



# tecplot® focus 2011

## Advanced Engineering Plotting

Tecplot Focus gets you answers faster. It enables you to quickly plot all your engineering and test data exactly the way you want. Analyze and explore complex data sets, arrange multiple XY, 2D and 3D plots, and then communicate your results to colleagues and management with brilliant, high-quality output. Save even more time and effort by automating routine data analyses and plotting tasks. Available on Windows, Linux and Macintosh platforms, Tecplot Focus meets the needs of your multi-platform engineering group.

### Easily Understand Complex Engineering Systems

- Choose from an amazing array of XY, Polar, 2D and 3D plotting and animation tools—all in a single software package.
- Apply multiple constraints to define and create performance envelopes.
- Control over 2,500 attributes of your plot.
- View your work in up to 2048 drawing windows and from multiple perspectives (XY, 2D, and 3D) in Tecplot Focus's unique multi-frame workspace.
- Assign arbitrary independent axes for specialty plots.
- Create complex performance plots.
- Plot irregularly spaced data.
- Probe and integrate values over time.
- Perform discrete Fourier transform (DFT).

### Automate Plot Generation

- Instantly re-create an old plot, or apply the same style attributes and layouts to a different set of data with layout and style files.
- Analyze and automate your work with the power of Python.
- Create macros by recording or writing scripts.
- Use the Quick Macro Panel to access macros easily.
- Plot and print with batch processing.
- Extend Tecplot functionality with the Add-on Developer's Kit.

### Get Recognized

- Copy and paste images or animations directly into Microsoft Office applications.
- Export professional, presentation-quality images in vector and raster formats.
- Make optimized animations for PowerPoint and the Web.
- Export data in formats compatible with Tecplot Focus 2008.



Free Trial of  
Tecplot Focus:

[www.tecplot.com/trial](http://www.tecplot.com/trial)



# Tecplot Focus 2011 Feature List

## Analysis

**Create, Alter and Transform Data:** Alter your data or create new data using mathematical expressions. Store mathematical expressions for reuse. Create mirror images of existing data. Create new data as a subset of existing data.

**Interpolate Data:** Choose from linear, inverse-distance, and kriging interpolation.

**Triangulate:** Create sets of triangles from data points defined in a 2D plane.

**Discrete Fourier Transform (DFT):** Transform one-dimensional ordered linear data into the frequency domain for visualization and further analysis.

## Exploration

**Slicing Tool:** Interactively slice 3D data displaying mesh, contours, and vectors on the slice plane. Define and use up to eight different slice groups.

**Iso-surface Tool:** Change iso-surface values interactively. Define and use up to eight different iso-surface groups.

**Probing Tool:** Click on the surface to display interpolated variable values and cell indices. Snap selections to nearest grid point.

**Streamtrace Tool:** Interactively seed rakes of streamlines, streamrods, and streamribbons in 2D and 3D. Specify lines to terminate streamlines. Display markers along streamlines spaced by vector magnitude. Place streamline rakes. Generate surface streamtraces on a no-slip wall based on shear stress vector field.

**Contour Tool:** Interactively add and delete contour lines or levels.

**Extraction Tools:** Interactively define sets of points or polylines to which 2D and 3D surface data is interpolated and extracted for display as a separate plot.

**Curve Fits:** Use least squares linear, polynomial, power, and exponential curve-fits. Use least squares curve fit of a linear combination of specified functions.

**Data Blanking and Clipping:** Set multiple constraints (or masks) to blank the display of data based on local field variables, functions of variables, grid indices, or depth from viewing position. Clip surfaces of 3D volume data to reveal internal variations. Omit zones or peel away surfaces to highlight specific details.

**Plot Approximation Mode:** Reduce the number of grid points used to render an image, while retaining its style. Control the threshold for activation, and the percentage of the grid points to use.

**Data Extraction:** Extract iso-surfaces, slices, subsets, streamtraces, polylines, the surface 3D volume finite-element data, and point sets from 3D data to new data segments (zones) for further plot customization.

## Automation

**Configuration File and Batch Files:** Set new defaults and perform initialization with configuration files and start-up batch files.

**Macros and Python Scripting:** Use macros and Python scripting to perform multiple, repetitive changes. Use Python's SciPy and NumPy libraries to perform additional calculations including FFTs.

**Layout Files:** Return to plots exactly as you created them by saving a layout file recording the frames, plotting attributes, and the data. Apply layout styles to the same data set or different data sets.

**Stylesheets:** Record all aspects and appearances of a plot frame without the data in a stylesheet. Apply a stylesheet to recreate a previous plot or to apply plot styles to another set of data.

## Collaboration

**Cross-Platform Capability:** Run Tecplot Focus on Windows, Mac OS X, and Linux platforms. Interchange Tecplot Focus macro files, layout files, stylesheets, color map files, and data files between all platforms.

**Expanded Data and File Sharing:** Compatible with Tecplot Focus 2008.

## Work with Large Data sets

**Parallel Processing (shared memory):** Enjoy increased processing power of up to 64 CPUs/Cores.

**Multiple Data Sets:** Create and display plots from up to 2,048 different sets of data simultaneously.

**Multiple Zones and Variables:** Include up to 1 million variables per data set, and up to 1 million zones per data point.

**Page Layout:** Create up to 2,048 plots on a single page.

## Plot Annotation

**Text:** Place text interactively on plots. Use all your system fonts with TrueType capabilities. Set color, angle, size, font, background color, and justification.

**Geometries:** Interactively create polylines, rectangular boxes, circles, and ellipses. Duplicate, reposition, and resize geometries. Create and modify geometries (point-by-point) interactively and read from a file.

**Images:** Import JPEG, BMP, and PNG files into your plot.

## Output Formats

**Vector-based and Raster Plot Files:** Export vector-based files in encapsulated PostScript (EPS), PostScript, and Windows Metafile formats. Export raster files in BMP, PNG, JPEG, TIFF, PostScript bitmap, X-Window bitmap, and X3d formats. Configure image resolution independent of screen resolution.

**Animations:** Export images to Flash (SWF), FLV, MPEG-4, WMV, and PowerPoint-compatible AVIs.

## Data Input

**General Text Loader:** Scan ASCII data files for titles, variables and data, set filters, and preview processed data.

**Subset Data on Input:** Read subsets of variables, data blocks, and data points to accelerate plotting.

**Interactive Data Input:** Enter XY plot data directly as two-column lists of numbers.

**Custom Data Reader:** Use the Tecplot Add-on Developer's Kit to create data loaders for your proprietary file formats.

**Auxiliary Data:** Attach supplementary information (name/value pairs) to data sets, frames, or zones.

## Line, 2D, 3D, and Polar Plotting

**Time and Dates:** Display time and date on any axis.

**XY Features:** Create scatter plots, line plots, bar charts, semi-log plots, log-log plots, error bar plots, splines, curve-fits, and more. Configure tick marks, symbols, legends and more. Work with multiple horizontal and vertical axes.

**Mesh layer:** Display 1D, 2D, and 3D grids. Color mesh lines by variable, and remove hidden lines.

**Contouring:** Display contour lines, color flood between contour levels, and color fill cells (or elements). Use multiple contour variables to view and analyze interrelationships among several variables simultaneously.

**Vectors:** Display 2D and 3D vectors on planes, 3D surfaces, and in volumes. Display 3D vector components tangent to 3D surface. Specify length, color, line type, and head style. Color by variable.

**Polar Plot Features:** Create polar line plots (r, theta). Configure angles in radians, degrees or arbitrary units. Select between linear or logarithmic radius.

**Edges:** Display the edges of data segments on 2D and 3D surfaces and volumes. Configure color and line type. Draw creases based on user-defined angle.

**Lighting Effects:** Set the level of translucency, and include specular highlighting on 3D surfaces. Set the lighting model as uniform, paneled, or Gouraud. Create shade plots.

**Combine Plot Layers:** Assign combinations of mesh, contours, vectors, scatter, boundary, shade, lighting, and volume attributes to various data segments.

