



# NVIDIA Quadro Professional Drivers ***Release 178 Notes***

**Version 178.26**

**For Windows Server 2003 32-bit and 64-bit  
and Windows Server 2008 32-bit and 64-bit**

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## CHAPTER

## 1

# INTRODUCTION TO *RELEASE 178 NOTES*

This edition of *Release 178 Notes* describes the Release 178 Quadro Professional Drivers for Microsoft® Windows® Server 2003 and Windows Server 2008. NVIDIA provides these notes to describe performance improvements and bug fixes in each documented version of the driver.

## Structure of the Document

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This document is organized in the following sections:

- “[Release 178 Driver Changes](#)” on [page 3](#) gives a summary of changes, and fixed and open issues in this version.
- “[The Release 178 Driver](#)” on [page 17](#) describes the NVIDIA products and languages supported by this driver, the system requirements, and how to install the driver.
- “[Mode Support for Windows](#)” on [page 23](#) lists the default resolutions supported by the driver.

## Changes in this Edition

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This edition of the *Release 178 Notes* for Windows Server 2003 and Windows Server 2008 includes information about NVIDIA graphics driver version 178.26.



## CHAPTER

## 2

# RELEASE 178 DRIVER CHANGES

This chapter describes open issues for version 178.26, and resolved issues and driver enhancements for versions of the Release 178 driver up to version 178.26. The chapter contains these sections:

- “Version 178.26 Highlights” on page 4
- “Limitations in This Release for Windows Server 2008” on page 5
- “Special Instructional Notes for this Release” on page 6
- “Open Issues in Version 178.26” on page 7
- “Not NVIDIA Issues” on page 8
- “Known Product Limitations” on page 11

## Version 178.26 Highlights

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This section provides highlights of version 178.26 of the NVIDIA Release 178 Driver for Windows Vista.

- [What's New in Release 178](#)
- [What's New in Version 178.26](#)

### What's New in Release 178

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- Added support for the following NVIDIA products:
  - NVIDIA Quadro FX 470
  - NVIDIA Quadro CX
- Added support for hot-plug detection of VGA displays that provide EDID information.
- Added support for DDC-Ci/MCCS over the DisplayPort AUX channel.
- Added 10-bits per color (10bpc) DisplayPort support for full-screen applications on supported products such as the Quadro FX 470 or Quadro CX.
- Removed Full-screen video mirror controls from the NVIDIA Control Panel.

### What's New in Version 178.26

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- Added support for the following NVIDIA products:
  - NVIDIA Quadro FX 470
  - NVIDIA Quadro CX

## Limitations in This Release for Windows Server 2008

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The following are features that are not currently supported or have limited support in this driver release:

- **NVIDIA SLI Antialiasing**

This driver does not support NVIDIA SLI antialiasing.

- **INF Support for Restricted Timings**

This driver version does not support the use of Restricted Timing settings (R&T strings) in the INF to control mode validation and/or mode setting for custom mode/adaptor/monitor combinations. This capability is planned for a later driver release.

- **SDI**

This driver does not support the Serial Display Interface (a standard for driving high color depth displays).

- **Genlock/Frame Lock**

This driver does not support the ability to synchronize multiple display outputs with an external signal.

- **NVIDIA TurboCache**

Windows Vista now controls the allocation of system memory to the GPU for TurboCache functions. The Windows Vista Display Properties pages show the shared system memory (SSM), or how much memory is allocated for NVIDIA GPUs to use for TurboCache.

For more information on graphics memory reporting under Windows Vista, visit <http://www.microsoft.com/whdc/device/display/graphicsmemory.mspx>.

- **NVIDIA nView Desktop Manager**

The nView Desktop Manager is not included in this driver. The following nView Desktop Manager features will be included in a future driver version:

- Gridlines
- Virtual Desktops
- Window/Dialog Repositioning
- nView Profiles

## Features Not Yet Available in the NVIDIA Control Panel

Support for the following control panel features is under development and not yet available under Windows Vista:

- **Display Category**
  - The Graph tab on the Adjust Desktop Color Settings page is not available.
- **Workstation Category**

The Workstation category page is not available with this driver version.

## Special Instructional Notes for this Release

---

This section clarifies instructions for successfully accomplishing the following tasks:

### Turning Off V-Sync to Boost Performance

To get the best benchmark and application performance measurements, turn V-Sync off as follows:

- 1 Open the NVIDIA Control Panel and enable Advanced View.
- 2 In the 3D Settings Category, click Manage 3D Settings.
- 3 From the Global presets pulldown menu, select **Custom** and then click **Apply**.
- 4 From the Settings listbox, select **Vertical sync** and change its value to **Force off**, then click **Apply**.
- 5 From the Global presets pulldown menu, select **3D App - Default Global Settings** (the driver's default profile) or use the application profile that matches the application you are testing, then click **Apply**.

*Be sure to close the NVIDIA Control Panel completely* —leaving it open will affect benchmark and application performance.

### NVIDIA Application Configuration Engine (ACE)

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This driver includes the NVIDIA Application Configuration Engine (ACE), which automatically detects the workstation application and configures the appropriate profile settings in the NVIDIA Control Panel.

See the *NVIDIA Quadro Professional Drivers: NVIDIA Control Panel Quick Start Guide* for more information about this feature.

## Open Issues in Version 178.26

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As with every released driver, version 178.26 of the Release 178 driver has open issues and enhancement requests associated with it. This section includes lists of issues that are either not fixed or not implemented in this version. Some problems listed may not have been thoroughly investigated and, in fact, may not be NVIDIA issues. Others may have workaround solutions.

- [“Windows Server 2003 Issues”](#) on page 7
- [“Windows Server 2008 Issues”](#) on page 7

### Windows Server 2003 Issues

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- There is no icon associated with the nView Desktop Manager program in the Windows Control Panel.

### Windows Server 2008 Issues

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- When running OpenGL demos in Clone mode, moving images on the secondary monitor are cut.

## Not NVIDIA Issues

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This section lists issues that are not due to the NVIDIA driver as well as features that are not meant to be supported by the NVIDIA driver for Windows Vista.

- “[Unsupported Features under Windows Server 2008](#)” on page 8
- “[OpenGL Application Issues for Windows Server 2008](#)” on page 10

### Unsupported Features under Windows Server 2008

---

The following are features and functionality that were available in driver releases supporting Windows Server 2003, but are not available in driver releases for Windows Server 2008:

- **High resolution scaling desktop (HRSD)**
- **MultiView Display Mode** (for NVIDIA Quadro NVS graphics cards)
- **NVKeystone**
- **Unified back buffer (UBB) controls**
- **OpenGL Video Overlays**

This is an operating system limitation.

Vista window manager features will provide new ways of accomplishing overlays, but will require application porting.

- **Overclocking**

GPU overclocking is no longer supported in the default GPU driver control panel. This feature is available in the NVIDIA nTune 5.05 software, which you can download from [NVIDIA.com](http://NVIDIA.com).

- **GPU Temperature Monitoring**

Temperature monitoring is no longer supported in the default GPU driver control panel. This feature is available in the NVIDIA nTune 5.05 software, which you can download from [NVIDIA.com](http://NVIDIA.com).

#### AGP Settings Adjustment

- **Full-screen Video Mirror**
- **Video Zoom**
- **Pan & Scan** - the process of panning across the desktop in order to display a desktop on a monitor with lower resolution
- **Per-display Desktop Color Setting Adjustments**

For Clone mode, the desktop color setting adjustments through the NVIDIA Control Panel can only be made across all displays in a system, and not on a per-display basis.

- **Per-display Video Color Setting Adjustments**

For Dualview mode, the video color setting adjustments through the NVIDIA Control Panel can only be made across all displays in a system, and not on a per-display basis.

- **nView Horizontal and Vertical Span Modes**

Due to architectural changes in the new Windows Vista Window Display Driver Model (WDDM), span mode cannot be supported in NVIDIA graphics drivers. NVIDIA recommends using the built-in Windows Vista multi-display modes.

- **Edge Blending**

- **Run display optimization wizard**

- **Run multiple display wizard**

- **Run television setup wizard**

- **Display/Connection Wizard** (such as was provided with Windows Media Center Edition)

- **DVD/MPEG Extensions** (such as was provided with Windows Media Center Edition)

- **Audio Extensions** (such as was provided with Windows Media Center Edition)

- **Windowed quad-buffered stereo**

This is an operating system limitation.

## OpenGL Application Issues for Windows Server 2008

---

The following are known compatibility issues for OpenGL applications developed under Windows XP:

- Mixed GDI and OpenGL rendering does not work.

A number of applications use GDI to render UI components and object highlighting. This is not supported in the Windows Vista driver model.

NVIDIA recommends converting GDI rendering to OpenGL.

The following are some applications that are known to have this issue:

- Maya 7.01
- OneSpace Designer Modeling
- Applications, Tools, and Benchmarks not supported under Windows Vista
  - GLperf
  - 3ds max 8 (later releases may be supported)
  - CATIA V5R15 (V5R16 is supported)
  - PTC's CDRS 2001
- Front buffered rendering may be slow, especially when DWM is enabled.

Flushing the rendering queue while rendering to the front buffer may cause the window manager to recomposite. Applications should therefore minimize the frequency with which they flush the rendering queue.

## Known Product Limitations

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This section describes problems that will not be fixed. Usually, the source of the problem is beyond the control of NVIDIA. Following is the list of problems and where they are discussed in this document:

- “Image Sharpening Control not Available with Quadro FX 4600 and later GPUs” on page 12
- “Applying Workstation Application Profiles” on page 12
- “Gigabyte GA-6BX Motherboard” on page 12
- “DVD Playback Issues with Dual NVIDIA Quadro NVS Cards” on page 13
- “PowerDVD 5.0 Does Not Display Correctly in nView Span Mode” on page 13
- “DirectX Fails When Detaching/Reattaching Displays in Dualview Mode” on page 13
- “OpenGL Viewport Scaling Problem in Horizontal Span Mode” on page 13
- “Video Playback in nView Clone and Span Modes” on page 14
- “No Antialiasing of 3DMark03 Image Quality Screen Captures” on page 14
- “Antialiasing Problems With Certain Applications” on page 15
- “Poor Quality S-Video Output on Some TVs” on page 15

## Image Sharpening Control not Available with Quadro FX 4600 and later GPUs

---

With Quadro FX 4600 and later graphics cards, the **Image sharpening** slider on the NVIDIA Control Panel-> Display->Adjust Desktop Color Settings page is grayed out.

This control is intentionally disabled because image sharpening is not supported on Quadro FX 4600 and later GPUs.

## Applying Workstation Application Profiles

---

- **Background**

The workstation application profiles are software settings used by the NVIDIA Display Drivers to provide optimum performance when using a selected application. The profile also works around known application issues and bugs.

If there is an available setting for an application, it should be used, otherwise incorrect behavior or reduced performance is likely to occur.

- **Issues**

Configuration changes require that you restart the application.

Once an application is running, it does not receive notification of configuration changes. Therefore, if you change the configuration while the application is running, you must exit and restart the application for the configuration changes to take effect.

## Gigabyte GA-6BX Motherboard

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This motherboard uses a Linfinity regulator on the 3.3-V rail that is rated to only 5 A—less than the AGP specification, which requires 6 A. When diagnostics or applications are running, the temperature of the regulator rises, causing the voltage to the NVIDIA chip to drop as low as 2.2 V. Under these circumstances, the regulator cannot supply the current on the 3.3-V rail that the NVIDIA chip requires.

This problem does not occur when the graphics board has a switching regulator or when an external power supply is connected to the 3.3-V rail.

## DVD Playback Issues with Dual NVIDIA Quadro NVS Cards

---

With both AGP and PCI NVIDIA Quadro NVS cards installed in the system, when attempting to play DVDs in full-screen mode on the display connected to the PCI card, the screen is blank.

*This is not an NVIDIA bug, but rather a problem with older point releases of PowerDVD and WinDVD.*

## PowerDVD 5.0 Does Not Display Correctly in nView Span Mode

---

With nView Horizontal Span mode enabled, when the PowerDVD 5.0 playback window is dragged to the second display and then stretched to fill the display, the right area of the display is corrupted.

*This is not an NVIDIA bug, but a problem with PowerDVD.*

## DirectX Fails When Detaching/Reattaching Displays in Dualview Mode

---

This problem can be duplicated as follows:

- 1 Enable both displays in Dualview mode.
- 2 Detach monitor 2 and apply settings.
- 3 Reattach monitor 2 and apply settings.

DirectX runtime fails on monitor 1.

*This is not an NVIDIA bug, but a limitation in the operating system where DirectX does not enumerate the second device. DirectX can be restored to both displays by rebooting the system*

## OpenGL Viewport Scaling Problem in Horizontal Span Mode

---

With nView Horizontal Span mode enabled, when opening an OpenGL model in a viewport, the model image is scaled too large to fit in the viewport. The problem occurs with such applications as Maya 5.0 and 3D Studio MAX 4.26.

*This is not an NVIDIA bug, but a limitation in the application's ability to properly maintain the aspect ratio in Horizontal Span mode.*

## Video Playback in nView Clone and Span Modes

---

- **Problem**

With nView Clone or Span mode enabled, video playback appears on only one display under the following conditions:

- Under nView Clone mode, when full-screen video mirror is not used.
- Under nView Span mode, when full-screen video mirror is not used and the video is positioned to span across both monitors.

- **Explanation**

With applications that render using the hardware overlay—such as DirectX applications—the default driver behavior is to enable the hardware overlay when nView Clone or Span mode is enabled.

*Because the driver supports only one hardware overlay, the video appears on only one display.*

## No Antialiasing of 3DMark03 Image Quality Screen Captures

---

- **Problem**

After enabling antialiasing from the NVIDIA Properties page, 3DMark03 screen captures—obtained using the application’s screen capture function—might not be antialiased.

- **Explanation**

This is not an NVIDIA bug, but rather a result of different methods used to render antialiased images.

Depending on a combination of factors, the driver may take advantage of the NVIDIA hardware’s ability to bypass the front buffer while rendering an antialiased image. In this case, the front buffer does not contain antialiased data, so if an application takes data from the front buffer—as is the case with 3DMark03’s Image Quality screen captures—then the resulting image is not antialiased.

To accommodate applications that request use of the front buffer, the NVIDIA software can provide the antialiased data in a buffer to the application. Since this negates the advantages of the NVIDIA hardware capability, this support is enabled only when antialiasing is enabled within the application, and not from the NVIDIA control panel.

*In all cases when antialiasing is enabled, screen images as well as screen captures obtained using the Print Screen key are always antialiased.*

## Antialiasing Problems With Certain Applications

---

Antialiasing in the NVIDIA Direct3D driver requires each new frame to be rendered from scratch. This requirement adversely affects applications that render only that portion of the content that has changed since the last frame. A common symptom of this problem is geometric structures that incorrectly disappear and re-appear as the scene shifts.

## Poor Quality S-Video Output on Some TVs

---

NVIDIA drivers differentiate an S-video TV from a composite TV by searching for 75-Ohm loads on the chrominance and luminance lines. If the driver detects only one such load, it assumes that it has a composite TV and drives both chroma and luma onto that line. This approach allows both types of TV to display in color.

Unfortunately, some S-video TVs do not apply the correct load to both lines, causing the driver to detect an S-video TV as a composite. The driver, in turn, sends the lower quality signal to the S-video TV. To work around this problem, use the Control Panel to override the **Auto-select** feature. This can be done following these steps:

- 1 In the **Settings** tab of the **Display Properties** Control Panel, click **Advanced**.
- 2 In the **nView** tab, click **Device Settings** and click **Select Output Device**.
- 3 In the **Device Selection** tab, click the **TV** option.
- 4 Change the **Video output format** to **S-video**.



## CHAPTER

## 3

# THE RELEASE 178 DRIVER

This chapter covers the following main topics:

- “Hardware and Software Support” on page 17
- “Driver Installation” on page 20

## Hardware and Software Support

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### Supported Operating Systems

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This Release 178 driver includes drivers designed for the following Microsoft® operating systems:

- Microsoft Windows Server 2003<sup>1</sup>
- Microsoft Windows Server 2008

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1. SLI mode is not supported under Microsoft Windows Server 2003 and Windows Server 2008.

## Supported NVIDIA Products

Table 3.1 lists the NVIDIA products supported by the Release 178 driver.

**Table 3.1** Supported NVIDIA Workstation Products

| Product                  | Windows Server<br>2003 | Windows Server<br>2008 |
|--------------------------|------------------------|------------------------|
| NVIDIA Quadro FX 5600    | X                      | X                      |
| NVIDIA Quadro FX 5500    | X                      | X                      |
| NVIDIA Quadro FX 4700 X2 | X                      | X                      |
| NVIDIA Quadro FX 4600    | X                      | X                      |
| NVIDIA Quadro FX 4500 X2 | X                      | X                      |
| NVIDIA Quadro FX 4500    | X                      | X                      |
| NVIDIA Quadro FX 4400    | X                      | X                      |
| NVIDIA Quadro FX 4400G   | X                      | X                      |
| NVIDIA Quadro FX 4000    | X                      | X                      |
| NVIDIA Quadro FX 3700    | X                      | X                      |
| NVIDIA Quadro FX 3500    | X                      | X                      |
| NVIDIA Quadro FX 3450    | X                      | X                      |
| NVIDIA Quadro FX 3400    | X                      | X                      |
| NVIDIA Quadro FX 1700    | X                      | X                      |
| NVIDIA Quadro FX 1500    | X                      | X                      |
| NVIDIA Quadro FX 1400    | X                      | X                      |
| NVIDIA Quadro FX 570     | X                      | X                      |
| NVIDIA Quadro FX 560     | X                      | X                      |
| NVIDIA Quadro FX 550     | X                      | X                      |
| NVIDIA Quadro FX 540     | X                      | X                      |
| NVIDIA Quadro FX 470     | X                      | X                      |
| NVIDIA Quadro FX 370     | X                      | X                      |
| NVIDIA Quadro FX 350     | X                      | X                      |
| NVIDIA Quadro CX         | X                      | X                      |
| NVIDIA Quadro NVS 440    | X                      | X                      |
| NVIDIA Quadro NVS 290    | X                      | X                      |
| NVIDIA Quadro NVS 285    | X                      | X                      |

## Supported Languages

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The Release 178 Quadro Professional Drivers supports the following languages in the main driver Control Panel:

|                       |                     |                           |
|-----------------------|---------------------|---------------------------|
| English (USA)         | German              | Portuguese (Euro/Iberian) |
| English (UK)          | Greek               | Russian                   |
| Arabic                | Hebrew              | Slovak                    |
| Chinese (Simplified)  | Hungarian           | Slovenian                 |
| Chinese (Traditional) | Italian             | Spanish                   |
| Czech                 | Japanese            | Spanish (Latin America)   |
| Danish                | Korean              | Swedish                   |
| Dutch                 | Norwegian           | Thai                      |
| Finnish               | Polish              | Turkish                   |
| French                | Portuguese (Brazil) |                           |

# Driver Installation

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## Minimum Hard Disk Space

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The hard disk space requirement is minimum 56.4 MB for English-only, and 92.5 MB for International.

## Before You Begin—Windows Server 2008

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If you have previously installed NVIDIA nTune, NVIDIA recommends that you uninstall nTune before installing this driver. After the driver install is complete, you can reinstall NVIDIA nTune.

## Before You Begin—Windows Server 2003

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- If you do not have System Administrator access privileges, it is assumed that the appropriate person with System Administrator access in your organization will set up and install the NVIDIA graphics driver software on your computer.
- The installation process copies all necessary files for operation into the appropriate directories.
- The nView system files are copied to your **Windows\System** directory.
- nView Desktop Manager Profile files (\*.tvp) are saved in the **Windows\Nview** directory.

Depending on the version of the NVIDIA driver previously installed, profiles may also be located in the **Documents and Settings\All Users\Application Data\nView\_Profiles** directory.

- As part of the install process, an uninstall is registered in your system.
- The NVIDIA driver is installed in “Dualview mode” display. However, note that the second display is not activated by default, but must be enabled.

## Preserving Settings Before Upgrading Your Software

Before uninstalling or installing software, you can preserve your nView Desktop Manager and/or NVIDIA Display settings by using the nView Desktop Manager Profiles features.

**Note:** Follow the steps below and/or refer to the *NVIDIA nView Desktop Manager User's Guide* for details. Under Windows XP/2000 and Windows NT 4.0, you must have, at least, **Power User** access privileges in order to create or save a profile. (Refer to Windows Help if you need an explanation of Power User access rights.)

Follow the steps below and/or refer to the *NVIDIA nView Desktop Manager User's Guide* for details.

- 1 Open the nView Desktop Manager Profiles page (Figure 4.1).

- 2 To preserve your current settings, you can use either the **Save** or the **New** option from the nView Desktop Manager Profiles page:
  - If you want to overwrite the currently loaded profile with your changed settings, use the **Save** option. Notice that a warning message indicates that you are about to overwrite the selected profile.
  - If you want to retain the currently loaded profile and want to save your changed settings to a new file, click the **New** option. Enter a name and description of the profile in the New Profile dialog box. For example, you can name this profile **My Settings**.
- 3 If you are an “advanced” user and want to customize certain settings in the saved profile, click **Advanced** << to expand the dialog box (Figure 4.2).
- 4 To customize the settings, you can select or clear any of the settings check boxes.
- 5 Click **Save** to return to the main Profiles page.

If you created a new profile, you will see the name of the newly created profile in the profiles list.

If you overwrote a current profile, the same profile name is retained in the list.

**Note:** nView Desktop Manager profile (.tvp) files are saved in the **Windows\nView** directory. Depending on the version of the NVIDIA driver previously installed, profiles may also be saved in the **Documents and Settings\All Users\Application Data\ nView\_Profiles** directory.
- 6 Now you can uninstall your current driver for a driver upgrade.
- 7 After you restart your computer following an NVIDIA new driver install, you can easily load the saved profile from the Profiles page of nView Desktop Manager.

## About Using Saved Profiles in Another Computer

You can easily use any saved profile (.tvp file in the **Windows\nView** directory) from one computer and use it in another computer, if you want. You'll need to copy it to the **Windows\nView** directory of a computer that has the NVIDIA ForceWare graphics display driver, etc. installed properly. Then this profile can be loaded from another computer from the nView Desktop Manager Profiles page just as it can from your original computer.

## Uninstalling the NVIDIA Display Driver Software

***Note:** It is highly recommended that you follow the steps in this section to completely uninstall the NVIDIA Display Driver software before updating to a new version of the software.*

To uninstall the nView software, follow these steps:

- 1 From the Windows taskbar, click **Start > Settings > Control Panel** to open the Control Panel window.
- 2 Double-click the **Add/Remove Programs** item.

- 3** Click the **NVIDIA Display Driver** item from the list.
- 4** Click **Change/Remove**.
- 5** Click **Yes** to continue.

A prompt appears asking whether you want to delete all of the saved nView profiles.

- If you click **Yes**, all of the nView software and all of your saved profiles will be deleted.
- If you click **No**, the nView software is removed, but the profile files are saved in the `Windows\nView` directory on your hard disk.

Your system now restarts.

## Installation Instructions

---

- 1** Follow the instructions on the NVIDIA .com Web site driver download page to locate the appropriate driver to download, based on your hardware and operating system.
- 2** On the driver download page, click the NVIDIA Software License Agreement check box if you accept the terms of the agreement.
- 3** Click the **Download** button.
- 4** At the File Download-Security Warning dialog box, either click **Run** to open the file or **Save** to save the file to your PC and open it later.
- 5** Follow the instructions in the NVIDIA InstallShield Wizard to complete the installation.

## APPENDIX



## MODE SUPPORT FOR WINDOWS

This chapter details the Windows modes supported by the Release 178 driver for NVIDIA products. It contains these sections:

- “General Mode Support Information” on page 24
- “Default Modes Supported by GPU—Windows Server 2008” on page 25
- “Default Modes Supported by GPU for Windows Server 2003” on page 36
- “TV-Out Modes Supported by TV Encoders” on page 60

## General Mode Support Information

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The NVIDIA graphics driver includes a standard list of display modes that are supported by default. These modes are listed in the section “Default Modes Supported by GPU—Windows Server 2008” on page 25.

The actual modes available depend on the capabilities of the display. In addition, the NVIDIA graphics driver has a “dynamic EDID detection” capability and will make available *additional* modes that are listed in the display EDID, provided the graphics hardware can support it.

The NVIDIA graphics driver also supports the high resolutions available with the displays listed in Table A.1 as well as the non-standard modes listed in Table A.2.

**Table A.1** Modes Supported for High Resolution Displays

| Display                                      | Maximum Resolution | Hardware Requirements   |
|--|--------------------|---|
| HP LP3065 Flat Panel Monitor (Dual-link DVI) | 2560×1600 @ 60 Hz  | <ul style="list-style-type: none"> <li>All high-end NVIDIA Quadro FX graphics solutions.</li> </ul> |
| Apple 30" Cinema HD Display (Dual link DVI)  | 2560×1600 @ 60 Hz  | <ul style="list-style-type: none"> <li>All high-end NVIDIA Quadro FX graphic solutions.</li> </ul>  |
| Dell WFP 3007 (Dual Link DVI)                | 2560×1600 @ 60 Hz  | <ul style="list-style-type: none"> <li>All High-end NVIDIA Quadro FX graphic solutions.</li> </ul>  |

**Table A.2** Non-standard Modes Supported

| Resolution  |
|-------------|
| 1680 x 1050 |
| 1366 x 768  |

## Default Modes Supported by GPU—Windows Server 2008

---

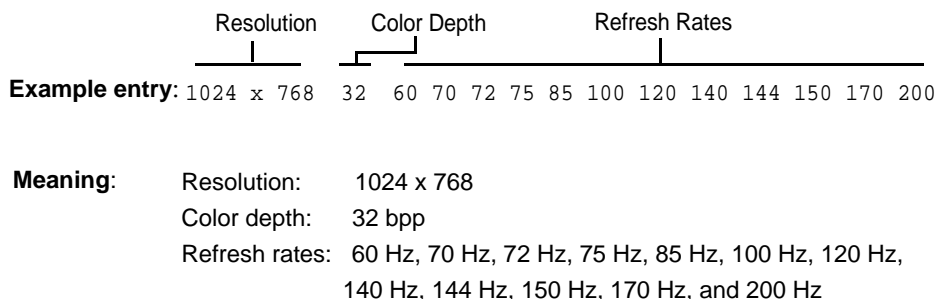
This section lists the modes that are included by default in the driver INF for the following product families:

- “NVIDIA Quadro FX 4400/4000/1400/550/540 and NVS 440/285 Family of GPUs This section lists the supported display resolutions, color depths, and refresh rates for the following products:” on page 26
- “NVIDIA Quadro FX 5600/4600/4700 X2/3700 Family of GPUs This section lists the supported display resolutions, color depths, and refresh rates for the following products:” on page 27
- “NVIDIA Quadro FX 1700/570/470/370 and NVS 290 Family of GPUs This section lists the supported display resolutions, color depths, and refresh rates for the following products:” on page 30
- “NVIDIA Quadro CX GPUs This section lists the supported display resolutions, color depths, and refresh rates for the following products:” on page 32
- “NVIDIA Quadro FX 5500/4500/3500/560/350 Family of GPUs This section lists the supported display resolutions, color depths, and refresh rates for the following products:” on page 34

### Understanding the Mode Format

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Figure A.1 gives an example of how to read the mode information presented in this section.



**Figure A.1** Mode Format

**Note:**

- Horizontal spanning modes of 3840x1080 and above, and vertical spanning modes of 1920x2160 and above generally require at least 32 MB of video memory at 32 bpp.

- An “i” next to the refresh rate indicates an interlaced refresh rate.

**NVIDIA Quadro FX 4400/4000/1400/550/540 and NVS 440/285 Family of GPUs** This section lists the supported display resolutions, color depths, and refresh rates for the following products:

- NVIDIA Quadro FX 3400/4400
- NVIDIA Quadro FX 4000
- NVIDIA Quadro FX 3450/4000 SDI
- NVIDIA Quadro FX 1400
- NVIDIA Quadro NVS 440
- NVIDIA Quadro FX 550
- NVIDIA Quadro FX 540
- NVIDIA Quadro NVS 285
- NVIDIA Quadro NVS 210S

## Standard Modes

|             |    |    |  |
|-------------|----|----|--|
| 640 x 480   | 8  |    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 720 x 480   | 8  |    | 60   |
| 720 x 576   | 8  | 50 | 60   |
| 800 x 600   | 8  |    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 480   | 8  |    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 600   | 8  |    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 768  | 8  |    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1152 x 864  | 8  |    | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 720  | 8  |    | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 768  | 8  |    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1280 x 1024 | 8  |    | 70   |
| 1440 x 900  | 8  |    | 60   |
| 1600 x 1200 | 8  |    | 70   |
| 1680 x 1050 | 8  |    | 60   |
| 1920 x 1440 | 8  |    | 60 70 72 75 85 100                             |
| 2048 x 1536 | 8  |    | 60 70 72 75 85 100                             |
| -----       |    |    |  |
| 640 x 480   | 16 |    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 720 x 480   | 16 |    | 60   |
| 720 x 576   | 16 | 50 | 60   |

|             |    |    |    |    |    |    |     |     |     |     |     |     |     |     |
|-------------|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| 800 x 600   | 16 | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 | 240 |
| 848 x 480   | 16 | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 | 240 |
| 960 x 600   | 16 | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 | 240 |
| 1024 x 768  | 16 | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 | 240 |
| 1152 x 864  | 16 | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 |     |
| 1280 x 720  | 16 | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 |     |     |
| 1280 x 768  | 16 | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 | 240 |
| 1280 x 1024 | 16 |    | 70 |    |    |    |     |     |     |     |     |     |     |     |
| 1440 x 900  | 16 | 60 |    |    |    |    |     |     |     |     |     |     |     |     |
| 1600 x 1200 | 16 |    | 70 |    |    |    |     |     |     |     |     |     |     |     |
| 1680 x 1050 | 16 | 60 |    |    |    |    |     |     |     |     |     |     |     |     |
| 1920 x 1440 | 16 | 60 | 70 | 72 | 75 | 85 | 100 |     |     |     |     |     |     |     |
| 2048 x 1536 | 16 | 60 | 70 | 72 | 75 | 85 | 100 |     |     |     |     |     |     |     |
| -----       |    |    |    |    |    |    |     |     |     |     |     |     |     |     |
| 640 x 480   | 32 | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 | 240 |
| 720 x 480   | 32 | 60 |    |    |    |    |     |     |     |     |     |     |     |     |
| 720 x 576   | 32 | 50 | 60 |    |    |    |     |     |     |     |     |     |     |     |
| 800 x 600   | 32 | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 | 240 |
| 848 x 480   | 32 | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 | 240 |
| 960 x 600   | 32 | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 | 240 |
| 1024 x 768  | 32 |    | 70 |    |    |    |     |     |     |     |     |     |     |     |
| 1152 x 864  | 32 | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 |     |
| 1280 x 768  | 32 | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 |     |     |
| 1280 x 1024 | 32 |    | 70 |    |    |    |     |     |     |     |     |     |     |     |
| 1440 x 900  | 32 | 60 |    |    |    |    |     |     |     |     |     |     |     |     |
| 1600 x 1200 | 32 |    | 70 |    |    |    |     |     |     |     |     |     |     |     |
| 1680 x 1050 | 32 | 60 |    |    |    |    |     |     |     |     |     |     |     |     |
| 1920 x 1440 | 32 | 60 | 70 | 72 | 75 | 85 | 100 |     |     |     |     |     |     |     |
| 2048 x 1536 | 32 | 60 | 70 | 72 | 75 | 85 | 100 |     |     |     |     |     |     |     |

**NVIDIA Quadro FX 5600/4600/4700 X2/3700 Family of GPUs** This section lists the supported display resolutions, color depths, and refresh rates for the following products:

- NVIDIA Quadro FX 5600
- NVIDIA Quadro FX 4600
- NVIDIA Quadro FX 4700 X2
- NVIDIA Quadro FX 3700

## Standard Modes

|             |    |  |     |    |    |    |     |     |                         |
|-------------|----|--|-----|----|----|----|-----|-----|-------------------------|
| 640 x 480   | 8  |  | 60  | 72 | 75 | 85 | 100 |     |                         |
| 720 x 480   | 8  |  | 60  |    |    |    |     |     |                         |
| 720 x 576   | 8  |  | 50  | 60 |    |    |     |     |                         |
| 800 x 600   | 8  |  | 60  | 72 | 75 | 85 | 100 |     |                         |
| 1024 x 768  | 8  |  | 60  | 70 | 72 | 75 | 85  | 100 |                         |
| 1152 x 864  | 8  |  | 60  | 70 | 72 | 75 | 85  | 100 | 120 140 144 150 170 200 |
| 1280 x 720  | 8  |  | 60  | 70 | 72 | 75 | 85  | 100 |                         |
| 1280 x 768  | 8  |  | 60  | 70 | 72 | 75 | 85  | 100 |                         |
| 1280 x 800  | 8  |  | 60  | 70 | 72 | 75 | 85  | 100 |                         |
| 1280 x 960  | 8  |  | 60  | 70 | 72 | 75 | 85  | 100 |                         |
| 1280 x 1024 | 8  |  | 60  | 70 | 72 | 75 | 85  | 100 |                         |
| 1360 x 768  | 8  |  | 60  | 70 | 72 | 75 | 85  | 100 |                         |
| 1440 x 900  | 8  |  | 60  |    |    |    |     |     |                         |
| 1600 x 1200 | 8  |  | 60  | 70 | 72 | 75 | 85  | 100 |                         |
| 1680 x 1050 | 8  |  | 60  |    |    |    |     |     |                         |
| 1920 x 1080 | 8  |  | 30i |    |    |    |     |     |                         |
| 1920 x 1200 | 8  |  | 60  | 72 | 75 | 85 | 100 |     |                         |
| 1920 x 1440 | 8  |  | 60  | 70 | 72 | 75 | 85  | 100 |                         |
| 2048 x 1536 | 8  |  | 60  | 70 | 72 | 75 | 85  | 100 |                         |
| -----       |    |  |     |    |    |    |     |     |                         |
| 640 x 480   | 16 |  | 60  | 72 | 75 | 85 | 100 |     |                         |
| 720 x 480   | 16 |  | 60  |    |    |    |     |     |                         |
| 720 x 576   | 16 |  | 50  | 60 |    |    |     |     |                         |
| 800 x 600   | 16 |  | 60  | 72 | 75 | 85 | 100 |     |                         |
| 1024 x 768  | 16 |  | 60  | 70 | 72 | 75 | 85  | 100 |                         |
| 1152 x 864  | 16 |  | 60  | 70 | 72 | 75 | 85  | 100 | 120 140 144 150 170 200 |
| 1280 x 720  | 16 |  | 60  | 70 | 72 | 75 | 85  | 100 |                         |
| 1280 x 768  | 16 |  | 60  | 70 | 72 | 75 | 85  | 100 |                         |
| 1280 x 800  | 16 |  | 60  | 70 | 72 | 75 | 85  | 100 |                         |
| 1280 x 960  | 16 |  | 60  | 70 | 72 | 75 | 85  | 100 |                         |
| 1280 x 1024 | 16 |  | 60  | 70 | 72 | 75 | 85  | 100 |                         |
| 1360 x 768  | 16 |  | 60  | 70 | 72 | 75 | 85  | 100 |                         |
| 1440 x 900  | 16 |  | 60  |    |    |    |     |     |                         |
| 1600 x 1200 | 16 |  | 60  | 70 | 72 | 75 | 85  | 100 |                         |
| 1680 x 1050 | 16 |  | 60  |    |    |    |     |     |                         |
| 1920 x 1080 | 16 |  | 30i |    |    |    |     |     |                         |
| 1920 x 1200 | 16 |  | 60  | 72 | 75 | 85 | 100 |     |                         |

|             |    |     |    |    |    |    |    |     |                         |
|-------------|----|-----|----|----|----|----|----|-----|-------------------------|
| 1920 x 1440 | 16 |     | 60 | 70 | 72 | 75 | 85 | 100 |                         |
| 2048 x 1536 | 16 |     | 60 | 70 | 72 | 75 | 85 | 100 |                         |
| -----       |    |     |    |    |    |    |    |     |                         |
| 640 x 480   | 32 |     | 60 |    | 72 | 75 | 85 | 100 |                         |
| 720 x 480   | 32 |     | 60 |    |    |    |    |     |                         |
| 720 x 576   | 32 | 50  | 60 |    |    |    |    |     |                         |
| 800 x 600   | 32 |     | 60 |    | 72 | 75 | 85 | 100 |                         |
| 1024 x 768  | 32 |     | 60 | 70 | 72 | 75 | 85 | 100 |                         |
| 1152 x 864  | 32 |     | 60 | 70 | 72 | 75 | 85 | 100 | 120 140 144 150 170 200 |
| 1280 x 720  | 32 |     | 60 | 70 | 72 | 75 | 85 | 100 |                         |
| 1280 x 768  | 32 |     | 60 | 70 | 72 | 75 | 85 | 100 |                         |
| 1280 x 800  | 32 |     | 60 | 70 | 72 | 75 | 85 | 100 |                         |
| 1280 x 960  | 32 |     | 60 | 70 | 72 | 75 | 85 | 100 |                         |
| 1280 x 1024 | 32 |     | 60 | 70 | 72 | 75 | 85 | 100 |                         |
| 1360 x 768  | 32 |     | 60 | 70 | 72 | 75 | 85 | 100 |                         |
| 1440 x 900  | 32 |     | 60 |    |    |    |    |     |                         |
| 1600 x 1200 | 32 |     | 60 | 70 | 72 | 75 | 85 | 100 |                         |
| 1680 x 1050 | 32 |     | 60 |    |    |    |    |     |                         |
| 1920 x 1080 | 32 | 30i |    |    |    |    |    |     |                         |
| 1920 x 1200 | 32 |     | 60 |    | 72 | 75 | 85 |     |                         |
| 1920 x 1440 | 32 |     | 60 | 70 |    | 75 | 85 | 100 |                         |
| 2048 x 1536 | 32 |     | 60 | 70 |    | 75 | 85 | 100 |                         |
| -----       |    |     |    |    |    |    |    |     |                         |
| 640 x 480   | 64 |     | 60 |    | 72 | 75 | 85 | 100 |                         |
| 720 x 480   | 64 |     | 60 |    |    |    |    |     |                         |
| 720 x 576   | 64 | 50  | 60 |    |    |    |    |     |                         |
| 800 x 600   | 64 |     | 60 |    | 72 | 75 | 85 | 100 |                         |
| 1024 x 768  | 64 |     | 60 | 70 | 72 | 75 | 85 | 100 |                         |
| 1152 x 864  | 64 |     | 60 | 70 | 72 | 75 | 85 | 100 | 120 140 144 150 170 200 |
| 1280 x 720  | 64 |     | 60 | 70 | 72 | 75 | 85 | 100 |                         |
| 1280 x 768  | 64 |     | 60 | 70 | 72 | 75 | 85 | 100 |                         |
| 1280 x 800  | 64 |     | 60 | 70 | 72 | 75 | 85 | 100 |                         |
| 1280 x 960  | 64 |     | 60 | 70 | 72 | 75 | 85 | 100 |                         |
| 1280 x 1024 | 64 |     | 60 | 70 | 72 | 75 | 85 | 100 |                         |
| 1360 x 768  | 64 |     | 60 | 70 | 72 | 75 | 85 | 100 |                         |
| 1440 x 900  | 64 |     | 60 |    |    |    |    |     |                         |
| 1600 x 1200 | 64 |     | 60 | 70 | 72 | 75 | 85 | 100 |                         |
| 1680 x 1050 | 64 |     | 60 |    |    |    |    |     |                         |
| 1920 x 1080 | 64 | 30i |    |    |    |    |    |     |                         |

|             |    |     |
|-------------|----|-----|
| 1920 x 1440 | 64 | 100 |
| 2048 x 1536 | 64 | 100 |

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## NVIDIA Quadro FX 1700/570/470/370 and NVS 290 Family of GPUs

This section lists the supported display resolutions, color depths, and refresh rates for the following products:

- NVIDIA Quadro FX 370
- NVIDIA Quadro FX 570
- NVIDIA Quadro FX 1700
- NVIDIA Quadro NVS 290
- NVIDIA Quadro FX 470

### Standard Modes

|             |   |  |
|-------------|---|--|
| 640 x 480   | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 720 x 480   | 8 | 60   |
| 720 x 576   | 8 | 50 60  |
| 800 x 600   | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 480   | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 600   | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 768  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1152 x 864  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 720  | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 768  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 1024 | 8 | 70   |
| 1440 x 900  | 8 | 60   |
| 1600 x 1200 | 8 | 70   |
| 1680 x 1050 | 8 | 60   |
| 1920 x 1440 | 8 | 60 70 72 75 85 100                             |
| 2048 x 1536 | 8 | 60 70 72 75 85 100                             |

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|           |    |  |
|-----------|----|--|
| 640 x 480 | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 720 x 480 | 16 | 60   |
| 720 x 576 | 16 | 50 60  |
| 800 x 600 | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 480 | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 600 | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |

|             |    |  |    |    |    |    |    |     |     |     |     |     |     |     |     |
|-------------|----|--|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1024 x 768  | 16 |  | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 | 240 |
| 1152 x 864  | 16 |  | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 |     |
| 1280 x 720  | 16 |  | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 |     |     |
| 1280 x 768  | 16 |  | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 |     |
| 1280 x 1024 | 16 |  |    | 70 |    |    |    |     |     |     |     |     |     |     |     |
| 1440 x 900  | 16 |  | 60 |    |    |    |    |     |     |     |     |     |     |     |     |
| 1600 x 1200 | 16 |  |    | 70 |    |    |    |     |     |     |     |     |     |     |     |
| 1680 x 1050 | 16 |  | 60 |    |    |    |    |     |     |     |     |     |     |     |     |
| 1920 x 1440 | 16 |  | 60 | 70 | 72 | 75 | 85 | 100 |     |     |     |     |     |     |     |
| 2048 x 1536 | 16 |  | 60 | 70 | 72 | 75 | 85 | 100 |     |     |     |     |     |     |     |

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|             |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |
|-------------|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| 640 x 480   | 32 |    | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 | 240 |
| 720 x 480   | 32 |    | 60 |    |    |    |    |     |     |     |     |     |     |     |     |
| 720 x 576   | 32 | 50 | 60 |    |    |    |    |     |     |     |     |     |     |     |     |
| 800 x 600   | 32 |    | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 | 240 |
| 848 x 480   | 32 |    | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 | 240 |
| 960 x 600   | 32 |    | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 | 240 |
| 1024 x 768  | 32 |    |    | 70 |    |    |    |     |     |     |     |     |     |     |     |
| 1152 x 864  | 32 |    | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 |     |
| 1280 x 768  | 32 |    | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 |     |
| 1280 x 1024 | 32 |    |    | 70 |    |    |    |     |     |     |     |     |     |     |     |
| 1440 x 900  | 32 |    | 60 |    |    |    |    |     |     |     |     |     |     |     |     |
| 1600 x 1200 | 32 |    |    | 70 |    |    |    |     |     |     |     |     |     |     |     |
| 1680 x 1050 | 32 |    | 60 |    |    |    |    |     |     |     |     |     |     |     |     |
| 1920 x 1440 | 32 |    | 60 | 70 | 72 | 75 | 85 | 100 |     |     |     |     |     |     |     |
| 2048 x 1536 | 32 |    | 60 | 70 | 72 | 75 | 85 | 100 |     |     |     |     |     |     |     |

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|             |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |
|-------------|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| 640 x 480   | 64 |    | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 | 240 |
| 720 x 480   | 64 |    | 60 |    |    |    |    |     |     |     |     |     |     |     |     |
| 720 x 576   | 64 | 50 | 60 |    |    |    |    |     |     |     |     |     |     |     |     |
| 800 x 600   | 64 |    | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 | 240 |
| 848 x 480   | 64 |    | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 | 240 |
| 960 x 600   | 64 |    | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 | 240 |
| 1024 x 768  | 64 |    |    | 70 |    |    |    |     |     |     |     |     |     |     |     |
| 1152 x 864  | 64 |    | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 |     |
| 1280 x 768  | 64 |    | 60 | 70 | 72 | 75 | 85 | 100 | 120 | 140 | 144 | 150 | 170 | 200 |     |
| 1280 x 1024 | 64 |    |    | 70 |    |    |    |     |     |     |     |     |     |     |     |
| 1440 x 900  | 64 |    | 60 |    |    |    |    |     |     |     |     |     |     |     |     |
| 1600 x 1200 | 64 |    |    | 70 |    |    |    |     |     |     |     |     |     |     |     |

|             |    |    |     |
|-------------|----|----|-----|
| 1680 x 1050 | 64 | 60 |     |
| 1920 x 1440 | 64 |    | 100 |
| 2048 x 1536 | 64 |    | 100 |

**NVIDIA Quadro CX GPUs** This section lists the supported display resolutions, color depths, and refresh rates for the following products:

- NVIDIA Quadro CX

## Standard Modes

|             |   |                 |  |
|-------------|---|-----------------|--|
| 640 x 480   | 8 | 60              |  |
| 800 x 600   | 8 | 60 70 75 85 100 |  |
| 848 x 480   | 8 | 60 70 75 85 100 |  |
| 960 x 600   | 8 | 60 70 75 85 100 |  |
| 1024 x 768  | 8 | 60 70 75 85 100 |  |
| 1152 x 864  | 8 | 60 70 75 85 100 |  |
| 1280 x 768  | 8 | 60              |  |
| 1280 x 800  | 8 | 60              |  |
| 1280 x 960  | 8 | 60 70 75 85 100 |  |
| 1280 x 1024 | 8 | 60 70 75 85 100 |  |
| 1360 x 768  | 8 | 60              |  |
| 1600 x 1200 | 8 | 60 70 75 85 100 |  |
| 1680 x 1050 | 8 | 60              |  |
| 1920 x 1200 | 8 | 60              |  |
| 1920 x 1440 | 8 | 60 70 75 85 100 |  |
| 2048 x 1536 | 8 | 60 70 75 85 100 |  |

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|             |    |                 |  |
|-------------|----|-----------------|--|
| 640 x 480   | 16 | 60              |  |
| 800 x 600   | 16 | 60 70 75 85 100 |  |
| 848 x 480   | 16 | 60 70 75 85 100 |  |
| 960 x 600   | 16 | 60 70 75 85 100 |  |
| 1024 x 768  | 16 | 60 70 75 85 100 |  |
| 1152 x 864  | 16 | 60 70 75 85 100 |  |
| 1280 x 768  | 16 | 60              |  |
| 1280 x 800  | 16 | 60              |  |
| 1280 x 960  | 16 | 60 70 75 85 100 |  |
| 1280 x 1024 | 16 | 60 70 75 85 100 |  |
| 1360 x 768  | 16 | 60              |  |

|             |    |    |    |    |    |     |
|-------------|----|----|----|----|----|-----|
| 1600 x 1200 | 16 | 60 | 70 | 75 | 85 | 100 |
| 1680 x 1050 | 16 | 60 |    |    |    |     |
| 1920 x 1200 | 16 | 60 |    |    |    |     |
| 1920 x 1440 | 16 | 60 | 70 | 75 | 85 | 100 |
| 2048 x 1536 | 16 | 60 | 70 | 75 | 85 | 100 |

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|             |    |    |    |    |    |     |
|-------------|----|----|----|----|----|-----|
| 640 x 480   | 32 | 60 |    |    |    |     |
| 800 x 600   | 32 | 60 | 70 | 75 | 85 | 100 |
| 848 x 480   | 32 | 60 | 70 | 75 | 85 | 100 |
| 960 x 600   | 32 | 60 | 70 | 75 | 85 | 100 |
| 1024 x 768  | 32 | 60 | 70 | 75 | 85 | 100 |
| 1152 x 864  | 32 | 60 | 70 | 75 | 85 | 100 |
| 1280 x 768  | 32 | 60 |    |    |    |     |
| 1280 x 800  | 32 | 60 |    |    |    |     |
| 1280 x 960  | 32 | 60 | 70 | 75 | 85 | 100 |
| 1280 x 1024 | 32 | 60 | 70 | 75 | 85 | 100 |
| 1360 x 768  | 32 | 60 |    |    |    |     |
| 1600 x 1200 | 32 | 60 | 70 | 75 | 85 | 100 |
| 1680 x 1050 | 32 | 60 |    |    |    |     |
| 1920 x 1200 | 32 | 60 |    |    |    |     |
| 1920 x 1440 | 32 | 60 | 70 | 75 | 85 | 100 |
| 2048 x 1536 | 32 | 60 | 70 | 75 | 85 | 100 |

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|             |    |    |    |    |    |     |
|-------------|----|----|----|----|----|-----|
| 640 x 480   | 64 | 60 |    |    |    |     |
| 800 x 600   | 64 | 60 | 70 | 75 | 85 | 100 |
| 848 x 480   | 64 | 60 | 70 | 75 | 85 | 100 |
| 960 x 600   | 64 | 60 | 70 | 75 | 85 | 100 |
| 1024 x 768  | 64 | 60 | 70 | 75 | 85 | 100 |
| 1152 x 864  | 64 | 60 | 70 | 75 | 85 | 100 |
| 1280 x 768  | 64 | 60 |    |    |    |     |
| 1280 x 800  | 64 | 60 |    |    |    |     |
| 1280 x 960  | 64 | 60 | 70 | 75 | 85 | 100 |
| 1280 x 1024 | 64 | 60 | 70 | 75 | 85 | 100 |
| 1360 x 768  | 64 | 60 |    |    |    |     |
| 1600 x 1200 | 64 | 60 | 70 | 75 | 85 | 100 |
| 1680 x 1050 | 64 | 60 |    |    |    |     |
| 1920 x 1200 | 64 | 60 |    |    |    |     |
| 1920 x 1440 | 64 | 60 | 70 | 75 | 85 | 100 |
| 2048 x 1536 | 64 | 60 | 70 | 75 | 85 | 100 |

[nv\_SoftwareDeviceSettings\_G7x]

**NVIDIA Quadro FX 5500/4500/3500/560/350**

**Family of GPUs**This sections lists the supported display resolutions, color depths, and refresh rates for the following products:

- NVIDIA Quadro FX 4500
- NVIDIA Quadro FX 350
- NVIDIA Quadro FX 5500
- NVIDIA Quadro FX 3500
- NVIDIA Quadro FX 1500
- NVIDIA Quadro FX 4500 X2
- NVIDIA Quadro FX 560

**Standard Modes**

|             |    |       |  |
|-------------|----|-------|--|
| 640 x 480   | 8  |       | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 720 x 480   | 8  |       | 60   |
| 720 x 576   | 8  | 50 60 |  |
| 800 x 600   | 8  |       | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 480   | 8  |       | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 600   | 8  |       | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 768  | 8  |       | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1152 x 864  | 8  |       | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 720  | 8  |       | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 768  | 8  |       | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1024 | 8  |       | 70   |
| 1440 x 900  | 8  |       | 60   |
| 1600 x 1200 | 8  |       | 70   |
| 1680 x 1050 | 8  |       | 60   |
| 1920 x 1200 | 8  |       | 60 70 72 75 85 100                             |
| 1920 x 1440 | 8  |       | 60 70 72 75 85 100                             |
| 2048 x 1536 | 8  |       | 60 70 72 75 85 100                             |
| -----       |    |       |  |
| 640 x 480   | 16 |       | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 720 x 480   | 16 |       | 60   |
| 720 x 576   | 16 | 50 60 |  |
| 800 x 600   | 16 |       | 60 70 72 75 85 100 120 140 144 150 170 200 240 |

|             |    |  |
|-------------|----|--|
| 848 x 480   | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 600   | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 768  | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1152 x 864  | 16 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 720  | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 768  | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1024 | 16 | 70   |
| 1440 x 900  | 16 | 60   |
| 1600 x 1200 | 16 | 70   |
| 1680 x 1050 | 16 | 60   |
| 1920 x 1200 | 16 | 60 70 72 75 85 100                             |
| 1920 x 1440 | 16 | 60 70 72 75 85 100                             |
| 2048 x 1536 | 16 | 60 70 72 75 85 100                             |

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|             |    |  |
|-------------|----|--|
| 640 x 480   | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 720 x 480   | 32 | 60   |
| 720 x 576   | 32 | 50 60  |
| 800 x 600   | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 480   | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 600   | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 768  | 32 | 70   |
| 1152 x 864  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 768  | 32 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1024 | 32 | 70   |
| 1440 x 900  | 32 | 60   |
| 1600 x 1200 | 32 | 70   |
| 1680 x 1050 | 32 | 60   |
| 1920 x 1200 | 32 | 60 70 72 75 85 100                             |
| 1920 x 1440 | 32 | 60 70 72 75 85 100                             |
| 2048 x 1536 | 32 | 60 70 72 75 85 100                             |

# Default Modes Supported by GPU for Windows Server 2003

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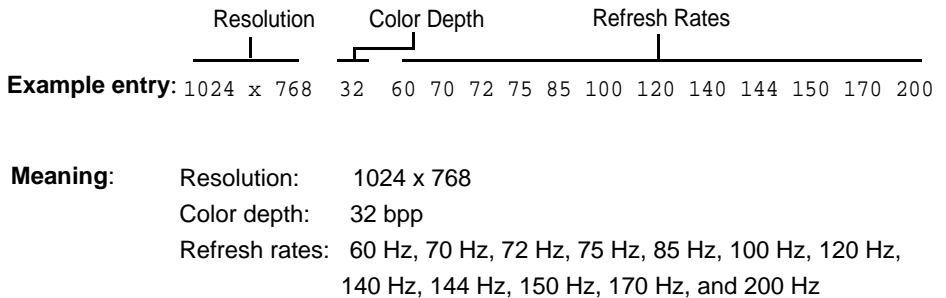
This section lists the modes that are included by default in the driver INF for the following product families:

- “NVIDIA Quadro FX 4400/4000/1400/550/540 and NVS 440/285 Family of GPUs This sections lists the supported display resolutions, color depths, and refresh rates for the following products:” on page 26
- “NVIDIA Quadro FX 5600/4600/1700/570/370 and NVS 290 Family of GPUs” on page 43
- “NVIDIA Quadro FX 5500/4500/3500/560/350 Family of GPUs This sections lists the supported display resolutions, color depths, and refresh rates for the following products:” on page 34
- “NVIDIA Quadro CX GPUs” on page 54

## Understanding the Mode Format

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Figure A.2 gives an example of how to read the mode information presented in this section.



**Figure A.2** Mode Format

**Note:**

- Horizontal spanning modes of 3840x1080 and above, and vertical spanning modes of 1920x2160 and above generally require at least 32 MB of video memory at 32 bpp.
- An “i” next to the refresh rate indicates an interlaced refresh rate.

## NVIDIA Quadro FX 4400/4000/3700/1400/550/ 540/470 and NVS 440/285 Family of GPUs

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This sections lists the supported display resolutions, color depths, and refresh rates for the following products:

- NVIDIA Quadro FX 3400/4400
- NVIDIA Quadro FX 4000
- NVIDIA Quadro FX 3450/4000 SDI
- NVIDIA Quadro FX 1400
- NVIDIA Quadro NVS 440
- NVIDIA Quadro FX 550
- NVIDIA Quadro FX 540
- NVIDIA Quadro NVS 285
- NVIDIA Quadro NVS 210S
- NVIDIA Quadro FX 4700 X2
- NVIDIA Quadro FX 3700
- NVIDIA Quadro FX 470

### Standard Modes

|             |   |  |
|-------------|---|--|
| 640 x 480   | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 720 x 480   | 8 | 60   |
| 720 x 576   | 8 | 50 60  |
| 800 x 600   | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 480   | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 600   | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 768  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1152 x 864  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 720  | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 768  | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 800  | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 960  | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1024 | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1360 x 768  | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1440 x 900  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1600 x 900  | 8 | 60 70 72 75 85 100 120                         |

APPENDIX A: Mode Support for Windows    Default Modes Supported by GPU for Windows

|             |    |    |  |
|-------------|----|----|--|
| 1600 x 1200 | 8  |    | 60 70 72 75 85 100 120                         |
| 1680 x 1050 | 8  |    | 60   |
| 1920 x 1200 | 8  |    | 60 70 72 75 85 100                             |
| 1920 x 1440 | 8  |    | 60 70 72 75 85                                 |
| 2048 x 1536 | 8  |    | 60 70 72 75 85                                 |
| -----       |    |    |  |
| 640 x 480   | 16 |    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 720 x 480   | 16 |    | 60   |
| 720 x 576   | 16 | 50 | 60   |
| 800 x 600   | 16 |    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 480   | 16 |    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 600   | 16 |    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 768  | 16 |    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1152 x 864  | 16 |    | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 720  | 16 |    | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 768  | 16 |    | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 800  | 16 |    | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 960  | 16 |    | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1024 | 16 |    | 60 70 72 75 85 100 120 140 144 150 170         |
| 1360 x 768  | 16 |    | 60 70 72 75 85 100 120 140 144 150 170         |
| 1440 x 900  | 16 |    | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1600 x 900  | 16 |    | 60 70 72 75 85 100 120                         |
| 1600 x 1200 | 16 |    | 60 70 72 75 85 100 120                         |
| 1680 x 1050 | 16 |    | 60   |
| 1920 x 1200 | 16 |    | 60 70 72 75 85 100                             |
| 1920 x 1440 | 16 |    | 60 70 72 75 85                                 |
| 2048 x 1536 | 16 |    | 60 70 72 75 85                                 |
| -----       |    |    |  |
| 640 x 480   | 32 |    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 720 x 480   | 32 |    | 60   |
| 720 x 576   | 32 | 50 | 60   |
| 800 x 600   | 32 |    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 480   | 32 |    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 600   | 32 |    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 768  | 32 |    | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1152 x 864  | 32 |    | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 720  | 32 |    | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 768  | 32 |    | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 800  | 32 |    | 60 70 72 75 85 100 120 140 144 150             |

|             |    |  |
|-------------|----|--|
| 1280 x 960  | 32 | 60 70 72 75 85 100 120 140 144 150         |
| 1280 x 1024 | 32 | 60 70 72 75 85 100 120 140 144 150         |
| 1360 x 768  | 32 | 60 70 72 75 85 100 120 140 144 150         |
| 1440 x 900  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 |
| 1600 x 900  | 32 | 60 70 72 75 85 100                         |
| 1600 x 1200 | 32 | 60 70 72 75 85 100                         |
| 1680 x 1050 | 32 | 60   |
| 1920 x 1200 | 32 | 60 70 72 75 85                             |
| 1920 x 1440 | 32 | 60 70 72 75 85                             |
| 2048 x 1536 | 32 | 60 70 72 75 85                             |

## Horizontal Spanning Modes

|             |   |  |
|-------------|---|--|
| 1280 x 480  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1600 x 600  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1696 x 480  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1920 x 600  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 2048 x 768  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 2304 x 864  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 2560 x 720  | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 2560 x 768  | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 2560 x 800  | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 2560 x 960  | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 2560 x 1024 | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 2720 x 768  | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 2880 x 900  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 3200 x 900  | 8 | 60 70 72 75 85 100 120                         |
| 3200 x 1200 | 8 | 60 70 72 75 85 100 120                         |
| 3360 x 1050 | 8 | 60   |
| 3840 x 1200 | 8 | 60 70 72 75 85 100                             |
| 3840 x 1440 | 8 | 60 70 72 75 85                                 |
| 4096 x 1536 | 8 | 60 70 72 75 85                                 |

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|            |    |  |
|------------|----|--|
| 1280 x 480 | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1600 x 600 | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1696 x 480 | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1920 x 600 | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 2048 x 768 | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |

|             |    |  |
|-------------|----|--|
| 2304 x 864  | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 |
| 2560 x 720  | 16 | 60 70 72 75 85 100 120 140 144 150 170     |
| 2560 x 768  | 16 | 60 70 72 75 85 100 120 140 144 150 170     |
| 2560 x 800  | 16 | 60 70 72 75 85 100 120 140 144 150 170     |
| 2560 x 960  | 16 | 60 70 72 75 85 100 120 140 144 150 170     |
| 2560 x 1024 | 16 | 60 70 72 75 85 100 120 140 144 150 170     |
| 2720 x 768  | 16 | 60 70 72 75 85 100 120 140 144 150 170     |
| 2880 x 900  | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 |
| 3200 x 900  | 16 | 60 70 72 75 85 100 120                     |
| 3200 x 1200 | 16 | 60 70 72 75 85 100 120                     |
| 3360 x 1050 | 16 | 60   |
| 3840 x 1200 | 16 | 60 70 72 75 85 100                         |
| 3840 x 1440 | 16 | 60 70 72 75 85                             |
| 4096 x 1536 | 16 | 60 70 72 75 85                             |

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|             |    |  |
|-------------|----|--|
| 1280 x 480  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1600 x 600  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1696 x 480  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1920 x 600  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 2048 x 768  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 2304 x 864  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 2560 x 720  | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 2560 x 768  | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 2560 x 800  | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 2560 x 960  | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 2560 x 1024 | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 2720 x 768  | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 2880 x 900  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 3200 x 900  | 32 | 60 70 72 75 85 100                             |
| 3200 x 1200 | 32 | 60 70 72 75 85 100                             |
| 3360 x 1050 | 32 | 60   |
| 3840 x 1200 | 32 | 60 70 72 75 85                                 |
| 3840 x 1440 | 32 | 60 70 72 75 85                                 |
| 4096 x 1536 | 32 | 60 70 72 75 85                                 |

### Vertical Spanning Modes

|           |   |  |
|-----------|---|--|
| 640 x 960 | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
|-----------|---|--|

|             |   |  |
|-------------|---|--|
| 800 x 1200  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 960   | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 1200  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 1536 | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1152 x 1728 | 8 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 1440 | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1536 | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1600 | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1920 | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 2048 | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1360 x 1536 | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1440 x 1800 | 8 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1600 x 1800 | 8 | 60 70 72 75 85 100 120                         |
| 1600 x 2400 | 8 | 60 70 72 75 85 100 120                         |
| 1680 x 2100 | 8 | 60   |
| 1920 x 2400 | 8 | 60 70 72 75 85 100                             |
| 1920 x 2880 | 8 | 60 70 72 75 85                                 |
| 2048 x 3072 | 8 | 60 70 72 75 85                                 |

-----

|             |    |  |
|-------------|----|--|
| 640 x 960   | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 800 x 1200  | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 960   | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 1200  | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 1536 | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1152 x 1728 | 16 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 1440 | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1536 | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1600 | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1920 | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 2048 | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1360 x 1536 | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1440 x 1800 | 16 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1600 x 1800 | 16 | 60 70 72 75 85 100 120                         |
| 1600 x 2400 | 16 | 60 70 72 75 85 100 120                         |
| 1680 x 2100 | 16 | 60   |
| 1920 x 2400 | 16 | 60 70 72 75 85 100                             |
| 1920 x 2880 | 16 | 60 70 72 75 85                                 |
| 2048 x 3072 | 16 | 60 70 72 75 85                                 |

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APPENDIX A: Mode Support for Windows    Default Modes Supported by GPU for Windows

|             |    |  |
|-------------|----|--|
| 640 x 960   | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 800 x 1200  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 960   | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 1200  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 1536 | 32 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1152 x 1728 | 32 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 1440 | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 1536 | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 1600 | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 1920 | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 2048 | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 1360 x 1536 | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 1440 x 1800 | 32 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1600 x 1800 | 32 | 60 70 72 75 85 100                             |
| 1600 x 2400 | 32 | 60 70 72 75 85 100                             |
| 1680 x 2100 | 32 | 60   |
| 1920 x 2400 | 32 | 60 70 72 75 85                                 |
| 1920 x 2880 | 32 | 60 70 72 75 85                                 |
| 2048 x 3072 | 32 | 60 70 72 75 85                                 |

## NVIDIA Quadro FX 5600/4600/1700/570/370 and NVS 290 Family of GPUs

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This sections lists the supported display resolutions, color depths, and refresh rates for the following products:

- NVIDIA Quadro FX 5600
- NVIDIA Quadro FX 4600
- NVIDIA Quadro FX 370
- NVIDIA Quadro FX 570
- NVIDIA Quadro FX 1700
- NVIDIA Quadro NVS 290

### Standard Modes

|             |    |  |
|-------------|----|--|
| 640 x 480   | 8  | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 720 x 480   | 8  | 60   |
| 720 x 576   | 8  | 50 60  |
| 800 x 600   | 8  | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 480   | 8  | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 600   | 8  | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 768  | 8  | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1152 x 864  | 8  | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 720  | 8  | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 768  | 8  | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 800  | 8  | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 960  | 8  | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1024 | 8  | 60 70 72 75 85 100 120 140 144 150 170         |
| 1360 x 768  | 8  | 60 70 72 75 85 100 120 140 144 150 170         |
| 1440 x 900  | 8  | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1600 x 900  | 8  | 60 70 72 75 85 100 120                         |
| 1600 x 1200 | 8  | 60 70 72 75 85 100 120                         |
| 1680 x 1050 | 8  | 60   |
| 1920 x 1200 | 8  | 60 70 72 75 85 100                             |
| 1920 x 1440 | 8  | 60 70 72 75 85                                 |
| 2048 x 1536 | 8  | 60 70 72 75 85                                 |
| -----       |    |  |
| 640 x 480   | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 720 x 480   | 16 | 60   |

```

720 x 576 16 50 60
800 x 600 16 60 70 72 75 85 100 120 140 144 150 170 200 240
848 x 480 16 60 70 72 75 85 100 120 140 144 150 170 200 240
960 x 600 16 60 70 72 75 85 100 120 140 144 150 170 200 240
1024 x 768 16 60 70 72 75 85 100 120 140 144 150 170 200 240
1152 x 864 16 60 70 72 75 85 100 120 140 144 150 170 200
1280 x 720 16 60 70 72 75 85 100 120 140 144 150 170
1280 x 768 16 60 70 72 75 85 100 120 140 144 150 170
1280 x 800 16 60 70 72 75 85 100 120 140 144 150 170
1280 x 960 16 60 70 72 75 85 100 120 140 144 150 170
1280 x 1024 16 60 70 72 75 85 100 120 140 144 150 170
1360 x 768 16 60 70 72 75 85 100 120 140 144 150 170
1440 x 900 16 60 70 72 75 85 100 120 140 144 150 170 200
1600 x 900 16 60 70 72 75 85 100 120
1600 x 1200 16 60 70 72 75 85 100 120
1680 x 1050 16 60
1920 x 1200 16 60 70 72 75 85 100
1920 x 1440 16 60 70 72 75 85
2048 x 1536 16 60 70 72 75 85

```

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-----
640 x 480 32 60 70 72 75 85 100 120 140 144 150 170 200 240
720 x 480 32 60
720 x 576 32 50 60
800 x 600 32 60 70 72 75 85 100 120 140 144 150 170 200 240
848 x 480 32 60 70 72 75 85 100 120 140 144 150 170 200 240
960 x 600 32 60 70 72 75 85 100 120 140 144 150 170 200 240
1024 x 768 32 60 70 72 75 85 100 120 140 144 150 170 200
1152 x 864 32 60 70 72 75 85 100 120 140 144 150 170 200
1280 x 720 32 60 70 72 75 85 100 120 140 144 150
1280 x 768 32 60 70 72 75 85 100 120 140 144 150
1280 x 800 32 60 70 72 75 85 100 120 140 144 150
1280 x 960 32 60 70 72 75 85 100 120 140 144 150
1280 x 1024 32 60 70 72 75 85 100 120 140 144 150
1360 x 768 32 60 70 72 75 85 100 120 140 144 150
1440 x 900 32 60 70 72 75 85 100 120 140 144 150 170 200
1600 x 900 32 60 70 72 75 85 100
1600 x 1200 32 60 70 72 75 85 100
1680 x 1050 32 60
1920 x 1200 32 60 70 72 75 85

```

```
1920 x 1440 32      60 70 72 75 85
2048 x 1536 32      60 70 72 75 85
```

## Horizontal Spanning Modes

```
1280 x 480 8      60 70 72 75 85 100 120 140 144 150 170 200 240
1600 x 600 8      60 70 72 75 85 100 120 140 144 150 170 200 240
1696 x 480 8      60 70 72 75 85 100 120 140 144 150 170 200 240
1920 x 600 8      60 70 72 75 85 100 120 140 144 150 170 200 240
2048 x 768 8      60 70 72 75 85 100 120 140 144 150 170 200 240
2304 x 864 8      60 70 72 75 85 100 120 140 144 150 170 200
2560 x 720 8      60 70 72 75 85 100 120 140 144 150 170
2560 x 768 8      60 70 72 75 85 100 120 140 144 150 170
2560 x 800 8      60 70 72 75 85 100 120 140 144 150 170
2560 x 960 8      60 70 72 75 85 100 120 140 144 150 170
2560 x 1024 8     60 70 72 75 85 100 120 140 144 150 170
2720 x 768 8      60 70 72 75 85 100 120 140 144 150 170
2880 x 900 8      60 70 72 75 85 100 120 140 144 150 170 200
3200 x 900 8      60 70 72 75 85 100 120
3200 x 1200 8     60 70 72 75 85 100 120
3360 x 1050 8     60
3840 x 1200 8     60 70 72 75 85 100
3840 x 1440 8     60 70 72 75 85
4096 x 1536 8     60 70 72 75 85
```

```
-----
1280 x 480 16     60 70 72 75 85 100 120 140 144 150 170 200 240
1600 x 600 16     60 70 72 75 85 100 120 140 144 150 170 200 240
1696 x 480 16     60 70 72 75 85 100 120 140 144 150 170 200 240
1920 x 600 16     60 70 72 75 85 100 120 140 144 150 170 200 240
2048 x 768 16     60 70 72 75 85 100 120 140 144 150 170 200 240
2304 x 864 16     60 70 72 75 85 100 120 140 144 150 170 200
2560 x 720 16     60 70 72 75 85 100 120 140 144 150 170
2560 x 768 16     60 70 72 75 85 100 120 140 144 150 170
2560 x 800 16     60 70 72 75 85 100 120 140 144 150 170
2560 x 960 16     60 70 72 75 85 100 120 140 144 150 170
2560 x 1024 16    60 70 72 75 85 100 120 140 144 150 170
2720 x 768 16     60 70 72 75 85 100 120 140 144 150 170
2880 x 900 16     60 70 72 75 85 100 120 140 144 150 170 200
```

|             |    |  |
|-------------|----|--|
| 3200 x 900  | 16 | 60 70 72 75 85 100 120                         |
| 3200 x 1200 | 16 | 60 70 72 75 85 100 120                         |
| 3360 x 1050 | 16 | 60   |
| 3840 x 1200 | 16 | 60 70 72 75 85 100                             |
| 3840 x 1440 | 16 | 60 70 72 75 85                                 |
| 4096 x 1536 | 16 | 60 70 72 75 85                                 |
| -----       |    |  |
| 1280 x 480  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1600 x 600  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1696 x 480  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1920 x 600  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 2048 x 768  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 2304 x 864  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 2560 x 720  | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 2560 x 768  | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 2560 x 800  | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 2560 x 960  | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 2560 x 1024 | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 2720 x 768  | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 2880 x 900  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 3200 x 900  | 32 | 60 70 72 75 85 100                             |
| 3200 x 1200 | 32 | 60 70 72 75 85 100                             |
| 3360 x 1050 | 32 | 60   |
| 3840 x 1200 | 32 | 60 70 72 75 85                                 |
| 3840 x 1440 | 32 | 60 70 72 75 85                                 |
| 4096 x 1536 | 32 | 60 70 72 75 85                                 |

### Vertical Spanning Modes

|             |   |  |
|-------------|---|--|
| 640 x 960   | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 800 x 1200  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 960   | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 1200  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 1536 | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1152 x 1728 | 8 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 1440 | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1536 | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1600 | 8 | 60 70 72 75 85 100 120 140 144 150 170         |

|             |   |  |
|-------------|---|--|
| 1280 x 1920 | 8 | 60 70 72 75 85 100 120 140 144 150 170     |
| 1280 x 2048 | 8 | 60 70 72 75 85 100 120 140 144 150 170     |
| 1360 x 1536 | 8 | 60 70 72 75 85 100 120 140 144 150 170     |
| 1440 x 1800 | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 |
| 1600 x 1800 | 8 | 60 70 72 75 85 100 120                     |
| 1600 x 2400 | 8 | 60 70 72 75 85 100 120                     |
| 1680 x 2100 | 8 | 60   |
| 1920 x 2400 | 8 | 60 70 72 75 85 100                         |
| 1920 x 2880 | 8 | 60 70 72 75 85                             |
| 2048 x 3072 | 8 | 60 70 72 75 85                             |

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|             |    |  |
|-------------|----|--|
| 640 x 960   | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 800 x 1200  | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 960   | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 1200  | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 1536 | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1152 x 1728 | 16 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 1440 | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1536 | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1600 | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1920 | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 2048 | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1360 x 1536 | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1440 x 1800 | 16 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1600 x 1800 | 16 | 60 70 72 75 85 100 120                         |
| 1600 x 2400 | 16 | 60 70 72 75 85 100 120                         |
| 1680 x 2100 | 16 | 60   |
| 1920 x 2400 | 16 | 60 70 72 75 85 100                             |
| 1920 x 2880 | 16 | 60 70 72 75 85                                 |
| 2048 x 3072 | 16 | 60 70 72 75 85                                 |

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|             |    |  |
|-------------|----|--|
| 640 x 960   | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 800 x 1200  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 960   | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 1200  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 1536 | 32 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1152 x 1728 | 32 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 1440 | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 1536 | 32 | 60 70 72 75 85 100 120 140 144 150             |

|             |    |  |
|-------------|----|--|
| 1280 x 1600 | 32 | 60 70 72 75 85 100 120 140 144 150         |
| 1280 x 1920 | 32 | 60 70 72 75 85 100 120 140 144 150         |
| 1280 x 2048 | 32 | 60 70 72 75 85 100 120 140 144 150         |
| 1360 x 1536 | 32 | 60 70 72 75 85 100 120 140 144 150         |
| 1440 x 1800 | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 |
| 1600 x 1800 | 32 | 60 70 72 75 85 100                         |
| 1600 x 2400 | 32 | 60 70 72 75 85 100                         |
| 1680 x 2100 | 32 | 60   |
| 1920 x 2400 | 32 | 60 70 72 75 85                             |
| 1920 x 2880 | 32 | 60 70 72 75 85                             |
| 2048 x 3072 | 32 | 60 70 72 75 85                             |

## NVIDIA Quadro FX 5500/4500/3500/1500/560/350 Family of GPUs

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This sections lists the supported display resolutions, color depths, and refresh rates for the following products:

- NVIDIA Quadro FX 4500
- NVIDIA Quadro FX 350
- NVIDIA Quadro FX 5500
- NVIDIA Quadro FX 3500
- NVIDIA Quadro FX 1500
- NVIDIA Quadro FX 4500 X2
- NVIDIA Quadro FX 560

### Standard Modes

|            |      |  |
|------------|------|--|
| 640 x 480  | 8    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 720 x 480  | 8    | 60   |
| 720 x 576  | 8 50 | 60   |
| 800 x 600  | 8    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 480  | 8    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 600  | 8    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 768 | 8    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1152 x 864 | 8    | 60 70 72 75 85 100 120 140 144 150 170 200     |

|             |   |  |
|-------------|---|--|
| 1280 x 720  | 8 | 60 70 72 75 85 100 120 140 144 150 170     |
| 1280 x 768  | 8 | 60 70 72 75 85 100 120 140 144 150 170     |
| 1280 x 800  | 8 | 60 70 72 75 85 100 120 140 144 150 170     |
| 1280 x 960  | 8 | 60 70 72 75 85 100 120 140 144 150 170     |
| 1280 x 1024 | 8 | 60 70 72 75 85 100 120 140 144 150 170     |
| 1360 x 768  | 8 | 60 70 72 75 85 100 120 140 144 150 170     |
| 1440 x 900  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 |
| 1600 x 900  | 8 | 60 70 72 75 85 100 120                     |
| 1600 x 1200 | 8 | 60 70 72 75 85 100 120                     |
| 1680 x 1050 | 8 | 60   |
| 1920 x 1200 | 8 | 60 70 72 75 85 100                         |
| 1920 x 1440 | 8 | 60 70 72 75 85                             |
| 2048 x 1536 | 8 | 60 70 72 75 85                             |

-----

|             |    |  |
|-------------|----|--|
| 640 x 480   | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 720 x 480   | 16 | 60   |
| 720 x 576   | 16 | 50 60  |
| 800 x 600   | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 480   | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 600   | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 768  | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1152 x 864  | 16 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 720  | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 768  | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 800  | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 960  | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1024 | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1360 x 768  | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1440 x 900  | 16 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1600 x 900  | 16 | 60 70 72 75 85 100 120                         |
| 1600 x 1200 | 16 | 60 70 72 75 85 100 120                         |
| 1680 x 1050 | 16 | 60   |
| 1920 x 1200 | 16 | 60 70 72 75 85 100                             |
| 1920 x 1440 | 16 | 60 70 72 75 85                                 |
| 2048 x 1536 | 16 | 60 70 72 75 85                                 |

-----

|           |    |  |
|-----------|----|--|
| 640 x 480 | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 720 x 480 | 32 | 60   |
| 720 x 576 | 32 | 50 60  |

|             |    |  |
|-------------|----|--|
| 800 x 600   | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 480   | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 600   | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 768  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1152 x 864  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 720  | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 768  | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 800  | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 960  | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 1024 | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 1360 x 768  | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 1440 x 900  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1600 x 900  | 32 | 60 70 72 75 85 100                             |
| 1600 x 1200 | 32 | 60 70 72 75 85 100                             |
| 1680 x 1050 | 32 | 60   |
| 1920 x 1200 | 32 | 60 70 72 75 85                                 |
| 1920 x 1440 | 32 | 60 70 72 75 85                                 |
| 2048 x 1536 | 32 | 60 70 72 75 85                                 |

### Horizontal Spanning Modes

|             |   |  |
|-------------|---|--|
| 1280 x 480  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1600 x 600  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1696 x 480  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1920 x 600  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 2048 x 768  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 2304 x 864  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 2560 x 720  | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 2560 x 768  | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 2560 x 800  | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 2560 x 960  | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 2560 x 1024 | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 2720 x 768  | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 2880 x 900  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 3200 x 900  | 8 | 60 70 72 75 85 100 120                         |
| 3200 x 1200 | 8 | 60 70 72 75 85 100 120                         |
| 3360 x 1050 | 8 | 60   |
| 3840 x 1200 | 8 | 60 70 72 75 85 100                             |

|             |    |  |
|-------------|----|--|
| 3840 x 1440 | 8  | 60 70 72 75 85                                 |
| 4096 x 1536 | 8  | 60 70 72 75 85                                 |
| -----       |    |  |
| 1280 x 480  | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1600 x 600  | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1696 x 480  | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1920 x 600  | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 2048 x 768  | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 2304 x 864  | 16 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 2560 x 720  | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 2560 x 768  | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 2560 x 800  | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 2560 x 960  | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 2560 x 1024 | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 2720 x 768  | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 2880 x 900  | 16 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 3200 x 900  | 16 | 60 70 72 75 85 100 120                         |
| 3200 x 1200 | 16 | 60 70 72 75 85 100 120                         |
| 3360 x 1050 | 16 | 60   |
| 3840 x 1200 | 16 | 60 70 72 75 85 100                             |
| 3840 x 1440 | 16 | 60 70 72 75 85                                 |
| 4096 x 1536 | 16 | 60 70 72 75 85                                 |
| -----       |    |  |
| 1280 x 480  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1600 x 600  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1696 x 480  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1920 x 600  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 2048 x 768  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 2304 x 864  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 2560 x 720  | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 2560 x 768  | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 2560 x 800  | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 2560 x 960  | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 2560 x 1024 | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 2720 x 768  | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 2880 x 900  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 3200 x 900  | 32 | 60 70 72 75 85 100                             |
| 3200 x 1200 | 32 | 60 70 72 75 85 100                             |
| 3360 x 1050 | 32 | 60   |

|             |    |                |
|-------------|----|----------------|
| 3840 x 1200 | 32 | 60 70 72 75 85 |
| 3840 x 1440 | 32 | 60 70 72 75 85 |
| 4096 x 1536 | 32 | 60 70 72 75 85 |

### Vertical Spanning Modes

|             |   |  |
|-------------|---|--|
| 640 x 960   | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 800 x 1200  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 960   | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 1200  | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 1536 | 8 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1152 x 1728 | 8 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 1440 | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1536 | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1600 | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1920 | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 2048 | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1360 x 1536 | 8 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1440 x 1800 | 8 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1600 x 1800 | 8 | 60 70 72 75 85 100 120                         |
| 1600 x 2400 | 8 | 60 70 72 75 85 100 120                         |
| 1680 x 2100 | 8 | 60   |
| 1920 x 2400 | 8 | 60 70 72 75 85 100                             |
| 1920 x 2880 | 8 | 60 70 72 75 85                                 |
| 2048 x 3072 | 8 | 60 70 72 75 85                                 |

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|             |    |  |
|-------------|----|--|
| 640 x 960   | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 800 x 1200  | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 960   | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 1200  | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 1536 | 16 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1152 x 1728 | 16 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 1440 | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1536 | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1600 | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1920 | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 2048 | 16 | 60 70 72 75 85 100 120 140 144 150 170         |
| 1360 x 1536 | 16 | 60 70 72 75 85 100 120 140 144 150 170         |

|             |    |  |
|-------------|----|--|
| 1440 x 1800 | 16 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1600 x 1800 | 16 | 60 70 72 75 85 100 120                         |
| 1600 x 2400 | 16 | 60 70 72 75 85 100 120                         |
| 1680 x 2100 | 16 | 60   |
| 1920 x 2400 | 16 | 60 70 72 75 85 100                             |
| 1920 x 2880 | 16 | 60 70 72 75 85                                 |
| 2048 x 3072 | 16 | 60 70 72 75 85                                 |
| -----       |    |  |
| 640 x 960   | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 800 x 1200  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 960   | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 1200  | 32 | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 1536 | 32 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1152 x 1728 | 32 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 1440 | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 1536 | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 1600 | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 1920 | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 2048 | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 1360 x 1536 | 32 | 60 70 72 75 85 100 120 140 144 150             |
| 1440 x 1800 | 32 | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1600 x 1800 | 32 | 60 70 72 75 85 100                             |
| 1600 x 2400 | 32 | 60 70 72 75 85 100                             |
| 1680 x 2100 | 32 | 60   |
| 1920 x 2400 | 32 | 60 70 72 75 85                                 |
| 1920 x 2880 | 32 | 60 70 72 75 85                                 |
| 2048 x 3072 | 32 | 60 70 72 75 85                                 |

## NVIDIA Quadro CX GPUs

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This sections lists the supported display resolutions, color depths, and refresh rates for the following products:

- NVIDIA Quadro CX

### Standard Modes

|             |    |     |  |
|-------------|----|-----|--|
| 320 x 200   | 8  |     | 60 70 72 75                                    |
| 320 x 240   | 8  |     | 60 70 72 75                                    |
| 400 x 300   | 8  |     | 60 70 72 75                                    |
| 480 x 360   | 8  |     | 60 70 72 75                                    |
| 512 x 384   | 8  |     | 60 70 72 75                                    |
| 640 x 400   | 8  |     | 60 70 72 75                                    |
| 640 x 480   | 8  |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 720 x 480   | 8  |     | 60   |
| 720 x 576   | 8  | 50  | 60   |
| 800 x 600   | 8  |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 480   | 8  |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 600   | 8  |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 768  | 8  |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1088 x 612  | 8  |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1152 x 864  | 8  |     | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 720  | 8  |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 768  | 8  |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 800  | 8  |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 960  | 8  |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1024 | 8  |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1360 x 768  | 8  |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1600 x 900  | 8  |     | 60 70 72 75 85 100 120 140 144 150             |
| 1600 x 1024 | 8  |     | 60 70 72 75 85 100 120                         |
| 1600 x 1200 | 8  |     | 60 70 72 75 85 100 120                         |
| 1680 x 1050 | 8  |     | 60   |
| 1920 x 1080 | 8  | 30i | 60 70 72 75 85 100                             |
| 1920 x 1200 | 8  |     | 60 70 72 75 85 100                             |
| 1920 x 1440 | 8  |     | 60 70 72 75 85                                 |
| 2048 x 1536 | 8  |     | 60 70 72 75 85                                 |
| -----       |    |     |  |
| 320 x 200   | 16 |     | 60 70 72 75                                    |
| 320 x 240   | 16 |     | 60 70 72 75                                    |

|             |    |     |  |
|-------------|----|-----|--|
| 400 x 300   | 16 |     | 60 70 72 75                                    |
| 480 x 360   | 16 |     | 60 70 72 75                                    |
| 512 x 384   | 16 |     | 60 70 72 75                                    |
| 640 x 400   | 16 |     | 60 70 72 75                                    |
| 640 x 480   | 16 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 720 x 480   | 16 |     | 60   |
| 720 x 576   | 16 | 50  | 60   |
| 800 x 600   | 16 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 480   | 16 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 600   | 16 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 768  | 16 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1088 x 612  | 16 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1152 x 864  | 16 |     | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 720  | 16 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 768  | 16 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 800  | 16 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 960  | 16 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1024 | 16 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1360 x 768  | 16 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1600 x 900  | 16 |     | 60 70 72 75 85 100 120 140 144 150             |
| 1600 x 1024 | 16 |     | 60 70 72 75 85 100 120                         |
| 1600 x 1200 | 16 |     | 60 70 72 75 85 100 120                         |
| 1680 x 1050 | 16 |     | 60   |
| 1920 x 1080 | 16 | 30i | 60 70 72 75 85 100                             |
| 1920 x 1200 | 16 |     | 60 70 72 75 85 100                             |
| 1920 x 1440 | 16 |     | 60 70 72 75 85                                 |
| 2048 x 1536 | 16 |     | 60 70 72 75 85                                 |

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|           |    |    |  |
|-----------|----|----|--|
| 320 x 200 | 32 |    | 60 70 72 75                                    |
| 320 x 240 | 32 |    | 60 70 72 75                                    |
| 400 x 300 | 32 |    | 60 70 72 75                                    |
| 480 x 360 | 32 |    | 60 70 72 75                                    |
| 512 x 384 | 32 |    | 60 70 72 75                                    |
| 640 x 400 | 32 |    | 60 70 72 75                                    |
| 640 x 480 | 32 |    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 720 x 480 | 32 |    | 60   |
| 720 x 576 | 32 | 50 | 60   |
| 800 x 600 | 32 |    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 480 | 32 |    | 60 70 72 75 85 100 120 140 144 150 170 200 240 |

|             |    |     |  |
|-------------|----|-----|--|
| 960 x 600   | 32 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 768  | 32 |     | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1088 x 612  | 32 |     | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1152 x 864  | 32 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 720  | 32 |     | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 768  | 32 |     | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 800  | 32 |     | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 960  | 32 |     | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 1024 | 32 |     | 60 70 72 75 85 100 120 140 144 150             |
| 1360 x 768  | 32 |     | 60 70 72 75 85 100 120 140 144 150             |
| 1600 x 900  | 32 |     | 60 70 72 75 85 100 120                         |
| 1600 x 1024 | 32 |     | 60 70 72 75 85 100                             |
| 1600 x 1200 | 32 |     | 60 70 72 75 85 100                             |
| 1680 x 1050 | 32 |     | 60   |
| 1920 x 1080 | 32 | 30i | 60 70 72 75 85                                 |
| 1920 x 1200 | 32 |     | 60 70 72 75 85                                 |
| 1920 x 1440 | 32 |     | 60 70 72 75 85                                 |
| 2048 x 1536 | 32 |     | 60 70 72 75 85                                 |

### Horizontal Spanning Modes

|             |   |     |  |
|-------------|---|-----|--|
| 1280 x 480  | 8 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1600 x 600  | 8 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1696 x 480  | 8 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1920 x 600  | 8 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 2048 x 768  | 8 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 2176 x 612  | 8 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 2304 x 864  | 8 |     | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 2560 x 720  | 8 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 2560 x 768  | 8 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 2560 x 800  | 8 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 2560 x 960  | 8 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 2560 x 1024 | 8 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 2720 x 768  | 8 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 3200 x 900  | 8 |     | 60 70 72 75 85 100 120 140 144 150             |
| 3200 x 1024 | 8 |     | 60 70 72 75 85 100 120                         |
| 3200 x 1200 | 8 |     | 60 70 72 75 85 100 120                         |
| 3360 x 1050 | 8 |     | 60   |
| 3840 x 1080 | 8 | 30i | 60 70 72 75 85 100                             |

|             |    |     |  |
|-------------|----|-----|--|
| 3840 x 1200 | 8  |     | 60 70 72 75 85 100                             |
| 3840 x 1440 | 8  |     | 60 70 72 75 85                                 |
| 4096 x 1536 | 8  |     | 60 70 72 75 85                                 |
| -----       |    |     |  |
| 1280 x 480  | 16 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1600 x 600  | 16 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1696 x 480  | 16 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1920 x 600  | 16 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 2048 x 768  | 16 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 2176 x 612  | 16 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 2304 x 864  | 16 |     | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 2560 x 720  | 16 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 2560 x 768  | 16 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 2560 x 800  | 16 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 2560 x 960  | 16 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 2560 x 1024 | 16 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 2720 x 768  | 16 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 3200 x 900  | 16 |     | 60 70 72 75 85 100 120 140 144 150             |
| 3200 x 1024 | 16 |     | 60 70 72 75 85 100 120                         |
| 3200 x 1200 | 16 |     | 60 70 72 75 85 100 120                         |
| 3360 x 1050 | 16 |     | 60   |
| 3840 x 1080 | 16 | 30i | 60 70 72 75 85 100                             |
| 3840 x 1200 | 16 |     | 60 70 72 75 85 100                             |
| 3840 x 1440 | 16 |     | 60 70 72 75 85                                 |
| 4096 x 1536 | 16 |     | 60 70 72 75 85                                 |
| -----       |    |     |  |
| 1280 x 480  | 32 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1600 x 600  | 32 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1696 x 480  | 32 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1920 x 600  | 32 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 2048 x 768  | 32 |     | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 2176 x 612  | 32 |     | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 2304 x 864  | 32 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 2560 x 720  | 32 |     | 60 70 72 75 85 100 120 140 144 150             |
| 2560 x 768  | 32 |     | 60 70 72 75 85 100 120 140 144 150             |
| 2560 x 800  | 32 |     | 60 70 72 75 85 100 120 140 144 150             |
| 2560 x 960  | 32 |     | 60 70 72 75 85 100 120 140 144 150             |
| 2560 x 1024 | 32 |     | 60 70 72 75 85 100 120 140 144 150             |
| 2720 x 768  | 32 |     | 60 70 72 75 85 100 120 140 144 150             |

|             |    |     |                        |
|-------------|----|-----|------------------------|
| 3200 x 900  | 32 |     | 60 70 72 75 85 100 120 |
| 3200 x 1024 | 32 |     | 60 70 72 75 85 100     |
| 3200 x 1200 | 32 |     | 60 70 72 75 85 100     |
| 3360 x 1050 | 32 |     | 60                     |
| 3840 x 1080 | 32 | 30i | 60 70 72 75 85         |
| 3840 x 1200 | 32 |     | 60 70 72 75 85         |
| 3840 x 1440 | 32 |     | 60 70 72 75 85         |
| 4096 x 1536 | 32 |     | 60 70 72 75 85         |

### Vertical Spanning Modes

|             |   |     |  |
|-------------|---|-----|--|
| 640 x 960   | 8 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 800 x 1200  | 8 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 960   | 8 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 1200  | 8 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 1536 | 8 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1088 x 1224 | 8 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1152 x 1728 | 8 |     | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 1440 | 8 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1536 | 8 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1600 | 8 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1920 | 8 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 2048 | 8 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1360 x 1536 | 8 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1600 x 1800 | 8 |     | 60 70 72 75 85 100 120 140 144 150             |
| 1600 x 2048 | 8 |     | 60 70 72 75 85 100 120                         |
| 1600 x 2400 | 8 |     | 60 70 72 75 85 100 120                         |
| 1680 x 2100 | 8 |     | 60   |
| 1920 x 2160 | 8 | 30i | 60 70 72 75 85 100                             |
| 1920 x 2400 | 8 |     | 60 70 72 75 85 100                             |
| 1920 x 2880 | 8 |     | 60 70 72 75 85                                 |
| 2048 x 3072 | 8 |     | 60 70 72 75 85                                 |

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|             |    |  |  |
|-------------|----|--|--|
| 640 x 960   | 16 |  | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 800 x 1200  | 16 |  | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 960   | 16 |  | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 1200  | 16 |  | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 1536 | 16 |  | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1088 x 1224 | 16 |  | 60 70 72 75 85 100 120 140 144 150 170 200 240 |

|             |    |     |  |
|-------------|----|-----|--|
| 1152 x 1728 | 16 |     | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1280 x 1440 | 16 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1536 | 16 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1600 | 16 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1920 | 16 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 2048 | 16 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1360 x 1536 | 16 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1600 x 1800 | 16 |     | 60 70 72 75 85 100 120 140 144 150             |
| 1600 x 2048 | 16 |     | 60 70 72 75 85 100 120                         |
| 1600 x 2400 | 16 |     | 60 70 72 75 85 100 120                         |
| 1680 x 2100 | 16 |     | 60   |
| 1920 x 2160 | 16 | 30i | 60 70 72 75 85 100                             |
| 1920 x 2400 | 16 |     | 60 70 72 75 85 100                             |
| 1920 x 2880 | 16 |     | 60 70 72 75 85                                 |
| 2048 x 3072 | 16 |     | 60 70 72 75 85                                 |
| -----       |    |     |  |
| 640 x 960   | 32 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 800 x 1200  | 32 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 848 x 960   | 32 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 960 x 1200  | 32 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 1024 x 1536 | 32 |     | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1088 x 1224 | 32 |     | 60 70 72 75 85 100 120 140 144 150 170 200     |
| 1152 x 1728 | 32 |     | 60 70 72 75 85 100 120 140 144 150 170         |
| 1280 x 1440 | 32 |     | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 1536 | 32 |     | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 1600 | 32 |     | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 1920 | 32 |     | 60 70 72 75 85 100 120 140 144 150             |
| 1280 x 2048 | 32 |     | 60 70 72 75 85 100 120 140 144 150             |
| 1360 x 1536 | 32 |     | 60 70 72 75 85 100 120 140 144 150             |
| 1600 x 1800 | 32 |     | 60 70 72 75 85 100 120                         |
| 1600 x 2048 | 32 |     | 60 70 72 75 85 100                             |
| 1600 x 2400 | 32 |     | 60 70 72 75 85 100                             |
| 1680 x 2100 | 32 |     | 60   |
| 1920 x 2160 | 32 | 30i | 60 70 72 75 85                                 |
| 1920 x 2400 | 32 |     | 60 70 72 75 85                                 |
| 1920 x 2880 | 32 |     | 60 70 72 75 85                                 |
| 2048 x 3072 | 32 |     | 60 70 72 75 85                                 |

## TV-Out Modes Supported by TV Encoders

Table A.3 and Table A.4 list the NTSC, PAL, and HDTV TV-Out modes supported by the NVIDIA driver.

**Table A.3** Mode Support for S-Video and Composite Out

| Resolution | Bit depth | Comments   |
|------------|-----------|--|
| 320x200    | 8, 16, 32 | DirectDraw mode; not selectable as a Windows desktop |
| 320x240    | 8, 16, 32 | DirectDraw mode; not selectable as a Windows desktop |
| 640x400    | 8, 16, 32 | DirectDraw mode; not selectable as a Windows desktop |
| 640x480    | 8, 16, 32 |  |
| 720x480    | 8, 16, 32 | Overscans (for video)                                |
| 720x576    | 8, 16, 32 | Overscans (for video)                                |
| 800x600    | 8, 16, 32 |  |
| 1024x768   | 8, 16, 32 | Conexant 25871 only                                  |

**Table A.4** Mode Support for Component YPrPb Out and DVI Out

| Resolution   | Comments  |
|--------------|---|
| 480i (SDTV)  | Supported on graphics boards with Conexant 875 or Philips 7108 TV encoders and compatible connectors, and compatible GeForce 6 Series, GeForce 7 Series, and GeForce 8 Series GPUs. |
| 480p (EDTV)  |   |
| 720p (HDTV)  |   |
| 1080i (HDTV) |   |
| 576i (PAL)   |   |
| 576p (PAL)   |   |

The driver supports manual overscan correction for component and DVI outputs. See the *ForceWare Graphics Driver User's Guide* for instructions on how to use the overscan correction features in the control panel.