

High Resolution Screen Captures

When saving from a drawing view is not an option.

Just about everyone has had a need at some point or another for a high resolution bitmap (as opposed to vector), image of their part or assembly. Creating one is usually straightforward. You begin with a drawing, insert a view, change it to the desired display style (shaded, hidden, etc.) and perform a 'Save As' to a TIF file. You can even increase the resolution by enabling the 'Print Capture' button under 'Options'.

This works very well... most of the time.

Unfortunately, there are limitations as to what can be shown in a Drawing View such as...

- Camera Views
- COSMOS Results
- Sketch Pictures
- Complex Data (creates 'garbled' output)

Capturing high res images of these examples can be tricky. SolidWorks does not have an option to adjust the TIF output within a part or assembly, and screen capture software has difficulty capturing scrolling SolidWorks windows.

Fortunately there is a workaround that just might do the trick. In this issue we will show you how to accomplish this using an NVIDIA based graphics card. For all other cards, you can consult the manufacturer to see if they support similar features.

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Getting to Know the NVIDIA Control Panel

1. Let's begin by getting familiar with the Nvidia Control Panel. You can access it by right-clicking anywhere on your desktop (see figure-1), and selecting it from the menu. **NOTE: If this option is not available, you may need to update to the latest drivers!**
2. Next, make sure you enable 'Advanced' mode (see figure-2).

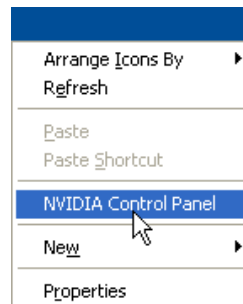


Figure 1 - Accessing the Control Panel

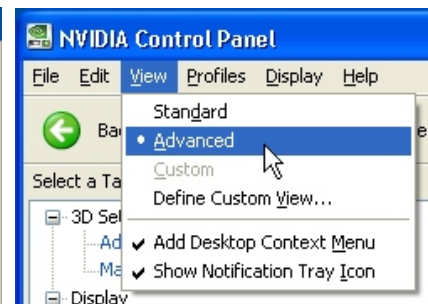


Figure 2 - Enabling 'Advanced' Mode

3. On the left pane you should see options and settings similar to these (see figure-3). Click on 'Manage custom resolutions'.

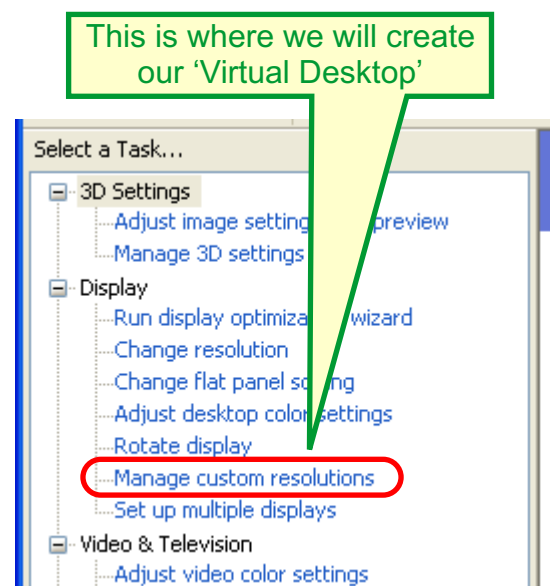


Figure 3 - Accessing 'Custom Resolutions'.

4. Enable 'Allow modes not exposed by the display' (see figure-4). **NOTE: Make sure to press the 'Apply' button.**

What this will do is 'unlock' any higher resolutions previously hidden and make them accessible. More importantly, it will allow you adjust your display to your very own 'custom made' resolution (you'll see why in a moment).

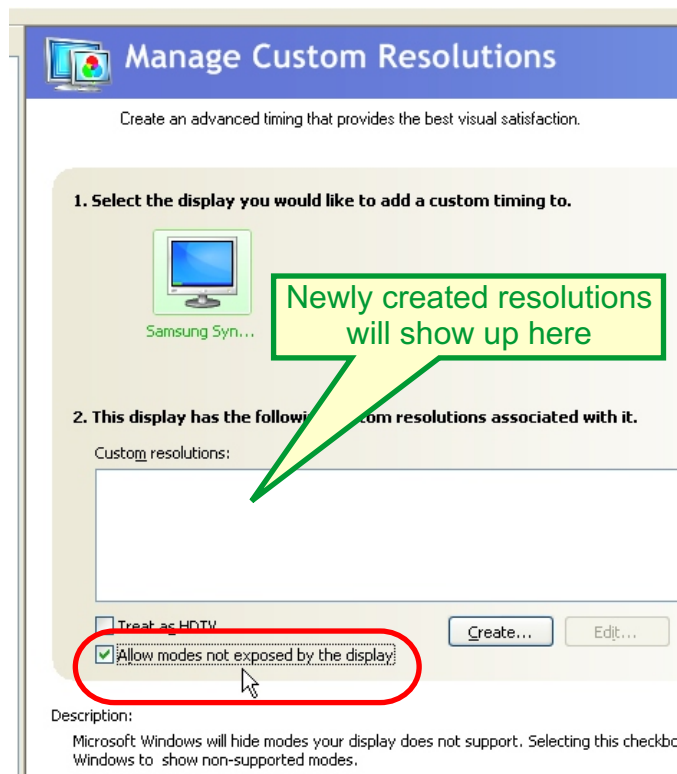


Figure 4 - Enabling 'Allow modes...'

5. Select the button labeled 'Create' (located just to the right of the Allow Modes checkbox). You should now see settings similar to this (see figure-5).

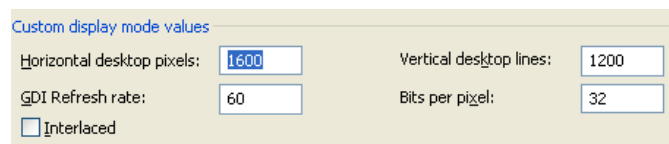


Figure 5 - Entering a New Resolution

You are now ready to create your very own, custom made, high-resolution **virtual desktop**. Once you are done, your video card will 'stretch' your desktop, along with SolidWorks, to fit this new size. It accomplishes this by using the extra memory in the card. You navigate it by dragging your mouse cursor against the sides of your display to 'push' or pan your way around.

6. As you enter a new resolution, it's a good idea to match the aspect ratio of your monitor (e.g. 4:3, 16:10 etc.). **NOTE: For help understanding this, visit...**

http://en.wikipedia.org/wiki/Computer_display_standard

Start by doubling the resolution you have as your normal display setting.

Example: 1600 x 1200 becomes 3200 x 2400

Press the 'Test' button. **NOTE: You may be shown a warning dialog box. This is a safeguard in case something goes wrong. You simply wait 15 seconds and your display will go back to normal.**

As your video card is being tested, your screen may go blank for a moment. This is a good indication that it will pass the test.

If the new resolution is accepted, you will actually see a preview of how it will look like.

7. Pan your way down and to the center of the newly created virtual desktop and select 'Yes' to keep the changes. **NOTE: Hurry! You have only a few seconds to do this before the resolution reverts back.**

You should now see your new resolution listed in the Nvidia Control Panel (see figure-4).

8. To activate the new resolution, select 'Change Resolution' and drag the slider to the right (see figure-5).

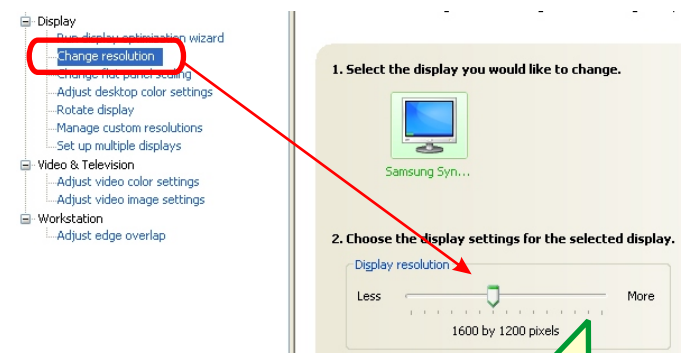


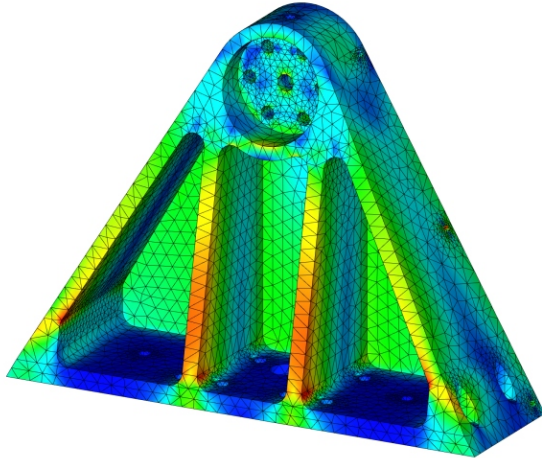
Figure 5 - Switching to the New Resolution'.

Wow! Higher Resolutions Available For Screen Captures!

Can I Make My Screen Capture Yet?

As you begin to experiment with creating higher resolutions, you will eventually run into limitations of your video card memory. On a 256MB card I was able to go as high as 8,000 x 7500, allowing me to create some pretty detailed COSMOS mesh and analysis shots.

NOTE: Some cards may require SolidWorks to be set to 'Software OpenGL' in order to display the graphics area correctly.



High-res screen cap of a COSMOS analysis

It may take a little practice to pan your way around the screen, but you'll get used to it. Also, have patience! There is a lot of memory and processing going on to display all of the data, so things can be a little slower than what you are normally accustomed to.

9. The final step of course is to take your screenshot. In newer releases of SolidWorks, you can use View-> Screen Capture. In all releases you can still do a 'save-as' and select TIF.

When you are done, simply return the display resolution back to what it was.

CAPTURING TIPS

Maximize available screen space...

- Press F10 to disable toolbars
- Turn off scrollbars (Tools-> Options)
- Set Windows Task Bar to 'Auto Hide'

CAPTURING TIPS (CONTINUED)

Increase Image Quality...

- Drag 'Image Quality' slider to right
- Enable 'Anti-alias Edges/Sketches'
- Adjust lighting
- Create a 'Camera View'

If your COSMOS results require anti-aliased edges, you can force SolidWorks to enable them by changing your Antialiasing and Anisotropic Filtering settings (in the NVIDIA Control Panel) to 16x (see figure-6).

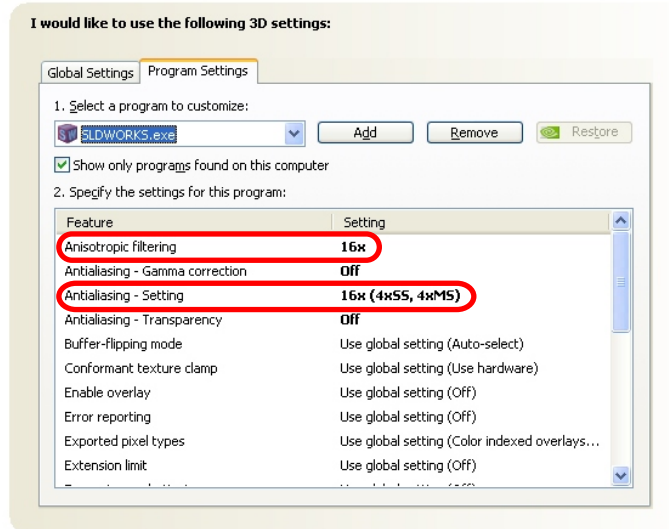


Figure 6 - Forcing 'Anti-Aliasing'

Have Fun!

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