

**fastFutures Algo version 1.31**  
**August 2014**

**Description**

fastFutures algo is a short-term forecast of a futures contract engineered, specifically, for options trading. By processing current market data efficiently, the model acts like a hidden source of speed, improving the reaction time of option quotes to new underlying information entering the marketplace and overcoming exchange latency and system conflation.

fastFutures algo combines rigorous data analysis and statistical modeling to create an optimal value for a futures over a few second horizon. The driver for this model is a simple regression model that has been optimized directly from the OptionsCity real-time datafeed:

$$\text{microPrice} = \text{midpoint} + \text{betaSize} * \text{sizeRatio} + \text{sum}(\text{beta}_i * \text{tradeAdj}_i)$$

where

beta... = optimized parameters  
sizeRatio = ratio of bid and ask size  
tradeAdj = momentum of last i trades

The model has two sources of alpha. First, the current book and last trade momentum are generally strong predictors of short term behavior, and second, by incorporating last trade information into the model, exchange bid/ask latency has been greatly reduced.

The model is configurable by the user to control the size of the adjustment and to control the update process to eliminate excessive price updates and to focus the algorithm on higher value opportunities. It also includes numerous safeties to insure the integrity of the model.

The algorithm is available on a monthly subscription basis for \$250 per market per month. Included in the subscription service are regular parameter updates and model enhancements.

**Users Guide**

Configuration Parameters:

Job Defined		
Name	Description	Value
licenseKey	your 36 character license key for FastFutures:	xxxxxxxx-xxxxxx-xxxxxx-xxxxxx
Underlying Instrument	Instrument Name	CL
Signal Strength	0.0 = off; 1.0 = full strength	1.0
Base Futures Month	YYYYMMDD	20140820
Artificial Instrument	Instrument Name	CL_MICRO
betaEncodingString	string provided by Morris Consulting	{"Sym":CL,"betaSize":7.991025514,"lags":5,"b1":4.389689598,"b2":-10.133938685,"b3":2.06952...
Update Threshold (ticks)	0.0 = always update; 0.05 = default	0.1
Signal Trigger (ticks)	0.0 = no threshold	0.50
Max Allowable Adjustment (ticks)	1.05 = default	1.05
AutoHedge Trigger (ticks)	0.3 = default	0.3
Debug	ON or OFF	ON

Help OK Apply Cancel

- **LicenseKey** – This is a unique 36 character string that is assigned to each user.
- **Underlying Instrument** – The base underlying instrument symbol (e.g. “CL”, “ES”)
- **Signal Strength** –The value is a multiplier of the signal. A value of 0 (default) turns the model off and returns the market bid/ask prices. A value between 0 and 1 will multiply the amount of the signal adjustment by that value. 1.0 is max allowable value and is the full strength of the signal.
- **Base Futures Month** –future expiration month used to price option theos. Format is YYYYMMDD (e.g. 20140820). Value must be updated manually each roll period.
- **Artificial Instrument** – default value is <sym>\_Micro (e.g. CL\_MICRO). User must create an artificial instrument of the same name in the Metro Artificial Instrument Wizard (see user guide below for details). Please note when creating the artificial instrument, the multiplier and offset fields must be set to 0.
- **betaEncodedString** – This string is provided by Morris Consulting, LLC and contains the optimized parameters for each market. Periodically, newly optimized parameter may be delivered to each subscriber and will need to be copied and pasted into this field.
- **Update Threshold** – This parameter controls the amount the signal price must change before a new updated price is sent. It is designed to manage system load and eliminated excessive price updates. The units are in ticks. The default values are between .05 and .1 ticks. For example, if the default is set to .05, then for CL where the tick size is \$.01, the microPrice forecast would need to change by \$0.0005 (.05 x \$.01) or greater before a new updated bid and ask would be disseminated.
- **Signal Trigger** – This parameter is the minimum signal threshold before the model is invoked. Setting the value to 0 will allow the model to work all the time even for small changes. A non-zero, positive number will only allow updated for signals above this value. Default values are between .1 and .2 ticks. For example, if the value is .1 ticks, then for CL (tick size = .01), the microPrice forecast would only kick in if the adjustment was greater than \$.001 (.1 x \$.01). For adjustments below \$.001, the market bid and ask will be returned.

**[Please note that for version 1.3 all defaults have been set to .25 and adjustments are limited to ½ tick increments only]**

- **Max Allowable Adjustment** – This is a safety which limits the total amount that the model is allowed to adjust prices. The default values are between .55 and 1.05 ticks. An additional hard limit is set internally that does not let the user input a value greater than 1.5 ticks.
- **AutoHedger Trigger (ticks)** – The FFA has been integrated with the AutoHedger Algo developed by Axonetrics. To minimize the amount of network traffic, only signals greater than the inputted value will be sent to the AutoHedger.
- **Debug** – If this is turned “ON”, every time the Fast Futures generated a signal, it will be printed to the log file.

### Turning the model on

When the algo is first loaded, the Signal Strength will be in the off-mode (value = 0.0).

Set Artificial Instrument – First, an artificial instrument must be created. On the Metro Control Panel, Click on Wizards to set your new instrument. <sym>\_Micro (e.g. CL\_MICRO) is the recommended default. Please go to (<http://wiki.optionscity.com/display/FWPUB/Artificial+Symbols>) for further instructions.

Input Configure Parameters - Once the fastFuturesProd1p31 job has been loaded, go to the main Freeway – On Ramp page and click the “Jobs” tab at the bottom. Click on the fastFuturesProd1p31 line and then click on the “Configure” tab. You will need to set the following parameters:

- licenseKey – Enter the 36 character string is provided to each user from Morris Consulting.
- Underlying Instrument – Enter the 2 character symbol you wish to run (e.g. “CL”).
- Signal Strength – set to a value between (0 and 1).
- Base Futures Month – This is in YYYYMMDD format.
- Artificial Instrument – set this to the symbol name you created above.
- betaEncodedString – This is the string that Morris Consulting delivered to you. It should look something like {“Sym”: ES, “betaSize.....}. Please copy and paste this string including the brackets {} into the appropriate field. Please take special note that the symbol in this string is the same as the Underlying Instrument symbol. If you mix symbols, the model will not run.

I would recommend leaving the other parameters equal to their default values until you get comfortable with the model and wish to fine-tune.

You may also want to initially set the Signal Strength to a value below .5 and gradually increase it as your comfort level increases.

Lastly, if you would like the model to start automatically, you can Click the autostart button on the top of the “Configure” page.

Once you are finishing making your changes, please make sure you Click “Apply” at the bottom of the page and then Click “Start” to turn the model on.

### **Turning the model off**

If for any reason you wish to disable the model, go to the main Freeway – On Ramp page and Click the “Jobs” tab at the bottom. Click on the fastFuturesProd model you wish to disable and Click “Stop”.

This will disable the model, but also stop the underlying from updating. To continue having underlying updates you have two options.

1. Continue to use the artificial underlying:

Click on the “Configure” tab. Set the Signal Strength to 0.

Signal Strength = 0 – Turns off the microPrice adjustment

Click “Apply” at the bottom of the page.

You will also have to Click “Stop” and then Click “Start” to load in the new parameter

2. Switch back to using the “real” underlying in Metro.

Please directly any questions or comments to: Scott Morris – [scott@rscottmorrisconsulting.com](mailto:scott@rscottmorrisconsulting.com)