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***Tecplot***  
Enjoy the View™

**TECPLOT FOCUS™**  
2009

## **Release Notes**

*Release 2*

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09-F-04-2

Rev 10/2009

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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 functionalities.

- [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](http://www.tecplottalk.com) for details.

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# Welcome to Tecplot Focus 2009 R2!

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Welcome to Tecplot Focus 2009 R2! This release includes many new features to enhance your workflow.

## **Tecplot Focus 2009 R2: Faster Than Ever Before**

We've improved the performance of the operations you use most frequently. For example, time-to-first-image of a moderate-sized (180-million finite element) data set is 2.6 times faster. Memory use has also improved, allowing you to work with larger data than in previous versions. Your results will vary depending upon the data (size, number of zones, type) and system configuration.

Additionally, the size of the data you can work with is now limited only by memory. Note that 32-bit operating systems constrain application memory to 2-3 GB (depending on the operating system). To work with larger data, you must use a 64-bit operating system and the 64-bit version of Tecplot Focus.

**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>

The NVIDIA driver versions we recommend are 185.18.x (Linux) and 6.14.x (Windows).

- **ATI:** <http://support.amd.com/us/gpudownload/Pages/index.aspx>

Download the latest available for your system and adapter.

- **Intel:** <http://downloadcenter.intel.com/Default.aspx>

Download the latest available for your system and adapter.

Other improvements or changes in Tecplot Focus 2009 R2 include:

- **Date/Time Formatting for Solution Time**

The **SOLUTIONTIME** variable can now be formatted as a date and/or time (rather than just as a number) in dynamic text, and it has been made available in XY plots as well as in 2D and 3D plots.

- **Windows 7 Compatibility**

We recently tested Tecplot Focus 2009 on Windows 7 and determined that both R1 and R2 are fully compatible. Please let us know if you encounter any difficulties.

- **Virtual Server Support for RLM**

The Reprise License Manager (RLM) used for network licensing of Tecplot Focus now supports running on virtualized servers.

- **Face Neighbor Data Now Saved By Default**

When writing a Tecplot-format data file, face neighbor data calculated by Tecplot Focus is now included in the file by default. Our testing has found that the improved performance in loading the data is generally worth the 20% increase in disk use. You can still turn the feature off when disk space is tight.

- **Plot Approximations Off By Default**

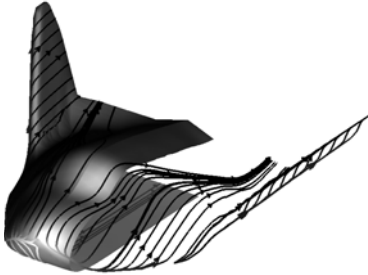
We have determined that this feature no longer provides benefit for most users due to ongoing improvements in graphics hardware performance, and it now defaults to off. If you wish to retain the previous behavior, add the following line to your *tecplot.cfg* file.

```
$(INTERFACE USEAPPROXIMATEPLOTS = YES
```

## New Features in Tecplot Focus 2009 R2

In case you missed them, the following new features were introduced in the initial release of Tecplot Focus 2009.

### • 3D Surface Clipping

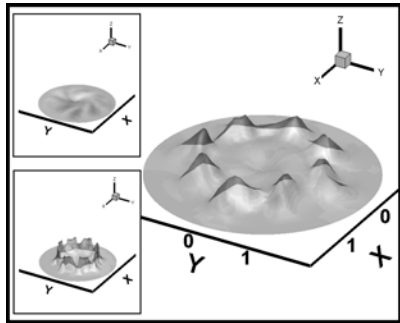


With Tecplot Focus 2009, you can use slices to clip your 3D plots in up to six planes, along the X, Y, and Z axes. You can also choose whether to include zones, iso-surfaces, slices or streamtraces in the clipping.

*Figure 1: 3D surface clipping enables an inside look at a spaceship from the Tecplot Focus examples folder, without changing view preferences.*

### • Improved Frame Management

The active frame no longer automatically displays on top of inactive frames. You can select and make edits in any frame in your workspace without popping that frame to the top.



*Figure 2: Multiple frames provide additional analysis in the gas burner example included in the Tecplot Focus installation.*

Tecplot Focus supports up to 2048 frames and offers new controls to change the active frame with or without changing frame order.

- **Key Frame Animation**

Tecplot Focus 2009 R2 includes key frame animation. After a user inputs a series of different views, Tecplot Focus interpolates views in between to give a 3D panning and zooming animation of your 3D plot. This animation includes transient streamtrace animation, and individual animation steps can be edited and saved.

- **Additional Export Formats**

*Export Formats Compatible with Tecplot 360 2006 and Tecplot Focus 2008*

Export choices now include formats compatible with Tecplot 360 2006 and Tecplot Focus 2008. Files exported in 2006 format can be read into Tecplot 360 versions 2006 R1 and later; files exported in 2008 format can be read into Tecplot Focus versions 2008 R1 and later.

*Tecplot Viewer Export*

This release includes a Tecplot Viewer export format for sharing 3D plots. The resulting view-only file does not include data that is not visible in the current view, allowing the file to be significantly smaller in many cases. The plot can be viewed with the free Tecplot Viewer. You will want to retain the original file for data manipulation.

- **Auxiliary Data Editor**

For meta-data annotation of plots, you can now add and edit auxiliary data directly in Tecplot Focus and journal the results into a saved layout file.

- **Reprise Licensing**

All platforms now use the Reprise License Manager for network and site license management.

## Bug Updates

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

[http://download.tecplot.com/focus/bugs\\_fixed.html](http://download.tecplot.com/focus/bugs_fixed.html)

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

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

## Platform-specific Issues

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

### Windows Users

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 when it appears.

#### *Remote Display Issues*

- You can run a network license of Tecplot Focus on one Windows computer and display it on a second computer. However, if the network connection between the two computers has any latency, dynamic text and geometries may become unusably slow.
- If you use Cygwin/X11 on a network, the server must run Tecplot Focus with the **-mesa** option to communicate with this client.

#### *Large, Transient Datasets*

- If you post-process large, transient datasets, you may run into an OS limit on the number of temporary files allowed in a directory. To fix this, exit Tecplot Focus and restart the program. The temporary directory is purged upon exit.



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.

- **Windows 32-bit users**

The application address space allowed by 32-bit Windows is 2 GB. You must use the 64-bit version of Tecplot Focus on a 64-bit version of Windows to visualize solutions larger than 2 GB.

- **Windows 64-bit users**

- The Tecplot Focus installation for Windows 64-bit platforms does not include SciPy and NumPy Python modules.
  - The 64-bit version of Tecplot Focus requires the 64-bit version of Python. If you have the 32-bit version of Python installed, you will receive an error message in your Tecplot Focus installation. Uninstall the 32-bit version of Python, and run the Tecplot Focus installation to install the 64-bit version of Python.

## Linux Users

- **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 *tecpot.cfg* file.

- **Menu Shortcuts**

Menu shortcut keys will not work if the NUM LOCK is on. You may be able to 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/tecpot.shared: error while loading shared
libraries: ./lib/libtec.so: cannot restore
segment prot after reloc: Permission Denied
```

Enter this (as root):

```
chcon -c -v -R -u system_u -r object_r -t lib_t
$TEC_FOCUS_2009/lib/
chcon -t texrel_shlib_t $TEC_FOCUS_2009/lib/*
```

You can run Tecplot Focus without disabling SELinux.

- **Ubuntu<sup>®</sup>**

Tecplot Focus 2009 is supported only on LTS (Long Term Support) releases of Ubuntu.

- **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 improve the speed of 3D plotting.)

```
export MESA_BACK_BUFFER=Pixmap
```

## Macintosh Users

- **NumPy and SciPy**

The Tecplot Focus installation for Mac 64-bit platforms (OS X 10.5) does not include the SciPy and NumPy Python modules.

- **Intel Support**

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 that you do so. 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.

- **Off-Screen Rendering**

Due to a problem with the Macintosh X Server, using off-screen rendering with OpenGL on a Macintosh machine 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 Macintosh 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 *tecpplot.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 the view!





