



# Release 175 Graphics Drivers ***Release Notes***

**Version 175.12**

**For Windows Vista 32-bit  
and Windows Vista 64-bit**

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# Table of Contents



## 1. Introduction to *Release Notes*

|                                     |   |
|-------------------------------------|---|
| Structure of the Document . . . . . | 1 |
| Changes in this Edition . . . . .   | 1 |

## 2. Release 175 Driver Changes

|  |    |
|--|----|
| Version 175.12 Highlights . . . . .  | 3  |
| What's New in Release 175 . . . . .  | 3  |
| What's New in Version 175.12 . . . . .   | 4  |
| Limitations in This Release. . . . .   | 4  |
| Changes in Version 175.12 . . . . .  | 5  |
| Fixed Issues—Windows Vista 32-bit . . . . .  | 5  |
| Fixed Issues—Windows Vista 64-bit . . . . .  | 6  |
| Open Issues in Version 175.12 . . . . .  | 7  |
| Windows Vista 32-bit Issues . . . . .  | 7  |
| Windows Vista 64-bit Issues . . . . .  | 10 |
| Not NVIDIA Issues . . . . .  | 12 |
| Windows Vista Limitations . . . . .  | 12 |
| Unsupported Features . . . . .   | 13 |
| OpenGL Application Issues . . . . .  | 15 |
| Application Issues . . . . .   | 16 |
| Operating System Issues . . . . .  | 20 |
| Known Product Limitations . . . . .  | 22 |
| GeForce 6 and 7 Series Cards Cannot Output<br>Interlaced Signals in SLI Mode . . . . .   | 22 |
| Image Sharpening Control not Available with<br>GeForce 8 Series and later GPUs . . . . . | 22 |
| Gigabyte GA-6BX Motherboard . . . . .  | 22 |

## 3. The Release 175 Driver

|   |    |
|---|----|
| Hardware and Software Support . . . . . | 25 |
| Supported Operating Systems . . . . .   | 25 |
| Supported NVIDIA Products . . . . .     | 26 |
| Supported Languages . . . . .           | 27 |
| Driver Installation . . . . .           | 29 |
| Minimum Hard Disk Space . . . . .       | 29 |
| Before You Begin. . . . .               | 29 |
| Installation Instructions. . . . .      | 29 |
| NVIDIA Driver History . . . . .         | 30 |

## A. Mode Support for Windows

|  |    |
|--|----|
| General Mode Support Information . . . . .     | 32 |
| Default Modes Supported by GPU . . . . .       | 33 |
| Understanding the Mode Format. . . . .         | 33 |
| GeForce 6 Series GPUs and nForce 6xx . . . . . | 34 |

|   |    |
|---|----|
| GeForce 9 Series, GeForce 8800 GTX/GTS/<br>Ultra and GeForce 8600/8500/8400/8300<br>GPUs. . . . . | 37 |
| GeForce 8300/8200/8100 GPUs . . . . .   | 40 |
| GeForce 7 Series GPUs . . . . .   | 43 |
| Modes Supported by TV Encoders . . . . .  | 45 |

**Table 3.1** Supported NVIDIA Products<sup>26</sup>

**Table 3.1** NVIDIA Drivers for Windows Vista<sup>30</sup>

**Table A.1** Modes Supported for High Resolution Displays<sup>32</sup>

**Table A.2** Non-standard Modes Supported<sup>32</sup>

**Table A.3** Mode Support for S-Video and Composite Out<sup>45</sup>

**Table A.4** Mode Support for Component YPrPb Out and DVI Out<sup>45</sup>

## CHAPTER

## 1

# INTRODUCTION TO *RELEASE NOTES*

This edition of *Release Notes* describes the Release 175 ForceWare Graphics Drivers for Microsoft® Windows® Vista. 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 175 Driver Changes](#)” on [page 2](#) gives a summary of changes, and fixed and open issues in this version.
- “[The Release 175 Driver](#)” on [page 25](#) 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 31](#) lists the default resolutions supported by the driver.

## Changes in this Edition

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This edition of the *Release Notes* for Windows Vista includes information about NVIDIA ForceWare graphics driver version 175.12, and lists changes made to the driver since version 174.74. These changes are discussed beginning with the chapter “[Release 175 Driver Changes](#)” on [page 2](#).

## CHAPTER

## 2

# RELEASE 175 DRIVER CHANGES

This chapter describes open issues for version 175.12, and resolved issues and driver enhancements for versions of the Release 175 driver up to version 175.12. The chapter contains these sections:

- “Version 175.12 Highlights” on page 3
- “Changes in Version 175.12” on page 5
- “Open Issues in Version 175.12” on page 7
- “Not NVIDIA Issues” on page 12
- “Known Product Limitations” on page 22

## Version 175.12 Highlights

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This section provides highlights of version 175.12 of the NVIDIA Release 175 Driver for Windows Vista.

- [What's New in Release 175](#)
- [What's New in Version 175.12](#)
- [Limitations in This Release](#)

### What's New in Release 175

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- Added support for the following NVIDIA products:
  - GeForce 9800 GX2, including Quad SLI Technology
  - GeForce 9800 GTX
  - GeForce 9600 GT
  - GeForce 8300
  - GeForce 8200
  - GeForce 8100/NVIDIA nForce 720a
  - NVIDIA nForce 730a
- Added support for **NVIDIA GeForce 3D Stereo Technology** for GeForce 6, 7, 8, or 9 Series GPUs with a minimum of 128MB graphics memory (Windows Vista 32-bit only).
- Added the following pages to the NVIDIA Control Panel:
  - Manage Custom Resolutions
  - Adjust Television Color Settings
  - Adjust Screen Size and Position
  - Move CRT Position
  - Adjust Video Image Settings
- NVIDIA Control Panel *Adjust Video Color Settings* page: Moved the Edge Enhancement, Noise Reduction, and Inverse Telecine controls to the new *Adjust Video Image Settings* page.
- Added the following new Pure Video HD features for the GeForce 9600 GT, GeForce 9800 GTX, and GeForce 9800 GX2:
  - Dynamic Contrast Enhancement

- Dynamic Blue, Green & Skin Tone Enhancements
- Per-display controls for the video settings in the NVIDIA Control Panel
- Dual-Stream Decode Acceleration<sup>1</sup>
- Microsoft Windows Vista Aero display mode compatibility for Blu-ray & HD DVD playback<sup>1</sup>

## What's New in Version 175.12

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- See [“Changes in Version 175.12” on page 5](#) for a list of resolved issues.

## Limitations in This Release

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

- **NVIDIA SLI Antialiasing**
- **NVIDIA SLI Mode for GeForce 6800 Ultra and GeForce 6800 GT**
- **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.

## NVIDIA Control Panel features that are Not Yet Available

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.

1. Users will require updated software from third-party movie players to experience the new Dual-Stream decode acceleration and Aero support for Blu-ray and HD DVD playback features.

## Changes in Version 175.12

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The following sections list the changes made and issues resolved since driver version 174.74.

- “Fixed Issues–Windows Vista 32-bit” on page 5
- “Fixed Issues–Windows Vista 64-bit” on page 6

The NVIDIA bug number and driver module are provided for reference.

### Fixed Issues–Windows Vista 32-bit

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#### Single GPU Issues

##### GeForce 8 Series GPUs

- GeForce 8800 GTX: The incorrect image is shown for standard settings on the NVIDIA Control Panel "Resize HDTV Desktop" page. [327187]
- GeForce 8600: Tiger Woods PGA Tour 2007–the game hangs with the default settings while loading the screen [333405].

#### SLI Mode Issues

##### GeForce 9 Series GPUs

- [3xSLI], GeForce 9800 GTX: Ghost Recon : Advanced Warfighter 2 - the introduction video shows horizontal black lines. [404221]

##### GeForce 8 Series GPUs

- [3xSLI]. GeForce 8800 GTX/Ultra: 3-way SLI mode doesn't work correctly after switching from 2-way SLI mode. [364501]

*When upgrading from 2-way SLI to 3-way SLI mode, NVIDIA recommends the following steps:*

- 1 *From the NVIDIA Control Panel, set the SLI Configuration to Single-GPU mode.*
- 2 *Install the third GPU.*
- 3 *Install the 3-way SLI driver and then set the SLI Configuration to 3-way SLI mode.*

## Fixed Issues—Windows Vista 64-bit

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### SLI Mode Issues

- [QuadSLI], GeForce 9800 GX2, GeForce 7950 GX2: NHL2008—with SLI mode enabled, the introduction video is corrupted. [395952]
- [SLI], GeForce 9800 GX2: World of Warcraft—the game jitters if V-Sync is enabled. [397181]
- [3xSLI], GeForce 8800 GTX/Ultra: The system hangs when trying to enable HDCP while the display is underscanned [356373]
- [SLI], GeForce 7800 GTX: FEAR - “Driver is not responding” error occurs when clicking “Test Settings” after setting the maximum resolution in SLI mode. [365162]

## Open Issues in Version 175.12

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As with every released driver, version 175.12 of the Release 175 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 Vista 32-bit Issues”](#) on page 7
- [“Windows Vista 64-bit Issues”](#) on page 10

### Windows Vista 32-bit Issues

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#### Single GPU Issues

##### All GPUs

- The NVIDIA Control Panel option is missing from the desktop context menu. [419193]
- The graphics driver installer sometimes displays an ‘incorrect operating system’ error message when trying to install on a GPU that not supported by the driver. [310188]

##### GeForce 9 Series GPUs

- GeForce 9800 GX2, GeForce 8800 GTX: With multiple displays connected, the NVIDIA Control Panel crashes when loading any saved profile after switching single display modes to another display. [401488]
- GeForce 9800 GX2: Civilization 4–white flickering occurs on the map after zooming out at high resolutions and with antialiasing enabled. [391640]

##### GeForce 8 Series GPUs

- GeForce 8 Series: After installing the driver over version 169.25, an attempt to uninstall the driver from Vista Programs and Features might fail with an 'Error in NVCPL.DLL' message.

*You must uninstall the driver a second time to successfully remove the driver.*

- GeForce 8800 GTS: The desktop color becomes dark after switching from Clone mode to single-display mode. [353737]
- GeForce 8800 GTX/Ultra: OpenGL applications experience a drop in performance with in-game 8x antialiasing set.
- GeForce 8800 GT/GTX: Crysis (DirectX 10) - game performance drops after switching to a higher resolution and then switching back to the lower resolution. [368740]

- GeForce 8800 GTX: Tabula Rasa—there is ghosting on the game character while standing below the drop ship after enabling refraction from the game control panel. [357271]
- GeForce 8800 GTX: Company of Heroes (DirectX 10)—the game crashes while loading the performance test at 2560x1600 resolution with all settings at medium. [354041]
- GeForce 8600: HD resolutions higher than 720p are not available.[308627]
- GeForce 8600: Serious Sam 2—performance drop at 1280x1024 with HDR and antialiasing enabled. [340691]

### **GeForce 7 Series GPUs**

- GeForce 7600GS: There is no audio thru the SPDIF. [406176]
- GeForce 7600 GS: The display colors are corrupted when connected via S-Video. [386507]
- GeForce 7300 GS: The NVIDIA Control Panel presents TV as an option even if a TV is not connected. [355144]

### **GeForce 6 Series GPUs**

- 2xGeForce 6600: With HDTV as the primary Dualview display, the primay desktop switches to the other display when resizing the HDTV desktop. [414516]
- GeForce 6600: TV signal formats based on country cannot be set from the NVIDIA Control Panel->Change signal or HD format page. [373501]
- GeForce 6600: The Elder Scrolls 4:Oblivion – the display turns blank when the game is played at 1920x1200 resolution.[289525]
- GeForce 6600: Stars Wars Battlefront2—blue-screen crash occurs when High settings are used.[302213]
- GeForce 6200: Call of Juarez—there is corruption at all resolutions. [356711]

## **SLI Mode Issues**

### **GeForce 9 Series GPUs**

- [Quad SLI], GeForce 9800 GX2: Test Driver Unlimited—there is pausing/hitching during the cut scene transitions. [395207]
- [Quad SLI] , GeForce 9800 GX2: Painkiller:Overdose—the game slows down perdioidically when Quad SLI is enabled. [396665]
- [3xSLI], GeForce 9800 GTX: Splinter Cell Double Agent—there is an intermittent white flash of corruption when running at 1280x1068 and with 2x antialiasing and night vision enabled. [404829]
- [SLI], GeForce 9600 GT, GeForce 8600 GTS: Crysis—the sky becomes corrupted after changing the resolution while playing the game with SLI mode enabled. [385470]

*NVIDIA recommends that you save and then exit the game before changing the resolution.*

- [SLI], GeForce 9600 GT, GeForce 6600: Prey– the SLI visual indicator does not appear when viewing SLI load balancing even though SLI mode is enabled and active. [379824]
- [SLI], GeForce 9600 GT: PT Boats: Knights of the Sea (DirectX 10) - there is texture corruption at 1600x1200 resolution and 8xAA. [374320]

### **GeForce 8 Series GPUs**

- [3xSLI], GeForce 8800 GTX/Ultra: Installing the driver on a 3-way SLI system takes a minimum of 3–4 minutes, and possibly longer if drivers have been previously installed on the system. [354847]

*The installation does complete in time–NVIDIA recommends that you do not interrupt the installation process, but wait for it to complete.*

- [SLI], GeForce 8800 GT: After enabling or disabling SLI mode, the Resize Desktop page does not open after clicking “Resize my desktop” from the NVIDIA Control Panel Resize HDTV Desktop page. [369626]
- [SLI], GeForce 8 series: Company of Heroes–performance is more choppy with SLI mode than with single-GPU mode. [334068]
- [SLI], GeForce 8 Series, GeForce 7 Series: Everquest2–part of the desktop is visible during the intro movie when the game resolution is the same as the desktop resolution. [297754]
- [SLI], GeForce 8800 GTX: Test Drive Unlimited–the intro cut scene pauses during transitions when SLI mode is enabled. [301655]
- [SLI], GeForce 8600 GT: STALKER - there is flickering in the game and then the system crashes when using 'Object dynamic lighting' render mode with SLI enabled. [419166]

### **GeForce 7 Series GPUs**

- [SLI], 2xGeForce 7900 GTX: The "Secondary" monitor on the "Set SLI Configuration" page cannot be used after enabling SLI mode. [415546]

## Windows Vista 64-bit Issues

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### Single GPU Issues

- GeForce 9800 GX2: Civilization 4—white flickering occurs on the map after zooming out at high resolutions and with antialiasing enabled. [391640]
- GeForce 8 Series: After installing the driver over version 169.25, an attempt to uninstall the driver from Vista Programs and Features might fail with an 'Error in NVCPL.DLL' message.  
*You must uninstall the driver a second time to successfully remove the driver.*
- GeForce 8800 GTX, NVIDIA Control Panel: The user is unable to select Resize my Desktop while playing an HD DVD. [357674]
- GeForce 8800 GT/GTX: Crysis (DirectX 10) - game performance drops after switching to a higher resolution and then switching back to the lower resolution. [368740]
- GeForce 8600: F.E.A.R.—after loading or saving a game, the performance drops for 5—10 seconds before returning to normal. [340874]
- GeForce 8600: Serious Sam 2—performance drop at 1280x1024 with HDR and antialiasing enabled. [340691]
- GeForce 7600GS: There is no audio thru the SPDIF. [406176]
- GeForce 6100/6150: With DVI connected, the desktop becomes corrupted after switching to an HD format, then enabling Resize HDTV desktop, then switching to another resolution other than 1280 x720 or 1920 x 1080. [408492]

### SLI Mode Issues

- [SLI]: Program settings cannot be applied for a newly added SLI profile if the profile duplicates an existing one. [393649]
- [Quad SLI], GeForce 9800 GX2: Test Driver Unlimited—there is pausing/hitching during the cut scene transitions. [395207]
- [Quad SLI] , GeForce 9800 GX2: Painkiller:Overdose—the game slows down periodically when Quad SLI is enabled. [396665]
- [Quad SLI], GeForce 9800 GX2: Repeatedly enabling/disabling SLI may cause the desktop to corrupt. [408652]
- [SLI], GeForce 9600 GT, GeForce 8600 GTS: Crysis - the sky becomes corrupted after changing resolution with SLI mode enabled. [385470]  
*NVIDIA recommends that you save and then exit the game before changing the resolution.*
- [SLI], GeForce 9600 GT, GeForce 6600: Prey - the SLI visual indicator does not appear when viewing SLI load balancing even though SLI mode is enabled and active. [379824]

- [3xSLI], GeForce 8800 GTX/Ultra: Frame drops occur during HD-DVD video playback in the PIP window using PowerDVD. [356445]
- [3xSLI], GeForce 8800 GTX/Ultra: Half-Life: Episode 2 - there are flickering shadows after switching resolutions. [353309]

## 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.

- “Windows Vista Limitations” on page 12
- “Unsupported Features” on page 13
- “OpenGL Application Issues” on page 15
- “Application Issues” on page 16
- “Operating System Issues” on page 20

## Windows Vista Limitations

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These are behaviors that may be different from Windows XP and are related directly to the Windows Vista operating system.

- **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>.

## Unsupported Features

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The following are features and functionality that were available in driver releases supporting Windows XP, but are not—and will not be—available in driver releases for Windows Vista:

- **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.

- **Edge Blending**

- **Run display optimization wizard**

- **Run multiple display wizard**
- **Run television setup wizard**
- **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.

- **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.

- **NVIDIA nView Desktop Manager**

The nView Desktop Manager will not be included in drivers for GeForce products.

## OpenGL Application Issues

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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.

## Application Issues

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- Tiger Woods PGA Tour 2007–Fly-by shot before each hole blacks-out textures. [274697]  
*NVIDIA is working with the developer to resolve this issue.*
- City of Heroes–The mouse cursor does not display. [259256]  
*This is an application issue that can be worked around in full-screen mode by adding “compatiblecursors 1” to the City of Heroes desktop shortcut.  
NVIDIA is pursuing a fix with the application developer.*
- Sims 2–“Smooth Edges (AA)” option is not available with Release 100 drivers. [272477]  
*This occurs because of an incorrect driver version check in the application.  
NVIDIA has worked around this issue in the operating system by changing the way the driver version is reported to this application.*
- Warhammer 40k Dawn of War (all versions) does not run with Release 100 drivers. [273154]  
*This occurs because of an incorrect driver version check in the application.  
NVIDIA has worked around this issue in the operating system by changing the way the driver version is reported to this application.*
- Need for Speed Carbon–After upgrading with patch 1.3, the game crashes when launched. [290506]  
*This is an issue with the application patch under Windows Vista.*
- Nascar Simracing–the game crashes when launched. [270792]  
*This is an issue with the application under Windows Vista.*
- Call of Duty 2–Only solid colors render during game play when 4xAA is enabled. [257454]  
*The application is not applying antialiasing properly. Please try selecting 2x AA, disabling antialiasing, or using NVIDIA Enhanced application or Override antialiasing modes.  
NVIDIA is pursuing a fix with the application developer*
- Age of Empires III–the game has rendering artifacts, such as textured squares for smoke. [258036]
- Flight Simulator X–pressing Alt+Tab to switch to the desktop does not work. [293729]
- Everquest 2– with NVIDIA driver versions 100.xx, the following error message appears: [273346]

"You currently have a (7.15.11.120) video card installed. We recommend that you download version 7772 drivers before playing Everquest."

*This occurs because the application is not checking the driver version correctly, but this does not affect game play. Please select "Continue Anyway" to launch the game. The problem does not occur with a previous Release 95 driver (xx.xx format).*

*NVIDIA is pursuing a fix with the application developer.*

- GeForce 9800 GX2: Fury (DirectX 10)–the character names flicker. [384917]

*This is not an NVIDIA bug, but rather an application issue.*

- GeForce 9600 GT, GeForce 9800 GX2, GeForce 8800 GTX/Ultra/GTS/GT: Assassin's Creed: Directors Cut - the shadow flickers. [400541]

*This is not an NVIDIA bug, but rather an application issue.*

- GeForce 9600 GT: Crysis (DirectX 9) - there is corruption in the game. [399261]

*This is not an NVIDIA bug, but rather an issue with the application issue. To avoid this issue, use the DirectX 10 option of the game.*

- GeForce 8800 GT: Company of Heroes DirectX10 - the application crashes when MSAA is enabled. [346495]

*This is a Fraps 2.9.2 issue.*

- GeForce 8 Series: Quake 4–there are white flashing artifacts. [273476]

- GeForce 8800: City of Heroes–there are corrupted textures in certain missions.[290659]

*This has been fixed with the latest patch for the game.*

- GeForce 8800: Ghost Recon - Advanced Warfighter–the gadget side bar bleeds through on the right side of the screen during game play. [281304]

- GeForce 8800 GTX: Star Wars Battle front 2–screen corruption occurs at 2560x1600 resolution. [325457]

- GeForce 8800 GTX, GeForce 7900 GTX: Neverwinter Nights 2–the mini map loses its background when the resolution is changed. [273788]

- GeForce 8800 GTX: Civilization 4–setting in-game 16x antialiasing AA disables all antialiasing.[303283]

- GeForce 8800 GTX: Flight Simulator–the terrain changes to low resolution when switching from Air Traffic-controlled to player-controlled airplane.[304840]

- GeForce 8800 GTX: Scarface–corruption during the game.[290007]

- GeForce 8800 GTX: Neverwinter Nights 2–only overlays render when switching to 2560x1600 using 8xAA. [302061, 314148]

- GeForce 8800 GTX: Command & Conquer:Tiberium Wars–the game crashes at 2560x1600 resolution, with 8x antialiasing enabled, and when in-game settings are set to the highest levels. [308248]

- GeForce 7900: Flight Simulator X – rendering becomes corrupted after pressing the Windows key. [293727 296232]

- GeForce 7600: Rainbow Six Vegas – antialiasing is not applied when setting antialiasing override mode in the NVIDIA Control Panel. [294215]

*Antialiasing is supported in this application only on GeForce 8 series and higher GPUs.*

- GeForce 8500/8400/8300: Corruption occurs while running MicroSoft SDK Basic HLSL sample application. [302209]
- GeForce 8500/8400/8300: Dark Messiah of Might and Magic—an application error occurs when quitting the game. [300980]

*This is an issue with the application.*

- GeForce 8500/8400/8300: Elder Scrolls IV: Oblivion—the game crashes after restoring from minimization. [296725]
- GeForce 7900 GTX: CPU usage is extremely high during H.264 playback of Blu-ray disc, resulting in dropped frames. [304480]
- GeForce 7300GS: Rainbow Six Vegas—the display turns black at 1600x1200 resolution.[302319]
- GeForce 7300 GT: Far Cry—geometry is corrupted during rendering of blood.[304348]
- GeForce 7300 GT: Company Of Heroes—the shadows are corrupt at the default game settings with SLI mode enabled. [346746]

*This is an issue with the application.*

- 322008 GeForce 8600 GT: Battlefield 2—the game crashes to desktop when set to 1900x1440 resolution 8x antialiasing.

*This problem occurs only when you have FRAPS 2.6.4 installed. It does not occur with FRAPS 2.8.2*

- 316403 GeForce 8 Series, GeForce 7 Series: NV SDK 9.5 *Mandelbrot* set fails to render fractal.

*This is an issue with the NV SDK and will be fixed in a newer build.*

- GeForce 8 Series: Prince of Persia—half the screen turns black and the other half turns white during resolution changes. [299484]

*This is an issue with the application.*

- GeForce 8800 GTX: Company of Heroes (DirectX 10)—the game crashes when the maximum settings are applied at 2560x1600 with 8xAA enabled. [321631]

*This is an issue with the application.*

- GeForce 7950 GX2: Flight SimX – water has artifacts. [292168]
- GeForce 6100/6150: Gothic—there is flickering with a white screen when using the default settings.[303552]
- GeForce 6200: Star Wars Empire at War—the game menu buttons are corrupt. [357713]

## Application Issues Under SLI Mode

- [SLI]: NVIDIA SLI scaling on some applications under Windows Vista may not be as much as under Windows XP. Some applications include "S.T.A.L.K.E.R., Half-Life 2: Lost Coast, Company of Heroes, Battlefield 2142, Call of Duty 2, Hitman: Blood Money, and Far Cry. [302534 290803]

*This is an application issue which has been resolved with the latest Steam patch.*

- [SLI], GeForce 9800 GX2: The Witcher—a blooming light shines through objects with SLI mode enabled. [396736]

*This is not an NVIDIA bug, but rather an application issue.*

- [SLI], GeForce 8800 GTX, GeForce 8600, GeForce 6 Series: Company of Heroes—there is corruption in the ground textures. [294118]

*This is an application issue, and has been fixed with the latest patch for the game.*

- [SLI], GeForce 8800 GTX: Battlefield 2 and Battlefield 2142—the games crash when exiting back to the menu after being played at 2048x1536 using 8xAA or higher. [301985]

*This is an issue with the application.*

- [SLI], GeForce 7900 GTX: Chess Titans—with Aero-glass enabled, there is blanking when resizing the game window. [346775]

*This is an issue with the application.*

- [SLI], GeForce 8800: While uninstalling driver the driver, the error message "Windows host process (Rundll32) has stopped working" appears. [294219 280920]
- [SLI], GeForce 8800: Splinter Cell Double Agent – the game crashes when minimized and then invoked again. [294205]
- [SLI], GeForce 8800: Battlefield 2142 – 8xAA cannot be set from the game control panel.[294231]
- [SLI], GeForce 7900:Microsoft Flight simulator X – corruption and flickering occur while flying close to land objects. [293882]

## Operating System Issues

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- World of Warcraft – there is a 60% drop in performance when running the game in windowed mode with SLI or multi-GPU mode enabled. [289427]

*This is due to a limitation of the Windows Vista operating system and affects all multi-GPU systems. NVIDIA is investigating a workaround for this performance problem.*

- GeForce 8800 GTS 320MB: The driver reports incorrect video memory (256 MB) in the Windows Vista Display Properties panel. [290811]

*However, the NVIDIA Control Panel properly reports the dedicated video memory as 320 MB.*

- GeForce 8800 GTX, GeForce 7900 GTX: Company of Heroes crashes when trying to load the Cherbourg level.[284273]

*This is an issue with the operating system. A QFE (software patch) from Microsoft is being worked on to fix this issue.*

- GeForce 7300 GT: Windows Vista desktop gadgets are blank (only outline visible) after changing the primary display while playing an HD DVD or Blu-ray disc.[303482]

*This is an issue with the operating system.*

- GeForce 6200: Foxbear–there is corruption on the Dualview secondary display.[302709]

*This is an issue with the operating system.*

- [SLI], GeForce 8800 GTX: While installing the graphics driver, the message "Incompatible display adapter has been disabled" appears and the display turns blank. [318173]

*This is an issue with the operating system.*

- When S-video and DVI displays are set up in Clone mode and rotated 90 degrees, the screen turns black.[304267, 283546]

*This is an issue with the operating system.*

- GeForce 8800 GTX: DreamScene–running the application results in a "Display driver has stopped responding" error message. [295017]

*This is an issue with the OS.*

- GeForce 8300 GS: With Aero-glass enabled, the screen flickers after rotating the display 90 degrees with S-Video as the primary display. [317347]

*This is an issue with the OS.*



## 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:

- “GeForce 6 and 7 Series Cards Cannot Output Interlaced Signals in SLI Mode” on page 22
- “Image Sharpening Control not Available with GeForce 8 Series and later GPUs” on page 22
- “Gigabyte GA-6BX Motherboard” on page 22

### GeForce 6 and 7 Series Cards Cannot Output Interlaced Signals in SLI Mode

---

- **Problem**

Rendering problems and instability occur when outputting interlaced modes (480i, 576i and 1080i) over the Y Pr Pb component and DVI outputs.

- **Explanation**

This is a hardware limitation in SLI mode only and cannot be fixed via a driver update.

- **Resolution**

Due to this issue, starting in driver version 162.22 in Windows Vista, the driver will automatically disable SLI mode when using the 480i, 576i and 1080i modes over all connectors on the GeForce 6 and 7 series GPUs.

To re-enable SLI mode, you must choose a non-interlaced output mode and reboot your computer.

- GeForce 8 series GPUs do not have this hardware limitation and you can output all HDTV interlaced and progressive scan outputs in SLI mode.
- The 480p, 576p, 720p, and 1080p progressive scan modes do not have this issue in SLI mode and are not affected by this change.

### Image Sharpening Control not Available with GeForce 8 Series and later GPUs

---

With GeForce 8 Series 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 GeForce 8 series and later GPUs.

### 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.



## CHAPTER

## 3

# THE RELEASE 175 DRIVER

This chapter covers the following main topics:

- “Hardware and Software Support” on page 25
- “Driver Installation” on page 29
- “NVIDIA Driver History” on page 30

## Hardware and Software Support

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### Supported Operating Systems

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The Release 175 driver, version 175.12, has been tested with Microsoft Windows® Vista RTM OS builds version 6000 or higher, and supports both 32-bit and 64-bit versions of Windows Vista Editions:

- Windows Vista Home Basic
- Windows Vista Home Premium
- Windows Vista Business
- Windows Vista Enterprise Edition
- Windows Vista Ultimate

## Supported NVIDIA Products

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Table 3.1 lists the NVIDIA products supported by the Release 175 driver, version 175.12

**Table 3.1** Supported NVIDIA Products

### Consumer Products

- GeForce 9800 GX2
- GeForce 9800 GTX
- GeForce 9600 GT
- GeForce 8800 Ultra
- GeForce 8800 GTX
- GeForce 8800 GTS 512
- GeForce 8800 GTS
- GeForce 8800 GT
- GeForce 8600 GTS
- GeForce 8600 GT
- GeForce 8600 GS
- GeForce 8500 GT
- GeForce 8400 GS
- GeForce 8400 SE
- GeForce 8400
- GeForce 8300 GS
- GeForce 8300
- GeForce 8200
- GeForce 8100 / nForce 720a
- NVIDIA nForce 730a
- GeForce 7950 GX2
- GeForce 7950 GT
- GeForce 7900 GTX
- GeForce 7900 GT/GTO
- GeForce 7900 GS
- GeForce 7800 SLI
- GeForce 7800 GTX
- GeForce 7800 GT
- GeForce 7800 GS
- GeForce 7650 GS
- GeForce 7600 GT
- GeForce 7600 GS
- GeForce 7600 LE
- GeForce 7500 LE
- GeForce 7350 LE
- GeForce 7300 SE
- GeForce 7300 LE
- GeForce 7300 GT
- GeForce 7300 GS
- GeForce 7200 GS
- GeForce 7100 GS

**Table 3.1** Supported NVIDIA Products**Consumer Products**

GeForce 7150 / NVIDIA nForce 630i  
 GeForce 7100 / NVIDIA nForce 630i  
 GeForce 7050 / NVIDIA nForce 620i  
 GeForce 7050 / NVIDIA nForce 610i  
 GeForce 7100 / NVIDIA nForce 620i  
 GeForce 7050 PV / NVIDIA nForce 630a  
 GeForce 7050 PV / NVIDIA nForce 630a  
 GeForce 7025 / NVIDIA nForce 630a  
 GeForce 6800 XT  
 GeForce 6800 XE  
 GeForce 6800 Ultra  
 GeForce 6800 Series GPU  
 GeForce 6800 LE  
 GeForce 6800 GT  
 GeForce 6800 GS/XT  
 GeForce 6800 GS  
 GeForce 6800  
 GeForce 6700 XL  
 GeForce 6610 XL  
 GeForce 6600 VE  
 GeForce 6600 LE  
 GeForce 6600 GT  
 GeForce 6600  
 GeForce 6500  
 GeForce 6250  
 GeForce 6200SE TurboCache™  
 GeForce 6200 TurboCache™  
 GeForce 6200 LE  
 GeForce 6200 A-LE  
 GeForce 6200  
 GeForce 6150SE nForce 430  
 GeForce 6150 LE  
 GeForce 6150  
 GeForce 6100 nForce 420  
 GeForce 6100 nForce 405  
 GeForce 6100 nForce 400  
 GeForce 6100

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**Supported Languages**

The Release 175 Graphics 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 37.1 MB for English-only, and 64.9 MB for International.

## Before You Begin

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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.

## Installation Instructions

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- 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 Click the driver download link.
- 3 The license agreement dialog box appears.
- 4 Click **Accept** if you accept the terms of the agreement, then either open the file or save the file to your PC and open it later.
- 5 Extract the zip files to a temporary folder on your PC.
- 6 Open the NVIDIA driver installation .EXE file to launch the NVIDIA InstallShield Wizard.
- 7 Follow the instructions in the NVIDIA InstallShield Wizard to complete the installation.

**Note:** After the driver installation, Windows may default to 16-bpp color and disable the Desktop Window Manager (DWM). To work around this issue, set the color to 32-bpp and then reboot the PC.

## NVIDIA Driver History

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Release 175 is the latest NVIDIA driver available. [Table 3.1](#) contains a summary of some previous driver releases and the versions associated with them. Some versions listed may not have been released outside of NVIDIA.

**Table 3.1** NVIDIA Drivers for Windows Vista

| Windows Vista Build  | NVIDIA ForceWare Driver  |
|--|--|
| RTM OS Builds 6000 or higher   | Release 175: Version 175.12  |
| RTM OS Builds 6000 or higher   | Release 174: Version 174.16, 174.53, 174.74  |
| RTM OS Builds 6000 or higher   | Release 169: Version 169.02, 169.04, 169.09, 169.12, 169.13, 169.21, 169.25                      |
| RTM OS Builds 6000 or higher   | Release 167: Version 167.35  |
| RTM OS Builds 6000 or higher   | Release 163: Version 163.11, 163.44, 163.67, 163.69, 163.71, 163.75                              |
| RTM OS Builds 6000 or higher   | Release 162: Version 162.22  |
| RTM OS Builds 6000 or higher   | Release 158: Version 158.14, 158.18, 158.24, 158.42, 158.43, 158.45                              |
| RTM OS Builds 6000 or higher   | Release 100: Version 100.53, 100.54, 100.59, 100.64, 100.65, 101.41<br>Release 95: Version 97.46 |
| RC2 OS Builds 5744 or higher   | Release 95: Version 96.85  |
| RC1 OS Builds 5520.RC1_16384.060812-2235 or higher<br>Build 5472.WinMain_idx01_5.060713-1900 or higher | Release 95: Version 96.33<br>Release 95: Versions 95.60–96.00                                    |
| Windows Vista Beta2  | NVIDIA Driver version 88.61  |
| February 06 CTP build 5308.FebCTP_Final.060217-2200 or higher  | NVIDIA Drivers 87.15, 87.45  |
| July 05 Vista Beta1  | NVIDIA Driver included 'in the box'.   |
| December 05 CTP build 5270.Winmain.051214-1910   | NVIDIA Driver included 'in the box'.   |

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## APPENDIX



## MODE SUPPORT FOR WINDOWS

This chapter details the Windows modes supported by the Release 175 driver for NVIDIA products. It contains these sections:

- “General Mode Support Information” on page 32
- “Default Modes Supported by GPU” on page 33
- “Modes Supported by TV Encoders” on page 45

## General Mode Support Information

---

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”](#) on page 33.

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   |
|---|--------------------|---|
| Apple 30" Cinema HD Display (Dual link DVI) | 2560x1600 @ 60 Hz  | <ul style="list-style-type: none"> <li>• All GeForce 7 series GPUs and later</li> <li>• GeForce 6800 Ultra 512</li> <li>• GeForce 6800 with 512 MB</li> </ul> |
| Dell WFP 3007 (Dual Link DVI)               | 2560x1600 @ 60 Hz  |   |
| HP LP3065 dual-link DVI flat panel          | 2560x1600 @ 60Hz.  |   |

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

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

## Default Modes Supported by GPU

---

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

- “GeForce 6 Series GPUs and nForce 6xx” on page 34
- “GeForce 9 Series, GeForce 8800 GTX/GTS/Ultra and GeForce 8600/8500/8400/8300 GPUs” on page 37
- “GeForce 8300/8200/8100 GPUs” on page 40
- “GeForce 7 Series GPUs” on page 43

## Understanding the Mode Format

---

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

|            |             |               |
|------------|-------------|---------------|
| Resolution | Color Depth | Refresh Rates |
|            |             |               |

**Example entry:** 1024 x 768 32 60 70 72 75 85 100 120 140 144 150 170 200

**Meaning:**

|                |  |
|----------------|--|
| Resolution:    | 1024 x 768   |
| Color depth:   | 32 bpp   |
| Refresh rates: | 60 Hz, 70 Hz, 72 Hz, 75 Hz, 85 Hz, 100 Hz, 120 Hz,<br>140 Hz, 144 Hz, 150 Hz, 170 Hz, and 200 Hz |

**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.

## GeForce 6 Series GPUs and nForce 6xx

---

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

- GeForce 7050 PV / NVIDIA nForce 630a
- GeForce 7050 PV / NVIDIA nForce 630a
- GeForce 7025 / NVIDIA nForce 630a
- GeForce 7150 / NVIDIA nForce 630i
- GeForce 7100 / NVIDIA nForce 630i
- GeForce 7050 / NVIDIA nForce 630i
- GeForce 7050 / NVIDIA nForce 610i
- GeForce 7100 / NVIDIA nForce 620i
- GeForce 6800 XT / XE / Ultra / LE / GT/ GS
- GeForce 6700 XL
- GeForce 6610 XL
- GeForce 6600 VE / LE / GT
- GeForce 6500
- GeForce 6250
- GeForce 6200SE TurboCache™
- GeForce 6200 TurboCache™
- GeForce 6200 LE
- GeForce 6200 A-LE
- GeForce 6200
- GeForce 6150SE nForce 430
- GeForce 6150 LE
- GeForce 6150
- GeForce 6100 nForce 420
- GeForce 6100 nForce 405
- GeForce 6100 nForce 400
- GeForce 6100

**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 70 72 75 85 100 120 140 144 150 170 200
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
1280 x 1024 16   70
1440 x 900 16    60 70 72 75 85 100 120 140 144 150 170 200
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 70 72 75 85 100 120 140 144 150 170 200     |
| 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                             |

## GeForce 9 Series, GeForce 8800 GTX/GTS/Ultra and GeForce 8600/8500/8400/8300 GPUs

---

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

- NVIDIA GeForce 9800 GX2
- NVIDIA GeForce 9800 GTX
- NVIDIA GeForce 9600 GT
- NVIDIA GeForce 8800 GTX
- NVIDIA GeForce 8800 GTS
- NVIDIA GeForce 8800 Ultra
- NVIDIA GeForce 8800 GT
- NVIDIA GeForce 8800 GT 512
- NVIDIA GeForce 8600 GTS
- NVIDIA GeForce 8600 GT
- NVIDIA GeForce 8600 GS
- NVIDIA GeForce 8500 GT
- NVIDIA GeForce 8400 GS
- NVIDIA GeForce 8400 SE
- NVIDIA GeForce 8500 GT
- NVIDIA GeForce 8400 GS
- NVIDIA GeForce 8400
- NVIDIA GeForce 8300 GS

### 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 | 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 70 72 75 85 100 120 140 144 150 170 200 |
| 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 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 70 72 75 85 100 120 140 144 150 170 200 |
| 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 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 70 72 75 85 100 120 140 144 150 170 200 |
| 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 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 70 72 75 85 100 120 140 144 150 170 200 |
| 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  |

## GeForce 8300/8200/8100 GPUs

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

- NVIDIA GeForce 8300
- NVIDIA GeForce 8200
- NVIDIA nForce 730a
- NVIDIA GeForce 8100 / nForce 720a

### Standard Modes

|             |   |     |  |
|-------------|---|-----|--|
| 640 x 480   | 8 |     | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 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 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                                 |

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|            |    |  |  |
|------------|----|--|--|
| 640 x 480  | 16 |  | 60 70 72 75 85 100 120 140 144 150 170 200 240 |
| 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         |

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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 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

```

```

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

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-----
 640 x 480 64      60 70 72 75 85 100 120 140 144 150 170 200 240
 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 720 64      70

```

|             |    |  |
|-------------|----|--|
| 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 70 72 75 85 100 120 140 144 150 170 200 |
| 1600 x 1200 | 64 | 60 70 72 75 85 100                         |
| 1680 x 1050 | 64 | 60   |
| 1920 x 1080 | 64 | 30i  |
| 1920 x 1200 | 64 | 70   |
| 1920 x 1440 | 64 | 60 70 72 75 85                             |
| 2048 x 1536 | 64 | 60 70 72 75 85                             |

## GeForce 7 Series GPUs

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

- GeForce 7950 GX2 / GT
- GeForce 7900 GTX / GT / GTO / GS
- GeForce 7800 SLI
- GeForce 7800 GTX / GT / GS
- GeForce 7650 GS
- GeForce 7600 GT / GS / LE
- GeForce 7500 LE
- GeForce 7350 LE
- GeForce 7300 SE / LE / GT / GS
- GeForce 7200 GS

### 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 70 72 75 85 100 120 140 144 150 170 200     |
| 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 70 72 75 85 100 120 140 144 150 170 200     |
| 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                             |

---

|             |    |  |
|-------------|----|--|
| 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 70 72 75 85 100 120 140 144 150 170 200     |
| 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                             |

## 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 and GeForce 7 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.