



# Release 185 Graphics Drivers

## ***Release Notes***

**Version 185.85**

**For Windows 7 32-bit  
and Windows 7 64-bit**

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## CHAPTER

## 1

# INTRODUCTION TO *RELEASE NOTES*

This edition of *Release Notes* describes the Release 185 Graphics Drivers for Microsoft® Windows® 7. 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 185 Driver Changes](#)” on page 3 gives a summary of changes, and fixed and open issues in this version.
- “[The Release 185 Driver](#)” on page 13 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 19 lists the default resolutions supported by the driver.

## Changes in this Edition

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This edition of the *Release Notes* for Windows 7 includes information about NVIDIA graphics driver version 185.85.



## CHAPTER

## 2

# RELEASE 185 DRIVER CHANGES

This chapter describes open issues for version 185.85, and resolved issues and driver enhancements for versions of the Release 185 driver up to version 185.85. The chapter contains these sections:

- “Version 185.85 Highlights” on page 4
- “Open Issues in Version 185.85” on page 7
- “Not NVIDIA Issues” on page 9
- “Known Product Limitations” on page 12

## Version 185.85 Highlights

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This section provides highlights of version 185.85 of the NVIDIA Release 185 Driver for Windows 7.

- [What's New in Release 185](#)
- [What's New in Version 185.85](#)
- [Limitations in This Release](#)

### What's New in Release 185

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Release 185 includes several changes in the following areas:

- [New Product Support](#)
- [OS Support](#)
- [NVIDIA Control Panel Updates](#)
- [Display Driver Updates](#)
- [Video Updates](#)
- [CUDA Updates](#)
- [OpenGL Updates](#)

#### New Product Support

Added support for the NVIDIA GeForce GTX 275.

#### OS Support

Release 185 introduces support for the Microsoft Windows 7 operating system.

#### NVIDIA Control Panel Updates

##### 3D Settings Pages

- **Ambient Occlusion** setting (*new* in the Manage 3D Settings page)  
Ambient occlusion enhances depth perception and adds realism to 3D scenes by providing a soft shadow effect to objects based on their placement in the scene.
- **SLI Antialiasing** (*new* in the Manage 3D Settings page)  
Now available under Windows Vista and Windows 7 as well as Windows XP.

## Display Pages

- **Set up Multiple Displays** (*revised* under Windows Vista and applicable to Windows 7)

In Release 185, when SLI mode is enabled, users can now select a display from different GPUs as long as the GPUs are in the same SLI group.

- Displays must still be connected to the same GPU under Clone mode.
- Quad SLI: When using GeForce X2, Quadro X2, or the GeForce GTX 295 graphics cards, only GPUs that have two display connectors can be used to drive displays. Typically, display connectors lined up on the same slot position are connected to the same GPU.
- NVIDIA recommends connecting displays to the same GPU to shorten the driver reload time on the initial setup.
- **Adjust Desktop Color Settings** page (*revised* under Windows Vista and applicable to Windows 7)

Applications now have the option of controlling the desktop color settings.

## Video & Television Pages

- **HDCP Status**

*New* page for verifying whether the system is HDCP-capable

- **Adjust TV Color Settings** page (*revised* under Windows Vista and applicable to Windows 7)

Applications now have the option of controlling the TV color settings.

## Display Driver Updates

### Device Support

Added support for EDID-like devices.

### Video Updates

- Compute-based DVD upscaling
- CUDA Video Encoder 1.1: Added support for CUDA-enabled GPUs with less than 32 cores to the NVIDIA Video Encoding library.

### CUDA Updates

- CUDA 2.2
- CUDA Video Encoder V1.1: Added support for CUDA-enabled GPUs with less than 32 cores to the NVIDIA Video Encoding library.

## OpenGL Updates

- Support for OpenGL 3.0
- Implemented NVX\_shader\_buffer\_load (OpenGL Shading Language).

## What's New in Version 185.85

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- Added support for the NVIDIA GeForce GTX 275.
- This driver version includes support for NVIDIA PhysX acceleration on all GeForce 8-series, 9-series and 200-series GPUs with a minimum of 256MB dedicated graphics memory (this driver package installs NVIDIA PhysX System Software v9.09.0408).

**Note:** The NVIDIA Control Panel erroneously reports the PhysX software version as 9.09.0203. If you have installed graphics driver version 185.85, then the NVIDIA PhysX software installed is version 9.09.0408.

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

## Open Issues in Version 185.85

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As with every released driver, version 185.85 of the Release 185 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 7 32-bit Issues”](#) on page 7
- [“Windows 7 64-bit Issues”](#) on page 7

### Windows 7 32-bit Issues

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#### Single GPU Issues

- GeForce GTX 285: When setting a custom resolution on the secondary Dualview display using the NVIDIA Control Panel “Manage Custom Resolutions” page, the primary display switches to the newly created resolution. [539807]
- GeForce GTX 280: Enemy Territory: QUAKE Wars—there is full-screen corruption throughout the game. [547933]
- GeForce GTX 280: Assassin's Creed (DirectX 10)—the game hangs at the main menu screen when Ambient Occlusion is activated from the NVIDIA Control Panel. [545516]

#### Multi-GPU Issues

- [SLI]: The PhysX option is disabled by default after driver installation. [544945]
- [SLI], GeForce GTX 260: The SLI focus display cannot be switched using “Set SLI configuration” page. [543178]
- [SLI], GeForce 9500 GS: The SLI focus display cannot be set from the NVIDIA Control Panel “Set SLI and PhysX configuration” page. [544972]
- [SLI], GeForce 9800 GX2: World in Conflict—grass textures flicker. [544657]

### Windows 7 64-bit Issues

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#### Single GPU Issues

- GeForce GTX 285: When setting a custom resolution on the secondary Dualview display using the NVIDIA Control Panel “Manage Custom Resolutions” page, the primary display switches to the newly created resolution. [539807]

- GeForce GTX 280: Assassin's Creed (DirectX 10)–the game hangs at the main menu screen when Ambient Occlusion is activated from the NVIDIA Control Panel. [545516]

## **Multi-GPU Issues**

- [SLI], GeForce 8600 GT: Gears of War (DirectX 10)–with SLI mode enabled, there is corruption and flickering with the default settings and in-game antialiasing enabled. [541836]

## 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 7.

- “Unsupported Features” on page 9
- “Feature Differences from Windows Vista” on page 10
- “OpenGL Application Issues” on page 11

## 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 7:

- **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.

- **Overclocking**

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

- **AGP Settings Adjustment**

- **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)
- **NVIDIA nView Desktop Manager**

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

## **Feature Differences from Windows Vista**

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### **Hotplug Action**

Unlike the hotplug activity under Windows Vista, the default settings are not applied when a new display is hotplugged, and there is no message balloon alert stating that a new display was detected. Under Windows 7, all display connection and detection events are handled through the Windows 7 Connecting and Configuring Displays (CCD) mechanism.

## NVIDIA Control Panel Rotate Display Page

The rotation radio button labels are changed slightly under Windows 7 to be consistent with the Microsoft panel:

**Table 2.1** NVIDIA Control Panel Rotation Page Radio Buttons

<b>Clockwise Rotation</b>	<b>Windows 7 Label</b>	<b>Windows Vista Label</b>
0 degrees	Landscape	No rotation (Landscape)
90 degrees	Portrait	90 degrees to the right (Inverted Portrait)
180 degrees	Landscape (flipped)	180 degree rotation (Inverted landscape)
270 degrees	Portrait (flipped)	90 degrees to the left (Portrait)

## OpenGL Application Issues

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:

- “GeForce GTX 295 Fan Control and NVIDIA Control Panel Performance Group version 6.03.06.00” on page 12
- “1280x1024 @ 60 Hz not Available on BenQ FP241W Monitors” on page 12
- “Image Sharpening Control not Available with GeForce 8 Series and later GPUs” on page 12
- “Gigabyte GA-6BX Motherboard” on page 12

### **GeForce GTX 295 Fan Control and NVIDIA Control Panel Performance Group version 6.03.06.00**

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The GeForce GTX 295 fan control does not function properly when using the NVIDIA Control Panel Performance Group version 6.03.06.00. For proper fan control, use version 6.03.12.00 or later.

### **1280x1024 @ 60 Hz not Available on BenQ FP241W Monitors**

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Even though the monitor EDID lists 1280x1024 @ 60 Hz, the screen turns blank when using an HDMI connection. This is an issue with the monitor and not the NVIDIA driver.

Because of this issue with the monitor, the NVIDIA driver blocks the problem mode (1280x1024 @ 60 Hz) and makes it unavailable.

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

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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 185 DRIVER

This chapter covers the following main topics:

- “Hardware and Software Support” on page 13
- “Driver Installation” on page 17

## Hardware and Software Support

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### Supported Operating Systems

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The Release 185 driver, version 185.81, has been tested with Microsoft Windows® 7 RC build version 7100, and supports both 32-bit and 64-bit versions.

## Supported NVIDIA Products

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Table 3.1 lists the NVIDIA products supported by the Release 185 driver, version 185.85

**Table 3.1** Supported NVIDIA Products

### Consumer Products

GeForce GTX 295  
GeForce GTX 285  
GeForce GTX 280  
GeForce GTX 275  
GeForce GTX 260  
GeForce GTS 250  
GeForce GT 140  
GeForce GT 130  
GeForce GT 120  
GeForce 9800 GX2  
GeForce 9800 GTX+  
GeForce 9800 GTX  
GeForce 9800 GT  
GeForce 9600 GT  
GeForce 9600 GS  
GeForce 9600 GSO  
GeForce 9500 GT  
GeForce 9500 GS  
GeForce 9400 GT  
GeForce 9400  
GeForce 9300 GS  
GeForce 9300 GE  
GeForce 9300  
GeForce 9200  
GeForce 8800 Ultra  
GeForce 8800 GTX  
GeForce 8800 GTS 512  
GeForce 8800 GTS  
GeForce 8800 GT  
GeForce 8800 GS  
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

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

nForce 780a SLI  
nForce 760i SLI  
nForce 750a SLI  
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  
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

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

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 185 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 for 32-bit is minimum 120 MB for English-only, and 185 MB for International.

The hard disk space requirement for 64-bit is minimum 170 MB for English-only, and 230 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.



## APPENDIX



## MODE SUPPORT FOR WINDOWS

This chapter details the Windows modes supported by the Release 185 driver for NVIDIA products. It contains these sections:

- “General Mode Support Information” on page 20
- “Default Modes Supported by GPU” on page 21
- “Modes Supported by TV Encoders” on page 25

## 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 21.

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
Apple 30" Cinema HD Display (Dual link DVI)	2560x1600 @ 60 Hz
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

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

- “GeForce 200, 100, 9 Series, 8 Series, 7 Series, 6 Series, and nForce 7xx/6xx GPUs” on page 22

## 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.

Resolution	Color Depth	Refresh Rates
-----	-----	-----
1024 x 768	32 60 70 72 75 85 100 120 140 144 150 170 200	

**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, 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 200, 100, 9 Series, 8 Series, 7 Series, 6 Series, and nForce 7xx/6xx GPUs

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This sections lists the supported display resolutions, color depths, and refresh rates for the the products listed in [Table 3.1 on page 14](#).

### 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
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
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	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

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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
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
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	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

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

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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	60 70 72 75 85 100 120 140 144 150 170 200 240

1088 x 612	64	60	70	72	75	85	100	120	140	144	150	170	200	240
1152 x 864	64	60	70	72	75	85	100	120	140	144	150	170	200	
1280 x 720	64	60												
1280 x 768	64	60	70	72	75	85	100	120	140	144	150	170		
1280 x 800	64	60	70	72	75	85	100	120	140	144	150	170		
1280 x 960	64	60	70	72	75	85	100	120	140	144	150	170		
1280 x 1024	64	60	70	72	75	85	100	120	140	144	150	170		
1360 x 768	64	60	70	72	75	85	100	120	140	144	150	170		
1600 x 900	64	60	70	72	75	85	100	120	140	144	150			
1600 x 1024	64	60	70	72	75	85	100	120						
1600 x 1200	64	60	70	72	75	85	100	120						
1680 x 1050	64	60												
1920 x 1080	64	60												
1920 x 1200	64	60	70	72	75	85	100							
1920 x 1440	64	60	70	72	75	85								
2048 x 1536	64	60												

## Modes Supported by TV Encoders

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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.