


# AlphaDroid Advanced Options Description

Rev. 6/2013


## Advanced Options Location

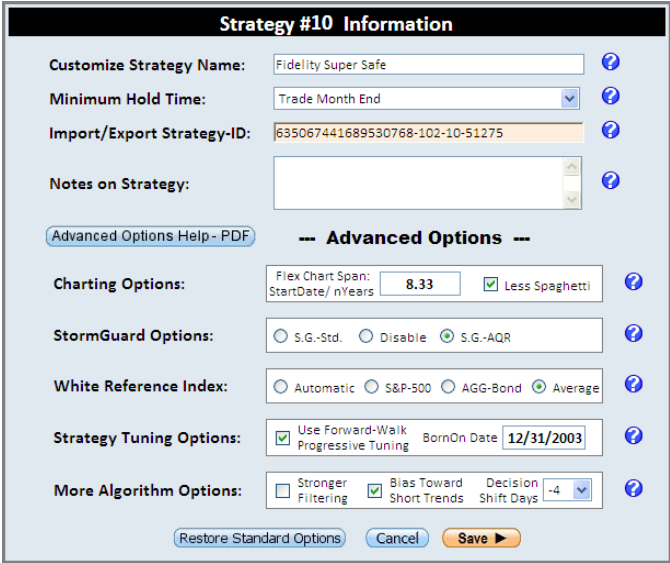
The Advanced Options are located on the Strategy Information popup window (shown to the right) accessed by clicking the  icon next to the Strategy's name on the My Strategies page. Click the Show Advanced Options button to expose them as shown in the expanded popup window below. To revert to using only the standard AlphaDroid options, click the Restore Standard Options button, and click Save.



The image shows a popup window titled "Strategy #10 Information". It contains the following fields: "Customize Strategy Name:" with the value "Fidelity Super Safe"; "Minimum Hold Time:" with a dropdown menu set to "Trade Month End"; "Import/Export Strategy-ID:" with the value "635067419905958372-102-10-51275"; and "Notes on Strategy:" with an empty text area. At the bottom, there are three buttons: "Show Advanced Options", "Cancel", and "Save".

## Advanced Options Help

You can get quick tips for each of the features by clicking the  icon associated with each option, or you can click the [Advanced Options Help - PDF](#) button to download and view this document online.



The image shows the same "Strategy #10 Information" popup window, but with the "Advanced Options" section expanded. The "Notes on Strategy:" field is empty. Below it is a button labeled "Advanced Options Help - PDF". The "Advanced Options" section includes: "Charting Options:" with "Flex Chart Span:" set to "8.33" and "Less Spaghetti" checked; "StormGuard Options:" with "S.G.-AQR" selected; "White Reference Index:" with "Average" selected; "Strategy Tuning Options:" with "Use Forward-Walk Progressive Tuning" checked and "BornOn Date" set to "12/31/2003"; and "More Algorithm Options:" with "Stronger Filtering" unchecked, "Bias Toward Short Trends" checked, and "Decision Shift Days" set to "-4". At the bottom, there are three buttons: "Restore Standard Options", "Cancel", and "Save".

## Advanced Options Identified on Charts

While some of the Advanced Options will be quite obvious on a chart, others are less obvious. The center portion of a chart's subtitle includes a list of enabled options using abbreviations of the option's name. The options are also listed in the downloadable Strategy History CSV spreadsheet.

## Flex Chart Span

The Flex Chart refers to the chart made by clicking the top blue chart button on a AlphaDroid chart, and always uses "3-Years" as the default value, as can be seen in Chart-1 below. Valid entries for the Flex Chart Span specification include specifying the number of years (such as **8.33**), a date (**mm/yy/ddd**), or any of these case sensitive words: **YTD**, **Month**, **Quarter**, or **BornOn**. The shortest time span accepted is 30 calendar days. If a date is selected that is not a market day, the specified date will change by a day or two accordingly. When the Advanced Options window is initially opened, the Flex Chart Span value is set to its default value of "3", meaning that a 3-year span chart is specified. See Chart-2, Chart-3, and Chart-4 below for examples.

## Less Spaghetti

Sometimes when you look at a chart you may wish the upper price chart had "less spaghetti" so you can see the funds of interest better. When you check this box, the chart will be rendered with only the top four trending stocks/funds along with both the Strategy and white reference fund. See Chart-2 and Chart-3 below.

## StormGuard Options

**StormGuard - Std** refers to the standard version of StormGuard. Standard StormGuard will only move into or out of \$CASH at month-end, and will additionally respect specific extended minimum hold periods for mutual funds if the Trade Automatic setting has been selected. It's not unusual for people to be anxious about moving to \$CASH when markets are falling and to believe the month-end trading limitation is less safe. However, the opposite is true. Backtesting shows there is actually a slight performance advantage when trading to/from \$CASH at month-end only. Still, if you are the anxious type, you may prefer the StormGuard-AQR option.

**StormGuard - Disable** turns off StormGuard so that it is possible to use inverse ETFs as an alternate means to do well during down-markets. It is equivalent to the method of appending */i* to the Strategy's name. Since StormGuard overrides the decision of the stock/fund selection algorithm, it must be disabled in order for inverse funds to be selected during down-markets. It is noteworthy that long-term treasury funds, such as FLBAX, VUSTX, TLT, and UBT are generally inversely correlated to the S&P 500 and are often successfully used to improve performance in Strategies that choose to disable StormGuard.

**StormGuard - AQR** (Asymmetric Quick Response) is a more aggressive StormGuard that; (a) "comes out of the hole" sooner following a market selloff, (b) triggers sooner by not adhering to month-end trading rules, and (c) does not honor fund-specific trade hold rules. Its only limitation on moving to/from \$CASH is that the last trade in the Strategy must have been at least 15 days ago. The asymmetric timing design is predicated on the observation that major market selloffs begin slowly, but after bottoming, typically rebound much more quickly. Capturing more of the fast rebound is the objective. Because of its faster response, S.G.-AQR is also prone to having about twice as many trades to/from \$CASH. It is not uncommon for an initial market rebound to fail and for S.G.-AQR to take the Strategy back to \$CASH again for a while.

In a careful examination of the difference between Chart-2 (S.G.-Std.) and Chart-3 (S.G.-AQR) below, one can see that in both of the mid-2003 and mid-2009 market recoveries, a greater portion of the market rebound is captured with S.G.-AQR resulting in an increase in the average annual return from 28.0% to 28.7% - which translates to about an 8.5% improvement related to each of those major recovery events. That performance improvement may justify paying an occasional early trading fee if a fund needs to be sold early.

Please Note: StormGuard-AQR doesn't perform better on all Strategies. In order for it to be helpful, the Strategy algorithm must select something at that time which is rebounding aggressively out of the hole. For example, if your strategy includes a bond fund that was currently being held, then there will be little difference between buying back in to that bond fund versus continuing to hold \$CASH a bit longer. In one particular examined ETF Strategy that was not helped by S.G.-AQR, the reason identified was that the algorithm had chosen the GLD ETF at that time, and GLD was fairly flat in performance when the market was otherwise seriously rebounding.

### **White Reference Index**

This option determines what is plotted in white on the chart as the comparative reference fund. **Automatic** is the default setting used by AlphaDroid. It uses the dividend adjusted S&P 500 as the reference unless the name of the Strategy includes any of the words "income," "bond," or "safe" in any form, in which case it then uses the Lehman Bros. Aggregate Bond Index. Of course, specifically selecting the **S&P 500** option will cause it to be used, and specifically selecting the **AGG-Bond** option will cause the the Lehman Bros. Aggregate Bond Index to be used. Selecting the **Average** option will cause it to use the equally weighted average daily performance of the constituent stocks/funds in the Strategy that have historical data on that day.

### **Forward-Walk Progressive Tuning (FWPT)**

This is fundamentally the most important of the Advanced Options. Critics of backtesting are right when they level the charge that backtesting with hindsight may well tell you the best path to travel - after the path is known, but it might not have been able to find that path walking forward in time. The operative question is "did backtesting discover a reliable character, or did it discover a random lucky sequence of events?"

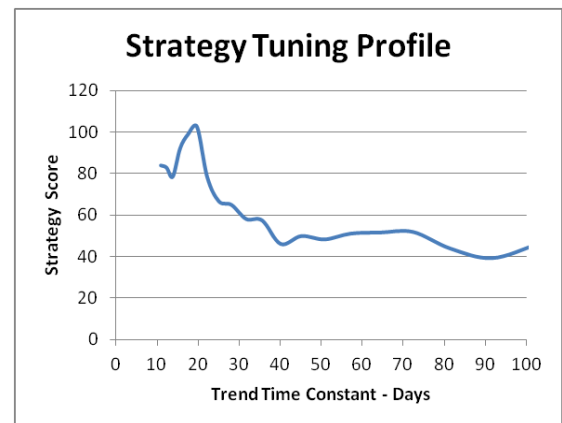
The gold-standard for backtesting performance of a predictive algorithm (for markets, environment, sports, etc) is the forward-walk progressive tuning methodology where a first set of data is used to tune the parameters of the algorithm for use in making decisions during a subsequent period of time, after which the parameters are re-tuned using the additional data from the prior period, and then used to make decisions during the next subsequent period of time. And so on. If performance is maintained, then tuning did discover a reliable character. To the degree performance declines, it is because the higher performance path is un-discoverable by

the algorithm. The path may be undiscoverable because significant events are too unpredictable, or because the algorithm lacks sufficient sophistication to adapt.

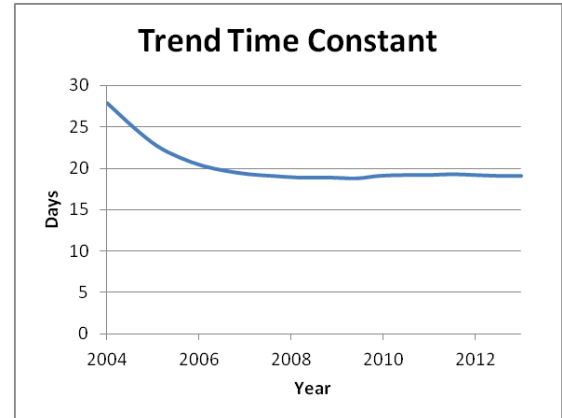
Chart-2 is the same as Chart-1, but additionally has Forward-Walk Progressive Tuning (FWPT) enabled. You can see that the BornOn Date, as specified in the Advance Options screen above, is December 31<sup>st</sup> 2003. Starting on that date and extending to the end of the chart along the horizontal axis, there is a sequence of 18 yellow markers, each representing a date on which progressive tuning occurred. The progressive tuning interval is set for a minimum of 125 market days – just short of 6 months. The algorithm re-tunes itself only at the first available trade date after the 125 day interval so that no extra trades are induced by the process of retuning. Furthermore, if the Strategy is set for Trade Automatic, then re-tuning will respect any extended hold period that the currently owned fund may have and respectfully delay re-tuning until the next allowed trading date.

The History-1 downloaded spreadsheet for this Strategy details the tuning profile for the Strategy and the record of its progressive tuning. This data is plotted in the charts to the right.

The Strategy Tuning Profile has a nicely formed single peak that is easy to find and lock onto with a tracking algorithm. Shorter time constants are typical among sector-based Strategies, whereas it is not atypical for asset class-based Strategies, such as 401k Strategies, to have fairly long time constants. While most stock Strategies generally peak in the mid-range, if the stocks are generally well behaved the time constant may be considerably shorter, and if there is a lot of chaotic behavior then performance may peak with longer time constants.



It is definitely possible to create a Strategy that does not have a strong peak, or that has multiple peaks. A Strategy with multiple personalities may relate to chaotic behavior of its stocks/funds, or may relate to an evolving character change, such as when a Strategy has funds with longer histories that are more like sectors and also has funds with shorter histories that are leveraged or of a very different asset class.



The Trend Time Constant chart shows that this Strategy originally tuned best at about 28 days, but then evolved and stabilized at about 19 days. While the root cause of this change for this Strategy has not been formally determined, it is notable by viewing Chart-1 that a few new funds do enter the picture later in the overall time span. One might also postulate that the character of the market may have changed during this time span due to the advent of electronic trading. But, it is also notable that many Strategies with only long term mutual funds do tune consistently across the full time span.

### BornOn Date

This specifies the initial tuning date for the FWPT algorithm. You can specify it as any date from 1/1/1998 through the current date. The algorithm may slightly modify the date to move it to an actual market date, and it may also modify it if there is not at least 5 years of tuning data to start with. The somewhat arbitrary sounding choice of 5 years is intended to ensure that training periods will likely have a worthy set of market conditions from which to determine operational parameters. BornOn Dates 1/1/2004 and 1/1/2010 are particularly recommend. Each closely follows, and thus includes a full market crash/recovery cycle in its training data set.

## Stronger Filtering

Stronger filtering makes an attempt to better expose the trend signal by passing it through the trend filter one additional time. The majority of Strategies do not require this treatment. Although an automatic check is made during Strategy optimization when FWPT is not selected, it is not automatically considered with the progressive tuning process because of the added complexity and thus is only accommodated in FWPT manually via the option checkbox. There is no simple rule of thumb for applying it because it includes the complex task of considering the similarities and differences of the volatility and correlation characteristics of the Strategy funds. It is just so much quicker to click and try it than to attempt to predict it's need. As already stated, it is an option that only occasionally is helpful. If you have a standard AlphaDroid Strategy that is not tuning well under FWPT, particularly when you set the BornOn Date to today, that would be a good sign that you should try this.

## Bias Toward Shorter Trends

Strategies that evolve over time as additional funds with a shorter history enter the mix may also change their tuning profile over time as a consequence. Consequently, some Strategies may have two separate "time constant zones" where performance may be similar. Experience with dozens these kinds of Strategies indicates that biasing the decision toward choosing the shorter trend time constant more often results in the algorithm being more adaptive and responsive to market changes as the algorithm walks it forward in time. Thus, this option is checked by default. That said, it is possible to build Strategies that actually evolve to prefer longer time constants as the mix of participating stocks/funds changes over time. For example, a nice sector rotation strategy may originally tune well with shorter time constants, but the later addition of other asset classes (such as materials, interest rate dependant REITS, leveraged bonds) could drive the Strategy to later prefer longer time constants – which would be a reason to not bias toward shorter trends and uncheck the box.

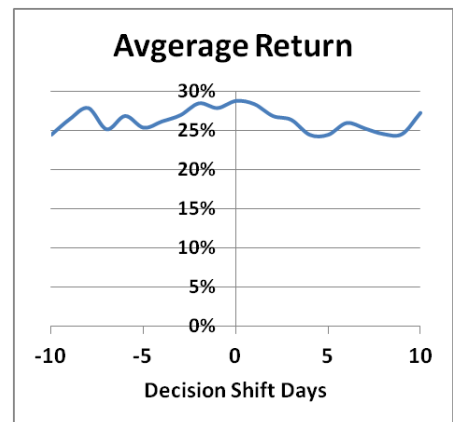
## Decision Shift Days

For month-end trading Strategies, the decision is normally rendered the evening of the last trading day of the month, with the corresponding Strategy performance modeled to include a one-day trade execution delay. The Decision Shift Days parameter allows moving the decision date up to 11 days before or after the last trading day of the month.

In Charts 1 to 3 below, the Decision Shift Days parameter is set to zero, its default position, and May 31<sup>st</sup> 2013 is reported as the Last Trade Signal date. In Chart 4, the Decision Shift Days parameter is set to -4, and the reported Last Trade Signal date is reported as May 24<sup>th</sup> 2013, which includes skipping over Memorial Day on the 27<sup>th</sup>, and then skipping the weekend. The History-2 listing below shows the corresponding shifted trade execution dates for this setting.

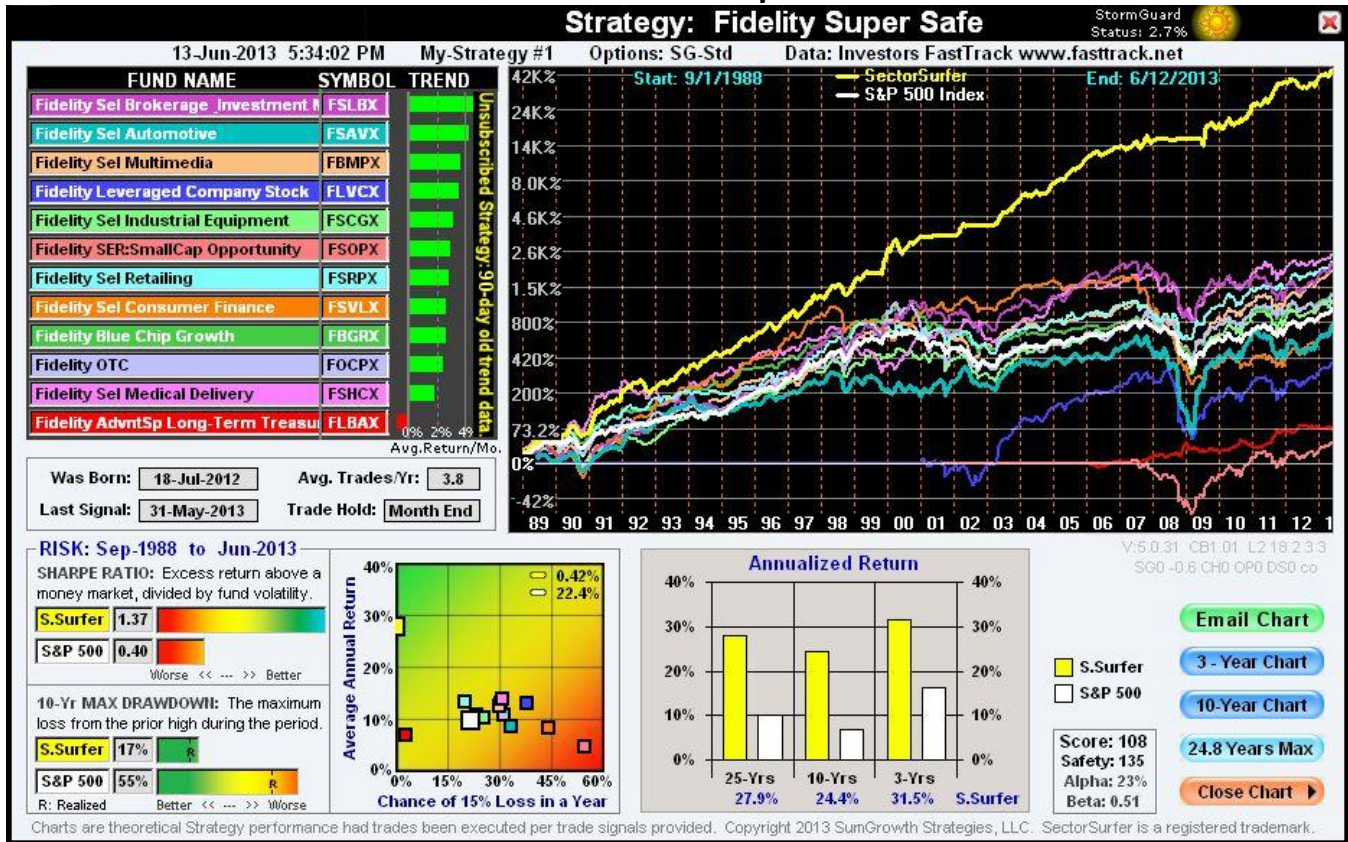
The primary value of providing this control is illustrated by the two charts to the right. In addition to the visible improvement in performance near month-end, one can also see a noticeable variability in shifting from day-to-day. The variability is related to "luck of the draw" and helps one understand how much luck plays a role in performance estimates prior to considering real variations in the future economy. Some Strategies with stocks or leveraged commodity ETFs will likely have a much more significant variation in return when plotted this way. Take heed of it.

Note: The radical variation in the Safety value relates to crossing certain risk thresholds which purposely punish the Safety rating quite severely.





### Chart-1. Standard AlphaDroid



### Chart-2. Options: FWPT, ST, Ref=Average

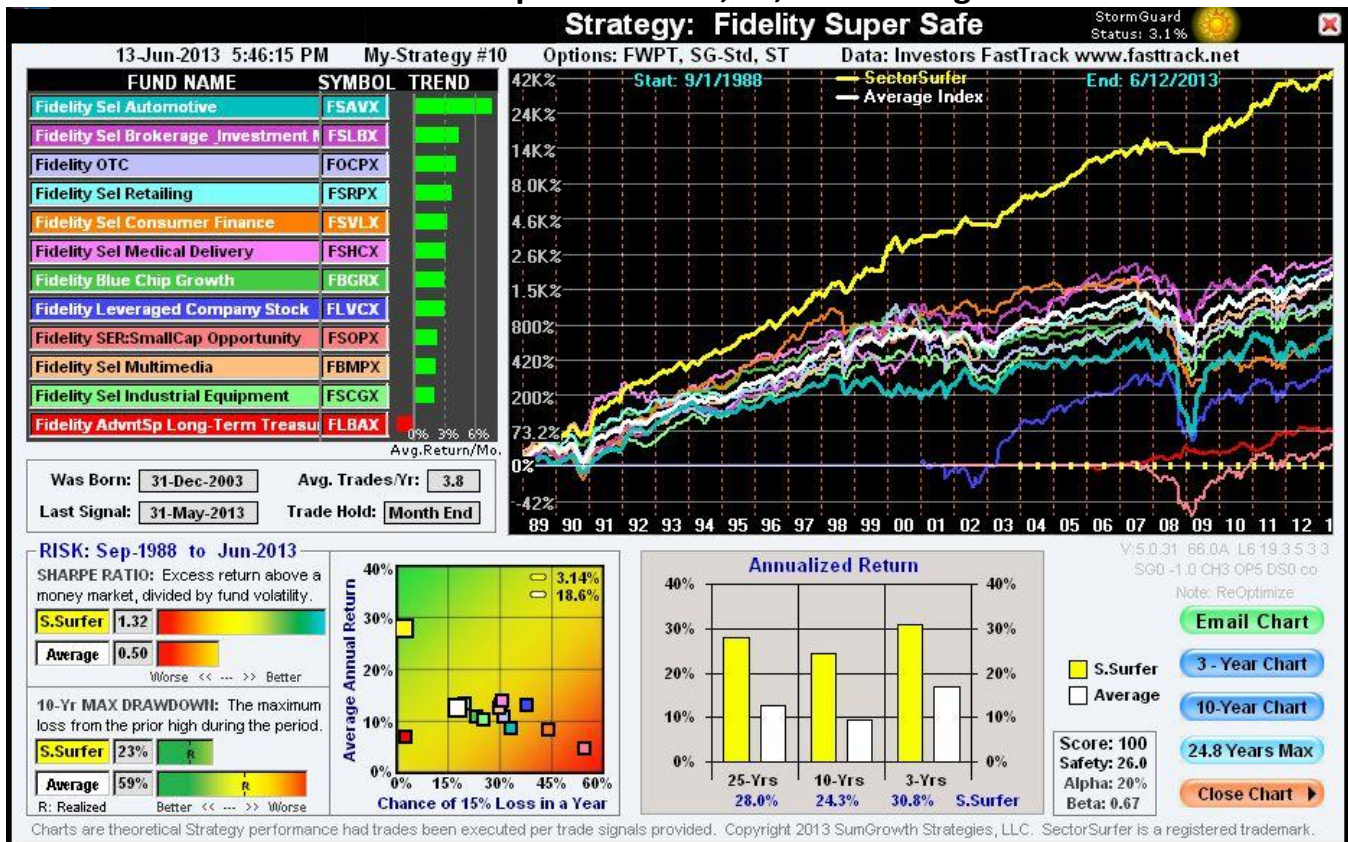




Chart-3. Options: FWPT, ST, SG-AQR, Less Spaghetti, Ref=Average, Flex= 4/2/2004

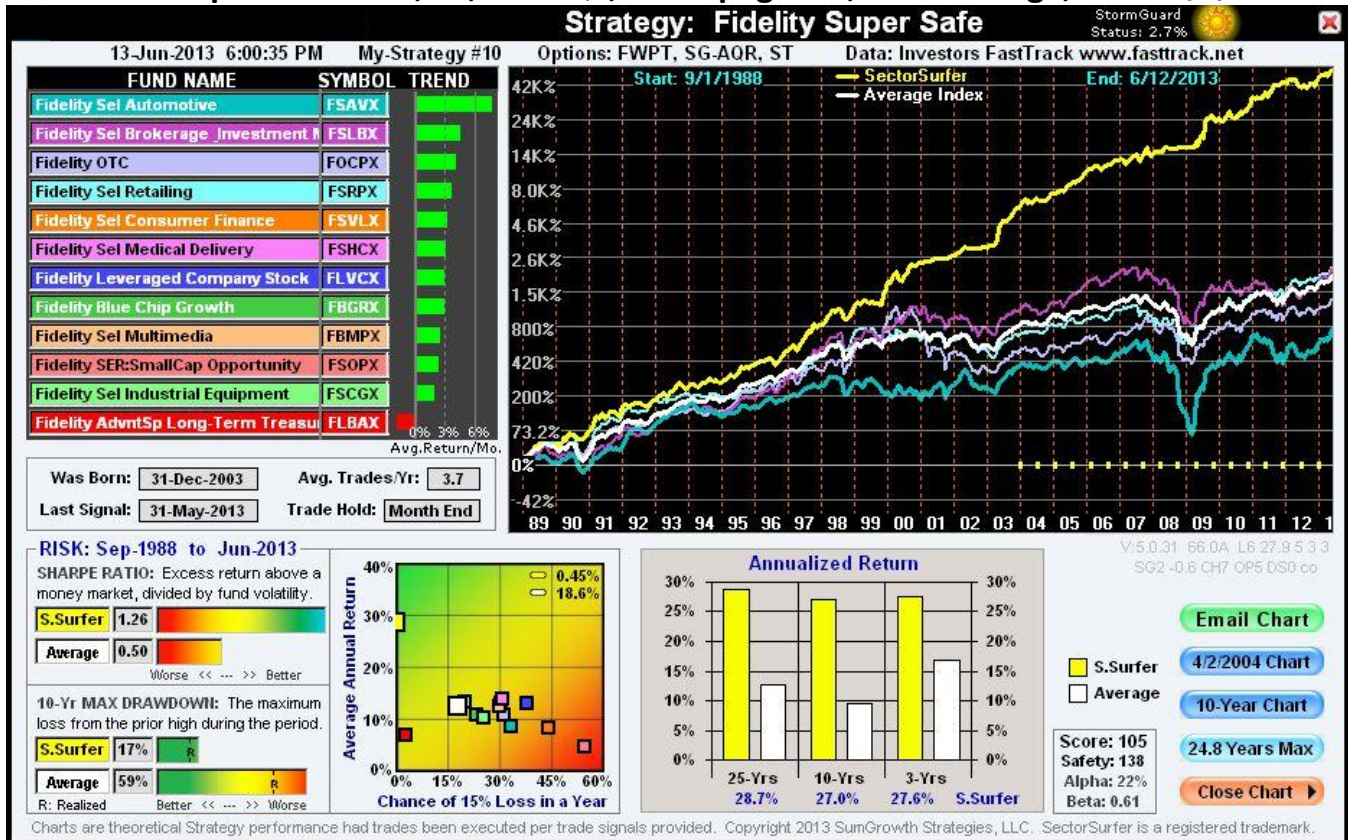
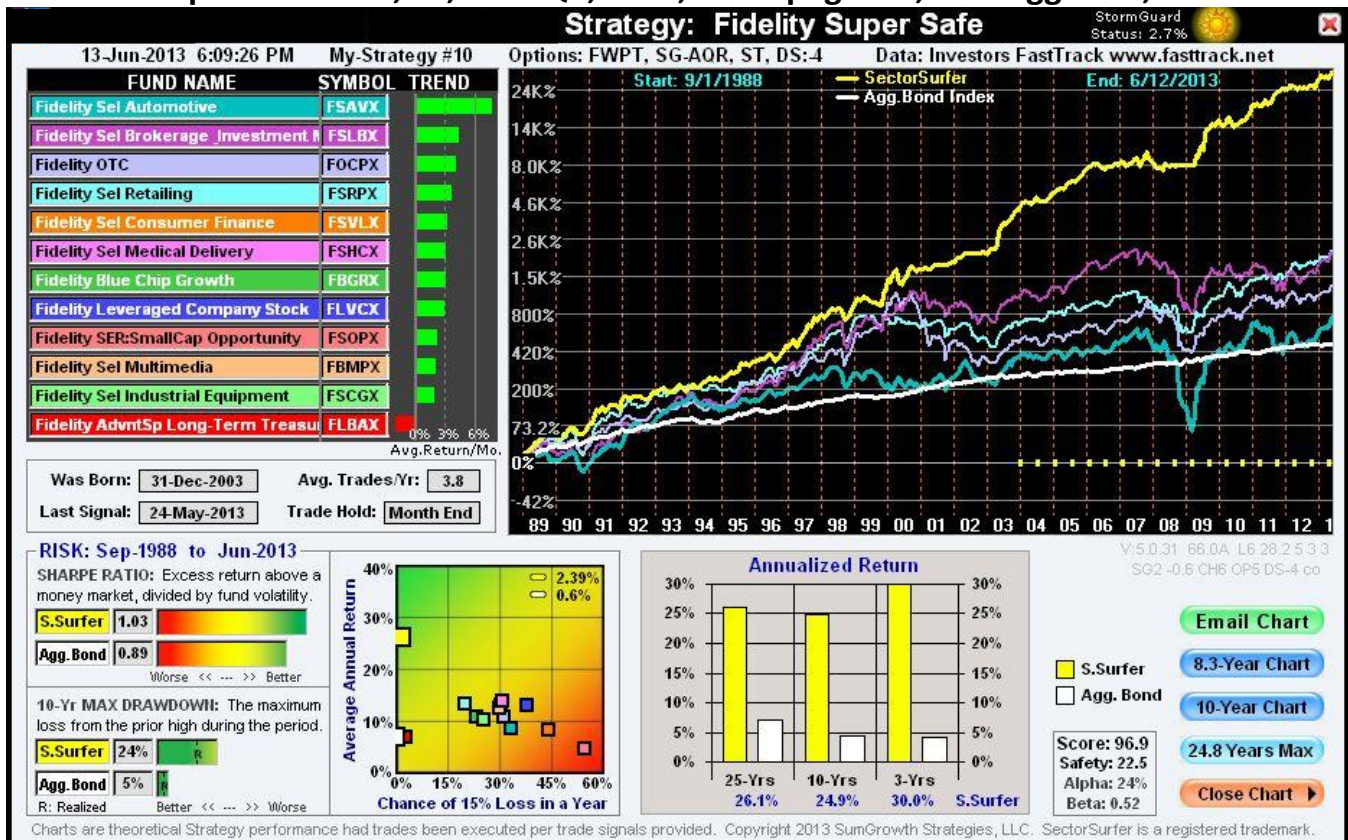


Chart-4. Options: FWPT, ST, SG-AQR, DS-4, Less Spaghetti, Ref=AggBond, Flex= 8.33



## History-1. Options: FWPT, BornOn 12/31/2003, SG-AQR, DS-4

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
142	29-Jan-91	\$CASH	FSHCX	15	7.60%	4.10%	14144	17078		6.70%	0.00%	8.60%	0.00%	0.00%
143	14-Jan-91	FSHCX	\$CASH	61	-1.90%	5.40%	13142	16404		2.50%	0.00%	8.60%	0.00%	0.00%
144	14-Nov-90	\$CASH	FSHCX	57	1.20%	2.80%	13395	15568		2.50%	0.00%	8.60%	0.00%	0.00%
145	18-Sep-90	FSHCX	\$CASH	84	-8.80%	-6.60%	13235	15145		-0.30%	0.00%	8.60%	0.00%	0.00%
146	26-Jun-90	FSCGX	FSHCX	91	4.00%	5.50%	14507	16224		-0.30%	0.00%	8.60%	0.00%	0.00%
147	27-Mar-90	FBGRX	FSCGX	60	5.40%	8.60%	13946	15385		-0.30%	0.00%	8.60%	0.00%	0.00%
148	26-Jan-90	FSHCX	FBGRX	184	-2.00%	-2.40%	13234	14170		-0.30%	0.00%	0.00%	0.00%	0.00%
149	26-Jul-89	FBMPX	FSHCX	211	24.60%	43.20%	13506	14522		-0.30%	0.00%	0.00%	0.00%	0.00%
150	27-Dec-88	FSHCX	FBMPX	97	3.40%	1.70%	10838	10144		-0.30%	0.00%	0.00%	0.00%	0.00%
151	21-Sep-88	\$CASH	FSHCX	20	4.80%	-0.30%	10477	9974		-0.30%	0.00%	0.00%	0.00%	0.00%
152	1-Sep-88	---	\$CASH	0	0.00%	0.00%	10000	10000		0.00%	0.00%	0.00%	0.00%	0.00%
153														
154														
155	Forward-Walk Progressive Tuning final profile as performanceScore vs. trendDays (averaging period).													
156	Days	11	12.4	13.9	15.7	17.6	19.8	22.3	25.1	28.2	31.8	35.7	40.2	45.2
157	Score	68.5	76	75	79.5	95.2	91.3	86.8	73.9	66.9	66	57.5	53.8	57.1
158														
159	Forward-Walk Progressive Tuning sequential history as tuneDate vs. trendDays.													
160	Date	12/31/2003	7/27/2004	1/26/2005	7/26/2005	1/26/2006	7/26/2006	1/26/2007	7/26/2007	2/26/2008	8/26/2008	3/26/2009	9/25/2009	3/26/2010
161	Days	28.2	28.2	22.8	19.3	16.9	15.4	14.3	13.6	14.3	15.3	15.9	16.3	16.8
162														

## History-2. Options: SG-AQR, DS-4, Ref=S&P500

Strategy Trade Signal History							
6/13/2013 18:16:14 PM - Fidelity Super Safe - Class: Unspecified							
Trade Signal	Sell	Buy	Days Held (fund sold)	Reference Return	Strategy Return	Reference Value *	Strategy Value *
Still Holds	FSAVX	---	16	-2.6%	-1.8%	\$107,282	\$2,893,126
2013-May-28	FBMPX	FSAVX	33	4.9%	5.7%	\$110,093	\$2,945,248
2013-Apr-25	FSLBX	FBMPX	59	6.8%	5.0%	\$104,999	\$2,785,367
2013-Feb-25	FSAVX	FSLBX	90	6.8%	12.2%	\$98,315	\$2,652,088
2012-Nov-27	FBMPX	FSAVX	91	-0.2%	2.9%	\$92,024	\$2,363,854
2012-Aug-28	FLBAX	FBMPX	95	7.6%	2.4%	\$92,172	\$2,298,227
2012-May-25	FVLX	FLBAX	59	-6.4%	-6.6%	\$85,691	\$2,243,769
2012-Mar-27	FSCGX	FVLX	61	7.5%	6.5%	\$91,519	\$2,402,082
2012-Jan-26	FLBAX	FSCGX	104	8.4%	3.9%	\$85,128	\$2,255,439
2011-Oct-14	\$CASH	FLBAX	16	6.5%	-1.3%	\$78,564	\$2,171,329
2011-Sep-28	FLBAX	\$CASH	93	-9.6%	19.7%	\$73,761	\$2,199,473
2011-Jun-27	FSHCX	FLBAX	62	-4.7%	-0.6%	\$81,585	\$1,837,217
2011-Apr-26	FSCGX	FSHCX	62	3.4%	4.7%	\$85,576	\$1,847,949

**Notes:**

- This is the list of trade signals as generated by the Strategy processing algorithm, not your execution record.
- (\*) The Values for both the Reference and the Strategy start with a hypothetical \$10,000 on the first trade listed.
- (\*\*\*\*) Sell and Buy fund symbols for the most recent trade are not shown for un-subscribed Premium Strategies.
- Reference may be S&P500 or AGG, see Strategy chart.

[Download Summary Data](#)
[Close](#)