




 **tecplot.** focus 2011

Release Notes

Release 2

Tecplot, Inc.
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Additional Resources

In addition to these Release Notes and HTML Help, Tecplot Focus includes access to the following online forum and eight manuals to help you explore all of Tecplot Focus's functionality.

- [Getting Started Manual](#) Your introduction to Tecplot Focus, including tutorials that will help you learn your way around.
- [User's Manual](#) This manual provides a complete description of working with Tecplot Focus features.
- [Scripting Guide](#) This guide provides Macro and Python command syntax and information on working with Macro and Python files and commands.
- [Quick Reference Guide](#) This guide provides syntax for zone header files, macro variables, keyboard shortcuts, and more.
- [Data Format Guide](#) This guide provides information on outputting simulator data to Tecplot Focus file format.
- [Add-on Developer's Kit - User's Manual](#) This manual provides instructions and examples for creating add-ons for Tecplot Focus.
- [Add-on Developer's Kit - Reference Manual](#) This manual provides the syntax for functions included in the add-on kit.
- [Installation Guide](#) These instructions give a detailed description of how to install Tecplot Focus on your machine.
- [Tecplot Talk](#) A user-supported forum discussing Tecplot Focus, Tecplot 360, Python scripting, Add-on development, TecIO and more. Visit www.tecplottalk.com for details.

Welcome to Tecplot Focus 2011 R2

Welcome to Tecplot Focus 2011 Release 2! This release includes significant enhancements to performance and responsiveness, updated data file format support, and a few new features based on customer requests.

A Tecplot Focus 2011 license key is required to run this release.

- **Performance and Responsiveness Enhancements**

Loading data in the most popular formats is now significantly faster and provides better progress information, so Tecplot Focus does not seem to “lock up” when loading large files. Performance of some other common operations has also been improved.

- **Red Hat Enterprise Linux 6 Support**

Red Hat Enterprise Linux (RHEL) 6 is now a supported and tested platform for Tecplot Focus. (See the RHEL 6 font note under Platform-Specific Issues.)

- **CGNS Loader Enhancements**

The CGNS Loader now supports CGNS 3.1, loads Global Convergence History, line segment zones with mixed elements, HDF5 formatting,

- **PLOT3D Loader Enhancements**

The PLOT3D loader can now append solution variables to existing zones and can extract solution time from filenames.

- **FEA Loader Enhancements**

The FEA loader can now open OpenFOAM files and ANSYS 13.0 files. The Post Processing dialog is now automatically opened when appropriate instead of being a manual step.

- **Prototype Pick and Change Add-On**

A new add-on allows data to be quickly altered or blanked based on 2D or 3D geometries. This add-on is disabled by default. To enable it, put the following line in your *tecplot.add* file:

```
$!LoadAddon "tecutiltools_pickalter"
```

- **Regular Expressions in Select By Name Dialog**

Zones and variables can now be selected using regular expressions in the Tecplot Focus user interface.

- **Fourier Transform Usability Enhancements**

The Fourier Transform function can re-use existing variables rather than creating new ones each time.

- **Better Handling of Solution Time in Style Sheets**

Tecplot Focus can now load style sheets created by Tecplot 360 from transient data sets.

What Was New in Tecplot Focus 2011

- **Fourier Transform**

The Fourier transform feature (accessible through **Data>Fourier Transform**) allows you to transform one-dimensional ordered linear data into the frequency domain for visualization and further analysis.

- **Marker Gridlines**

XY and Polar line plots now offer a marker gridline in addition to the major and minor gridlines. The marker gridline can be positioned at a constant value or at the solution time. The Time Series plot has been enhanced to utilize this feature.

- **3D Multi-Frame Add-On**

The 3D Multi-Frame add-on makes it easier to tile frames and to get simultaneous top/front/side views of 3D frames. These functions are available from the Frame menu.

- **New Video Export Formats**

Tecplot Focus can now export animations in Windows Media Video (WMV), MPEG-4, and Flash Video (FLV) formats.

- **Visual Improvements**

A number of new color maps are provided with Tecplot Focus 2011, including diverging, sequential, and qualitative maps based on cartographic principles, as well as elevation (with or without water), Doppler, magma, hot metal, and more.

The default colors assigned to lines, symbols, and other objects in XY and Polar Line plots have been revised to improve the visibility of items that had previously been colored cyan (light blue) and yellow. These are now colored dark gray and orange, respectively.

Finally, the default symbol shape for particle paths and streaklines is more visible.

- **Intelligent Filename Sorting**

When selecting more than one file to be opened in a multi-select dialog, the files are now sorted in an order that considers numbers in the filenames, so that e.g. “a800.plt” is always loaded before “a1000.plt”.

Previously, load order was dependent on the order files were clicked in the dialog and was not always clear.

- **Unicode Improvements on Linux and Mac OS X**

Library upgrades now allow more platforms, including recent Linux distributions and Mac OS X versions, to take advantage of the Unicode text support introduced in Tecplot Focus 2010.

Your X Server must be using a Unicode font to see extended characters in Tecplot Focus’s interface controls. The `xlsfonts` shell command can be used to determine which X fonts support Unicode (fonts whose name contains “iso10646” are Unicode fonts). To have

your X server automatically select a Unicode font while running Tecplot Focus, edit the fontList line in app-default/Tecplot130 as follows:

```
Tecplot*fontList:          -*-medium-r-*-12-*-*-*-*-*iso10646-*
```

If your operating system does not allow you to enter Unicode text in Tecplot Focus's dialogs, you may need to edit layouts or use macros to use non-ASCII text.

• Prototype Feature Add-Ons

Two new features, Distribution Plots and Compare XY Maps, are provided in prototype form for your feedback.

The Distribution Plots add-on produces histogram and cross plots for 3D and 2D Cartesian frames. This add-on is available from the Tools menu.

The Compare XY Maps add-on produces various types of comparison plots between line maps in XY plots, including delta, variance, average, sum, standard deviation, minimum, and maximum. This add-on is available from the Data menu.

These add-ons are not loaded by default. To activate them, remove the # symbol from the beginning of the following lines in your *tecplot.add* file:

```
##!LoadAddon "histogram"      # Distribution Plots
##!Loadaddon "companalysis"    # Compare XY Maps
```

Remote Display

Linux systems can use X Windows to display Tecplot Focus on a separate system from the one on which Tecplot 360 is actually running. Your X display software must support the GLX OpenGL Extensions, or you must have the graphics rendered by the host CPU using the Mesa software renderer.

On Windows systems you must use the included Remote Desktop Connection software, which transmits the entire user interface to a remote computer. This

allows the rendering to be performed in hardware on the host computer and the results transmitted across the network. Similar options are also available for Linux systems as an alternative to X.

Remote desktop software is not suitable for situations in which multiple users need to run GUI applications such as Tecplot on the host system at the same time. In these situations, X is the preferred solution.

You may find performance better using remote desktop software instead of X. In our tests, the [HP Remote Graphics Software](#) was generally the most performant such solution when one or the other systems was Linux or UNIX-based. If both systems are Windows-based, [ThinAnywhere](#) is a plug-in that can improve the remote performance of 3D applications over slow networks.

Graphics Drivers

For best results, please make sure that you are using the latest graphics drivers compatible with your hardware and operating system. These can be obtained from your graphics adapter vendor's Web site. Old versions may have issues with Tecplot Focus, especially with larger data sets.

- **NVIDIA:** <http://www.nvidia.com/Download/index.aspx>
- **ATI:** <http://support.amd.com/us/gpudownload/Pages/index.aspx>
- **Intel:** <http://downloadcenter.intel.com/Default.aspx>

Bug Updates

For a list of bugs fixed in this release, visit:

http://download.tecplot.com/focus/2011r2/bugs_fixed.html

For a list of current known bugs in this release, visit:

<http://download.tecplot.com/focus/2011r2/bugs.html>

To receive updates about new issues discovered in Tecplot Focus, subscribe to the Technical Bulletins forum on Tecplot Talk: <http://www.tecplottalk.com/>

Platform-specific Issues

Refer to this section for issues specific to your operating system.

32-bit

On 32-bit operating systems, the address space provided to applications is limited to 2-3 GB (the exact amount depends on which operating system you use). You must use the 64-bit version of Tecplot Focus on a 64-bit OS to visualize solutions larger than this.

Windows

Please help us make Tecplot products better by submitting an electronic report to Microsoft in the event that Tecplot Focus terminates unexpectedly. All you need to do is click the **Send Error Report** button. We review these reports regularly and they often help us find and resolve issues. To review some of the issues we've solved thanks to crash reports from users like you, visit <http://tecplottalk.com/viewforum.php?f=33>



The 32-bit version of Tecplot Focus is not supported on 64-bit Windows platforms. If you have a 64-bit version of Windows, install the 64-bit version of Tecplot Focus.

- **Windows Vista™ and Windows 7 Users**

 - Installation*

 - You must have administrator rights on your computer to install Tecplot Focus.

Linux

- **Temporary Directory**

Tecplot Focus relies on being able to create temporary files in the system temporary directory. On Linux, this directory is `/usr/tmp` or `/var/tmp` by default. If this directory is not writable, you can override the default either by setting the `TMPDIR` environment variable in your profile or by setting the `TEMPFILEPATH` in the `tecplot.cfg` file.

- **Menu Shortcuts**

Menu shortcut keys will not work if the `NUM LOCK` is on. You may set the `NUM LOCK` to turn off automatically at boot in your computer's BIOS.

- **SELinux**

SELinux (provided with some Linux distributions) adds an extra layer of security. If you see this error message:

```

./bin/tecplot.shared: error while loading
shared libraries: ./lib/libtec.so: cannot
restore segment prot after reloc:
Permission Denied

```

Enter these two commands (you will need the root password):

```

sudo chcon -c -v -R -u system_u -r object_r
-t lib_t $TEC_FOCUS_2011R2/lib/

```

```

sudo chcon -t texrel_shlib_t
$TEC_FOCUS_2011R2/lib/*

```

You can then run Tecplot Focus without disabling SELinux.

- **Ubuntu®**

Tecplot Focus 2011 is supported only on LTS (Long Term Support) releases of Ubuntu.

- **Red Hat Enterprise Linux 6**

RHEL 6 does not include all the X font packages needed to display the Tecplot Focus user interface correctly. As a result, text may be cut off or may otherwise be displayed incorrectly in dialogs. We recommend that the following font packages be installed:

```
xorg-x11-fonts-75dpi.noarch  
xorg-x11-fonts-100dpi.noarch  
xorg-x11-fonts-Type1.noarch  
xorg-x11-fonts-IS08859-*
```

- **Remote Display Issues**

If you have a **Network** or **Site** license, you can run Tecplot Focus on one computer and display it on a second computer (via an X server). However, if you are running the OpenGL version of Tecplot Focus, the X server must have the GLX extensions. If you are working with a large grid file remotely, try using the `-mesa` option to minimize the number of OpenGL commands sent across the network.

When displayed remotely, Tecplot Focus may exhibit substantially lower drawing speeds than when it is displayed locally, especially for text and geometries.

- **Mesa Versions**

Mesa, an OpenGL-equivalent graphics library, performs 3D rendering in software. It is typically used when hardware acceleration is unavailable or when working with remote display of large data.

The Mesa version of Tecplot Focus functions slower, especially for 3D plotting. If you must run the Mesa version and display remotely, you can speed up the rendering for XY Line and 2D plots by setting the environment variable below. On some machines, this may also improve the speed of 3D plotting that does not use translucency. (Mesa translucency performance is known to be very bad.)

```
export MESA_BACK_BUFFER=Pixmap
```

Mac OS X

If you have a Mac with an Intel Core processor (rather than a Core 2 or later processor), you cannot run the 64-bit Mac version of Tecplot Focus, even if *setuptec* recommends this version. Install the 32-bit version of Tecplot Focus instead.

To determine the type of processor in your Mac, choose “About This Mac” from the Apple menu. If the processor field displays “Intel Core” or “Intel Core Duo”, you have a Core processor. If it displays “Intel Xeon” or “Intel Core 2 Duo”, you can run the 64-bit version of Tecplot Focus.

- **Remote Display and OpenGL**

In Mac OS X 10.6, the X11 server has a known bug with native (hardware-accelerated) OpenGL applications displaying remotely using the GLX protocol. This same bug prevents Mac OS X 10.6 from running native OpenGL applications remotely and displaying locally using the GLX protocol. This problem has been duplicated with even the most basic OpenGL applications and OpenGL utilities. It has been logged with Apple as bug #6628702.

Tecplot Focus can use a Mac OS X 10.6 machine as a remote display, or as a remote server displaying to a Linux or Windows client running an X11 server, if software OpenGL drivers are used. Tecplot Focus will use software OpenGL drivers if the `-mesa` option is supplied on the command line when starting the application.

- **Off-Screen Rendering**

Due to a problem with the Mac X Server, using off-screen rendering with OpenGL on a Mac may cause exported images to be all black. This is a known bug, #4889883, in Apple’s X11 server. For this reason, we

have disabled off-screen rendering as the default for Mac OS X installations. Image exporting and copying to the clipboard are performed using on-screen rendering instead.

Should you want to enable it (for example, for anti-aliasing and variable resolution image buffering), please add the following line to your *tecplot.cfg* file:

```
$!INTERFACE USEOFFSCREENBITMAP = YES
```

Alternatively, you can use the "-mesa" option when launching Tecplot Focus to use the software-only 3D renderer. However, you will lose the benefits of hardware acceleration.

Enjoy Tecplot Focus 2011 R2 and master the view!