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[1] [MIN	II TERMINAL	11-22
[1] 1.1	Plac	cing trades using the Mini Terminal	11
	1.1	Placing buy/sell orders	11
		1.1.1 Calculators	
	1.2	Placing pending orders	11
		1.2.1 Placing pending orders directly from the chart	12
		1.2.2 OCO orders	12
	1.3	Order templates	12
	1.4	Closing orders	13
	1.5	Modifying orders	
		1.5.1 Changing s/l, t/p and pending entry prices by dragging markers	
		1.5.2. Viewing and changing order details	
		1.5.3 Changing the s/l or t/p on all open orders	
	1.6	Other features	
		1.6.1 Settings, and non-hedging mode	
		1.6.2 Automated tasks	
		1.6.3 Undocking the Mini Terminal window	15
[1] 2.	Sm	art Lines	16
	2.1	Creating a Smart Line	16
		Order entry and order exit	
		Closing positions using Smart Lines	
		2.3.1 Horizontal lines and trend-lines	
		2.3.2 Vertical lines	17
	2.4	Volume to close	17
		2.4.1 Percentage close	18
		2.4.2 Fixed amount to close	18
		2.4.3 Fixed amount to leave open	18
		2.4.4 All-orders when closing	18
	2.	5 Advanced closure options	19
		2.5.1 Deleting pending orders	19
		2.5.2 Keeping lines after they are triggered	19
		2.5.3 Deleting a line if another line is triggered	19
		2.5.4 Closing orders individually	19
	2.0	6 Filtering the trades to be closed	20
	2.7	7 Using Smart Lines to open new positions	20

[1] 3.Order lac	dders	21
3.1 Buy	and sell ladders	21
	ee-click entry from the order ladders	
	ers with no s/I, or no t/p	
3.4 Plac	cing market orders from the ladders	22
[1] 4. "Maxi" n	node	23
4.1 Cha	ert controls	23
	ume buttons	
4.3 Ord	er list	23
[2] TRADE	TERMINAL	24-33
[2] 1. Overview	w of the Trade Terminal	24
1.1 Ope	ening the Trade Terminal	24
_	nponents of the Trade Terminal	
[2] 2. Trading	panels, market categories, and watchlists	25
2.1 Dea	Il tickets and order templates	25
2.2 Qui	ck-access panel	25
2.3 Cen	tral trading panel	25
2.4 List	of market categories	25
	chlists	
	1 The Manage Watchlists window	
	2 Adding markets to a watchlist using the action menu	
2.6 The	market search field	26
[2] 3. Account	t summary	27
3.1 Alar	rm levels	27
3.2 Alar	rm repeats	27
3.3 Ema	ail	27
3.4 Clos	sing charts and orders	27
[2] 4. Order lis	st	29
4.1 Sort	ting the list and re-ordering columns	29
4.2 Clos	sing orders	29
4.3 Mod	difying orders	29
4.3.	1 Selecting orders from the list	30
4.3.2	2 Partial closes, s/l, t/p, and t/s	30
	3 Order details	
4.4 Auto	omated closes	31

4.4.1 Thresholds for automated closes	31
4.4.2 Actions for automated closes	
4.4.3 Saving automated closes as templates	31
4.5 OCA (One Cancels All) groups	32
4.6 Order summaries	32
4.7 Settings and other features	32
4.7.1 Settings	32
4.7.2 Undocking the Trade Terminal from MT4/5	33
[3] ALARM MANAGER	34-52
[3] 1. About the Alarm Manager	34
[3] 2.Overview of the Alarm Manager	35
2.1 Alarms and groups	
2.2 Display of alarms	
2.3 Triggers	
2.3.1 Alarms not yet triggered	
2.3.2 Alarm triggered, and condition still met	
2.3.3 Alarm triggered, but condition no longer met	
2.4 Resetting alarms	
2.5 Disabled groups of alarms	
[3] 3.Creating and editing alarms	
3.1 Adding new alarms	
3.2 Editing existing alarms	
3.3 Alarm parameters	
3.4 Alarm settings	
3.5 Automatic reset of alarms	
3.5.1 Immediate auto-reset	
3.5.2 Auto-reset delay after trigger	
3.5.4 Auto-reset at start of next bar	
3.6 Alarm actions	
[3] 4.Creating and editing alarm groups	42
4.1 Creating a new group	42
4.2 Editing an alarm group	
4.3 Group actions	
4.3.1 Group actions once all alarms have been triggered	43
4.3.2 Group actions when all alarms are currently signalled	43
4.3.3 Group actions when any one alarm is signalled	

[3]	5.Types of alarm	45
	5.1 Price alarms	45
	5.1.1 Price level	45
	5.1.2 Price change	45
	5.1.3 Bar breakout	45
	5.2 Account alarms	45
	5.2.1 Account value	45
	5.2.2 Balance change	45
	5.2.3 Consecutive wins	45
	5.2.4 Consecutive losses	46
	5.2.5 Win/loss %	46
	5.3 Trade activity alarms	46
	5.3.1 New position open	46
	5.3.2 New position close	46
	5.3.3 Position floating P/L	46
	5.3.4 Position without stop-loss	46
	5.4 Time alarms	47
	5.4.1 Timer countdown	47
	5.4.2 Time of day	47
	5.5 News alarms	
	5.5.1 Economic calendar	
	5.5.2 Sentiment	
	5.6 Technical indicators	
	5.6.1 Moving average cross-over	
	5.6.2 Bollinger band	
	5.6.3 Swing point	
	5.6.4 Stochastic	
	5.6.5 MACD	
	5.6.6 Relative Strength Index	
	5.6.7 Average true range	49
[3]	6. Types of action	50
	6.1 Notifications	50
	6.1.1 Play sound	50
	6.1.2 Show pop-up alert	
	6.2 Empil and Twitter	
	6.2 Email and Twitter	
	6.2.1 Send email	
	6.2.3 Send SMS	
	6.3 Close positions	
	6.3.1 Close everything	
	0.0.1 01000 0volytillig	J

	6.3.2 Close profitable positions	51
	6.3.3 Close losing positions	51
	6.3.4 Close symbol	51
	6.4 New-order actions	51
	6.4.1 Place market order	51
	6.4.2 Place pending order	51
	6.5 Miscelleaneous actions	52
	6.5.1 Open web page	52
	6.5.2 Send web request	52
	6.6 Alarm Manager actions	52
	6.6.1 Disable the alarm's group	52
	6.6.2 Disable all groups of alarms	52
[3] 7.	Text variables	53
	7.1 Standard variables	53
	7.2 Variables which are specific to types of alarm	53
[4 1 F	EXCEL RTD	53-72
	About the Excel RTD app	
[4] 2.	Displaying real-time data in Excel	
	2.1 Running the RTD app	
	2.1.1 Available symbols	
	2.2 Excel formula	
	2.3 Property names	
	2.3.1 Account data properties	
	2.3.2 Price and symbol data properties	
	2.3.3 Ticket data properties	
	2.3.4 Bar history	
	2.3.5 Technical indicators	
	2.3.6 Other properties	
	2.4 Symbol names and standardisation	
	2.5 Ticket volumes	66
[4] 3.	Sending trading commands from Excel	67
	3.1 Reading data in VBA code	67
	3.1.1 Checking if a reader is successfully connected	67
	3.1.2 Data consistency across multiple reads	66
	3.2 Sending trading commands from Excel	68
	3.2.1 Differences between trading platforms	69
	3.2.2 Commands and parameters	69
	3.2.2.1 TEST command	69
	3.2.2.2 BUY and SELL commands	69

3.2.2.3 BUYLIMIT, SELLLIMIT, BUYSTOP, and SELLSTOP commands	70
3.2.2.4 CLOSE command	
3.2.2.5 PARTIALCLOSE command	70
3.2.2.6 REVERSE command	70
3.2.2.7 CLOSESYMBOL command	71
3.2.2.8 CLOSEALL command	71
3.2.2.9 ORDERSL command	71
3.2.2.10 ORDERTP command	71
3.2.2.11 ORDERMODIFY command	72
3.2.3 Standard error messages	72
3.3 Asynchronous commands	72
[5] MARKET MANAGER	73-78
[5] 1. Market Manager	
1.1 Choosing the symbols to display	
1.2 Trading from the Market Manager	
1.2.1 Placing orders	
1.2.2 Quick trade-entry from templates	75
1.2.3 Closing the entire position for a symbol	75
1.3 Account information	75
1.4 Order list	76
1.5 Order windows	76
1.5.1 Information about s/l and t/p	77
1.5.2 Changing stop-losses etc	77
1.6 Pop-up symbol windows	77
1.6.1 Symbol information	78
1.6.2 Trading from the pop-up symbol window	78
1.7 Pop-up menu for symbols	79
1.7.1 New-chart option on MT4	79
[6] CORRELATION MATRIX	79-81
[6] 1. About correlation	
[6] 2.Using the Correlation Matrix	81
2.1 The matrix	81
2.2 Changing the parameters for the calculation	
2.3 Highlighting correlation strength	
2.4 Trade list	
[7] CORRELATION TRADER	00.04
[7] 1 About correlation	82-84 83
I/II ADOUT COMAIND	אַ־אַ

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[7] 2. Using the Correlation Trader	84
2.1 Price charts	84
2.2 Correlation	
2.2.1 Correlation values	84
2.2.2 Correlation colors	85
2.3 Changing the symbol selection	85
2.4 Opening and closing positions	
[8] SENTIMENT TRADER	85-88
[8] 1. About sentiment data	86
[8] 2.Using the Sentiment Trader	87
2.1 Changing the display of current sentiment	87
2.2 Changing the display of historic sentiment	
2.3 Current open position	
2.4 Switching between symbols	
2.5 Opening and closing positions	89
[9] SESSION MAP	89-90
[9] 1. Session Map	
1.1 News markers	
1.2 Floating P/L, account information, and color-coding	
1.3 Session bars	
[10] STEALTH ORDERS	91-101
[10] 1. Overview	
1.1 Disadvantages of stealth orders	
[10] 2. Stealth entries	
2.1 Creating and editing stealth entries	
2.2 Basic stealth entry details	
2.2.1 Immediate buy and sell orders	
2.3 Stop-loss and take-profit	
2.4 Maximum spread	
2.5 Order comment and "magic number"	
2.6 OCA group	95
[10] 3. Stealth exits	96
3.1 Creating stealth exits	96
3.2 Stealth exit details	96

	3.3 Volume to close	96
	3.4 Stop-loss and take-profit	97
	3.4.1 Trailing stops	97
	3.5 Multiple exits for the same trade	
	3.6 Trades which are manually closed outside the app	97
[10] 4.	Symbol exits	98
	4.1 Creating symbol exits	98
	4.2 Choosing a symbol	
	4.3 Exit threshold: price or profit	98
	4.4 Amount to close	98
	4.5 Closing pending orders	99
	4.6 Filtering	99
	4.6.1 Trade direction	99
	4.6.2 Order comment	
	4.6.3 Order magic number	
	4.7 Repeats	100
[10] 5.	Account exits	101
	5.1 Creating account exits	101
	5.2 Account metric	101
	5.3 Upper and lower limits	101
	5.4 Closing pending orders	101
Γ101 6 .	Log	102
[11]	TICK CHART TRADER	102-107
[11] 1.	Overview	103
[11] 2.	Charts	104
	2.1 Tick charts	104
	2.2 Tick speed	
	2.3 Timed charts	
	2.4 Tick candles	
	2.5 Versus charts	
[11] 3.	Trading	106
	3.1 Placing orders with the mouse	
	3.2 Placing orders with the keyboard	
	3.3 Placing quick orders using the Ctrl key	
F44F -		
[11] 4.	Options and settings	108
	4.1 History length	108

	EAs	www.fxcess.com
4.2 Pause chart		108
4.3 Download		108

[1] MINI TERMINAL

[1] 1. Placing trades using the Mini Terminal

1.1 Placing buy/sell orders

Once the Mini Terminal is running you can place buy and sell orders using the large buy and sell buttons:



MT4/5 will show its usual dotted horizontal lines on the chart for each order. The status indicator at the top of the Mini Terminal will show your current net position, e.g. +0.10 if you are long 0.1 lots, or -0.10 if you are short 0.1 lots.

You can control the lot size on new orders, and set a stop-loss, take-profit, or trailingstop using the fields above the buy and sell buttons.

1.1.1 Calculators

You can open calculators for each of the order fields – the volume, s/l, t/p, and trailing stop – by holding down the **Ctrl key** while clicking on them. For example, if you are trading 0.25 lots, and you want a stop-loss which is equivalent to \$100, then you can **Ctrl+click** on the S/L field and tell the calculator to work out the number of pips which is equivalent to a fixed cash risk of \$100.

1.2 Placing pending orders

You can place pending orders (limits and stops) by clicking on the button. You can choose the order type and entry price, stop-loss, take-profit etc.

The entry price for pending orders can be defined either as a fixed price (e.g. 1.23456) or as a number of pips. For example, if you choose a buy-limit and enter a value of 20 pips rather than a price, then the limit order is created 20 pips below the current price.

1.2.1 Placing pending orders directly from the chart

You can also create pending orders from the chart. If you hold down the **Ctrl key** while clicking on the chart, a small window will pop up letting you create a pending order at the selected price. If the price you click on is above the current price then you can create a buy-stop or a sell-limit; if the selected price is below the current price then you can create a buy-limit or a sell-stop. Using the MT4/5 cross-hairs to do this (use the button on MT4/5's toolbar) will help to identify the exact price you are selecting.

1.2.2 OCO orders

You will find these by clicking on the button and selecting OCO (one-cancels-other) from the drop down 'Order type' menu. There are two types of OCO order:

- "OCO breakout". You specify two prices, or two values in pips, either side of the current price, and the Mini Terminal places a buy-stop and a sell-stop. Once one of the pending orders is filled, the other is automatically cancelled. You would typically use this when you are expecting a major price movement, but you don't know whether the move is going to be up or down. For example, there are many trading strategies based around trading the breakout, in either direction, of yesterday's range.
- "OCO reversion". In this case the Mini Terminal places a buy-limit and sell-limit, rather than a buy-stop and sell-stop. You would typically use this if you are expecting a move in either direction followed by a return towards the current price e.g. a bounce off yesterday's high or low.

1.3 Order templates

If there is a type of order which you place regularly - e.g. a buy-limit 20 pips below the current price, with a 100-pip s/l and t/p – then you can save this as a template for quick re-use in future:

- Click on the Button
- Enter the details of the order on the 'New order' screen
- Click on the "Save template" button and choose a name.

You can then quickly execute that saved template in future:

- Hold down the Ctrl key while clicking on the button
- Choose the saved template from the list; your order will be automatically implemented

1.4 Closing orders

You can close an open position by clicking on the position marker at the top of the Mini Terminal: the text which reads +0.10, -0.50 etc. This will slide out a panel of options:



The panel shows the profitability of order for the symbol in cash terms, and also in pips. The price underneath the profit in pips is the average entry price for the position (if there is more than one open order).

You can use the options to close all open orders for the symbol, or all winning or losing trades, or to hedge or reverse the open position.

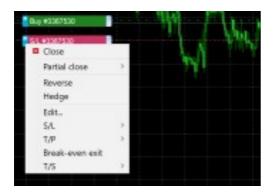
1.5 Modifying orders

By default, the Mini Terminal will show markers on the chart for each order. (You can turn off these markers, or change their position, using the <u>Settings</u>.)

You can click on the markers to open a <u>pop-up window</u> for each order, and you can use the "handle" at the right-hand end of the marker to drag it.



You can also click on the settings icon at the left of the marker to display a menu for editing the order or position.



1.5.1 Changing s/l, t/p and pending entry prices by dragging markers

You can change the s/l or the t/p of an order by dragging its marker, using the "handle" at the right-hand end of the marker. You can also drag the entry price of pending orders (but you cannot move the entry price of open positions!)

If you drag a marker to an invalid level – e.g. you drag a s/l the other side of the current market price – then you will be asked if you want to close the order. You can cancel a drag which is in progress by pressing the Esc key.

1.5.2 Viewing and changing order details

You can open a pop-up window for each order by clicking on its chart marker. The window shows how close the s/l and t/p are to being hit (e.g. for long orders, the distance from the current bid price to the s/l), and the cash effect on the balance if the s/l or t/p is hit.

The current profit for the order shown in the top-right of the window can be switched between cash and pips by clicking on it.



You can close the order using the red button, and you can change the s/l, t/p or trailing stop by clicking on those options.

1.5.3 Changing the s/l or t/p on all open orders

You can also change the s/l or t/p on all open orders by clicking on the chart. You move the mouse over the price where you want to set the s/l or t/p (it is easier using the MT4/5 crosshairs), and then hold down the **Ctrl key** while clicking – i.e. the same method as for placing a pending order.

From the window which pops up, you then click on the s/l or t/p buttons and the s/l or t/p will automatically move to the new price selected. For example, you can **Ctrl+click** on the high or low of a bar to set the s/l or t/p to that price or use the cross hairs or mouse cursor to select a new price .

1.6 Other features

1.6.1 Settings, and non-hedging mode

You can control the settings used by the Mini Terminal by clicking on the Tools button () and choosing "Settings". This lets you turn on confirmations before orders are opened and closed, and also lets you turn on non-hedging mode.

By default, the Mini Terminal follows normal MT4/5 behaviour and lets you have buy and sell orders open at the same time. If you turn on non-hedging mode, buy orders close sell orders, and vice versa. For example, if you are long 0.10 lots and place a sell order for 0.30 lots, then the buy order will be closed and a sell order will be placed for the balance of 0.20 lots.

1.6.2 Automated tasks

You can see a list of all the automated tasks which the Mini Terminal is running at any point in time: any trailing stops on orders, plus any OCO orders. You click on the Tools button (>>) and choose "Auto tasks".

1.6.3 Undocking the Mini Terminal window

This allows you to trade from multiple monitors at the same time. You can undock the Mini Terminal into a floating window by clicking on the Tools button (>>) and choosing "Undock terminal". You can continue to trade while the terminal is undocked from its chart. To re-dock the terminal, click on the Tools button again and choose "Re-dock terminal"

[1] 2. Smart Lines

The Smart Lines use line objects drawn on an MT4/5 chart as the stop-loss or take-profit for positions. They provide three main features:

- Trend-line stop-loss (or take-profit)
- Multiple partial stops at different prices (i.e. partial closes at different price levels)
- Time-based stops (e.g. close all positions at midnight)
- · Order entry from lines on the chart

In the following example there are two converging trend-lines, one for the stop-loss and one for the take-profit. In addition, there is a time (vertical) line which will close the open position if the price has not already hit one of the trend lines by then.



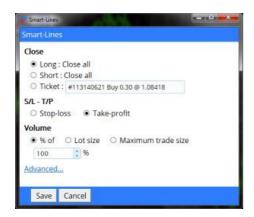
Please note: Smart Lines are processed by your trading software, not by your broker. Smart Lines rules which you create by drawing lines on a chart will be only be applied while your trading software is running.

2.1 Creating a Smart Line

To create a Smart Line you simply do the following:

- Draw a horizontal line, a vertical line, or a trend-line on the chart
- Hold down the Alt key while clicking on the line

A window such as the following will then pop up, letting you choose what action the line should take:



2.2 Order entry and order exit

The Smart Lines can be used to <u>close positions</u>, or to <u>open new positions</u>. The pop-up Smart Lines window has separate tabs for these different types of action.

2.3 Closing positions using Smart Lines

2.3.1 Horizontal lines and trend-lines

Horizontal lines and trend-lines create a price-based stop or take-profit, i.e. an instruction to close part or all of some positions when the price touches the line.

You can apply horizontal and trend-lines to all buy orders, or to all sell orders, or to any selection of orders of the same type. (For example, if you have 5 open buy orders and 5 open sell orders, then you could select any 2 buy orders or any 4 sell orders from the drop-down list, but you cannot choose a mixture of buys and sells.)

A horizontal line or trend-line must also be either a stop-loss or a take-profit. When you create the Smart Line, the price must be valid as your selection of stop-loss or take-profit. For example, if a line is below the current market price then it cannot be used as a take-profit on a buy order.

2 3 2 Vertical lines

Vertical lines create a time-based stop, i.e. an instruction to close part or all of some positions at a fixed time in the future (regardless of price).

Because they are not price-based, vertical lines can be applied to any selection of orders without restriction.

2.4 Volume to close

The volume to close when a line is hit can be defined in three ways:

- A percentage of the order/position size
- A fixed amount to close
- A fixed minimum amount to leave open

2.4.1 Percentage close

A percentage close is applied to the current order/position size. For example, if you have two lines at different prices which are each set to close 50%, then they will leave 25% of the original order still open. For example: the order is for 1.00 lots. The first line will close 50% of this, leaving 0.50 lots. The second line will close 50% of the 0.50, leaving 0.25 lots.

Please note that the Smart Lines always round up, on the basis that it is less risky to be out of the market than in it. For example: your order/position is 0.50 lots; the line is configured to close 25%; and the broker's minimum trade size is 0.10 lots. 25% of 0.50 is 0.125 lots. This will be rounded up to 0.20 rather than rounded down to 0.10.

2.4.2 Fixed amount to close

Selecting a fixed amount to close simply closes that number of lots, or the current order/position size if smaller. For example, the line is instructed to close 0.50 lots. If the order/position is 0.75 lots then 0.50 will be closed, leaving 0.25. If the order/position is 0.10, then the entire 0.10 will be closed (and no further action will be taken).

2.4.3 Fixed amount to leave open

The fixed amount to leave open is a way of saying "make sure that the order/position is no larger than X". For example, the line is instructed to leave 0.20 lots open. If the order/position is 0.10 lots when the line is hit, then no action will be taken. If the order/position were 0.50 lots, then 0.30 lots would be closed, leaving 0.20 lots.

2.4.4 All-orders when closing

If you select one of the all-order options (e.g. all long orders) then the standard behaviour of the Smart Lines is to apply the amount to close to the **total aggregate position**. For example, you have 3 buy orders totaling 1.00 lots, for 0.50, 0.30 and 0.20 lots individually. If you tell the Smart Lines to close 60% then this will reduce the position size by 0.60 lots overall, on a FIFO basis. It will close the entire 0.50 order, plus a partial close of 0.10 from the 0.30. It will not close 60% of each individual order.

You can change this behaviour using the Advanced options, telling the Smart Lines to apply the rule to each order individually.

2.5 Advanced closure options

2.5.1 Deleting pending orders

By default, the Smart Lines will only process open positions. However, you can use the advanced options to tell the line to delete pending orders as well. (A partial close of a pending order will delete the order and re-create a new order for a smaller amount.)

2.5.2 Keeping lines after they are triggered

By default, lines are automatically deleted from the chart after they are triggered (i.e. when the price or time hits the line). However, you can choose to leave a line in place so that it continually applies in future, until you remove it manually. You can use this to create a rule such as "make sure I never have an open position if the price is more than X".

In order to be able to keep a line, it must have the following three characteristics:

- It cannot be a vertical (time) line for obvious reasons, this can only apply to horizontal or trend-lines.
- It must apply to all-orders (or all buy orders etc) rather than to specific individual tickets.
- The amount to close must be 100%. It cannot be a smaller percentage or a fixed lot size.

2.5.3 Deleting a line if another line is triggered

You can choose to remove a line automatically if another line is triggered. For example, the current price is 1.2345, and you have a take-profit line at 1.2400 and a stop-loss line at 1.2300 which are each set to close 50% of your open position.

If you do *not* set a line to be removed when another line is triggered then the following can happen:

- Price rises to 1.2400. 50% of the position is closed, e.g. closing 0.30 lots from a position of 0.60 lots.
- Price then falls to 1.2300. A further 50% is closed, reducing the position from 0.30 lots to 0.15 lots.

2.5.4 Closing orders individually

As <u>described above</u>, the default behavior of the Smart Lines is to apply its rules to the total aggregate positions when working on all orders, or all buy orders etc. You can change this behaviour using the advanced settings.

2.6 Filtering the trades to be closed

If you select one of the all-order options, rather than specific individual tickets, then you can apply filtering to that list. In effect, you are then saying "all orders which meet the following conditions" rather than just "all orders".

You can filter on profit, lot size, order comment, and order magic number. For example, by changing the profit range to -9999999 to 0, you instruct the Smart Lines only to close any losing positions, and not to touch any winning positions.

The order comment and magic number conditions can be comma-separated lists of values. For example: 1234,2345,6789 tells the Smart Lines to close orders if their magic number is any out of 1234 or 2345 or 6789. Comment filters must match the start of the MT4/5 order comment, and are not case-sensitive.

2.7 Using Smart Lines to open new positions

Smart Lines can be used to open trades as well as close them.

You draw a horizontal line or a trend line on the chart, and then use the "New order" tab of the Smart Lines window to define whether the line should be a buy or a sell order, and to specify the volume to trade.

[1] 3. Order ladders

By default the Mini Terminal displays order ladders at the edge of the chart. These can be used to place pending or market orders, as illustrated in the following screenshot:



The ladders can be turned off using the settings on the Inputs tab when you add the EA to its chart, or using the options in Maxi mode.

3.1 Buy and sell ladders

The ladder on the left is for buy orders; the ladder on the right is for sell orders. The colour of the ladders is based on the candle colours which you have chosen for the MT4/5 chart.

As you move the mouse over the ladders, the software draws the corresponding entry price: either a limit or a stop, depending on whether the line is above or below the current market price.

3.2 Three-click entry from the order ladders

The simplest way of using the ladders is to click three times:

- The first click fixes your entry price: either a limit or a stop, above or below the current market price
- The second click sets either your stop-loss or your take-profit
- And the third click sets the other out of the stop-loss and take-profit, and places the order into the market

3.3 Orders with no s/l, or no t/p

You can use a double-click to end an <u>order definition</u> early. For example:

- You click once to fix your entry price
- You then *double-*click to set your stop-loss. The order is placed immediately, without needing a third click. The order only has a stop-loss, without a take-profit. (Alternatively, you can set a take-profit but not a stop-loss.)

This also means that you can simply double-click over the ladders to place a pending limit or stop order with no take-profit or stop-loss.

3.4 Placing market orders from the ladders

You can use the order ladders to place market orders as well as pending orders.

If you hold down the Shift key while you move the mouse over the ladders, the entry price is set to the current ask or bid.

- You can then click once to set the stop-loss
- And click a second time to set the take-profit, after which your buy or sell is placed into the market

You can also combine this with a *double*-click. For example:

- You hold down the Shift key to place a market order
- You then *double*-click to set either your stop-loss or take-profit. The trade is opened immediately, with only a stop-loss or only a take-profit.

[1] 4. "Maxi" mode

The Mini Terminal also has a "maxi" mode, which you can switch into using the "expand" icon . The Terminal is then docked to the edge of the chart, creating extra space for displaying further options and features.



The options and tools are divided up into sections. Each section can be expanded and contracted by clicking on its title, and you can re-order the sections by clicking and dragging on their title bars. In addition, the Mini Terminal's settings icon lets you hide sections completely from the list.

The sections which are available in maxi mode depend on your type of account. This user guide describes some of the more common options.

4.1 Chart controls

You can use the chart controls section to make quick changes to the chart: switching it from candle view to bar view; zooming in and out; and turning features of the chart on and off, such as grid lines and pivot points.

4.2 Volume buttons

The volume section contains buttons for changing the trading volume in the deal ticket. You can set your own preferred list of volume options by clicking on the ... button and then typing in a list of volumes which you want this section to display.

4.3 Order list

The order-list section in maxi mode shows you a list of all open orders and trades for the current symbol. You can modify or close each order using its action icon.

[2] TRADE TERMINAL

[2] 1. Overview of the Trade Terminal

1.1 Opening the Trade Terminal

You run the Trade Terminal by opening a chart for any symbol in MT4/5, and then adding the Trade Terminal expert advisor (EA) to that chart: either double-click on the EA in the MT4/5 Navigator list, or drag the EA onto the chart.

Please note: you can only run one EA per chart in MT4/5. If an EA is already running on a chart, then adding the Trade Terminal to that chart will replace the existing EA. To run both the Trade Terminal and another EA, simply open more than one chart.

1.2 Components of the Trade Terminal

The Trade Terminal consists of five parts:

- Account summary, at the top
- Order list, at the bottom
- <u>List of market categories</u>, on the left
- Central trading panel
- Quick-access trading panel, on the right

You can expand and contract each area using the double-arrow icons in the title bars. The Trade Terminal will remember your preferred settings.

The Trade Terminal shows all activity on your account, not just orders placed using the Trade Terminal itself. For example, if you are running an automated system, or you place manual trades using MT4/5's own built-in features, then this activity will be reflected in the Trade Terminal's account summary and order list.

[2] 2. Trading panels, market categories, and watchlists

2.1 Deal tickets and order templates

The Trade Terminal displays a trading widget (or "deal ticket") for each symbol.

These deal tickets have the same functionality as the on-chart Mini Terminal tool. Please see the Mini Terminal user guide for a description of all the features of this deal ticket.

The Trade Terminal also shares order templates with the Mini Terminal. Again, the features for setting up and using order templates are described in the Mini Terminal user guide.

2.2 Quick-access panel

The quick-access trading panel, on the right of the Trade Terminal, is intended to hold markets which you trade frequently, and which you want to keep visible all the time.

The quick-access panel shows the contents of a <u>watchlist</u>, as a series of <u>deal tickets</u>. You can switch between different watchlists using the button at the top of the panel.

2.3 Central trading panel

The central trading panel can show either a <u>market category</u> or a <u>watchlist</u>, and it can display its markets either as <u>deal tickets</u> or as a grid. You can switch between grid mode and deal-ticket mode using the icons at the top of the panel.

The grid view shows current prices, the day's high and low, and any open position which you have in each market. You can sort the grid by clicking on the column headers.

You can trade from the grid by clicking on the bid or ask prices, or by clicking on the action item and choosing "New order". This displays the same dealing form which used in the <u>deal ticket</u> and Mini Terminal tool.

2.4 List of market categories

The list on the left of the Trade Terminal shows all the categories of market which are available on your account – for example, "FX Majors" and "Metals". Clicking on a category changes the contents of the central trading panel.

2.5 Watchlists

A watchlist is simply a list of any markets which you want to display together. A watchlist can combine markets from different categories such as fx and precious metals. A market can appear in more than one watchlist.

2.5.1 The Manage Watchlists window

You can create, edit, and delete watchlists using the Manage Watchlists window. This is accessible by clicking the Watchlists button at the top of the <u>central trading panel</u> or <u>quick-access panel</u>.

You create a new watchlist by clicking on the New button in the window's toolbar, typing in a name, and pressing Enter.

To edit, rename or delete a watchlist, start by clicking on it in the list to highlight it. You can then use the buttons in the toolbar at the top of the window.

You can add markets to a watchlist by highlighting that watchlist, and then using the autocomplete text box in the toolbar to search for a market's name.

You can change the order of markets in a watchlist using drag-and-drop: you simply select the market and drag it to a new position. You can also move markets from one watchlist to another using drag-and-drop.

2.5.2 Adding markets to a watchlist using the action menu

You can add a market to an existing watchlist, or even create a new watchlist, using the action icon in a deal ticket or in the central trading panel's grid.

The action menu contains the entry "Add to watchlist". You can add this to add the market to an existing watchlist, or to create a new watchlist containing the market.

2.6 The market search field

The search field at the top of the <u>central trading panel</u> behaves in two different ways depending on whether the central trading panel is currently displaying a watchlist or a market category.

If a watchlist is currently selected in the central trading panel, then the search field adds the market to that watch list.

If the central trading panel is displaying a market category, then the search field clears the panel and displays only the selected market. (You can then add the market to one or more watchlists by using the action icon in its deal ticket or grid row.)

[2] 3. Account summary

The account summary shows key information about your account: balance, equity, floating P/L, free margin, number of open positions etc.

You can set an alarm on any entry by clicking on the number. For example, you can ask for an alarm when your free margin falls below \$1,000, or when the number of positions is zero (i.e. when all positions have been closed). Alarms are displayed as popup alerts in MT4/5, and can also be sent to you by email.

When an alarm has been created, a yellow bell icon is displayed next to the number. If an alarm is then subsequently triggered, the colour of the icon changes to red.

3.1 Alarm levels

You set an alarm by specifying a threshold (e.g. 1000) and choosing whether the alarm should go off when the value exceeds the threshold, or falls below it, or is exactly equal to it, or not equal to it. For example, if there are currently 2 open positions and you want to be notified if this changes in any way, then you would enter the value 2 for the alarm and choose the option "not equal to".

3.2 Alarm repeats

Alarms can either be turned off once they are triggered, or they can be set to repeat. A repeat period tells the terminal to ignore the alarm for a certain number of minutes. For example, if you have asked for an alarm when free margin falls below \$1000, then the repeat period prevents the alarm being triggered over and over again every few seconds if free margin keeps bouncing between \$999 and \$1001.

3.3 Email

You can get an email notification when an alarm is triggered, as well as having the standard alert pop up on screen. In order to receive email you need to turn on MT4/5's email settings, which you can configure using the main Tools/Options/Email menu in MT4/5.

3.4 Closing charts and orders

You can configure two extra actions to take place when an alarm is triggered:

Close all orders. When the alarm is triggered, this option attempts to close all open
positions and delete all pending orders. It would typically used in relation to an
alarm on free margin, where you want to close out your positions in order to prevent
a margin call.

• Close all charts. This option closes all charts in MT4, apart from the Trade Terminal's own chart. The main purpose of this is to prevent automated systems (EAs) on other charts from placing any further trades.

[2] 4. Order list

The order list shows all the open positions and pending orders on your account, and provides facilities for managing those orders. It replicates the information from MT4's own order list, and includes some extra details such as trade duration and profitability in pips.

N.B. If the picon next to an order changes to then it indicates that the Trade Terminal is carrying out some kind of automated action on the order: a <u>trailing stop</u>, or an <u>automated close</u>, or that the order is part of an <u>OCA group</u>. You can check which actions are being carried out by clicking on the icon and choosing "Tasks in progress".

4.1 Sorting the list and re-ordering columns

You can sort the order list by any of its columns: simply click on a header such as "Ticket" to sort in ascending order, and then click again to re-sort in descending order.

You can also re-arrange the columns in the list by dragging the headers: press and hold the left mouse button over a header, and then drag the mouse pointer to the new location where you want to put the column.

4.2 Closing orders

You can close an open position or delete a pending order by clicking on the button next to it.

The "Close" option on the toolbar above the order list contains options for closing multiple orders: close everything, close all losers etc.

As <u>described above</u>, you can close all the orders for a particular symbol by using its widget in the market watch. (It is also possible to close all the orders for a symbol by opening a <u>summary of your orders</u> by symbol, and then using the ** icon for the symbol and choosing the "Close" option.)

4.3 Modifying orders

You can carry out a number of actions on orders: partial close, change s/l, set a trailing stop etc. These options are available in a number of places, and appear as a pop-up menu:

- By clicking on the [™] icon next to an individual order.
- By choosing "All orders" under Tools on the menu bar above the order list. The popup menu will then carry out an action such as a partial close on every order.
- By selecting some of the orders in the list (<u>see below</u>) and then choosing "Selected orders" from the Tools menu.
- By clicking on the [™] icon in a summary window (<u>see below</u>).

4.3.1 Selecting orders from the list

You can select some of the orders in the order list and then carry out actions only on those specific orders. The order list follows the standard behaviour for a Windows application:

- Clicking on an entry selects that row (and de-selects any existing entries).
- Using Shift+click selects all the entries between the current selection and the item now being clicked on. For example, if there are 5 entries in the order list and you want to select items 2 through 4, then you click on item 2 and Shift+click on item 4.
- Using Ctrl+click "toggles" an entry: i.e. selects it if it is currently de-selected, or deselects it if currently selected. Therefore, you can select all the entries in the list except by one by clicking on the first entry, Shift+clicking on the last entry, and then Ctrl+clicking on the order you want to leave out.

Once you have selected some entries in the order list, you can use the "Selected orders" option on the Tools menu. This will be disabled (greyed out) if no orders are currently selected.

4.3.2 Partial closes, s/l, t/p, and t/s

You can do a partial close of an order, or set/modify its stop-loss (s/l), or its profit target (t/p), or its trailing stop (t/s). The values for stop-losses and profit-targets are specified in pips, though the s/l and t/p can also be set to break-even, i.e. the order's entry price.

A partial close cannot always be processed exactly: for example, you cannot do an exact 50% partial close of an order for 0.03 lots, because 0.015 lots is not a permitted size. Partial closes always round down to the nearest lot size permitted by your broker. For example, if you ask to close 50% of an order for 0.03 lots, then the software will close 0.01 lots, leaving an order for 0.02 lots.

Please note: trailing stops are processed by the Trade Terminal software, not by your broker. The trailing stop will cease operating if you close the Trade Terminal (or MT4).

4.3.3 Order details

You can also open a pop-up window for each order by clicking on its ticket number, or by clicking on the ** icon and choosing "Edit..."

The pop-up window shows how close the s/l and t/p are to being hit (e.g. for long orders, the distance from the current bid price to the s/l), and the cash effect on the balance if the s/l or t/p is hit. The current profit for the order shown in the top-right of the window can be switched between cash and pips by clicking on it.

You can close the order using the red button, and you can change the s/l, t/p or trailing stop by clicking on those options.

4.4 Automated closes

Automated closes let you define rules for exiting an open position. These can consist of multiple parts (e.g. scaling out of a position when profit thresholds are met), and can include visual and email alerts. Automated closes can also be saved as templates for quick re-use in future.

Please note: automated closed are processed by the Trade Terminal software, not by your broker. They will cease operating if you close the Trade Terminal (or MT4/5).

You create an automated close, or run an existing one, by choosing "Automated close" from the <u>Tools menu</u> for an order (or multiple orders), and then choosing "Create" to define a new automated-close rule, or "Edit" if there is already an active automated-close on the order.

Each automated close can consist of any number of stages: for example, close 50% of the order and set a break-even stop when it reaches 20 pips of profit, and close the remainder of the order when it reaches 30 pips. You simply click on the "Add a rule" link to add a stage to the automated-close.

4.4.1 Thresholds for automated closes

At the top of each stage of an automated close, you choose the threshold when this rule is applied. You select the criterion, such as the order's profit in pips or duration, and the value for the threshold. For example, to carry out an action once an order has been open for an hour, you choose "order duration", "greater or equal to", and enter the value 60.

4.4.2 Actions for automated closes

In each stage of an automated close you can carry out a number of actions such as closing part or all of the order, or setting a stop-loss or trailing stop, or sending an alert by email. You simply tick the box next to each action which you want to carry out and fill in the corresponding setting such as the percentage of the order to close.

Please note that the percentage of an order to close is specified in relation to its original size, not the current size following any previous partial closes. For example, if you have two stages, and each of them is configured to close 50% of the order, then the order will be completely closed when the second stage is reached. (In other words, this does **not** close 50% of the order, and then close 50% of the remainder, leaving 25% of the original order open.)

4.4.3 Saving automated closes as templates

Once you have defined an automated close, you can save it as a template by clicking on the "Save template" button. A saved template can then be applied to an order in future by

choosing "Automated close" from the Tools menu and selecting the template from the submenu.

You can organise your list of saved automated-close templates, removing any which you no longer need, by choosing "Manage templates" from the sub-menu.

4.5 OCA (One Cancels All) groups

The Trade Terminal lets you create a one-cancels-all group of pending orders: a group where all the remaining orders are automatically deleted when one of the orders is filled. (An OCO order is simply an OCA group where there are only two orders in the group.)

Please note: OCA groups are processed by the Trade Terminal software, not by your broker. They will cease operating if you close the Trade Terminal (or MT4/5).

You create an OCA group by choosing "Create OCA group" from the OCA menu. This option is only available if you have at least two pending orders. You simply choose a name for the group, so that you can recognise it in future, and tick the pending orders which you want to include in the group.

A single order can belong to multiple OCA groups, and orders in a group can be for different symbols.

You can delete an OCA group by choosing "Delete OCA group" from the OCA menu. Please note that this does not delete the pending orders; it only stops the Trade Terminal from running the OCA rule on those orders.

4.6 Order summaries

You can view summaries of your open positions by symbol, or direction, or duration etc, using the Summary menu on the toolbar above the order list.

This pops up a floating window containing aggregated information about the orders such as their combined profitability in cash and pips, and their total volume. The summary contains separate sets of columns for open positions and pending orders.

You can carry out actions on all the orders in a category by clicking on its ** icon. This displays the tool menu described above.

4.7 Settings and other features

4.7.1 Settings

You can control the settings for the Trade Terminal (and also all copies of the on-chart Mini Terminal) by choosing "Confirmations and preferences" from the Settings menu in the toolbar above the order list.

The options available may depend on your broker, but you will typically see the following settings:

- Confirm new orders. Turns on or off confirmations when you place a quick order by clicking on the green and red buy and sell buttons in a trading widget.
- Confirm close-all. Turns on or off confirmations when you close all the orders for a symbol by clicking on its <u>status indicator</u>.
- Hedging mode. By default the Trade Terminal is usually installed in hedging mode, which is the standard behaviour for MT4/5 as a whole: if you place a buy order and then place a sell order for the same symbol (or vice versa), the software will create two open orders. (Please note that hedging is not permitted on US brokers:, a sell order will be rejected if you already have an open buy order.) However, you can also choose to run the software in non-hedging mode. If you have an open buy order, and you place a sell order, then the sell closes the buy rather than creating a new order. For example, if you are long 0.3 lots, and you sell 0.1 lots, then you will be left with a buy order for 0.2 lots. Alternatively, if you are short 0.2 lots, and you place a buy order for 0.3 lots, then you will be left with a buy order for 0.1 lots.

4.7.2 Undocking the Trade Terminal from MT4/5

You can "undock" the Trade Terminal from MT4/5 into its own free-standing window, by choosing "Undock terminal" from the Settings menu. If your computer has multiple monitors, then you can obviously place the MT4/5 window on one monitor and the Trade Terminal window on another monitor.

You can continue trading, and modifying orders etc, while the Trade Terminal is undocked. When you want to re-dock the Terminal, you simply click on the option on the Settings menu again.

[3] ALARM MANAGER

[3] 1. About the Alarm Manager

The Alarm Manager lets you do three main things:

- Get notifications about events on your account, and in the market
- Take automatic actions when events occur.
- Send automatic updates to your followers via Twitter, email, or SMS

In essence, the Alarm Manager is a set of building blocks which you can use to create a completely personalised and automated trading companion. For example, you can use the Alarm Manager to do any and all of the following:

- Warn you on screen (or by email, or SMS) if your margin usage exceeds 20%
- Close all losing positions if drawdown on your account exceeds 10%
- Send a message to followers on Twitter (or email or SMS) every time you trade
- Automatically place orders or close positions at a time in the future, e.g. "at 2pm" or "in 30 minutes time"
- Warn yourself if you have open positions without a stop-loss
- Automatically place orders or close positions based on technical indicators such as RSI or moving-average crosses
- Send a message to followers on Twitter whenever there is a new 30-day high in an instrument
- Display a message congratulating yourself if you have 3 consecutive winning trades
- Remind yourself to stop trading if you have 4 consecutive losing trades, or if your balance declines by more than 3%, or if your win/loss % falls below 30%
- Show a message 10 minutes before high-impact events in the economic calendar
- Place a new order when RSI is above 70 on three different timeframes.
- Place a new order if RSI goes above 70 or there is a MACD cross of the signal line

[3] 2. Overview of the Alarm Manager

2.1 Alarms and groups

When you first run the Alarm Manager it will display some example alarms, divided up into groups such as "Account alarms" and "News alarms". (These alarms are for demonstration purposes only and do not have any <u>actions</u> attached to them.)

A group is just a label, to help you organise your alarms. You can put any type of alarm into any group.

Each alarm can have any number of actions associated with it. For example, when an alarm is triggered it can pop up a message, and/or place a trade, and/or send an email.

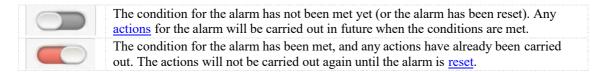
2.2 Display of alarms

The display of each alarm looks like the following example:



This shows the condition for the alarm (e.g. open loss of more than 10%); the current value (e.g. -7.5%); and whether the alarm has been <u>triggered</u>.

The trigger on the right can have two states:



You can edit an alarm by clicking on the text display on the left, and you can <u>reset</u> an alarm by clicking on the <u>trigger</u> on the right.

2.3 Triggers

An alarm is either already triggered or not yet triggered, but an alarm can have three states:

- Not triggered yet
- Triggered, and the condition for the alarm is <u>still met</u>
- Triggered, but the condition is no longer met.

2.3.1 Alarms not yet triggered

If an alarm has not yet been triggered then it will look like the following example:



2.3.2 Alarm triggered, and condition still met

If an alarm has been triggered, and the condition for the alarm also still applies, then it will look the following example:



For example: the alarm is set to go off if margin usage exceeds 10%, and margin usage is *currently* above 10%. (An alarm cannot be <u>reset</u> if it is in this state.)

2.3.3 Alarm triggered, but condition no longer met

If an alarm has been triggered, but since then the condition is no longer met, then it will look like the following example:



For example: the alarm is set to go off if margin usage exceeds 10%. Margin usage in the past rose about 10%, and the alarm was triggered, but margin usage is now back below 10%.

2.4 Resetting alarms

Any actions for an alarm are carried out when the alarm is triggered. For example: when margin usage rises above 10%, or when there is a moving-average cross etc.

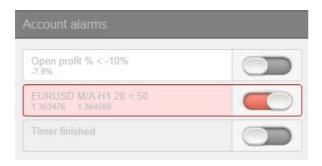
The actions are not carried out again until (a) the alarm is reset and (b) it is then triggered again.

You can reset an alarm manually by clicking on the trigger: ——. You can also configure alarms to reset automatically after a period of time such as 10 minutes.

You cannot manually reset an alarm if it would go off again immediately. For example, you have an alarm on margin usage above 10%, and margin usage is *currently* above 10% and the alarm has been triggered. This alarm cannot be reset at the moment because margin usage remains above 10%, and the alarm would go off again immediately.

2.5 Disabled groups of alarms

You can <u>disable groups of alarms</u> to stop them going off. A disabled group looks like the following example:



While a group is disabled, all the alarms in it continue to update, but they are not triggered when their conditions are met, and no actions are carried out.

There are two purposes for disabling groups of alarms:

- You can do this manually to prevent alarms going off without having to permanently delete the alarms
- You can use <u>actions</u> on alarms to disable a group. In effect, you can create a "one-cancels-all" group of alarms where the first alarm to trigger prevents all the others from triggering.

[3] 3. Creating and editing alarms

The different types of alarm are listed separately below.

3.1 Adding new alarms

You create a new alarm in a group by clicking on the "add" button next to the group's name:



If you want to create a new alarm in a *new* group, then you simply choose a new group name when configuring the alarm: change the group name in the "Alarm settings" section.

The different types of alarm are listed <u>separately below</u>. (This list is constantly being extended, but some types of alarms are not available on some trading platforms.)

3.2 Editing existing alarms

You can edit an existing alarm by clicking on the text of its display. (Clicking on the trigger to the right of the alarm resets the alarm.)

3.3 Alarm parameters

Almost all types of alarm have parameters which you can change. For example: the number of consecutive losing trades before an alarm goes off; the timeframe and number of bars for a MACD calculation; the time period for a countdown etc.

These parameters are described in the list of alarms below.

3.4 Alarm settings

Every alarm has general settings which you can change:





- Automatic reset (<u>described below</u>)
- The group to which the alarm belongs. You can create a new group simply by entering a new name in the field.
- The graphical style of the <u>trigger icon</u> when the alarm is and is not triggered. For example, you can have more important alarms displayed in red and less important

alarms displayed in blue.

• You can replace the usual text for the alarm with a fixed caption. For example, if you have an alarm on 5 consecutive losses, then you can use the fixed caption so that the title of the alarm becomes "Stop trading!" instead of "5 consecutive losses".

3.5 Automatic reset of alarms

As <u>described above</u>, an alarm's <u>actions</u> are carried out once when the alarm is triggered, and they are not carried out again until after the alarm has been reset. For example, if you have a message box when margin usage exceeds 10%, then the message is displayed when margin goes over 10%, but it does not *keep* being displayed if margin usage *remains* over 10%.

However, you can configure alarms so that they are reset automatically. For example, you can get a warning when margin usage goes over 10%, and you can configure the alarm to reset if margin usage falls below 10% for at least 5 minutes. You will get another message if margin usage goes above 10%; falls below 10% for at least 5 minutes; and then rises back above 10%.

There are four different types of auto-reset:

- Immediate reset
- Timed reset after trigger
- Timed reset after the signal clears, i.e. after the conditions for the alarm are no longer met
- Reset at the start of the next bar (only applicable to technical indicators and price alarms)

3.5.1 Immediate auto-reset

Immediate auto-reset is only available on some types of alarm. You can only use it on an alarm which cannot go off again immediately (because otherwise you could do something like sending yourself an endless stream of emails because the alarm is resetting and then going off again immediately, over and over again).

For example: you can use immediate auto-reset on a timer countdown. If you have a timer set to 5 minutes, with immediate auto-reset, then its actions will be carried out *every* 5 minutes.

3.5.2 Auto-reset delay after trigger

You can configure an alarm to reset after a fixed delay from the time it is triggered, even if the conditions for the alarm are still met.

For example: you set an alarm on margin usage, and you want to be warned every 10 minutes even if margin usage simply stays above the threshold such as 25%

You configure the alarm to auto-reset 10 minutes after it is triggered. If, 10 minutes later, margin usage is above the threshold then the alarm will go off again, regardless of whether or not margin usage had fallen below the threshold during those 10 minutes.

3.5.3 Auto-reset delay after signal cleared

You can configure an alarm to reset after a fixed delay from the time when its conditions are no longer met.

For example: you set an alarm on margin usage, but you do **not** want repeated alerts if margin usage simply stays above the threshold such as 25%.

You configure the alarm to auto-reset 5 minutes after the signal is cleared. You will then get two separate alerts if the following happens:

- Margin usage rises above 25%
- Margin usage falls below 25% and stays there for at least 5 minutes
- Margin usage rises back above 25%

In this scenario you will **not** get repeated alerts if the following happens:

- Margin usage rises above 25%
- Margin usage briefly falls below 25% (e.g. for 30 seconds)
- Margin usage rises back above 25%

3.5.4 Auto-reset at start of next bar

For technical indicators only, such as RSI and MACD, you can configure alarms to auto-reset at the start of the next bar.

For example: you want to be notified about new 30-day highs, but you do not want repeated notifications during the *same* day as new highs are continually reached.

You create a <u>bar-breakout alarm</u> which monitors the previous 30 days, and you configure the auto-reset to be "start of next bar". You will get one notification today if a new high is set, and you will get another notification tomorrow if today's new high is then breached tomorrow.

3.6 Alarm actions

You can add any number of actions to each alarm (including none – an alarm does not need to have any actions associated with it).

You assign new actions using the "Add action" button, and you can change existing actions by clicking on their titles in the list.

The different types of actions are <u>described below</u>, and they consist of the following main categories:

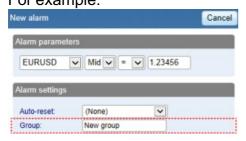
- Notifications on your own computer: sounds and pop-up messages
- · Remote notifications to yourself and other people: email, SMS, and Twitter
- Actions which close existing positions
- Actions which open new orders
- · Actions which disable groups of alarms
- Miscellaneous actions designed for software developers

[3] 4. Creating and editing alarm groups

Alarms are <u>divided up into groups</u>. The groups are just labels, and you can give them any names you want. You can put any type of alarm into any group. (If you want to, you can put an account alarm into a group which you have called "News alarms".)

4.1 Creating a new group

You create a new group simply by choosing a new group name when creating a new alarm. For example:



In other words, you do not create a new group by itself. Instead, you do the following:

- Click on the
 ■ button to add an alarm to any existing group.
- In the settings for the new alarm, change the name of the group to something new.

4.2 Editing an alarm group

You can edit a group of alarms by clicking on the group's name.

You can use these settings to change the name, to change the order in which groups are displayed, and to <u>disable the group of alarms</u>.

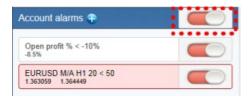
You can also assign actions to the group itself (as well as, or instead of, to the individual alarms in the group).

4.3 Group actions

You can assign actions to a group of alarms as well as to the individual alarms. For example, you can do the following:

- Create an alarm on a moving-average cross
- Create an alarm on RSI
- Create an alarm on MACD
- Use the group actions to do something only when all these conditions are simultaneously met

If you have defined actions for a group of alarms, then a trigger icon is displayed for the group as well as for the individual alarms:



You can configure a group's actions to be carried out under three different circumstances:

- Once all the alarms in the group have been triggered
- When all the alarms in the group are signalled at the same time
- When any single alarm in the group is signalled

4.3.1 Group actions once all alarms have been triggered

You can configure a group's actions to be carried out once all the alarms in the group have been triggered. (This does not necessarily mean that the conditions for all the alarms are *currently* met, at the same time.)

For example, you want to discipline yourself to stop trading when things are going badly. You want a reminder when you have had three consecutive losing trades and you have also had open drawdown of more than 3%, but not necessarily at the same time. You do the following:

- Create an alarm on consecutive losses
- Create an alarm on floating P/L
- Create an action for the group which displays a message to yourself
- Set the group's actions to be triggered once all the alarms have been triggered

This will then display the message if the following events happen in **either** order:

- You go more than 3% into loss (even if you later return to profit)
- You have three losing trades

4.3.2 Group actions when all alarms are currently signalled

You can configure a group's actions to be carried out when the conditions for all the alarms are met at the same time.

For example: you want to open a new position when RSI on three different timeframes is simultaneously above 70. You do the following:

Create the three separate alarms for RSI on the different time periods

- Create an action for the group which places a new order
- Set the group's actions to be triggered if all the alarms are currently signalled

4.3.3 Group actions when any one alarm is signalled

You can configure a group's actions to be carried out if any one of its alarms is signalled.

For example, you want to place a new order if RSI goes above 70 **or** if MACD crosses above its signal line. You do the following:

- Create an alarm on RSI
- Create an alarm on MACD
- Create an action on the group which places a new order
- Set the group's actions to be triggered if any one alarm is signalled

[3] 5. Types of alarm

5.1 Price alarms

5.1.1 Price level

The "price level" alarm is triggered simply by an instrument's current price. You simply define whether you are interested in the price going above (>) or below (<) a threshold.

5.1.2 Price change

The "price change" alarm is triggered if an instrument's price changes by more than a specified amount from the time when you create the alarm. You can configure it to monitor changes in either direction, or to limit it just to rises or just to falls.

5.1.3 Bar breakout

The "bar breakout" alarm is triggered if the current price exceeds the high or low of the last N bars – e.g. 30 D1 bars if you are interested in new 30-day highs and lows.

5.2 Account alarms

5.2.1 Account value

The "account value" alarm can be used to monitor any headline account metric such as balance, equity, floating P/L, margin in use etc. For example, you can use it to create the following alarms:

- Margin usage > 10%
- Open profit < -10% (i.e. open drawdown of more than 10%)
- Floating P/L < -2000 (i.e. open loss of more than \$2000)

5.2.2 Balance change

The "balance change" alarm is triggered whenever there is any change in the account balance – i.e. a closed trade. You can use it to detect any changes, or you can restrict it so that it only looks at rises (i.e. winning trades) or falls (i.e. losing trades).

5.2.3 Consecutive wins

The "consecutive wins" alarm is triggered by an unbroken sequence of winning trades, e.g. closure of 3 profitable positions without closure of losing positions in the middle of the sequence. On some trading platforms, you can choose between two different ways of doing the count:

 Individual trades. Each open position is counted separately. For example, if you have a basket of three different EUR/USD positions, and you close them at a profit at the same time, then this will count as 3 different (and consecutive) winners.

Balance changes. The app looks at changes in the balance rather than individual
positions. If you have a basket of trades which is closed simultaneously, then these
will count as one winning trade, not multiple (consecutive) winning trades

5.2.4 Consecutive losses

Same as "consecutive wins", except that it looks for a sequence of losing trades rather than winning trades.

5.2.5 Win/loss %

The "win/loss %" alarm calculates the win/loss percentage on closed trades, starting from trades which are closed after the alarm is created. You choose a minimum number of trades before the alarm can become active (so that one single winner is not immediately treated as a win rate of 100%).s

5.3 Trade activity alarms

5.3.1 New position open

The "new position open" alarm is triggered whenever a new position is opened. You can optionally restrict it to look at one particular symbol (e.g. only EUR/USD).

5.3.2 New position close

The "new position close" alarm is triggered whenever a position is closed. You can optionally restrict it to look at one particular symbol (e.g. only EUR/USD).

5.3.3 Position floating P/L

The "position floating P/L" alarm is triggered by the open profit/loss of individual positions. You can use it to trigger actions when an individual position has reached a particular level of cash profit (e.g. > 500) or loss (e.g. < -250).

5.3.4 Position without stop-loss

The "position without stop-loss" alarm is triggered by one or more open positions which do not have a stop-loss. You can use it to warn yourself about unprotected positions in the market.

Some platforms require a stop-loss to be created separately after opening a new position. Therefore, the alarm has a parameter which lets you control how quickly it goes off after detecting a new position.

5.4 Time alarms

5.4.1 Timer countdown

The "timer countdown" is a simple alarm which goes off after a specified timeout, e.g. 5 minutes. (You can create an alarm which goes off every 5 minutes by using a countdown with immediate auto-reset.)

5.4.2 Time of day

The "time of day" alarm goes off at a specific time according to your local clock.

The time of day is interpreted based on the current time when you create the alarm. For example, if you create an alarm for 3am when it is currently 2pm, then the alarm will be treated as 3am tomorrow (and not 3am today, causing the alarm to go off immediately).

5.5 News alarms

5.5.1 Economic calendar

The "economic calendar" alarm is triggered by pending events in the economic calendar (e.g. NFP). You can use it to warn yourself in advance of major announcements which may affect your trading activity.

You can use the alarms parameters to choose between different providers of calendar data, what impact of events to alert about, and how long before each event to trigger the alarm.

5.5.2 Sentiment

The "sentiment" alarm is triggered by current market sentiment in terms of the number of traders who are currently long/short in a symbol. For example, you can use the alarm to alert yourself when fewer than 20% of traders are long USD/JPY.

You can choose between different providers of sentiment data. The symbols for which sentiment is available will depend on the data provider; usable sentiment data is only available for heavily traded instruments.

5.6 Technical indicators

Many of the technical-indicator alarms have two standard parameters: price-type and barshift.

Price-type determines the type of price to use in the indicator calculation: each bar's close; or its median price (average of high and low); or the average of high, low and close.

Bar-shift determines whether the calculation looks at the current in-progress bar, or whether the calculation is shifted back to ignore one or more bars. For example, in order to

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ignore moving-average crosses during the current bar, which may cross back again before the bar ends, set the shift value to 1.

5.6.1 Moving average cross-over

The "moving average cross-over" alarm is triggered by one simple moving average crossing another. You can choose the number of bars for each moving average (e.g. 20 and 50), the bar timeframe (e.g. H1), whether you want long crosses (>) or short crosses (<), and the price to use.

5.6.2 Bollinger band

The "Bollinger band" alarm is triggered by the price moving outside Bollinger bands.

5.6.3 Swing point

The "swing point" alarm is triggered by the formation of new swing points. The rule for swing points uses the "fractal" definition from MT4/5 and elsewhere: a group of 5 (or 3 or 7) bars where the middle bar is the highest or lowest.

The "swing point" alarm only looks at completed bars. It does not inspect the current bar, and therefore it does not get triggered by swing points which can be cancelled later in the bar by setting a new high or low.

5.6.4 Stochastic

The "stochastic" alarm is triggered by values of the stochastic oscillator indicator. You define the parameters for the calculation in the usual way (i.e. %K, %D, and slowing), and you can then choose different types of alarm: either %K crossing %D, or %K or %D crossing an absolute level such as 65.

5.6.5 MACD

The "MACD" alarm is triggered by values of the MACD indicator. You define the parameters for the calculation in the usual way (i.e. the periods for the two moving averages, and the signal period), and you can then choose different types of alarm: either MACD crossing its signal line, or MACD or the signal crossing absolute values such as -0.0020.

5.6.6 Relative Strength Index

The "Relative Strength Index" alarm is triggered by values of the RSI indicator. You define the parameters for the calculation, and set a threshold such as "above 70" (> 70) or "below 20" (< 20).

5.6.7 Average true range

The "average true range" alarm is triggered by values of the ATR indicator (Wilder definition). You define the parameters for the calculation and set a threshold such as 0.01.

[3] 6. Types of action

All text parameters for actions – e.g. messages, URLs – can use <u>variables described below</u>. For example, the default text for a pop-up alert window uses the variables {DATE} and {TIME} which are replaced by the current date and time.

6.1 Notifications

6.1.1 Play sound

Plays one of the sounds on the list – please make sure that your computer's speakers are turned on!

6.1.2 Show pop-up alert

Displays a pop-up alert window. The default text for the alert uses <u>variables</u> to show the current date and time, the alarm's caption, and the alarm's current value (e.g. margin usage, or a price)

6.2 Email and Twitter

6.2.1 Send email

Sends email to a **single** email recipient. You can send to a group of addresses by creating a mailing list in a service such as Google Groups. The email is sent to you from the app's own email address. You can then automatically forward this to other people, from your own email address, by setting up rules in your email software (e.g. Outlook) or web service (e.g. Gmail).

6.2.2 Send tweet

Sends a status update to a Twitter account. You need to authorise the app to use your Twitter account by clicking on the button and logging in to Twitter. (The app does **not** then know your Twitter password.)

6.2.3 Send SMS

Sends an SMS message. You need to choose an SMS provider and register with them. The list of available providers may depend on your broker and/or trading platform. When you register with any of the SMS providers, they will give you a set of credentials (e.g. an "API key" and "API secret") which you need to enter as parameters for the SMS action in the app.

6.3 Close positions

6.3.1 Close everything

Closes all trading activity on the account: all open positions **and** all pending orders.

6.3.2 Close profitable positions

Closes all open positions which are currently in profit.

6.3.3 Close losing positions

Closes all open positions which are currently in loss.

6.3.4 Close symbol

Closes all open positions and pending orders for a specific symbol, e.g. EUR/USD

6.4 New-order actions

6.4.1 Place market order

Places a new market (buy or sell) order. The volume is entered either as a number of lots (e.g. 0.10) or as a cash amount (e.g. 10,000) depending on your trading platform.

If you turn on the "non-hedging mode" option then the order is offset against any existing position in the opposite direction. For example: if you buy 0.3 lots and you are currently short 0.1 lots, then the open sell position will be closed and a new buy order will be placed for 0.2 lots.

Please note that the ability to set a stop-loss or take-profit on the new order is not available, and is disabled, on some trading platforms.

6.4.2 Place pending order

Places a new pending (stop or limit) order. The volume is entered either as a number of lots (e.g. 0.10) or as a cash amount (e.g. 10,000) depending on your trading platform.

The entry price for order can either be a fixed price, or it can be a number of pips from the current price. For example: a sell-stop 20 pips from the current price means 20 pips above the current bid price.

Please note that the ability to set a stop-loss or take-profit on the new order is not available, and is disabled, on some trading platforms.

6.5 Miscelleaneous actions

6.5.1 Open web page

Opens the specified URL in your web browser when the alarm is triggered.

6.5.2 Send web request

Intended for use by software developers. Does an HTTP GET request to the specified URL. This can be used by developers as a way of running a bespoke action on their web server when an alarm is triggered.

6.6 Alarm Manager actions

6.6.1 Disable the alarm's group

<u>Disables the group</u> to which the alarm belongs. This can be used to create a "one-cancels-all" groups of alarms where the first alarm to be triggered prevents any other alarms in the same group from being triggered.

6.6.2 Disable all groups of alarms

Disables all groups of alarms; i.e. prevents any further actions being triggered in the Alarm Manager until the groups are manually re-enabled.

[3] 7. Text variables

All the text parameters used in <u>actions</u> can contain variables which are replaced before the text is used.

For example, you can set the text of a <u>pop-up alert</u>, or an <u>email</u>, or a <u>tweet</u> to Your account equity is {ACCEQUITY} and this will be converted to something such as Your account equity is 15224.97 before sending/displaying.

7.1 Standard variables

The following variables can be used with any type of alarm:

Variable	Description/replacement
{CAPTION}	Caption which describes the alarm, such as "Margin use % > 10"
{LATEST}	Current value of the alarm, such as the current margin usage, or the current
	price
{ALARMSYMBOL}	The trading symbol which the alarm is monitoring. Only applicable to
	alarms such as technical indicators and price alarms.
{DATE}	Current date
{TIME}	Current time
{ACCBALANCE}	Account balance
{ACCEQUITY}	Account equity
{ACCFLOATINGPL}	Floating profit/loss on the account (i.e. loss as a negative number)
{ACCMARGINUSED}	Margin in use (cash)
{ACCMARGINFREE}	Margin free (cash)
{ACCMARGINUSE%}	Margin in use (percentage)
{ACCMARGINFREE%}	Margin free (percentage)
{ACCFLOATING%}	Open profit/loss as a percentage of balance
{OPENPOSITIONCOUNT}	Number of open positions on the account
{PENDINGORDERCOUNT}	Number of pending orders on the account

7.2 Variables which are specific to types of alarm

Some types of alarm understand extra variables in addition to the standard ones. Alarms on position activity (<u>new positions</u>, <u>closed positions</u>, <u>position P/L</u>, <u>missing stop-loss</u>) understand the following variables which are specific to the position which triggers the alarm:

Variable	Description/replacement
{POSSYMBOL}	Trading symbol of the position, e.g. EUR/USD
{POSTICKET}	Trading platform's ticket number for the position
{POSOPENPRICE}	Open price of the position
{POSCLOSEPRICE}	Closing price of the position (or current price for open positions)
{POSSL}	Stop-loss price on the position, or zero
{POSTP}	Take-profit price on the position, or zero
{POSACTION}	Type of position: buy or sell
{POSVOLUME}	Trading volume – always in cash terms (e.g. 10000) rather than lots (e.g.
	0.10)
{POSLOTS}	Trading volume in lots

Other miscellaneous variables which can be used with some alarms are as follows:

Variable	Description/replacement
{BALANCECHANGE}	For the <u>balance change alarm</u> , the cash size of the balance change which
	triggers the alarm

[4] Excel RTD

[4] 1. About the Excel RTD app

The Excel RTD app lets you do two things:

- <u>Put real-time data into Excel</u> using only Excel's RTD() function. No macros; no programming; no XLL add-ins
- Send simple trading commands from VBA code in Excel

You can run multiple copies of the Excel RTD app for different accounts, and then combine the data for those accounts in a single spreadsheet.

The app is supplied with an example spreadsheet which lets you enter up to 5 account numbers, and then automatically displays a dashboard of equity and balance etc; symbol prices; and a consolidated list of open positions.

[4] 2. Displaying real-time data in Excel

2.1 Running the RTD app

In order to put real-time data into Excel you need to run the RTD app. The Excel formulas listed below will give blank values if the app is not running.

2.1.1 Available symbols

Information about the following symbols will be available in the Excel RTD app:

- MT4/5: the app will report all the symbols which are included in the MT4/5 market watch
- Tradable: the app will report all available symbols in the platform
- All other platforms: you configure which symbols the app reports using the app's Symbols menu.

2.2 Excel formula

Once the RTD app is running, you can use the following formula in Excel to insert a real-time feed of account, ticket, or price data. You simply need to fill in the account number, and the "property" which you want to display:

```
=RTD("FXBlueLabs.ExcelRTD", , "account number", "property")
```

For example, if your account number is 156734 and you want to display the account's balance, or the bid price of GBPUSD:

```
=RTD("FXBlueLabs.ExcelRTD", , "156734", "balance") =RTD("FXBlueLabs.ExcelRTD", , "156734", "bidGBPUSD")
```

Please note: with some language settings – for example, Polish – Excel may want the sections of the formula to be separate by semi-colons instead of commas. For example:

```
=RTD("FXBlueLabs.ExcelRTD"; ; "account number"; "property")
```

2.3 Property names

The RTD app supplies data about the <u>account</u> (e.g. equity and balance), symbol <u>prices</u>, "<u>tickets</u>", <u>bar history</u>, and <u>technical indicator</u> values. The list of tickets includes both open positions and pending orders.

2.3.1 Account data properties

Property	Meaning
currency	The deposit currency of the account
balance	Account balance
equity	Account equity
pl	Floating profit/loss
usedmargin	Margin in use
freemargin	Free margin
tickets	Number of "tickets": open positions and pending orders

2.3.2 Price and symbol data properties

The app supplies the current ask and bid prices for all <u>symbols configured in the app</u>. For example, if the symbol name you are interested in is EURUSD, then the property name for its ask price is askEURUSD. For example:

=RTD("FXBlueLabs.ExcelRTD", , "156734", "askEURUSD")

Property	Meaning
bid <i>Symbol</i>	Bid price of symbol
ask <i>Symbol</i>	Ask price of symbol
high <i>Symbol</i>	Daily high of the symbol. Not available on all platforms. The definition of the day's start (e.g. GMT, or some other time zone) depends on the broker/platform.
IowSymbol	Daily low of the symbol. Not available on all platforms. The definition of the day's start (e.g. GMT, or some other time zone) depends on the broker/platform.

The app also provides a count and a list of all configured symbols. For example, the following formulas return the number of available symbols and the name of the 5th symbol on the list (which can be in any order):

```
=RTD("FXBlueLabs.ExcelRTD", , "156734", "symbols") =RTD("FXBlueLabs.ExcelRTD", , "156734", "s5")
```

Property	Meaning
symbols	Number of symbols
sN	Name of the nth symbol, e.g. EURUSD. The N value is an index
	between 1 and the total number of symbols

2.3.3 Ticket data properties

The app supplies the following information about each "ticket", i.e. each open position and pending order. The *N* value in each property name is an index between 1 and the total number of tickets (reported by the tickets property).

For example, you can get the symbol name and net profit of the 2nd ticket (if there is one) using the following formulas:

```
=RTD("FXBlueLabs.ExcelRTD", , "156734", "t2s")
=RTD("FXBlueLabs.ExcelRTD", , "156734", "t2npl")
```

Property	Meaning
t∕Vt	Ticket number, i.e. the ID of the open position or pending order
t <i>N</i> a	Action: BUY, SELL, BUYLIMIT, SELLLIMIT, BUYSTOP, SELLSTOP
t∕\s	Symbol name
t∕V∨	<u>Volume</u>
t∕∕npl	Net profit (gross profit + commission + swap). Not applicable on
	pending orders, and reported as zero.
t <i>N</i> pl	Gross profit. Not applicable on pending orders, and reported as
	zero.
t <i>N</i> swap	Swap. Not applicable on pending orders, and reported as zero.
t//comm	Commission. Not applicable on pending orders, and reported as
	zero.
t∕∕sl	Stop-loss price
t∕Vtp	Take-profit price
tNop	Open/entry price
t <i>N</i> cp	Current price of symbol
tNcm	Order comment
t∕lmg	Order magic number (MetaTrader 4 only)
tNot	Open time (as number of seconds since 1/1/1970)

2.3.4 Bar history

You can use the Excel RTD app to request recent price history from the platform. All values are bid prices. (Please note that this price history is not available on the tradable platform.)

The property name for bar history is as follows: @bh, symbol, timeframe, data, shift. For example, the following formula shows the high of the current EUR/USD H1 bar:

=RTD("FXBlueLabs.ExcelRTD", ,"156734", "@bh,EURUSD,H1,high,0")

2.3.4.1 Timeframe value

The bar timeframe can either be specified as a number of minutes – e.g. 60 for hourly bars – or you can use standard notations such as H1 or M3. The available timeframes are as follows:

Period	Timeframe value
M1	1
M2	2
M3	3

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M4	4
M5	5
M6	6
M10	10
M12	12
M15	15
M30	30
H1	60
H2	120
H3	180
H4	240
H6	360
H8	480
D1	1440
D2	2880
W1	7200

2.3.4.2 Price data

You can request the following information about each bar:

Data	Meaning
time	Start time of the bar (in the format yyyy/mm/dd hh:mm:ss)
open	Open price
high	High price
low	Low price
close	Close price
range	Range from high to low
median	Average of high and low
typical	"Typical" price: average of high, low, and close
weighted	"Weighted" price: average of high, low, close, and close – i.e. double-weighting on the close value
change	Change in bar: close minus open, therefore negative for down bars and positive for up bars.
abschange	Absolute change value, i.e. change converted to a positive number if negative

2.3.4.3 Bar shift

The final part of the price history formula is the bar "shift", i.e. which bar to get information about. Bars are numbered with the newest at zero, and increasing in order of age. In other words, bar 0 is the current in-progress bar; bar 1 is the last complete bar etc.

Therefore, the close price on bar 0 (for any timeframe) is the current bid price. In effect, the following two formulas are identical:

=RTD("FXBlueLabs.ExcelRTD", , "156734", "bidGBPUSD")

=RTD("FXBlueLabs.ExcelRTD", , "156734", "@bh,GBPUSD,60,close,0")

The amount of data available on each timeframe depends on the underlying platform, but will typically be around 250 bars.

2.3.5 Technical indicators

The Excel RTD app has some built-in indicator calculations which you can request using formulas. For example, the following formula will show 14-bar Relative Strength Index for GBP/USD M5:

```
=RTD("FXBlueLabs.ExcelRTD", , "156734", "@rsi,GBPUSD,M5,14,0")
```

Please note that the technical indicators are not available on the tradable platform.

The property name for a technical indicator starts with an indicator name such as @rsi or @ema, and is then followed by a list of parameters separated by commas.

The first two parameters for an indicator are always the <u>symbol</u> name and the <u>timeframe</u>, which can be specified either as H2 or as the equivalent number of minutes such as 120.

The last parameter is always the <u>bar "shift"</u>. You will normally want to use a value of 0 for the shift, in order to get the current indicator value, but you can also use a shift of e.g. 1 to get the value of the indicator at the end of the previous bar. (The only exception are the <u>swing-point indicators</u>, which always return the latest swing point and do not use a shift parameter.)

Many indicators can be applied to different <u>data values</u> from each bar, e.g. the high price or even the bar range instead of the close price.

Please bear in mind that exponential moving averages and similar calculations are affected by the amount of available bars. For convenience, everyone always refers to the N value in such calculations as "N bars" (e.g. "21-bar EMA"), but this is not what it truly means. The N is a weighting factor, and a calculation such as an EMA always looks at the entire bar history which it has collected, but giving increased weight to the most recent N bars. Two calculations of an EMA can be different – though only usually by small amounts – if they are using different amounts of bar history.

2.3.5.1 @sma - Simple Moving Average

You can calculate a simple moving average (i.e. arithmetic mean) using the @sma indicator. For example, the following formula does an average of the median prices for the last 10 bars on GBP/USD M5:

=RTD("FXBlueLabs.ExcelRTD", , "156734", "@sma,GBPUSD,M5,median,10,0")

The indicator's parameters are as follows:

Parameter	Meaning
symbol	Symbol name, e.g. GBPUSD
timeframe	Bar timeframe, as a number of minutes or a notation such as H1 or M3
data	Data to use from each bar, e.g. close or high
period	Number of bars to calculate the average over
shift	Bar shift, e.g. zero in order to get the current value of the indicator

2.3.5.2 @ema – Exponential Moving Average

You can calculate an exponential moving average using the @ema indicator. For example, the following formula does an average of the <u>ranges</u> of the last 21 bars on GBP/USD D1:

=RTD("FXBlueLabs.ExcelRTD", , "156734", "@ema,GBPUSD,1440,range,21,0")

The indicator's parameters are as follows:

Parameter	Meaning
symbol	Symbol name, e.g. GBPUSD
timeframe	Bar timeframe, as a number of minutes or a notation such as H1 or M3
data	Data to use from each bar, e.g. close or high
period	Number of bars to calculate the average over
shift	Bar shift, e.g. zero in order to get the current value of the indicator

2.3.5.3 @smma – Smoothed Moving Average

You can calculate a smoothed moving average using the @smma indicator. (A smoothed average with period N is the same as an exponential moving average with period 2N-1).

For example, the following formula does an average of the <u>close prices</u> of the last 21 bars on GBP/USD H1:

=RTD("FXBlueLabs.ExcelRTD", , "156734", "@smma,GBPUSD,H1,close,21,0")

The indicator's parameters are as follows:

Parameter	Meaning
symbol	Symbol name, e.g. GBPUSD
timeframe	Bar timeframe, as a number of minutes or a notation such as H1 or M3
data	Data to use from each bar, e.g. close or high
period	Number of bars to calculate the average over
shift	Bar shift, e.g. zero in order to get the current value of the indicator

2.3.5.4 @Iwma – Linear-Weighted Moving Average

You can calculate a linear-weighted moving average using the @lwma indicator. For example, the following formula does an average of the <u>ranges</u> of the last 21 bars on GBP/USD D1:

=RTD("FXBlueLabs.ExcelRTD", , "156734", "@lwma,GBPUSD,1440,range,21,0")

The indicator's parameters are as follows:

Parameter	Meaning
symbol	Symbol name, e.g. GBPUSD
timeframe	Bar timeframe, as a number of minutes or a notation such as H1 or M3
data	Data to use from each bar, e.g. close or high
period	Number of bars to calculate the average over
shift	Bar shift, e.g. zero in order to get the current value of the indicator

2.3.5.5 @macd and @macdsig - MACD

You can calculate MACD (the difference between a "fast" EMA and a "slow" EMA) using the @macd indicator. You can also use @macdsig to get the smoothed "signal" value of the MACD indicator.

For example, the following formula calculates MACD for GBP/USD M30, using the standard 12-bar fast EMA and a 26-bar slow EMA, and applying the calculation to the high price of each bar:

=RTD("FXBlueLabs.ExcelRTD", , "156734", "@macd,GBPUSD,30,high,12,26,9,0")

The indicator's parameters are as follows:

Parameter	Meaning
symbol	Symbol name, e.g. GBPUSD
timeframe	Bar timeframe, as a number of minutes or a notation such as H1 or M3
data	Data to use from each bar, e.g. close or high
fast	Number of bars for the fast EMA
slow	Number of bars for the slow EMA
slowing	Smoothing period for the signal value
shift	Bar shift, e.g. zero in order to get the current value of the indicator

2.3.5.6 @atr – Average True Range

You can calculate average true range using the @atr indicator. For example, the following formula calculates the average true range of the last 21 bars on GBP/USD D1:

=RTD("FXBlueLabs.ExcelRTD", , "156734", "@atr,GBPUSD,D1,21,0")

Parameter	Meaning
symbol	Symbol name, e.g. GBPUSD
timeframe	Bar timeframe, as a number of minutes or a notation such as H1 or M3
period	Number of bars to calculate the average over

shift	Bar shift, e.g. zero in order to get the current value of the indicator	1

2.3.5.7 @rsi - Relative Strength Index

You can calculate Relative Strength Index using the @rsi indicator. For example, the following formula calculates 14-bar RSI on USD/JPY M3:

=RTD("FXBlueLabs.ExcelRTD", , "156734", "@atr,USDJPY,3,14,0")

The indicator's parameters are as follows:

Parameter	Meaning
symbol	Symbol name, e.g. GBPUSD
timeframe	Bar timeframe, as a number of minutes or a notation such as H1 or M3
period	Number of bars to calculate the indicator over
shift	Bar shift, e.g. zero in order to get the current value of the indicator

2.3.5.8 @stoch and @stochslow – Stochastic Oscillator

You can calculate the stochastic oscillator using the @stoch indicator. You can also calculate the slowed "signal" value for the indicator using @stochslow.

For example, the following formula calculates the oscillator on GBP/USD H2 bars, using standard parameters of (5,3,3) – i.e. K period of 5, D period of 5, slowing value of 3.

=RTD("FXBlueLabs.ExcelRTD", , "156734", "@stoch,GBPUSD,120,5,3,3,0")

The indicator's parameters are as follows:

Parameter	Meaning
symbol	Symbol name, e.g. GBPUSD
timeframe	Bar timeframe, as a number of minutes or a notation such as H1 or M3
k	K period for the calculation
d	D period for the calculation
slowing	Slowing period (moving average of D values)
shift	Bar shift, e.g. zero in order to get the current value of the indicator

2.3.5.9 @bbupper and @bblower – Bollinger bands

You can calculate "Bollinger" bands – a simple moving average plus/minus a number of standard deviations – using the @bbupper and @bblower indicators.

For example, the following formula calculates the upper band on GBP/USD M10, using an average of the close prices on the last 30 bars, and 2 standard deviations:

=RTD("FXBlueLabs.ExcelRTD", , "156734", "@bbupper,GBPUSD,10,close,30,2,0")

Parameter	Meaning
symbol	Symbol name, e.g. GBPUSD
timeframe	Bar timeframe, as a number of minutes or a notation such as H1 or M3
data	Data to use from each bar, e.g. close or high
period	Number of bars to calculate the indicator over
deviations	Number of standard deviations to calculate (e.g. 2)
shift	Bar shift, e.g. zero in order to get the current value of the indicator

2.3.5.10 @vol – Volatility (standard deviation)

You can calculate volatility – i.e. 1 standard deviation – using the @vol indicator.

For example, the following formula calculates the volatility of the last 21 <u>bar-ranges</u> on GBP/USD M10:

=RTD("FXBlueLabs.ExcelRTD", , "156734", "@vol,GBPUSD,10,range,21,0")

The indicator's parameters are as follows:

Parameter	Meaning
symbol	Symbol name, e.g. GBPUSD
timeframe	Bar timeframe, as a number of minutes or a notation such as H1 or M3
data	Data to use from each bar, e.g. close or high
period	Number of bars to calculate the indicator over
shift	Bar shift, e.g. zero in order to get the current value of the indicator

2.3.5.11 @cci – Commodity Channel Index

You can calculate the Commodity Channel Index using the @cci indicator.

For example, the following formula calculates CCI using the <u>typical</u> bar price for the last 14 bars on EUR/USD H1:

=RTD("FXBlueLabs.ExcelRTD", , "156734", "@cci,EURUSD,60,typical,14,0")

Parameter	Meaning
symbol	Symbol name, e.g. GBPUSD
timeframe	Bar timeframe, as a number of minutes or a notation such as H1 or M3
data	<u>Data</u> to use from each bar. CCI is usually calculated on the "typical" bar price
period	Number of bars to calculate the indicator over
shift	Bar shift, e.g. zero in order to get the current value of the indicator

2.3.5.12 @high – Highest bar value

You can calculate the highest of a series of bar values using the @high indicator. For example, the following formula calculates the highest high during the last 20 GBP/USD D1 bars:

=RTD("FXBlueLabs.ExcelRTD", , "156734", "@high,GBPUSD,D1,high,20,0")

The indicator can be applied to any bar <u>data</u>. For example, you can find the highest low as well as the highest high. You can also use it to find the bar with the largest range or change.

The indicator's parameters are as follows:

Parameter	Meaning
symbol	Symbol name, e.g. GBPUSD
timeframe	Bar timeframe, as a number of minutes or a notation such as H1 or M3
data	Data to use from each bar, e.g. close or high
period	Number of bars to calculate the indicator over
shift	Bar shift, e.g. zero in order to get the current value of the indicator

2.3.5.13 @low – Lowest bar value

You can calculate the lowest of a series of bar values using the @low indicator. The indicator can be applied to any bar <u>data</u>. For example, you can find the lowest high as well as the lowest low. You can also use it to find the bar with the smallest range or change.

The following formula calculates the smallest D1 bar range during the last 20 GBP/USD D1 bars:

=RTD("FXBlueLabs.ExcelRTD", , "156734", "@low,GBPUSD,D1,range,20,0")

The indicator's parameters are as follows:

Parameter	Meaning
symbol	Symbol name, e.g. GBPUSD
timeframe	Bar timeframe, as a number of minutes or a notation such as H1 or M3
data	Data to use from each bar, e.g. close or high
period	Number of bars to calculate the indicator over
shift	Bar shift, e.g. zero in order to get the current value of the indicator

2.3.5.14 @swingh and @swingl – Swing points ("fractals")

You can calculate the most recent swing points using the @swingh and @swingl indicators. A swing point is defined as a bar with lower highs either side of it (or higher lows, for @swingl). These swing points are similar to the MT4 "Fractals" indicator.

For example, the following formulas finds the most recent swing-high and swing-low prices on GBP/USD M5, using a 5-bar swing (2 bars either side of swing point) and not allowing an "unconfirmed" swing involving the current bar:

```
=RTD("FXBlueLabs.ExcelRTD", , "156734", "@swingh,GBPUSD,M5,high,2,0") =RTD("FXBlueLabs.ExcelRTD", , "156734", "@swingl,GBPUSD,M5,low,2,0")
```

The indicator's parameters are as follows. Please note that the @swingh and @swingl do not have a bar "shift" parameter; they only return the most recent swing price.

Parameter	Meaning
symbol	Symbol name, e.g. GBPUSD
timeframe	Bar timeframe, as a number of minutes or a notation such as H1 or M3
data	Data to use from each bar. You normally use "high" with @swingh, and "low" with @swingl. However, you can use any value; for example, you can use "high" with @swingl to find a bar which has a lower high than the bars around it.
swingbars	Number of higher/lower bars required either side of the swing bar. The usual value is 2, for a five-bar swing consisting of two lower highs/higher lows either side of the swing bar, but you can use any value from 1 (i.e. three-bar swing) upwards.
unconfirmed	Either 0 or 1. Zero ignores the current bar and only allows "confirmed" swings. 1 includes the current bar, and allows "unconfirmed" swings which can change depending on price movements during the current bar.

2.3.5.15 @keltupper and @keltlower – Keltner channels

You can calculate Keltner channels using the @kelternupper and @keltnerlower indicators. A Keltner channel is an <u>exponential moving average</u> plus/minus <u>average true range</u>.

For example, the following formula calculates the lower Keltner channel on GBP/USD H1, using a 20-bar EMA minus half of 10-bar ATR:

```
=RTD("FXBlueLabs.ExcelRTD", , "156734", "@keltlower,GBPUSD,60,close,20,10,0.5,0")
```

Because Keltner channels are simply a combination of an EMA and ATR, the formula above is equivalent to the following:

```
=RTD("FXBlueLabs.ExcelRTD", , "156734", "@ema,GBPUSD,60,close,20,0") - (RTD("FXBlueLabs.ExcelRTD", , "156734", "@atr,GBPUSD,60,10,0") ^{\ast} 0.5)
```

Parameter	Meaning
symbol	Symbol name, e.g. GBPUSD
timeframe	Bar timeframe, as a number of minutes or a notation such as H1 or M3
data	Data to use from each bar, e.g. close or high, for calculating the EMA
emaPeriod	Number of bars to use for the EMA
atrPeriod	Number of bars to use for the ATR
atrMultiple	Multiples of ATR to add to/subtract from the EMA

shift	Bar shift, e.g. zero in order to get the current value of the indicator
	, 5

2.3.6 Other properties

Other miscellaneous data items provided by the Excel RTD app are as follows:

Property	Meaning	
LastUpdateTime	Time of the last update from the RTD app. Will report 1/1/2000	
	if the RTD app is not running for the account.	

2.4 Symbol names and standardisation

By default the RTD app uses standardised symbol names. These may be different to the symbol names which your broker uses in your trading platform. For example, your broker's symbol names may have a suffix such as cx or mn, e.g. EURUSDcx or EURUSDmn. By default, all forex symbols are converted to the form AAABBB. For example, a name such as EURUSDnm or EUR/USD will be converted by default to EURUSD. You can turn off this standardisation by un-ticking the option "Use standardised symbol names" in the app. This setting is intended for spreadsheets where you are collecting data from multiple accounts on different brokers/platforms (by running multiple copies of the RTD app), and the brokers/platforms use different symbol names.

For example, you might have something like the following spreadsheet where there are account numbers in columns B onwards, and symbol names in rows 2 onwards. You can then have a formula which uses the symbol names in column A without having to adjust for one account using EUR/USD and the other using EURUSDfx etc.

	A	В	С
1	Symbol/Account	12376522	265823654
2	EURUSD	[see below]	
3	GBPUSD		

In cell B2: =RTD("FXBlueLabs.ExcelRTD", , B\$1, CONCATENATE("bid", \$A2))

You could then fill the formula from cell B2 into B3, C2 etc and the cell references would automatically adjust.

(The CONCATENATE function in Excel simply joins two pieces of together. In the above example it is joining the text "bid" with the symbol name in column A, to produce the property name bidEURUSD or bidGBPUSD.)

2.5 Ticket volumes

The RTD app reports the volumes on <u>tickets</u> as the nominal volume, not as a lot size. For example, a size of 0.20 lots will be reported as a volume of 20000.

(Unless you are using something like an MT4 mini account with a lot size of 10K instead of 100K, in which case 0.20 lots would be 2000 instead of 20000.)

[4] 3. Sending trading commands from Excel

The RTD app can also be used to send simple trading commands from VBA code in Excel. You can also programmatically read the same data which is available via the RTD function.

The following features can in fact be used from any programming language which supports COM, not just from VBA in Excel.

3.1 Reading data in VBA code

You can read data programmatically using the FXBlueLabs.ExcelReader object. For example:

```
Set reader = CreateObject("FXBlueLabs.ExcelReader")
reader.Connect ("156734")
MsgBox reader.Read("balance")
```

In other words: you create an instance of the FXBlueLabs.ExcelReader object; you use the Connect() function to link it to a specific account number; and then you can use the Read() function to get data about the account.

The <u>property names</u> for the Read() function are the same as the property names for use with Excel's RTD function.

3.1.1 Checking if a reader is successfully connected

You can successfully create the ExcelReader object and call the Connect() function even if no RTD app is currently running for that account.

In order to check whether data is actually available you can use Read() to make sure that properties such as balance are not blank, or you can read the <u>LastUpdateTime</u> property and check that the time is later than 1/1/2000.

If you are querying multiple pieces of data, particularly multiple pieces of ticket data, then you need to be careful about updates and data consistency. For example, consider the following code which loops through the ticket list:

```
For i = 1 To reader.Read("tickets")
strSymbol = reader.Read("t" & i & "s")
vVolume = reader.Read("t" & i & "v")
Next
```

It is possible for the following to happen:

At outset there are 2 open tickets

- Between the two uses of Read(), i.e. between the execution of lines 2 and 3, one of the tickets is closed.
- Therefore, what used to be ticket 2 becomes ticket 1.
- As a result, at the end of the first loop, strSymbol will hold the symbol of the ticket which is now closed, and vVolume will hold the volume of the ticket which is still open.

To ensure consistency while reading multiple pieces of data, use Reader.ReaderLock(). This will suspend any changes to the data until you then use Reader.ReaderUnlock(). For example:

```
Reader.ReaderLock()
For i = 1 To reader.Read("tickets")
    strSymbol = reader.Read("t" & i & "s")
    vVolume = reader.Read("t" & i & "v")
Next
Reader.ReaderUnlock()
```

Don't forget to call ReaderUnlock() after using ReaderLock()...

3.2 Sending trading commands from Excel

As a security measure, commands are **turned off** by default. You must turn on the "Accept commands" setting in the RTD app in order to send commands successfully. If this option is turned off then all commands will return "ERR:Commands not allowed".

You can send simple commands from Excel using the FXBlueLabs.ExcelCommand object. For example:

```
Set cmd = CreateObject("FXBlueLabs.ExcelCommand") strResult = cmd.SendCommand("156734", "BUY", "s=EURUSD|v=10000", 5)
```

The SendCommand() function has four parameters:

- The account number (e.g. 156734)
- The command, e.g. BUY
- Parameters for the command, e.g. symbol and volume to buy
- The number of seconds to wait for a response

SendCommand() is synchronous. It returns either when the RTD app completes the command, or when the timeout period expires. (Timeout **does not** mean that the request such as a market order has been withdrawn/cancelled. It only means that the broker/platform has not responded within the acceptable time.)

The return value from SendCommand() is a string, beginning either with ERR: to indicate that an error occurred, or with OKAY:. The only exception to this is the <u>TEST command</u>, which returns the text HELLO.

3.2.1 Differences between trading platforms

There are some minor differences in the trading features which are currently supported on different platforms:

- "Magic numbers" are only valid for MT4 and MT5, and these parameters will be ignored on other platforms.
- Order comments are only available on some platforms.
- Stop-losses and take-profits are not currently supported on tradable

3.2.2 Commands and parameters

The parameters for a command are sent as a pipe-delimited string, consisting of a number of settings in the format name=value. The parameters can be listed in any order, and some parameters are optional.

cmd.SendCommand("156734", "BUY", "s=EURUSD[v=10000", 5)

Trading volumes are always specified as <u>cash amounts</u>, <u>not as lot sizes</u>. The format of symbol names depends on whether the "Use standardised symbol names" option is turned on in the RTD app.

3.2.2.1 TEST command

Simply returns the text HELLO if successful.

3.2.2.2 BUY and SELL commands

Submits buy or sell market orders. If successful, it returns the ID of the new ticket in the form OKAY:ticket-number

Parameter	Optional?	Meaning
S	Compulsory	Symbol name for the buy order
V	Compulsory	Trading volume
sl	Optional	Stop-loss price for the new position
tp	Optional	Take-profit price for the new position
comment	Optional	Comment for the new position
magic	Optional	Magic number for the new position

3.2.2.3 BUYLIMIT, SELLLIMIT, BUYSTOP, and SELLSTOP commands

Submits a new pending order. If successful, it returns the ID of the new ticket in the form OKAY:ticket-number

Parameter	Optional?	Meaning
S	Compulsory	Symbol name for the buy order
V	Compulsory	Trading volume
price	Compulsory	Entry price for the pending stop/limit
		order
sl	Optional	Stop-loss price for the new position
tp	Optional	Take-profit price for the new position
comment	Optional	Comment for the new position
magic	Optional	Magic number for the new position

3.2.2.4 CLOSE command

Closes an open position or deletes a pending order. Returns OKAY:okay if successful.

Parameter	Optional?	Meaning
t	Compulsory	ID of the position to be closed, or the
		pending order to be deleted.

3.2.2.5 PARTIALCLOSE command

Does a partial-close of an open position. Returns OKAY:okay if successful. Volumes larger than the position size are simply treated as a full close (not as a close plus a reverse for the remaining amount). Cannot be used on pending orders.

Parameter	Optional?	Meaning
t	Compulsory	ID of the position to be partially
		closed.
V	Compulsory	Volume to be closed, e.g. 20000

3.2.2.6 REVERSE command

Reverses an open position, e.g. closing an open sell and replacing it with a buy. Returns OKAY:okay if successful.

Parameter	Optional?	Meaning
t	Compulsory	ID of the position to be reversed
V	Optional	Volume for the new reversed position. If omitted, the volume of the existing position is used (i.e. symmetrical reverse)

sl	Optional	Stop-loss price for the new position
tp	Optional	Take-profit price for the new position
comment	Optional	Comment for the new position
magic	Optional	Magic number for the new position

3.2.2.7 CLOSESYMBOL command

Closes all open positions and pending orders for a specific symbol. Returns OKAY:okay if successful.

Parameter	Optional?	Meaning
S	Compulsory	Symbol name to close

3.2.2.8 CLOSEALL command

Closes all open positions and pending orders for all symbols. Returns OKAY:okay if successful. Please note that closing everything can require a substantial timeout.

Parameter	Optional?	Meaning
(none)		

For example:

cmd.SendCommand("156734", "CLOSEALL", "", 20) ' 20-second timeout

3.2.2.9 ORDERSL command

Changes the stop-loss on an open trade or pending order. Returns OKAY:okay if successful.

Parameter	Optional?	Meaning
t	Compulsory	ID of the trade or pending order to be modified
sl	Compulsory	New stop-loss price, or 0 to remove any existing stop-loss

3.2.2.10 ORDERTP command

Changes the take-profit on an open trade or pending order. Returns OKAY:okay if successful.

Parameter	Optional?	Meaning
t	Compulsory	ID of the trade or pending order to be modified
tp	Compulsory	New take-profit price, or 0 to remove any existing take-profit

3.2.2.11 ORDERMODIFY command

Changes both the stop-loss and take-profit on an open trade or pending order. For pending orders, you can also alter the entry price.

Parameter	Optional?	Meaning
t	Compulsory	ID of the trade or pending order to be modified
р	Compulsory for pending orders	For pending orders, the new entry price for the order. Ignored and not required on open trades.
sl	Compulsory	New stop-loss price, or 0 to remove any existing stop-loss
tp	Compulsory	New take-profit price, or 0 to remove any existing take-profit

3.2.3 Standard error messages

Property	Meaning
ERR:Need account	Account value for SendCommand() is blank
ERR:Need command	Command value for SendCommand() is blank
ERR:No listening app	Cannot find an running instance of the RTD app for the specified account
ERR:No response within timeout	No response from the broker/platform within the specified number of seconds
ERR:Commands not allowed	The "Allow commands" option is not turned on in the RTD app
ERR:Unrecognised command	The command value for SendCommand() is not understood by the RTD app
ERR:Missing parameters	The command was missing one or more <u>compulsory</u> <u>parameters</u>

3.3 Asynchronous commands

It is also possible to send commands asynchronously rather than blocking execution of the VBA code until the command completes or times out. This works as follows:

- You use SendCommandAsync() instead of SendCommand().
- You periodically check the result of the asynchronous action using CheckAsyncResult().
- When finished (or when you have decided to give up) you free up the command memory using FreeAsyncCommand()

For example:

```
Set cmd = CreateObject("FXBlueLabs.ExcelCommand")

ICommandId = cmd.SendCommandAsync("10915", "BUY", "s=EURUSD|v=10000", 60)

strResult = ""

While strResult = ""

strResult = cmd.CheckAsyncResult(ICommandId)

If strResult = "" Then MsgBox "Still waiting..."

Wend

cmd.FreeAsyncCommand (ICommandId)
```

SendCommandAsync uses the same four parameters as SendCommand(), but returns a "command ID" for subsequent use with CheckAsyncResult() and FreeAsyncCommand(), instead of returning the command result. Please note that SendCommandAsync() still has a timeout value.

You must eventually call FreeAsyncCommand() after SendCommandAsync(), or else your code will leak memory, albeit in small amounts.

CheckAsyncResult() either returns a blank string if the command is still executing and has not reached its specified timeout or, if complete, it returns the same string response as SendCommand().

[5] MARKET MANAGER

[5] 1. Market Manager

The Market Manager does four main things:

- It shows a "watch list" of both symbol prices and open positions, with facilities for closing positions and opening new ones
- It shows headline information about the account, such as equity, balance, and margin usage.
- It shows a list of all open tickets, i.e. all open positions and pending orders, with the ability to open each ticket as a separate window, and then modify or close the position or order.
- It provides a concise summary of recent price activity on a symbol

1.1 Choosing the symbols to display

On MT4 and MT5, the list of symbols in the Market Manager synchronises with the MT4/MT5 market watch. You configure the symbols in the Market Manager by configuring the MT4/MT5 market watch.

On other platforms, you control which symbols are displayed using the app's Symbols menu. You can use this Symbols menu to do a number of things:

- Quickly switch between currency-pairs for a particular currency, e.g. all USD pairs such as EURUSD, USDJPY etc
- Create a bespoke list of symbols
- Save a list of symbols as a "set", and then quickly re-load a set.

1.2 Trading from the Market Manager

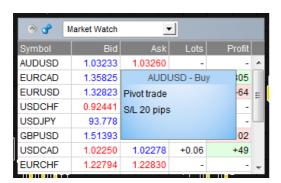
1.2.1 Placing orders

Clicking on the bid or ask price for a symbol opens a dealing form with the order-type preset to "buy" or "sell".

This is the same dealing form used in FXBlue's very popular Trade Terminal and Mini Terminal apps. It can be used to load trading templates created in other modules of the software, or to create new templates.

1.2.2 Quick trade-entry from templates

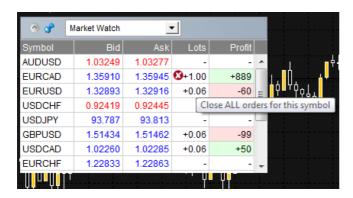
The Market Manager shares templates with FXBlue's Trade Terminal and Mini Terminal apps. You can quickly execute a template by holding down the Ctrl key while clicking on the bid or ask price for a symbol, and then clicking on the template name:



Please note: templates have an order-type stored as part of their definition. In this context, the order-type is replaced by "buy" or "sell" depending on whether you have clicked on the bid price or the ask price.

1.2.3 Closing the entire position for a symbol

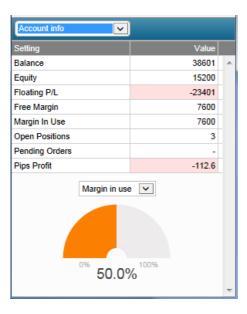
You can quickly close all the orders for a symbol by clicking on the position size. While the mouse is over the column, an icon appears next to the volume to indicate this:



If there are multiple tickets which make up a position, you can close individual tickets using the <u>order list</u>.

1.3 Account information

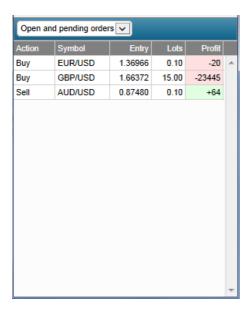
You view information about your account and profitability by choosing the "Account info" option from the drop-down menu. This displays headline values about the account such as balance and free margin, and also shows a choice of three key metrics in graphical form (margin usage, floating P/L, or pips profit).



1.4 Order list

The "open and pending orders" option in the drop-down menu displays a list of each open ticket on the account, i.e. all open positions and pending orders.

You can close a position or pending order by clicking on its volume, or you can inspect and order and change its details by clicking on the action such as "Buy" or "Sell". This opens an order window as discussed in the next section.



1.5 Order windows

Clicking on a ticket's action in the <u>order list</u> opens a pop-up window for that order. You can have any number of these pop-up windows visible at once.





1.5.1 Information about s/l and t/p

The information shown about the s/l and t/p includes not only the price, but also the distance in pips from the current ask/bid price, and the cash effect on the balance if the s/l or t/p is hit. (In the example above, the order is substantially in profit and the s/l is in positive territory, i.e. the worst-case result for this order is now a profit, not a loss.)

Please note: when a s/l or t/p is set to a value in pips, it is measured from the open/current price. For example, a buy at 1.2345 with a s/l of 10 pips will have its s/l set to 1.2335. (In other words, when creating a s/l or t/p on an order, pip values are measured from the ask price.) However, the information in the pop-up order window shows how close the s/l and t/p are to being *hit*; the figures are measured from the other side of the spread.

1.5.2 Changing stop-losses etc.

The order window lets you change the s/l, t/p or trailing stop as well as just viewing this information. The s/l and t/p can be set using all the same options which are available when opening an order, not just a fixed price or a number of pips. (For example, the stop-loss can be set to a price corresponding to a cash risk of USD 50.)



1.6 Pop-up symbol windows

Symbol names in the Market Manager act as links for opening a pop-up window showing recent price movements on that symbol. You can open any number any number of these pop-up symbol windows.





1.6.1 Symbol information

The pop-up symbol window shows the following information.

- Current price versus the high-low range over the last 60 minutes, 24 hours, and 5 days.
- Recent H1, M15 and M5 candles.
- The current volume and profitability of any open position in the symbol.

This is drawn from the data in your trading platform, and there can be a short delay before all the information appears if the historic data needs to be downloaded from the broker's servers.

Please note that the gauge for the last 60 minutes is not the same as the current H1 candle. The former runs from e.g. 10.23am to 11.22am whereas the current H1 candle runs from e.g. 11.00am to 11.22am.

The symbol window can be switched so that it shows very recent price activity instead of the candles, using the button highlighted in the following screenshot. This is *not* a tick chart; it is a 500-millisecond chart which continues updating even if there is no market activity.



1.6.2 Trading from the pop-up symbol window

You can carry out three trading actions from the symbol window:

• Close an open position (if any) by clicking on the volume.

- Open the standard dealing form by clicking on the Buy and Sell buttons in the topleft and top-right corners.
- Quickly execute a saved template by holding down Ctrl while clicking on the Buy or Sell buttons.

1.7 Pop-up menu for symbols

As well as clicking on any symbol name in the Market Manager, you can also hold down the Ctrl key while clicking. This displays a pop-up menu with the following options:

- Symbol information. Same as a simple click on the symbol; opens a pop-up window for that symbol.
- Place order. Opens the standard dealing form.

1.7.1 New-chart option on MT4

On MT4 only, the pop-up menu contains a "New chart" option which opens a new chart for the selected symbol. If there is a template in MT4 called "Marketwatch" then this is automatically applied to the new chart. (If not, the default template will be used.)

[6] CORRELSTION MATRIX

[6] 1. About correlation

The Correlation Matrix shows the correlation between symbols over a configurable timeframe and number of bars, for example the last 100 H1 bars.

Correlation is measured on a scale from -100 to +100:

- +100 means that the price movements in symbol A and B have been identical ("positive correlation").
- -100 means that the price movements in symbol A and B have been exactly opposite: A went up when B went down, and vice versa ("negative correlation").
- 0 means that the symbols have moved independently.

Correlation can have a major effect on your trading risk. For example the following charts show H1 EURUSD and USDCHF over the same time period:



These symbols had very strong negative correlation (about -95). If you were long EURUSD and short USDCHF over this period, or vice versa, then you would have seen very similar profits on both positions. In effect, you did not have two positions: you only really had one position. (If you were long both symbols, or short both symbols, then you probably had a profit on one and a matching loss on the other.)

It is generally advisable to minimise the correlation between your open positions. Otherwise, you are either trading the same price action twice over, or you have two positions which cancel each other out.

The Correlation Matrix helps you to identify symbols with strong or weak correlation.

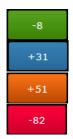
[6] 2. Using the Correlation Matrix

2.1 The matrix

The Correlation Matrix shows the correlation between a grid of selected symbols. For example:



Each cell in the matrix is color-coded:



Green. No correlation (0 to ± 25)

Blue. Weak correlation. (±25 to ±50)

Orange. Medium correlation. (±50 to ±75)

Red. Strong correlation. (± 75 to ± 100)

It makes little difference whether values are positive or negative (e.g. +90 or -90), and the meaning depends on whether you are long or short each symbol. For example:

- +90. If you are long both symbols, or short both symbols, then you will tend to see identical profits or losses on both positions. If you are long one symbol and short the other, then you will tend to have a matching profit and loss.
- -90. If you are long both symbols, or short both symbols, then you will tend to have a
 matching profit and loss. If you are long one symbol and short the other, then you
 will tend to see identical profits or losses on both positions.

The chequered cells show rows and columns which are the same (i.e. correlation of EURUSD against itself is meaningless). The grid is symmetrical either side of the chequered line: e.g. the correlation of EURUSD against USDCHF is the same as the correlation of USDCHF against EURUSD.

2.2 Changing the parameters for the calculation

You can use the fields at the top of the matrix to choose a timeframe (e.g. H1, D1) and a number of historic bars (e.g. 25, 100, 500).

Correlation between symbols changes over time, and recent correlation may not continue in future. As a general rule, the settings which you choose should be related to how long you

intend to keep open positions for. For example, if you expect a position to be open for 24 hours, you might want to look at H1 correlation over the last 50 or 100 bars (roughly 2 or 4 days).

You can choose which symbols to include in the Matrix by using the ... button. This shows the list of symbols which are currently being displayed, and a list of all available symbols.

2.3 Highlighting correlation strength

The strength field, next to the bars field, lets you highlight different types of correlation in the grid. For example, if you pick "Strong" then the grid highlights correlation above ±75, and grays out all weaker correlations.

2.4 Trade list

The Trade List button shows the average correlation between a list of selected symbols – for example, positions you are currently trading, or positions which you intend to open in future.

The list shows the average correlation, and also marks any symbols which have strong correlation with another symbol on the list. In the following example the overall average is weak correlation, but AUDUSD and NZDUSD have strong correlation with each other:



[7] CORRELSTION TRADER

[7] 1. About correlation

The Correlation Trader shows the correlation between symbols over a configurable timeframe, e.g. recent H1 bars.

Correlation is measured on a scale from -100 to +100:

- +100 means that the price movements in symbol A and B have been identical ("positive correlation").
- -100 means that the price movements in symbol A and B have been exactly opposite: A went up when B went down, and vice versa ("negative correlation").
- 0 means that the symbols have moved independently.

Correlation can have a major effect on your trading risk. For example the following charts show H1 EURUSD and USDCHF over the same time period:



These symbols had very strong negative correlation (about -95). If you were long EURUSD and short USDCHF over this period, or vice versa, then you would have seen very similar profits on both positions. In effect, you did not have two positions: you only really had one position. (If you were long both symbols, or short both symbols, then you probably had a profit on one and a matching loss on the other.)

It is generally advisable to minimise the correlation between your open positions. Otherwise, you are either trading the same price action twice over, or you have two positions which cancel each other out.

The Correlation Trader helps you to identify symbols with strong or weak correlation, and to trade emerging differences in the correlation.

[7] 2. Using the Correlation Trader

2.1 Price charts

The Correlation Trader shows recent price charts for two symbols side by side (and can be used simply as a way of displaying two linked price charts):



2.2 Correlation

The bar in the middle lets you change the timeframe for the charts. It also shows the following:

- Recent correlation between the two symbols over the selected timeframe.
- Any open position in each symbol, and its profitability



2.2.1 Correlation values

The gauge shows the correlation on scale of 0 to \pm 100. It makes little difference whether values are positive or negative (e.g. +90 or -90), and the meaning depends on whether you are long or short each symbol. For example:

- +90. If you are long both symbols, or short both symbols, then you will tend to see identical profits or losses on both positions. If you are long one symbol and short the other, then you will tend to have a matching profit and loss.
- -90. If you are long both symbols, or short both symbols, then you will tend to have a matching profit and loss. If you are long one symbol and short the other, then you will tend to see identical profits or losses on both positions.

2.2.2 Correlation colors

The color of the gauge depends on the strength of the correlation:



Green. No correlation (0 to ± 25)

Blue. Weak correlation. (±25 to ±50)

Orange. Medium correlation. (± 50 to ± 75)

Red. Strong correlation. (±75 to ±100)

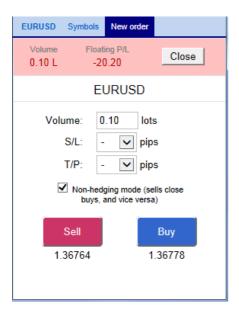
2.3 Changing the symbol selection

You can change a symbols by clicking on its name. The label is replaced with an editable box where you can type in a new symbol name, with auto-complete.

2.4 Opening and closing positions

[Please note: the order tab is not available on the tradable platform]

You can use the New Order to carry out simple trading actions such as closing an open position or opening a new one.



The top of the trading form shows any open position in the selected symbol, with a button for closing the position. Below that is a simple form for placing a new buy or sell market order.

[8] SENTIMENT TRADER

[8] 1. About sentiment data

The Sentiment Trader displays information about current and historic long/short sentiment: the percentage of traders who currently have (or had) an open buy or sell position in a symbol.

The figures are *not* technical analysis based on price action. They are calculated from real-money accounts which are being published to www.fxblue.com. For example:

5845 real-money accounts publishing to www.fxblue.com have an open buy position in EURUSD, and 2378 accounts have an open sell position. The app will show that the EURUSD sentiment is 71% long.

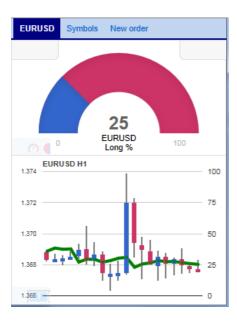
The list of available symbols is determined by popularity, i.e. the number of people trading them. For example, sentiment data is not available for CADJPY because there are typically too few traders with an open position to calculate a meaningful percentage.

If a trader has multiple open orders in the same symbol, then the sentiment calculation uses a single net figure for the trader's positions. For example, if a trader has an open buy order for 1.5 lots and an open sell order for 0.7 lots, then they are treated as being long.

The sentiment percentage is **not** weighted by volume (because <u>www.fxblue.com</u> has a few users with *very* large accounts and trade sizes). A trader who is long 0.1 lots has the same effect on the figures as a trader who is long 50 lots.

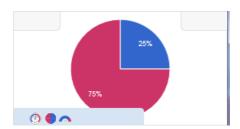
[8] 2. Using the Sentiment Trader

The Sentiment Trader shows the current long/short sentiment (25% long in the following example), and a chart of historic sentiment plotted against price action. In the example below, sentiment has remained consistently below 50%, i.e. a majority of traders have been short EURUSD.



2.1 Changing the display of current sentiment

You can change the way that current sentiment is displayed using the pop-up bar in the bottom-left of the chart. There are three options: a dial; a pie chart; and a gauge (the default).



2.2 Changing the display of historic sentiment

You can change the way that historic sentiment is displayed again using a pop-up bar in the bottom-left of the chart:



You can choose the timeframe for the historic chart (e.g. M5, H1), and three different types of chart:

- Price candles vs sentiment (the default)
- A line chart of close prices vs sentiment (as illustrated above)
- "Sentiment candles": these show the *range* of sentiment values, rather than just the closing value, within each time bar (M5, H1 etc).

2.3 Current open position

The boxes at the top of the display show any open position in the selected symbol. In the following example, the trader is long 0.1 lots EURUSD, and the current P/L of that position is a loss of 20.20:

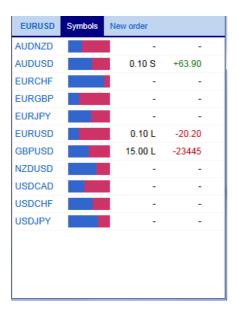


2.4 Switching between symbols

You can switch between different symbols using the Symbols tab at the top of the app.

This displays a list like the example below which shows the symbols; the current long/short sentiment as a bar; any open position which you have in the symbol; and the P/L of the open position.

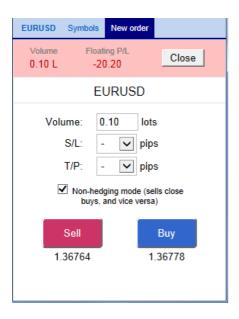
You can switch the main display to a different symbol by clicking on its name in this list.



2.5 Opening and closing positions

[Please note: the order tab is not available on the tradable platform]

You can use the New Order to carry out simple trading actions such as closing an open position or opening a new one.



The top of the trading form shows any open position in the selected symbol, with a button for closing the position. Below that is a simple form for placing a new buy or sell market order.

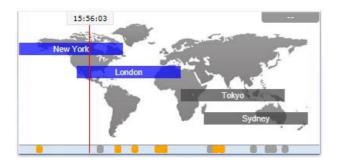
[9] SESSION MAP

[9] 1. Session Map

The Session Map shows your current local time in relation to "sessions" during the trading day, i.e. the core trading hours when institutional dealers are most active in Sydney, Tokyo, London and New York.

(For example, Tokyo trading is defined as 11pm GMT to 8am GMT, or 8am to 5pm Tokyo time.)

The Session Map also shows markers for <u>future news events</u>; information about your <u>floating P/L and equity</u>; and <u>price activity during each session</u>.



Please note: the current time is taken from your computer clock, and its accuracy depends on your computer clock being accurate.

1.1 News markers

The bar at the bottom of the map shows markers for future news events, e.g. non-farm payroll. (Items to the right of the current time are *not* in the past: they are a long way into the future.)

Each marker is color-coded to indicate its importance: red for high-impact events; orange for medium; and gray for low.

You can hover the mouse over a marker to display a tooltip showing what the event is, and you can click on a marker to see that text in full. For example:



1.2 Floating P/L, account information, and color-coding

The box at the top of the map shows the current floating P/L on your account (if any). In the example above, the floating P/L is a loss of TODO.

The map is color-coded depending on the floating P/L: green for profit; red for loss; gray if no open position.

You can get a summary of your account by clicking on the P/L box. For example:



1.3 Session bars

If you hover the mouse over a session bar such as "Sydney", you will see a tooltip showing the current local time in Sydney and how long it is until core trading opens or closes in that region.

You can also click on a session bar to show a summary of price action for major symbols during that session.

The following example shows the most recent trading in Tokyo. EURUSD fell 5.5 pips during the session, with a trading range of 26.2 pips, closing at 1.3688.



Please note: the prices used in the Session Map are an average of multiple brokers and may differ very slightly from the prices displayed by your broker.

[10] STEALTH ORDERS

[10] 1. Overview

Stealth Orders hide your entry and exit levels from the market. Instead of placing pending orders, the app buys or sells at the current market price when an entry level is reached. There is no pending order in the market which other participants can see. Similarly, you can have a stealth stop-loss or take-profit which sends a close instruction when an exit level is hit.

You can use the app to do four things, including closing multiple trades if their combined profit reaches a threshold:

- <u>Stealth entries</u>: the equivalent of limit and stop orders. You can also create one-cancels-all (OCA) groups of orders where the remaining orders are removed when the first one is filled.
- Stealth exits: the equivalent of a take-profit or stop-loss on a single trade. Exit points can be specified in cash terms (e.g. "take-profit at USD +50") instead of prices.
- Symbol exits: these close all the positions and orders for a symbol if a price is hit, or if the combined profit of the positions reaches a threshold. You can also use filtering, e.g. "only long EUR/USD orders, and only if their comment includes the text Breakout".
- Account exits: these close all positions and orders on the entire account when a threshold is hit.

1.1 Disadvantages of stealth orders

You should be aware of **two disadvantages** of using stealth entries and exits compared to a normal pending order, or a stop-loss or take-profit:

- You will tend to get more slippage with stealth orders (though this can be positive as well as negative).
- Stealth orders are only processed if the app is running and connected to your broker. A normal pending order, or stop-loss or take-profit, will be processed even if your trading software is not running or your internet connection goes down.

For protection, you can use your trading platform to set a "real" stop-loss or take-profit on positions, in addition to using stealth orders. For example, if you are long EUR/USD and the current price is 1.2345, you can set a real stop-loss in the market at 1.2300 using your trading platform and also a stealth stop-loss at 1.2310 using the app. Your position will be closed at 1.2310 (plus or minus slippage) provided that the app remains running. If there is any sort of problem with the connection to your broker, the real stop-loss at 1.2300 should be activated instead, by the broker/exchange.

[10] 2. Stealth entries

Stealth entries are the equivalent of limit and stop entry orders. Instead of placing e.g. a buy-limit into the market at 1.2345, the app waits for the price to hit 1.2345 and then places a buy order.

2.1 Creating and editing stealth entries

You create new entries on the "Entries" tab, using the "New stealth entry" button. You can edit an existing item by clicking on its title.

2.2 Basic stealth entry details

In order to create a stealth entry, you need to enter four pieces of information:

- The symbol (e.g. EUR/USD)
- The trade size
- The order type (e.g. buy-limit, sell-limit)
- The entry price, as a fixed amount or as an offset from the current price.

If you ask for an entry price which is already valid, e.g. a buy-limit at 1.3400 when the current price is below that, the software will warn you before creating an entry which is then processed immediately.

2.2.1 Immediate buy and sell orders

As well as creating stealth buy-limits, sell-stops etc you can also choose to create buy and sell orders which are placed immediately into the market without waiting for a trigger level to be hit.

In combination with the <u>stop-loss and take-profit settings</u>, this lets you create a new open trade with a <u>stealth exit</u> attached to it. Once your immediate buy or sell order has been placed, the app creates a stealth exit for the new ticket using the stop-loss and take-profit details.

2.3 Stop-loss and take-profit

You can set a stop-loss and/or a take-profit for each stealth entry, either as a fixed price, or as a distance from the opening price, or as a cash amount (e.g. stop-loss at USD -50 and take-profit at USD +50).

When an entry is filled, these details are then used to create a <u>stealth exit</u> for the open trade.

2.4 Maximum spread

You can set a maximum spread at the time an entry is hit. If the spread is higher than the threshold when your entry price is reached, then the stealth entry is removed and not traded. For example, if you set the maximum spread to 3 pips, and the spread when your entry price is reached is 3.5 pips, then the stealth entry will be removed without trading.

2.5 Order comment and "magic number"

You can use the settings for the stealth entry to set the textual order comment which appears in your trading platform. You can also set the "magic number" for the order (similar to the comment, but numeric rather than textual).

2.6 OCA group

You can combine stealth entries into one-cancels-all (OCA) groups where remaining entries in the same group are removed once the first one has been triggered.

For example, you want to trade the break-out of yesterday's range (e.g. 1.2345 to 1.2375), going long or short when the high or low is broken, but *not* then placing the opposite order from the low or high if the price re-traces again. You create two stealth entries: a buy-stop (at 1.2375) and a sell-stop (at 1.2345), and you assign them to the same OCA group, e.g. "Breakout". When one of the prices is hit, the other stealth entry will be removed.

[10] 3. Stealth exits

Stealth exits are the equivalent of stop-losses and take-profits (s/l and t/p). They close individual open trades when a price is hit, or when the trade's net profit reaches a threshold (e.g. USD 50 profit or USD 100 loss).

3.1 Creating stealth exits

You create new stealth exits on the "Exits" tab, using the "New stealth exit" button. You can edit an existing item by clicking on its title.

If you set a stop-loss or a take-profit on a <u>stealth entry</u>, then this automatically creates a stealth exit for the ticket when the entry price is hit and an order is placed.

You can only create a new stealth exit if there is an open position on your account. If you want to open a *new* trade in the market, and then apply a stealth exit to it, you can create an <u>immediate buy or sell order</u> using the Entries tab and use the <u>stop-loss and take-profit</u> to create a stealth exit for the new trade.

3.2 Stealth exit details

In order to create a stealth exit you need to enter the following information:

- The open trade to apply the exit to.
- The amount of the position to close.
- Either a stop-loss level or a take-profit level, or both.

3.3 Volume to close

A stealth exit can do three things:

- Close the entire open trade
- Close a specific amount (e.g. 0.20 lots / 20K)
- Close a percentage of the open trade, e.g. 50%

If you choose a specific volume (e.g. 0.30 lots) and this is larger than the size of the trade when the closure rules are hit (e.g. 0.20 lots) then the app simply ignores the excess and closes the open trade (0.20 lots). It does not place a new order for the difference (e.g. 0.10 lots).

Percentages are always rounded up to the nearest permitted trade size. For example:

- You have an open trade for 0.50 lots
- You have specified that the stealth exit should close 75% of the trade

- The broker's minimum trade size and increment is 0.10 lots
- The app will close 0.40 lots out of 0.50 (leaving 0.10). 75% of 0.50 is 0.375, which is rounded up to the next multiple of the permitted 0.10 trade size.

3.4 Stop-loss and take-profit

A stop-loss or take-profit can be specified in three ways:

- As a fixed price, e.g. 1.2345
- As a number of pips from the current market price (not the open price of the trade)
- As a cash amount. The trade is closed if its net profit hits this threshold.

In addition, a stop-loss (but not a take-profit) can be set as a trailing stop, in pips.

3.4.1 Trailing stops

Different people have varying definitions of a trailing stop. The app's trailing stops work as follows:

- The current price is e.g. 1.2345 (on a buy trade) and you define a trailing stop of e.g. 20 pips.
- The app sets the stop-loss to 1.2325: 20 pips from 1.2345.
- If the price falls, the stop-loss does not move.
- If the price rises, e.g. to 1.2350, then the stop-loss moves upwards, e.g. to 1.2330.
- Therefore, the trade is closed 20 pips below its highest price (unless a separate take-profit is hit).

If you change the amount of a trailing stop, e.g. from 20 pips to 10 pips, then its history is reset, and the stop-loss will be moved to 10 pips from the current price.

3.5 Multiple exits for the same trade

You can create multiple exits for the same open trade, e.g. closing 50% at one level and the remainder at a further level. For example, you could close 50% of a trade at a profit of USD 50, and then have another stealth exit rule which closes the remainder when the trade reaches a profit of USD 100.

Please note that <u>close percentages</u> apply to the trade volume when the rule is triggered, not to the original trading volume. If you have two rules for the same trade which each close 50%, then this will leave 25% of the original trade still open. The first rule will close 50% of the original trade (e.g. 0.20 lots out of 0.40 lots), and the second rule will then close 50% of the remaining trade size (e.g. 0.10 lots out of 0.20 lots).

3.6 Trades which are manually closed outside the app

If you close an open trade in your trading platform, outside of the app, then the app will say that it is unable to find the ticket for the exit rule. The exit rule will be automatically removed after 60 seconds. (The delay is in order to handle partial closes where an original ticket number is changed by the broker to a new ticket number.)

[10] 4. Symbol exits

Symbol exits close all the open trades for a single symbol, e.g. EUR/USD, when a price target is hit, or when the combined net profit on all the open trades for the symbol reaches a trigger value.

You can also set up <u>filtering</u>, so that the symbol exit only acts on some of the orders for the symbol. For example, you can create a symbol exit which only looks at EUR/USD buy orders which have the comment "Breakout".

4.1 Creating symbol exits

You create new symbol exits on the "Symbols" tab, using the "New symbol exit" button. You can edit an existing item by clicking on its title.

4.2 Choosing a symbol

You can either choose an individual symbol such as EUR/USD, or you can select "All symbols". The latter is intended for use with <u>filtering</u>, and lets you create an exit which, for example, acts on all orders for *all* symbols which have the comment "Breakout".

4.3 Exit threshold: price or profit

A symbol exit can either close its trades when the price reaches trigger points (ask at x or bid at y) or it can look at the combined net profit of the open trades, e.g. closing them if they are USD 50 in loss or USD 100 in profit.

You must always specify both an upper and a lower limit. If you only want to use one of these, simply set the other limit to a value which will never be hit (e.g. if you only want to use the lower limit, then set the upper limit to a profit of USD 999999 or a price of 999999).

If you <u>select "All symbols"</u>, you can only use a profit trigger because there is no applicable price.

4.4 Amount to close

You can choose what percentage of each open trade to close. Each ticket is processed separately, and amounts are rounded *up* to the nearest permitted trade size. For example:

- You have 4 separate open trades in EUR/USD, each of 0.10 lots.
- Your broker's minimum trade size/increment is 0.10 lots.
- You ask to close 75% of each ticket.
- The app will completely close all 4 trades. It will close 75% of each individual ticket, which is rounded up from 0.075 lots to the minimum of 0.10.

• The app will *not* close 75% of the total overall position, i.e. closing three of the positions and leaving you with one of the trades (0.10 lots out of the original 0.40 lots, i.e. 75%).

4.5 Closing pending orders

You can choose whether the symbol exit also deletes pending orders. If turned on, this will remove any pending orders in your trading platform, and also any stealth entries.

The <u>close amount</u> is not applied to pending orders. They are always removed in full.

4.6 Filtering

You can set up filtering so that the symbol exit only looks at, and acts on, trades which match certain criteria. For example, you can restrict the symbol exit so that it only closes EUR/USD buy orders, not sell orders, or only EUR/USD buy orders which have the comment "Breakout".

You can also use the <u>"All symbols" option</u> to create a symbol exit which acts on multiple symbols: for example, something which closes all trades with the comment "Breakout", on all symbols, when their combined profit hits a trigger.

You can filter on three things, and these conditions are combined. For example, if you select buy orders and the comment "Breakout", it means "buy orders which also have the comment", not "buy orders *or* orders with the comment".

- Trade direction
- Order comment
- Order "magic number"

4.6.1 Trade direction

You can choose whether a symbol exit acts on all orders, or only buys or only sells.

4.6.2 Order comment

You can select orders whose textual comment contains specific text. For example, if you enter the value "Breakout", then the symbol exit will act on orders whose comment **contains** the text "Breakout". For example: "Breakout", "Breakout123", "Bar Breakout" etc. The comparison is not case-sensitive; it will also match against "Bar breakout" etc.

You can specify multiple comments separated by commas: for example, "Breakout, Pivot". This will match against any orders whose comment contains "Breakout" **or** "Pivot".

4.6.3 Order magic number

You can also select orders whose numeric "magic number" matches a specific value. For example, if you enter the value 12345, then the symbol exit will act on orders whose magic number is 12345.

You can specify multiple numbers separated by commas: for example, "12345,98765,22222". This will match against any orders whose magic number is 12345 or 98765 or 22222.

4.7 Repeats

You can choose that a symbol exit is not removed after it has been triggered, and is instead kept on the list and keeps acting whenever its trigger is hit. For example:

- You are running an automated trading system on your account which is continually placing orders.
- In addition to the trading system's own rules, you want to close its positions if it goes USD 200 into loss or USD 300 into profit.
- And you want to *keep closing* the positions: the automated system keeps on trading, but you *repeatedly* want to shut down its positions if the profit limits are hit.

[10] 5. Account exits

Account exits close all the open trades on your account (plus, optionally, pending and stealth orders) when a threshold is reached on the account: e.g. floating P/L in loss of more than USD 500, margin usage greater than USD 1000 etc.

5.1 Creating account exits

You create new account exits on the "Account" tab, using the "New account exit" button. You can edit an existing item by clicking on its title.

5.2 Account metric

You can use an account exit to monitor any of the following:

- Floating P/L
- Equity
- Free margin
- Used margin

5.3 Upper and lower limits

Equity and floating P/L exits require both an upper and a lower limit. If you only want to use one of the values, you simply set the other to an amount which will never be reached. For example, if you want to close all your trades when equity falls below USD 2000, and you have no profit target, you can simply set the upper limit to a large value such as 999999.

5.4 Closing pending orders

You can choose whether an account exit closes pending orders as well as open trades. If you select this option, the app will close all pending orders in your trading platform and also remove any <u>stealth entries</u>.

[10] 6. Log

The Log tab shows the activity of the Stealth Orders. It records all actions since the app most recently started, plus any activity from previous sessions which happened within the last 2 days.

You can download the log, as a TSV file which you can open in Excel or similar software, using the "Download" button at the bottom of the list.

[11] TICK CHART TRADER

[11] 1. Overview

The Tick Chart Trader shows tick charts in a <u>variety of styles</u>, and allows <u>quick trading</u> using either keyboard or mouse.

The tick charts are compiled from the time that the app starts running. It does not provide access to historic tick data.

The app provides five styles of chart:

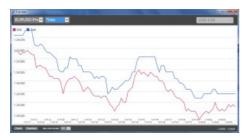
- <u>Tick charts</u>
- <u>Tick speed</u>
- <u>Timed charts</u>
- <u>Tick candles</u>
- "Versus" charts

The app also provides extra-fast position entry and exit, on a FIFO basis, using either the keyboard or mouse.

[11] 2. Charts

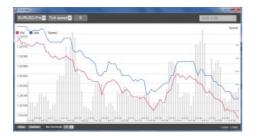
2.1 Tick charts

Tick charts show each change in the bid or ask price; the chart updates whenever either price changes. The amount of time between each point on the chart can vary depending on how active the market is.



2.2 Tick speed

The tick-speed chart shows each tick, plus grey bars indicating the time between tick. The time is a rolling average, calculated over the number of ticks specified by the numeric field in the toolbar – for example, the average speed of the last 5 ticks. The smaller the grey bars, the faster that ticks are appearing.



2.3 Timed charts

Timed charts show each individual tick, but the x-axis of the chart is divided into equal amounts of time. Therefore, the chart can show bursts of activity interspersed with periods where the lines are flat because no new ticks occur.



(This chart covers the same period as the tick chart example above.)

2.4 Tick candles

The candle chart shows traditional candles – with an open, high, low, and close – but based on a number of ticks rather than a duration of time. For example, if the period for the chart is set to 5 ticks, then each candle could represent anything from one second if the market is active (i.e. all 5 ticks happen within a single second) through to as much as a minute if the market is quiet (i.e. it takes a 60 seconds for 5 different ticks to happen).

Candle charts are based on the mid price of each tick (i.e. the average of the bid and ask).



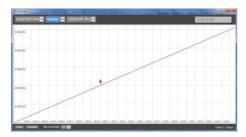
2.5 Versus charts

"Versus" charts show the activity on one symbol versus another, plotted against each other. The chart shows the current mid prices, and per-second historic snapshots.

A chart of two different symbols plotted against each other shows the correlation in their movements. In the following example there is quite strong negative correlation between the two symbols:



A chart of a symbol against itself is more useful than may immediately appear: it shows the current price in relation to the high-low range of the period covered by the chart.



[11] 3. Trading

All trading through the Tick Chart Trader app is on a FIFO basis. For example, if you place a buy order and then a sell order, then the sell closes the previous buy even if you are using a trading platform such as MT4 which allows "hedged" orders. The trading functionality in the Tick Chart Trader app is designed for people who want quick entry and exit from a single position in each symbol.

3.1 Placing orders with the mouse

You can place buy and sell orders by clicking on the bid and ask prices in the bottom-right of the app. This displays a pop-up panel with buy or sell pre-selected depending on whether you clicked on the ask price or bid price. The trade size from the field in the footer is copied into the pop-up panel.

You can close an open position by clicking on the position/profit marker in the top-right of the app. This pre-fills the dealing panel with an order which closes your position. For example, if you are long 0.30 lots, then the panel will be pre-filled with a sell order for 0.30.

However, you can change the contents of the dealing panel before placing the order. For example, you can click on the bid price, pre-filling the dealing panel with a sell order, but then change that to a buy order before placing the trade.

You can close the panel without placing a trade by clicking anywhere outside it.

3.2 Placing orders with the keyboard

You can trade with the keyboard using the B, S, and C keys.

B has the same effect as clicking on the ask price: it pre-fills the dealing panel for a buy order. S is equivalent to clicking on the bid price; it pre-fills the panel for a sell order. C has the same effect as clicking on the position/profit marker.

After pressing one of these keys you can then either amend the order details, or simply press the spacebar rather than having to click on the "Place order" button. (You can move from the "Place order" button to the volume field using the standard keyboard shortcut Shift+Tab.)

You can close the panel without placing a trade by pressing the Esc key.

3.3 Placing quick orders using the Ctrl key

For extra-fast order entry, you can use the Ctrl key. You need to turn this option by using any of the above facilities for opening the dealing panel. (You do not need to place a trade; you can turn on the Ctrl option and then cancel the dealing panel.)

Using the Ctrl key is then equivalent to opening the trading panel (using either <u>mouse</u> or <u>keyboard</u>) and then clicking on the "Place order" button without changing the pre-filled settings.

In other words:

- Ctrl+C, or holding down Ctrl while clicking on the position/profit marker, closes your current open position.
- Ctrl+B, or holding down Ctrl while clicking on the ask price, places a new buy order using the trade size shown in the footer.
- Ctrl+S, or holding down Ctrl while clicking on the bid price, places a new sell order using the trade size shown in the footer.

[11] 4. Options and settings

You can change options and settings for the app using the controls in the bottom-left corner of its window.

4.1 History length

The history-length setting does two things:

- It controls how many ticks are displayed on the chart (number of seconds rather than ticks in the case of "versus" charts).
- It controls how much tick history is recorded for symbols which are not currently being displayed.

For example, if the history-length is set to 100 and you are currently looking at EUR/USD, then the software will only show the most recent 100 ticks but it will be recording an unlimited number of ticks for EUR/USD. You can change the value from 100 to e.g. 200 in order to see more of the EUR/USD history (provided that 200 ticks have been received). However, the software will have only stored the most recent 100 ticks for any other symbol which is not being displayed, such as GBP/USD, and after changing the setting the software will only record a maximum of 200 ticks for these symbols.

4.2 Pause chart

The Pause button suspends drawing of the chart. The software continues to collect ticks, and it updates the current price and the position/profit marker.

4.3 Download

The Download button downloads the entire available tick history for the selected symbol as a TSV file, showing the date, bid price, and ask price.

-FXC2SS



Indicators

TABLE OF CONTENTS	. 110-115
[1] Bar Changer indicator	116-120
[1] 1. Overview	116
[1] 2. Using the Bar Changer indicator	117
2.1 Adding the indicator to a chart	117
2.2 Choosing a period for the offline chart	
2.3 Modifying prices	
2.4 Daily time ranges 2.5 Adjusting bar times	
2.6 Running EAs and indicator on the offline chart	
[2] CANDLE COUNTDOWN INDICATOR	121-122
[2] 1. Overview	
[2] 2. Using the Candle Countdown indicator	
2.1 Adding the indicator to a chart	122
2.2 Timeframe	122
2.3 Local clock	
2.4 Label font and position	
[3] CHART GROUP INDICATOR	123-127
[3] 1. Overview	
[3] 2. Using the Chart Group indicator	
2.1 Adding the indicator to a chart	124
2.2 Choosing whether to link the timeframe or the symbol	124
2.3 Assigning charts to groups	
2.3.1 Red, green, and blue chart groups	
2.4 Changing the symbol of an open chart	126
[4] CHART GROUP INDICATOR	127-129
[4] 1. Overview	127
[4] 2. Using the Chart-in-Chart indicator	128
2.1 Adding the indicator to a chart	128

INDICATORS www.lronFX.com

	2.2 Choosing the symbol	128
	2.3 Inverting prices	128
	2.4 Drawing style and colours	128
	2.5 Current price	129
	2.6 Trade levels	129
	2.7 Technical indicators	129
[5]	DONCHIAN INDICATOR	131-133
[5] 1	1. Overview	131
[5] 2	2. Using the Donchian indicator	132
	2.1 Adding the indicator to a chart	132
	2.2 Timeframe	132
	2.3 Bars and shift	132
	2.4 Type of calculation	132
	2.5 Expanding the range	132
	2.6 Colours	133
	2.7 Alerts	133
[6]	FREEHAND DRAWING INDICATOR	134-136
 [6] 1	1. Overview	134
[6] 2	2. Using the Freehand Drawing indicator	135
	2.1 Adding the indicator to a chart	135
	2.2 Drawing on the chart	135
	2.3 Changing colours	135
	2.4 Undoing the most recent drawing	136
	2.5 Line width and other indicator options	136
[7]	GRAVITY INDICATOR	137-138
- [7] 1	1. Overview	137
[7] 2	2. Using the Gravity indicator	138
	2.1 Adding the indicator to a chart	138
	2.2 Choosing the colours	
	2.3 Time period	
	2.4 Start data	420

INDICATORS www.lronFX.com

[8]	HIGH-LOW INDICATOR	140-142
[8] 1.	Overview	140
[8] 2.	Using the High-Low indicator	141
	2.1 Adding the indicator to a chart	141
	2.2 Timeframe and number of bars	141
	2.3 Daily time range	141
	2.4 High and low lines, and widening	
	2.5 Open and close lines	
	2.6 Labels	
	2.7 Alerts	142
[9]	KELTNER INDICATOR	143-144
[9] 1.	Overview	143
[91 2 .	Using the Keltner indicator	144
	2.1 Adding the indicator to a chart	
	2.2 Choosing the settings for the indicator calculation	
	2.3 Colours and line styles	
	2.4 Alerts	
[10]	LINEAR REGRESSION INDICATOR	145-147
	1. Overview	
[10] 2	2. Using the Linear Regression indicator	146
	2.1 Adding the indicator to a chart	146
	2.2 Choosing the number of bars, and the shift	
	2.2.1 Extending the line to the current bar	
	2.3 Price type	146
	2.4 Timeframe	146
	2.4.1 Interpolation on higher timeframes	146
	2.5 Colours and line styles	147
[11]	MAGNIFIER INDICATOR	148-151
	.Overview	
	2. Using the Magnifier indicator	
- -	2.1 Adding the indicator to a chart	
	2.2 Choosing the timeframe	
	2.3 Drawing style and colours	

	2.4 Grid settings	150
	2.4.1 Horizontal grid	150
	2.4.2 Vertical grid	150
	2.5 Initial size and position	
	2.6 Number of bars visible in the Magnifier	150
[12]	MINI CHART INDICATOR	151-158
[12] 1.	Overview	151
[12] 2.	Using the Mini Chart indicator	152
	2.1 Adding the indicator to a chart	152
	2.2 Choosing the symbol	152
	2.2.1 Inverting prices	152
	2.3 Chart timeframe / type	152
	2.3.1 Seconds charts	153
	2.3.2 Tick charts	153
	2.3.3 Tick lines	153
	2.3.4 Renko, Range, Kagi, and Point & Figure charts	153
	2.4 Data transformations	154
	2.5 Drawing style and colours	
	2.6 Minimum, maximum, and grid	
	2.6.1 Maximum and minimum	
	2.6.2 Horizontal grid	155
	2.6.3 Vertical grid	
	2.7 Size and position	
	2.8 Indicators	
	2.8.1 Moving averages (SMA, EMA, SMMA, LWMA)	
	2.8.2 Bollinger® bands	
	2.8.3 Envelopes (SMA and EMA)	
	2.8.4 D1 high and low	
	2.8.5 H1 high and low	
	2.8.6 Linear regression	
	2.8.7 Fixed price	
	2.8.8 Current bid price	158
[13]	ORDER HISTORY INDICATOR	159-162
[13] 1.	Overview	159
[13] 2.	Using the Order History indicator	160
	2.1 Adding the indicator to a chart	160

INDICATORS www.lronFX.com

	2.2 Open trades	160
	2.3 Entry and exit markers	160
	2.4 Stop-loss and take-profit	160
	2.5 Trade description	160
	2.6 Activity bands	161
	2.7 Filtering	161
[14]	PIVOT INDICATOR	163-165
[14] 1	. Overview	163
[14] 2	2. Using the Pivot indicator	164
	2.1 Adding the indicator to a chart	
	2.2 Timeframe	
	2.3 Pivot calculation	
	2.4 Drawing options	
	2.5 Alerts	165
[15]	RENKO BAR INDICATOR	166-173
	l. Overview	
[15] 2	2. Using the Renko indicator	167
	2.1 Adding the indicator to a chart	167
	2.2 Notes	
	2.2.1 M1 data	167
	2.2.2 Multiple Renko blocks per chart candle	
	2.3 Indicator settings	
	2.3.1 Renko block size	
	2.3.2 Colours	168
	2.3.3 Continuous	168
	2.3.4 Lines	169
	2.3.5 On top of chart	169
	2.3.6 Alerts	169
	2.3.7 Rounding the starting price	169
	2.3.8 Maximum number of blocks	169
	2.3.9 Base period for Renko data	169
	2.4 Offline charts	170
	2.4.1 Identifier for the offline chart	170
	2.4.2 Continuous updates of the offline chart	171
	2.4.3 Missing blocks in the offline chart	171
	2.4.4 Renko tails	172

INDICATORS www.lronFX.com

2.4.5 Deleting old offline charts	1/2
2.5 TSV/CSV log file	172
2.6 Setting the start time for the Renko blocks	173
2.7 Warning: using Renko data in MT4 backtesting	173
[16] SYMBOL INFO INDICATOR	65-69
[16] 1. Overview	174
[16] 2. Using the Symbol Info indicator	175
2.1 Adding the indicator to a chart	175
2.2 Choosing the symbol	175
2.3 % change	175
2.3.1 Change in pips	175
2.4 High-low range	176
2.5 Colours	176
2.6 Position and docking	176
[16] 3. Indicator up/down signals	177
3.1 Price change	177
3.2 SMA (simple moving average)	177
3.3 EMA (exponential moving average)	177
3.4 RSI (Relative Strength Index)	177
3.5 MACD (Moving average convergence/divergence)	177
3.6 Awesome Oscillator	178
3.7 Parabolic SAR	178
3.8 CCI (Commodity Channel Index)	178
3.9 DeMarker	178
3.10 Bollinger® Bands	178

[1] Bar Changer indicator

[1] 1. Overview

The Bar Changer indicator creates an offline chart in MT4 containing a modified version of the chart on which the indicator is running. The Bar Changer can make the following modifications to the bar data:

- Adjust the time of each bar (e.g. shift each bar backwards by 2 hours)
- Invert the price, or adjust it to thousands (e.g. converting 1.23456 to 12345.6)
- Exclude parts of each day, e.g. only include 09:00-16:59.

The facility to set daily time ranges is mainly intended for filtering the chart activity on index CFDs which have 24-hour pricing but are only actively traded during core market hours.

Most indicators and EAs can then <u>be used on the offline chart</u> just like a normal MT4 chart.

[1] 2. Using the Bar Changer indicator

2.1 Adding the indicator to a chart

You add the Bar Changer indicator to a chart in the usual MT4 way, either by dragging it from the Navigator onto a chart, or by double-clicking on it in the Navigator. You can also use standard MT4 features such as adding the indicator to your list of Favorites, or assigning a Hotkey to it.

You need to turn on the "Allow DLL imports" setting in the "Common" tab of the indicator's options:



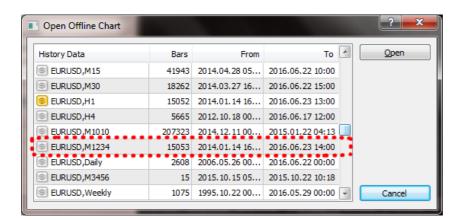
2.2 Choosing a period for the offline chart

You need to choose a timeframe to identify the offline chart, using the setting on the indicator's Inputs tab. If you set the value to zero then the indicator will automatically select a number based on the chart on which it is running.

The entries which the indicator creates in the MT4 Experts log will confirm which number it is using:



You can then open the offline chart by using File / Open Offline, and choosing the entry corresponding to the symbol name and your specified timeframe value:



2.3 Modifying prices

You can modify the prices in the offline chart in one of two ways, using the setting on the indicator's Inputs tab:

- Invert the price (e.g. in effect, turning EUR/USD into USD/EUR)
- Convert the price to thousands, e.g. converting 1.23456 to 12345.6

2.4 Daily time ranges

You can set daily time ranges using the Inputs tab. Any price data outside of these ranges is then excluded from the offline chart. This is mainly intended as a way of filtering the bars on index CFDs which have 24-hour pricing but are only actively traded during core market hours.

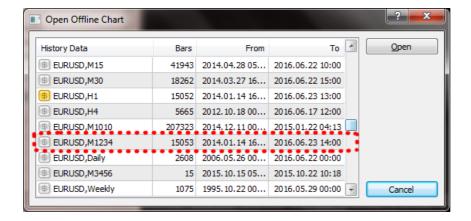
You specify time ranges in MT4/broker time (not your local time), and in the format hh:mm-hh:mm. For example: 09:00-14:59. To handle daily trading hours which span midnight, you can specify multiple ranges separated by commas. For example:

22:00-23:59,00:00-02:59

Please note that end times should (normally) be specified as xx:59 rather than xx:00. For example, the range 00:00-05:00 would include the 1 minute of price data starting at 5am

2.5 Adjusting bar times

You can use the Inputs tab to adjust the time of each bar, adding or subtracting a number of minutes to the standard MT4/broker time.



2.3 Modifying prices

You can modify the prices in the offline chart in one of two ways, using the setting on the indicator's Inputs tab:

- Invert the price (e.g. in effect, turning EUR/USD into USD/EUR)
- Convert the price to thousands, e.g. converting 1.23456 to 12345.6

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22:00-23:59,00:00-02:59

Please note that end times should (normally) be specified as xx:59 rather than xx:00. For example, the range 00:00-05:00 would include the 1 minute of price data starting at 5am

2.5 Adjusting bar times

You can use the Inputs tab to adjust the time of each bar, adding or subtracting a number of minutes to the standard MT4/broker time.

Please note that this applies a constant adjustment throughout the trading history. The difference between your local time and MT4 time may vary over the year because of daylight-savings changes happening on different dates.

2.6 Running EAs and indicator on the offline chart

Most EAs and indicators can be used on the offline chart just like you would use them on a normal MT4 chart.

The only exceptions are EAs/indicators which need to look at specific timeframe data rather than the chart on which they are running (e.g. "multi-timeframe" MTF indicators). If you configure such an indicator to look e.g. at H1 data, then it may look at the normal H1 data in MT4 rather than your offline chart even if the offline chart has been based on H1 data.

[2] CANDLE COUNTDOWN INDICATOR

[2] 1. Overview

The Candle Countdown indicator shows the time remaining in the current bar.



By default, it will use the timeframe of the chart on which it is running. However, you can use the Input settings for the indicator to display the time remaining on a different timeframe. You can also add multiple copies of the indicator to show the time remaining in different bar timeframes.



You can also configure the indicator to alert you when a bar is about to end.

[2] 2. Using the Candle Countdown indicator

2.1 Adding the indicator to a chart

You add the Candle Countdown indicator to a chart in the usual MT4 way, either by dragging it from the Navigator onto a chart, or by double-clicking on it in the Navigator. You can also use standard MT4 features such as adding the indicator to your list of Favorites, or assigning a Hotkey to it.

The indicator can be configured in a number of ways using the settings on its Inputs tab, as described below.

2.2 Timeframe

You can set the timeframe for the countdown: either whatever is the period of the current chart, or a fixed period.

2.3 Local clock

By default, the indicator will use your computer's local clock, and will continue to count down even when the market is quiet and there are no new ticks from the broker. If you turn off this setting then the countdown will only update when there are new ticks.

2.4 Label font and position

You can set the label position (e.g. bottom-right of chart, top-left of chart), the font, and the colour. If you are putting multiple copies of the indicator on a single chart then you will need to alter the X and/or Y positions so that the labels do not overlap.

You can also set the text of the label, using the variable {TIME} which the indicator replaces with the time remaining. Again, if you are using multiple copies of the indicator on the same chart then you will typically want to change the labels to remind you which timeframe each copy refers to.

2.5 Alerts

You can configure the indicator to give you an alert N seconds before a bar ends. The alerts can be issued as pop-up messages and/or as sounds. To turn off either the pop-up message or the sound, simply leave the value blank.

[3] CHART GROUP INDICATOR

[3] 1. Overview

The Chart Group indicator introduces a feature of professional trading platforms to MT4: linking charts so that <u>changing the symbol</u> on one chart automatically changes other linked charts.

For example: you have three open EURUSD charts, for M15, M30 and H1. You use the indicator to link the charts together. Changing one of the charts to a new symbol such as GBPUSD then automatically updates all the other charts to GBPUSD. In other words, the indicator provides a quick way of switching multiple charts between different symbols without having to use MT4 profiles and setting up a different profile for each symbol.

In the following example there are three pairs of linked charts (marked in green, red, and blue). Updating the symbol on any chart automatically updates its partner.



You can also use the indicator to synchronize timeframes instead of symbols. For example, you have open charts for EURUSD, GBPUSD, and USDJPY. Changing the timeframe on one of the charts then automatically changes the timeframe on the other two charts.

[3] 2. Using the Chart Group indicator

2.1 Adding the indicator to a chart

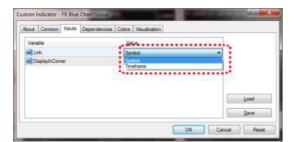
You add the Chart Group indicator to a chart in the usual MT4 way, either by dragging it from the Navigator onto a chart, or by double-clicking on it in the Navigator. You can also use standard MT4 features such as adding the indicator to your list of Favorites, or assigning a Hotkey to it.

You need to turn on the "Allow DLL imports" setting in the "Common" tab of the indicator's options:



2.2 Choosing whether to link the timeframe or the symbol

By default the Chart Group indicator will synchronize the symbol on all linked charts. You can tell it instead to synchronize the timeframe using the option on the "Inputs" tab of the indicator settings:



2.3 Assigning charts to groups

The indicator creates a text box, in the bottom-right corner of a chart by default. You link charts together by giving them the same group name. In the following example the chart has been assigned to a group called "SCALP", and it will then change – or be changed by – any other charts which are also assigned to that group.



You can have any number of charts, either all assigned to the same group or to different groups. In the <u>example at the start of this document</u> there are three different groups, each containing two charts.

2.3.1 Red, green, and blue chart groups

The group text box normally turns yellow when active (as in the <u>example above</u>). However, to make it easier to identify which charts are linked together, if you use the group names R, G, or B, then the group box is set to red, green, or blue.

If you have more than one group of charts, it is then easier to see that the red charts are linked to each other and, separately, that the blue charts are linked to each other, rather than just having to read the group names in the text boxes.



For an even wider range of colours, you can use the group names 1 to 6:

- 1 = Red
- 2 = Blue
- 3 = Green
- 4 = Purple
- 5 = Black
- 6 = Grey

2.4 Changing the symbol of an open chart

All MT4 users know how to change the timeframe of a chart. It is less obvious that you can also change the symbol of a chart (e.g. change an existing chart from EURUSD to GBPUSD, rather than closing the EURUSD chart and opening a new GBPUSD chart).

In case you were not already aware of this... you can change the symbol of a chart by dragging a symbol from the MT4 market watch onto the chart (in the same sort of way that you add an indicator to a chart by dragging the indicator from the Navigator onto the chart).

[4] CHART GROUP INDICATOR

[4] 1. Overview

The Chart-in-Chart indicator shows the price action for an additional symbol in a subwindow on the main chart, allowing bar-by-bar comparisons of price action on the main chart symbol against the subsidiary symbol.

You can add multiple copies of the indicator to a chart in order to show multiple extra symbols. In the following example the main EURUSD chart has sub-windows showing GBPUSD, AUDUSD, and JPYUSD:



You can choose to <u>invert prices</u>, e.g. so that USDJPY is shown as JPYUSD (as in the above example).

Although the sub-window cannot provide the full functionality of a main MT4 chart, you can <u>add popular technical indicators</u> such as moving averages and envelopes to the display, and you can choose to display the levels of open positions and pending orders.

[4] 2. Using the Chart-in-Chart indicator

2.1 Adding the indicator to a chart

You add the Chart-in-Chart indicator to a chart in the usual MT4 way, either by dragging it from the Navigator onto a chart, or by double-clicking on it in the Navigator. You can also use standard MT4 features such as adding the indicator to your list of Favorites, or assigning a Hotkey to it.

You need to turn on the "Allow DLL imports" setting in the "Common" tab of the indicator's options:



2.2 Choosing the symbol

You set the symbol to display using the Symbol parameter in the Inputs tab.

The symbol must be present in the MT4 market watch, and you should include any suffix which your account has for symbol names, e.g. EURUSD+

To display more than one symbol, you simply add multiple copies of the indicator to the chart.

2.3 Inverting prices

You can invert prices by turning on the option on the Inputs tab. For example, this will convert USDJPY into JPYUSD.

2.4 Drawing style and colours

You can use the Inputs tab to choose between different drawing styles:

- Price candles
- Line showing close price only
- Lines showing high and low prices

You can set the colour of the candle "wick", or of the close or high and low lines, using the first of the colour parameters. For candles, you can also set different colours for up ("bull") and down ("bear") bars.

Hovering the mouse over a candle, or over the close or high and low lines, displays a pop-up tooltip giving the price values at that point in time.

2.5 Current price

By default, the indicator will draw a horizontal line showing the current (bid) price. You can change the colour of this line using the setting on the Inputs tab. Changing the colour to "none" turns off the line.

2.6 Trade levels

You can turn on the display of trade levels:

- Entry price for open positions
- s/l and t/p of open positions
- Entry price for pending orders

Each of these settings has a different colour parameter on the Inputs tab. Choosing a colour other than "None" turns on the display of this information. Hovering the mouse over one of these lines will then show information about the open position or pending order.

(If you <u>invert prices</u>, then the display of trade levels is also inverted. For example, a USDJPY buy will be shown as a JPYUSD sell, and a buy-limit will be shown as a sell-stop.)

2.7 Technical indicators

The sub-window cannot provide the full functionality of a main MT4 chart – for example, you cannot drop an indicator from the Navigator onto the sub-window in order to add it to the price display for the extra symbol –but you can choose to include some popular technical indicators in the price display.

The Inputs tab contains 5 blocks of settings which you can use to define technical indicators. Each of these has a choice of indicator, a colour, a line-style, and parameters for the indicator.

The indicators which are available are as follows:

- SMA (simple moving average)
- EMA (exponential moving average)
- SMMA (smoothed moving average)
- LWMA (linear-weighted moving average)
- · Bollinger band
- Envelope based on SMA
- Envelope based on EMA
- Parabolic SAR
- Yesterday's daily (D1) close price
- Yesterday's daily (D1) high and low prices
- Fixed price (equivalent to drawing a manual horizontal line on the chart)

The meaning of the "parameter 1" and "parameter 2" settings depends on the type of indicator:

Technical indicator	Parameter 1	Parameter 2
SMA	Period for moving average	(not used)
EMA	Period for moving average	(not used)
SMMA	Period for moving average	(not used)
LWMA	Period for moving average	(not used)
Bollinger bands	Period for moving average	Number of deviations
Envelope (SMA or EMA)	Period for moving average	Deviation %
Parabolic SAR	Step value	Maximum value
D1 close	(not used)	(not used)
D1 high and low	(not used)	(not used)
Fixed price	Level for price line	(not used)

INDICATORS www.lronFX.com

[5] DONCHIAN INDICATOR

[5] 1. Overview

The Donchian indicator shows Donchian channels: the high and low of the previous N bars.

https://en.wikipedia.org/wiki/Donchian channel

In addition to the classic Donchian calculation, the indicator also has <u>three other options</u>: average (mean) of the highs/lows; mid-point of the highs/lows; and lowest-high rather than highest-high.

You can also choose to <u>expand</u> (or contract) the Donchian channel: by a fixed percentage, or a price amount, or a multiple of ATR or SD.

You can also turn on pop-up <u>alerts</u> when the current price breaches the high or low lines.

[5] 2. Using the Donchian indicator

2.1 Adding the indicator to a chart

You add the Donchian indicator to a chart in the usual MT4 way, either by dragging it from the Navigator onto a chart, or by double-clicking on it in the Navigator. You can also use standard MT4 features such as adding the indicator to your list of Favorites, or assigning a Hotkey to it.

2.2 Timeframe

By default the indicator will be based on the same timeframe as the current chart, and will change if you alter the chart's timeframe.

However, you can use the Inputs tab to make the indicator use a higher timeframe (but not a lower one). For example, you can show the D1 Donchian high and low on an H1 chart.

2.3 Bars and shift

You use the Inputs tab to tell the indicator how many bars to include, and how many bars to shift back by. The classic Donchian values are 20 and 1: use the last 20 bars up to but excluding the current bar. (If you set the shift to zero then the current bar's high and low are included in the calculation.)

2.4 Type of calculation

The classic Donchian calculation is to take the highest-high and lowest-low of the selected <u>range</u>.

However, the indicator also provides three other calculations:

- Average (mean) of the highs and lows
- Mid-point of the highs and lows, i.e. halfway point between highest-high and lowest-high, and between lowest-low and highest-low
- · Lowest-high and highest-low

2.5 Expanding the range

You can tell the indicator to expand its high-low range. You choose a mode on the Inputs tab, and an amount to expand by (which can be negative in order to contract the range rather than expanding it).

The expansion modes are as follows:

- Percentage. The high is increased by N% and low is decreased by N%.
 (Therefore, it you set the parameter to 10, the total high-low range is increased by 20%.)
- Price amount. You set the parameter to a value such as 0.0010, and this is added to the high and subtracted from the low.
- ATR multiple. The high is increased and the low is decreased by the specified multiple of the ATR for the period.
- Standard Deviation multiple. The high is increased and the low is decreased by the specified multiple of the SD for the period.

2.6 Colours

You set the colours and style for the Donchian lines in the usual way, using the Colors tab. However, you can also use the Inputs tab to tell the indicator to draw the Donchian channel as a filled histogram instead of as lines.

2.7 Alerts

You can turn on pop-up alerts when the current price goes beyond the high or low values. The indicator will only generate one alert per bar (treating the high and low independently). For example, if the high is breached, then the indicator will not issue another alert about a breach of the high before the start of the next bar.

[6] FREEHAND DRAWING INDICATOR

[6] 1. Overview

The Freehand Drawing indicator lets you draw onto MT4 charts, in order to mark or highlight events on the chart. It is particularly useful if you are running a live webinar for clients, or distributing screenshots or chart files to people.



You draw on the chart simply by holding down a key while you move the mouse. You can change colours using keyboard shortcuts, and you can quickly undo any drawing which went wrong.

[6] 2. Using the Freehand Drawing indicator

2.1 Adding the indicator to a chart

You add the Freehand Drawing indicator to a chart in the usual MT4 way, either by dragging it from the Navigator onto a chart, or by double-clicking on it in the Navigator. You can also use standard MT4 features such as adding the indicator to your list of Favorites, or assigning a Hotkey to it.

You need to turn on the "Allow DLL imports" setting in the "Common" tab of the indicator's options:



2.2 Drawing on the chart

You draw on the chart simply by holding down the D key while you move the mouse.

2.3 Changing colours

You can start drawing in a new colour using keyboard shortcuts. For example, after pressing the B key, all further drawing will be in blue.

The list of colours and their keys is as follows:

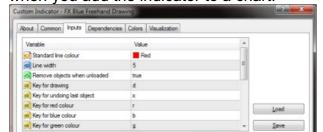
- R = red
- B = blue
- G = green
- Y = yellow
- N = black
- W = white

2.4 Undoing the most recent drawing

You can delete the most recent drawing by pressing the X key. Pressing X again deletes the previous drawing etc.

2.5 Line width and other indicator options

You can change the width of the drawn lines using the settings on the "Inputs" tab when you add the indicator to a chart:



You can also use these settings to change all the shortcut keys. You can even change the colours, e.g. so that "red" (pressing R) then draws in purple.

OK Cancel Reset

[7] GRAVITY INDICATOR

[7] 1. Overview

The Gravity indicator shows areas of possible support and resistance based on previous price action, colour-coded to show areas of stronger and weaker market activity.

It can either just draw from the current time onwards, using all the price activity to date, or you can set a specific <u>start time</u> in order to test the indicator or to ignore recent price movements.



[7] 2. Using the Gravity indicator

2.1 Adding the indicator to a chart

You add the Gravity indicator to a chart in the usual MT4 way, either by dragging it from the Navigator onto a chart, or by double-clicking on it in the Navigator. You can also use standard MT4 features such as adding the indicator to your list of Favorites, or assigning a Hotkey to it.

You need to turn on the "Allow DLL imports" setting in the "Common" tab of the indicator's options:



2.2 Choosing the colours

The Gravity indicator is colour-coded, showing areas of stronger support/resistance in darker colours. You can adjust the colours using the settings on the Inputs tab.

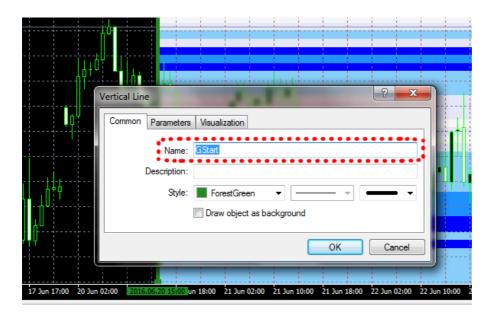
2.3 Time period

The Gravity indicator has two modes. By default it will show a relatively long-term assessment of support and resistance. For short-term trading, e.g. intra-day trading using an M5 or M15 chart, you can also use the Inputs tab to tell the Gravity indicator to use a shorter-term calculation.

2.4 Start date

By default the Gravity indicator will show a future indication of support and resistance using price activity right up until the current time.

However, you can adjust the indicator's start time by creating a vertical line on the chart and giving it the name GStart, as in the following example:



The indicator will then only use the price action up until the start time, without looking into the future at what subsequently happened, and will draw its support and resistance calculation starting from the line.

You can use this either to test the indicator, seeing how reliable it would have been in the past, or as a way of telling the indicator to ignore recent price activity which you may regard as abnormal and irrelevant. (The spike in the most recent bar in the screenshot at the <u>start of this document</u> shows the market's anticipation of the UK Brexit referendum in June 2016.)

[8] HIGH-LOW INDICATOR

[8] 1. Overview

The High-Low indicator is a very flexible tool for showing highs and lows on a chart, from any timeframe and based on any number of bars. You can add multiple copies of the indicator to the same chart in order to display different levels, e.g. the D1 and H4 highs and lows on an H1 chart:



The indicator can also show open and close prices as well as the high and low, and can be set to use a <u>daily time range</u> rather than looking at an entire day's trading.

You can also configure the indicator to generate alerts when the current price breaches the historic high or low.

[8] 2. Using the High-Low indicator

2.1 Adding the indicator to a chart

You add the High-Low indicator to a chart in the usual MT4 way, either by dragging it from the Navigator onto a chart, or by double-clicking on it in the Navigator. You can also use standard MT4 features such as adding the indicator to your list of Favorites, or assigning a Hotkey to it.

The indicator can be configured in a number of ways using the settings on its Inputs tab, as described below.

2.2 Timeframe and number of bars

You can choose the timeframe for the high and low, the bar to start at, and the number of bars to include. For example, choosing D1, previous bar, and 3 bars means that the indicator will draw the high and low of the last 3 days, not including today.

2.3 Daily time range

You can set a daily time range so that the indicator only looks at part of each day's trading. This can be particularly useful in relation to equity markets where there is 24-hour trading, but only a core period of e.g. 8 hours during which the market is truly active.

You set the time range in the form hh:mm-hh:mm, e.g. 08:00-15:59

You can also choose whether the time range is only applied to the high and low, or whether it also affects the <u>open and close prices</u> which the indicator calculates.

2.4 High and low lines, and widening

You can set the style and colours for the high and low lines. If you are using multiple copies of the indicator on the same chart in order to display different levels, it is obviously best if you set different colours for each indicator. You can turn off the high or low by settings its colour to "none".

You can also choose to widen the high and low lines, e.g. adding (or subtracting) 5 pips from the price. This widening also affects any <u>alerts</u> which you set up. The widening can be defined in terms of pips (e.g. 20), or a price amount (e.g. 0.0020), or a percentage of the range between the high and low.

A negative value for the widening narrows the lines. For example, if the low is at 1.2345, then a value of 10 pips will move the line to 1.2335 (widened away from the high) and a value of -10 will move the line to 1.2355 (narrowed towards the high).

2.5 Open and close lines

You can choose to display lines for the open, close, and previous close. Please note: the close line is only useful if you configure the indicator to start at the previous bar rather than the current bar, or if you apply a <u>daily time range</u>. Otherwise, the close line will simply be the current price.

You can turn each of these three lines on and off individually by choosing a colour for it or setting the colour to "none".

2.6 Labels

You can choose whether the indicator displays a label for each line, e.g. "D1 High", and you can control the text of the label. You can add the variable {PRICE} into the text to make the indicator display the price value associated with the line.

2.7 Alerts

You can choose to get whenever the price goes beyond the high or low lines (including any <u>widening</u> which you have defined). Alerts can be issued as pop-up messages and/or as sounds.

You can set a minimum period between alerts to avoid repeated notifications, and you can also configure the indicator to ignore the first N seconds of the current bar.

[9] KELTNER INDICATOR

[9] 1. Overview

The Keltner indicator shows Keltner channels: similar to Bollinger® bands, but with the size of the channel varying based on ATR rather than standard deviation.

https://en.wikipedia.org/wiki/Keltner channel

You can configure the indicator to give you <u>alerts</u> when the price crosses the upper or lower channel (usually regarded as a reversal signal).

[9] 2. Using the Keltner indicator

2.1 Adding the indicator to a chart

You add the Keltner indicator to a chart in the usual MT4 way, either by dragging it from the Navigator onto a chart, or by double-clicking on it in the Navigator. You can also use standard MT4 features such as adding the indicator to your list of Favorites, or assigning a Hotkey to it.

2.2 Choosing the settings for the indicator calculation

You set the parameters for the indicator calculation via the Inputs tab. There are three main settings which control a Keltner channel:

- The moving-average period (e.g. 20 bars)
- The ATR period (e.g. 10 bars)
- The multiple of the ATR to add/subtract to the moving average (e.g. 2)

In addition, you can also choose the type of moving average to use (SMA, EMA etc), and what type of price to base it on: close price, median, "typical" etc.

2.3 Colours and line styles

The indicator draws three lines: the mid-point (moving average), plus the high and low channels. You can set the colour and style for these lines in the usual way, via the Colors tab for the indicator.

2.4 Alerts

You can use the Inputs tab to turn on pop-up alerts whenever the current price crosses the upper or lower channel.

To prevent repeated and too-frequent alerts, the indicator will only display a maximum of one alert per bar. Once the price has crossed the upper or lower band, a new alert will not be generated until (a) the price has crossed back inside the channel, and then (b) there is a new cross beyond the upper or lower channel in a later bar.

[10] LINEAR REGRESSION INDICATOR

[10] 1. Overview

The Linear Regression indicator shows the linear regression of the last N bars, as a best-fit line through their close prices (or highs, or lows etc). You can add multiple copies of the indicator to a chart in order to show <u>different regressions</u>: for example, one indicator showing the linear regression of the highs and another showing the linear regression of the lows, forming a channel.



You can also use the indicator to show the regression of prices on <u>another</u> <u>timeframe</u>, e.g. the linear regression of D1 close prices while viewing an H1 chart.

[10] 2. Using the Linear Regression indicator

2.1 Adding the indicator to a chart

You add the Linear Regression indicator to a chart in the usual MT4 way, either by dragging it from the Navigator onto a chart, or by double-clicking on it in the Navigator. You can also use standard MT4 features such as adding the indicator to your list of Favorites, or assigning a Hotkey to it.

2.2 Choosing the number of bars, and the shift

You use the Inputs tab to tell the indicator how many bars to include in the calculation (a minimum of 2).

You can also set the bar-shift. The default value of 1 means "up to, but not including, the current bar". A value of 0 would include the current bar, and the regression calculation would therefore change slightly on each tick.

2.2.1 Extending the line to the current bar

By default the indicator will extend the regression line to the current bar. For example, with a <u>bar-shift</u> of 1 the calculation will not include the current bar, but the indicator will extend the drawing of the line into the current bar for comparative purposes. You can turn off this extension using the Inputs tab (and the setting is irrelevant if the bar-shift is zero).

2.3 Price type

You can use the Inputs tab to calculate the linear regression of different types of price: not just the close price, but also the high, low, open, median, typical, or weighted price.

You can add multiple copies of the indicator to a chart in order to show different regressions: for example, one indicator showing the linear regression of the highs and another showing the linear regression of the lows, forming a channel.

2.4 Timeframe

By default the indicator will use the timeframe of the current chart, and will change its calculation if you change the chart. However, you can use the Inputs tab to specify a different timeframe, e.g. showing the regression of D1 prices while viewing an H1 chart.

2.4.1 Interpolation on higher timeframes

When showing the regression from a higher timeframe on a lower timeframe chart (e.g. D1 versus H1), by default the indicator will show the same single value for each

bar which makes up the higher timeframe. This creates a stepped line such as the following:



You can use the Inputs tab to tell the indicator instead to interpolate values for each individual bar on the lower timeframe, creating a smoothed line.

However, please note that the interpolation can create a "kink" in the line at the beginning of the current period. For example, if you are viewing the D1 regression on an H1 chart, and the current day is only 3 H1 bars old, then the values for the current day are interpolated over only 3 bars whereas the values for all previous, full days are interpolated over 24 hourly bars. This creates the "kink".

2.5 Colours and line styles

You can set the colour and style for the indicator's line in the usual way, via the Colors tab.

[11] MAGNIFIER INDICATOR

[11] 1. Overview

The Magnifier indicator creates a draggable, resizable sub-window inside a main MT4 chart which "zooms in" on the selected bars, showing them in more detail from a lower timeframe (e.g. M30 bars on an H1 chart).

You simply drag the Magnifier around the chart to zoom in on different historic periods.



[11] 2. Using the Magnifier indicator

2.1 Adding the indicator to a chart

You add the Magnifier indicator to a chart in the usual MT4 way, either by dragging it from the Navigator onto a chart, or by double-clicking on it in the Navigator. You can also use standard MT4 features such as adding the indicator to your list of Favorites, or assigning a Hotkey to it.

You need to turn on the "Allow DLL imports" setting in the "Common" tab of the indicator's options:



2.2 Choosing the timeframe

By default the Magnifier will show the next lowest timeframe. For example, if the main MT4 is H1, then the Magnifier will show M30.

Alternatively, you can set a different, fixed timeframe using the setting on the indicator's Inputs tab.

2.3 Drawing style and colours

You can use the Inputs tab to change the style and colours. The Mini Chart offers a range of drawing styles:

- Candles
- Bars (i.e. a central high-low bar with open and close horizontal markers)
- A line showing each close price
- Close points (i.e. dots at each close price, without a line)
- Lines showing the high and low (but not the close)
- A filled channel showing the high and low, with a line showing the close inside the channel

2.4 Grid settings

2.4.1 Horizontal grid

By default the Mini Chart will automatically draw horizontal grid lines. It will choose the nearest power of 10 (e.g. 0.01, 0.001) which does not create an excessive number of visible lines.

You can set a specific grid size using the Inputs tab, setting the parameter to a price amount such as 0.0020, or you can turn off the grid entirely by setting the parameter to zero.

2.4.2 Vertical grid

By default the Mini Chart will automatically draw vertical grid lines based on the chart timeframe which you select. You can change the vertical grid lines, or turn them off, using the Inputs tab.

2.5 Initial size and position

You can use the Inputs tab to set the indicator's initial position within the MT4 chart. You can define a position in terms of pixels (replacing the default values of -1) from a specific corner of the chart.

2.6 Number of bars visible in the Magnifier

The number of historic bars which are shown in the Magnifier depends on the combination of a number of factors:

- The zoom level of the main MT4 chart. If the bars on the main MT4 chart are small, then the bars in the Magnifier also need to be small.
- The ratio between the main MT4 chart timeframe and the magnified timeframe. For example, if the main MT4 chart is H1, and you set the Magnifier to M1, then the Magnifier has to display 60 M1 bars for each H1 bar on the main MT4 chart – and will not be able to fit many in.
- The candle size which you select for the indicator, in the Inputs tab. By default the Magnifier will select its own size, but you can override this. The larger you make the candles, the fewer which can be fitted in to the Magnifier's window.

[12] MINI CHART INDICATOR

[12] 1. Overview

The Mini Chart indicator creates a chart in a draggable, resizable sub-window inside a main MT4 chart. It lets you see the price action on other instruments and/or timeframes without needing to switch between different MT4 charts.



The Mini Chart has a wide variety of features:

- Timeframes such as M4 and H3 in addition to standard timeframes such as M1 or H1
- <u>Tick bars</u> (e.g. bars made up of 10 ticks each) and <u>seconds bars</u> (e.g. 20-second bars)
- Range, Renko, Kagi and Point & Figure charts
- <u>Data-transformations</u> such as Heikin Ashi and Three Line Break

Although you cannot add MT4 indicators to a Mini Chart, it does provide its own options for showing popular <u>indicator calculations</u> such as moving averages and Bollinger bands.

[12] 2. Using the Mini Chart indicator

2.1 Adding the indicator to a chart

You add the Mini Chart indicator to a chart in the usual MT4 way, either by dragging it from the Navigator onto a chart, or by double-clicking on it in the Navigator. You can also use standard MT4 features such as adding the indicator to your list of Favorites, or assigning a Hotkey to it.

You need to turn on the "Allow DLL imports" setting in the "Common" tab of the indicator's options:



2.2 Choosing the symbol

You set the symbol to display using the Symbol parameter in the Inputs tab. The symbol must be present in the MT4 market watch, and you should include any suffix which your account has for symbol names, e.g. EURUSD+

To display more than one symbol, you simply add multiple copies of the indicator to the chart.

You can also leave the symbol set to (current). This will then display the same symbol as the main MT4 chart, and will change if the main chart changes.

2.2.1 Inverting prices

You can invert prices by turning on the option on the Inputs tab. For example, this will convert USDJPY into JPYUSD.

2.3 Chart timeframe / type

You choose the chart timeframe, or a type such as <u>Kagi</u>, using the option on the Inputs tab.

If you leave the timeframe set to (current) then the Mini Chart will use the same timeframe as the main MT4 chart, and will change if the main chart changes.

The Mini Chart offers a range of different timeframes and chart types:

- Standard timeframes such as M5 and H1
- Extra timeframes such as M4 and H6

- Sub-minute, <u>seconds-based time periods</u> such as S10 and S30
- <u>Tick-lines</u>, i.e. lines showing each change in the ask and bid price
- <u>Tick charts</u>, i.e. candles which are not time-based and are instead made up of the same number of ticks
- Price-based charts such as Renko and Kagi

2.3.1 Seconds charts

MT4 does not have historic data at frequencies under 1 minute (M1). Therefore, the Mini Chart cannot show a history for a seconds-period such as S30 when it loads. The indicator can only start recording and showing the data from the time that it starts running.

2.3.2 Tick charts

Tick charts draw a new bar every N ticks (i.e. they are based on activity, not on time). You need to fill in the number of ticks you want to use in the setting on the Inputs tab.

As with <u>seconds charts</u>, MT4 does not have historic data at frequencies under 1 minute (M1), and can only show the tick bars from the time that the indicator starts running.

2.3.3 Tick lines

A tick-lines chart shows the ask and bid prices as separate lines, updating whenever either the ask or bid price changes (i.e. each new tick).

2.3.4 Renko, Range, Kagi, and Point & Figure charts

Renko, Range, Kagi, and Point & Figure charts are price-based rather than time-based, and draw new bars based on price movement instead of time elapsing. All of them use a "block" size, which you set using the Inputs tab. This defines the minimum price movement which is required before the chart changes. It can be set either to a price amount (e.g. 0.0010), or a value in pips (e.g. 10), or to a percentage change (not applicable to P&F).

- Range charts: a new bar is drawn each time that the price rises or falls by the block size. The Mini Chart indicator also offers stacked range charts, where consecutive bars in the same direction are combined into a single bar.
- Renko charts: similar to range charts, but the price must reverse by two whole blocks before a new block is drawn in the opposite direction to the current trend. The Mini Chart indicator offers a variant on standard Renko charts

which draws the "tails" on each bar, i.e. the movement in each bar against the trend.

- Kagi charts: the chart changes direction when the price reverses by the block size from the previous high/low. Each additional movement in the direction of the current trend extends the Kagi line, and therefore, unlike range or Renko charts, Kagi highs and lows are not aligned to a grid.
- Point and Figure charts: similar to range charts, but traditionally drawn in a
 different way, with consecutive movements stacked rather than displayed as
 separate bars, and with a reversal rule where a new bar is not drawn in the
 opposite direction until the prices reverses by three units.

2.3.4.1 Reversal factor

For Range and P&F charts you can also set the "reversal" amount which is required before the chart changes direction. If left at zero, then Range charts will use a reversal factor of 1 – i.e. the threshold for a new block in the opposite direction is the same as for a continuation – and P&F charts will use the standard P&F reversal factor of 3 – i.e. the price must reverse by 3 units before a new column is drawn on the P&F chart.

2.3.4.2 Base timeframe for Range, Renko, Kagi, and P&F charts

When the Mini Chart indicator loads, it will create historic data for Range, Renko, Kagi, and P&F charts using the price history in the trading platform.

By default this creates the history from M1 data. If you use a large block size (e.g. 1 whole cent, price change of 0.01, on EUR/USD), then there may not be many historic blocks over the period covered by the M1 data in the platform.

To go further back in time you can choose a longer base period such as M30 or H1. The disadvantage of longer timeframes is that the Mini Chart cannot be certain what happened inside each historic bar. It can only "see" the high and low. If a historic bar covers a price range such as 0.04, and the block size is 0.01, then the Mini Chart does not know, and has to guess, whether the price went up/down in four simple sequential blocks rather than bouncing up and down within the bar, creating several historic blocks.

2.4 Data transformations

The Mini Chart indicator provides popular transformations of the bar data:

- Heikin Ashi
- Three Line Break
- 2-bar average (i.e. each bar is the average of itself and the previous bar)
- 3-bar average

(Transformations are different to chart types such as Kagi or Renko. With a chart type such as Kagi, there is a price-based rule for when/how to draw each new bar, i.e. a rule which is not simply based on time such as H1 or S30. A transformation such as Heikin Ashi takes bar data such as H1 and applies averaging to it. A Heikin Ashi chart has an underlying timeframe, such as H1. A Kagi or Renko chart does not.)

2.5 Drawing style and colours

You can use the Inputs tab to change the style and colours. The Mini Chart offers a range of drawing styles:

- Candles
- Bars (i.e. a central high-low bar with open and close horizontal markers)
- A line showing each close price
- Close points (i.e. dots at each close price, without a line)
- Lines showing the high and low (but not the close)
- A filled channel showing the high and low, with a line showing the close inside the channel
- No drawing the bars themselves are not drawn, and only <u>indicators</u> are displayed.

Please note: the drawing style is fixed for <u>tick-lines</u>, <u>Kagi</u>, and <u>P&F</u> charts. Changing the style setting has no effect for these types of chart.

2.6 Minimum, maximum, and grid

2.6.1 Maximum and minimum

By default the Mini Chart will automatically select a high and low range to draw based on the bars which are visible (as MT4 itself does). You can use the Inputs tab to tell the Mini Chart to include any indicator values in the high-low. Otherwise, as in MT4, indicator values may be invisible off the top or bottom end of the chart.

You can also set a fixed maximum and/or minimum price for the chart using the Inputs tab.

2.6.2 Horizontal grid

By default the Mini Chart will automatically draw horizontal grid lines. It will choose the nearest power of 10 (e.g. 0.01, 0.001) which does not create an excessive number of visible lines.

You can set a specific grid size using the Inputs tab, setting the parameter to a price amount such as 0.0020, or you can turn off the grid entirely by setting the parameter to zero.

2.6.3 Vertical grid

By default the Mini Chart will automatically draw vertical grid lines based on the chart timeframe/type which you select. You can change the vertical grid lines, or turn them off, using the Inputs tab.

Please note: for chart types such as <u>Renko and Kagi</u> which are based on price movement rather than time, the vertical grid lines will not be evenly spaced.

2.7 Size and position

You can use the Inputs tab to set the indicator's initial position within the MT4 chart. You can define a position in terms of pixels (replacing the default values of -1) from a specific corner of the chart.

The Mini Chart is both draggable and resizable, in the usual way by pressing and holding the mouse over the sub-window's title bar or border. By default the indicator will then choose a corner of the chart to "dock" itself to. For example, if you drag the sub-window close to the bottom-right corner, the indicator will then dock itself to that corner of the chart. If you resize the chart window, the indicator will automatically reposition itself so that it maintains the distance from the edge(s) of the chart. You can manually override the docking using the setting on the Inputs tab.

You can also change the following settings for the chart:

- The zoom level, i.e. how large each candle/bar is
- The amount of space (in pixels) at the top and bottom of the chart
- The amount of space (in pixels) at the right of the chart (i.e. equivalent to the chart-shift on MT4's own chart)
- The height of the bar which shows the time and price corresponding to the position of the mouse. You can turn off this information bar entirely by setting the height to zero.

2.8 Indicators

You cannot add MT4 indicators (e.g. moving averages) to a Mini Chart, but you can use the Inputs tab to configure the display of popular indicator calculations. This includes drawing lines at fixed prices, i.e. the equivalent of drawing a horizontal line on a main MT4 chart.

You can define up to 10 indicator calculations. For each one, you can choose a drawing style and a colour.

For some indicators, you can change the parameters and/or or the type of price – close, high, low etc – which is used in the indicator calculation. In other words, the meaning of the Parameter A and Parameter B values on the Inputs tab depends on the type of indicator, as described below.

2.8.1 Moving averages (SMA, EMA, SMMA, LWMA)

The Parameter A value defines the period for the moving average calculation. You can also choose which price to apply the average to. Parameter B is unused.

2.8.2 Bollinger® bands

The Parameter A value defines the period for the average (the mid-point of the bands). The parameter B value defines the number of deviations for the bands, from the mid-point. You can also choose which type of price to use in the calculation.

2.8.3 Envelopes (SMA and EMA)

The Parameter A value defines the period for the moving average (the mid-point of the envelope bands). The Parameter B value defines the % for the envelopes, e.g. 0.1% from the moving average mid-point. You can also choose which type of price to use in the calculation

2.8.4 D1 high and low

Draws horizontal lines at the D1 high and low. The Parameter A value defines the offset, and the Parameter B value defines the number of D1 bars to include (defaulting to 1 if left at zero).

For example, Parameter A = 1 and Parameter B = 3 means "the high and low of the 3 D1 bars starting yesterday".

2.8.5 H1 high and low

Same as the <u>D1 high and low</u>, with the same meaning for the Parameter A and Parameter B values, but using H1 data rather than D1 data.

2.8.6 Linear regression

Draws a line showing the linear regression of the last N bars, defined by the Parameter A value. You can choose which type of price is used in the calculation (e.g. linear regression of the highs rather than the closes). The Parameter B value is unused.

2.8.7 Fixed price

Draws a horizontal line at the fixed price specified by Parameter A, i.e. the equivalent of manually drawing a horizontal line on an MT4 chart. You can also use the Parameter B value to draw a second line at a different price.

2.8.8 Current bid price

Draws a horizontal line at the current bid price (i.e. constantly changing). The Parameter A and B values and the price-type are not used.

[13] ORDER HISTORY INDICATOR

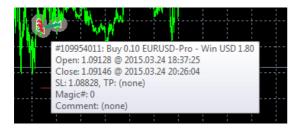
[13] 1. Overview

The Order History indicator draws your historic trades on a chart, showing the entry and exit prices and times, and also displays bands which indicate when you were in and out of the market.

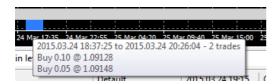
In the following example, individual historic trades for the chart symbol (EUR/USD) are shown as entry and exit arrows with a connecting line. The blue bands at the bottom of the screen indicate when there was an open position for the chart symbol, and the grey bands indicate when there was an open position in any other symbol. Switching between different chart timeframes (D1, H1, M1 etc) in effect provides a way of zooming in on historic trading activity.



Hovering the mouse over a historic trade shows the details of that trade:



Hovering the mouse over the blue or grey bands shows the details of the trades which were open during that period:



[13] 2. Using the Order History indicator

2.1 Adding the indicator to a chart

You add the Order History indicator to a chart in the usual MT4 way, either by dragging it from the Navigator onto a chart, or by double-clicking on it in the Navigator. You can also use standard MT4 features such as adding the indicator to your list of Favorites, or assigning a Hotkey to it.

The indicator can be configured in a number of ways using the settings on its Inputs tab, as described below.

2.2 Open trades

You can choose whether the indicator should include current open trades.

2.3 Entry and exit markers

The indicator draws entry and exit markers for each individual trade on the chart's symbol. You can choose whether these are colour-coded based on win versus loss, or on buy versus sell.

You can also set the style of entry and exit marker (arrows, price labels etc), and the width of the line between the markers.

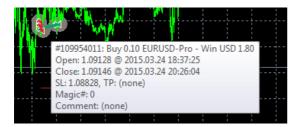
2.4 Stop-loss and take-profit

You can choose to turn on extra lines showing any stop-loss and take-profit on each trade. You can set both the style of the line and also its colour.

Please note: the prices which are shown are the *final* (or current) stop-loss and take-profit for a trade. MT4 does not maintain a record of previous s/l and t/p levels for a trade.

2.5 Trade description

Hovering the mouse over the markers or line for a historic trade displays pop-up information such as the following:

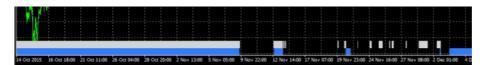


You can change the summary text which is displayed for each order using the indicator's settings. You can use the following variables in the text. Please note that these pop-up messages are limited in length by MT4, and will not be displayed if they exceed 256 characters.

Variable	Replaced by
{CRLF}	New line
{TICKET}	Order ticket number
{BUYSELL}	Buy or Sell
{WINLOSS}	Win or Loss
{LOTS}	Trade lot size
{SYMBOL}	Trade symbol
{OPENPRICE}	Trade open price
{CLOSEPRICE}	Trade close price
{OPENTIME}	Trade open time
{CLOSETIME}	Trade close time
{PROFIT}	Gross profit
{SWAP}	Swap
{COMMISSION}	Commission
{NETPROFIT}	Net profit: gross profit plus swap plus commission
{SL}	Current/final stop-loss price
{TP}	Current/final take-profit price
{COMMENT}	Order comment
{MAGIC}	Order magic number
{CURR}	Account deposit currency

2.6 Activity bands

The blue and grey bands at the bottom of the chart indicate when there was an open trade for the chart symbol (blue) and for any other symbol (grey). Hovering the mouse over these bands again displays a pop-up summary of the trades open during the period.



You can control the colour and size of the bands using the indicator's settings.

The bands are affected by any <u>filtering</u> which you use. The blue band in fact illustrates all the trades for the current chart symbol which match the filtering. The grey band illustrates all trades for all other symbols, plus any trades for the current chart symbol which do not match the filtering.

2.7 Filtering

You can use filter to control which historic trades are drawn on the chart as markers, and which trades are included in the <u>blue versus grey activity bands</u>.

You can filter on several different conditions: buy or sell; lot size; open time; close time; MT4 magic number; order comment; amount of net profit. For example, you can draw only your historic losing trades by setting maximum net profit to zero.

[14] PIVOT INDICATOR

[14] 1. Overview

The Pivot indicator shows a classic pivot calculation based on historic price action: a central pivot price, with 3 support and resistance levels either side (R1-R3 and S1-S3).



The indicator can be based on any <u>timeframe</u> – for example, you can choose to display H4 pivot levels on an M30 chart – and you can configure the indicator to generate <u>alerts</u> when the current price crosses a support or resistance level.

[14] 2. Using the Pivot indicator

2.1 Adding the indicator to a chart

You add the Pivot indicator to a chart in the usual MT4 way, either by dragging it from the Navigator onto a chart, or by double-clicking on it in the Navigator. You can also use standard MT4 features such as adding the indicator to your list of Favorites, or assigning a Hotkey to it.

All the following options in the indicator are configured using the settings on its Inputs tab.

If you want to display more than one set of pivot points, either using different <u>timeframes</u> or different <u>calculations</u>, then you simply add multiple copies of the indicator to the chart.

2.2 Timeframe

You choose the timeframe for the pivot calculating using the first of the parameters on the Inputs tab. You can either make this the same as the current chart, so that the pivot calculation changes if you alter the timeframe of the chart, or the pivot can be a different fixed timeframe such as D1.

2.3 Pivot calculation

You can choose how many historic bars to include in the pivot calculation – 1 (standard), 2 or 3 – and you can also choose between different calculations of the central pivot point. The options for the pivot calculation are as follows:

- "Typical" price of previous bar(s): high + low + close / 3
- "Weighted" price of previous bar(s): high + low + close + close / 4
- "Median" price of previous bar(s): high + low / 2
- Close price
- Average of close prices (same as close unless you choose to include more than one bar in the pivot calculation)

2.4 Drawing options

You can change the display of the pivot lines using the options on the Inputs tab. You can choose whether the pivot levels are drawn all the way across the chart, i.e. into the past, and you can whether to display labels for each point.

Each line also has a setting which controls its colour and its style (solid, dashed, etc). Turning off the display of a line, by setting its colour to "None", will prevent any alerts being displayed about that pivot level.

2.5 Alerts

You can choose to generate alerts if the price crosses upwards beyond a resistance level, or downwards below a support level. (No alert is generated if the price is already beyond a support or resistance level when a new bar starts, or when you add the indicator to the chart.)

You can set the text to display in the pop-up alert message on screen, and you can also specify a sound to play.

You can also choose to widen or narrow the threshold for the alert, e.g. so that the alert is generated 5 pips before the price hits a level, or 10 pips beyond the level. The threshold can be set either a number of pips (e.g. 20) or as a price amount (e.g. 0.0020). A positive number widens the threshold for the alert, meaning that the price has to go beyond the level. A negative number narrows the threshold, meaning that the alert is generated before the price hits the level.

[15] RENKO BAR INDICATOR

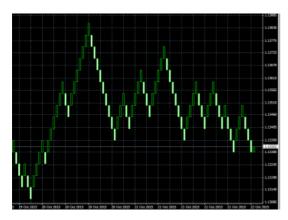
[15] 1. Overview

The Renko bar indicator draws Renko blocks on a normal MT4 time-based chart. The blocks can either be drawn as continuous, or as separated elements whenever a new Renko block is completed. (The blocks have varying widths, or gaps between them, because Renko bars are not time-based and have <u>varying durations</u>).





The indicator can also be used to create an <u>offline MT4 chart</u> containing only the Renko blocks – a more traditional Renko chart which is not time-based like a normal MT4 chart:



[15] 2. Using the Renko indicator

2.1 Adding the indicator to a chart

You add the Renko indicator to a chart in the usual MT4 way, either by dragging it from the Navigator onto a chart, or by double-clicking on it in the Navigator. You can also use standard MT4 features such as adding the indicator to your list of Favorites, or assigning a Hotkey to it.

Some <u>options</u> in the indicator need the "Allow DLL imports" setting to be turned on, in the "Common" tab of the indicator settings:



2.2 Notes

2.2.1 M1 data

The indicator calculates the Renko blocks from M1 data, regardless of the timeframe of the chart on which you use the indicator. Therefore, you need as much M1 data in your MT4 platform as possible, and you may need to use Tools / History Center in MT4 to download extra M1 data.

If you only have 5 days of historic M1 data, then Renko bars will only be drawn for the last 5 days even if you are looking at e.g. an H1 chart which goes back much further.

2.2.2 Multiple Renko blocks per chart candle

During each time-based candle on the MT4 chart, e.g. an H1 candle, there can be anything between zero and many new Renko blocks.

In the following example the chart timeframe is very long (H4) and the Renko block size is very small (5 pips). As a result, there are lots of Renko bars during each chart candle, creating many red and blue Renko blocks which are overlaid.



A chart such as this is unreadable because the H4 timeframe simply is not suitable for looking at a Renko block size as small as 5 pips. You should use a lower chart timeframe for such a Renko size.

2.3 Indicator settings

2.3.1 Renko block size

You set the Renko block size as a number of pips, e.g. 20, rather than a price amount such as 0.0020.

The indicator will automatically calculate a pip size based on the number of digits in the instrument's price. For example, if prices are quoted to 1DP, e.g. 2048.7, then the indicator will use a pip size of 0.1, and a setting of e.g. 20 pips would mean a price change of 2.0.

On some non-forex symbols such as equity indexes, you may want to change the pip size. For example, prices may be quoted to 2DP such as 13456.00, but you may want to use a pip size of 1.00 instead of the default 0.01. The indicator has an additional setting which lets you specify your own pip size.

2.3.2 Colours

You can set the colours for the up and down Renko blocks on the chart. These colours are also used for the optional <u>lines</u> which show where a new Renko block will start.

2.3.3 Continuous

A Renko block obviously has variable duration in time. When drawn on top of a time-based chart such as a normal MT4 price chart, the Renko blocks will therefore have varying widths.

You can choose either to draw the Renko blocks as continuous bars, or only to show separate blocks at the point that each new Renko bar is formed. Examples of these options are shown above.

2.3.4 Lines

By default the indicator displays lines which show the prices at which a new Renko up or down block will start. You can change the style of these lines, e.g. from dashed to solid, or you can turn the lines off completely.

2.3.5 On top of chart

You can choose to draw the Renko blocks as semi-transparent rectangles on top of the price bars, instead of in the background.

2.3.6 Alerts

You can turn on pop-up alerts in MT4 which tell you whenever a new Renko block has been formed.

2.3.7 Rounding the starting price

By default the start and end prices for each block will be set so that they are a multiple of the block size. For example, if the block size is 10 pips (0.0010) then the prices at which blocks start and end will always be a multiple of this, e.g. 1.23**40**, 1.23**50**, 1.38**90**, 2.26**70** etc.

You can turn off this rounding, and instead base the start and end of the Renko blocks on the first price in the M1 history. For example, if the opening price of the M1 data is 1.23743 and the block is 0.0010 (10 pips) then the start and end prices of all the Renko blocks will be x.xxx43, e.g. 1.23843, 1.23943, 2.41543 etc

2.3.8 Maximum number of blocks

You can limit the maximum number of blocks which the indicator will draw on the chart. This can help to save memory on low-powered computers. (Please note that this setting does not affect how much data is created in an offline chart.)

2.3.9 Base period for Renko data

As explained above, the indicator builds the historic Renko data from M1 prices in the MT4 platform. This is, in fact, configurable: you can choose to use a different base period such as M5.

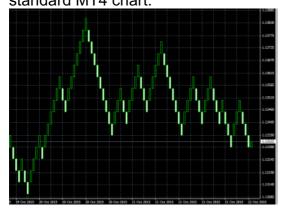
The advantage of a higher time period such as M5 or M30 is that the historic data may go back further in time than M1, and it may be possible for the indicator to draw more historic Renko blocks.

The disadvantage is that the Renko blocks will be less accurate during periods of high volatility. For example:

- Renko block size is 10 pips (0.0010)
- A single historic bar covers several Renko blocks, e.g. low price was 1.2056 and high was 1.2128.
- The range inside this bar was 0.0072, and therefore there were 7 Renko blocks which were formed during this single price candle in the MT4 history data. (In fact, there could have been many more than 7 if the price bounced up and down during the bar.)
- However, the indicator can only see the historic high and low, and it is impossible for the indicator to know in what order the blocks were formed.
- Therefore, under circumstances such as this, the indicator has to guess and simplify the Renko block history. (It is possible for this to happen even on M1 data, but using higher timeframes makes the problem more frequent.)

2.4 Offline charts

In addition to drawing the Renko blocks on a normal MT4 time-based chart, the indicator can also be used to generate an offline MT4 chart showing only the Renko blocks. This creates a more traditional Renko chart which is not time-based like a standard MT4 chart:



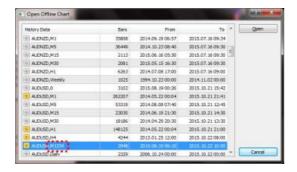
"Offline", in MT4 terminology, means that the price data for the chart is not being provided directly from the broker's server. The offline chart will nevertheless continue to <u>update</u> for as long as the indicator is running, and you should be able to use most EAs and indicators on such an offline chart.

2.4.1 Identifier for the offline chart

You tell the indicator to create an offline chart by entering any non-zero number of your choice, e.g. 1234 or 7777. The only restriction is that you cannot use a number which corresponds to the minutes in a normal MT4 chart (1, 5, 15, 15, 30, 60, 240, 1440, 10080, 43200).



You can then view the offline chart by using File / Open Offline in MT4, and selecting the special chart which the indicator has created, e.g. "EURUSD,M1234"



The offline chart continues to <u>update</u> with new prices and blocks for as long as the Renko indicator is running on the main price chart. If you close the normal MT4 chart which has the Renko indicator on it, then the offline chart will stop updating.

2.4.2 Continuous updates of the offline chart

By default the indicator will continuously update the offline chart, drawing the current price and an "in-progress" bar since the last Renko block, and updating the offline chart with all new completed Renko blocks.

Please note that these updates require the "Allow DLL imports" setting to be turned on.

You can also turn off these continuous updates. If so, the offline chart will only be updated when each new Renko block completes, and you will need to do a manual refresh of the chart to see the changes.

2.4.3 Missing blocks in the offline chart

MT4 charts cannot display more than one candle per minute. If the market was very volatile and/or your block size is very small, then there can be multiple Renko blocks per minute and the offline chart will only be able to show one of them.

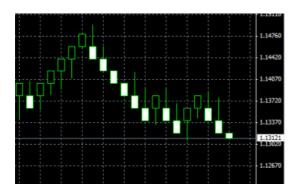
In the following example there is a gap – a missing down block – because there were two Renko blocks within the same minute, and MT4 can only display one of them:



(You can use the <u>TSV/CSV log</u> to check the actual history if MT4 is unable to represent it in full.)

2.4.4 Renko tails

You can choose to include "tails" in the Renko blocks on the offline chart. These show the movement in the opposite direction while a Renko block was forming, and can help to indicate the strength of a move and the likelihood of a reveral:



2.4.5 Deleting old offline charts

When you no longer need an offline chart, you can delete it by using File / Open Data Folder in MT4, going to the history\
broker-server> directory, and deleting the file such as EURUSD1234.hst.

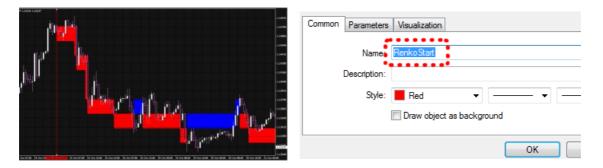
2.5 TSV/CSV log file

You can tell the indicator to write a log of the Renko history in CSV or TSV format. You enter a filename, such as "audusd.tsv", and the file is created in the MQL4\Files area. You can then open it using File / Open Data Folder in MT4, and going to the MQL4\Files subdirectory.

Please note: if you open the TSV/CSV file in an application such as Microsoft Excel, the indicator cannot continue to update it while it is open in Excel. It is best to take a copy of the file, and then open that copy in Excel.

2.6 Setting the start time for the Renko blocks

You can set a start time for the Renko blocks by drawing a vertical line on the chart, and using the object properties to set the name of the line to "RenkoStart":



The indicator will not draw any Renko blocks before this line. The start time also affects the history which is written to any offline chart or TSV/CSV log file.

2.7 Warning: using Renko data in MT4 backtesting

Using various third-party tools, it is possible to feed custom price data into the MT4 strategy tester. For example, you can take an offline chart (the .hst file) created by the Renko indicator and use that in MT4 backtesting. Using Renko data as the input for backtesting is quite popular in the MT4 community.

However, you should not do this. You will get unrealistic, very favourable results.

It is possible to write an EA which places 100% winning trades when backtested on Renko data rather than normal price data (because the presence or absence of a gap between the current bar-open price and the last bar-close price tells you which direction the price is about to move in).

More generally, EA results will tend to be unrealistic even if the EA is not deliberately trying to exploit the price clues in the Renko data. For example, measures of volatility will increase when a Renko reversal is happening (because of the gap between last-close and current-open), and an EA which uses volatility as one of its strategies will in effect be looking at a characteristic of the Renko data rather than real price information which it would have had historically in real life.

[16] SYMBOL INFO INDICATOR

[16] 1. Overview

The Symbol Info indicator creates a status overview for a symbol in a draggable subwindow inside a main MT4 chart. It shows the <u>price change</u>, the distance from the recent <u>high and low</u>, plus an optional set of indicators giving a matrix of <u>up and down signals</u> on different timeframes.

You can add any number of copies of the indicator to a chart, to display different symbols or timeframes, with any combination of different settings.

[16] 2. Using the Symbol Info indicator

2.1 Adding the indicator to a chart

You add the Symbol Info indicator to a chart in the usual MT4 way, either by dragging it from the Navigator onto a chart, or by double-clicking on it in the Navigator. You can also use standard MT4 features such as adding the indicator to your list of Favorites, or assigning a Hotkey to it.

You need to turn on the "Allow DLL imports" setting in the "Common" tab of the indicator's options:



2.2 Choosing the symbol

You set the symbol to display using the Symbol parameter in the Inputs tab. The symbol must be present in the MT4 market watch, and you should include any suffix which your account has for symbol names, e.g. EURUSD+

To display more than one symbol, you simply add multiple copies of the indicator to the chart.

You can also leave the symbol set to (current). This will then display the same symbol as the main MT4 chart, and will change if the main chart changes.

2.3 % change

The indicator's main display is the change in the symbol's price in % terms (and also in pips). You can choose which timeframe to use for this calculation via the parameter on the Inputs tab, and you can also choose the number of bars. For example, D1 and 3 would mean "show the change since the open price 2 days ago" (today, plus the 2 D1 bars before that).

2.3.1 Change in pips

The indicator shows the change in price in terms of pips as well as %. By default it will use an automatic definition of the pip size, based on the number of digits in the price (e.g. 4 or 5 digits = pip size of 0.0001). For some CFDs, you may want to override this calculation of the pip size using the setting on the Inputs tab.

2.4 High-low range

The indicator also shows the current price in relation to the high-low range. You can choose the timeframe and number of bars to use for the calculation of the high and low. These can the same or different to the settings used for the <a href="https://example.com/settings-number-nd-num

2.5 Colours

You can use the Inputs tab to change the colours which are used for rises and falls.

2.6 Position and docking

You can use the Inputs tab to set the indicator's initial position on the chart. You can define a position in terms of pixels (replacing the default values of -1) from a specific corner of the chart.

Once it has been created, you can drag the sub-window around the chart in the usual way, by pressing and holding the mouse over the sub-window's title bar. By default the indicator will then choose a corner of the chart to "dock" itself to. For example, if you drag the sub-window close to the bottom-right corner, the indicator will then dock itself to that corner of the chart. If you resize the chart window, the indicator will automatically re-position itself so that it maintains the distance from the edge(s) of the chart. You can manually override the docking using the setting on the Inputs tab.

[16] 3. Indicator up/down signals

You can configure the Symbol Info indicator to display a matrix of indicator up & down signals on different timeframes (or you can turn these off, and only have the indicator display the price change and high-low range).

You can set up to 10 rows of indicator information. Some of the indicators, e.g. EMA or MACD, need parameters which you enter as a comma-separated list such as 12,26

3.1 Price change

The price change shows an up or down signal depending on whether the price is rising or falling on each timeframe.

The parameter for the indicator is the number of bars to use for the change calculation. This defaults to 1 (i.e. current bar) if left blank. Changing/setting the parameter to 2, for example, would mean "price change since the start of the previous bar".

3.2 SMA (simple moving average)

The SMA indicator shows an up or down signal depending on whether the current price is above or below a simple moving average.

The parameter for the indicator is the number of bars for the average (defaulting to 14 if left blank).

3.3 EMA (exponential moving average)

The EMA indicator shows an up or down signal depending on whether the current price is above or below an exponential moving average.

The parameter for the indicator is the number of bars for the average (defaulting to 14 if left blank).

3.4 RSI (Relative Strength Index)

The RSI indicator shows an up or down signal if RSI is below 30 or above 70 (i.e. it treats the RSI values as an over-bought/over-sold indicator). If RSI lies between 30 and 70 then no signal is shown.

The parameter for the indicator is the number of bars for the RSI calculation (defaulting to 14 if left blank).

3.5 MACD (Moving average convergence/divergence)

The MACD indicator shows an up or down signal depending on whether the value of MACD is above or below zero. In effect it is saying whether a "fast" (short-term) moving average is above or below a "slow" (longer-term) moving average.

The parameters for the indicator are the fast and slow average periods, e.g. 12,26

3.6 Awesome Oscillator

The Awesome Oscillator indicator shows an up or down signal depending on whether the AO value is above or below zero.

This indicator does not have any parameters. (The AO is simply a comparison of the 5-bar and 34-bar simple moving averages.)

3.7 Parabolic SAR

The PSAR indicator shows an up or down signal depending on whether the current price is above or below the PSAR price.

The parameters for the indicator are the "step" and "maximum" values for the PSAR calculation, e.g. 0.02,0.2

3.8 CCI (Commodity Channel Index)

The CCI indicator shows an up or down signal depending on whether the value of CCI is above or below zero.

The parameter for the indicator is the number of bars for the CCI calculation (defaulting to 14 if left blank).

3.9 DeMarker

The DeMarker indicator shows an up or down signal if the value of the indicator is below 0.3 or above 0.7 (i.e. it treats the DeMarker, like RSI, as an over-bought/over-sold indicator).

The parameter for the indicator is the number of bars for the DeMarker calculation (defaulting to 14 if left blank).

3.10 Bollinger® Bands

The Bollinger® band indicator shows an up or down signal if the current price lies below or above the lower or upper bands (i.e. it treats the Bollinger® bands as an over-bought/over-sold reversion-to-mean indicator). If the current price lies between the bands then no signal is displayed.

The parameters for the indicator are the period to use for the moving average, and the number of deviations for the bands (defaulting to 20,2 if left blank).