

# SigmaPlot® 11

Analyze and Graph your Data  
with Unparalleled Ease and Precision

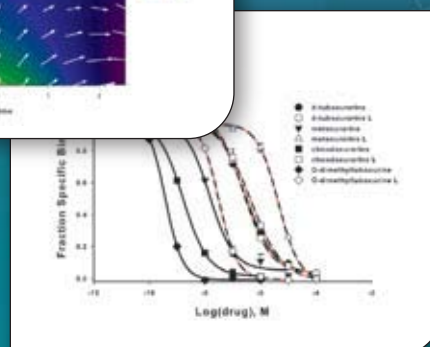
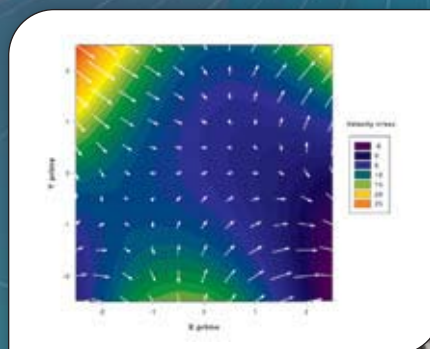


Regression

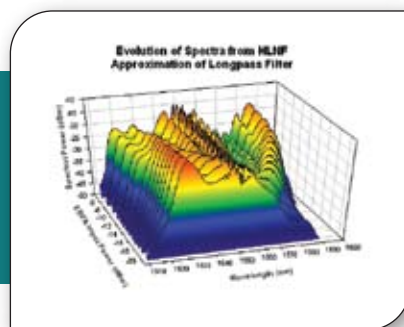
Correlation

Analysis of Variance

Non Parametric Statistics



## The Premier Data Analysis and Scientific Graphing Package



**SigmaPlot® is a scientific data analysis and graphing software package with an intuitive interface and wizard technology that is designed to guide users through their analysis and graphing needs. SigmaPlot's graphing capabilities provide the flexibility to easily customise every graph detail and create publication-quality graphs. SigmaPlot's analytical features include advanced curve fitting capabilities and step-by-step guidance in performing over 50 frequently used statistical tests.**

### ROC Curve Analysis Module

Determine which clinical test is best by creating ROC curves and comparing their areas using paired and unpaired data. Even handles missing values

### Find the exact graph for your demanding research in the Graph Toolbar

SigmaPlot provides more than 100 different 2D and 3D graph types so you can always find the best visual representation of your data.

### SigmaPlot now offers Complete Advisory Statistics Methods

SigmaPlot provides more than 50 different statistical analysis method types. Users will always achieve meaningful statistical results without having to be a statistician

### Manage and analyse your data efficiently and accurately

Manipulate millions of data points in SigmaPlot's powerful scientific data worksheet. SigmaPlot provides all the tools needed to analyse data, from basic statistics to advanced mathematical calculations

### Graph Style Gallery

Save time by quickly plotting your data using previously saved styles or templates.

### Create a preformatted worksheet

Select the type of graph desired with possible detailed error bars and a worksheet with the correct data format will be created. Data entered into the work-sheet is immediately graphed

### Quickly and easily customise every detail of your graphs

Double-click and edit any element to your exact requirements. Create professional quality graphs for presentations, publications or the web with a wide range of export options like TIFF, CMYK, PDF, HTML and more.

### Ligand Binding Module

Automatically fit radioligand and dose response studies for multiple compounds with replicate data.

### Interactive Graph Wizard

SigmaPlot leads the user step-by-step through graph creation

### Global Curve Fit

Analyse multiple data sets simultaneously with parameters shared across data families. Shared parameter variability is typically reduced in this way.

## Get More from SigmaPlot with Add-On Modules

### Enzyme Kinetics Module

The automatic choice for analyzing enzyme kinetics data.

This module guides you through data entry, analysis and graphing of your enzyme kinetics data.

### ROC Curve Analysis Module

(Part of SigmaPlot)

Determine which clinical test is best by creating ROC Curves and comparing their areas using paired and unpaired data. Even handles missing values.

### Electrophysiology Module

Directly read your electrophysiology data into SigmaPlot.

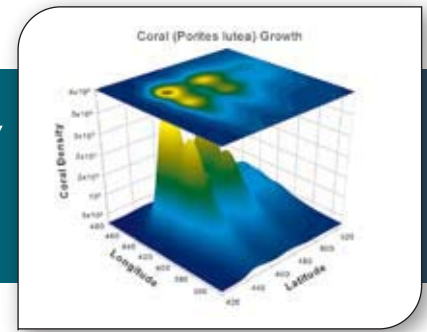
This module saves you the time and effort of manually entering data into SigmaPlot

### Ligand Binding Module

(Part of SigmaPlot)

Automatically fit radioligand and dose response studies for multiple compounds with replicate data

# The Simplest and most Effective way to Analyze and Graph your Data

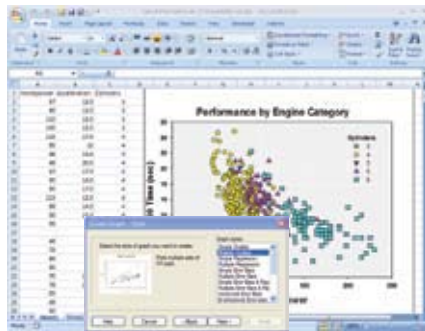


## Choose from a wide range of graph types to best present your results

SigmaPlot provides more than 100 different 2-D and 3-D graph types. From simple 2-D scatter plots to compelling contour plots, SigmaPlot gives you the exact technical graph type you need for your demanding research. With so many options, you can always find the best visual representation of your data.

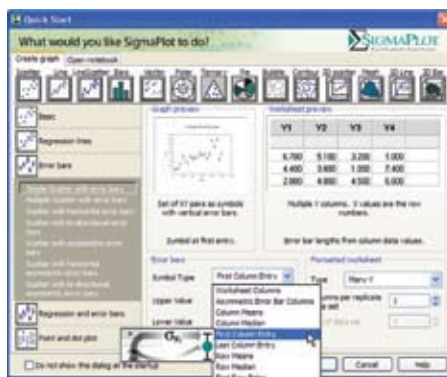
## Instantly access SigmaPlot from Excel

Combine two powerful software packages. Launch SigmaPlot's Graph Wizard directly from Microsoft® Excel® to create your exact technical graph. SigmaPlot's direct access from Excel eliminates tedious cut-and-paste data preparation steps.



## Use Pre formatted Worksheets to easily create your graphs

Select the type of graph desired with possible detailed error bars and a worksheet with the correct data format will be created. Data entered in the worksheet is immediately graphed.



## Customize every element of your graphs

SigmaPlot gives you the flexibility to customize every detail of your graph. Double-click on any element to launch the Graph Properties box and begin editing. Choose from very clearly illustrated options. Specify different colors, sizes and symbols for each data point.

Create standard or asymmetric error bars. Insert axis breaks and add technical detail with the scientific text editor. Paste equations, symbols, maps and other images into your presentation. SigmaPlot's toolbar palettes make editing your graphs faster than ever and toolbars are now fully customizable.

Set properties like line thickness, tick lengths and fonts, then apply your changes to multiple selections. Save properties of your favorite graphs in the Graph Style Gallery to quickly recreate the same graphs using new data.



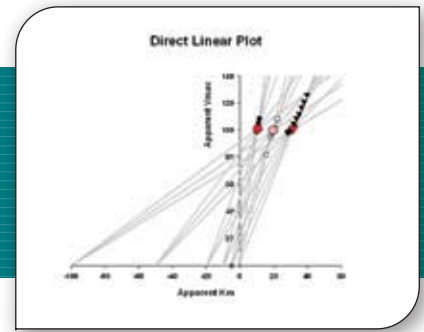
## Clearly present your exact scientific ideas

Compare and contrast trends in your data by creating multiple axes per graph, multiple graphs per page and multiple pages per worksheet. Arrange multiple graphs accurately in no time using your own page layouts with SigmaPlot's WYSIWYG layout and zoom features.

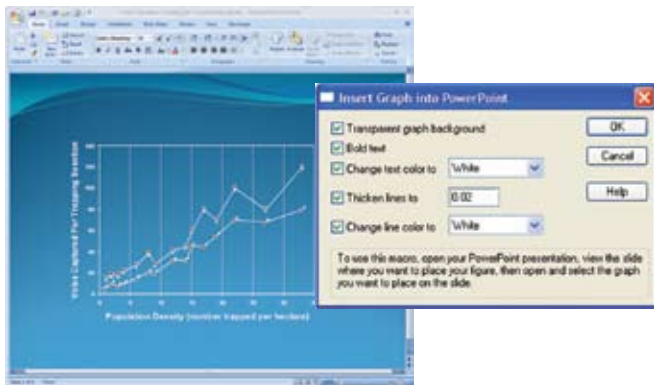
## Publish your SigmaPlot graphs anywhere

Create stunning presentations, high-quality graphics for journals or detailed charts for your reports with SigmaPlot's wide range of export options. Export your graphs as PDF, True CMYK EPS, TIF CMYK, JPEG, GIF, HTML, EMF, PSD and even vector EPS-CMYK - the preferred format for publication. The Submission Assistant stores an extensible list of publication requirements that is used to double check whether exported figures meet the publication standards. The new enhanced metafile format (EMF) extends the 16 bit windows metafile format (WMF) to 32 bits which provides enhanced graph representation in the graph gallery and extended paste and paste special features.

## Use SigmaPlot to Gain more Insight into your Data and Research



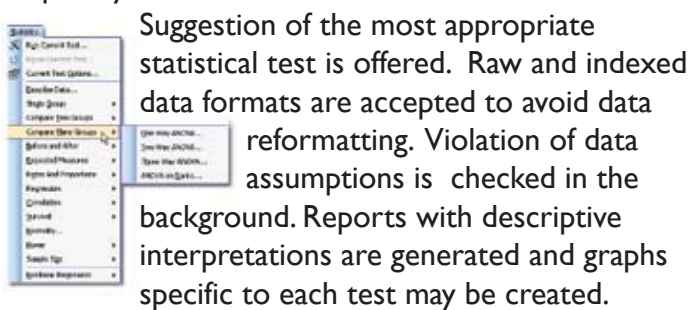
**Placing SigmaPlot graphs into Microsoft PowerPoint slides and Microsoft Word documents is a breeze!**



Now you can incorporate clear and exact graphs in your reports and presentations. Just select the "Paste to PowerPoint" or "Insert into MS Word" commands from the Toolbox drop-down menu and your graphs are automatically placed in the file

### Statistical Analysis is no longer a daunting task

SigmaPlot now offers almost 50 of the most frequently used statistical tests in scientific research.



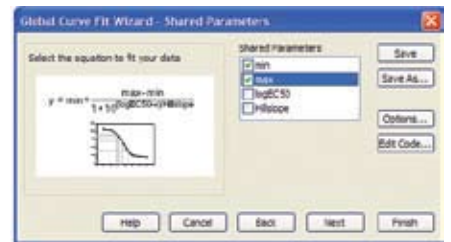
Suggestion of the most appropriate statistical test is offered. Raw and indexed data formats are accepted to avoid data reformatting. Violation of data assumptions is checked in the background. Reports with descriptive interpretations are generated and graphs specific to each test may be created.

### Fit your data easily and accurately

The Regression Wizard automatically determines your initial parameters, writes a statistical report, saves your equation to the SigmaPlot Notebook, and adds your results to existing graphs or creates a new one! The Regression Wizard fits nearly any equation – piecewise continuous, multifunctional, weighted, Boolean functions and more – up to 10 variables and 25 parameters.

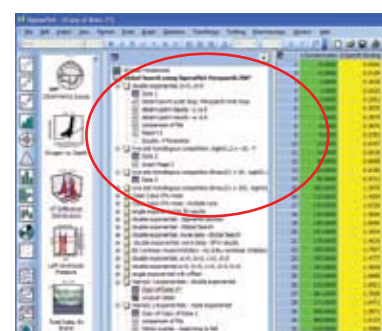
You can even add your own equations to the Regression Wizard. For more complicated models with problematic data, SigmaPlot's new Dynamic Fit Wizard searches even harder to find the best solution to your difficult curve fitting problems. The Dynamic Fit Wizard is a powerful analytical tool giving you the ability to automatically try as many initial starting conditions as necessary to assure the best fit is found. Analyze multiple data sets simultaneously with

parameters shared across data families using Global Curve Fitting. Over 130 built-in



equations can be fit to your data.

### Manage your work efficiently

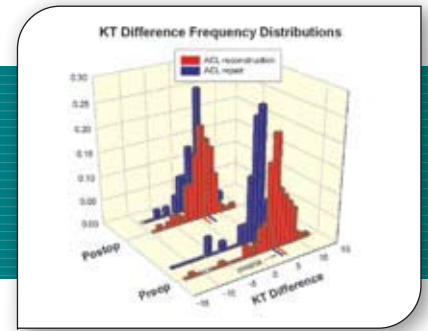


Organize graph pages, SigmaPlot or Excel data worksheets, curve fit results, transforms and reports effectively in the SigmaPlot Notebook manager

Manipulate millions of data points in SigmaPlot's powerful scientific data worksheet. With new Audit Trails, laboratories can easily track changes to notebooks, simplifying

21 CFR Part 11 compliance by logging changes. Run simple mathematical transforms effortlessly using SigmaPlot's Quick Transforms feature or create powerful mathematical routines to perform complex analysis with SigmaPlot's transform language. Elect to have Quick Transforms automatically recalculated on your worksheet. Save time by writing a transform once and saving it for future use. Access built-in transforms or create your own.

# The Standard for Data Analysis and Technical Graphing



## Designed specifically to meet the needs of professional researchers

Many scientists have struggled to create the exact technical graph to best represent their research results using spreadsheet and data analysis programs. Scientists like you designed the exact solution – SigmaPlot. It delivers a full range of graphing options and over 100 2-D and 3-D graph types. And flexible editing options give you more control over the look and design of your graph than other graphing packages

## Analyze your data quickly and easily

SigmaPlot provides all the fundamental tools you need to analyze your data - from basic statistics to advanced mathematical calculations. Run one of the many statistical tests with ease, fit a curve or plot a function and get a detailed report of the results in seconds. Apply built-in transforms to perform calculations in one easy step and create special graph types. Solve equations or functions containing a single independent variable and any number of functions. With SigmaPlot it's all so simple!

## Share SigmaPlot graphs on the Internet

The SigmaPlot WebViewer allows you to automatically generate active Web pages from your graphs or embed the objects within other Web pages. Viewers can explore the data used in your graphs and zoom, pan or print images at full resolution directly from their Web browser.

## Save time and effort by automating complex and repetitive tasks

Create macros in no time with SigmaPlot's easy-to-use VBA-based macro language. Not a programmer? No problem - record macros by point and click with the macro recorder. Use macros to acquire your data, execute powerful analytical methods and create industry-specific or field-specific graphs. Use built-in macros as provided or use these macros as a base to create your own macros. Share the power of SigmaPlot with less experienced users by tailoring the SigmaPlot interface to your application with macros. Create custom dialog boxes, menu choices and forms to help guide novice users through a session. Tap into SigmaPlot's capabilities from external sources that have Visual Basic embedded, including Microsoft Word and Excel or custom software applications. Run a macro script in Microsoft Word or Excel that calls on SigmaPlot to access data, generate a graph and embed your report. With SigmaPlot's OLE automation, you get unlimited flexibility.



I've owned and used SigmaPlot for more than a decade and I love it. We do both clinical and pharmacological research and SigmaPlot enables us to analyze and sort through large amounts of data to create and publish graphs that can be transposed to manuscripts and directly submitted to publications - the product is that user friendly and great! I can't wait to upgrade to SigmaPlot 11.

- Carmen Cuffari,  
Pediatric Gastroenterologist,  
Baltimore, MD



# SigmaPlot 11 Features

## GRAPHING FEATURES

### 2D

- Vector - 2 Types \*
- Area Plots - 4 Types
- Scatter - 14 types
- Line - 4 types
- Scatter and Line - 10 types
- Step - 8 types
- Vertical Bar - 2 types, Vertical Grouped Bar - 2 types
- Horizontal Bar - 2 types, Horizontal Grouped Bar - 2 types
- Vertical, Stacked Bar
- 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

- Select any object to make precise modifications \*
- Automatically interpolate unordered 3D data
- 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

- **Pre-formatted Worksheets:** Use graph and worksheet displays to design the graph. Entering new data immediately displays the results \*
- Program Startup Screen: helps both first time users or power users start their workflow with easy access to previously used documents, quick Excel and Access database import; use older documents as templates for new work
- Graph Style Gallery: Save any graph with all graph properties and add a bitmap image to the gallery to recreate complex graphs
- Graph Toolbar: select toolbar 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
- "Intersections" now supported for area fills

### Technical Axes

- Reciprocal (including Arrhenius)
- Weibull
- Linear
- Log10
- Natural log
- Probit
- Logit
- Probability
- Reverse
- Ternary percentage
- Ternary 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 breaks
- Offset axes
- Automatic titles
- 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
- Labels: customize prefix, suffix, numeric, and time & date
- Axis breaks: customize symbol, thickness, colour, length, gap width, and post break interval

### Symbol 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
- Edit font when using text as symbol
- Access new lines, fills, and symbols directly from graph properties dialog, toolbar, legend page, and the symbol dialog box

\* New Features added in SigmaPlot 11

### Error bars

- Mean, Median, First and Last values for symbols
- Standard deviation, Standard error
- 10th, 25th, 75th, and 90th Percentile
- Min and Max
- 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
- Legends for regressions, confidence, and prediction intervals
- Turn on and off lines and symbols
- Place line and symbol before or after text

### Function Plotter

- Plot 2D and 3D functions
- Over 100 2D and 3D built-in, graphically-illustrated equations
- User-defined parameters, scale and range
- Customise the SigmaPlot library of functions or create your own
- Plot functions on new or existing graphs
- Plot multiple different parameter values simultaneously
- Select line properties for each function
- Equation Solver: solve equations or functions containing a single independent variable and any number of parameters

### Graphs Created Through Transforms

- Gaussian cumulative distribution
- Area - shading under and between curves
- Z plane design
- Kaplan-Meier survival
- Frequency
- Complex Control charts

## DATA ANALYSIS FEATURES

### Regression Wizard

- Linear and nonlinear regressions
- 2, 3, 4, and 5-segment piecewise-linear models
- Over 100 built-in, graphically-illustrated equations
- Marquardt-Levenberg algorithm with up to 10 independent variables and 25 parameters
- Define constraints, tolerance, step size and iterations
- 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
- Customise the SigmaPlot fit library or create your own fit functions

### 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 analyse 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-parameter tests: t-tests, ANOVA \*
- One-way, two-way, three-way ANOVA \*
- Repeated measures \*
- Rates and proportions \*
- Correlation \*
- Survival analysis (Kaplan-Meier, Cox Regression) \*
- Power and sample size analysis \*

## SMOOTHING

### 2D & 3D Smoothing Routines

- Negative exponential
- Running average
- Loess
- Running median
- Bisquare
- Inverse square
- Inverse distance (for 3D smoothing)

## TRANSFORMATIONS

### Quick Transforms

- Perform quick mathematical transforms provided in a function palette

- Automatic Updating of multiple transforms in worksheets \*

### Mathematical Transforms

- 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
- Rename, insert and delete rows and columns
- 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

### SigmaPlot Notebook Manager

- Dialog-bar-based notebook manager has several states: docks, resizable, hide-able, summary information mode, etc.
- Can hold SigmaPlot worksheets, Excel worksheets, reports, regression wizard equations, graph pages, transforms and macros.
- Direct-editing of notebook summary information

### SigmaPlot Report Editor

- 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
- Improved formatting ruler

### Page Layout and Annotation Options

- 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
- Toolbox menu: helpful macros appear as a separate menu item
- Export graph to PowerPoint Slide
- New "Insert Graph to Microsoft Word" Toolbar macro
- New keyboard shortcuts in the Graph Properties and most Microsoft Excel keyboard shortcuts in the worksheet

## Windows Application

- Excel, Word and PowerPoint for Office 2000 and Windows 2000 support ToolTips
- Tips and Tricks at startup
- Full 32-bit implementation
- OLE 2 container and server
- Use Excel worksheets inside SigmaPlot
- Controls have bitmaps to give feedback about selections
- Right mouse button property editing
- Selection of objects on graph page
- Full precision and date/time Microsoft Excel copy and paste

## Microsoft Office Integration

- You can open Excel spreadsheets directly inside SigmaPlot, allowing you to use the many features Excel offers. Use in-cell formulas and other Excel data analysis tools on your data.
- One-click access to directly launch SigmaPlot from Microsoft Excel

## 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, 1-2-3T, Symphony T, Quattro T, Excel, dBASE E, DIF, all SigmaPlot files through SigmaPlot 9.01, 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, 1-2-3T, Excel, DIF, all SigmaPlot files through SigmaPlot 9.01, 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

- Submission Assistant stores an extensible list of publication requirements and is used to double check whether exported figures meet standards of publication and allows creation of customised output profiles
  - 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
  - Publication Help: guides user through the complexities selecting the correct DPI, image size, file export format
- ### 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:
  - 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 and below:
  - 300 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

For more information, visit us at [www.sigmaplot.com](http://www.sigmaplot.com)



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