FastBreak – 2017 Year in Review

We completed our 22nd year since the initial release of FastBreak back in 1996; we again want to thank all our loyal users. Before we get to some performance metrics of a few sample FastBreak systems we want to take care of housekeeping issues.

Housekeeping Issues

FastBreak No changes to the latest versions of Standard and FastBreak Pro. Version 6.7 is the official release version and Beta Version 6.8 is a free upgrade on our website. We are trying a few new things in a test version of FastBreak. There are some improvements we have wanted to make for a long time. For example, FastBreak Pro currently initiates all new positions at the beginning of the out-of-sample test period. We want to make the transition between in-sample and out-of-sample seamless because we believe that would give a better representation of performance.

The vast majority of our technical support requests continue to be related to reinstallation on new computers so check our "installation help guide" that should address the vast majority of issues: http://www.edge-ware.com/FastBreak%20Installation.pdf

As a reminder, we have a new policy regarding providing replacement installation CDs. This new policy will not affect most users: http://www.edge-ware.com/Replacement%20Policy.pdf

PaceMaker update The last couple of years we have mentioned development of a new market timing program, named PaceMaker, that we have been testing. You are probably wondering if we will every release the program. Well, we are wondering the same thing! The problem has been real-time testing in a stock market that refused to decline more than a few percent the past couple of years, that is, until February, 2018. Market timing is usually counterproductive when there are few meaningful declines. Having said this, you may be asking how did PaceMaker strategies perform in February? Some did quite well getting out near the market high. Here is an example of how one of our signals performed the past year (Red is SP-CP, Green is VMMXX, and the trading results with the signal are in the "2" chart at the bottom of the chart:
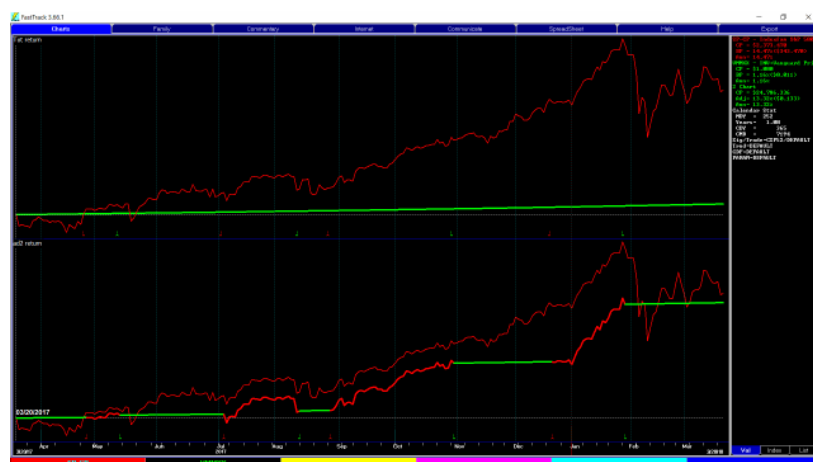
The positive aspect is that the February sell signal was within one day of the market top, but a negative aspect is that the signal missed the "melt up" in the last months of 2017. There is a very specific reason for this particular signal not participating in the melt up – the signal uses the Russell 2000 small cap index (RUT-I) as an indicator and small caps underperformed in the melt up, which is usually an indication of the market topping. See general market commentary below to see details of the Russell 2000 performance during the melt up. However, the signal had a return within a percent of buy and hold while being invested only 43% of the time.

As we mentioned in last year's commentary, we discovered that PaceMaker may, and we want to underscore the word may, be useful in ways we never intended when we designed the program. We found data relationships that resulted in encouraging bond fund trading signals. For example, we have developed signals for high yield, emerging market, and muni bonds. Recently, we developed a strategy to trade a preferred stock ETF that we like. We have developed confidence in the signals, and we are trading with them. In the case of the high yield bond signal, we used the signal in FastBreak Pro to build a system that trades among a family of high yield bond funds. ***Note: This is mostly back testing and the system has been trading real-time with real money for only a few months, but we are encouraged with the results.***

Gemini Several years ago we built a tool to create synthetic data for mutual funds and ETFs when we lacked long term historical data. We did this to have more historical date for developing FastBreak strategies. The tool also allows us to build inverse fund data or data with different beta values. The tool requires an index or other issue (mutual fund, ETF etc. – we call this the "surrogate") with a high correlation to the vehicle you want to mimic. The tool doesn't simply append actual fund data to the surrogate; it adjusts the surrogate data for differences in beta and alpha between the trading issue and the surrogate issue. Once the actual fund data becomes available it is appended to the synthetic data. Last year we made the tool much more user friendly and named it Gemini ("twin"). We find the tool invaluable for our investing and consulting work, but we don't know if there is a substantial market for such a tool. Below we talk about three new strategies we have posted on our website. Gemini was used to extend the ETF data used in optimizing the "style" strategies back to at least 1993 – most of the actual ETF data only exists back to the year 2000. It was used to extend the Rydex bond and dollar funds in the hedged strategy back to 1988. We welcome feedback on interest in this tool.

Standard FastBreak Demo Available

The Standard FastBreak 30 day demo on our website is based on V6.2 of Standard FastBreak that contains most of the functionality of the latest release. There isn't a demo for FastBreak Pro, but all our user manuals are available at our website if you want to take a look.

Contact and other information

Our contact email address is email2ew (put @ here) edge-ware.com for all inquiries and tech support. We recommend you put the word "FastBreak" in the title of your emails so our spam blockers don't block your message.

Visit www.edge-ware.com for more information.

2017 Year in Review

This commentary will review several different types of trading systems.

The first version of FastBreak, now called Standard FastBreak, was released in early 1996. Potential users of any investment software product should always ask the question "What is actual performance?" Soon after the initial release, we developed example trading systems that could be monitored for "real time" performance. We don't modify trading system parameters during the performance reporting period and report on the systems on a yearly basis. If you would like to review all reports since 1997 visit our web site www.edge-ware.com and go to the Strategies page. We tell you the good, bad, and sometimes ugly performance for some trading systems.

The example FastBreak trading systems on the Strategy page of our web site may provide users and potential users a starting point on the different types of trading systems that FastBreak can build. It also allows us to provide an honest benchmark for real time performance. Users of both Standard and Pro versions can download these systems. The Standard FastBreak 30 day demo (Note: The current demo is based on Version 6.2) that can be downloaded from the web site can also run most of these strategies but will not display the last 60 market days of trades. Many of these systems are several years old. We can now build better trading systems, but we keep these systems on our web site to show that many trading systems are effective for long periods of time.

Note 1: We have done very little research the past few years with stock equity fund/ETF trading systems. This is simply because we tend to research what we trade, and for the past few years, we have been very happy with bonds. Anticipation of the end of the 30+ year bond rally is one of the factors driving us to develop PaceMaker and return to more actively trading stock equity funds. We have added a couple new ETF strategies – more about that later.

Note 2: The example strategies should not be considered investment advice. We don't often post or change the example strategies on our web site because we believe investors' needs are very unique and users of our software should feel confident developing their own trading systems. Edge Ware, Inc assumes no responsibility for anyone trading these strategies. In addition, these systems are not rigorously maintained and with the demise of funds or symbol changes the systems may be affected. For example, several of the bond systems used the Shearson Treasuries Bond Index (STBI-) as part of the strategy. This index symbol became inactive in 2009 requiring strategy modification.

Note 3: All maximum drawdown (MDD) values reported below are daily values. In the investment industry you will typically see reported MDD values that are monthly values. Monthly values are very often substantially less than daily values.

The **US Stock Market -** It was a great year for the US stock market – especially near year end with anticipation of the tax cut bill passing and potential infrastructure spending. Small cap stocks, as measured by the Russel 2000, didn't participate as much in the melt up when compared to the S&P, OTC and even the stodgy old DJ-30. The lack of volatility was record breaking. Be sure to look at the MDD values in the table below. Not to sound like a broken record year after year, but again, many professional investors struggled – as measured by hedge fund and managed futures performance – to match the major market indices.

World Markets -   World markets were also strong as measured by EFA the MSCI EAFE ETF.
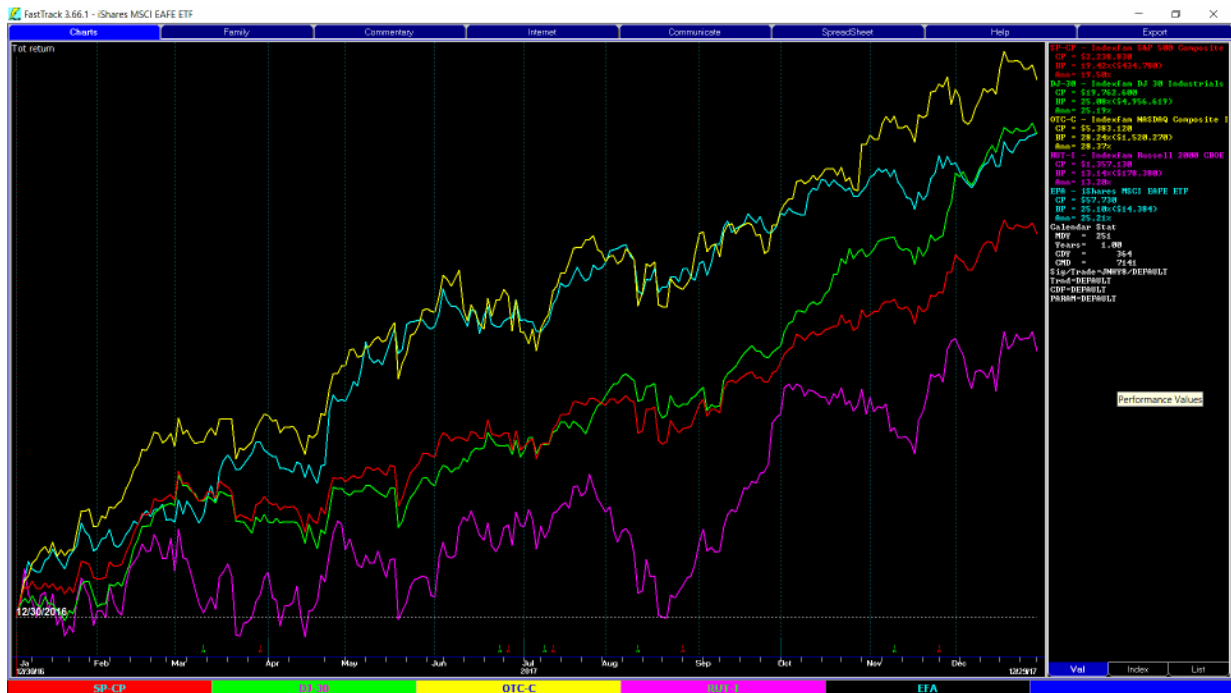
Bonds and US Dollar   Bonds had a good first nine months but started to weaken in September with talk of FED tightening due to the booming economy and additional deficit spending due to tax cuts and infrastructure spending. High Yield bonds often move in tandem with the stock market as company debt is upgraded. That correlation began to breakdown toward the end of 2017. Some see this as an ominous divergence.   There is worry that weaker companies will need to rollover their debt at higher rates in coming months. The US dollar (DXY-Z) was very weak, which is a little surprising, because in the past, higher US interest rates typically attract dollar buying. Muni bonds were not immune to rising interest rates; however, they held up, possible because high income individuals didn't get a break in the new tax law so tax free muni bonds continue to be attractive.
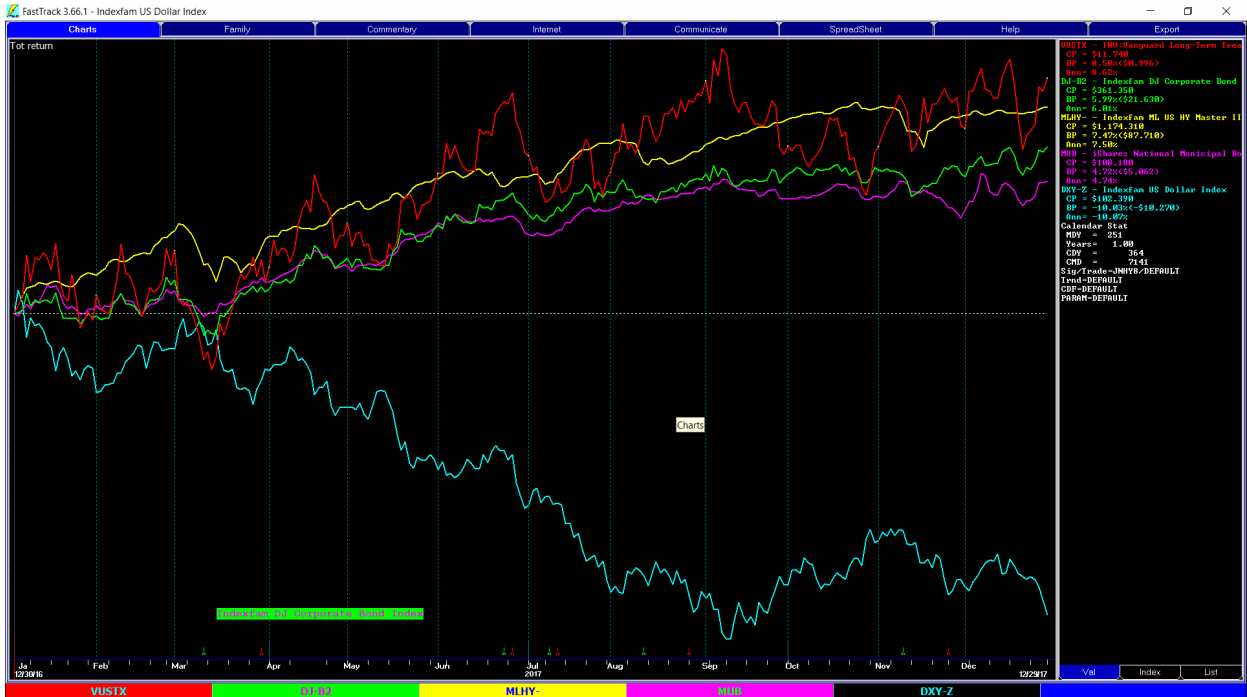
Summary of common benchmark performance for 2016:

	Total Return %	MDD%
S&P 500 (SP-CP)	19.50	-2.80
DJ-30 (DJ-30)	25.19	-3.37
OTC (OTC-C)	28.37	-3.67
Small Cap (RUT-I)	13.20	-6.45
World Markets (EFA)	25.21	-2.28
Treas. Bonds (VUSTX)	8.62	-5.01
DJ Bond Index (DJ-B2)	6.01	-2.01
High Yield (MLHY-)	7.50	-2.03
Muni Bonds (MUB)	4.74	-1.34
Dollar Index (DXY-Z)	-10.07	-11.51

Two measures of investment returns for professional managers:

	Return%
Managed Futures Funds (CTAs)	~ +1
Hedge Funds	~ +8

The above values are approximate because of the difficulty obtaining consistent information on these programs; but clearly, performance was not especially good as has been the case since 2008. Also, large numbers of funds continue to close so "survivor bias" may make the above numbers look even better than actual performance due to poorly performing funds closing and not included in the above numbers. Note on Commodity Trading Advisors (CTAs): By some measures, CTAs as a class have only had three winning years since 2008, and that includes the small gain in 2017.

How did the FastBreak strategies posted on our web site perform? *Note: The date in the table below indicates when the system was posted on our web site. In most cases the system was trading real-time well before posting*.

	System Return%	MDD%
Bond system (3/2001)	+2.2	-6.3
International funds (2/2002)	+24.6	-3.4
Bonds LT Gov and HY (12/2002)	-1.8	-6.9
Bonds Conservative zero coupon (12/2002)	+0.1	-2.7
Bonds Aggressive zero coupon (12/2002)	+6.0	-2.6
Income Strategy (1/2009)	+3.0	-0.2
Long/Short Gov Bonds and US$ (7/2007)	-9.9	-12.8
Muni Bond (2/2010)	+8.3	-0.9

We only had one non-bond strategy (International strategy) posted on the website because **Bond systems** continue to be where FastBreak consistently performs well, and the systems have held up in many cases for more than a decade, but in all candor, they were mediocre performers this year except for the muni system – which also happens to be the most recent system posted. Another reason we don't post many equity strategies is because most of our favorite strategies use market timing signals that we can't post or maintain on the website. We have added a couple new equity ETF strategies on the website.

The International system has been around since 2002 and has great long-term performance. It did exceptionally well in 2017. Read previous yearly reports for background on this system. We have maintained reporting on this strategy to demonstrate long-term strategy performance.

Bond Systems and Income Strategy In general, bonds were not the place to be in 2017, especially the final three or four months of the year.

Muni Bond In 2010 we introduced a muni bond strategy. This strategy was again a winner in 2017. Since introduction, the system has nearly a 2%/year improvement (this many not sound like much but in the muni bond world this is very significant) over the benchmark with less than half the MDD. It should be noted that a large portion of the gains from the muni bond system are federal tax free, so depending on your federal tax bracket, the comparable taxable return could be several percentage points higher than indicated. Around the same time, we developed a muni system that trades among muni ETFs some of which use leverage and have a high beta. The ETF system typically performs even better, but not this year (The ETF strategy: 2.7% with a -3.9% MDD). There is an interesting reason for this discrepancy. When interest rates began to rise in 2017 open end muni bonds held steady, but muni ETFs sold off beginning in August.

Long/Short - Dollar/Gov Bond S&P hedge strategy After a good year last year for this strategy, this is perhaps the biggest disappointment of all our strategies in 2017. This was our attempt to develop a system that zigs when the market zags without actually going short the stock market. Going short the stock market is very difficult because bear rallies can be disastrous. The system was intended to be a hedge against the stock market using funds that tend to have either a low correlation with the stock market or often act inverse to the market. The system was built in FastBreak Pro using the Composite functionality assuming a 50/50 split between this system and the S&P. The system actually does what we wanted intended; however, this year it should have captured the big gain of the inverse dollar fund – but it didn't. The system has been real-time since 7/12/2007. Here is how the system (red) compares to the S&P (green) and if you had a 50/50 mix between the system and the S&P (yellow):

As you can see, the 50/50 mix slightly outperforms the S&P with a much smoother equity curve. The MDD for the mix is 26% vs. 56% for the S&P. However, that doesn't excuse missing the big gains that we had hoped it would capture in the inverse dollar fund in 2017. So, we decided it was time to re-optimize the strategy, but this time we decided to invert the data ranges for the in-sample and out-of-sample. We have called this strategy RX$7 and it is now on our strategy page in place of the old system.

Here is a chart that compares the strategy by itself (yellow) with the S&P (green) and the 50/50 combined strategy (red) *Note: This chart showed the results for both in-sample and out of sample using the synthetic data used in the optimization. If you run the posted strategy you can only go back to 2005 using actual Rydex data:*

You may ask, "Why not simply just trade the dollar/bond strategy since it has better performance than combining it with the S&P?" A couple responses: A) The above data is mostly optimization data and we would not expect the strategy to perform nearly as well in real time, B) Much of the gain was in the government bond fund during a declining interest rate environment, C) There are some years when the dollar/bond strategy does better and there are other years when the S&P does better. You never know which will do best. This is along the same logic that many professional money managers use when they recommend a 60/40 equity/bond mix. Some years one class does better than the other, and the bond help midigate drawdowns for the entier portofilo when the stock market declines.

Other Mutual Fund Systems of Interest

Potential FastBreak users often ask about other systems such as Rydex and Fidelity Sectors. Here are some other systems we built to monitor and provide additional information. We don't trade these systems and built them simply for tracking purposes. The trading files for these systems are not posted on our web site.

	System Return%	MDD%
Rydex no signal	+16.2	-4.3
Fidelity Select no signal	+14.1	-4.4
ProFunds w/signal	+10.3	-9.4

Rydex, Fidelity, and ProFunds Sector Systems – It was an Okay year for all these systems. Most of these systems are many years old (Hence, the Rydex name), and could use some refreshing. Sector trading can be very challenging, but when markets are trending well, sector trading can be very profitable.

New ETF Style Strategy – In recent years so called "style" investing has become popular. One version is a rotation strategy between styles such as: large cap value, small cap value, large cap growth, mid-cap value, etc. There open end mutual funds and ETFs for all the categories; however, there is a lack of long term historical data for many of these funds. As noted above, we used the Gemini tool to create synthetic fund data back to at least 1993 for the following ETFs:

        VTI   Vanguard Total Stock Market ETF
        OEF   iShares S&P 100 ETF
        VTV   Vanguard Value ETF
        IWF   iShares Russell 1000 Growth ETF
        IJJ   iShares S&P MidCap 400 Value ETF
        IJK   iShares S&P MidCap 400 Growth ETF
        IWN   iShares Russell 2000 Value ETF
        IWO   iShares Russell 2000 Growth ETF
        FDM   First Trust Dow Jones Sel MicroCap ETF

We used FastBreak Pro to optimize some trading strategies using this family of ETFs. In one case (strategy name ETFstyle11.DFT) we used all nine of the ETFs and in another case (ETFstyle13.DFT) we allowed FastBreak Pro to optimize the trading family to as few as six ETFs. FYI – FastBreak selected these ETFs as the optimum family: VTI, OEF, IWF, IJJ, IWN, and FDM. Here is how the two strategies compare (in-sample and out-of-sample) to the S&P (yellow). The strategies are real-time since the beginning of 2017.

As you can see, the two strategies are very close, with the optimized family strategy slightly outperforming, but with significantly more trading. Here are the performance summaries from FastBreak (again, this is in-sample and out-of-sample):

ETFstyle11 (all 9 ETFs)	15.8%/year	21.7% MDD	8 S/Y
ETFstyle13 (optimized family)	16.7%/year	20.8% MDD	22 S/Y

We couldn't decide between the two so we posted both to our website for monitoring. If you have FastBreak (Standard or Pro) version 6 you can download the strategies and their associated trading family files for monitoring. We will report on them next year. *Note: you will be limited to only results since 2001 because that is when most of the ETFs became available.*

Summary

It is hard to be an active trader in a year like 2017 and beat the major market indices – just ask the hedge fund traders. It was definitely a buy and hold market in 2017. The best strategy would have simply been to buy the S&P (or better yet, buy the old DJ-30) on December 31st, 2016 and sit back. FastBreak systems did Okay in 2017 but nothing much to brag about. This year, 2018, is already shaping up to be a different kind of year. It will be interesting to see how things unfold. Good trading!

What is FastBreak and Who needs FastBreak

Unlike other trading methods, the FastBreak "mechanical" trading strategies gives specific buy and sell recommendations. Mechanical trading systems leave no room for historic "revision". These types of trading systems may not be for everyone, but we believe they should be considered if you recognize yourself in the following:

- Do you have trouble "pulling the trigger" on trades, e.g., selling your losers, taking profits on your winners, waiting for a bounce to get out of a bad trade ...?

- Do you have a limited amount of time to devote to your investments? If you are a full time investor, or enjoy sitting in front of CNBC and your computer all day, you may be able to do better with other investment methods. However, if you have limited time (or better things to do with your time!) a few minutes an evening is all you need to download your FastTrack data and run your FastBreak strategies.
- We have stopped reporting on some of the older FastBreak systems for a variety of reasons: Many of the mutual funds used in these old trading system families have since been discontinued, the market timing signals (unrelated to FastBreak) used did not stand the test of time, and we can build much more effective strategies with the functionality added to FastBreak in recent years. We felt that those systems don't accurately reflect the performance that FastBreak can produce.

Standard Disclaimer

As the saying goes, "Past performance is not a guarantee of future results."

Ordering information - PLEASE READ CAREFULLY

Standard FastBreak

- New user purchase: $499
- Current user upgrade: $199 (If you have purchased ANY previous version of Standard FastBreak – even if it was 20 years ago!)
- Save up to $125 on FastGraph (see commentary 8163) when purchased with Standard FastBreak: add $125

FastBreak Pro

- New user purchase: $1900
- Current user upgrade: $400 (If you have purchased ANY previous version of FastBreak Pro even if it was Version 1 back in 2000!)
- Save up to $125 on FastGraph when purchased with FastBreak Pro: add $125

FastGraph

- New user purchase: $250

If you have any questions contact us at [email2ew (put @ here) edge-ware.com](mailto:email2ew)

When ordering include:

1) New user or Upgrade
2) FastTrack account number (not your password)

If you purchase Standard FastBreak and later decide to purchase FastBreak Pro within 60 days, we will credit your full purchase price toward the FastBreak Pro purchase.

Order by check or money order, send check to:

> Edge Ware, Inc
> 118 Bartlett St, #D
> Marietta, Ohio 45750

All orders receive an installation CD and hardcopy manuals. New users will also receive a 60 minute DVD. The video is to help you get started faster with the basic functionality of Standard FastBreak and FastGraph. Although the DVD doesn't cover FastBreak Pro it will help you with general functionality in FastBreak Pro.

FastBreak **IS NOT** offered with a money back guarantee. If you are not sure FastBreak is for you, we recommend going to our web site (www.edge-ware.com) and download the user manuals and 30 day Standard FastBreak demo program. You can also download the sample trading system from our web site and run them in the demo.

Compatibility with Windows®

We get inquires asking if FastBreak is compatible with the latest versions of Windows® and is it compatible with Apple OS? FastBreak has been successfully installed on both the 32 and 64 bit versions of the Windows® 7 operating system, Windows® 8, and Windows® 10. However, there can be a few quirks, but if you read the guidelines at this link you shouldn't have any installation or reinstallation problems: http://www.edge-ware.com/FastBreak%20Installation.pdf As for Apple OS, we are aware of users running FastBreak on Apple OS, but we have no direct experience.

If you have additional questions we can be contacted at email2ew (put @ here) edge-ware.com **DO NOT CALL INVESTORS FASTTRACK for information!!**