

# PERSONAL TRADE COPIER



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## 1. Overview of the Personal Trade Copier

### 1.1 Purpose of the trade copier

The Personal Trade Copier duplicates trades between two (or more) copies of MetaTrader 4 running on the same computer. You place trades in one copy of MT4, and these are replicated almost instantly in the other copy of MT4. The trade copier duplicates both manual and automated trading.

You can copy from multiple instances of MT4 into a single receiver, and vice versa, by [running more than one copy of the sender and receiver](#).

The sending copy of MT4 does not need the ability to place trades. Therefore, the sending copy can be logged in using the read-only MT4 “investor” password.

### 1.2 Licence

**Unless otherwise specified in writing by FX Blue, this software is licensed for personal use only. You are not allowed to distribute it to other people, regardless of whether or not money is changing hands. You only have a licence to use the software if you, personally, downloaded it from our website.**

**The software is provided entirely at the user’s risk, and you should check it thoroughly before deploying it on computers trading real money. FX Blue accepts no responsibility whatsoever for any loss of any kind caused by installation or use of the software.**

## 2. Installing and running the Personal Trade Copier

### 2.1 Installing the trade copier

You need two (or more) copies of MT4 installed on the same computer. (If you want to copy between different accounts with the same broker then you will need to change the default directory when installing the second copy of MT4.)

The installer from our website lets you choose multiple copies of MT4 and then copies the sender and receiver EAs into MT4.

You need to **restart** MT4 in order for its Navigator list to update – or, in newer versions of MT4, you can use the “Refresh” option in the Navigator.

### 2.2 Running the sender

In the sending instance of MT4 you open a new chart for any symbol and add the “FX Blue - TradeCopy Sender” EA to the chart, by double-clicking on it in the Navigator list or dragging it onto the chart. The EA’s “Allow DLL imports” setting must be turned on.

You do **not** need to run multiple copies of the EA on charts for each symbol which you trade. You should only run one copy of the sender EA, on any chart. This will duplicate all trades for all symbols.

The sender EA does not need the ability to place orders. Therefore, it can be running on an account which is logged in using the read-only MT4 “investor” password.

**N.B. If the sending MT4 account is not in USD, then the MT4 Market Watch must contain the currency pair for converting to USD. For example, if the sender’s deposit currency is GBP or JPY, then the Market Watch must contain GBPUSD or USDJPY.**

### 2.3 Running the receiver

In the receiving instance of MT4 you open a new chart for any symbol and add the “FX Blue - TradeCopy Receiver” EA to the chart, by double-clicking on it in the Navigator list or dragging it onto the chart. The EA’s “Allow DLL imports” setting must be turned on.

You do **not** need to run multiple copies of the EA on charts for each symbol which you trade. You should only run one copy of the receiver EA, on any chart.

**N.B. The Market Watch must contain all the symbols which are going to be traded. In addition, if the receiving MT4 account is not in USD, then the MT4 Market Watch must contain the currency pair for converting to USD. For example, if the receiver's deposit currency is GBP or JPY, then the Market Watch must contain GBPUSD or USDJPY.**

## 2.4 Multiple senders and receivers

A sender and receiver are identified by a channel name, which you can control using the EAs' parameters. The default channel name is "TradeCopy".

**There should only be one sender EA and one receiver EA using a channel.**

A single copy of the sender EA can broadcast on multiple channels, but each receiver EA can only listen on a single channel.

If you want to send trades from one copy of MT4 to 3 receiver copies of MT4, you should do the following:

- In the sender instance of MT4, you run one copy of the sender EA. You set the Channel parameter in the EA to a comma-separated list of the channel names which the sender should use. For example: Channel1,Channel2,Channel3. (Alternatively, you can also run three copies of the sender EA, each broadcasting on one of the channels.)
- In each receiver instance of MT4, you run a copy of the receiver EA and configure each one to use one of the three channels you have set up in the sender.

If you want a single copy of MT4 to receive trades from 3 senders, then you should do the following:

- In the receiver instance of MT4, you run three different copies of the receiver EA on different charts, using different channel names.
- In each sender instance of MT4, you use one of the three channels you have set up in the receiver.

Each receiver EA running in a copy of MT4 should use a different magic number for its trades. You should either leave the [receiver EA's MagicNumber parameter](#) set to zero, in which case it will automatically choose a magic number based on the channel name, or you should manually set each receiver EA to use a different magic number.

## 2.5 Testing the trade copier

Once both the sender and receiver EAs are running, the receiver should shortly receive a “heartbeat” message from the sender and update its status on screen.

Both EAs display their current status in the top-right of the chart. If no status is visible, please make sure that MT4’s “Expert Advisors” button is turned on.

## 2.6 Performance on VPS systems

On some low-spec VPS systems the Copier may use too much processing power, particularly if there is a large number of open trades on the sender account.

You can reduce the Copier’s processing needs by **increasing** the [TradeWatchFrequencyMS parameter in the sender EA](#). The default value of this parameter is 50. Increasing the value to e.g. 100 will reduce processor usage, typically without any significant difference in copying speed.

### 3. How the Personal Trade Copier works

#### 3.1 Trade placement and closure

The sender EA sends a message to the receiver EA as soon as it spots that there is a new open order in its copy of MT4. The receiver EA will then attempt to place the same trade.

Transmission is more or less instant; the time taken to copy the trade should depend almost entirely on your broker(s), not on the speed of transmission between the two EAs.

The same applies to trade closure. As soon as it spots that a previously open order has been closed, the sender EA tells the receiver EA to close its trade.

##### 3.1.1 Speed of processing on the receiver

Please note that the receiver may not be able to process new open and close instructions immediately. Orders have to be processed in sequence, and the receiver cannot not start working on a new signal if it is currently waiting for the broker to execute a previous trade.

If two new-order messages are sent at the same time, but the receiving broker takes 5 seconds to execute the first order, then processing of the second order will take at least 5 seconds (plus the time then required to execute the second order).

#### 3.2 Heartbeats

**N.B.** The heartbeat period does **not** control how quickly orders are copied. Open and close messages are always [sent immediately](#), and processed [as quickly as possible](#).

The sender EA sends a periodic “heartbeat” message, every 10 seconds by default. This states which orders should still be open. If a receiver misses a trade-closure instruction, e.g. because its copy of MT4 is not running at the time, then it should close the order when it next receives a heartbeat from the sender.

Changes to a trade’s s/l or t/p are also sent in the heartbeat message. Therefore, there may be a delay of up to 10 seconds between the s/l or t/p changing in the sender’s copy of MT4 and the receiver making the change. However, if the trade is closed out on the sender within those 10 seconds because the s/l or t/p is hit, that should lead to an immediate close instruction being sent to the receiver.

Changes to the entry price on a [pending order](#) are also sent in the heartbeat, and therefore updated within 10 seconds.

### 3.3 Pending orders

By default the trade copier does **not send pending orders**. It only sends a message to the receiver once a pending order is filled and turns into a buy or sell order.

Copying pending orders can be **disadvantageous** and **dangerous**. We recommend that you do not do this (and pending orders will fail if using the Copier to send trades to platforms other than MT4).

- If the receiver's spreads are better than the sender's spreads then, assuming that slippage averages out to be neutral, it is better for the receiver to enter at market when the sender is filled than to enter (and exit) at the sender's price.
- If the receiver's spreads are worse than the sender's spreads then the receiver can be filled without the sender being filled, and there can be an unmanaged trade on the receiver.

For example, let's say that you are trading the breakout of yesterday's range, and you have a buy-stop at yesterday's high. This could get triggered on the receiver without being triggered on the sender, because of either slight price differences between the two accounts, or wider spreads on the receiver. If the price then retraces, the sending copy of MT4 will be unaware that the receiver has a trade which needs to be managed, but the receiver will have an ever-increasing loss and will not be receiving any instructions to close the position.

However, you can configure the trade copier to send pending orders by turning on the optional [IncludePendingOrders](#) parameter.

You can then use the [RequireSenderFillWithinMinutes](#) parameter to limit the risk at the receiver end. If the receiver's order is filled, but the sender's order remains pending, then the receiver can be configured to close its order after this number of minutes (ignored if zero).

### 3.4 Lot sizing and risk

Common lot-sizing examples (with more detail below):

- Trading the same *relative* lot size on sender and receiver. For example: the sender trades 0.50 lots and has equity of \$10000; the receiver has equity of \$2000 and should trade 0.10 lots. This is the software's default behaviour (see below), and does not require any changes to the default settings.



- Trading exactly the same lot size on sender and receiver. If you want the receiver to trade the same lot sizes as the sender (regardless of the equity of each account), then you need to set UseRiskFactor to zero, and set LotSizeMultiplier to 1.

Receivers can use any of five modes for determining what lot sizes to trade:

- Fixed lot size. The receiver always uses a fixed size (the [UseFixedLotSize](#) parameter) regardless of the sender's lot size.
- Risk-based. The receiver adjusts the lot size based on the relative equity of the two accounts. For example, if the sender's equity is \$2000 and the receiver's equity is \$4000, and [UseRiskFactor](#) is set to 1.5, then the receiver will trade three times the lot size of the sender – i.e.  $4000 / 2000 \times 1.5 = 3$ .
- Multiple. The receiver trades a multiple of the sender's lot size (regardless of the equity on each account). For example, if [LotSizeMultiplier](#) is set to 2, then the receiver will trade double the sender's lot size.
- Equity-based lot-sizing. The receiver ignores the sender's lot size, and instead uses a value based solely on the receiver's account equity.
- Balance-based lot-sizing. As above, except that the account balance is used instead of account equity.

These settings are in order of priority. If UseFixedLotSize is non-zero, then the receiver will use a fixed lot size. Or if UseRiskFactor is non-zero, then it will use equity-based sizing. Or if LotSizeMultiplier is non-zero, then the receiver will trade a simple multiple of the sender's lot size.

Of if EquityPerLot is non-zero, then the receiver will trade a lot size based on its account equity, ignoring the sender's lot size. And if all these are zero, then the receiver will trade a lot size based on its account balance using BalancePerLot.

The default setting is risk-based lot sizing (with UseRiskFactor = 1). The receiver will trade the equivalent of the sender's lot size given the different equity on the two accounts.

In addition, you can modify the signals which are issued. The sender EA can be configured always to send a fixed lot size, regardless of what has actually been traded, or a multiple of the actual lot size.

You can also modify the s/l and t/p which are used on orders: the sender can be configured to hide or change the real s/l and t/p, and the receiver has options for overriding the s/l and t/p with a maximum value in order to limit risk.

The receiver EA also has a [StopTradingBelowEquity](#) setting which can be used to terminate all copying activity if the equity on the account becomes dangerously low, plus [MaxOpenOrders\\_Total](#) and [MaxOpenOrders\\_FromCopier](#) settings for controlling the number of concurrent open orders.

### 3.4.1 Mini, micro and cent accounts

The software automatically handles “micro” and “mini” accounts (where the lot size is 10K or 1K instead of the usual 100K).

The software cannot automatically detect “cent” accounts (where the lot size is 100K, but meaning 100,000 *cents* rather than \$100,000). By default, the receiver’s lot sizes will be 100 times too large on these accounts. You can either turn on the [CentAccount](#) setting, or you can divide the values for UseRiskFactor or LotSizeMultiplier by 100 (e.g. setting them to 0.01 instead of 1.00).

## 3.5 Broker symbol names and suffixes

Some MT4 brokers use different suffixes for the same symbol. For example, some brokers may refer to EURUSD as EURUSDFXF, EURUSDcx, EURUSDi, EURUSDm etc.

The sender and receiver should automatically adjust between different symbol names on different brokers. If the receiver is unable to place a trade then it is probably because the symbol is [not in its Market Watch](#). (The receiver EA does have a [ForexSymbolSuffix](#) parameter, but the receiver will auto-detect this if the parameter is left blank.)

Some non-forex symbols need special mapping. For example, most MT4 brokers refer to spot gold as XAUUSD, but there are a few brokers who use a different symbol name such as GOLD. You can use the receiver EA’s [CustomSymbolMappings](#) parameter to translate any such symbols. For example, if the sending account’s broker uses GOLD and the receiving account’s broker uses XAUUSD, then you would enter GOLD=XAUUSD in the CustomSymbolMappings parameter.

## 3.6 Market execution

Some brokers use “market execution” where an s/l or t/p has to be placed separately from a buy or sell order. The receiver caters for this by always placing the trade first, and then setting any s/l and t/p afterwards. By default, the [CloseOrdersImmediatelyIfSLFails](#)

parameter will mean that trades are immediately closed if the order placement succeeds but the s/l or t/p then fails.

### 3.7 Hedging vs. non-hedging

At the moment the trade copier does not convert between hedging and non-hedging accounts. If the receiver is running on a broker which does not allow hedging, then trades will fail if the messages coming from the sender break the hedging rules.

### 3.8 Magic numbers

The receiver uses an order's magic number to identify which orders belong to it, versus which orders are from manual trading or other EAs running on the account. Therefore, magic numbers are not copied from the sender account.

The receiver EA uses the same magic number for all orders which it processes. By default, it automatically selects a magic number based on the channel name. You can choose your own magic number by setting [the MagicNumber parameter](#) to something other than zero.

If you trade multiple EAs on the sending copy of MT4, and you want each order in the receiving copy of MT4 to have a different magic number based on the magic number in the sending copy of MT4, then you can do the following:

- Run multiple copies of the sender EA, and set the [IncludeMagicNumbers parameter](#) or the [IncludeOrderComments parameter](#) so that each sender only includes the orders from one of the EAs on the account. [Each sender EA must use a different channel name.](#)
- Run multiple copies of the receiver EA (using the same channel names as in the sender EA). You can either leave the receivers' MagicNumber parameters set to zero, in which case the magic numbers will be different for each channel but will not match the sending copy of MT4, or you can configure each receiver to use the same magic number which is being used in the corresponding sender EA to filter the orders on the channel.

### 3.9 Partial closes

The sender and receiver are capable of handling partial closes.

However, the only way of detecting partial closes in MT4 is via the order comment. If brokers do not use the standard convention for partial closes (e.g. order comments such as “from #123456”) then the software may not be able to handle partial closes correctly.

### 3.10 Inverting trade direction

The receiver can be configured to invert the broadcaster’s trade direction, turning buys into sells and vice versa. (This feature has been included at user request; we are not aware of any loss-making trading system which can be made profitable by inverting it.)

In order to use this feature you need to turn on the receiver EA’s [InvertTrades](#) parameter, and you will also need to do one of the following:

- Turn on the [TradeAllOrdersAtMarket](#) parameter. This means that the receiver ignores the sender’s entry price (because e.g. the sender is buying at the ask price whereas the receiver will be selling at the bid price).
- Increase the [AllowSlippagePips](#) parameter, to cater for the fact that the difference between the sender’s entry price and the receiver’s entry price will be at least the size of the spread.

### 3.11 Order comments

By default, the receiver uses the MT4 order comment to track the ticket numbers on the sender account. You can change this behaviour, and get the receiver to use the original comments from the orders on the sender account, by turning on the `UseOriginalOrderComments` parameter in the receiver.

Alternatively, you can use the `UseCustomOrderComment` parameter to use a fixed comment for all orders.

However, please note that these parameters have implications for disaster-recovery. If you turn on `UseOriginalOrderComments` or `UseCustomOrderComment`, then the ticket numbers on the sender account are tracked using a file on disk (in MT4’s `experts\files` directory). If this file is deleted – or is unavailable for some other reason, e.g. because you are starting up MT4 on a new computer in an emergency – then the receiver will close all its orders because it can no longer link them to the sender’s [heartbeat](#).

## 4. EA parameters

### 4.1 Sender EA parameters

Server settings	
Channel	The channel name(s) to use for communicating with the receiver(s). <b><u>There should only be one receiver and one sender on each channel.</u></b> A single sender EA can broadcast on multiple channels, which you specify by entering a comma-separated list of names in the Channel parameter, e.g. Scalp1,Scalp2,Scalp3. Channel names must not contain any of the following characters: / \ : * ? “ < >  . <b>In addition, the list must not include spaces between each comma-separated item.</b>
HeartbeatPeriodSeconds	The number of seconds to wait between sending each <a href="#">heartbeat message</a>
Orders to include	
IncludeSymbols	If not blank, a comma-separated list of symbols to include in the messages to the receiver. This must <b>exactly</b> match the broker’s names, including upper/lower case such as EURUSDfx,GBPUSDfx. Trades for symbols which are not on this list are not included.
IncludeMagicNumbers	If not blank, a comma-separated list of EA magic numbers to include in the messages to the receiver. For example, 0,1234,6789 will include manual orders (which have magic number 0), plus orders from the EA(s) which use the magic numbers 1234 and 6789
IncludeOrderComments	If not blank, a comma-separated list of order comments to include. For example, pivot,breakout will only include orders whose comment includes either “pivot” or “breakout”. The match is <b>case-sensitive</b> . You can also match an exact order comment using quotes. For example, pivot,”breakout” will match an order whose comment includes “pivot” (e.g. pivot123), or an order whose comment is the exact text “breakout”.
IncludePendingOrders	Determines whether <a href="#">pending orders are sent</a> , or whether the broadcaster only sends messages when trades are filled.
<a href="#">Lot sizing</a> and pricing	

(Lot sizing can also be changed using the settings in the receiver EA)	
UseFixedLotSize	If not zero, the EA will send this fixed lot size instead of the number of lots actually traded.
LotSizeMultiplier	Ignored if UseFixedLotSize is turned on (i.e. non-zero). Otherwise, modifies the message so that the EA reports this multiple of the actual lot size (e.g. 0.1 to divide lot sizes by 10).
BroadcastAllOrdersAtMarket	If turned on, the receiver is instructed to buy/sell at the current market price, regardless of the entry price for the sender's position. Equivalent to the receiver turning on the TradeAllOrdersAtMarket setting in the receiving EA.
HideSLandTP	If turned on, the s/l and t/p on trades are not broadcast to the receiver.
AddPipsToSL	Hides the true s/l on each trade by adding this number of pips to it (i.e. moving it further away from the open price). This setting is ignored if HideSLandTP is turned on.
AddPipsToTP	Hides the true t/p on each trade by adding this number of pips to it (i.e. moving it further away from the open price). This setting is ignored if HideSLandTP is turned on.
<b>Broadcast settings</b>	
RetryAttempts	Number of times to retry if unable to send an order open/close message. (Not used with "heartbeat" messages because they are quickly resent anyway.)
FuturesSymbol	Symbol used by the broker as a prefix for futures. Can be ignored if you do not intend to trade/broadcast futures. The prefix is typically # for the small number of MT4 brokers who offer futures.
<b>Warnings</b>	
SendWarningsByEmail	Any issues which require user attention are always displayed on screen. If this setting is turned on, they are also sent by email (using the details configured in MT4's Tools/Options/Email)
WarningEmailSubjectLine	If SendWarningsByEmail is turned on, the subject line to use for any warning emails
<b>Advanced settings</b>	
TradeWatchFrequencyMS	Controls how often the sender checks to see if a new order has been opened, or if an order has been closed. The figure is in milliseconds, and can be set as low as 10. However, values below 25 will typically cause MT4 to start using

	large amounts of processor power without any real improvement in trade placement. The median delay in the sender spotting a new trade will be half the value of this parameter; a value of 50 will typically lead to new trades being detected after 25 milliseconds.
SendOrderComments	If turned off, then this prevents the EA from <a href="#">sending the comment for each order to the receiver</a> . In effect, it will turn off the UseOriginalOrderComments parameter in the receiver.

## 4.2 Receiver EA parameters

Server settings	
Channel	The channel name to use for communicating with the sender. <a href="#">There should only be one receiver and one sender on each channel</a> . A receiver can only listen on a single channel; you cannot use a comma-separated list for the receiver's Channel parameter. Channel names must not contain any of the following characters: / \ : * ? " < >
Local settings	
ForexSymbolSuffix	Any <a href="#">suffix</a> used by the broker for forex symbols. For example, if the broker refers to EURUSD as EURUSDcx, then this parameter can be manually set to cx. If left blank, the EA will attempt to detect any suffix which its broker uses. If you want the EA to use no suffix, and not to use auto-detection, then set the parameter to "none" or "(none)"
FuturesSymbol	Symbol used by the broker as a prefix for futures. Can be ignored if you do not intend to trade/broadcast futures. The prefix is typically # for the small number of MT4 brokers who offer futures.
CustomSymbolMappings	A comma-separated list of symbols which need special mapping between the broadcaster and receiver accounts. For example, GOLD=XAUUSD,CRUDE_OIL=OIL will convert broadcaster trades for GOLD into receiver trades for XAUUSD, and broadcaster trades for CRUDE_OIL into receiver trades for OIL. If the receiving broker uses a suffix such as cx, then this <b>does</b> need to be included in the mapping: e.g. GOLD=XAUUSDcx.

Accept/reject signals	
IgnoreNewEntrySignals	If turned on, the EA ignores all new trade entry signals coming in from the sender – can be used to prevent the EA opening new trades, while continuing to manage existing ones.
IgnoreAllExitSignals	If turned on, the EA ignores all exit signals coming in from the sender – can be used if you want to manually control when trades should be closed.
IgnoreExitSignalsForTicketIds	If not blank, a comma-separated list of ticket IDs (on the receiver, not the sender) which should not be managed by the trade copier. Allows some but not all trades to be controlled manually.
PermittedSymbols	If not blank, trades from the sender are ignored unless they are for symbols on this comma-separated list. This must <b>exactly</b> match the broker's names on the receiver account, including upper/lower case such as EURUSDfx,GBPUSDfx
BuySellOnly	If non-zero, restricts the direction in which the copier will place trades. A value of 1 means that the receiver will only place buy orders; a value of 2 means that the receiver will only place sell orders. (Zero means that all orders are accepted.)
PermittedSymbols	If not blank, trades from the sender are ignored unless they are for symbols on this comma-separated list. This must <b>exactly</b> match the broker's names on the receiver account, including upper/lower case such as EURUSDfx,GBPUSDfx
IncludeTradingTimes	Ignored if blank. Otherwise, defines a list of times during which the receiver is allowed to trade; new order messages outside these times are ignored. <a href="#">See below for the format of this parameter.</a>
IgnoreOrdersSmallerThanLots	Ignored if zero. If non-zero, specifies a minimum order size and the receiver will not trade orders which are smaller than this. This parameter is applied after converting the sender's trade volume using the lot-sizing parameters below. For example, if the sender's lot size is 0.5, and this translates to a receiver lot size of 0.3, then the limit is applied to the size of 0.3.
IgnoreOrdersLargerThanLots	Ignored if zero. If non-zero, specifies a maximum order



	size and the receiver will not trader orders which are larger than this. This parameter is applied after converting the sender's trade volume using the lot-sizing parameters below. For example, if the sender's lot size is 0.5, and this translates to a receiver lot size of 0.3, then the limit is applied to the size of 0.3.
MinSenderLotSize	Similar to IgnoreOrdersSmallerThanLots, but is applied against the <b>sender's</b> volume before adjusting it using settings such as UseRiskFactor. For example, if the sender's lot size is 0.5, and this translates to a receiver lot size of 0.3, then the limit is applied to the size of <b>0.5</b> .
MaxSenderLotSize	Similar to IgnoreOrdersLargerThanLots, but is applied against the <b>sender's</b> volume before adjusting it using settings such as UseRiskFactor. For example, if the sender's lot size is 0.5, and this translates to a receiver lot size of 0.3, then the limit is applied to the size of <b>0.5</b> .
MaxSpreadPips	Blocks new orders if the current spread on the symbol is wider than the specified number of pips. A value of zero disables this check on the spread.
<b>Order management</b>	
TradeAllOrdersAtMarket	If turned on, the receiver always buys/sells at its current market price, regardless of any difference between that and the sender's price. If this setting is turned on, the following three settings become redundant and are ignored.
AllowSlippagePips	Determines how close the receiver's price needs to be to the sender's entry price for a signal to be allowed. For example, if the sender buys GBPUSD at 1.34235, and AllowSlippagePips is set to 2.0, then the receiver will trade the signal provided that its current ask price is not above 1.34255. (This setting is ignored if TradeAllOrdersAtMarket is turned on.)
PlaceLimitOrderIfSlipped	If the receiver's price is beyond the AllowSlippagePips threshold, then this parameter specifies whether the receiver should try to place a limit order – i.e. wait for the price to return to the sender's entry level. (This setting is ignored if TradeAllOrdersAtMarket is turned on.)
LimitOrderExpirationMinutes	Only used if PlaceLimitOrderIfSlipped is turned on. Determines how long the limit order is valid for – i.e. how

	quickly the price needs to return to the sender's entry level before discarding the signal. Please note that some brokers have minimum expiry periods (e.g. either no expiry, or not less than 15 minutes away). Orders will fail (usually with MT4 error #3) if this setting is too low.
CloseOrdersImmediatelyIfSLFails	The receiver places trades immediately, and then amends them to set any stop-loss or take-profit which is required. The latter step can potentially fail, leaving a trade in the market which has no stop-loss. This setting determines whether, as a precautionary measure, trades should be closed immediately if the broker declines the stop-loss on them.
OrderRetries	If placing a market order, the number of times the order is retried if the broker declines it.
UseInstantExecution	If your broker supports instant execution (rather than market execution), then you can turn on the UseInstantExecution setting in order to make trade copying slightly faster. This allows the copier to place its opening order plus any s/l and t/p in one step, rather than having to set the s/l and t/p separately. Turning on this setting will lead to MT4 error #130 if the broker does not support instant execution and there is an s/l or t/p on the copied position.
MirrorSLandTPChanges	If turned on, the receiver copies the s/l and t/p on each order. Also controls whether changes to the <a href="#">entry price on pending orders</a> are copied.
RequireSenderFillWithinMinutes	If a <a href="#">pending order</a> is filled on the receiver, but remains unfilled on the sender, then the receiver closes it in this number of minutes if it remains unfilled on the sender. This parameter is ignored if less than or equal to zero.
MagicNumber	A magic number to be used by the sender to keep track of its trades. If this is left at zero, the EA automatically picks a unique magic number based on the channel name. Each receiver EA running in a copy of MT4 must use a different magic number.
InvertTrades	If turned on, the direction of the broadcaster's trade is inverted, with a buy becoming a sell etc
MarketOrderSlippageParameter	Only applicable to brokers using instant execution rather than market execution. Specifies the maximum deviation

	from the current price which the EA is prepared to accept, broadly equivalent to the “max deviation” setting when placing a manual order. Please note that brokers do not necessarily honour this parameter exactly. The default value of 9999 in effect instructs instant-execution brokers to behave like market-execution brokers.
ImmediateCloseOnSlippagePips	Closes a new trade immediately if the actual filled price differs from the expected quote price by the specified number of pips. A value of zero disables this check.
UseOriginalOrderComments	Tells the receiver to use the original order comment from the sender, instead of its usual behaviour where it tracks the sender ticket number in the order comment. <a href="#">Please note that this setting has disaster-recovery implications.</a>
UseCustomOrderComment	Tells the receiver to use this fixed comment for all orders. This setting overrides any comment on the original order, and also overrides the UseOriginalOrderComments parameter. <a href="#">Please note that this setting has disaster-recovery implications.</a>
PreventPartialExits	Prevents the receiver from doing partial closes; a position is always closed in its entirety if the sender closes any of its position.
<a href="#">Lot sizing</a> (Lot sizing can also be changed using the settings in the sender EA)	
UseFixedLotSize	If not zero, the receiver uses this fixed lot size instead of the value specified by the sender. Overrides UseRiskFactor and UseLotSizeMultiplier.
UseRiskFactor	If not zero, tells the receiver to trade a multiple of the sender’s lot size based on the receiver’s equity versus the sender’s equity. For example, if the sender’s equity is \$1000 and the receiver’s equity is \$2000, and UseRiskFactor is set to 1, then the receiver will trade double the lot size of the sender. Overrides UseLotSizeMultiplier.
UseLotSizeMultiplier	Ignored if either UseFixedLotSize or UseRiskFactor are turned on (i.e. non-zero). Otherwise, modifies the lot size received from the sender so that the receiver uses this multiple of the broadcast size, e.g. 0.1 to trade one-tenth of the original lot size.
EquityPerLot	Ignored if UseFixedLotSize, UseRiskFactor, or

	<p>UseLotSizeMultiplier are turned on (i.e. non-zero). Otherwise, calculates the lot size based on the receiver's equity, ignoring the sender's lot size. For example, if the receiver's account equity is \$4,800, and EquityPerLot is \$10,000, then the receiver will trade 0.48 lots.</p>
BalancePerLot	<p>Ignored if UseFixedLotSize, UseRiskFactor, UseLotSizeMultiplier, or EquityPerLot are turned on (i.e. non-zero). Otherwise, calculates the lot size based on the receiver's balance, ignoring the sender's lot size. For example, if the receiver's account balance is \$3,200, and BalancePerLot is \$10,000, then the receiver will trade 0.32 lots.</p>
MaxLots	<p>Ignored if UseFixedLotSize is turned on (i.e. non-zero). Caps a variable lot size calculation (e.g. from UseRiskFactor) so that it does not lead to a dangerously large value. If you want to prevent an order being traded, rather than capping its lot size, use IgnoreOrdersLargerThanLots.</p>
MinLots	<p>Ignored if UseFixedLotSize is turned on (i.e. non-zero). Collars a variable lot size calculation (e.g. from UseRiskFactor) so that it does not lead to a value which is too small. If you want to prevent an order being traded, rather than capping its lot size, use IgnoreOrdersSmallerThanLots.</p>
CentAccount	<p>Turn on for accounts where all values are in <a href="#">cents</a> rather than dollars. Equivalent to setting parameters such as UseRiskFactor and LotSizeMultiplier to 0.01 instead of 100.</p>
RoundUpToBrokerMinimum	<p>Ignored if UseFixedLotSize is turned on (i.e. non-zero). Otherwise, determines what to do if the lot size falls below the minimum from the receiver's broker – for example, the broker has a minimum of 0.1 lots; the sender specifies 0.1 lots; and the receiver has UseLotSizeMultiplier set to 0.5; leading to a size of 0.05 lots. If RoundUpToBrokerMinimum is turned on then the receiver will take the trade and use the broker's minimum lot size. If this setting is turned off, then the receiver will ignore the trade.</p>
<b>S/L and T/P</b>	

MaxSLPips	If non-zero, signals are amended so that the stop-loss on trades is never larger than this number of pips. If the sender does not specify a stop-loss then this number of pips will be used.
MaxCashRiskPerTrade	If non-zero, trades from the sender are ignored if the potential loss is larger than this amount (in the receiver's deposit currency), based on the lot size and stop-loss. Trades will be ignored if the sender does not specify a stop-loss and the receiver does not have MaxSLPips turned on (because loss is potentially unlimited). Please note that this risk is calculated using the tick-value at the time of trade placement, and this can then vary while the trade is active. The risk calculation also does not include any slippage compared to the sender's entry price.
MaxTPPips	If non-zero, signals are amended so that the take-profit on trades is never larger than this number of pips. If the sender does not specify a take-profit then this number of pips will be used.
<b>Account management</b>	
StopTradingBelowEquity	If turned on (greater than zero), the EA stops taking new signals and attempts to close all its existing orders if the account's equity falls below this cash value. The EA does not close any orders which it is not responsible for – i.e. from other EAs or from manual trading.
StopTradingAtDrawdownPercent	If turned on ( <b>less</b> than zero), the EA stops taking new signals and attempts to close all its existing orders if floating P/L falls below the specified percentage of balance. The percentage must be entered as a <b>negative</b> number. For example, if the value were set to -40, then the EA would terminate if e.g. account profit fell below \$-800 on a \$2000 balance. The EA does not close any orders which it is not responsible for – i.e. from other EAs or from manual trading.
MaxOpenOrders_Total	If non-zero, stops the EA taking new signals if the number of open/pending orders would exceed this value. For example, setting this parameter to 1 will stop the EA trading if there is already any open or pending order. The count includes all orders on the account, from any source, not just those created by the copier.

MaxOpenOrders_FromCopier	As above, but the count only includes orders placed by the receiver EA. There can be any number of orders from other EAs or from manual trading.
<b>Alerts and notifications</b>	
NewOrders_AlertOnScreen	If turned on, the EA displays an alert on screen about each new trade which it opens
NewOrders_AlertByEmail	If turned on, the EA sends an email about each new trade which it opens (using the MT4 settings in Tools/Options/Email)
ClosedOrders_AlertOnScreen	If turned on, the EA displays an alert on screen about each trade which it closes
ClosedOrders_AlertByEmail	If turned on, the EA sends an email about each trade which it closes (using the MT4 settings in Tools/Options/Email)
RejectedOrders_AlertOnScreen	If turned on, the EA displays a message on screen about each order which it chooses not to trade (e.g. because the lot size is too large/small).
RejectedOrders_AlertOnScreen	If turned on, the EA displays a message on screen about each order which is rejected by the broker.
RejectedOrders_AlertByEmail	If turned on, the EA sends an email about each trade which is rejected by the broker (using the MT4 settings in Tools/Options/Email)
Problems_AlertByEmail	Any problems requiring user attention are always displayed on screen. This setting determines whether the messages are also sent by email (using the MT4 settings in Tools/Options/Email)
<b>Alert text</b> (see below for variables)	
OrderOpen_ScreenAlertText	Text to display in relation to NewOrders_AlertOnScreen
OrderOpen_EmailSubjectLine	Subject line for emails sent by NewOrders_AlertByEmail
OrderOpen_EmailBody	Body text for emails sent by NewOrders_AlertByEmail
OrderClose_ScreenAlertText	Text to display in relation to ClosedOrders_AlertOnScreen
OrderClose_EmailSubjectLine	Subject line for emails sent by ClosedOrders_AlertByEmail
OrderClose_EmailBody	Body text for emails sent by ClosedOrders_AlertByEmail

### 4.3 Variables for use in receiver alert text

You can control the text which is displayed by the receiver on screen or sent by email. The following variables can be used in the alert text parameters such as

OrderOpen\_ScreenAlertText:

<b>Variable</b>	<b>Description</b>
{CHANNEL}	The name of the channel which the EA is receiving messages on
{ACC}	MT4 broker account number
{TICKET}	Broker ticket number of the receiver's order
{SYMBOL}	Symbol of the receiver's order
{LOTS}	Lot size of the receiver's order
{OPENTIME}	Open time of the receiver's order (broker time, not local or UTC)
{OPENPRICE}	Open price of the receiver's order
{CLOSETIME}	Close time of the receiver's order (broker time, not local or UTC)
{CLOSEPRICE}	Close price of the receiver's order (zero on open orders)
{BUYSELL}	"Buy" or "Sell" depending on the direction of the receiver's order
{CLOSEORDELETE}	If an order is being cancelled, "closed" or "deleted" depending on whether the trade copier is closing an open order or deleting a pending order
{PNL}	Cash profit/loss on the receiver's order (excluding swap and commission)
{PNLPIPS}	Profit/loss on the receiver's order in pips.
{SWAP}	Swap value on the receiver's order
{COMM}	Commission on the receiver's order (a negative number for commission charged)
{TOTALPNL}	Total profit/loss on the receiver's order: {PNL} plus {SWAP} plus {COMM}
{COMMENT}	The comment text assigned to the receiver's order
{POSITIONID}	The sender's ID for the signal
{MAGIC}	The magic number assigned to the receiver's order – the MagicNumber parameter for the EA
{SL}	The stop-loss price on the receiver's order (zero if none)
{TP}	The take-profit price on the receiver's order (zero if none)
{LOCALTIME}	The receiver's local time, according to the computer's clock
{BROKERTIME}	The broker's latest reported time
{CURR}	The receiver's deposit currency symbol
{BALANCE}	The receiver's account balance
{EQUITY}	The receiver's account equity
{FREEMARGIN}	The receiver's free margin
{MARGININUSE}	The receiver's margin usage
{COMPANY}	The broker's company name
{TERMINALPATH}	The location of the MT4 installation – e.g. C:\Program Files\MyBroker

{CRLF}

Inserts a new line, for use in emails

#### 4.4 Trading-time restrictions

The IncludeTradingTimes parameter in the receiver EA lets you control the times of day when the receiver is allowed to place trades. Any incoming order messages outside these times will be ignored. All times are interpreted as broker time, not local time.

The format of the IncludeTradingTimes parameter is a comma-separated list of permitted times, each of which can be either a single hour (or minute), or a range. Examples are as follows:

- 2:45            Only allow trading at 2.45am (i.e. between 02:45:00 and 02:45:59)
- 14             Only allow trading between 2pm and 2.59pm
- 16-17:30      Only allow trading between 4pm and 5.30pm
- 7:15-11       Only allow trading between 7.15am and 11.59am (**note:** 11:59, not 10:59 or 11:00)
- 19:20-19:25   Only allow trading between 7.20pm and 7.25pm

Any number of these settings can then be combined as a comma-separated list (in any order). Therefore, the above examples could be combined to create a complex trading window as follows:

2:45,14,16-17:30,7:15-11,19:20-19:25



## 5. Diagnosing problems

The sender and receiver EAs create comprehensive logs of their activity, both in MT4's "Experts" log and also in their own private log files in the experts\files directory of MT4.

### If no trades are copied...

If the receiver EA is successfully displaying a heartbeat from the sender on its chart but no trades are opened, then the two most common problems are as follows. (Both of these will be clearly recorded in the software's logs.)

- The difference between prices on the sender and receiver accounts is larger than the [AllowSlippagePips](#) parameter in the receiver EA.
- The software's default [lot sizing](#) is **not** to trade exactly the same sizes on the receiver as on the sender. The default conversion may mean that orders are too small to trade on the receiver account. You either need to turn on the [RoundUpToBrokerMinimum](#) parameter in the receiver EA, or you need to choose a different lot-sizing mode. Please note that both of these options will mean that the receiver is taking more risk per order than the sender account.

If the problem is something else, then please check the following:

- Check the MT4 Experts log for error messages
- Check that the sender and receiver EAs are both running.
- Check that the MT4 "Expert Advisors" button is turned on in both copies of MT4.
- Check that both EAs are displaying a status notification in the top right of their charts, and that the heartbeat time is periodically changing on both charts.
- Check that both copies of MT4 have a connection to their brokers, and are receiving ticks.
- Check that the sender and receiver EAs are using the same "Channel" parameter.
- Check that the "Allow DLL imports" setting is turned on for both the sender and receiver EA.
- Check that the "Allow live trading" setting is turned on for the receiver EA.
- Check that the symbols being traded are included in the Market Watch in the receiving copy of MT4.
- Check that there is only one receiver EA using the specified "Channel".

**If trades are instantly closed on the receiver...**

- Check that there is only one EA sending messages on the specified “Channel”.