

Analysis of Variance

Leader

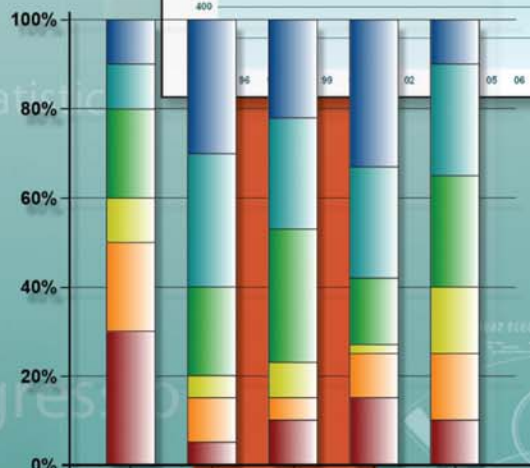
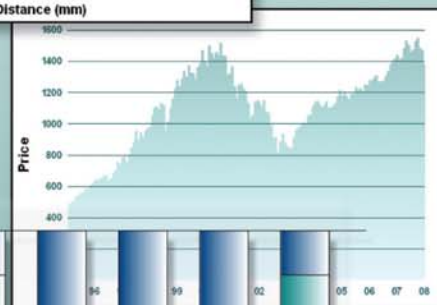
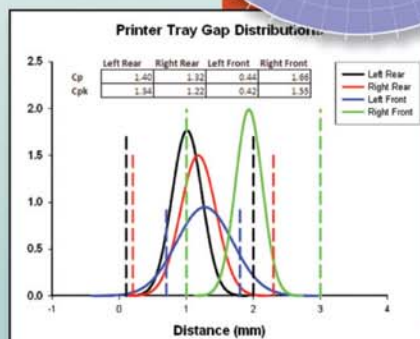
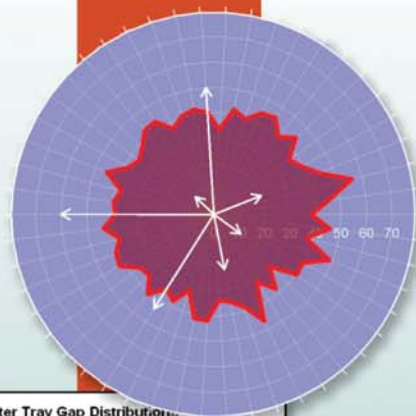
in Niche
Scientific
Graphing

Correlation

α

Non Parametric Statistics

Regression



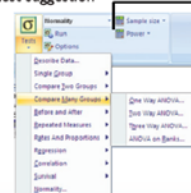
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Analyze and Graph your Data with Unparalleled Ease and Precision

SigmaPlot® is a scientific data analysis and graphing software package with advanced curve fitting, a vector-based programming language, macro capability and over 50 frequently used statistical tests. SigmaPlot has the analytical features necessary to extract the important information from your research data. With over 100 graph types and a user interface which allows detailed manipulation of every graph object, you can create the exact graph to present your results.

Complete Advisory Statistics for Scientists & Engineers

Over 50 tests with complete background statistical assumption testing and appropriate test suggestion



Create the Exact Graph for your Research

Over 100 different 2D and 3D graph types in the Create Graph ribbon

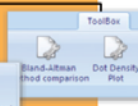
Powerful Curve Fitting

Nonlinear, Dynamic and Global curve fitting and now implicit function fitting



Advanced Analysis Methods

Bland-Altman, Dot Density, Enzyme Kinetics



Tabbed Groups

Collect related graphs in a tabbed group for easy relationship to a worksheet

Object Window

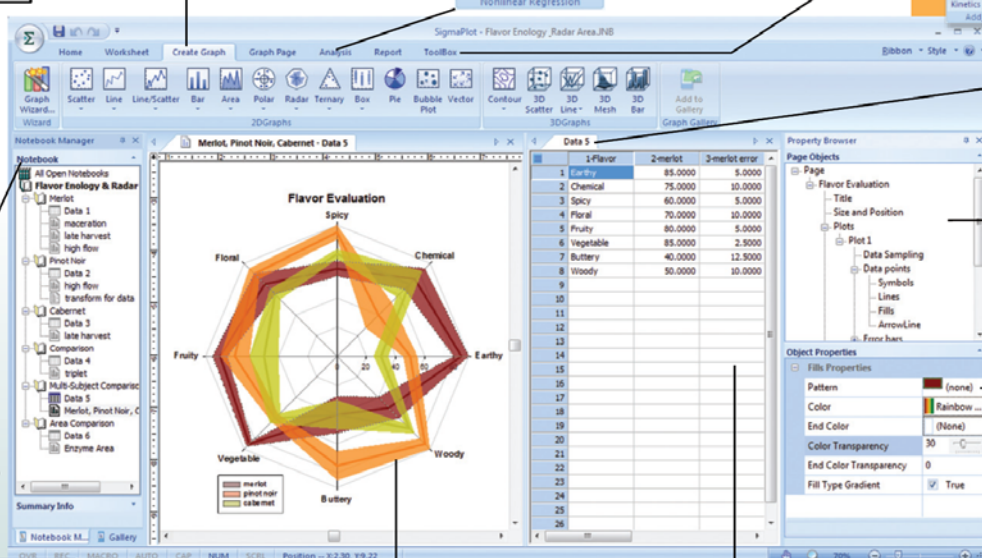
Objects are identified when clicked on in the graph

Properties Window

The properties associated with the selected object. Dynamic Update changes the graph immediately. No clicking Ok or Apply required.

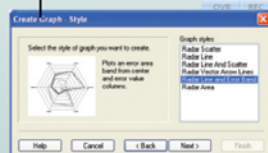
Notebook Manager

Save multiple notebooks, worksheets, graphs, reports, transforms, equations and macros



Interactive Graph Wizard

A step-by-step graph creation process



Work Directly on the Page

Almost every object is selectable. Mini-toolbars allow direct modification.

Huge Worksheet and Associated Programming Language

32,000,000 rows & 32,000 columns. Vector based computations.

Multiple Methods for Zoom, Pan and Drag

Press the spacebar and drag the graph with the hand cursor. Use the slider for large zoom changes or the buttons for 10% changes.

Fine Tune Every Graph Detail

- The beauty and utility of SigmaPlot is its ability to modify each graph object to produce a graph that in total "tells the story" of your research.

Create Your Exact Graph in No Time

- Create compelling graphs for publications, presentations and reports
- Let the Interactive Graph Wizard lead you through every step of graph creation
- Choose from over 100 different 2D and 3D graph types
- Control and customize the properties of every graph element
- Use Dynamic Update to draw your graph immediately after a property change

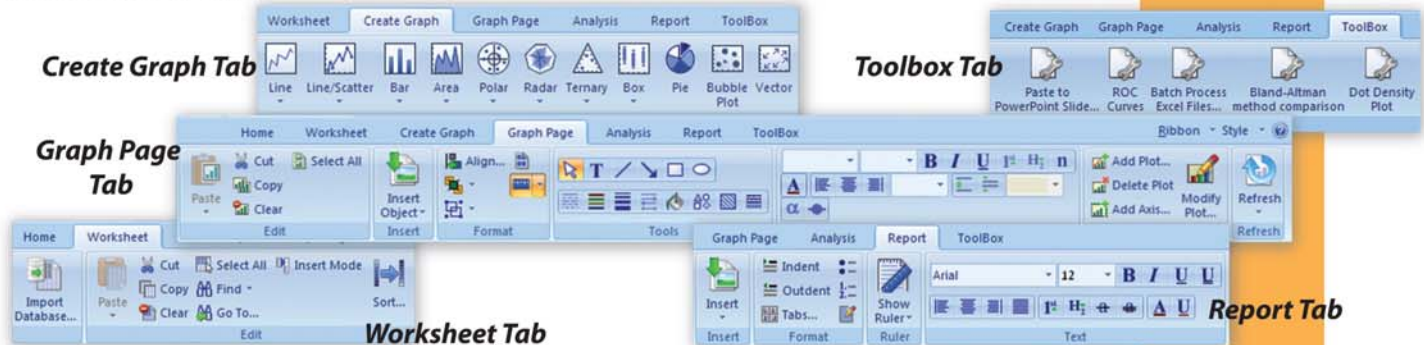
Data Analysis Methods to Uncover Information in your Data

- Over 50 of the most frequently used statistical tests with step-by-step directions that do not require you to be a statistician
- Fit your data easily and accurately with the Regression Wizard, Dynamic Fit Wizard and Global Fit Wizard. And now fit implicit functions
- Plot mathematical functions with the function plotter
- Use the Macro recorder to automate repetitive and complex tasks

Generate Graphs Quickly and Easily with the New Interface Features

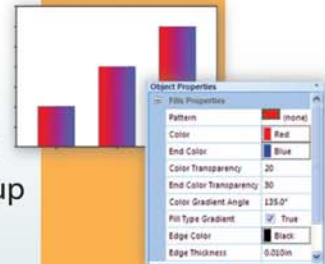
Microsoft Office™ Style Ribbons

Ribbons provide context sensitive feature groupings for enhanced functionality and ease of use. Icons are now high resolution and have expanded tooltips containing hot keys. Keyboard shortcuts are provided by the Alt Key-Tips.



New Property Browser

All the properties for a graph and its objects are contained in the Property Browser. You select and modify the properties there and the Dynamic Update feature updates the graph immediately – you don't have to click Ok. For example the graph to the right shows the properties for a diagonal-gradient bar fill starting from red and ending at blue with transparency used for both colors. Property group styles may be copied and applied across like groups thus simplifying property specification.



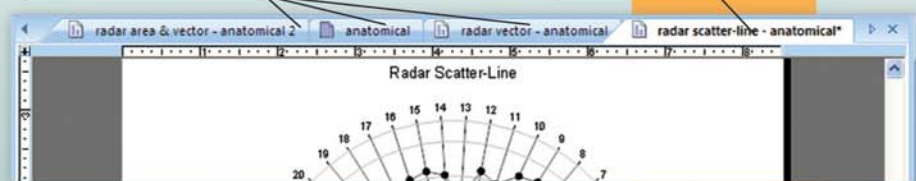
User Interface Features

Tabbed Window View

Now in SigmaPlot all open windows appear with tabs. Click on a window tab for an instantaneous display of each window. It is an efficient window management tool.

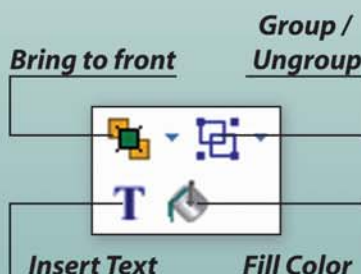
Open Window Tabs

Selected Tab



Mini Toolbars

Mini-Toolbars are displayed on the graph when you select an object or right click on it. You can make quick modifications directly on the graph.



Quick Access Toolbar

Now you can add commonly used controls to SigmaPlot's Quick Access Toolbar such as

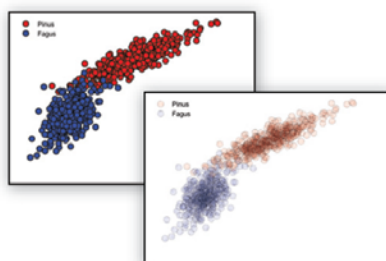


- ▶ Creating a new notebook
- ▶ Saving changes in a notebook
- ▶ Cleaning up the workspace by closing all windows

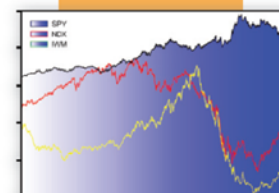
New Graphing Capabilities Enhance Your Ability to Create Publication-Quality Graphs

New Graph Features

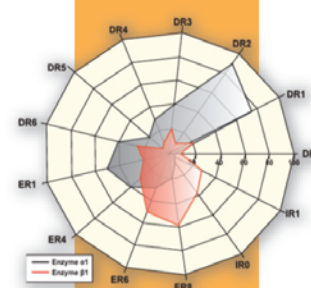
The use of transparency for a visual histogram of overlapping data values.



Horizontal color gradient used for impact.

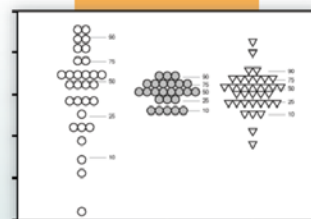


Color gradient and transparency. The transparency allows comparing the area size of both radar plots. The gradient enhances the graph.



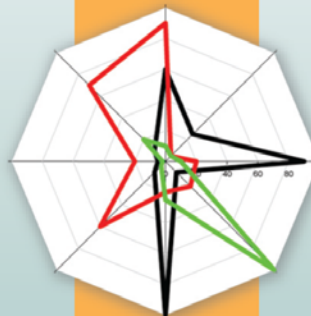
Dot Density

The dot density plot is a graphical histogram of your data. The SigmaPlot dot density is very much like what an artist would prepare where adjacent data values either stack or nestle. The graph shows dot densities of three data sets with percentiles displayed – one of the statistical options available.



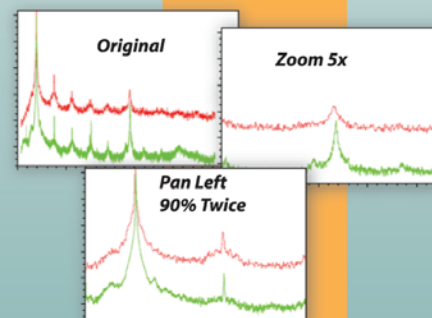
Radar Graph

Radar graphs can display multiple variables. This graph allows an eight variable comparison of three data sets.



Scale Graph

The ScaleGraph macro allows zooming and panning through a long time series or data sequence. So, for example, zooming in by 5x followed by panning 90% to the left two times produces the graph right which shows fine detail of the first two peaks.

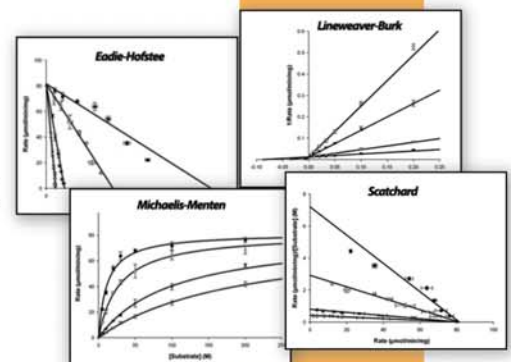


Effectively Manage and Analyze Your Data with the New Analysis Features

New Analysis Features

Enzyme Kinetics

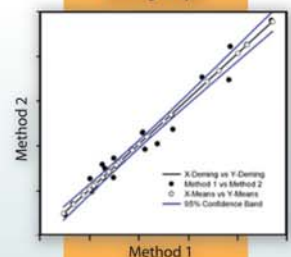
The Enzyme Kinetics module is now integrated into SigmaPlot providing you with additional enzyme kinetics analysis features and additional graph types such as Michaelis-Menten, Lineweaver-Burk, Eadie-Hofstee, Scatchard, Hanes-Woolf, Hill and Dixon



Curve Fitting Features

- ▶ Weight variables that are functions of the parameters may now be used. This includes weighting by predicted values, robust fitting and weighting by any parameter function.
- ▶ Parameter covariance matrix and confidence intervals have been added to nonlinear regression reports.
- ▶ Implicit function curve fitting-the ability to compute predicted values that are defined implicitly by the fit model.

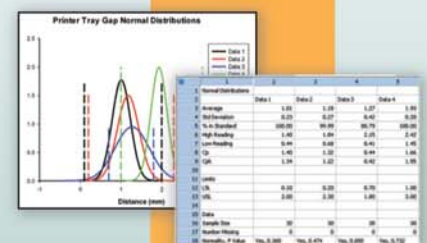
Deming Graph



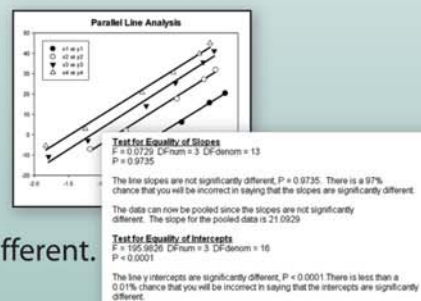
Method 1

Statistics

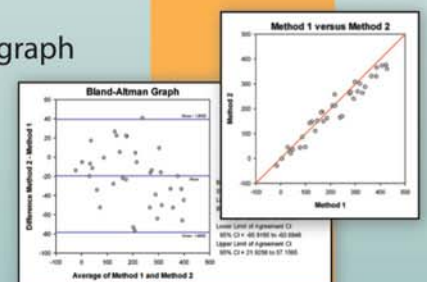
- ▶ Non-parametric One Sample t-test
- ▶ Deming regression method comparison (account for error in both x and y)
- ▶ Normal distribution comparison produces a visualization of the distributions of up to four measured variables to quickly detect and demonstrate possible product defects.



- ▶ Parallel line analysis to determine if linear regression slopes and intercepts are different.



- ▶ Bland-Altman graph and statistics for method comparison.



Transform Language

- ▶ Row and column titles may now be set with a Transform language statement
- ▶ New functions for root finding and equation solving which includes a function to help solve fit models that are defined implicitly

SigmaPlot 12 Features

GRAPHING FEATURES

2D

- Radar - 5 Types*
- Dot Density - 4 Types*
- Vector - 2 types
- Area Plots - 4 types
- Scatter - 14 types, Line - 4 types, Scatter and Line - 10 types
- Step - 8 types
- Vertical and Horizontal Bar - 4 types, Grouped Bar - 4 types
- Vertical and Horizontal Stacked Bar
- Box - 2 types
- Polar - 3 types
- Contour, line and filled - 2 types
- Histograms - 6 types
- Ternary - 3 types
- Bubble
- Pie
- Control Charts
- Needle
- High-low-close, Range, Quartile
- Quadrant
- Population

3D

- Multiple, intersecting plots with hidden line removal, smooth or discrete shading, transparent or opaque fills, and light source shading
- 3D rotation
- Perspective preview
- Scatter
- Bar
- 3D line - trajectory
- Mesh - with or without contour projections
- Contour
- Waterfall

Create Graphs Easily

- Graph Style Gallery: Save any graph with all graph properties and - add a bitmap to the gallery to recreate complex graphs
- Graph Ribbons: select ribbon icon of the graph type and style you want to create a graph or to add additional curves to an existing graph
- Graph Wizard: easy to use, step-by-step wizard for helping you select a graph type and pick data
- Default graph settings: set preferences for graph options to create favorite graphs more easily
- Templates: create custom graph page templates to store for easy accessibility and future use

Technical Axes

- Reciprocal (including Arrhenius)
- Weibull
- Linear
- Log10, Natural log
- Probit
- Logit
- Probability
- Ternary percentage, unary
- Polar (both clockwise and counter clockwise)
- Category (text data automatically binned into groups)
- Time and date
- User-defined custom axis to create almost any scale

Axis Features

- Control of display, thickness, colour, range, and axis offset
- Multiple axes: Add Axis Wizard for creating multiple axes easily
- Ticks: customize major & minor intervals, in & out orientation, top & bottom location, length, thickness, colour, and tick mark selection from column to create custom axes
- Tick Labels: customise prefix, suffix, numeric, and time & date
- Axis breaks: customise symbol, thickness, colour, length, gap width, and post break interval

Symbol Line and Fill Types

- Over 80 symbol types
- More line types for line plots and line scatter plots, free-form lines, boxes and ellipses
- 50 fill patterns for bar charts, box plots, pie charts, area plots and free-form boxes and ellipses

Error bars

- Mean, Median, First and Last values for symbols
- Standard deviation, Standard error, Min and Max, First and Last entry
- 10th, 25th, 75th, and 90th Percentile, 95% or 99% confidence
- Calculate error bars from replicate values across rows
- User-defined upper and lower error bar values
- One way, two way and asymmetric error bars
- Percentile method: 2-types

Multiline Text Editor

- Control font, size, style, colour, Greek, multiple levels of superscript & subscript, 360 degree rotation, left, right & center justification, and line spacing

Grids and Fills

- Control of colour, line type, thickness, and display of major & minor grids in X, Y, & Z direction
- Control of pattern and edge colour, pattern style, pattern density, and edge thickness Symbols

Reference Lines

- Control mean, standard deviation, standard error, user-defined constants, 95% and 99% confidence intervals
- Up to 5 horizontal or vertical lines
- Control of colour, line type, and thickness

Drop lines

- Display in any or all X, Y, and Z directions

Legends

- Automatic or manually created; lines and symbols on or off
- Legends for regressions, confidence, and prediction intervals
- Place line and symbol before or after text

Function Plotter

- Automatic or manually created; lines and symbols on or off
- Plot functions on new or existing graphs
- Plot multiple different parameter values simultaneously
- Equation Solver: solve equations or functions containing a single independent variable and any number of parameters

NEW USER INTERFACE FEATURES*

Microsoft Office Style Ribbons*

- Context sensitive feature grouping for enhanced functionality and ease of use
- Expanded toolbars that include hot keys
- Alt Key Tips provide visual display of keyboard shortcuts

New Property Browser*

- New graph object and property browser. Object selection in the graph is displayed in the object window and the object's properties displayed in the property window.
- Dynamic Update provides immediate graph redraw with property change. No OK or Apply button press required
- Property group styles may be copied and applied across like groups thus simplifying property specification.
- New window show/hide buttons for window real-estate management

User Interface Improvements*

- New tabbed window views enables quick window management (selection, closing, grouping)
- New docking panel guides providing simple window placement. This includes the Graph Gallery, Templates, Layouts, Object and Properties windows
- Group open windows into tabbed groups either vertically or horizontally. This collects like windows for easy comparison and better window management
- Object-specific mini toolbars are displayed adjacent to selected graph, worksheet and report objects. This allows rapid editing of object properties
- Customizable Quick Access Toolbar for frequently used user-specific controls

DATA ANALYSIS FEATURES

Enzyme Kinetics Module*

- Analyze multiple models and rank by best fit
- Create multiple enzyme kinetics graphs: Michaelis-Menten, Lineweaver-Burk, Eadie-Hofstee, Scatchard, Hanes-Woolf, Hill, Dixon

Regression Wizard

- Linear and nonlinear regressions
- Over 100 built-in, graphically-illustrated equations
- Marquardt-Levenberg algorithm with up to 10 independent variables and 100 parameters
- Define tolerance, step size and iterations
- Define linear constraints and fix parameters to a constant value
- Automatically determines your initial parameters
- Writes a complete statistical report to your SigmaPlot Notebook
- Automatically graphs your results on new or existing graphs
- Option to add 95 or 99% confidence and prediction bands to a results graph
- Optional Reduced Chi-Square Regression weighting
- Customize the SigmaPlot fit library or create your own fit functions
- Generalized weight variables: predicted values, robust regression*
- Parameter covariance matrix and confidence intervals in report*
- Predicted values defined implicitly by the fit model*

Dynamic Fit Wizard

- Solves difficult curve fitting problems by finding local and global fit solutions
- Selects many initial maximally-distant starting parameter sets and ranks the resulting fits
- Shows the local minima with a Dynamic Fit Profile graph

Global Fit Wizard

- Fit multiple data sets using shared parameters

Automatic Linear Regressions

- Up to 10th order with confidence and prediction intervals and regression statistics

Column Descriptive Statistics Generated Automatically

STATISTICS

- Over 50 of the most frequently used statistical tests to analyze scientific data
- Advisor Wizard guides you through the process of choosing the appropriate statistical test
- Report generation that translates the statistics into plain and simple English
- Descriptive statistics
- Non-parametric tests: t-tests, ANOVA
- One-way, two-way, three-way ANOVA
- Repeated measures
- Rates and proportions
- Regression, including Linear, Stepwise, Best Subsets, Polynomial and Logistic
- Correlation
- Survival analysis (Kaplan-Meier, Cox Regression)
- Power and sample size analysis
- One-sample signed rank test*
- Deming regression for errors in both x and y*
- Normal distribution comparison for QC analysis*
- Parallel line analysis*
- Bland-Altman analysis for method comparison*

SMOOTHING

2D & 3D Smoothing Routines

- Negative exponential
- Running average
- Loess

- Running median
- Bisquare
- Inverse square
- Inverse distance (for 3D smoothing)

TRANSFORMS

Quick Transforms

- Perform quick mathematical transforms provided in a function palette
- Automatic Updating of multiple transforms in worksheets

Mathematical Transforms

- Set worksheet row and column titles*
- Root() and Implicit() functions*
- 36 probability density and cumulative transforms
- Histogram
- Normalise ternary data
- Interpolate 3D mesh
- Sorting
- Fast Fourier transforms with filters
- Lowess smoothing
- Differential equations
- Data to RGB-colour transform
- Trigonometric and algebraic functions
- Random and Gaussian random number generation
- Range, accumulation, precision, and more
- Transforms are now kept in notebook files as JNB files for easier organisation of transforms; create transform libraries; associate Transforms with data sets
- Protect and track changes to transforms for 21 CFR Part 11

GENERAL FEATURES

Large, Scientific Worksheets

- 32,000 columns by 32,000,000 rows
- Handles numeric, text (categorical), and date & time data
- Data sorting
- Insert colour, symbols, line styles and bar patterns
- Independent graphically adjustable row height and column widths
- Missing data handling
- Data point sampling
- Graphical feedback of current curve and datapoint
- Text support of up to 256 characters
- Change the font type and grid colours
- Change font for worksheet
- Multiple Undo
- Format empty cells - formatted selected columns even if they do not contain data
- More flexible column titles allow for duplicates and numeric only titles
- Enhanced data/time recognition and more formats
- Arrow-key functionality is similar to that of Microsoft Excel
- Freeze Panes and print preview
- Multi-line editing - text wraps to fit the column while the row height automatically adjusts
- Find and replace data
- Mini-toolbar for worksheet cell editing*
- Zoom enabled worksheet*
- Quick Transforms list in Property Browser Object Window*
- Quick worksheet window scrolling with middle mouse wheel*
- Formatted text in worksheet cells. Text in worksheet can contain super and subscripts, Greek letters, etc. and this can be used in tick labels*

SigmaPlot Notebook Manager

- Holds SigmaPlot worksheets, Excel worksheets, reports, regression wizard equations, graph pages, transforms and macros
- Direct-editing of notebook summary information

SigmaPlot Report Editor

- Insert tables with pre-defined styles or customize completely*
- Copy/Paste tabular data both ways between the SigmaPlot report and Excel worksheet*
- Zoom enabled report*
- Vertical and horizontal rulers*
- Ability to change the report background color*
- Enhanced PDF export*
- Drag and Drop Word 2007 and Word 2010 content directly to the report*
- Cut and paste or use OLE to combine all the important aspects of your analysis into one document.
- Choose from a wide range of styles, sizes, and colours from any system font.
- Export to most word processors
- Add decimal tabs, tab leader, true date/time fields
- Auto-numbering

Page Layout and Annotation Options

- Zoom, pan, +/- controls and zoom dialog & slider always available on status bar*
- Drag graph with "hand" mouse cursor*
- Quick window scrolling with middle mouse wheel*
- Direct graphic file import into graph page
- Real-time mouse-over XY and page coordinate feedback
- Click-through accessibility to select and edit graph objects buried under other items
- OLE 2 container and server
- Automatic or manual legends
- True WYSIWYG
- Multiline text editor
- Multiple curves and plots on one graph
- Multiple axes on one graph
- Arrange graphs with built-in templates
- Multiple levels of zooming and custom zooming
- Easily change the size and position of multiple selected objects simultaneously to lay out and arrange graphs and other objects quickly
- Scale graph to any size
- Resize graphic elements proportionally with resizing graph
- Alignment and position tools

- Draw lines, ellipses, boxes, arrows
- Layering options
- Over 16 million custom colours
- Inset graphs inside one another
- Selection of graph objects
- Right-click property editing
- Colour schemes
- Paste graphic objects from other programs
- Graph page rulers
- Adjustable snap-to grids

"Picking from Column" Option

- Enter colours, patterns, symbols, line styles, tick mark intervals, tick labels and more directly into your worksheet to customise your graph the way you want. Transforms and "picking from column" allow you to create data dependent colour gradients, symbols and sizes.

Automate Routine and Complex Tasks

- Visual Basic compatible programming using built-in macro language interface
- Macro recorder to save and play-back operations
- Full automation object support - use Visual Basic to create your own SigmaPlot-based applications
- Run built-in macros or create and add your own scripts
- Add menu commands and create dialog boxes
- Export graph to PowerPoint Slide
- New Insert Graph to Microsoft Word Toolbox macro
- New keyboard shortcuts in the Graph Properties and most Microsoft Excel keyboard shortcuts in the worksheet
- Macro language graph page measurement units specification*
- Macro language automatic legend state specification*

Windows Application

- Excel, Word and PowerPoint for Office 2000 and Windows 2000 support ToolTips
- Tips and Tricks at startup
- OLE 2 container and server
- Use Excel worksheets inside SigmaPlot
- Right mouse button property editing
- Selection of objects on graph page
- Full precision and date/time Microsoft Excel copy and paste

IMPORT & EXPORT OPTIONS

Import

- Directly import SAS data sets (.sd2 and .sas7bdat files)
- Directly import Minitab data sets (.mtw & .mpj files)
- Open Axon Binary, Axon Text, ASCII Plain, Comma and general import filter, 1-2-3[™], Symphony[™], Quattro[™], Excel, dBASE[®], dIF, all SigmaPlot files through SigmaPlot 11, SigmaStat files (all versions), SYSTAT, SigmaScan Pro, Sigma Scan, SigmaScan Image, Mocha
- Import any ODBC compliant database
- Run SQL queries on tables and selectively import information

Export

- SAS files (.sd2 and .sas7bdat files)
- Minitab files (.mtw & .mpj files)
- ASCII Text, Tabbed, Comma, 1-2-3[™], Excel, dIF, all SigmaPlot files through SigmaPlot 11, SigmaScan Pro
- PDF, PSD and HTML export of graphs and reports

Import Graphics Options

- Load popular graphic file formats directly into SigmaPlot graphic page
- Import BMP, JPEG, GIF, TIFF, Cursor and Icon Files & many more

Graph Publication Export Options

- Export an individual graph, a group of graphs and objects, or an entire page
- Different levels of resolution and colour depths: PDF, EPS, TIFF, JPEG, EMF, BMP
- True colour EPS vector and CMYK EPS export
- Compressed CMYK TIFF

Publish as Web Page

- Export graphs as high-resolution Web objects
- WebViewer: free browser plug-in to view data used to create graph or print, pan and zoom in on graph without losing resolution
- The WebViewer supports IE 4.01 or higher. A screen resolution JPEG file is automatically displayed for browser applications and operating systems

SYSTEM REQUIREMENTS

- Windows Vista, Windows 7 :
 - 1 GHz 32-bit (x86) or 64-bit (x64) processor
 - 1 GB of system memory
 - 100 MB of available hard disk space
 - CD-ROM drive
 - 800x600 SVGA/256 colour display or better
 - Internet Explorer 6 or higher
- Windows XP :
 - 500 megahertz (MHz) processor,
 - 256 MB of system memory,
 - 100 MB of available hard disk space
 - CD-ROM drive,
 - 800x600 SVGA/256 colour display or better
 - Internet Explorer 6 or higher

* New Features added in SigmaPlot 12

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