

IO v2.9

- **Goals:** Added the capability for Goals to be written with Penalty or Bonus functions that are full formulas like Fitness.
- New Directives: **Stages, StageGenerations, ParticlesBegin:** Added the capability for runs to be in stages where a large number of particles are used at the beginning tapering to a smaller number of particles at the end.
- **SenOptPenalty:** Added flexibility similar to that of **Goals** above to the In Sample Sensitivity Testing Penalty function
- New Directive: **IOLink:** Added the capability to link optimization statements together. Useful for eliminating specific variables from in sample sensitivity testing when they depend on other control type variable(s) and the associated control variable(s) are not the specified value.

v2.8

- **Goals:** Added the capability for Goals to be used either with a Penalty function when the goal is not met or with a Bonus function when the goal is exceeded. Increased the flexibility to allow full formula writing capabilities for Penalties and Bonuses.
- New Directive: **SenOptGoalPenalty:** Added flexibility similar to that of **Goals** above to the In Sample Sensitivity Testing Penalty function

v2.7

- **User Template:** Saved at the beginning of the run to be used throughout the run rather than relying on the AB default template.
- **IO Task Bar**
 - The **Summary** Button has been replaced by a **Reports** button and will take the user to a modified **Summary** window or the new **Reports** window depending on whether the value of the new Directive **FileNames** is Generic or Unique respectively. The new **Reports** window is in essence a collection of all Summaries ever run that haven't been archived or deleted. This allows the user to view sets of reports from past optimization runs from a menu. Reports can be archived to an **Archive** directory and menu that has the same structure as the Reports.
 - Added color to the on/off state type Buttons to indicate when they are active. This includes the Status, Plot Best & Servers Buttons
- New Directive: **AFLDesc:** Freeform to be used in a variety of windows.
- New Directive: **RemoveABReports:** Y / N. Whether or not to remove the AB Reports produced during the run

- New Directive: **LastOSDate**: The last date that out of sample and/or walk forward testing will be run through
- The intelligent optimization process can sometimes look at the same combination of variable values multiple times especially with genetic algorithms. As a result an internal **Binary Tree** has been implemented to save and lookup previously tested values as opposed to running them thru AmiBroker multiple times. This typically results in 20-35% reductions in run times although I've seen savings be somewhat lower and much higher depending on the system and other directives. **(Silver)**
- Major improvements to the routines for finding the middle of fitness plateaus when using sensitivity checking during in sample optimization. There are new meanings for **SenOptType** choices i.e. MinMax, Random, RndFix and Fixed and two new Directives below. **(Silver)**
- New Directive: **SenOptRanges**: The number of ranges to test between -SenOptRange% and +SenOptRange% **(Silver)**
- New Directive: **SenOptRangeWeight**: Relative weighting for ranges with closer ranges having by default higher weighting. **(Silver)**
- New Directive: **FileNames**: Generic / Unique. How the filenames of the screens are to be constructed. Unique allows preservation of runs and retrieval upon demand as well as archival to a more permanent location.
- Enhanced **GUI** now shows all aspects of IO runs utilizing the information flow below. The top level is only available when using Unique FileNames. Better use of AB\IO Directory Structure now incorporating \IO\Reports & \IO\Archive.

