

Version 16.1

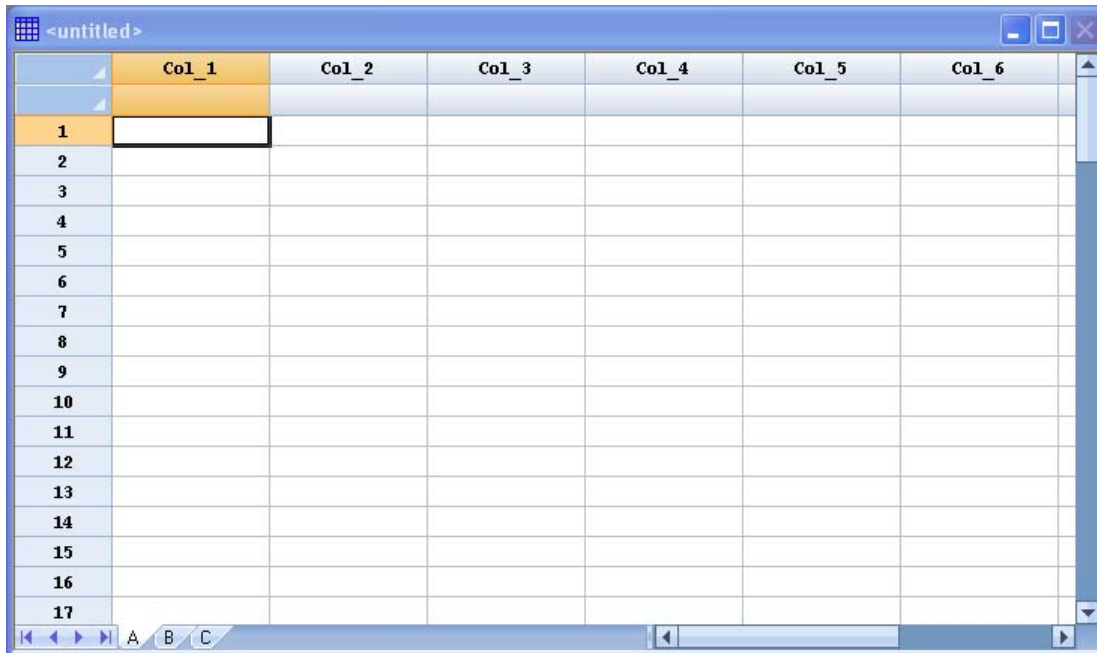
Summary

Version 16.1 contains a number of enhancements. These include:

1. Variable number of datasheets in the DataBook.
2. Direct input of SQL queries.
3. Creation of AVI movies
4. Statistical tolerance limits for normal, lognormal, and Weibull distributions.
5. Sample size determination for capability indices.
6. Sample size determination for statistical tolerance limits.
7. Monte Carlo simulation – three new procedures.
8. Multivariate Visualization – four new procedures.

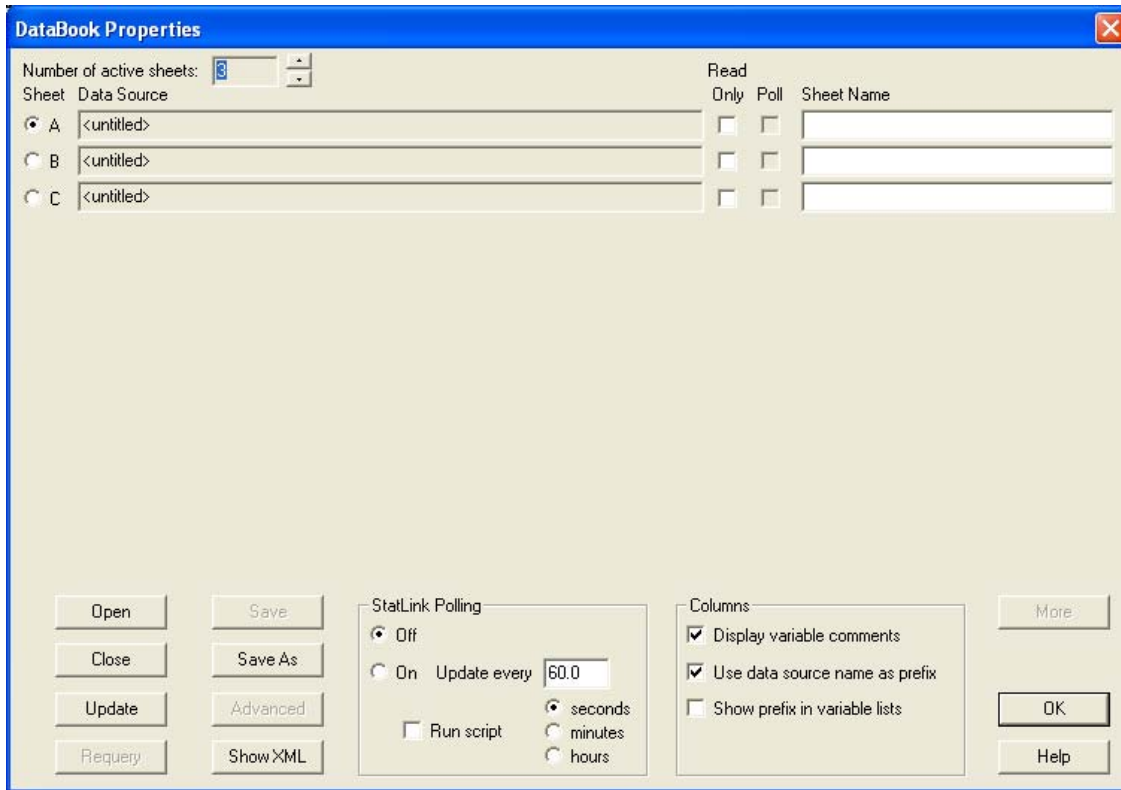
Variable Number of Datasheets

Version 16.1 allows users to change the number of datasheets contained in the main DataBook. By default, a new StatFolio creates a DataBook with 3 datasheets, each indicated by a tab along the bottom of the window as shown below:



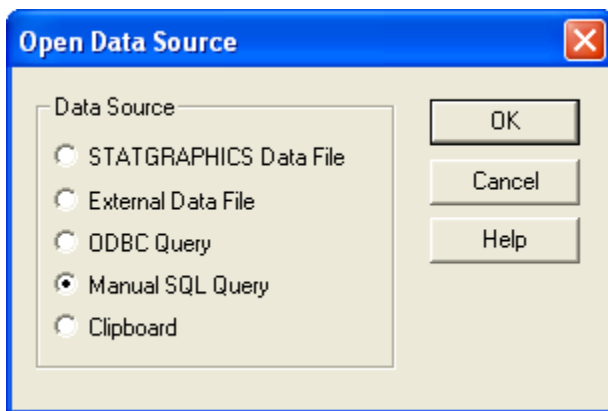
As in earlier versions, each datasheet corresponds to a different data source, which may be a STATGRAPHICS file, an external file such as an Excel worksheet, or a database query.

To change the number of datasheets, select *Edit - DataBook Preferences* from the main STATGRAPHICS menu. Use the *Number of active sheets* setting on the dialog box below to change the number of datasheets:

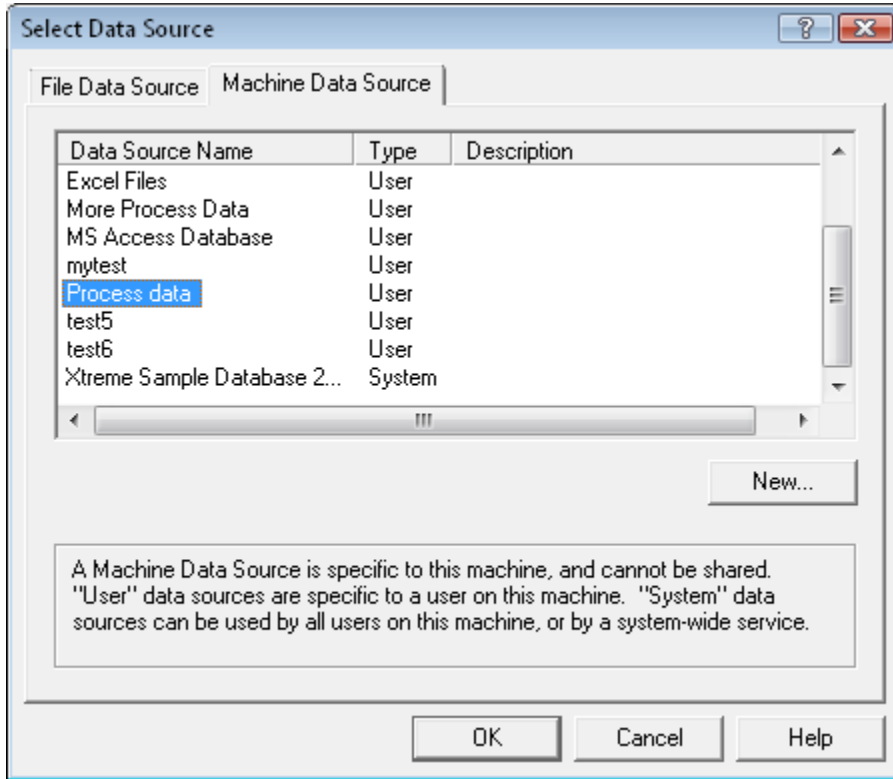


Direct Input of SQL Queries

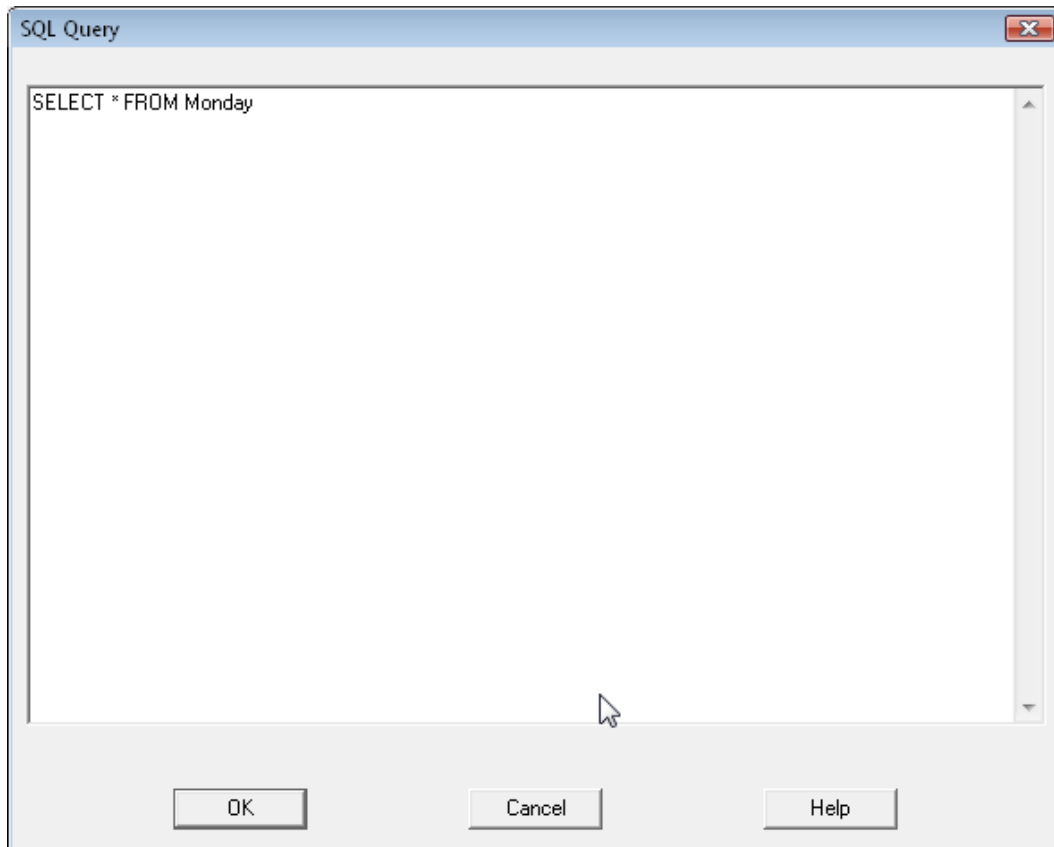
Users may now enter full SQL queries to extract data from a database rather than use the ODBC Query wizard. To enter a query, first select *File – Open – Open Data Source* from the main menu. This will display the dialog box shown below:



If you select *Manual SQL Query* and press *OK*, you will first need to select a data source to query:



If you have not yet defined a connection to a data source, press the *New* button and create a connection. Creating a new data source name is discussed in the document titled *Data Files and StatLink*. After selecting a data source, press *OK* to display a dialog box on which to enter the full SQL query:

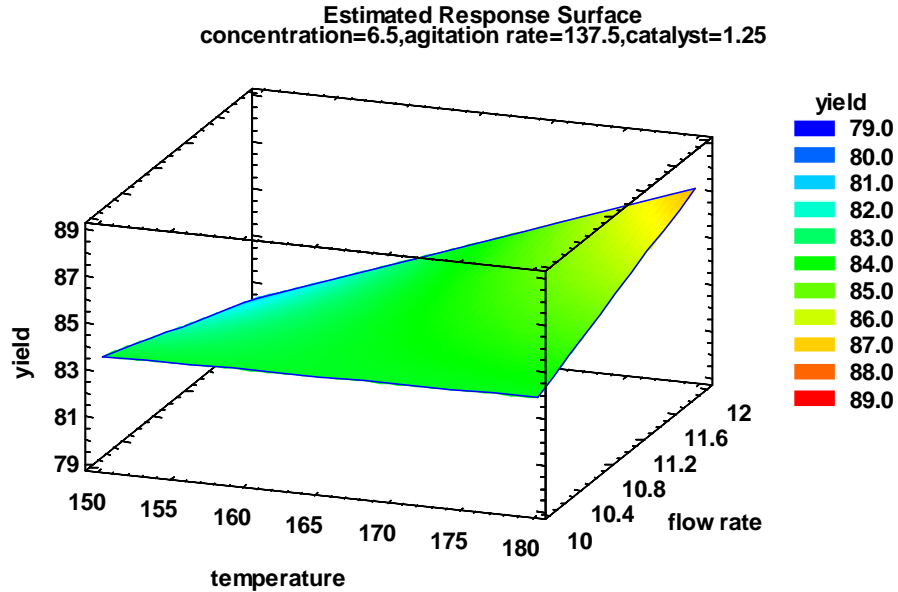


After entering the query, press *OK*. If the query is successful, the resulting data will be added to the active datasheet. If the query fails, an error message will be displayed.

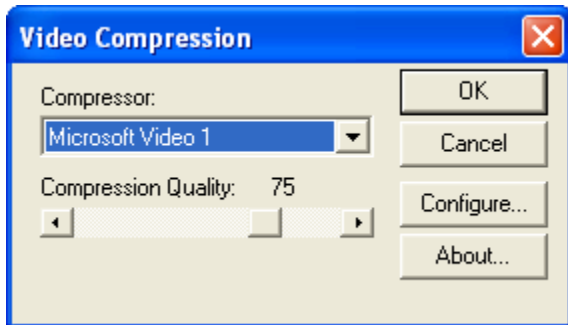
After a successful query, the StatFolio may be saved. When the StatFolio is reloaded, the query will automatically be reexecuted.

Creation of AVI Movies

AVI movies can be created which record graphics output. For example, suppose you wished to record interaction with a response surface such as that shown below:



To begin recording a movie, either press <Ctrl><M> anywhere on the graph or press the right mouse button and select *Start Movie* from the popup menu. This will display the dialog box shown below:



From the *Compressor* list, select the codec that you wish to use. Codecs compress and decompress the video files that are created in order to reduce the size of the files. You may also select a different *compression quality*.

When you press *OK*, recording will begin. While the movie is being recording, you will see a REC indicator at the far right of the status bar at the very bottom of the main STATGRAPHICS window. Manipulate the graph in any manner that you wish. To stop recording, either press <Ctrl><M> again or press the right mouse button and select *End Movie* from the popup menu. The following dialog box will be displayed:

Sample Size Determination for Statistical Tolerance Limits

A new menu selection has been added under *Tools – Sample Size Determination – Statistical Tolerance Limits* that will determine the sample size required to estimate tolerance limits for the normal, lognormal, and Weibull distributions. This new procedure is described in the document titled *Sample Size Determination (Tolerance Limits)*.

Monte Carlo Simulation

Three new procedures have been added to the *Tools* menu to perform Monte Carlo Simulations:

1. *General Simulation Models* – used to estimate the distribution of variables when it is impossible or impractical to determine that distribution theoretically.
2. *ARIMA Time Series Models* - generates random samples from ARIMA time series models.
3. *Random Number Generation* - generate random numbers from 45 different probability distributions.

Each procedure is described in an appropriately named PDF procedure file.

Multivariate Visualization

Four new procedures have been added to the *Plot* menu to help visualize multivariate data:

1. *Parallel Coordinates Plot*– used to identify differences and similarities amongst observed cases by drawing lines connecting the values of each variable.
2. *Andrews Plot* – creates a transformation of multivariate data using sines and cosines.
3. *Star Glyphs and Sunday Plots* – presents multivariate data for each case as a polygon with vertices scaled according to the values of each variable.
4. *Chernoff Faces* - presents multivariate data for each case as a cartoon face with features scaled according to the values of each variable.

Each procedure is described in an appropriately named PDF procedure file.