

What it is and what it's for

Below you can find descriptions of a number of experts for trailing (moving stoploss of an open position) according to different algorithms, written on MQL4 for MetaTrader platform. Each description consists of a brief info on the algorithm, description of expert's parameters and an example of parameters when using an expert.

Warning!

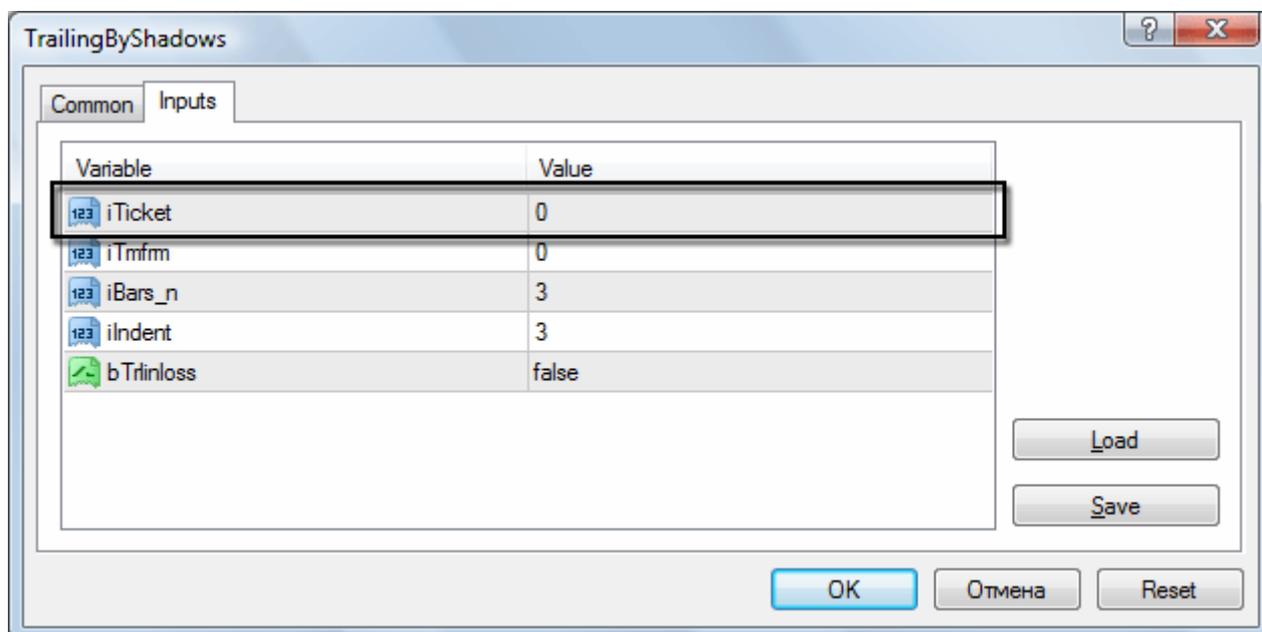
Trailing experts change stoploss of an open position. So if chosen incorrectly (the type of trailing or its parameters) or due to unknown mistakes (nobody is ideal, me too) they may lead to a worse result than you were, maybe, waiting. They have also been written by me for my own purposes thus may not be applicable to some trading techniques that I don't know/use.

Remember that an expert is an instrument which, as any instrument, needs clear understanding of its purpose, possibilities etc. So before using these experts on your real money, please, make sure that you know what you are doing and remember that you are doing that on your own risk. The author or distributors of these materials are not responsible for any bad results caused by use/misuse of the following experts.

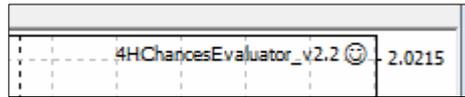
Also, as author of these EAs and having some experience using them, I must warn you of searching Holy Grail in trailing. Trailing is a "double-edged weapon" so to say, and you'll have to decide yourself how tight or, on the contrary, loosely your trailing system should act. At the moment I have not created nor seen trailing systems adaptive and intelligent enough to be able to "pull" maximum from any (both losing and profitable) position (but there are adaptive trailing algorithms, and you can find some of them in this package as well).

How to use it (general for all experts)

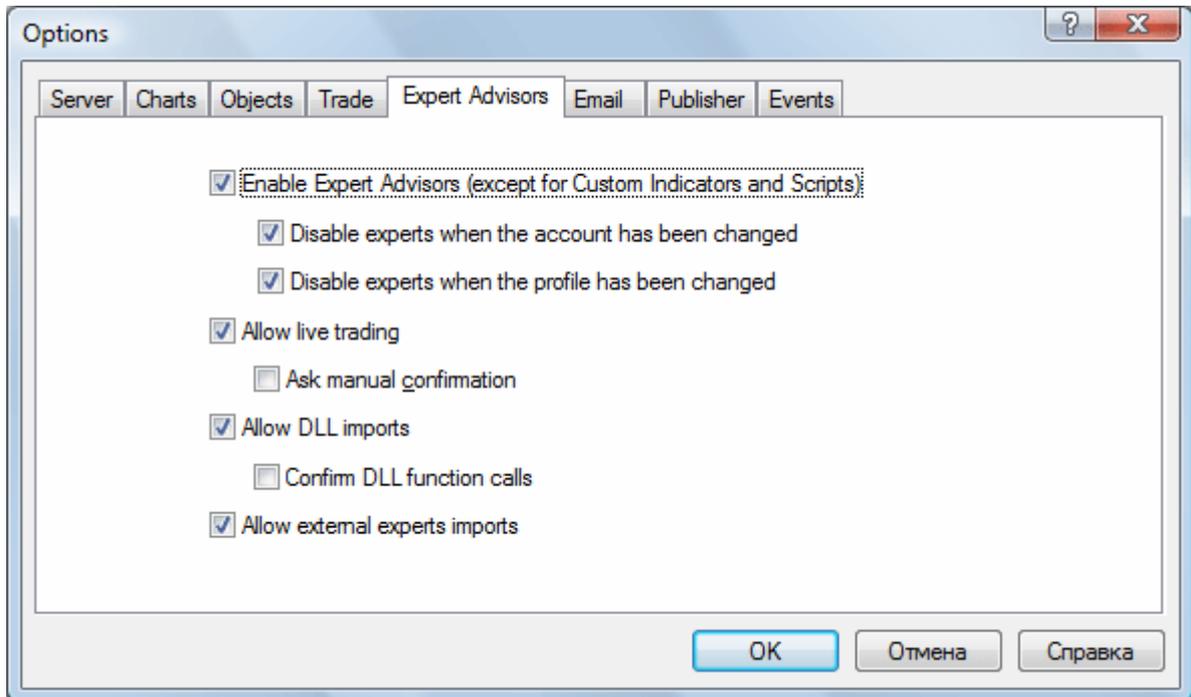
- Download **TrailingExperts.zip** file, unzip experts (*.mq4 and *.ex4 files) it to **[MetaTrader Directory]/Experts** directory;
- In the MT4 terminal open "Navigator" window (Ctrl-N), in "Expert advisors" find the needed expert, double click it or drag to chart window;
- Enter all needed parameters (see description of each expert); the common thing of all trailing experts is that you need to enter the Ticket of open position that needs trailing (parameter **iTicket**, see image below). Other parameters differ from expert to expert though some are present in several and have similar meaning.



- After entering all needed parameters and clicking “Ok” on parameters window you should see the title of EA in the top-right corner of chart window and a “smiling sign” after it (like it’s shown below)



If the sign is not “smiling” make sure that EAs are activated in your terminal and for this account (“Tools > Options > Expert Advisors” – the box “Enable Expert Advisors (...)” must be checked)



- If you need to change expert’s properties, it’s quick to use “F7” button; as trailing experts move SL of an open position, make sure that you’ve opened one ☺;
- If you needn’t the EA anymore, remove it from the chart by right-clicking anywhere and “Expert advisors > Remove”.

Experts list:

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Trailing by Shadows

Expert name: **TrailingByShadows.ex4**

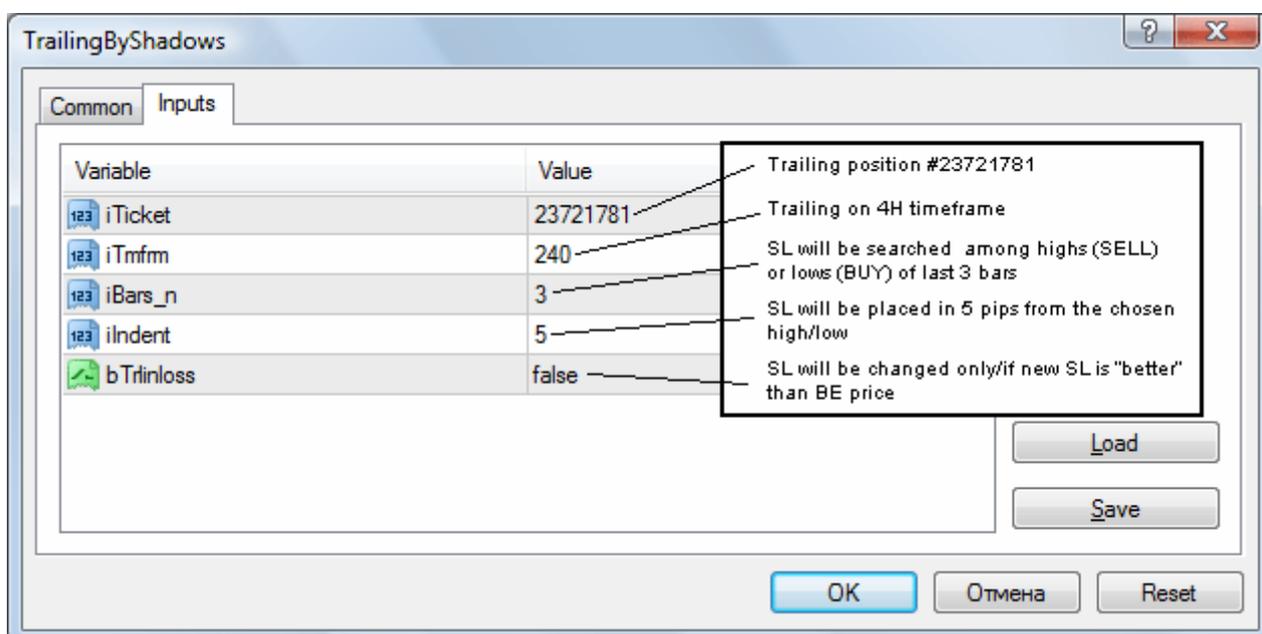
Description:

Expert keeps SL below the low of the lowest of N last bars (for a long position) or over the high of the highest of N last bars (for a short position) with an adjusted indent of pips. SL is changed on the first tick of a new bar, only in decreasing direction, can be moved either only in "profit area" (from BE, as usual trailing does) or in "loss area" as well (from initial stoploss to BE and further to "+").

Parameters:

Parameter Name	Parameter Type	Description
iTicket	integer	Unique numerical identifier of an opened position, the first column in MT4 "Terminal" window, for ex. " 23721781 " (enter without quotation marks)
iTmfrm	integer	Timeframe, by bars of which EA should trail SL: 1 means M1 (1 minute) timeframe, 5 – M5, 15 – M15, 30 – M30, 60 – H1, 240 – H4, 1440 – D1, 10080 – W1, 43200 – W1. Timeframe for trailing can differ from the current one.
iBars_n	integer	Quantity of closed bars, by lows (for BUY) or highs (for SELL) of which current SL price should be calculated. For ex., 2 (means that for a long position SL will be under the low of that one of 2 last bars, which is the lower one)
iIndent	integer	Indent in pips from the selected low (for BUY) or high (for SELL) with which SL will be placed. For ex., if we are in a long position, the lower low of 2 bars is 1.5460 and iIndent is 5 then SL will be placed at 1.5460 – 5 pips = 1.5455
bTrinloss	bool	Parameter that indicates whether SL should be moved in the interval between opening price and initial stoploss price (in "loss area"). True – SL will be moved even in loss, False – SL will start moving only when/if new SL is higher (for BUY) or lower (for SELL) than the price position was opened at

Example



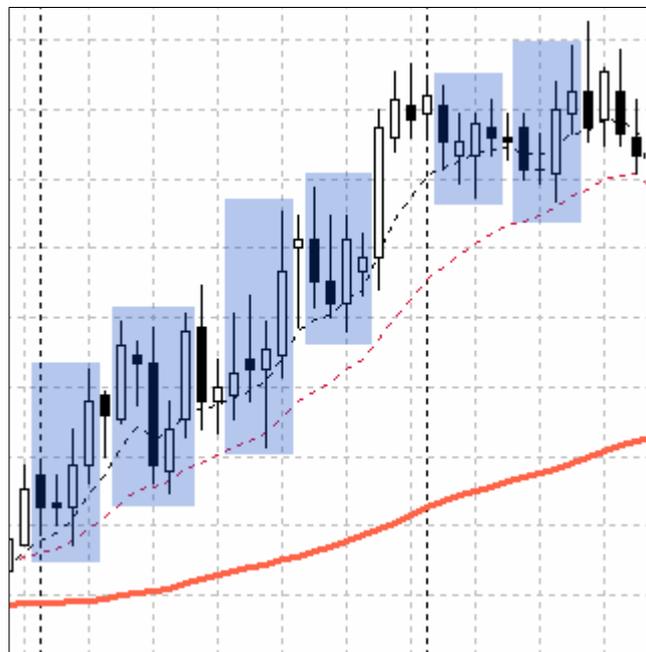
Trailing by Fractals (Retracements)

Expert name: **TrailingByFractals.ex4**

Description:

At first let's distinguish with the terms. Bill Williams defined a fractal as "a series of at least five successive bars, with the highest HIGH in the middle, and two lower HIGHS on both sides. The reversing set is a series of at least five successive bars, with the lowest LOW in the middle, and two higher LOWs on both sides, which correlates to the sell fractal. In this EA a term fractal is used in a broader meaning – *as a turn of price* represented in candlesticks (I of course could have called that just "turning" but it so to say formed historically). (My

Fractal should not obligatory have 5 bars but can be any number bigger than 3 and can be even (3, 4, 7 etc). The main criterion is that among those bars there's one with "extremum" – with the lowest low for fractals on uptrend and with the highest high – on a downtrend. So this type of trailing could also be called trailing by retracements. On the image you can see 6 4-bar "fractals". If we were in a long position and were trailing by this EA, we would be stopped after the 5th fractal (as the extremum of the 6th one is lower than that of the 5th). This type of trailing changes SL

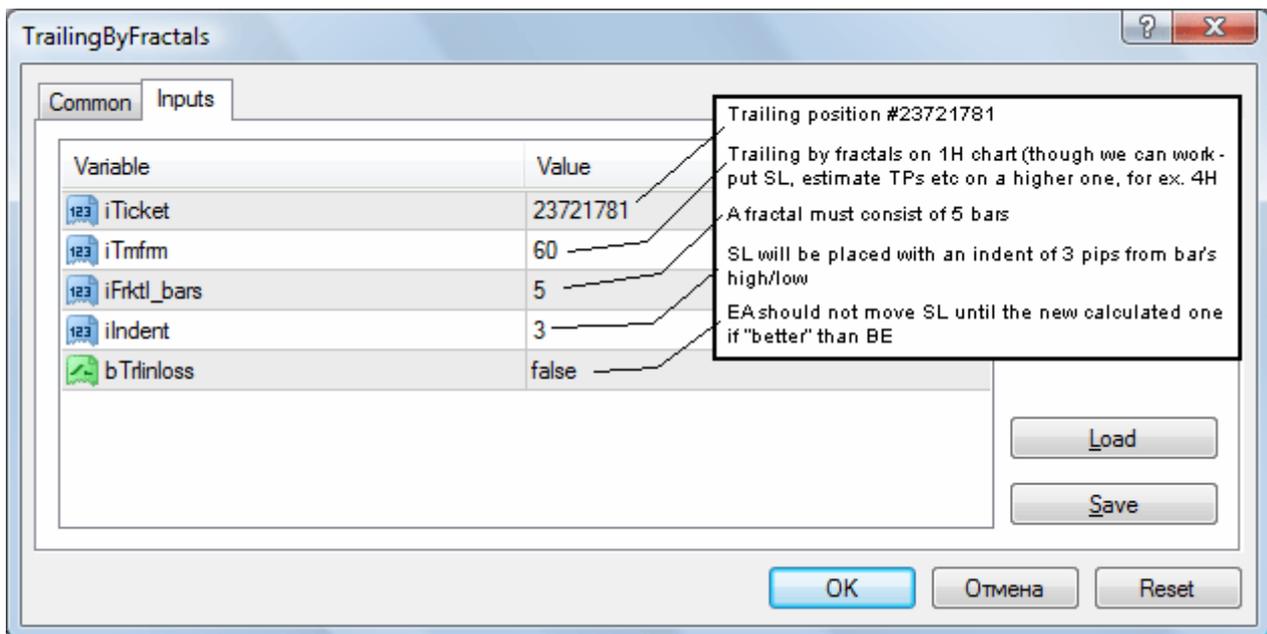


once per bar on the first tick of a new bar and also can trail SL in the "loss area" if needed.

Parameters:

Parameter Name	Parameter Type	Description
iTicket	integer	Unique numerical identifier of an opened position, the first column in MT4 "Terminal" window, for ex. "23721781" (enter without quotation marks)
iTmfrm	integer	Timeframe, by fractals of which EA should trail SL: 1 means M1 (1 minute) timeframe, 5 – M5, 15 – M15, 30 – M30, 60 – H1, 240 – H4, 1440 – D1, 10080 – W1, 43200 – W1.
iFrctl_bars	integer	Quantity of closed bars forming a fractal, must be more than 3 . For ex., 5 (for a long position EA will be searching on the chart candlestick groups of 5 bars among which the middle, the 3rd bar will have the lowest low)
iIndent	integer	Indent in pips from the selected low (for BUY) or high (for SELL) with which SL will be placed. For ex., if we are in a long position, the extremum is 1.5460 and iIndent is 5 then SL will be placed at 1.5460 – 5 pips = 1.5455
bTrlinloss	bool	Parameter that indicates whether SL should be moved in the interval between opening price and initial stoploss price (in "loss area"). True – SL will be moved even in loss, False – SL will start moving only when/if new SL is higher (for BUY) or lower (for SELL) than the price position was opened at

Example



“Standart-Stairs” Trailing

Expert name: TrailingStairs.ex4

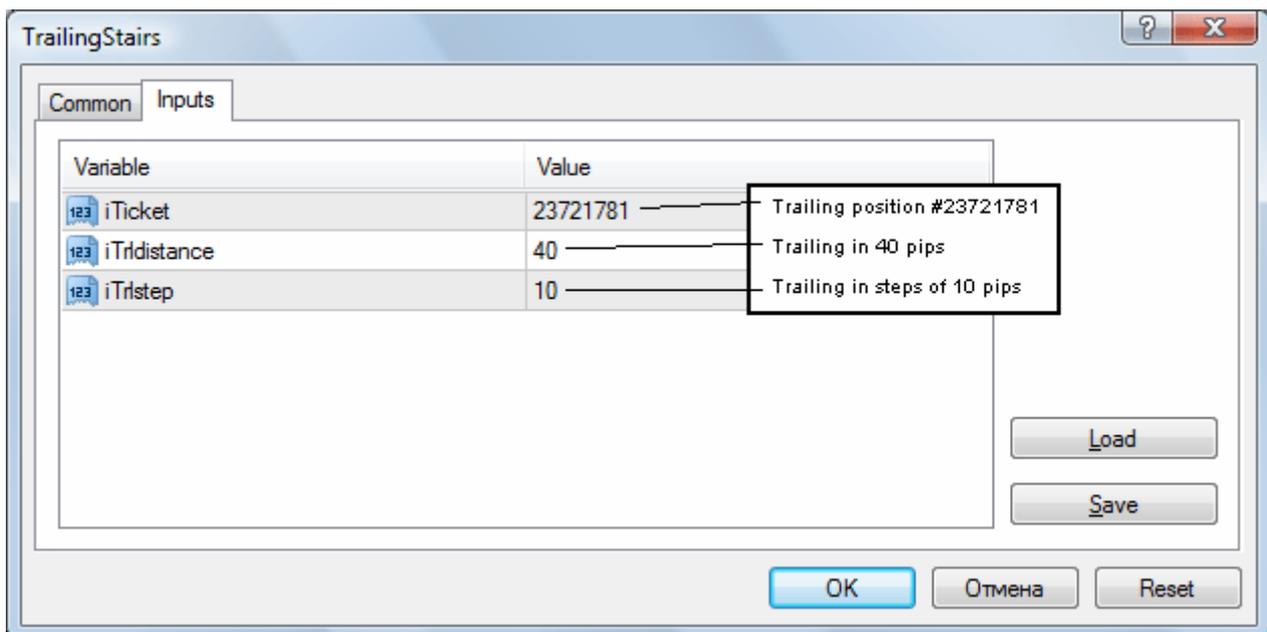
Description:

Usual trailing goes tick by tick, for example, with trailing in 30 pips when position gains +30, SL is moved from its original position to BE, at +31 SL moves to +1, at +32 – SL to +2 etc. This type of trailing which I called “Standard-stairs” differs from the basic one by that it moves SL by “steps” or “stairs” of defined size after price moved for the same “step”. For ex., if we want to trail SL in 50 pips with a step of 10 pips then when profit reaches +50 pips SL is moved to BE. Then only after/if the price goes to +60 SL is moved from BE to +10 (makes a 10-pips “step”), at +70 SL is moved to +20 etc. So this algorithm gives the price some area for fluctuations (but on the other hand we can loose some profit).

Parameters:

Parameter Name	Parameter Type	Description
iTicket	integer	Unique numerical identifier of an opened position, the first column in MT4 “Terminal” window, for ex. “ 23721781 ” (enter without quotation marks)
iTrldistance	integer	Distance on which SL is moved behind the price (pips). For example, 30 (pips)
iTrlstep	integer	The size of a “step” or “stair” with which SL is moved. For example, 10 (pips). When distance between price and current SL reaches iTrldistance+ iTrlstep SL is moved for iTrlstep pips so this distance becomes = iTrldistance and then again waiting for distance to reach iTrldistance+ iTrlstep and so on

Example



“Running Knot” Trailing

Expert name: TrailingRunningKnot.ex4

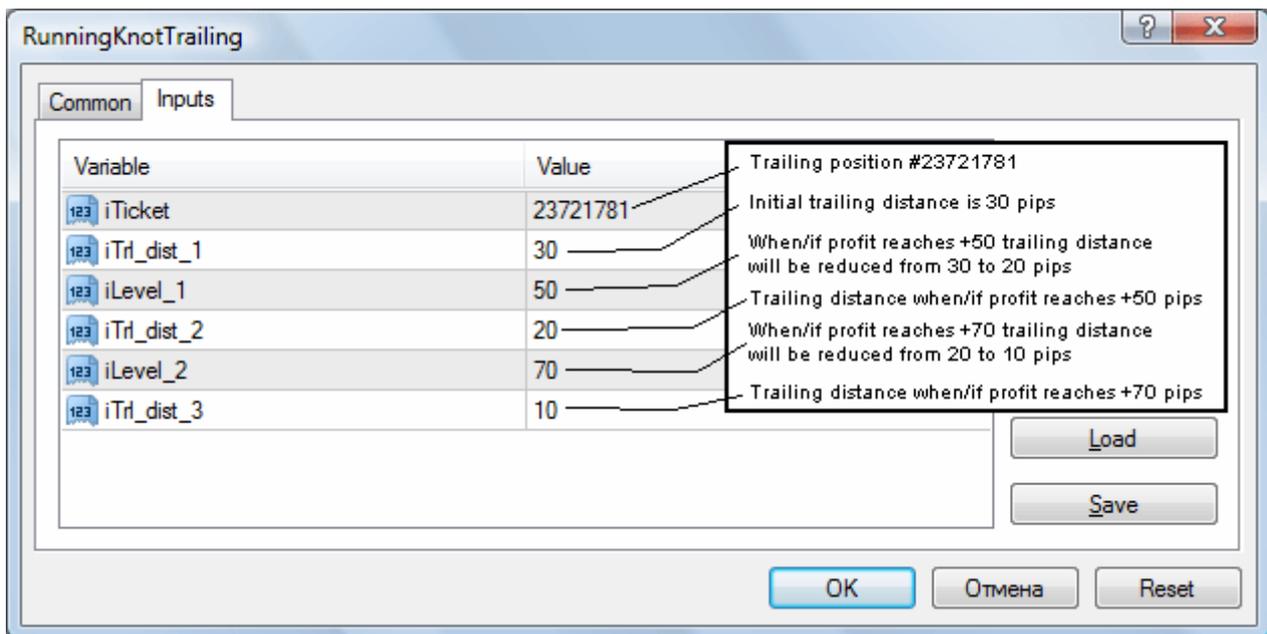
Description:

This type of trailing allows changing trailing distance when an open position reaches defined profit levels. As price impulses can't be endless and after some run they tend to be changed by consolidations/retracements/turnings, so it would be logical to move stoploss “the further – the tighter”. One could use this methodology if medium distance for an impulse have been found during backtesting or when trading in a channel – when price approaches the border, trailing distance is reduced (so we maximize the profit and at the same time leave the price a chance to break the border).

Parameters:

Parameter Name	Parameter Type	Description
iTicket	integer	Unique numerical identifier of an opened position, the first column in MT4 “Terminal” window, for ex. “ 23721781 ” (enter without quotation marks)
iTrl_dist_1	integer	Initial trailing distance (as in usual trailing) in pips. For example, 30 – means that when a trade gets +30 SL is moved to BE, at +31 – SL is moved to +1 etc.
iLevel_1	integer	Profit level, in pips, at which trailing distance will be changed from iTrl_dist_1 to iTrl_dist_2 . For example, 50 means that when/if profit reaches +50 pips trailing distance will be changed from initial 30 (see above) to say 20 pips (see next parameter)
iTrl_dist_2	integer	Distance, at which trailing stop will be moved behind the price after profit reached iLevel_1 . For ex., 20 means that when/if profit reaches +50 (see above) pips, trailing distance will be reduced from 30 (iTrl_dist_1) pips to 20 pips (so trailing will become “tighter”)
iLevel_2	integer	Profit level, in pips, at which trailing distance will be changed from iTrl_dist_2 to iTrl_dist_3 . For example, 70 means that when/if profit reaches +70 pips trailing distance will be changed from 20 (iTrl_dist_2) to say 10 pips (see next parameter, iTrl_dist_3)
iTrl_dist_3	integer	Trailing distance which will be applied to SL when/if profit reaches iLevel_2 . For ex., 10 means that when/if profit reaches +70 (iLevel_2) pips, trailing distance will be reduced from 20 (iTrl_dist_2) pips to 10 pips (and position is likely to be closed soon)

Example



Trailing by Time

Expert name: **TrailingByTime.ex4**

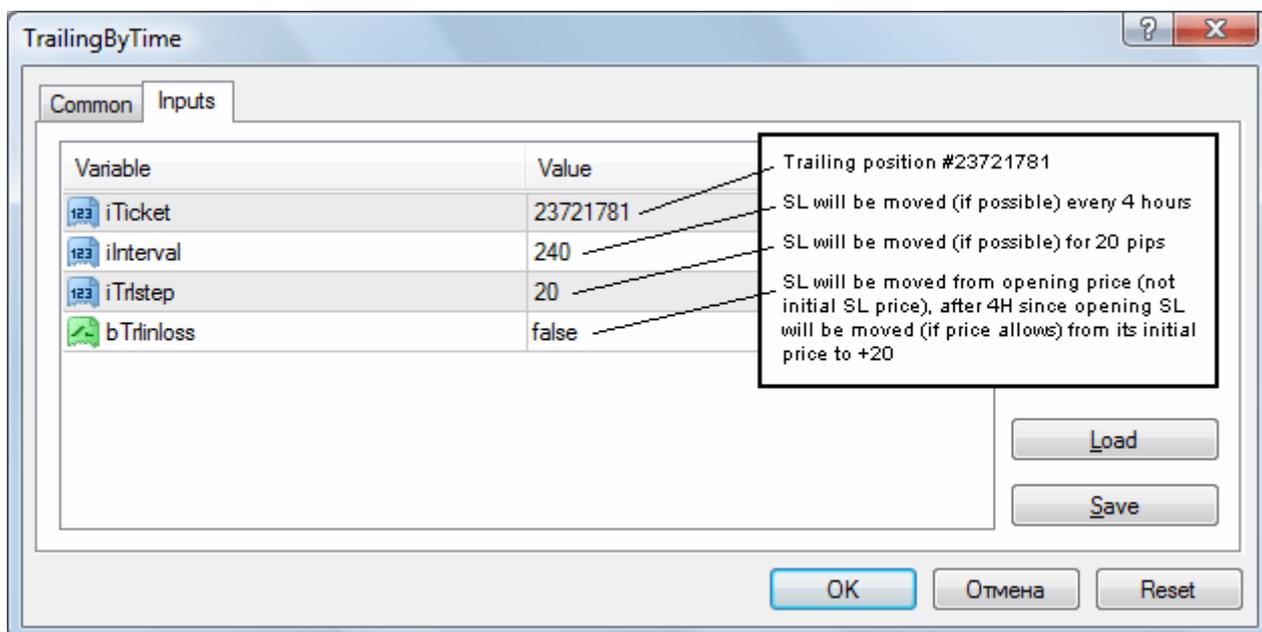
Description:

Trailing expert which tries to move SL (if price allows) in defined time periods for adjusted distance (irrespective of price action). If backtesting showed that say "if position was opened right, profit grew on average 10 pips per 1 hour and if it wasn't so, price tended to turn soon and position got closed at SL", it may have some sense to move SL by time.

Parameters:

Parameter Name	Parameter Type	Description
iTicket	integer	Unique numerical identifier of an opened position, the first column in MT4 "Terminal" window, for ex. " 23721781 " (enter without quotation marks)
iInterval	integer	Time interval in minutes, in which EA will try to tighten SL. For example, 240 – means that EA will try to move SL every 4 hours for a step of iTrlstep pips
iTrlstep	integer	Distance ("step") for which SL is moved after another iInterval minutes. For example, 20 means that every 4 hours (iInterval) SL will be moved by 20 pips (if possible)
bTrlinloss	bool	Parameter that indicates whether SL will start moving from initial stoploss price (in "loss area") or from opening price. True – SL will be moved starting from initial SL price, False – SL will start moving from the opening price

Example



Trailing by ATR

Expert name: **TrailingByATR.ex4**

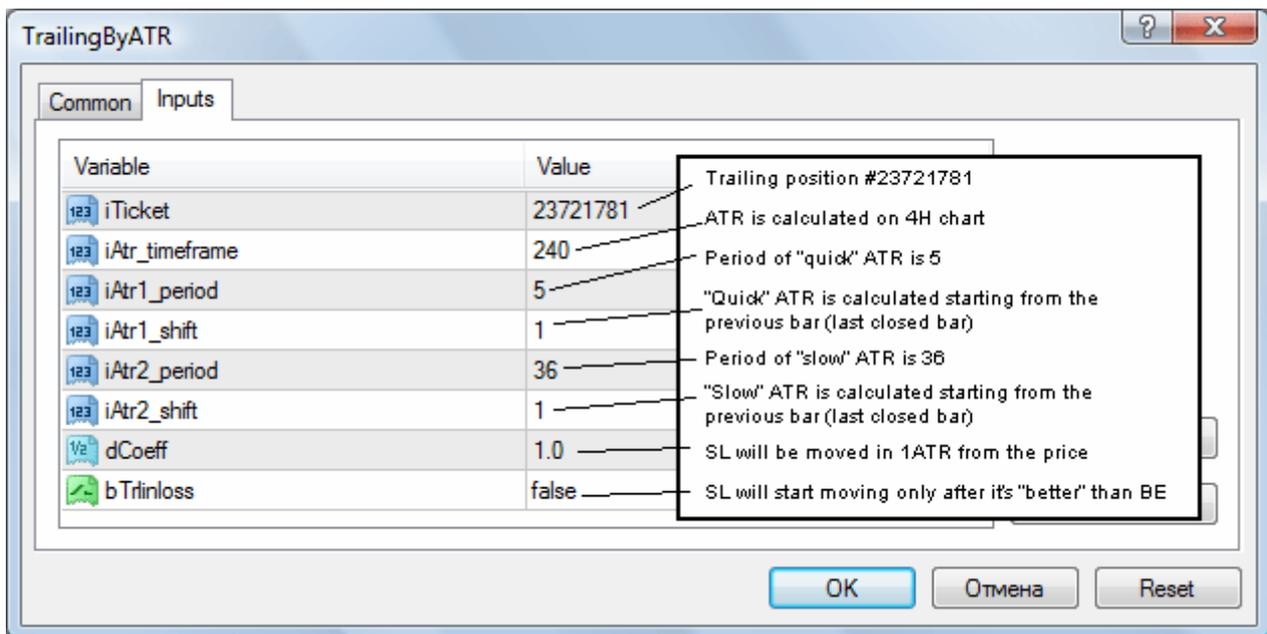
Description:

ATR (Average True Range) is one of volatility indicators; the higher volatility (amplitude of price movement, price mobility) – the higher its value; is measured in pips. Information about the way it's calculated and interpreted can be easily found through search engines. Trailing by ATR in many cases allows to change SL according ("adaptively", "adequately") to the way price behaves – when the price is in a strong trend and volatility is high, we "give it some space" and move SL more loosely, and when the price is moving sideways, trailing becomes more tight. This EA uses 2 ATR indicators, and it's suggested that they should have different periods (one is "quick", say 5, and another – "slow", for ex. 20). For SL calculation EA uses the higher value from these 2 ATRs which should prevent SL of becoming too small after several small successive bars (like before the news).

Parameters:

Parameter Name	Parameter Type	Description
iTicket	integer	Unique numerical identifier of an opened position, the first column in MT4 "Terminal" window, for ex. "23721781" (enter without quotation marks)
iAtr_timeframe	integer	Timeframe on which ATR values are calculated (may differ from the current one). Possible variants: 1 (M1), 5 (M5), 15 (M15), 30 (M30), 60 (H1), 240 (H4), 1440 (D1), 10080 (W1), 43200 (M1)
iAtr1_period	integer	Period of the first ATR indicator (it's highly recommended that it should be different from the period of another ATR, iAtr2_period)
iAtr1_shift	integer	Defines from what bar the indicator should start calculating its value. For ex., 1 means that ATR will be calculated over the period of iAtr1_period bars <i>starting from the previous bar</i> (0 means the last bar, which hasn't closed yet)
iAtr2_period	integer	Period of the second ATR indicator (it's highly recommended that it should be different from the period of another ATR, iAtr1_period)
iAtr2_shift	integer	Defines from what bar the indicator should start calculating its value. For ex., 1 means that ATR will be calculated over the period of iAtr2_period bars <i>starting from the previous bar</i> (0 means the last bar, which hasn't closed yet)
dCoeff	double	SL is calculated as $ATR * dCoeff$ (where ATR is the bigger value among the two calculated), so dCoeff shows in the distance of how many ATRs from the current price should SL be placed. If dCoeff = 1 then SL will be placed 1 ATR away from the current price, with dCoeff = 1.5 stoploss will be placed in the distance of 1.5ATRs
bTrlinloss	bool	Parameter that indicates whether SL will start moving from initial stoploss price (in "loss area") or from opening price (when new calculated SL is "better" than BE. True – SL will be moved starting from initial SL price, False – SL will start moving from the opening price

Example



“Ratchet” Trailing

Expert name: **TrailingRatchetB.ex4**

Description:

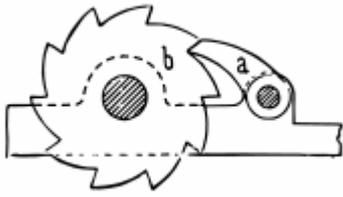


image from wikipedia.org

Ratchet mechanism is the one “rotating only in one direction”. I met the idea of this trailing algorithm for the first time in articles of Russian trader V.Barishpoltz. This is a complex trailing according to which the “area” around the opening price (both in loss and in profit) is divided into zones at which different trailing techniques are applied. The method is aimed at moving SL to BE as quick as possible (originally – at +5), “stairs” trailing at small profits (10-25 pips) and giving price a chance to

run if it passes through those “take-off” levels. Barishpoltz mentioned that absolute majority of trades give profit at least for some time and saw this algorithm as the way to decrease the number of losses. In the end this type of trailing brings a lot of BE trades or trades with small profits/losses and only those “strong” movements that don’t retrace shortly after opening a trade may give a big profit. Original idea by Barishpoltz was further developed by members of one Russian forum by adding similar “zones” in the “loss area” so the EA has instructions for SL management for both positive and negative scenarios.

Parameters:

Parameter Name	Parameter Type	Description
iTicket	integer	Unique numerical identifier of an opened position, the first column in MT4 “Terminal” window, for ex. “23721781” (enter without quotation marks)
iPf_level_1	integer	Profit level (in pips) at which SL will be moved to +1. For example, 10 means that when/if price reaches +10, SL will be moved to BE+1 pips
iPf_level_2	integer	Profit level (in pips) at which SL will be moved from +1 to iPf_level_1 pips from opening. For example, 20 means that at +20 stoploss will be moved from +1 to +10 (if iPf_level_1 = 10)
iPf_level_3	integer	Profit level (in pips) at which SL will be moved from iPf_level_1 to iPf_level_2 pips from opening. For example, 30 means that at +30 stoploss will be moved from +10 to +20 (if iPf_level_1 = 10 and iPf_level_2 = 20). Further other trailing algorithms can be applied
iLs_level_1	integer	Loss level (price level in loss area) to which SL will be moved when/if profit reaches +1. For example, 15 will mean that when position reaches +1 SL will be moved from its original position to -15 pips
iLs_level_2	integer	Loss level (price level in loss area) to which SL will be moved from its original position if price went below (example for BUY) iLs_level_1 and then crossed it back and went above iLs_level_1 (so loss exceeded iLs_level_1 pips, and then became smaller). For example, 25 will mean that if price didn’t go to profit but went straight to -15 (iLs_level_1) and then it returns and loss becomes less than iLs_level_1 , SL will be moved from its original position to -25

iLs_level_3	integer	Loss level (price level in loss area) to which SL will be moved from its original position if price went below (example for BUY) iLs_level_2 and then crossed it back and went above iLs_level_2 (so loss exceeded iLs_level_2 pips, and then became smaller). For example, 35 will mean that if price didn't go to profit but went straight to -25 (iLs_level_2) and then it returns and loss becomes less than iLs_level_2 , SL will be moved from its original position to -35
bTrlinloss	bool	Parameter that indicates whether EA should consider zones in "loss area" or move SL only when new SL is "better" than BE. True – SL will be moved in "loss area", False – SL will be moved only starting from BE

Example

The screenshot shows the 'TrailingRatchetB' configuration window with the 'Inputs' tab selected. The following table represents the data shown in the window:

Variable	Value
iTicket	23721781
iPf_level_1	10
iPf_level_2	20
iPf_level_3	30
iLs_level_1	15
iLs_level_2	25
iLs_level_3	35
bTrlinloss	true

The callout box provides the following logic for the iLs_level variables:

- Trailing position #23721781
- SL will be moved to +1 when we have +10
- SL will be moved to +10 when we have +20
- SL will be moved to +20 when we have +30
- SL will be moved to -15 when we have +1
- If price goes to -15 and then loss becomes less than -15, SL will be moved from its original price to -25
- If price goes to -25 and then loss becomes less than -25, SL will be moved from its original price to -35
- EA will work with price movements both in loss and profit areas

Trailing by Price Channel

Expert name: **TrailingByPriceChannel.ex4**

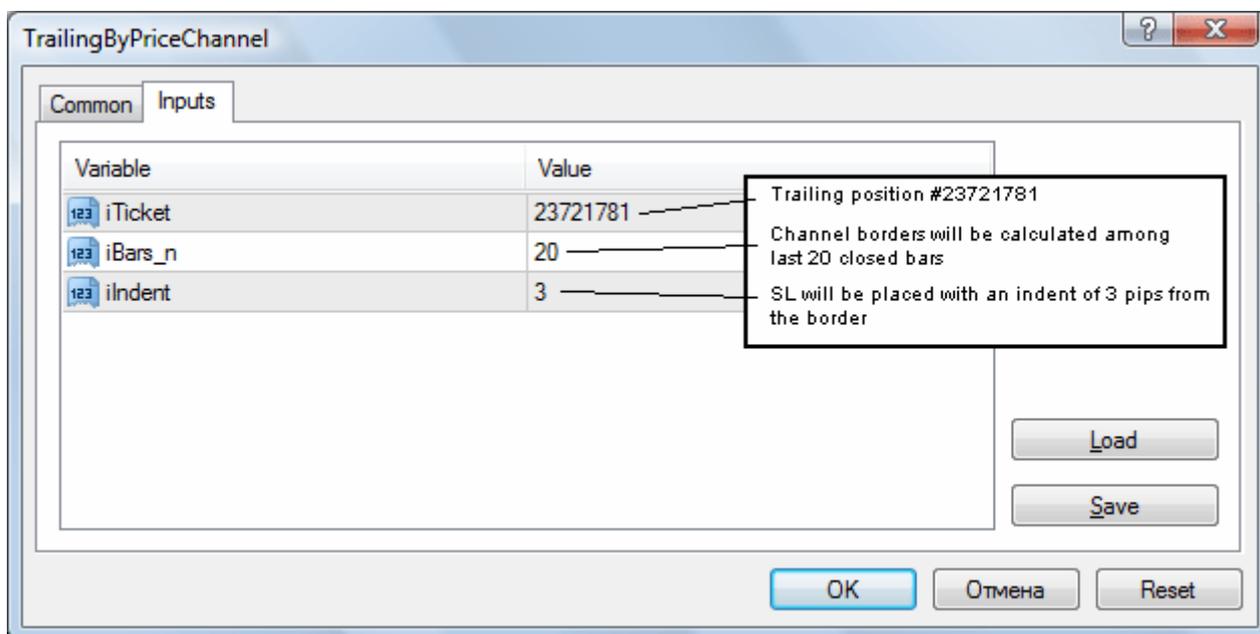
Description:

Channel is an interval between the price of the highest high of N last bars and the lowest low among the same number of bars. Lower border (the lowest low) will be used for trailing long positions and the upper border (the highest high) – for the short ones. This type of trailing gives similar results to Trailing by Shadows (page 3) and Trailing by Fractals (page 4) though has a bit different idea behind it.

Parameters:

Parameter Name	Parameter Type	Description
iTicket	integer	Unique numerical identifier of an opened position, the first column in MT4 "Terminal" window, for ex. " 23721781 " (enter without quotation marks)
iBars_n	integer	Quantity of closed bars among which the highest high and the lowest low are searched (which are treated as borders of the channel). For example, 20 means that 20 bars before the current one (which is not closed) will be analyzed
iIndent	integer	Indent in pips from the selected low (for BUY) or high (for SELL) with which SL will be placed. For ex., if we are in a long position, the lowest low is 1.5460 and iIndent is 5 then SL will be placed at $1.5460 - 5 \text{ pips} = 1.5455$

Example



Trailing by MA (Moving Average)

Expert name: TrailingByMA.ex4

Description:

EA moves SL below (for long positions) or above (for short ones) a moving average with defined parameters. Can give nice results when in trend but might be not the best one when price moves sideways and thus is crossed by MAs.

Parameters:

Parameter Name	Parameter Type	Description
iTicket	integer	Unique numerical identifier of an opened position, the first column in MT4 "Terminal" window, for ex. " 23721781 " (enter without quotation marks)
iTmfrm	integer	Timeframe on which MA will be calculated (may differ from the current one). Possible variants: 1 (M1), 5 (M5), 15 (M15), 30 (M30), 60 (H1), 240 (H4), 1440 (D1), 10080 (W1), 43200 (M1)
iMAPeriod	integer	Averaging period for calculation. For example, 21 .
iMAShift	integer	MA shift. Indicators line offset relate to the chart by timeframe. For example 0 means that MA will be calculated starting from the current bar
iMAMethod	integer	MA method. Possible variants: 0 – simple moving average, 1 - exponential moving average, 2 - smoothed moving average, 3 - linear weighted moving average
iAppIPrice	integer	Applied price. Possible variants: 0 – close price, 1 – open price, 2 – high price, 3 – low price, 4 – median price $((high+low)/2)$, 5 – typical price $((high+low+close)/3)$, 6 – weighted price $((high+low+close+close)/4)$
iShift	integer	Index of the value taken from the indicator buffer (shift relative to the current bar the given amount of periods ago). For example, 1 means that SL will be placed near MA value on the previous to current bar (which is the last one that closed)
iIndent	integer	Indent in pips from calculated MA value with which SL will be placed. For ex., if we are in a long position, MA is 1.5460 and iIndent is 5 then SL will be placed at $1.5460 - 5 \text{ pips} = 1.5455$

Example

