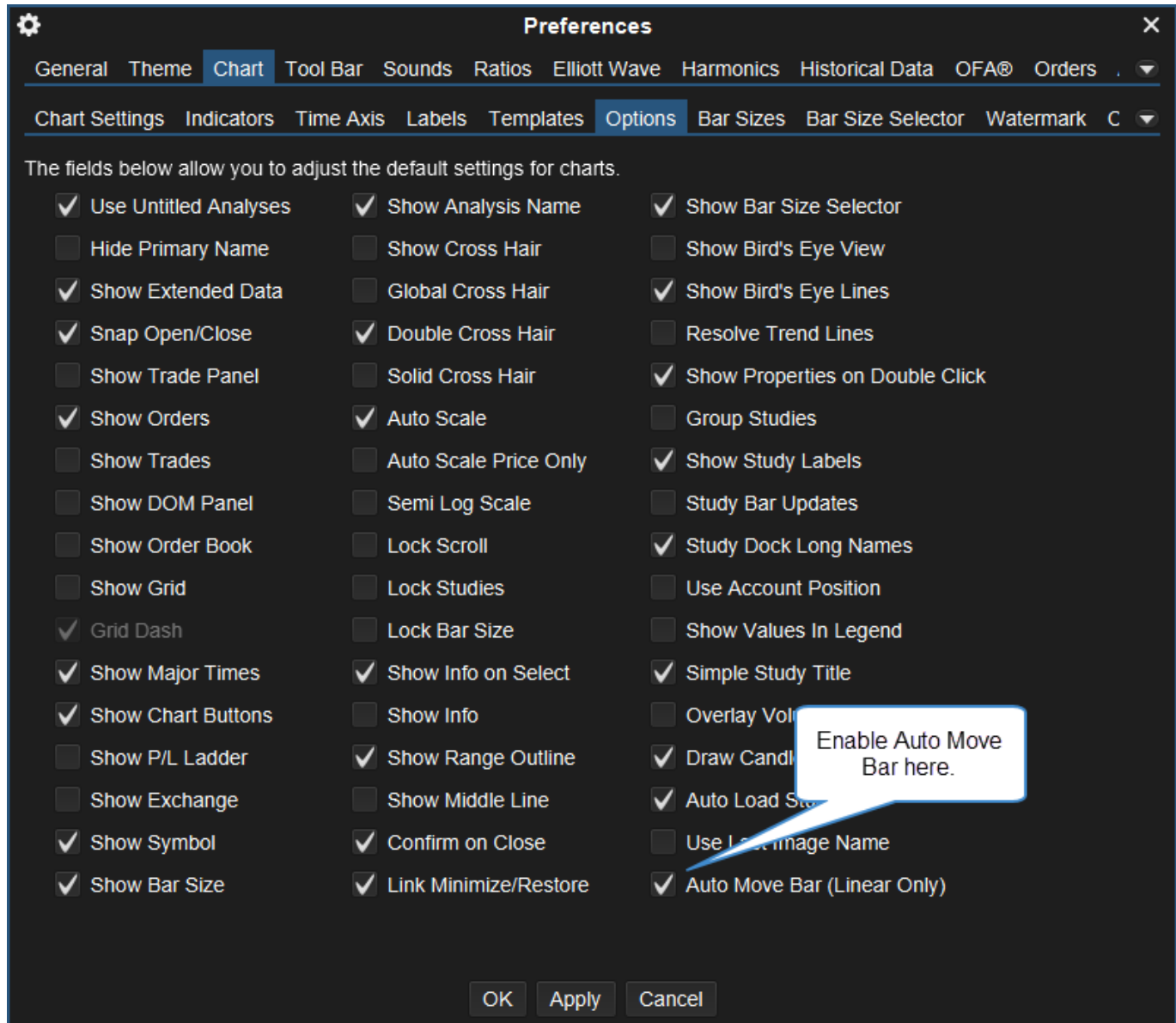
## 6 Millisecond Bars

Bar sizes can now be specified in milliseconds (minimum 20 ms). This bar type is best used with the Order Heatmap study to create a continuously scrolling chart for order flow trading.



## 7 Auto Move Bar

If enabled, this option will automatically create the next bar when the time has elapsed (instead of waiting for the next bar). This is especially useful for millisecond bars (see above) to show a continuously moving chart. See Configure > Preferences > Chart > Options.



## 8 Other Enhancements

Here are some other enhancements added between version 6.2 and 6.3:

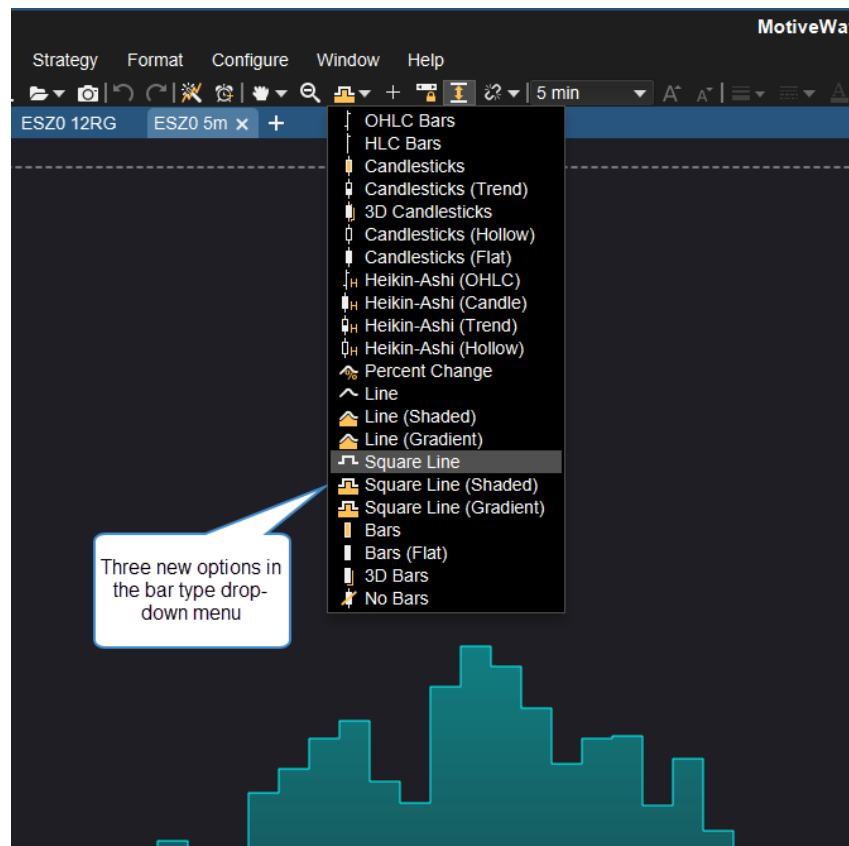
### 8.1 Time and Sales Aggregate by Order

Added the option to “Aggregate by Order” using Market by Order (currently only offered by Rithmic). If enabled the time and sales entries will be combined if the aggressor exchange order IDs and price match. This applies to consecutive trades only.

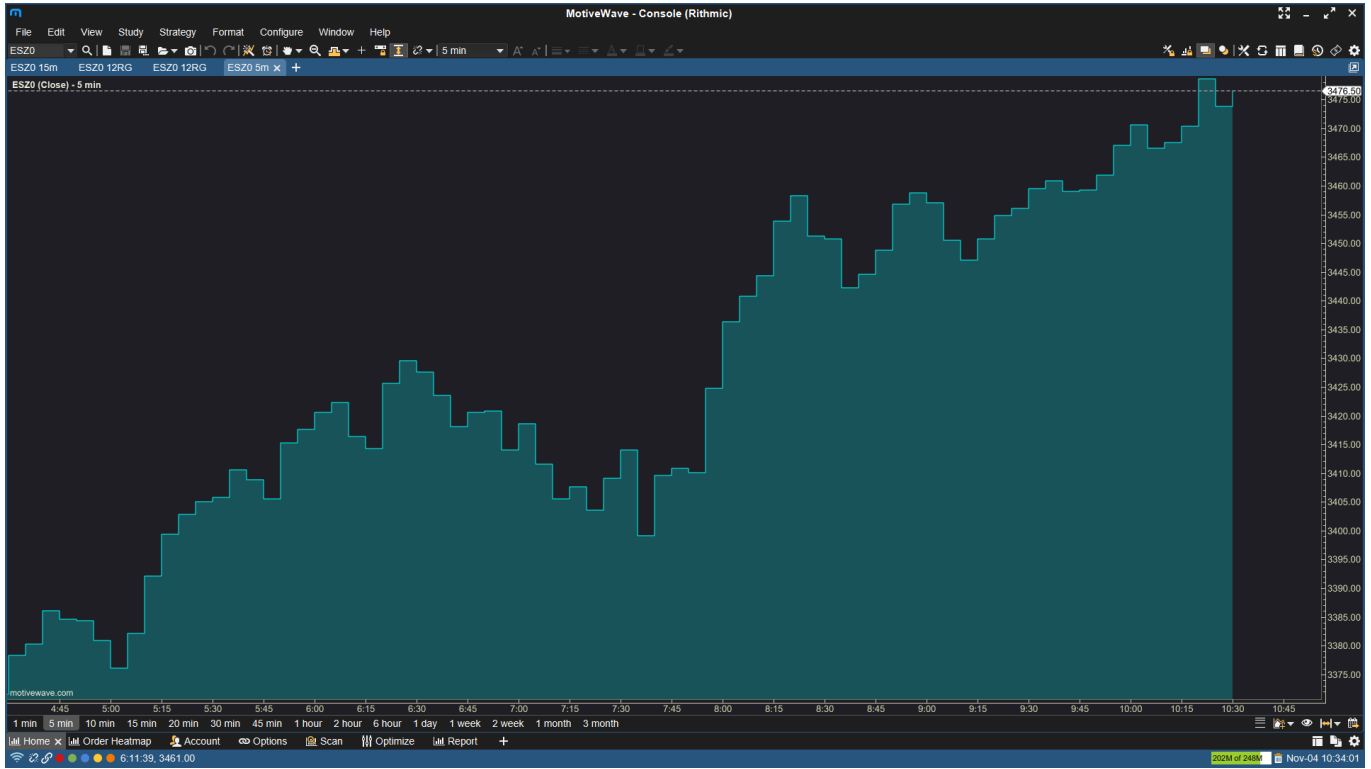
### 8.2 Square Line Bar Type

Added new bar types Square Line, Square Line (Shaded), and Square Line (Gradient). These new bars types are like the Line bar type however, they do not draw diagonal lines, instead they draw vertical and horizontal stair-step lines.

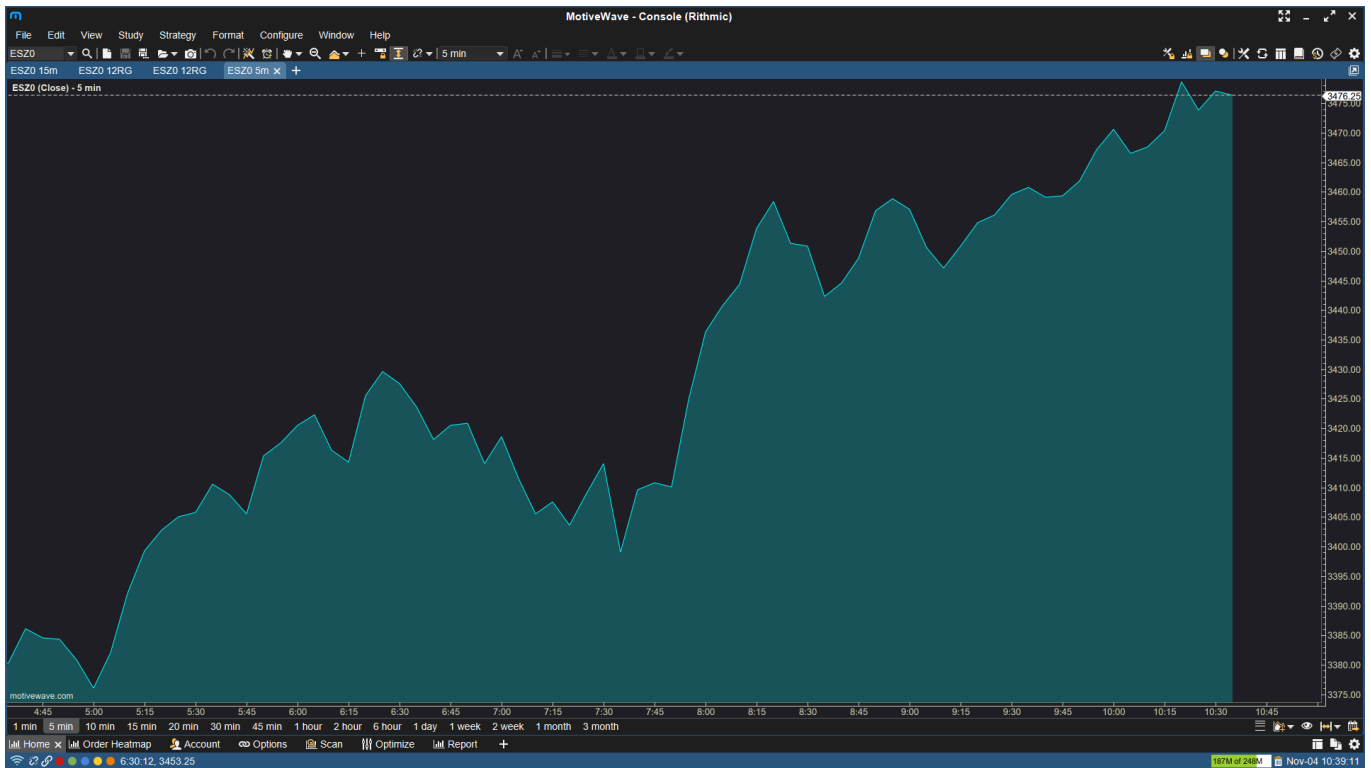
To add the new Square Line bar type, click the bar type drop-down menu shown below.



The image below shows the new Square Line (Shaded) option.



Compared to the Line (Shaded) chart shown below.



### 8.3 Line Chart Label

Allows you to change the label displayed to the right of a line chart. Options include: None, Price, and Symbol. This is available from the Chart Settings dialog.

### Chart Settings

General | Scaling | Bar Settings | Theme | Display | Labels | Watermark | Trade | Data | Elliott Wave | OFA®

The fields below allow you to adjust general settings **specifically for this chart**. Default settings may be changed from the Preferences Dialog (Configure -> Preferences from the Console Menu Bar).

Mouse Tool: | Bar Width (Pixels): 1

Shade: None | 25

Axis Style: Inside | 25

Chart Symbol: Symbol | Minimum Bars: 0

Line Chart Label: **None** | Max Linear Bars: 25000

None | Max Non Linear Bars: 15000

Symbol | Max Days (Tick Charts): 10  Enabled

Price | Display Bars: 95 %

Single Cross Hair |  Resolve Trend Lines

Double Cross Hair |  Calendar Days

Global Cross Hair | Time Zone: America/Edmonton  Use Default

Lock Scroll

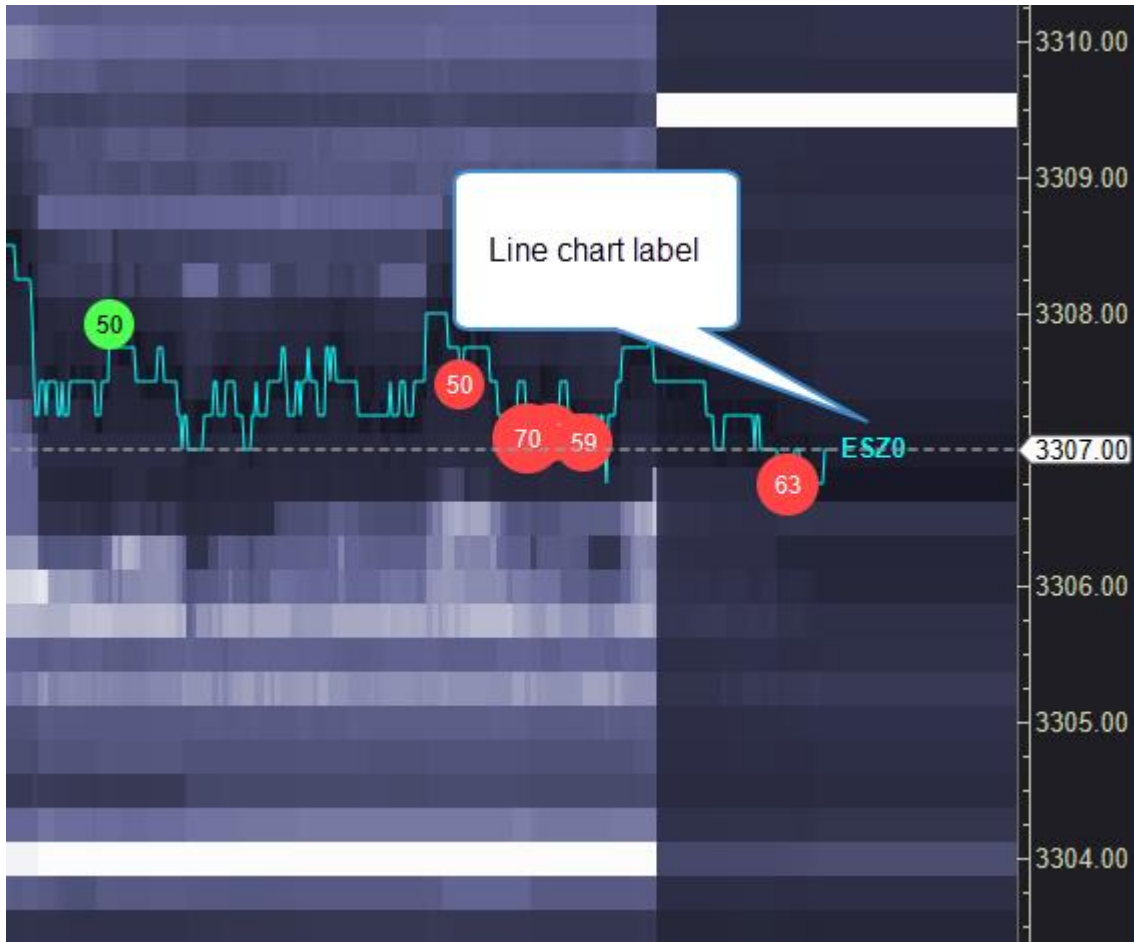
Group Studies

Show Study Labels

Lock Studies

OK | Save Defaults | Reset Defaults | Cancel

Select the line chart label here.



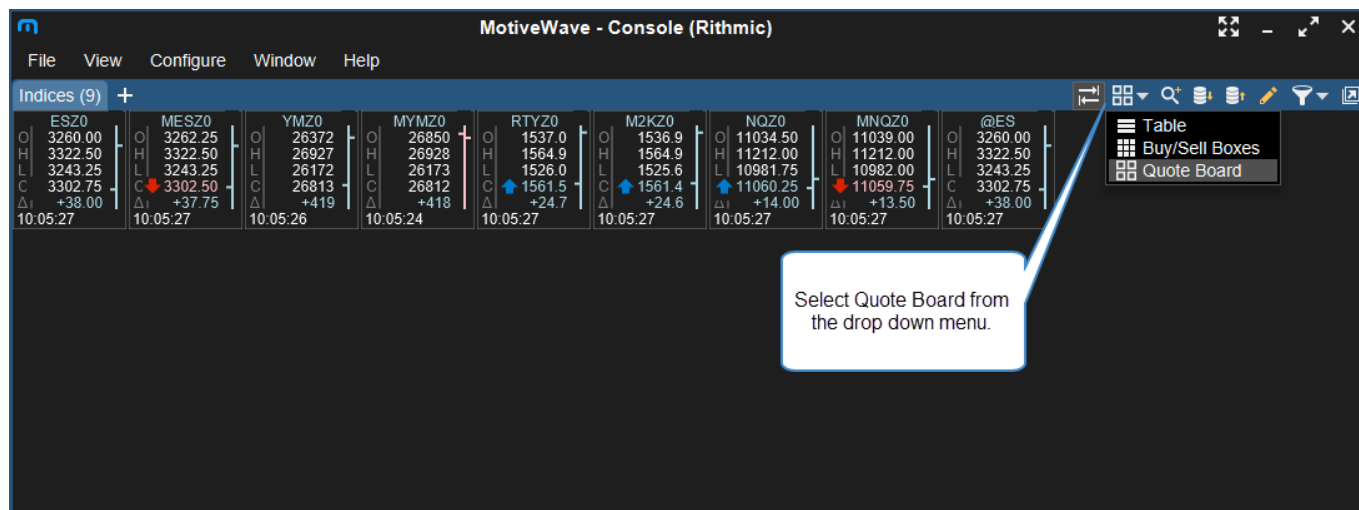
### 8.4 Trade Manager Strategy

Added the ability to specify Ticks or Pips when calculating offsets.

The screenshot shows the 'Trade Manager' dialog box. At the top, it has a title bar with a pencil icon, the text 'Trade Manager', and a close button. Below the title bar is a descriptive paragraph: 'This simple trading strategy allows you to setup an entry point and automatically create exit orders with break even and an ATR stop. Market entry occurs when the latest bar closes up (if long) or the latest bar closes down (if short)'. There are three tabs: 'Entry/Exit', 'Stop Loss', and 'Strategy Panel'. The 'General' section has a 'Step' dropdown menu with 'Ticks' selected. A callout box points to this dropdown with the text 'Select Ticks or Pips'. Below this is the 'Entry' section with a 'Trade Lots' spinner set to '3' and a 'Time In Force' dropdown set to 'GTC'. The 'Exit' section has three rows: '1st Exit: Pips: 10, Lots: 1', '2nd Exit: Pips: 20, Lots: 1, [checked] Enabled', and '3rd Exit: Pips: 30, Lots: 1, [checked] Enabled'. At the bottom are 'Create', 'Defaults', and 'Cancel' buttons.

## 8.5 Quote Board

This is a new view for a Watch List/Quote Sheet (in addition to Table and Buy/Sell Boxes). You can change a Watch List to display a Quote Board by choosing Quote Board in the drop-down menu in the Watch List toolbar.



## 8.6 Connections and Brokers

Here is the list of connection updates:

- Zytrade – Added a new broker connection for Zytrade (Futures and Future Options), connection is via Rithmic.
- Kraken – Added support for Kraken crypto exchange.
- Coinbase Pro – Added support for Coinbase pro exchange.
- Binance – Added support for Regular and Cross-Margin accounts.
- Questrade – Removed support for Questrade.

## 8.7 Rithmic API

Updated to the latest Rithmic library. This update includes significant updates to the performance of loading historical tick data.

## 8.8 Java

Updated to the latest Java and JavaFX 15.0.1