MDP-Plus

MDP-Plus is an ”educated” or “hacked” version of the Forex robot called “MillionDollarPips”. It’s originally based on the version 1.1.0 but had the following fixes and enhancements:

- No need for any DLL-file.
- It works with any currency pairs, although it still performs best on EURUSD.
- No need for any registration.
- Works with any 5-digit broker that allows scalping.
- Fixed stack overflow problem.

During a moment of boredom, I decided to take a closer look at this robot, since it was so popular, and many also reported that it was very profitable compared to most other commercial robots. So during spare times I first decided to compare it with the original, and also clean up the code so that I could understand its strategy, and hopefully improve it.

Ver. 1.0 (2011-09-24) by Capella:

- Cleaned program code that is fully readable, with proper names for functions and variables, and unused variables and program code removed.

- Dynamic settings for TakeProfit and StopLoss can now be changed from external settings as VolatilityLimit and Scalpfactor.

- Forced TrailingStop, as all tests shows that this is mandatory to make profit.

- This manual with explanation on how to use this robot.

Ver. 2.0 (2011-10-23) by Capella:

- Changed name from MDP-edu to MDP-Plus.

- Automatic trailing stop.

- Added additional settings for scalping as follows: UseMovingAverage, UseBollingerBands, and OrderExpireSeconds.

- Cleaned the code even more, to make it more readable.

Ver. 2.1 (2011-11-01) by Capella:

- Added IndicatorPeriod as external parameter.

- Modified calculation of the variable that triggers trade for better Performance.

- Removed Distance as an external, and automatically adjust it to be the same as broker STOPLEVEL instead, in order to overcome error 130. Error 130 can still occur though, depending on the fact that the robot tries to modify the StopLoss as close as possible to the broker STOPLEVEL. However, in most cases the StopLoss will be modified the following tic.

- Removed call for the function "sub_moveandfillarrays" as it doesn't make any difference.

Ver 2.1.1 - 2011-11-05 by Capella:

- Fixed a bug in the calculation of "local_highest" and "local_lowest" that caused wrong calls for "OrderModify".

- Changed the calculation of STOPLEVEL to also consider FREEZELEVEL.

Ver 2.1.2 - 2011-11-06 by Capella:

- Changed default settings according to extensive optimized backtests using a wide fixed spread of 1.6 pips.

- Added external parameter Deviation for iBands, default 2.0.

Ver 2.1.3 - 2011-11-07 by Capella:

- Fixed a bug for calculation of "local_isbidgreaterthanindy" that never triggered "BUY_STOP" and "SELL_STOP" order to be modified.

Ver 2.1.4 - 2011-11-09 by Capella:

- Fixed a bug that only made the robot trade on SELL and SELLSTOP.
- Put back the call for the sub "sub_moveandfillarrays" except the last nonsense part of it. The first part did make sense.
- Changed the default settings and re-ordered the global variables.

Ver 2.1.5 - 2011-11-10 by Capella:

- Fixed a bug that caused the robot to not trade for some brokers (if variable "local_scalpsize" was 0.0).
- Fixed a bug that could cause the lot-size to be calculated wrongly.
- Better output of debug information (more information).
- Moved a fixed internal Max Spread to an external. The default internal value was 40 (4 pips), which is too high IMHI.
- Renamed some local variables to more proper names in order to make the code more readable.
- Cleaned code further by removing unused code.

Ver 2.1.5a - 2011-11-15 by blueprint1972:

- Added Execution time in log files, to measure how fast orders are executed at the broker server.

Ver 2.2 - 2011-11-17 by Capella:

- An option to calculate "VelolcityLimit" dynamically based on the spread.
- Removed parameter "Scalpfactor" as it had no impact on the trading conditions, only on lotsize.
- Moved the parameter "IndicatorPeriod" to a global variable, as changing this value had little or no impact on the trading. The value is set to 3, so indicators are calculated 3 bars back.
- Better lot calculation, now entirely based on FreeMargin, Risk and StopLoss.
- A new scalp factor called "DynamicVolatilityLimit" based on the difference between VolatilityLimit and iHigh / iLow for triggering trades.
- The robot can now trade automatically on all currency pairs within spread limit from one single chart.
- Added broker Suffix.
- It now works on 4-digit brokers as well. However, the performance on 4-digit brokers is worse than on 5-digit brokers, and there are much less trades.

Usage

Attach this robot on EURUSD chart M1 timeframe. It will run on other currency pairs also, and can be set to automatically trade on all 27 major currency pairs from the same chart. However, the robot is optimized for currency pairs that have the lowest possible spread, which normally is EURUSD. It can be attached to any timeframe, since it's forcing all calculations to be done on a tic-basis on M1. If you attach it on any other currency pair, then be sure that this currency pair has a low spread.

This robot performs very well on backtests, it performs not as good on demo-accounts, and in order to perform on live accounts it's important to use a broker that (1) accepts scalping without limits, (2) offers a narrowed "Spread" and "Stop Level", (3) does not send requotes and slippage too often. In most cases, the robot will perform badly on live accounts, because of the above "problems". Also, it's important to have the MetaTrader4 platform running on a computer or server as close as possible to the broker server in order to have as fast execution of orders as possible (latency).

Input Settings

General Settings:

The settings under "General settings" should not affect the trading.

Magic: This is known as the MagicNumber in MetaTrader, a number that must be unique for every robot attached to the MetaTrader platform. The default value is 0, which is equal to the number for manual trading. If you attach other robots to the same MT4 platform, then each robot must have its unique number. If this is the only robot attached, then leave this number to 0.

OrderCmt: This is a comment sent with every order to the broker, and it also appears in the Terminal window under the tab Trade and Comments. The default text is empty (none). Only change this if you run several robots on the same MT4 platform and want to be able to identify the trade for each robot. An empty comment line imitates manual trading.

Suffix: Some brokers adds a suffix to thee currency pairs. For instance the currency pair "EURUSD" it could be that the broker writes it as "EURUSDm" or "EURUSDifx". In such case, the suffix is "m" or "ifx", which must be added here.

NDD_Mode: Most brokers accepts that TakeProfit and StopLoss are sent at the same time as the order is sent (NDD_Mode = FALSE). However, some brokers requires the order to be sent without TakeProfit and StopLoss, and then a following order that modifies the first order with the TakeProfit and StopLoss (NDD_Mode = TRUE). The default value is FALSE. Only change this to TRUE if you're certain that your broker requires a modify-order to be sent with the TP and SL after the actual order.

Show_Debug: If there's any problem with the robot, then change this from its default value FALSE to TRUE and watch the Expert tab in the Terminal window for extra information. Do not leave this to TRUE for longer periods, since the log-files that are automatically created by MT4 then will become huge.

Verbose: The default here is FALSE. If set to TRUE, then it will show more detailed information on the screen about what the robot is doing.

Trade settings:

This robot is extremely sensitive, and the settings can and must be changed to suit the trading environment, which includes broker and latency (the connection speed between the computer where you run MT4 from and the broker server). If the robot doesn't trade, or if it makes too many loosing trades, then adjust the settings.

TradeALLCurrencyPairs: Normally this robot is supposed to trade on the currency pair for the chart it is applied to – EURUSD (or whatever). If this is set to TRUE, then it will automatically try to trade on all possible combinations of currency pairs based on the 8 majors. That is 27 different pairs. The robot will still mainly trade on EURUSD, because this is the

currency pair with the lowest spread. Also, not all brokers supports all pairs, so those who are not supported will be automatically excluded. Backtesting does not work on all pairs at the same time, so this must be set to FALSE then.

MaxSpread: This sets the max allowed Spread measured in points. If the broker spread is higher than this level, no trade will take place. For instance, 26 means a max allowed spread of 2.6 pip. You can adjust it to whatever level you want it to have. But please understand that the higher spread that is allowed, the higher the risk for losses will be.

TakeProfit: This sets the size of the TakeProfit in points. Note: The TakeProfit should not be too large, nor too small. Also, the TakeProfit is automatically adjusted to broker STOPLEVEL and broker FREEEZELEVEL). For instance, 10 here means 10 points, which is equal to 1 pip.

StopLoss: The StopLoss is the number of points where the order should be closed if it goes in the wrong direction. The value should not be lower than the TakeProfit value. For instance, set to 60.0 means 6 pip. And as like TakeProfit, it's automatically adjusted to broker STOPLEVEL and FREEEZELEVEL. So if you set it too low, and the broker STOPLEVEL or FREEEZELEVEL is higher, it will be recalculated accordingly.

TrailingStart: This was called "Trailing_Resolution" in the original. This value will set the threshold for when the TrailingStop will start in points (10 points equals 1 pip). For instance, if you set it to 5, it will start trailing as soon as the price moves 0.5 pip from the order price in the right direction. It does not affect how much the TrailingStop will increase, just when it will start. The increase is calculated dynamically.

UseDynamicVolatilityLimit: The level for the VolatilityLimit (see below) can either be a static value or a dynamic value. If FALSE, then the value of the "VolatilityLimit" (see below) will be used. If set to TRUE then the value of the "VolatilityLimit" will be calculated as follows:

VolatilityMultiplier / 10 * RealAverageSpread, where "VolatilityMultiplier" is set as below, and "RealAverageSpread" is the average value of the spread during the last 30 tics + broker commission. So for instance, if the spread is 16 (1.6 pip) and commission is 0, then "VolatilityLimit" will be 200, since 125 / 10 * 16 = 200.

VolatilityMultiplier: A multiplication factor to be used if the above "UseDynamicVolatilityLimit" is set to TRUE. Default 125.

VolatilityLimit: This sets the sensitivity for when trading will start, based on the size of the volatility (how much the prices has moved). It's the distance in points between the iHigh and iLow during the current bar. If the price moves more than this, an order will be opened in the opposite direction. If you set this level to too high, there will be fewer trades, but it could also increase the winning rate. If it's too low, it will start to trade

more often, but the winning rate could decrease. Note: This is one of the most important parameters to change if you want to adjust the robot for any other currency pair than EURUSD and don't want to use "UseDynamicVolatilityLimit". It can be as low as 50 (or even lower) or as high as 500 (or even higher).

UseVolatilityPercentage: Normally the Volatiliity (the difference between iHigh and iLow during the current bar) must be more than the VolatilityLimit in order to trigger a trade, disregarding of how much. If this is set to be TRUE, then the this difference must exceed with a minimum percentage known as "VolatilityPercentageLimit" (see below). For instance, if "VolatilityPercentageLimit" is set to 60, then the Volatility must exceed the "VolatilityLimit" with at least 60%.

VolatilityPercentageLimit: A factor used if the above "UseVolatilityPercetage" is set to TRUE, and measured as percentage. For instance, 60 means 60%. Otherwise not used.

UseMovingAverage: At least one of the following two indicators must be set to TRUE.

The original MDP used the indicator BollingerBands to calculate one "channel", where the later versions used five such "channels", and then latest versions six such channels. An improved version was presented at a Russian forum with the name "MillionDollarPips (ANY PAIR + NO DLL)", where the BollingerBand was exchanged with two Moving Averages instead to create such a "channel". Here, I have added both options, and any of them can be used, or they can both be used at the same time. If you use them both at the same time, it will compare their values and use the one of them that has the largest extremes.

This "channel" is used to find the exact moment to open pending BUY_STOP and SELL_STOP orders as well as direct BUY and SELL-orders. And open orders are MODIFIED if the current price is outside of the "channel" created by the iHigh / iLow for the current bar. A "channel" is also created between the lowest and highest price during the last number of minutes (see "IndicatorPeriod" below). If set to TRUE it will use this indicator, if set to FALSE then the other indicator "UseBollingerBands" must be used. They cannot both be set to FALSE but they can both be set to TRUE.

UseBollingerBands: Use this indicator as a "channel" instead of MovingAverage (or use them together). The "channels" are created and used in the same way as described for "UseMovingAverage" above.

Deviation: For the indicator "iBands" there's a setting called "Deviation", which is how much the calculated value is allowed to deviate from the main line. This is a decimal value with 1.5 as a reference to start with. The higher the value is, the wider the "channel" becomes. To understand this, you can attach the "Custom Indicator" called "Bands" to a chart and

change the setting "BandsDeviations" to visually see how wide or narrow the "channel" becomes. This is also an important parameter that should be adjusted for other currency pairs than EURUSD.

OrderExpireSeconds: Default is 3600, which equals 3600 seconds or 1 hour, and measures how long any open orders should be alive before they are deleted. If set to 0, they will be open until they are closed or deleted by other conditions.

Money Management;

Min_Lots: This is the lowest allowed lot-size that the robot will be trading with. By default this is set to 0.01, which is the lowest lot-size that most brokers uses. However, some brokers does not allow that small lot-sizes. So only set this value if your broker has any other minimum for the lot-size, OR if you do not want the robot to trade with too small lot-sizes.

Max_Lots: This is the largest allowed lot-size that the robot will be trading with. By default this is set to 1000. However, most brokers do not allow trading with larger lot-sizes than 100. Also remember, that when trading live, it is less likely that orders will be processed if the lot-size is too big. There's never a problem to trade with lot-sizes of 100 on demo-accounts, but scalping with such a high lot-sizes on real accounts can normally not be done due to market conditions. This value can also be decreased if you don't want the robot to increase the risk at the same rate as the profit grows. Since the risk also depends on the lot-size, which is calculated dynamically, but never is allowed to be higher than this value.

Risk: This sets the risk you accept for each separate order. The actual risk is 100 to 150% of this. For instance, if you set the risk to 1, then between 1% and 1.5% of the current balance will be at risk per order. It can be set to anything between 0.001 and 100. The risk size calculates the lotsize as follows: AccountFreeMargin * Risk / 100 / StopLoss. So if the free margin is 10000, the Risk is 2, and the StopLoss is 60, the the lotsize will be 3.33 (since 10000 * 2 / 100 / 60 = 3.33). This assumes that the order will hit StopLoss, resulting in a loss of Risk% of the FreeMargin (the amount of money that the broker allow you to trade with).

Final note:

The default settings have been optimized for the currency pair EURUSD due to the fact that this pair offers the lowest spread. If you want to run it on any other currency pair, then please remember that a small, narrow spread and stoplevel are the two most important factors. It's pointless to try to use this robot on currency pairs that are more than 3 pips in spread. You also need to run backtests with different settings to find the best combination of settings. And if you want to try it on a live account, then please remember that most brokers uses a much higher spread on their

real accounts than on their demo-accounts. So be sure that you know the typical spread and stoplevel for the real account first.

Finding a good broker is extremely important if you're going to run the robot on a live account with real money. First of all, the broker must accept scalping without restrictions. Secondly, the broker must offer low spreads. On the EURUSD this means less than 2 pips, preferably 1 pip or less. The reason, is because the robot makes many small trades and exits trades within a minute or so. Third, the stoplevel must also be low. This is how many pips that must differ between the current price and the price for takeprofit and stoploss. This stoplevel is usually also different between currency pairs. All that information for the broker can easily be seen from the "Strategy Tester" in MetaTrader. Choose the currency pair (EURUSD) and click on "Symbol Properties", and you will see information about spread, stoplevel, etc. Fourth, the broker should not use commission, or at least have a very low commission rate. Because otherwise, most, if not all, of the profit will be "eaten up" by the commission.

Please excuse any explanation and/or typing errors!

If you find any bugs and/or have suggestions for improvements, then contact me at the forum http://www.worldwide-invest.org.