motive Uave[®]

analyze. trade. evolve.

MotiveWave™ What's New in Version 6 Beta 2

©2019 MotiveWave[™] Software

motive**U**ave[®]

Table of Contents

1	Intr	oduction	2
2	Ellic	ott Wave Custom Ratios	3
	2.1	Price Ratios	3
	2.2	Time Ratios	4
3	DOI	M Enhancements	5
	3.1	Market By Order	5
	3.2	More Depth Levels	7
	3.3	Position in Queue (Limit Orders)	8
	3.4	Bid/Ask Counts	9
	3.5	Regular vs Extended Session for Volume Profile	9
4	Rith	nmic Enhancements	11
	4.1	Native Order Types	11
	4.2	@Bid/@Ask Values for Live Quotes	11
	4.3	Latest Rithmic API	11
5	TPC) Study	12
	5.1	Split	12
	5.2	Merge	13
	5.3	Split ETH/RTH	14
	5.4	Historical Bars vs Tick Data	15
6	Vol	ume Imprint Study	16
	6.1	Multiple Columns	16
	6.2	Shading Levels	17
	6.3	Profile	17
	6.4	Totals	19
	6.5	Delta Summary Profile	19
7	DOI	M History	21
8	Big	Trades Study	22
9	OH	LC Study	24
10	Vol	ume Profile Study	26
11	Tim	e and Sales Panel	29
12	Oth	er Enhancements	30
	12.1	Back Fill Settings	30
	12.2	Intraday Bar Build Method	30
	12.3	Price Scaling Ticks From Edge	31
13	SDK	CEnhancements	32
	13.1	Market By Order	32
	13.2	Historical Data	32

1 Introduction

Welcome to MotiveWave[™] version 6 Beta 2! We are excited to launch our second beta of version 6 to give you a preview of some of the features we are adding. **Note:** since this is a beta version there may be some issues with the new features. Please report any issues or enhancement suggestions to <u>support@motivewave.com</u>

2 Elliott Wave Custom Ratios

Price and time ratios for Elliott Waves may be customized from the Preferences Dialog (Configure -> Preferences from the Console menu bar, see Elliott Wave tab).

2.1 Price Ratios

Select the **Price Ratios** sub tab from the **Elliott Wave** tab in the Preferences Dialog. Choose a Wave Ratio by selecting it from the drop down.



Once you have chosen a wave ratio, the existing settings will be populated in the list box. Uncheck the "Use Defaults" button to modify these ratios.

motive**u**ave[®]

						Preferen	ces					
General	Theme	Chart	Tool Bar	Sounds	Ratios	Elliott Wave	Harmonics	Historical Data	OFA®	Orders	Alerts	Em: 💌
General	Degrees	Price	Ratios T	ime Ratio	S							
This panel formatting	l may be ι	used to d	customize	the Elliott	Wave pr	ice ratios. Sel	ect the ratio b	elow and select t	he ratios	to displa	y along	with the
Ratio:	5 vs 1			Use	Default	s - C	Jncheck "Us	se				
+ 14.6% 23.6%	× <	Use the edit of	hese butte r remove	ons to ad ratios.	d,	Ľ	Defaults"					
38.2%			• •			Ratio Sett	inas					
61.8% 78.6%	1		This	dialog allo rences.	ows you	to choose the s	specific ratios	and set display				
88.70			Ra	tio:	61.8	% 📃 Use D	efaults					
100 Dou 114 Clic	ible k on a		Outli	ne: Rou	inded	•						
12 Pric	e Ratio		Li	ne:		▼ 1.0		- Enable	d			
127.2%			Fo	ont:	Arial;	12.0	1	✓ Enabled				
138.2%						OK C	ancel					
161.8%									_			
178.6%												
188.7%												
200%							_					
261.8%							Th	is dialog will ap	pear			
423.6%							rat	tio. Adjust the	display			
686%							se ap	ttings and click ply your change	OK to es.			
						OK Apply	Cancel					

2.2 Time Ratios

Similar to the Price Ratios, the Time Ratios can be customized from the **Time Ratios** tab:

			Preference	ces						
General Theme Chart To	ool Bar Sounds	Ratios	Elliott Wave	Harmonics	Historical Data	OFA®	Orders	Alerts	Em;	
General Degrees Price Ra	atios Time Ratio	os								
This panel may be used to cus formatting.	stomize the Elliot	Wave tim	ne ratios. Sele	ct the ratio be	elow and select the	ne ratios	to display	along v	vith the	•
Ratio: 5 vs 1 + ≁ ×	▼ Use	e Defaults	Se	lect the Tim d uncheck "	e Ratio Use					
14.6%			De	faults"						
23.6%			_							
38.2%										
50%			Ratio Sett	ings		-				
61.8%	This dialog all	ows you to	o choose the s	pecific ratios	and set display					
78.6%	preferences.									
88.7%	Ratio:	100.0	% Use De	efaults						
100%	Outline: Ro	unded	•							
114.0%	Line:		— 10		Enable	be				
123.0%	Line.	_								
138.2%	Font:	Arial;1	2.0	/	✓ Enabled					
150%			OK Ca	ncel						
161.8%										
178.6%										
188.7%										
200%										
261.8%										
423.6%										
686%										
		C	OK Apply	Cancel						

3 DOM Enhancements

Several new enhancements have been added to the Depth of Market (DOM) panel. Note: many of these features are currently exclusive to Rithmic accounts (due to lack of support in other APIs).

3.1 Market By Order

Market by Order displays individual order sizes in the Bid/Ask Columns (Rithmic Only). For more details on Market By Order, see: <u>https://www.cmegroup.com/education/market-by-order-mbo.html</u> Note: this information is also available in the SDK.

The screen shot below shows an example of the Market by Order feature on the S&P e-

mini contract. Limit order sizes are displayed in priority order. Smaller order sizes are auto hidden for simplicity. If you would like to see more detail, increase the width of the Bid or Ask columns by clicking/dragging the edge of the column in the table header.

mit Order	40	-	00	1 \$ ≡•						٢	C 🛉 🧯	ੇ ਛ - ≮	¥
Orders	10	15	20	Bid		Price			Ask		Volun	ne	
						2880.50	320	50 30	T		E	5564	
						2880.25	261	TIM			e	603	
						2880.00	580		42	50 30 31	7	631	
						2879.75	293			Ν	7	902	
						2879.50	243	27			1	1.2K	
						2879.25	269	m	36	Individual lin	nit order s	sizes in	
						2879.00	363	7	5	priority orde	r. Note: s	maller	
						2878.75	257	тг		space is no	t available		
						2878.50	278					0.01	
						2878.25	270 <mark>40</mark>				7	858	
						2878.00	275 40				1	0.5K	
						2877.75	209				1	0.6K	
						2877.50	209				1	1.7K	
						2877.25	186				1.	4.5K	
					34	2877.00					1.	4.0K	
				13	15 91	2876.75					1:	3.1K	
				9	18 120	2876.50					1:	2.4K	
				7 86 9	18 177	2876.25					1	7.8K	
		7	20	25 87 8 1	9 282	2876.00					1	6.7K	
				20 98	20 <mark>214</mark>	2875.75					1	5.9K	
				20 8 8	241	2875.50					1	8.1K	
			23 20	20 9	17 262	2875.25					2	2.1K	
		9 25	19	20	291	2875.00					2	3.8K	
		3	39 9 20	20 9	273	2874.75					2	0.5K	
		29 3	6 9 21	20	302	2874.50					2	1.2K	
		46	30 9 21	20	296	2874.25					1	7.0K	
					7091	-765			_	785	6		
					6770	-	/A N/	A 0.25					
Dine Mist				Flattan	Concel Al	Dev		Eletter		Sall Aak	Dune Did	Drock E.	

Configuration settings for this feature can be found in the **Bid/Ask** tab of the DOM Preferences Dialog (click on the Gear icon in the tool bar).

					C	OM Preferences				
General Bu	ittons D	ividers	Price C	olumn	Volume	Bid/Ask Counts	Bid/Ask	Bid/Ask Delta	@Bid/@Ask	Notes
Bid Align	: Right	•								
Ask Align	: Left	-								
Bid Fill	:		•	Enabled	Ł					
Ask Fill	:		•	Enabled	t					
	V Sh	ow Tota	ls							
	V Sh	ow Histo	ogram							
Bid Hist Fill	:		- 🗸	Use De	fault					
Ask Hist Fill			- 🗸	Use De	fault					
PIQ Marker	:		• 🗸	Enabled	ł					
	V Sh	ow Mark	ket By O	rder (ME	30) <	Check this	option to	dor		
	✓ Of	fset MB0	O Histog	ram		information	Ket by Of			
Bid MBO Fill	:		- 🗸	Use De	fault					
Ask MBO Fill	:		- 🗸	Use De	fault					
MBO Filter	:	45 🗢	Ena	bled			Ontion	ally the order	aimaa	
MBO Font	:	Arial;9.	0		1	Enabled	can be	displayed. C	ick	
		5					the ed icon) to	it button (penc o configure the	il e	
Fill colo	ors for	m					font/co	olor.		
be adju	sted he	re.								
			OK	Арр	ly Det	faults 🔻 Temp	olate 🔻	Cancel		

The following options are available for configuring Market by Order:

- Show Market by Order (MBO) Toggles the display of the order sizes in the Bid and Ask columns
- Offset MBO Histogram Offsets the histogram to the left/right of the Bid or ask size to avoid obscuring order sizes at the front of the priority queue.
- Bid MBO Fill Fill color for visible order sizes in the Bid column
- Ask MBO Fill Fill color for the visible order sizes in the Ask Column
- MBO Filter Optionally, filters orders that are smaller than the given size
- **MBO Font** Optionally display the order size (if space available). Click on the edit button to configure the font size/color.

The screen shot below shows the MBO filter option with the size set to 50:

motive**U**ave[®]

2 3 5 10 15 20				*
Orders Bid	Price	Ask	Volume	
	2876.00 257		17.2K	
	2875.75 248		16.1K	
	2875.50 309	64	18.4K	
	2875.25 281		22.3K	
	2875.00 294		24.3K	
	2874.75 288		21.2K	
	2874.50 269		21.6K	
	2874.25 282		17.3K	
	2874.00 258		14.7K	
Order sizes with MBO	2873.75 215		13.5K	
helps to reduce the	2873.50 234		11.4K	
clutter and focus on	2873.25 200		12.4K	
larger order sizes.	2873.00 148		12.8K	
	2872.75 51		11.1K	
	65 <mark>2872.50</mark>		7691	
V	199 2872.25		8120	
50 50	382 2872.00		10.1K	
	248 2871.75		7568	
	211 2871.50		56 <mark>94</mark>	
	206 2871.25		4385	
	258 2871.00		4264	
	246 2870.75		3843	
	249 2870.50		5983	
50	341 2870.25		6375	
	326 2870.00		7745	
	265 2869.75		7141	
	7138 -227		7365	
	6770 - N/A N/A	0.25		
Ruy Mkt Soll Mkt Elation	Cancel All Poverse	latton All	Ruy Rid Prook	Evon

3.2 More Depth Levels

Additional Bid/Ask levels (beyond the standard 10) may be displayed (Rithmic only). See DOM Preferences Dialog, General tab:

• • •			D	OM Preferences				
General Button	ns Dividers Pric	ce Column	Volume	Bid/Ask Counts	Bid/Ask	Bid/Ask Delta	@Bid/@Ask	Notes
Rows: Max Depth: Time In Force: Re-center: Update Interval: Location:	500 \$ 30 \$ DAY * 10 \$ (Ro 200 \$ (Mi Right *	Enabled bws) 🖌 Er Iliseconds)	nabled	Maximum Dep Levels may be configured her	th e.			
 ✓ Show Too ✓ Show Qua ✓ Locked Show Ord Double Cl Show Grid 	l Bar antity Selector ler Ticket Window ick to Place Order d		now Totals ngle Orde now Filled now Sprea now P/L now Entry/	r Column Orders d Exit Strategies				
		ОК Арр	bly Def	aults 💌 Temp	late 🔻	Cancel		

3.3 Position in Queue (Limit Orders)

Actual position in queue is available for Live Rithmic accounts only. This makes use of the MBO feature to determine where the limit order is in the queue and calculates the number of contracts ahead of it by adding up the order sizes.

For all other accounts, the estimated position in queue (EPIQ) is displayed (prefixed by '~' in the DOM order column). EPIQ is calculated by monitoring the change in the bid/ask depth levels. When an order is first created it is assumed to be at the back of the queue (ie EPIQ = depth size). When the depth size gets smaller a percentage of that size is removed from the PIQ relative to its current position (i.e. EPIQ = EPIQ - (EPIQ /previous size)*(previous size – new size)).



The following screen shot shows the position in queue in the Order column of the DOM:

The PIQ marker can be configured in the Bid/Ask tab of the DOM Preferences Dialog:

Version 6 Beta 2

General Butto Bid Align: Ask Align: Bid Fill: Ask Fill:	Right	Price Col	umn Vol	ume Bid/Ask	Counts Bid/As	Bid/Ask Delta	@Bid/@Ask	Notes
Bid Align: Ask Align: Bid Fill: Ask Fill:	Right	• E	nabled					
Bid Fill: Ask Fill:		• E	nabled					
Ask Fill:	C Obarri Tata	- E						
	Chan Tata		nabled					
	V Show Tota	ls						
	Show Histo	ogram						
Bid Hist Fill:		- 🗸 U	se Default	£				
Ask Hist Fill:		- 🗸 U	se Default	ŧ				
PIQ Marker:		▼ 🗸 E	nabled 🥿	This o	ption will displa	y		
	Show Mark	ket By Ord	er (MBO)	the Ple each c	Q marker for order in the			
	✓ Offset MB0) Histogra	m	Bid/As	k columns			
Bid MBO Fill:		- 🗸 U	se Default	t				
Ask MBO Fill:		- 🗸 U	se Default	£				
MBO Filter:	50 🜲	V Enabl	ed					
MBO Font:	Arial;9	0		Enable	ed			
		OK	Apply	Defaults -	Template 🔻	Cancel		

3.4 Bid/Ask Counts

The Bid/Ask Counts columns display the number of active orders at each price level (as opposed the depth quantity). **Note:** these columns are available on Rithmic accounts only.

				DOM Prefe	rences				
General Buttor	ns Dividers	Price Col	umn Volu	me Bid/Ask	Counts Bio	d/Ask Bid//	Ask Delta	@Bid/@Ask	Notes
Bid Count Align: Ask Count Align:	Right Left	•							
	Show T	otals listogram							
Bid Count Hist:		- V	Use Defa	ult					
Ask Count Hist:		-	Use Defa	ult					
		ОК	Apply	Defaults 👻	Template	• Cano	cel		

3.5 Regular vs Extended Session for Volume Profile

Optionally the volume profile columns (Volume, Bid/Ask Volume, Delta) may be set to computed from the Regular or Extended trading session. The screen shot below shows where this setting can be found:

Version 6 Beta 2

motive**U**ave[®]

			DOM Preferences				
General Butto	ns Dividers	Price Column Vol	ume Bid/Ask Counts	Bid/Ask	Bid/Ask Delta	@Bid/@Ask	Notes
Display							
Volume Align:	Right -						
Bid Vol Align:	Right -						
Ask Vol Align:	Left 🔻						
Delta Vol Align:	Left 💌						
Bar Color:		 Use Defau 	It				
Bid Color:		 Use Defau 	It				
Ask Color:		 Use Defau 	It				
POC Bar Color:		- Enabled					
	Show Vol	lume Labels					
	Show Bid	I/Ask Volume					
	✓ RTH Data	a Only Th	e option toggles the				
Value Area		E>	tended Trading				
	Show Value	e Area Ho	ours for Volume				
Range %:	70 🜲						
Bar Color:		 Use Default 					
Range Fill:		Enabled					
Range Lines:	- 2.0 -	-	Enabled				
				lata 💌	Canaal		
		OK Apply	Delaults + Temp		Cancel		

4 Rithmic Enhancements

Significant enhancements have been added to our Rithmic connector (some of which have been described in the DOM Enhancements section: MBO, Bid/Ask Counts, Depth Levels and Position in Queue).

4.1 Native Order Types

The following native implementations have been added for the following types of orders:

- 1. OCO One Cancels Other
- 2. Bracket (Attached) Orders Limit/Stop orders with attached profile/stop orders
- 3. Trailing Stop Trailing stop orders
- 4. LIT/MIT Limit if Touched/Market if Touched
- 5. Iceberg Limit orders with the actual size hidden

4.2 @Bid/@Ask Values for Live Quotes

Live quotes use the "Aggressor Side" flag to determine a live quote was at the bid or ask price instead of relying on the Best Bid/Ask values (which are not guaranteed to be in sync). This will ensure that live quotes are correctly interpreted for Bid vs Ask volume and will match historical tick data.

4.3 Latest Rithmic API

We Beta2, we have upgraded to the latest Rithmic API (10.6.0.0).

motive**U**ave[®]

5 TPO Study

5.1 Split

TPO Profile may be split from the context menu (right click on the TPO Profile Cell). The profile will be split at the cell where the context menu was opened.



Split profiles have connector lines to indicate where the profiles were split. A TPO profile may be split multiple times. Splits may also be removed individually or all at once (Clear Splits option):



5.2 Merge

Merging profiles is similar to splitting profiles. Right click on a profile and choose **Merge With Previous Profile** or **Merge With Next Profile**:



Profiles can be merged multiple times. You may also undo a merge (or all merges) from the context menu:



5.3 Split ETH/RTH

Daily TPOs can be split into two profiles where the first profile shows the regular trading session and the second shows the extended session. **Note:** this feature is only applicable to TPOs that have a 1-day timeframe.

This option can be found under the Display tab of the study dialog (double click on the study):

0		Time Pri	rice Opportunity (TPO)
Displays the amou the time zone assig	nt of trading activity (I gned to the instrumen	based on time) t.	e) for each price level and time period. Session times are based on
General Display	IBR Value Area	Volume Profil	ile Sessions Options
Cell Gradient:	\checkmark		
Bar Color:	-		Split Reg vs Ext Session (Daily Bars Only)
Point Of Control:	Time •	-	Abled
Cell Width:	This bar color is		Check this box to split
Letters:	used for the		a daily profile in to the regular and extended
Open Marker:	extended session	nabled	trading sessions.
Close Marker:	•	Enabled	
Row Totals:	Arial;12.0		Enabled
Line Font:	Arial;12.0	Image: A start and a start	✓ Enabled
Mid Point:	•	- 1.0 -	Display
POC Line:	*	- 1.0 -	🚽 🖌 📄 Display
	Naked POC Line		
High Line:	•		🚽 💉 📄 Display
Low Line:	•		🚽 💉 📄 Display
		Oursels Dev	(althe a) Units Connect
		Create Dei	erauits Theip Cancel

In the screen shot below, the regular trading session has the blue bars and the extended session has grey bars:



5.4 Historical Bars vs Tick Data

Optionally historical bars may be used instead of tick data (on by default). This significantly improves the loading time for the study and provides a greater range of data (at the expense of accuracy).

Displays the amount of trading activity (based on time) for each price level and time period. Session times are based on the time zone assigned to the instrument. Ceneral Display IBR Value Area Volume Profile Sessions Options Timeframe: 1 day Tick Interval: 1 ‡ Sub Interval (min): 30 ‡ Number of TPOs: 3 ‡ Show All RTH Data Only V Use Historical Bars Check this option to use historical bars instead of tick data. This option is on by default.		Time Price Opportunity (TPO)
General Display IBR Value Area Volume Profile Sessions Options Timeframe: 1 day Tick Interval: 1 day Tick Interval: 1 day Tick Interval: 1 day 1 day Tick Interval: 1 day Sub Interval (min): 30 dp Show All Tick Interval: Tick Interval: <t< td=""><td>Displays the amount the time zone assign</td><td>t of trading activity (based on time) for each price level and time period. Session times are based on ted to the instrument.</td></t<>	Displays the amount the time zone assign	t of trading activity (based on time) for each price level and time period. Session times are based on ted to the instrument.
Timeframe: 1 day Tick Interval: 1 ‡ Sub Interval (min): 30 ‡ Number of TPOs: 3 ‡ Show All RTH Data Only ✓ Use Historical Bars Check this option to use historical bars instead of tick data. This option is on by default.	General Display	IBR Value Area Volume Profile Sessions Options
	General Display Timeframe: Tick Interval: Sub Interval (min): Number of TPOs:	IBR Value Area Volume Profile Sessions Options
Create Defaulta - Holp Cancel		Create Defaulta - Halp Cancel

6 Volume Imprint Study

6.1 Multiple Columns

Two columns may be displayed for each Volume Imprint bar. This can be configured from the General tab of the study dialog:

				Volume	e Imprint				
Displays detaile	d volume inform	ation for e	ach bar (on the cha	rt.				
General Disp	lay Imbalance	Profile	Ladder	Bid/Ask	Delta	Volume	Summary Profile	Candle Totals	Tot 💌
Column 1: Column 2: Tick Interval:	Delta Bid/Ask	Enat	bled Up	to 2 colu	mns	Colun adjust	nn settings can b ted under these t	e abs.	
Alian:	Middle	Show	per	profile.	gurea				
Imprint can b aligned in the middle of the or at the start the bar.	RTH Data C	Only On Close cal Bars		Recalc on the using h (when	ulates previou istorica	the profile is bar al ticks rolls ove	r).		
	Upo	date A	pply	Remove	Defau	Ilts 💌	Help Cancel		

Settings can be tailored for each column under the Profile, Ladder, Bid/Ask, Delta and Volume tabs. The following screen shot shows a Volume Imprint study with Delta and Bid/Ask columns:



6.2 Shading Levels

Shading levels may be customized based on a percentage of the highest value. This can make is easier to spot high or low values. If levels are not used (uncheck Use Levels), then the shading uses a gradient based off the bid/ask colors (see below).



In the screen shot below, you can see the custom shading levels defined in the dialog box above.



6.3 Profile

Several enhancements have been made to the profile column (see **Profile** tab in the Study Dialog):

- 1. Split Reg vs Extended Session Splits the regular and extended trading session (daily bars only)
- 2. Bar Color Scheme Optionally show Bid/Ask volume or Delta.

- 3. Label Type This option will change the label displayed on each profile bar. Available options include (Note: this option is also available on Bid/Ask, Delta and Volume columns):
 - a. Profile Displays the volume
 - b. Delta Displays the delta value (Ask Volume Bid Volume
 - c. Bid/Ask Displays the Bid and Ask volume (same as Bid/Ask type)
 - d. Volume Displays volume (using imbalance coloring)

General	Display	Imbalance	Profile	Ladder	Bid/Ask	Delta	Volume	Summary Profile	Candle Totals	Tot	•
Display				This be u	s bar coloi used for th	would ne					
	Align:	Left	•	exte	ended ses	sion					
B	Bar Color:	10000	•		-	Split	Reg vs I	Ext Session (Daily I	Bars Only)		
POC B	Bar Color:	1000	-	✓ Enat	oled		_				
Bar Color	Scheme:	Bid/Ask	-	Enable	Н		Spli	ts Reg vs Ext	te		
	Color 1:		1	Bar C	olor Sche	mes:	prof	iles displayed)			
	Color 2:		-	Bid/As	sk and De	Ita	_				
La	bel Font:	Ar	ial:12.0	-	/ V E	nabled					
La	hel Type	Profile	-								
La	bei Type.	V Show I	mbalance		abel Type	s: Profil	e				
Value Ar	ea				elta, Bid/	Ask and	-,				
Show Valu	ue Area:				olume						
R	ange %:		÷								
Ba	ar Color:		-	/ Enabl	ed						
Rang	e Lines:				•	· · · · · · · · · · · · · · · · · · ·	/	Display			
Ra	inge Fill:		-	/ Enabl	ed						
			0	reato	Defaulte	-		ncel			

The screen shot below shows the profile split into Reg vs Extended session. Extended session bars are shown in grey:



6.4 Totals

The following options have been added to the Totals tab of the study dialog:

- 1. Show Cum Delta Displays daily cumulative delta
- 2. **Shading Levels** Similar to the shading levels for the candle, this applies shading to the totals section at the bottom of the chart.

• • •	Volume Imprint
Displays detailed	d volume information for each bar on the chart.
neral Display	Imbalance Profile Ladder Bid/Ask Delta Volume Summary Profile Candle Totals 💌
	Show Totals
	Show Volume Show AVAP
	Show Delta Show Cum Delta Show Delta Change
	Show Min Delta Show Max Delta Show Delta %
Font:	Arial;12.0
Positive Color:	✓ Enabled Delta Option
Negative Color:	The second secon
Use Levels:	
Pos Low:	25 \$ %
Pos High:	To define shading
Neg Low:	v 25 ¢ % levels.
Neg High:	▼ 75 ♠ %
riag ringh.	
	Update Apply Remove Defaults • Help Cancel

The screen shot below shows the totals at the bottom of the chart as configured in the dialog above:



6.5 Delta Summary Profile

Delta has been added as an option for the summary profile:

Version 6 Beta 2

motiveuave[®]

• •				Vo	ume Im	print				
Displays detailed	l volume infe	ormation	for each l	bar on the	chart.					
neral Display	Imbalance	Profile	Ladder	Bid/Ask	Delta	Volume	Summary Profile	Candle Totals	Totals	
Show Summary	: 🗸									
Туре	: Delta	•			_					
Width (pixels)	: 15	0 \$	Ch	oose type	e as De	elta				
Time Span	: Day		-							
		Update	Apply	Remov	/e D	efaults 🔻	Help Cance	I		

The screen shot below shows the Delta Summary profile on the right hand side of the chart:



893

7 DOM History

The following enhancements have been added to the DOM History study (Study -> Volume Based -> DOM History from the top menu bar):

- 1. **Max Depth Levels** This limits the number of depth levels displayed on the chart. Note: currently only Rithmic supports depth levels above 10.
- 2. Min Qty Use this option to filter rows that are below the given depth size
- 3. Levels 1-5 Optionally set specific background colors for up to 5 depth levels. If this option is not chosen, a gradient is applied using the colors defined in the **Gradient Cells** section.

	DOM History
Displays a historical view of the D	OM depth at the end of each price bar.
General Options	Limits the number of depth
Max Depth Levels: 50	Show All only supported on Rithmic)
Min Qty: 100	Enabled
Gradient Cross:	The second secon
Filters rows that 1: 0	Enabled
the given size 2: 100	E Enabled Use these fields to
Level 3: 200	E Enabled custom color levels
Level 4: 400 4	E Enabled depth rows
Level 5: 800 4	
l	Jpdate Apply Remove Defaults Cancel

The screen shot below shows the DOM History study on a chart with the above settings:



8 Big Trades Study

This new study shows historical trades on the chart. These are computed using historical tick data. This study has the following options:

- 1. Aggregate Period (ms) Optionally aggregates trades that have occurred within the aggregate period (milliseconds). These trades must occur at the same price and the @Ask flag must be the same.
- 2. **Outline** Options include:
 - a. Circle (default)
 - b. Rectangle
 - c. Rounded Rectangle
 - d. None (text only)
- 3. **Min Trade Size** Up to 5 trade sizes can be defined to distinguish between smaller and larger trades. Use the Min Trade Size for each level to define the tiers.
- 4. **@Ask Trades** These fields define the font, font color and background color for trades that occurred at the ask price. The size of the trade can be modified by changing the size of the font. Text can be hidden by choosing the same font color as the background color.
- 5. **@Bid Trades** Same as @Ask trades, but applies to trades that occurred at the bid price.



The screen shot below shows the Big Trades study with the settings from above. For convenience larger trades are drawn on top (potentially hiding smaller trades underneath). The following limitations are imposed to avoid performance issues with the study:

- 1. Max 25000 Trades The study will only compute a maximum of 25000 trades that meet the given criteria
- 2. Max 500 Visible A maximum of 500 trades will be drawn on the chart at one time.

Version 6 Beta 2



9 OHLC Study

This new study plots the daily information for the following: Note: this study only works on intraday bars.

- 1. Open Opening price for the day
- 2. High High price for the day
- 3. Low Low price for the day
- 4. Prev Close Close for the previous day
- 5. Mid Midpoint between the high and low
- 6. Prev Low Low price for the previous day
- 7. Prev High High price for the previous day
- 8. Range (min) Time range for computing the Range High/Low lines. The time starts at the opening time for the day (regular trading hours)
- 9. Range High High value for the range defined above
- 10. Range Low Low value for the range defined above

	OHLC
Plots the open, high	n, low and previous close values on the chart.
General Options	
Max Prints:	5 \$ Show All
Font:	Arial;12.0 🖌 Knabled
Label Align:	Right •
Open Line:	📕 🔹 — 1.0 🔹 — 🔹 🧪 🗸 Display
High Line:	📕 🔹 — 1.0 👻 — 💌 🇪 📝 Display
Mid Line:	🔹 🔄 1.0 🔹 📄 🗾 Display
Low Line:	📕 🔹 — 1.0 🔹 — 🔹 🧪 🗸 Display
Prev Close Line:	🗾 🔻 — 1.0 👻 — 🔻 🧪 🗸 Display
Prev Low Line:	• • Display
Prev High Line:	📕 🔹 — 1.0 🔹 🔹 🧪 🗹 Display
Range (min):	5 🜩
Range High Line:	▼ ▼ > ✓ Display
Range Low Line:	🗾 🔻 🔹 🧪 🗸 Display
	Update Apply Remove Defaults Cancel

The screen shot below shows the study using the settings in the dialog above:

motive**U**ave[®]



10 Volume Profile Study

The existing Volume Profile study has been rewritten in this update to use tick data and define a time range. The purpose of this study is to display a summary volume profile on the left or right side of the chart over an extended period of time.

General Tab

The following options are available on the General tab:

- 1. **Time Range** Specified the time range for the volume profile. The range will "roll over" when it hits the end of the range. For example, if "Day" is chosen, the time range will shift when the start of the next day is reached. Available options include:
 - a. Day
 - b. 1 Min
 - c. 5 Min
 - d. 10 Min
 - e. 15 Min
 - f. 30 Min
 - g. 45 Min
 - h. 1 Hour
- 2. Tick Interval number of ticks that make each bar in the profile
- 3. RTH Data only uses regular trading hours data if checked
- 4. **Use Historical Bars** Uses historical bars instead of tick data. This is recommended if the time range is larger (greater than 1 day) or tick data is limited from your broker/data service.

ime Range:	30 🜩	Day	•			
ick Interval:	4 \$	Only				
			historica data. Th larger tin	I bars instead of is is recommend ne spans (> 1 da	tick led for y)	

Display

The following options are available in the **Display** tab:

- 1. Align Displays the profile on the left- or right-hand side of the price graph
- 2. Width Maximum width for the profile bars.
- 3. Bar Color Default color for the bars (not displayed if Show Bid/Ask Volume is checked)
- 4. POC Bar Color Bar color for the bar that is the Point of Control (bar with the highest volume)
- 5. POC Line Optionally displays a line across the chart from the middle of the POC bar
- 6. **Show Bid/Ask Volume** Separates the Bid/Ask volume in each profile bar using the Bid/Ask colors below
- 7. **Bid Color** Color for the bid volume in the profile bar

- 8. Ask Color Color for the ask volume in the profile bar
- 9. Volume Totals Toggles the display of the volume totals for each bar and defines the font/font color
- 10. Line Font Toggles the display of the prices for the horizontal lines. This applies to the POC line as well as the Range Lines (see Value Area tab).

	Volume Profile
Displays a summa	ary volume profile for the visible bars or a specific time range.
General Displa	Value Area Options
Align:	Right 🔻
Width:	200 🗢
Bar Color:	*
POC Bar Color:	The second secon
POC Line:	🔹 🔄 🔹 👘 🔹 👘 👘 Display
	Show Bid/Ask Volume
Bid Color:	•
Ask Color:	·
Volume Totals:	Arial;12.0
Line Font:	Arial;12.0
	Update Apply Remove Defaults Help Cancel

Value Area

Use this tab to display the value area for the profile. It has the following options:

- 1. Show Value Area Toggles the display of the Value Area
- 2. **Range %** Defines the percentage for calculating the value area. For example, 70% will select the range of bars that encompass 70% of the volume for the profile. This range must include the Point of Control and includes the minimum number of bars.
- 3. Bar Color Bar color for the bars that are included in the value area
- 4. Range Lines Optionally displays horizontal lines at the top and bottom of the value area
- 5. Range Fill Optionally draws the given fill color for the value area.

	Volume Profile
Displays a summary volume p	profile for the visible bars or a specific time range.
General Display Value A	Pea Options
✓ Show Val	ue Area
Range %: 70.0 🖨	
Bar Color:	▼ ✓ Enabled
Range Lines:	▼ ▼ / Display
Range Fill:	The Enabled
l	Jpdate Apply Remove Defaults Help Cancel

The following screen shot shows a 30 day volume profile displayed on the right side of the price graph:

Version 6 Beta 2

motive**u**ave[®]



11 Time and Sales Panel

The following enhancements have been added to the Time and Sales panel:

- 1. **Millisecond Formatting** The time stamp for the tick now shows the milliseconds (ie HH:MM:SS.MMM).
- Aggregate Period (ms) The period for aggregate can be customized (default 100 milliseconds). Trades are aggregated if they occur within the aggregation window, have the same price and them same Ask Tick value. These trades must occur in sequence (no non-matching trades between them).
- 3. Highlight Big Sizes Background highlighting can be applied to larger trade sides.

The following screen shot shows the changes that have been made to Time & Sales Preferences dialog (click on the gear icon on the tool T&S toolbar).

0.	Time & Sales F	Preferences
Rows:	100 🜲	
Location:	Right 💌	
Colors:	Bid/Ask Volur	me 🔻
Min Trade Size:	0 \$	Enabled
Max Trade Size:	0 \$	Enabled
Aggregate Period (ms):	100 🜲	✓ Enabled
Highlight Big Sizes:	25 🜲	✓ Enabled
@Ask Bg:		•
@Bid Bg:		•
	Locked	Show Grid
Upd	ate Save De	efaults Cancel

In the screen shot below you can see the highlighting applied to rows that have sizes of 25 or higher.

Rows:	100 🗘		C		Φ.	×
Time	Price	Volume		Ask Tic	k	+
16:25:17.502	2885.00		2	Ν		
16:25:16.798	Milliseco	nd	1	Ν		
16:25:16.492	formattin	g	17	Ν		
16:25:16.378	2885.25		1	N		
16:25:16.195	2885.25		12	Y		
16:25:15.817	2885.00		1	N		
16:25:14.694	2885.25		12	N		
16:25:14.056	2885.25		25	Ν		
16:25:13.810	2885.25		31	N		
16:25:13.611	2885.25	•	18	N		
16:25:13.609	2885.25		21	Y		
16:25:10.850	288 Bac	ckground	2	Y		
16:25:04.141	288 colo	oring for	3	Y		
16:25:01.018	288 larg	er trades	1	N		
16:25:00.181	2885.25		1	Y		
16:25:00.180	2885.50	•	2	Y		
16:25:00.180	2885.25		35	Y		
16:25:00.180	2885.00		3	Y		
16:24:45.170	2884.75		1	Ν		
16:24:44.303	2885.00		1	Ν		
16:24:44.301	2885.00		19	Y		
· · · · · · · · · · ·			-			

12 Other Enhancements

This section describes other minor enhancements that have been added in Beta 2.

12.1 Back Fill Settings

Back Fill may be enabled (or disabled) per instrument in addition to globally. This option can be found in the Instrument Dialog (right click on a chart and choose **Edit Instrument**, see **Advanced** tab):



12.2 Intraday Bar Build Method

Depending on which broker/data service you are using, MotiveWave will receive and store historical bars in one or more of the following sizes (raw bar sizes): 1 min, 5 min, 30 min and 120 min.

All other bar sizes are built by combining data from the raw bars. By default, these bars are built on a weekly interval starting at 9:00 am on Sunday (EST).

This feature is now configurable in the Preferences Dialog (**Configure** -> **Preferences** from the Console menu bar, see **Historical Data** -> **General** tab). The following options are available:

- 1. Method Weekly or Daily. For weekly the bars will be built starting at the given time on Sunday
- 2. Time Zone Relative timezone for the start time
- 3. Start Time Time of day to start building the bars (using the time zone above).

•••						Preferen	ces						
General	Theme	Chart	Tool Bar	Sounds	Ratios	Elliott Wave	Harmonics	Historical Data	OFA®	Orders	Alerts	Em	
General	Tick Cha	arts											
This panel	contains	genera	al settings fo	or historica	l data.								
Use Forw	ard Contr	act: 🔽	/ (where a	vailable)									
Back	Fill Enab	led: 💊	/ (Futures	Only)									
Continu	ous Con	tracts	•										
	Roll Meth	nod:	Volume	•									
Back Ad	djust Meth	nod:	Difference /	Adjusted	•								
Intraday	Bar Bui	ld Me	thod										
	Meth	nod:	Weekly	•			Bars can	be built					
	Time Zo	one:	America/Ne	w_York		•	on a Daily Weekly in	/ or iterval.					
	Start Ti	me: g	0:00 AM	0									
		For	Weekly m starts on s	ethod, Sunday									
					(OK Apply	Cancel						

12.3 Price Scaling Ticks From Edge

A new option has been added to the Price Range scaling option (see Chart Preferences Dialog **Scaling** tab, double click on the chart):

• **Ticks From Edge** – Keeps the current price at least X ticks away from the top or bottom of the chart. This setting only applies when the current price is shown on the chart.



motive**U**ave[®]

13 SDK Enhancements

13.1 Market By Order

Market by Order information has been added to the Depth of Market (DOM) classes. For each DOMRow, a list of orders (DOMOrder) is available.

Figure 1 DOMRow Interface

```
package com.motivewave.platform.sdk.common;
import java.util.List;
/** Represents a row in the Depth of Market (DOM) with a price
   and aggregate size. */
public interface DOMRow
 /** Gets the price for this row.
     @return price for this row */
 float getPrice();
 /** Gets the size for this row. For some instruments (such as crypto
   currencies) this can contain floating point values.
      @return size for this row */
 float getSize();
 /** Gets the number of active limit orders at this price. Zero (0) will
     be returned if this feature is not supported by the broker.
     @return number of active orders at this price */
 int getOrderCount(); 1
 /** Gets the list of active limit orders at this price (ordered by
                                                                                  New Methods
     first order is at the front of the queue). This is only available if
                                                                                  Added
     your broker supports Market By Order.
     @return active limit orders (ordered by priority) for this price */
 List<DOMOrder> getOrders();
}
```

Figure 2 DOMOrder Interface

```
package com.motivewave.platform.sdk.common;
/** Represents an order in a Depth of Market Row (DOMRow).
These orders are only available if your broker supports Market By Order. */
public interface DOMOrder
{
    /** Gets the id of the order at the exchange.
    @return exchange order id */
String getExchangeOrderId();
    /** Gets the displayed quantity of this order.
    @return quantity of this order */
    float getQuantity();
}
```

13.2 Historical Data

Historical ticks and bars can be accessed directly from the Instrument interface (com.motivewave.platform.sdk.common.Instrument).

Tick Data: Use Historical Bars

For tick data, a new option has been added to the forEachTick method: useHistoricalBars. This option will generate ticks from historical bars (starting from 1 minute bars) instead of loading historical ticks. This option is useful if tick data is not available or you need to load a large amount of data (and accuracy is not as important).

Historical Bars

Historical bars can now be accessed directly (without the DataSeries interface). This allows you to access bars without declaring them in the SettingsDescriptor. **Note:** only linear bars >= 1 min are currently supported.

```
import java.beans.PropertyChangeListener;
/** Represents an Instrument. */
public interface Instrument
{
 /** Performs the given operation on each tick that occurred between the given startTime and endTime.
     If you need a large number of ticks (> 100K), this is preferred to the getTicks method since it
     will be less memory intensive.
     @param startTime start time (in milliseconds since 1970)
     @param endTime end time (in milliseconds since 1970)
     @param rth regular trading hours
     @param useHistoricalBars if true, ticks are generated from historical OHLC bars
     @param operation operation to perform on each tick */
 void forEachTick(long startTime, long endTime, boolean rth, boolean useHistoricalBars, TickOperation operation);
  /** Performs the given operation on each bar that occurred between the given startTime and endTime.
      Note: only linear bars are currently supported (no second base bars either)
      @param startTime start time (in milliseconds since 1970)
      @param endTime end time (in milliseconds since 1970)
      @param barSize size of the bars
      @param rth regular trading hours
      @param operation operation to perform on each bar */
  void forEachBar(long startTime, long endTime, BarSize barSize, boolean rth, BarOperation operation) throws MException;
  /** Gets the bars that occurred between the given startTime and endTime
    @param startTime start time (in milliseconds since 1970)
    @param endTime end time (in milliseconds since 1970)
    @param rth regular trading hours
    @return list of ticks that occurred in the given time */
  List<Bar> getBars(long startTime, long endTime, BarSize barSize, boolean rth) throws MException;
  /** Loads the given number of bars from the given end time.
    @param endTime end time (in milliseconds since 1970)
    @param count number of bars to load
    @param rth regular trading hours
    @return list of ticks that occurred in the given time */
  List<Bar> getBars(long endTime, int count, BarSize barSize, boolean rth) throws MException;
```

Version 6 Beta 2

motive**U**ave[®]

package com.motivewave.platform.sdk.common;

```
/** Represents a historical bar. */
public interface Bar
{
  /** Gets the bar size for the bar.
 @return bar size for the bar. */
 BarSize getBarSize();
  /** Gets the start time for the bar (in milliseconds since 1970).
  @return the start time of the bar (in milliseconds since 1970). */
  long getStartTime();
  /** Gets the end time for the bar (in milliseconds since 1970).
  @return the end time of the bar (in milliseconds since 1970). */
  long getEndTime();
  /** Gets the open price for the bar
  @return open price for the bar */
  float getOpen();
  /** Gets the high price for the bar.
  @return high price for the bar. */
  float getHigh();
  /** Gets the low price for the bar.
  @return low price for the bar. */
  float getLow();
  /** Gets the close price for the bar.
 @return close price for the bar. */
  float getClose();
  /** Gets the volume for the bar (as a long value).
  @return trade volume for the bar (as a long value) */
 long getVolume();
 /** Gets the volume for the bar as a floating point value
    @return trade volume for the bar (as a floating point value) */
  float getVolumeAsFloat();
  /** Gets the open interest for the bar (daily bars only, if available)
     @return open interest (daily bars only) */
  int getOpenInterest();
  /** Gets the number of trades for this bar (if available)
 @return number of trades for this bar. */
 int getTrades();
  /** Gets the volume weighted average price for the bar (if available).
  @return volume weighed average price (if available) */
 float getVWAP();
```

}