

RayBOT

Version 4 : User Manual



Date: January 2016

Phibase Technologies

RayBOT Installation Procedure

- The Download Link and Activation Code will be sent to you through email as soon as the payment is approved.
- RayBOT is delivered as WinZip archive.
- Extract the contents of the Zip file to a convenient location on you hard disk.
- PhiBase Auto Installer requires all MT4 platform (build 600 or higher) to be closed before it can start installation (Please contact support if you want to install the EA files manually to avoid shutting down all MT4 platforms).
- Run the setup file, accept the standard agreement and run through the simple setup screens by clicking on "Next" button.
- The EA is installed automatically on all the MT4 platforms you selected.
- You can now start your MT4 platform on which you wish to run RayBOT.

The download link provided by AvanGate in the delivery email is time limited (expires in about 3 days). If you wish to download the installation pack again, you will need to contact support@phibase.com.

Note: RayBOT is a fully automated trading system. However, members are expected to know the following : Forex broker account opening procedures, MT4 installation, Opening/Closing trades Manually, etc. Understanding the basics of Forex and automated trading will increase your confidence in the trading system and enable you to succeed in the long term. Members who are completely new to Forex will find the following link very useful:

<http://www.babypips.com/school/>

<http://www.babypips.com/school/introduction-to-metatrader4.html>

<http://www.babypips.com/school/mt4-basics-how-to-install-ea.html>

If you do not find the time to read and fully understand the basics recommended, please feel free to contact us at support@phibase.com - Our team will be happy to help you at a personal level to make sure you are able to setup and run RayBOT without any issues.

RayBOT Activation Procedure

- Your RayBOT license is valid for two demo and two real accounts.
- Atleast one account needs to be registered for License activation. **You can register your MT4 account numbers by email.**
- Our staff will update the account numbers on our server within 8 hours.
- Your account registration email should provide us with MT4 ACCOUNT NUMBER and TYPE (Demo/Real). We do NOT need any other information account name, broker name or any other account details.
- You can register/cancel/change your account numbers at any time as per your requirement
- The PhiBase HelpDesk will send a confirmation email after your License and Accounts are validated.
- RayBOT licensing system requires the following information for successful validation
 - **Registered Email ID** > This is the email ID registered during making the purchase
 - **Activation Code** > Provided by AvanGate after your purchase along with download link
 - Your system/MT4 should be online (connected to internet) to enable connection to our server
 - The MT4 platform should be logged into the broker account number already registered with us

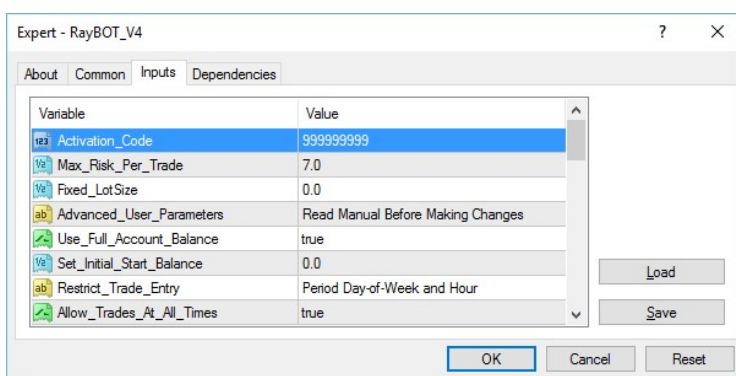
PhiBase HelpDesk works two shifts from 04:00 hrs to 18:00 hrs GMT (24x7). This timing and the helpdesk location (India) enable us to guarantee 8 hours email response time for general queries and 12 hours for technical queries for customers from any part of the globe. In most cases account registrations requests are handled within 3 hours depending on the time of receiving the email and the work load. Some times emails from sales/newsletter are filtered in to spam directories. We suggest you add support@phibase.com to your address book to avoid this from happening. All important email reports, newsletter, product updates will be emailed using automated group mailing software by our Sales team.

Setting up RayBOT on your MT4 Platform

- Please keep the Activation Code and Registered Email ID for reference before proceeding to setup the EA on you MT4 chart.
- RayBOT EA can be accessed through the Navigator panel of your MT4 terminal.
- Please make sure your bars in history and chart are set to at least 1000. To check up these settings follow the steps detailed below:
 - ⇒ Menu > Tools > Options > Click on Chart tab
 - ⇒ Set Bars in History to any value greater than 1000
 - ⇒ Set Bars in Chart to any value greater than 1000
 - ⇒ The MT4 platform should be logged into the broker account number already registered with us
- RayBOT utilizes values from M15 and H1 indicators that enable the EA to find the overall market trend and price action. Make sure your MT4 platform has a M15 and H1 historical bars for at least 3 days. You can do this by loading a chart and changing its timeframe to M15. Switch off the Auto-Scroll option on your MT4 terminal. Scroll the screen back by about a week. You can now change the timeframe to H1 - scroll back for a few days. Please make sure you select the M15 time frame for attaching the EA.
- Attach the EA to EURUSD chart which has been set to 15 Minute time frame. The EA makes all its analysis at the end of a 15 minute bar. When you attach the EA to the chart, the RayBOT properties window comes up. RayBOT V3 will not work with any other time frame. The EA will display an error message if it is attached to any timeframe other than M15.
- Detailed description of each EA property parameter is available in page XX. In the following section we explain the basic default/recommended setup and essential information to help you get started.

When the EA is attached to the chart, the EA properties dialog box will show up. You will only need to make changes to the following to get started with default/recommended settings:

- **Activation_Code** : Enter the Activation Code in the corresponding field. The Activation Code is common to all accounts you register with us. The EA will not work unless you register atleast one MT4 account number with us for validation.
- **Max_Risk_Per_Trade** : Default value is 7 (medium risk)- which means the lot size such that the maximum loss exposure per trade is limited to 7% of the account balance.
- **Fixed_LotSize** : This should be Zero. You may set to any value above zero if you need to use fixed lots only.



All other parameters can be left unchanged.

Understanding Max_Risk_Per_Trade parameter is useful in setting the right risk for trading this EA.

At default Max_Risk_Per_Trade = 7, the lot size calculated for EURUSD would be 0.3 lot for account size US\$ 10000.

RayBOT V4 sets stoploss based on volatility at the time of trade trigger. In our testing over 9 year period, less than 15 out of 2300 trades had stoploss >100 pips. The maximum level under extreme conditions is always limited to 195 pips. Extreme conditions were last seen during the financial meltdown in 2008.

The Max_Risk_Per_Trade parameter calculates the equity loss under extreme condition (195 pips). Over 75% of the trades have stoploss level of only 35 pips. At other times an average stoploss level of 45 pip to 65 pips can be expected in general.

Setting this value to 7 would mean that if the rare maximum stoploss is hit the loss would be less than 7% of equity. **Under normal market conditions the loss size per trade would be between 35 pips to 65 pips (between 1.5% to 2.5%).**

The lot size calculated for same level of Max_Risk_Per_Trade would vary for different pairs. For example, on a \$10000 account, lotsize for EURUSD would be 0.3 and for USDCAD it would be 0.4 This is normal since the EA calculates lotsize based on equity value moved by the pair.

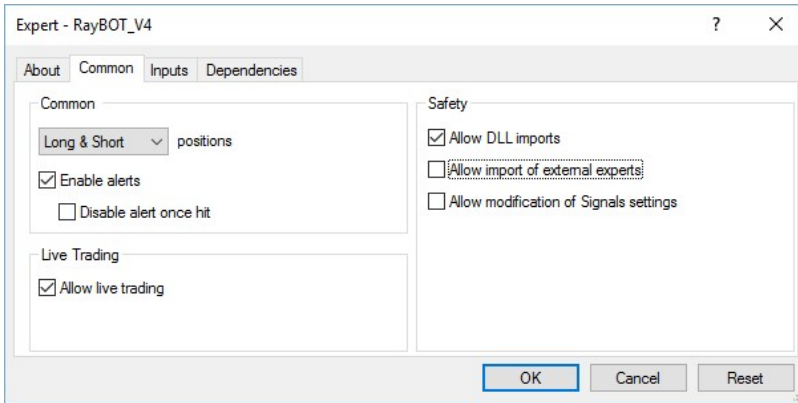
Since most of the trades under normal market conditions have a risk of about 2%, we recommend setting the Max_Risk_Per_Trade to 7.

The expected gain at this risk level is between 5% to 15% when trading all the 3 recommended pairs. A combined drawdown of about 25% would need to be expected when trading at this risk level. If you wish to reduce risk, **Max_Risk_Per_Trade can be set to 5 or lower depending on your risk appetite and trading goal. Max_Risk_Per_Trade of above 10 is considered higher risk.**

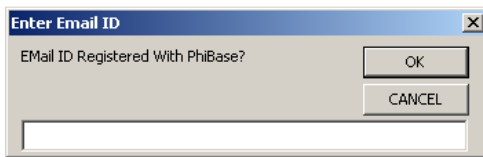
The EA calculates the trade size based on the base currency. RayBOT opens only one position at a time. Geometrical Money Management is used to scale up the lot size with increase in equity and decrease the lot size when there is a drop in equity.

The minimum capital required to trade with RayBOT will depend on the account type being used. For standard accounts with minimum lot size increment of 0.1, the capital required would be \$3500. Ideally \$5000 or more. If your account supports micro lots you can get started with \$500. In case your capital is lower than \$500 it is highly recommended to use nano or cent accounts which will enable the EA to effectively use money management. Professional traders and advanced users may choose to operate using fixed lot sizes and manage trade size manually.

You do not need to modify the common properties since these options are automatically set up by the auto installer. In case you have manually installed the EA files, then the options must be set as shown in the screenshot below:

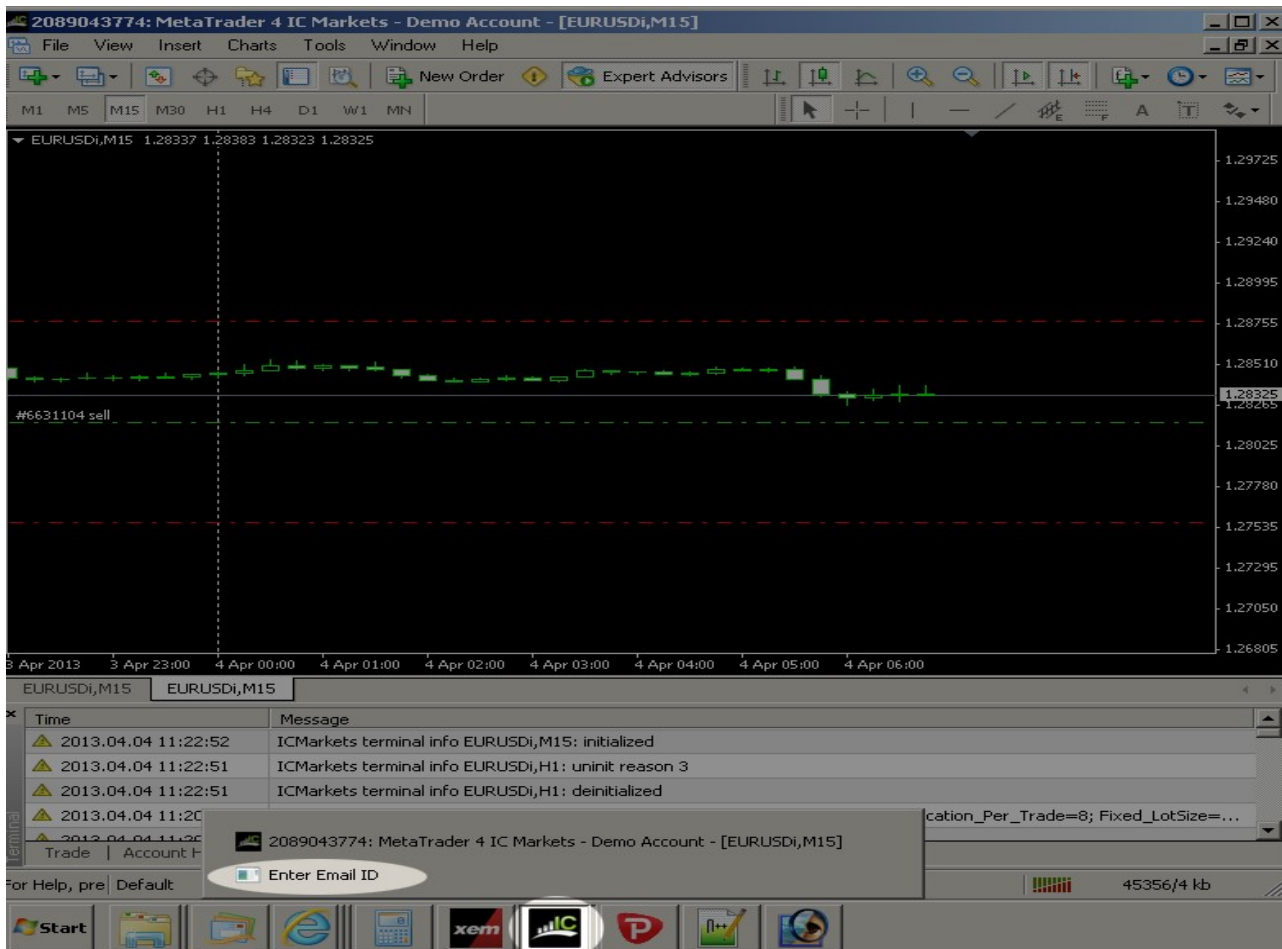


Click on OK to confirm and close the EA parameters dialog box. A small input box window will pop up prompting you to enter your email ID as shown below:

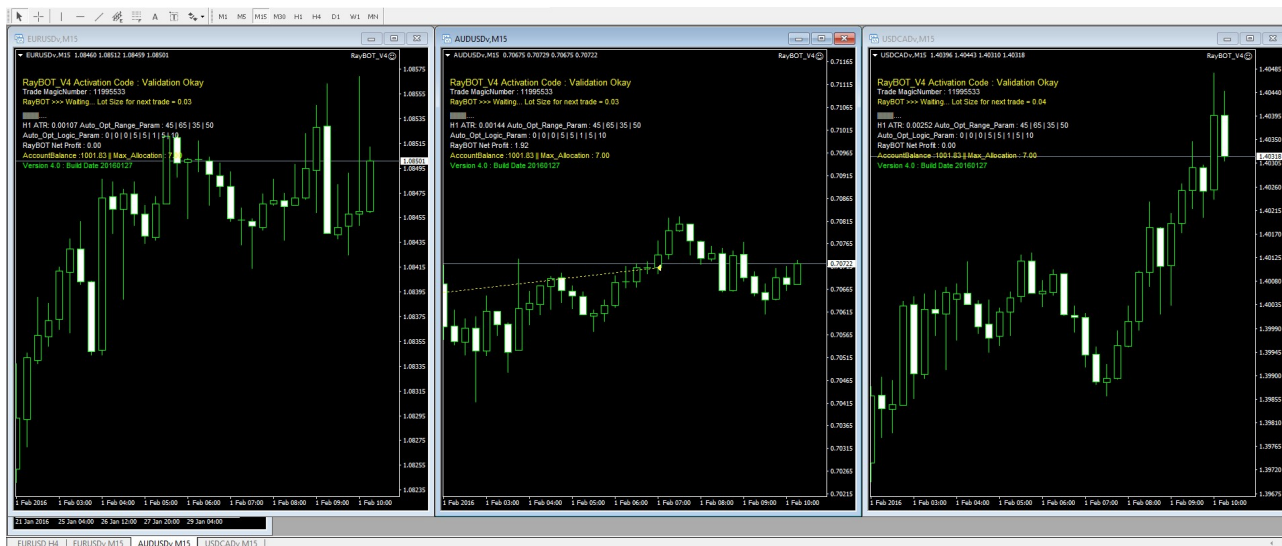


Enter the email ID registered at the time of making your purchase (CASE SENSITIVE). PhiBase HelpDesk license activation confirmation email will contain the Account Code and the email as it is registered for your reference. Please make sure you do not have any white space or any other characters before or after the email ID. Click OK for the EA to proceed with the validation process.

Sometimes, the Email input dialog box may be hidden behind the MT4 screen. In such cases, you can access the email ID window by clicking on you MT4 icon on the task bar. This is illustrated as highlighted areas in the following screen shot :



After successful validation and start up, RayBOT displays the following messages on the MT4 chart:



The messages confirm that RayBOT is setup correctly and running normally. If you do not see the EA messages or any error is displayed, it will mean some problem with the setup. Please email us at support@phibase.com and our support staff will help you solve any technical problems at your end.

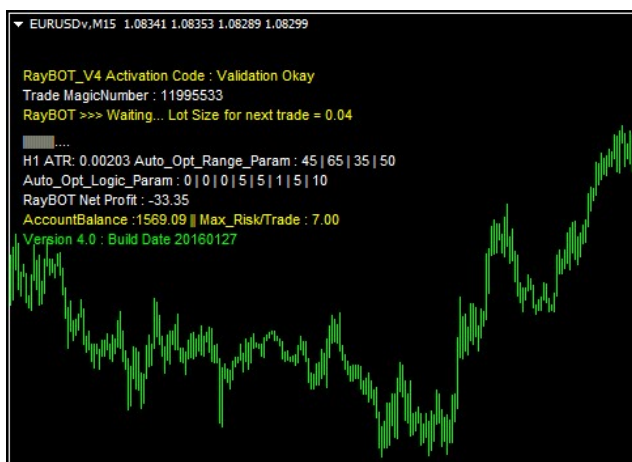
Only the latest Build of RayBOT will be used for all our reference accounts. We will not run or support different versions to avoid confusion among members - The latest build number is also mentioned on the footer section of our website - along with screenshots of the HUD displaying current optimization parameters available on our server.

H1 ATR, range parameters and logic parameter values are displayed in the messages. RayBOT opens only one trade at a time.

Error messages like "RayBOT_V4 Activation Code : Failed" or similar is seen if improper Code, Email or unregistered account is logged in. please make sure the correct validation information and account are provided to prevent such errors.

Email ID input is required when loading the EA for the first time on a MT4 platform.

The chart display elements which will be typically seen during trading are marked out in the screen shot below. Enabling "All History" in account history tab will enable the EA to calculate the net profit/loss made by the EA on the account. If All History is not enabled, the EA will only show the Profit/Loss for closed trades that are available in account history.



Advanced Custom Parameters

Phibase Technical Team has conducted various backtests involving various custom parameters. Please feel free to contact us if you would like to see the historical performance based on any particular customization.

Use_Full_Account_Balance = 1 (true) : Enables the EA to use the full account balance for calculating the trade size. Setting this to false will make the EA use a percentage of the balance as specified in the Use_PerCent_Of_Balance parameter

Set_Initial_Start_Balance = 0 : The value set in this parameter is ignored when Use_Full_Account_Balance=true. When Use_Full_Account_Balance=false, the EA sees the account balance as per the value set in this parameter. Money Managers and traders who wish to distribute funds among multiple EA's may find this option useful.

For example, On a \$10000 account when Use_Full_Account_Balance=false and Set_Initial_Start_Balance=5000, the EA sees the start balance as \$5000. The account history will be scanned for all trades made by the EA (based on Magic Number & Symbol) - The Net Profit/Loss will be added to the values in the Set_Initial_Start_Balance parameter. Trade size calculation based on the Start balance + Net Profit. Suppose the net profit made so far is \$1000, the EA will calculate lot size based on a balance of \$5000 + \$1000 = \$6000.

ALL HISTORY option must be selected in the account history tab when this option is being used.

Allow_Trades_At_All_Times = 1 (true) : RayBOT is designed to trade at all market open times. Historical studies and live tests indicate that the EA is able trade equally well on all days. When Allow_Trades_At_All_Times is set to false, the EA looks to the next set of parameters which will specify when to activate and deactivate fresh trade entries. Open trades will not be affected by this parameter - the EA will continue to control and close the trade normally.

**Activate_On_DayOfWeek | Activate_At_HourOfDay | DeActivate_On_DayOfWeek
DeActivate_At_HourOfDay** (All Set to 0 by default)

if Allow_Trades_At_All_Times=true, any values set in these parameters are ignored. When Allow_Trades_At_All_Times=false, the EA will enable new trade entry starting from Activate_On_DayOfWeek + Activate_At_HourOfDay and disable new trades after DeActivate_On_DayOfWeek + DeActivate_At_HourOfDay

DayOfWeek : Sunday=0, Monday=1, Tuesday=2, Wednesday=3, Thursday=4, Friday=5, Saturday=6. HourOfDay can be set to any value between 0 to 23. Activation day and deactivation day should be within the week - For example Activation Day 4 and DeActivation Day 2 is NOT allowed.

The Day/Hour must be set based on your broker MT4 time. For example, if you need to disable trades on Friday only, you can set the following parameters:

- Activate_On_DayOfWeek = 5 (Friday)
- Activate_At_HourOfDay = 0 (00:00 Hr Broker time)
- DeActivate_On_DayOfWeek = 6 (Saturday)
- DeActivate_At_HourOfDay = 12 (12:00 Hr Broker time)

For example, if you need to enable trades only from London open on Monday to London close on Friday, you can set the following parameters:

- Activate_On_DayOfWeek = 1 (Monday)
- Activate_At_HourOfDay = 7 (07:00 Hr Broker time)
- DeActivate_On_DayOfWeek = 5 (Friday)
- DeActivate_At_HourOfDay = 18 (18:00 Hr Broker time)

Force_Close_Trade = 0 (false) : RayBOT can hold trades over the weekend. Historical and live tests do not indicate any adverse effects of holding trades over the weekend. Some traders may prefer closing trades on Friday at some preferred time (London or US close). Setting the Force_Close_Trade=true (or 1) will force the EA to close out any open trades at the day + hour specified in the Force_Close_On_DayOfWeek + Force_Close_At_HourOfDay

Force_Close_On_DayOfWeek | Force_Close_At_HourOfDay = 0 : if Force_Close_Trade=true, any values set in these parameters are ignored. When Allow_Trades_At_All_Times=false, the EA will force close any open trade at Force_Close_On_DayOfWeek + Force_Close_At_HourOfDay and disable any new trades this time. Fresh trades will be enabled only after market reopens after the weekend.

For example, if you want to close our RayBOT open trade at London close on Friday, you can set the following parameters:

- Force_Close_Trade=true
- Force_Close_On_DayOfWeek=5 (Friday)
- Force_Close_At_HourOfDay=18 (18:00 Hr Broker time)

Auto_Optimization = true : This parameter is set to True by default/recommended. This enables all parameters for the chart to be loaded from server. Setting this to false would expose the internal system parameters for manual setup.

Volatility_Limit=45.0 : Hourly trading range in pips beyond which price action would be considered extremely volatile and stoploss would be set to 3x the normal stoploss levels. Hourly trading range below would be considered to be normal trading conditions. The EA will also start modifying the server stoploss to trail the price when the trading range exceeds this level. When the range is below this level, the hidden stoploss and logic based exit is used for trades.

Range_Upper_Limit=65.0 : Under normal trading conditions, this would be the highest allowed level for stoploss in pips.

Range_Lower_Limit=35.0 : Under normal trading conditions, this would be the smallest allowed level for stoploss in pips.

ReversalProfitLevel=50.0 : Profit level in pips after which EA looks out for price reversal signs to exit a trade which is in gain.

The following parameters are all internal system parameters and should not be modified. These settings are controlled from our server. They control the trading logic, price action sensitivity and trade management modules.

LCNT1=0 | LCNT2=0 | LCNT3=0 | LSens1=5 | LSens2=5 | LSens3=1 | LMan1=5 | LMan2=10

Filter_Feed_Variations=true : The feed variations between brokers is common. Variations of about 1 pip in OHLC values are some times seen on a regular basis. While this does not seem like much, but 1 pip difference could mean a feed difference of 5% in case the trading range is 20 pips. This may sometimes results in some border line trade triggers on one broker but not on other brokers. We recommend setting this value to true so that RayBOT can apply an intelligent feed smoothing filter which will greatly reduce differences between various brokers. Setting this to false would make the EA skip the feed smoothing filter and apply original broker feed. The strategy tests have all been conducted with out
Filter_Feed_Variations = false.

Filter_Low_Vol_Trades=true : Trade triggers during very low volatility price action are skipped. The strategy tests have all been conducted with out Filter_Low_Vol_Trades = false.

MagicNumber = 11995533 : Magic Number is set to 11995533 by default - in most cases this need not be modified unless some other EA on the same account uses exactly same number, which may be very rare.

EA_COMMENT_PREFIX = RayBOT V4 : Trader may use this parameter to customize the trade comment sent out to the broker. for example, using cryptic names like RB19 is preferred by some traders to hide the source generating the trade.

Use_Free_Margin_Only = 0 (false) : RayBOT is designed to use the acutal account balance to calculate the trade size. If this parameter is set to true, the EA will use only the free margin to calculate trade size. This is not recommended since the EA's trade size calculation will vary depending on the margin occupied by trades generated by other EA's in the account. This will invalidate the EA's statistical analysis.

Allow_Slippage = 5 : This is an internal system parameter which controls the EA's trade entry during very volatile price action. Please consult with our technical support team if you feel the need to change this parameter or face slippage issues frequently.

RefPrice = 1.25 : This is an internal system parameter which controls the EA's trade size calculation. Please consult with our technical support team if you feel the risk level or trade size control offered by Max_Risk_Per_Trade does not meet your requirement.

MaxRetry = 10 : This is an internal system parameter which controls the number of attempts the EA makes when the trading console or broker returns a trade execution error. Please consult with our technical support team if you notice frequent trading console/broker error messages on your expert/journal logs.

Strategy Testing and Historical Results

All the strategy tests are conducted with a spread of 2.0 pips which is considered above normal for EURUSD and most major Forex pairs. Tighter spreads will obviously enhance the overall profitability of the system. Spreads upto 2 pips will not effect the Performance of the EA. The profitability may be affected when broker with higher spreads/very poor execution are used. It is highly recommended to use ECN/STP broker accounts with spreads of 1 pips or lower. You can expect higher profit on brokers with minimum spread (<0.5 pips) and slippage.

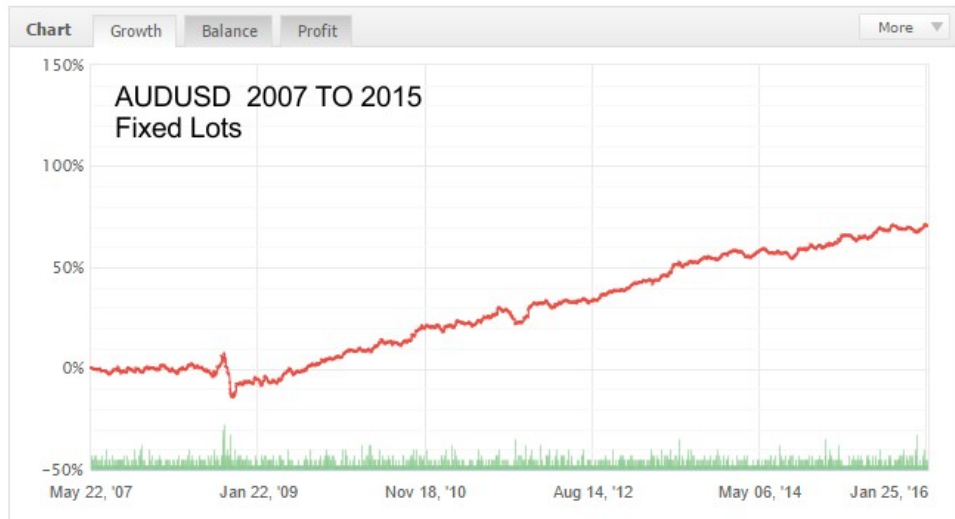
It is recommended to use only tick data for running back tests of RayBOT (or any other EA which work on every price tick). The live performance tests match very well with Dukas copy tick data tests. Based on comparison with live trading data, even high quality M1 backtests was found to be unsuitable/unreliable.

The basic strategy tests have all been conducted with Filter_Feed_Variations = false and Filter_Low_Vol_Trades = false. The difference in results is about 5% when these filters are set to true. In real trading we are recommending setting these parameters to true (default) to ensure trades match up better between various broker accounts.



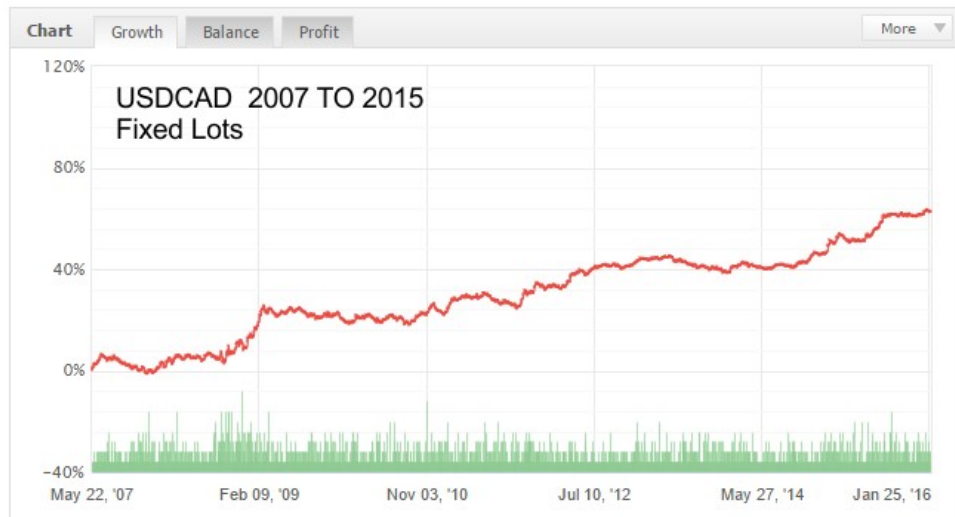
Advanced Statistics		Trades	Summary	Hourly	Daily	Risk Of Ruin	Duration	
Trades:		2393	Longs Won:	(578/1148) 50%	Profit Factor:		1.29	
Profitability:	<div style="width: 50%; height: 10px; background-color: #28a745;"></div>		Shorts Won:	(613/1245) 49%	Standard Deviation:		\$48.61	
Pips:		12225.2	Best Trade(\$):	(Nov 13) 242.00	Sharpe Ratio:		0.0000	
Average Win:		45.06 pips / \$45.03	Worst Trade(\$):	(Dec 19) -195.13	Z-Score (Probability):		-1.55 (-88.52%)	
Average Loss:		-34.47 pips / -\$34.49	Best Trade (Pips):	(Nov 13) 242.0	Expectancy:		5.1 Pips / \$5.09	
Lots:		239.3	Worst Trade (Pips):	(Oct 29) -195.0	AHPR:		0.03%	
Commissions:		0	Avg. Trade Length:	10h 38m	GHPR:		0.03%	

Info	Stats	General
Gain:	+70.27%	
Daily:	0.02%	
Monthly:	0.5%	
Drawdown:	23.21%	
Balance:	\$17.0K	
Highest:	(Jan 20) \$17.2K	
Profit:	\$7027.47	
Deposits:	\$10000.00	
Test Started:	May 21, 2007	
Test Ended:	Jan 27, 2016	
Timeframe:	15 Minutes	
Model Type:	Every Tick	
Added:	19 Minutes ago	



Advanced Statistics	Trades	Summary	Hourly	Daily	Risk Of Ruin	Duration
Trades:	2571	Longs Won:	(697/1288) 54%	Profit Factor:	1.17	
Profitability:	<div style="width: 50%; background-color: green;"></div> <div style="width: 50%; background-color: red;"></div>	Shorts Won:	(657/1283) 51%	Standard Deviation:	\$44.76	
Pips:	7408.2	Best Trade(\$):	(Oct 12) 448.50	Sharpe Ratio:	0.0000	
Average Win:	36.24 pips / \$36.11	Worst Trade(\$):	(Oct 09) -199.05	Z-Score (Probability):	-1.72 (-92.71%)	
Average Loss:	-34.23 pips / -\$34.40	Best Trade (Pips):	(Oct 12) 448.5	Expectancy:	2.9 Pips / \$2.73	
Lots:	257.1	Worst Trade (Pips):	(Oct 08) -195.0	AHPR:	0.02%	
Commissions:	0	Avg. Trade Length:	11h 5m	GHPR:	0.02%	

Info	Stats	General
Gain:	+62.76%	
Daily:	0.02%	
Monthly:	0.46%	
Drawdown:	7.57%	
Balance:	\$16.3K	
Highest:	(Jan 19) \$16.4K	
Profit:	\$6276.34	
Deposits:	\$10000.00	
Test Started:	May 22, 2007	
Test Ended:	Jan 27, 2016	
Timeframe:	15 Minutes	
Model Type:	Every Tick	
Added:	6 Minutes ago	



Advanced Statistics	Trades	Summary	Hourly	Daily	Risk Of Ruin	Duration
Trades:	3046	Longs Won:	(794/1460) 54%	Profit Factor:	1.15	
Profitability:	<div style="width: 50%; background-color: green;"></div> <div style="width: 50%; background-color: red;"></div>	Shorts Won:	(851/1586) 53%	Standard Deviation:	\$36.81	
Pips:	7408.2	Best Trade(\$):	(Jan 23) 172.22	Sharpe Ratio:	0.0000	
Average Win:	32.69 pips / \$29.68	Worst Trade(\$):	(Oct 16) -165.51	Z-Score (Probability):	-2.00 (-98.70%)	
Average Loss:	-33.10 pips / -\$30.36	Best Trade (Pips):	(Jan 23) 211.5	Expectancy:	2.4 Pips / \$2.06	
Lots:	304.6	Worst Trade (Pips):	(Oct 16) -195.0	AHPR:	0.02%	
Commissions:	0	Avg. Trade Length:	11h 50m	GHPR:	0.02%	