



# ForceWare Graphics Drivers ***Release 167 Notes***

**Version 167.51**  
for Windows XP

---

**NVIDIA Corporation**  
**December 19, 2007**

Published by  
NVIDIA Corporation  
2701 San Tomas Expressway  
Santa Clara, CA 95050

## **Notice**

ALL NVIDIA DESIGN SPECIFICATIONS, REFERENCE BOARDS, FILES, DRAWINGS, DIAGNOSTICS, LISTS, AND OTHER DOCUMENTS (TOGETHER AND SEPARATELY, "MATERIALS") ARE BEING PROVIDED "AS IS." NVIDIA MAKES NO WARRANTIES, EXPRESSED, IMPLIED, STATUTORY, OR OTHERWISE WITH RESPECT TO THE MATERIALS, AND EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES OF NONINFRINGEMENT, MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE.

Information furnished is believed to be accurate and reliable. However, NVIDIA Corporation assumes no responsibility for the consequences of use of such information or for any infringement of patents or other rights of third parties that may result from its use. No license is granted by implication or otherwise under any patent or patent rights of NVIDIA Corporation. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. NVIDIA Corporation products are not authorized for use as critical components in life support devices or systems without express written approval of NVIDIA Corporation.

## **Trademarks**

NVIDIA, the NVIDIA logo, 3DFX, 3DFX INTERACTIVE, the 3dfx Logo, STB, STB Systems and Design, the STB Logo, the StarBox Logo, NVIDIA nForce, GeForce, NVIDIA Quadro, NVDVD, NVIDIA Personal Cinema, NVIDIA Soundstorm, Vanta, TNT2, TNT, RIVA, RIVA TNT, VOODOO, VOODOO GRAPHICS, WAVEBAY, Accuvision Antialiasing, the Audio & Nth Superscript Design Logo, CineFX, the Communications & Nth Superscript Design Logo, Detonator, Digital Vibrance Control, DualNet, FlowFX, ForceWare, GIGADUDE, Glide, GOFORCE, the Graphics & Nth Superscript Design Logo, Intellisample, M-BUFFER, nfiniteFX, NV, NVChess, nView, NVKeystone, NVOptimizer, NVPinball, NVRotate, NVSensor, NVSync, the Platform & Nth Superscript Design Logo, PowerMizer, Quincunx Antialiasing, Sceneshare, See What You've Been Missing, StreamThru, SuperStability, T-BUFFER, The Way It's Meant to be Played Logo, TwinBank, TwinView and the Video & Nth Superscript Design Logo are registered trademarks or trademarks of NVIDIA Corporation in the United States and/or other countries. Other company and product names may be trademarks or registered trademarks of the respective owners with which they are associated.

Intel, Indeo, and Pentium are registered trademarks of Intel Corporation. Microsoft, Windows, Windows NT, Windows Vista, Direct3D, DirectDraw, and DirectX are trademarks or registered trademarks of Microsoft Corporation. OpenGL is a registered trademark of Silicon Graphics Inc. PCI Express, PCI-SIG, and the PCI-SIG design marks are registered trademarks and/or service marks of PCI-SIG.

Other company and product names may be trademarks or registered trademarks of the respective owners with which they are associated.

## **Copyright**

© 2007 by NVIDIA Corporation. All rights reserved.



# Table of Contents



## 1. Introduction to Release 167

### Notes

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

## 2. Changes in the Release 167

### Driver for Windows XP

Version 167.51 Highlights . . . . .	4
What's New in Release 167 . . . . .	4
What's New in Version 167.51 . . . . .	4
Open Windows XP Issues in Version 167.51 . . . . .	5
NVIDIA Recommendations. . . . .	5
NVIDIA Issues—Single GPU. . . . .	6
NVIDIA Issues—SLI Mode . . . . .	6
Not NVIDIA Issues . . . . .	8
Application Issues . . . . .	8
Known Product Limitations . . . . .	11
GeForce 6 and 7 Series Cards Cannot Output Interlaced Signals in SLI Mode . . . . .	12
PowerDVD 5.0 Does Not Display Correctly in nView Span Mode . . . . .	12
DirectX Fails When Detaching/Reattaching Displays in Dualview Mode . . . . .	12
OpenGL Viewport Scaling Problem in Horizontal Span Mode . . . . .	13
Video Playback in nView Clone and Span Modes . . . . .	13
No Antialiasing of 3DMark03 Image Quality Screen Captures . . . . .	13
Medal of Honor Under Windows XP / Windows 2000 . . . . .	14
Windows XP/2000 Issue with Settings Tab Monitor Positioning . . . . .	14
Antialiasing Problems With Certain Applications 15	
Poor Quality S-Video Output on Some TVs . . . . .	15
AGP and PCI-E Programs May Hang With AMD K7 and K8 Processors . . . . .	15
Desktop Manager Does Not Re-Center Logon Screen . . . . .	16
Issues with Video Mirror—Windows XP/2000. . . . .	16

## 3. The Release 167 Driver for Windows XP

Hardware and Software Support . . . . .	17
Supported Operating Systems. . . . .	17
Supported NVIDIA Products. . . . .	18
Supported Languages . . . . .	18
Driver Installation . . . . .	19
System Requirements . . . . .	19
Installation Instructions . . . . .	19
NVIDIA Driver History. . . . .	22

## A. Mode Support for Windows

General Mode Support Information . . . . .	24
Default Modes Supported by GPU for Windows XP 25	
Understanding the Mode Format . . . . .	25
GeForce Go 7900 GS and GeForce Go 7950 GTX . . . . .	26
GeForce Go 7800 GTX . . . . .	30
TV-Out Modes Supported. . . . .	35



# **Table of Contents**



## CHAPTER

## 1

# INTRODUCTION TO *RELEASE 167 NOTES*

This edition of *Release 167 Notes* describes the Release 167 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

---

This document is organized in the following sections:

- “[Changes in the Release 167 Driver for Windows XP](#)” on page 3 gives a summary of changes, and fixed and open issues in this version.
- “[The Release 167 Driver for Windows XP](#)” 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

---

This edition of the *Release 167 Notes* for Windows XP includes information about NVIDIA ForceWare graphics driver version 167.51



## CHAPTER

## 2

# CHANGES IN THE RELEASE 167 DRIVER FOR WINDOWS XP

This chapter describes open issues for version 167.51, and resolved issues and driver enhancements for versions of the Release 167 driver up to version 167.51. The chapter contains these sections:

- “Version 167.51 Highlights” on page 4
- “Open Windows XP Issues in Version 167.51” on page 5
- “Not NVIDIA Issues” on page 8
- “Known Product Limitations” on page 11

## Version 167.51 Highlights

---

This section provides highlights of version 167.51 of the NVIDIA Release 167 Driver.

- [What's New in Release 167](#)
- [What's New in Version 167.51](#)

### What's New in Release 167

---

- Added product support for GeForce Go 7900 GS
- Added product support for GeForce Go 7950 GTX
- Added product support for GeForce Go 7800 GTX

### What's New in Version 167.51

---

#### New Features

- Added product support for GeForce Go 7900 GS
- Added product support for GeForce Go 7950 GTX
- Added product support for GeForce Go 7800 GTX

## Open Windows XP Issues in Version 167.51

---

As with every released driver, version 167.51 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.

- “NVIDIA Recommendations” on page 5
- “NVIDIA Issues—Single GPU” on page 6
- “NVIDIA Issues—SLI Mode” on page 6
- “Application Issues” on page 8

### NVIDIA Recommendations

---

- Single display modes such as TV only, DFP/LCD only or CRT only provide the best performance and quality from Windows Media Center Edition.

*Dual display modes such as Dualview and nView Clone and Span modes are not recommended.*

- When using the trial version of WinDVD 6 from InterVideo.com, you may experience TV or DVD playback problems in Windows Media Center if you change resolutions during video playback. This is most often seen when switching from windowed to full screen mode.

*This problem does not occur with the latest full OEM versions of WinDVD or with other Windows Media Center qualified DVD decoders.*

- If you perform a clean driver installation (no previous NVIDIA drivers installed), **you must reboot your computer**. If you do not reboot, the predefined application profiles will not be activated and you may experience application stability problems.[124320]

## **NVIDIA Issues—Single GPU**

---

### **GeForce 7 Series GPUs**

- GeForce Go 7950 GTX/7900 GS: There is screen corruption when the BenQ FP94VW is the primary Clone mode display. [371839]
- GeForce Go 7950 GTX/7900 GS: The user cannot switch to S-Video out using the hot keys. [371838]
- GeForce Go 7950 GTX/7900 GS: Splinter Cell Double Agent—the game crashes after the user makes changes to the game's display settings and then attempts to load a saved game. [370841]
- GeForce Go 7950 GTX/7900 GS: Command & Conquer 3 Tiberium Wars—resuming from standby mode results in a drop in frame rate. [368784]
- GeForce Go 7950 GTX/7900 GS: Supreme Commander—resuming from standby mode with multi-display modes enabled results in a white screen. [368515]
- GeForce Go 7950 GTX/7900 GS: Lord of the Rings Battle for Middle Earth 2—resuming from standby mode results in a drop in frame rate. [368315]
- GeForce Go 7950 GTX/7900 GS: Fear Extraction Point—the background in the game's first video flickers black. [367078]
- GeForce Go 7950 GTX/7900 GS: Enemy Territory Quake Wars—resuming from a suspend state results in flickering vehicles. [366961]
- GeForce Go 7950 GTX/7900 GS: The NVIDIA Control Panel indicates the wrong resolution in DVI (HDTV) +LVDS Clone mode for 480p or 576p when clicking on the Resolution slide bar. [358627]
- GeForce Go 7800 GTX: The refresh rate switches to the default value when switching displays using the hot keys. [371401]
- GeForce Go 7800 GTX: Bio Shock (DirectX 9) —the brightness level of the game gets applied to the desktop even after the game is closed. [365000]

## **NVIDIA Issues—SLI Mode**

---

### **All GPUs**

- [SLI], The NVIDIA Control Panel prompts you to reboot the system after enabling SLI while in Dualview mode.[220320]

- [SLI], 3DMark 2005: Intermittent, horizontal, single-pixel width lines are drawn on the screen during CPU Test 1. [272972]

*This issue does not occur with V-Sync enabled.*

- [SLI]: Far Cry–flickering and shifting sky occurs in the Research level when SLI is enabled. [265091]

*This issue does not occur with V-Sync enabled.*

## **GeForce 7 Series GPUs**

- [SLI], GeForce Go 7950 GTX/7900 GS: Doom3–after starting the application with SLI mode enabled and then putting the system into sleep mode, the system resumes spontaneously or resumes with the internal panel still off. [373595]
- [SLI], GeForce Go 7950 GTX/7900 GS: Company of Heroes Opposing Fronts–with SLI mode enabled, ground textures flicker when closing the tactical map with shadows turned on. [369873]
- [SLI], GeForce Go 7950 GTX/7900 GS: Splinter Cell Double Agent–with SLI mode enabled, the saving screen (auto or manual) flickers. [368706]
- [SLI], GeForce Go 7950 GTX/7900 GS: Rainbow Six Vegas–with SLI enabled and HDR on, flickering black squares appear on or near character models. [368619]

## Not NVIDIA Issues

---

This section lists issues that are not due to the NVIDIA driver.

- [“Application Issues” on page 8](#)

### Application Issues

---

#### All GPUs

- Dual Core CPU: Counter Strike 1.6 hangs if you play Cheating Death 4.33.4 at same time.

*This application does not properly recognize dual-core CPUs.*

- Counter-Strike Source frame rate is jumpy.

*Jittery/lagging movement has been seen when starting a game after running the Video Stress Test.*

*Smooth movement is restored after exiting and then restarting the application. The issue does not appear when creating a new game, disconnecting, and then creating another new game.*

- HQV DVD playback is bobbing when running in overlay mode.[272289]

*This is not an NVIDIA bug, but rather an issue with the Intervideo decoder in WinDVD 8.*

- During DVD and HD DVD/Blu-ray playback, a white screen may appear over video when toggling from windowed to full-screen mode. [263449]

*This issue was reported in driver v96.94 as an NVIDIA driver issue, but now appears to be an application issue with PowerDVD. NVIDIA is working with the application developer to provide a fix.*

- 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.*

- S.T.A.L.K.E.R. Shadow of Chernobyl: This application is not compatible with the *Override any application setting* or *Enhance the application setting* antialiasing modes from the NVIDIA Control Panel Manage 3D Settings page.

*Please use the in-game antialiasing options.*

- Splinter Cell Double Agent crashes when loading a single player game.[270517]

*This is an application issue. You can work around this issue by creating a shortcut to launch the game as follows:*

- 1 Navigate to the game install directory, then change to the sub-folder  
    \SCDA-Offline\system.
- 2 Create a shortcut to splintercell4.exe.
- 3 Add "-ll" to the command line of the shortcut.
- 4 Use this shortcut to launch the single player version of the game.

- HQV DVD playback is bobbing when running in overlay mode.[272289]

*This is not an NVIDIA bug, but rather an issue with the Intervideo decoder in WinDVD 8.*

- Age of Empires 3: Setting application to 1600x1200 with shader quality set to 'very high' causes menus and game to become corrupted.

*This issue can be fixed by installing the v1.07 game patch.*

- Company of Heroes: Dark transparent band appears when running the in-game performance test.

*This is an application issue and can be reproduced on NVIDIA GeForce 7900 and ATI Radeon X1950 GPUs.*

- Elder Scrolls 4 Oblivion: Running at 2560x1600 with NVIDIA Enhanced Application mode 16xQ, extremely rare 1-2 second pauses occur during some fighting. [262685]

*This appears to be an application issue in how large textures are created during the in-game fighting.*

- Far Cry: Water reflection on Archive level is not correct. [253431]

*This appears to be an application issue. NVIDIA is working with the application developer to try to patch their application*

- Half-Life 2 Lost Coast: Color corruption occurs in the video stress test after changing the display mode.

*This is a known application issue.*

- Half-Life 2 Episode One: Gravity Gun has z-fighting problems on certain portions of the gun. [263505]

- Quake4: Random pauses occur during gameplay. [260029]

*This appears to be an application issue that affects testing on Quake4 with dual-core optimizations turned on. Turning off the SMP value in Quake4 eliminates this problem.*

- During DVD and HD DVD/Blu-ray playback, a white screen may appear over video when toggling from windowed to full-screen mode.[263449]

*This issue was reported in driver v96.94 as an NVIDIA driver issue, but now appears to be an application issue with PowerDVD. NVIDIA is working with the application developer to provide a fix.*

Age of Empires 3: Vertical sliver appears near the right side of the intro videos.  
[221738]

- Battlefield 1942 hangs after playing for a few minutes.[265230]

This is an application issue with dual-core CPUs.

## Known Product Limitations

---

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 12
- “PowerDVD 5.0 Does Not Display Correctly in nView Span Mode” on page 12
- “DirectX Fails When Detaching/Reattaching Displays in Dualview Mode” on page 12
- “OpenGL Viewport Scaling Problem in Horizontal Span Mode” on page 13
- “Video Playback in nView Clone and Span Modes” on page 13
- “No Antialiasing of 3DMark03 Image Quality Screen Captures” on page 13
- “Medal of Honor Under Windows XP / Windows 2000” on page 14
- “Windows XP/2000 Issue with Settings Tab Monitor Positioning” on page 14
- “Antialiasing Problems With Certain Applications” on page 15
- “Poor Quality S-Video Output on Some TVs” on page 15
- “AGP and PCI-E Programs May Hang With AMD K7 and K8 Processors” on page 15
- “Desktop Manager Does Not Re-Center Logon Screen” on page 16
- “Issues with Video Mirror–Windows XP/2000” on page 16

## 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 162.18 in Windows XP, 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.

## 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.*

## Medal of Honor Under Windows XP / Windows 2000

---

- **Problem**

The Electronic Arts game Medal of Honor uses a hard coded buffer to parse the OpenGL extension string. This can cause a system crash under Windows XP and Windows 2000.

- **Workaround**

NVIDIA has implemented Medal of Honor application detection to work around this extension string crash.

## Windows XP/2000 Issue with Settings Tab Monitor Positioning

---

- **Problem**

In the Windows **Display Properties > Settings** tab, the secondary monitors cannot be positioned directly above monitor #1 without snapping horizontally to a position diagonal to monitor #1.

- **When the Problem Occurs**

The problem occurs when four monitors are connected to the graphics adapter card, but only two of them are enabled.

- **Cause and Workaround**

This is a Microsoft—not an NVIDIA—bug, and there is no workaround to correct the positioning of the monitor icons. However, the actual positioning of the displays on the desktop can be corrected using the nView Desktop Manager window as follows:

- 1 Under the Tools tab in the Desktop Manager windows, make sure Automatically Align Displays is checked.
- 2 In the Settings tab, position the appropriate monitor icon above monitor #1, then click **Apply**.

The mouse cursor movement between monitor desktops will correspond to a vertical orientation of the monitors, even though the monitor icons in the Settings tab are diagonal to each other.

**Note:** This will be the case even if the monitor icons are deliberately positioned diagonal to each other.

## 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**.

## AGP and PCI-E Programs May Hang With AMD K7 and K8 Processors

---

- **Issue**

Microsoft® Windows® 2000 and Windows XP systems using AMD K7 and K8 processors can hang when an AGP or PCI-E program is used.

- **Root Cause**

There is a known problem with Microsoft® Windows® 2000 and Windows XP systems using AMD K7 and K8 CPUs that results in the Microsoft operating system allocating overlapping 4M cached pages with 4k write-combined pages. This condition results in undefined behavior and data corruption, and is explicitly disallowed by the AMD CPU manual.

This problem can affect any device driver in the system that allocates write-combined system memory, but is usually most easily reproduced with graphics drivers since graphics drivers generally make heavy use of write-combined system memory for performance reasons.

- **Resolution**

Microsoft has a knowledge base article on the issue, the text of which is unfortunately quite outdated. While the article only mentions Windows 2000, AGP, and K7, both the root cause and resolution also apply to Windows 2000 or Windows XP, AGP or PCI-E, and AMD K7 or K8. The article can be found at <http://support.microsoft.com/?id=270715>.

The issue is resolved by applying an operating system registry key as described in the referenced article that instructs the Microsoft operating system to not use the 4M pages, thus avoiding the conflict.

The registry key is automatically applied by installation of the latest NVIDIA nForce platform driver package (including 4.57 SMBUS or later). It is imperative for the package to be installed or for the registry key to be applied before the NVIDIA graphics driver or any other device drivers are installed. The registry key takes effect only after an operating system reboot.

## **Desktop Manager Does Not Re-Center Logon Screen**

On Windows XP multi-display systems that are set to nView Span mode, the Windows logon screen is centered on the extended desktop. This usually causes it to be split across two displays, which users may find annoying. Although users can normally use the Desktop Manager to restrict a window's appearance to one display, security restrictions in the operating systems prevent this in the case of the logon screen.

## **Issues with Video Mirror—Windows XP/2000**

Table 2.1 lists current known issues with NVIDIA Video Mirror functionality.

**Table 2.1** Known Issues with Video Mirror

Video Mirror is not yet implemented for applications using Video Port Extensions (VPE).
If Video Mirror is enabled but a full-screen display does not appear, one of the following problems may have occurred:
Video Mirror can only function when overlay is being used. The video player may not be able to create an overlay if another application is using the overlay, or the desktop display resolution is too high. You can lower the desktop resolution, pixel depth, or refresh rate.
Video Mirror requires some extra memory to run. Try closing other DirectX or OpenGL applications that may be running.
You may need to close and restart your video application for Video Mirror enabling or disabling to take effect.
Some video players that cannot detect the presence of Video Mirror stop playing if they are minimized or completely obscured by another window. For example, Media Player can exhibit this problem.

## CHAPTER

## 3

# THE RELEASE 167 DRIVER FOR WINDOWS XP

This chapter covers the following main topics:

- “Hardware and Software Support” on page 17
- “Driver Installation” on page 19
- “NVIDIA Driver History” on page 22

## Hardware and Software Support

---

### Supported Operating Systems

---

This Release 167 driver includes drivers designed for the following Microsoft® operating systems:

- Microsoft Windows® XP
  - Windows XP Media Center Edition 2005 Update Rollup2
  - Windows XP Media Center Edition 2005
  - Windows XP Media Center Edition 2004
  - Windows XP Professional
  - Windows XP Home Edition
  - Windows XP Professional x64 Edition

## Supported NVIDIA Products

---

Table 3.1 lists the NVIDIA GPUs supported by this Release 167 driver.

**Table 3.1** Supported Notebook Products

Manufacturer	Model	GPU
Alienware	Area-51 m9700	GeForce Go 7900 GS SLI
Dell	XPS M1710	GeForce Go 7950 GTX
Dell	XPS M1710	GeForce Go 7900 GTX
Dell	XPS M1710	GeForce Go 7900 GS
Dell	XPS M170	GeForce Go 7800 GTX
Sager	NP9261	GeForce Go 7950 GTX SLI
Sager	NP5960	GeForce Go 7900 GTX SLI

## Supported Languages

---

The Release 167 ForceWare 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

---

## System Requirements

---

The hard disk space requirement is minimum 62.9 MB for English-only, and 79 MB for International.

## Installation Instructions

---

### Before You Begin

- **If NVIDIA nTune is already installed**

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 nTune.

- 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.
- Under Windows XP, 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.

## Installing the NVIDIA ForceWare Graphics Drivers

- 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.

## NVIDIA Driver History

---

Release 167 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

<b>Driver</b>	<b>Name</b>	<b>Versions</b>	<b>Comments</b>
Release 167	ForceWare	167.51	

---

## APPENDIX



## MODE SUPPORT FOR WINDOWS

This chapter details the Windows modes supported by the Release 167 driver for NVIDIA products. It contains these sections:

- “General Mode Support Information” on page 24
- “Default Modes Supported by GPU for Windows XP” on page 25
- “TV-Out Modes Supported” on page 35

## 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 for Windows XP”](#) 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
Apple 30" Cinema HD Display (Dual link DVI)	2560x1600 @ 60 Hz	<ul style="list-style-type: none"> <li>All GeForce 7 Series GPUs</li> </ul>
Dell WFP 3007 (Dual Link DVI)	2560x1600 @ 60 Hz	<ul style="list-style-type: none"> <li>All GeForce 7 Series GPUs</li> </ul>

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

Resolution
1680 x 1050
1366 x 768

## Default Modes Supported by GPU for Windows XP

---

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

- “GeForce Go 7900 GS and GeForce Go 7950 GTX” on page 26
- “GeForce Go 7800 GTX” on page 30

### 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
<b>Example entry:</b> 1024 x 768	32 60 70 72 75 85 100 120 144 150 170 200	

<b>Meaning:</b>	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 Go 7900 GS and GeForce Go 7950 GTX

---

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

- NVIDIA GeForce Go 7900 GS
- NVIDIA GeForce Go 7950 GTX

### 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
600 x 800	8	60
640 x 400	8	60 70 72 75 85
640 x 480	8	60 70 72 75 85
720 x 480	8	60
800 x 600	8	60 70 72 75 85
1024 x 768	8	60 70 72 75 85
1280 x 720	8	60
1280 x 800	8	60 70 72 75 85
1280 x 1024	8	60 70 72 75 85
1440 x 900	8	60 70 72 75 85
1600 x 1200	8	60 70 72 75 85
1680 x 1050	8	60 70 72 75 85
1920 x 1080	8	60
1920 x 1200	8	60 70 72 75 85
1920 x 1440	8	60 70 72 75
2048 x 1536	8	60

---

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
600 x 800	16	60
640 x 400	16	60 70 72 75 85
640 x 480	16	60 70 72 75 85

720 x 480	16	60
800 x 600	16	60 70 72 75 85
1024 x 768	16	60 70 72 75 85
1280 x 720	16	60
1280 x 800	16	60 70 72 75 85
1280 x 1024	16	60 70 72 75 85
1440 x 900	16	60 70 72 75 85
1600 x 1200	16	60 70 72 75 85
1680 x 1050	16	60 70 72 75 85
1920 x 1080	16	60
1920 x 1200	16	60 70 72 75 85
1920 x 1440	16	60 70 72 75
2048 x 1536	16	60

---

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
600 x 800	32	60
640 x 400	32	60 70 72 75 85
640 x 480	32	60 70 72 75 85
720 x 480	32	60
800 x 600	32	60 70 72 75 85
1024 x 768	32	60 70 72 75 85
1280 x 720	32	60
1280 x 800	32	60 70 72 75 85
1280 x 1024	32	60 70 72 75 85
1440 x 900	32	60 70 72 75 85
1600 x 1200	32	60 70 72 75 85
1680 x 1050	32	60 70 72 75 85
1920 x 1080	32	60
1920 x 1200	32	60 70
1920 x 1440	32	60

## Horizontal Spanning Modes

1280 x 480	8	60 70 72 75 85
------------	---	----------------

1600 x 600	8	60 70 72 75 85
2048 x 768	8	60 70 72 75 85
2560 x 800	8	60 70 72 75 85
2560 x 1024	8	60 70 72 75 85
2880 x 900	8	60 70 72 75 85
3200 x 1200	8	60 70 72 75 85
3360 x 1050	8	60 70 72 75 85
3840 x 1200	8	60 70 72 75 85
3840 x 1440	8	60 70 72 75
4096 x 1536	8	60

---

1280 x 480	16	60 70 72 75 85
1600 x 600	16	60 70 72 75 85
2048 x 768	16	60 70 72 75 85
2560 x 800	16	60 70 72 75 85
2560 x 1024	16	60 70 72 75 85
2880 x 900	16	60 70 72 75 85
3200 x 1200	16	60 70 72 75 85
3360 x 1050	16	60 70 72 75 85
3840 x 1200	16	60 70 72 75 85
3840 x 1440	16	60 70 72 75
4096 x 1536	16	60

---

1280 x 480	32	60 70 72 75 85
1600 x 600	32	60 70 72 75 85
2048 x 768	32	60 70 72 75 85
2560 x 800	32	60 70 72 75 85
2560 x 1024	32	60 70 72 75 85
2880 x 900	32	60 70 72 75 85
3200 x 1200	32	60 70 72 75 85
3360 x 1050	32	60 70 72 75 85
3840 x 1200	32	60 70
3840 x 1440	32	60

## Vertical Spanning Modes

640 x 960	8	60 70 72 75 85
800 x 1200	8	60 70 72 75 85

1024 x 1536	8	60 70 72 75 85
1280 x 1600	8	60 70 72 75 85
1280 x 2048	8	60 70 72 75 85
1440 x 1800	8	60 70 72 75 85
1600 x 2400	8	60 70 72 75 85
1680 x 2100	8	60 70 72 75 85
1920 x 2400	8	60 70 72 75 85
1920 x 2880	8	60 70 72 75
2048 x 3072	8	60

---

640 x 960	16	60 70 72 75 85
800 x 1200	16	60 70 72 75 85
1024 x 1536	16	60 70 72 75 85
1280 x 1600	16	60 70 72 75 85
1280 x 2048	16	60 70 72 75 85
1440 x 1800	16	60 70 72 75 85
1600 x 2400	16	60 70 72 75 85
1680 x 2100	16	60 70 72 75 85
1920 x 2400	16	60 70 72 75 85
1920 x 2880	16	60 70 72 75
2048 x 3072	16	60

---

640 x 960	32	60 70 72 75 85
800 x 1200	32	60 70 72 75 85
1024 x 1536	32	60 70 72 75 85
1280 x 1600	32	60 70 72 75 85
1280 x 2048	32	60 70 72 75 85
1440 x 1800	32	60 70 72 75 85
1600 x 2400	32	60 70 72 75 85
1680 x 2100	32	60 70 72 75 85
1920 x 2400	32	60 70
1920 x 2880	32	60

## GeForce Go 7800 GTX

---

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

- NVIDIA GeForce Go 7800 GTX

### 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 85 100 120
640 x 480	8	60 70 72 75 85 100 120
720 x 480	8	60 70 72 75 85 100 120
800 x 600	8	60 70 72 75 85 100 120
1024 x 768	8	60 70 72 75 85 100 120
1088 x 612	8	60 70 72 75 85 100 120
1152 x 864	8	60 70 72 75 85 100 120
1280 x 720	8	60 70 72 75 85 100 120
1280 x 768	8	60 70 72 75 85 100 120
1280 x 960	8	60 70 72 75 85 100 120
1280 x 1024	8	60 70 72 75 85 100 120
1400 x 1050	8	60 70 72 75 85 100
1600 x 1024	8	60 70 72 75 85 100
1600 x 1200	8	60 70 72 75 85 100
1920 x 1080	8	60 70 72 75 85 100
1920 x 1200	8	60 70 72 75 85
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 85 100 120
640 x 480	16	60 70 72 75 85 100 120

720 x 480	16	60 70 72 75 85 100 120
800 x 600	16	60 70 72 75 85 100 120
1024 x 768	16	60 70 72 75 85 100 120
1088 x 612	16	60 70 72 75 85 100 120
1152 x 864	16	60 70 72 75 85 100 120
1280 x 720	16	60 70 72 75 85 100 120
1280 x 768	16	60 70 72 75 85 100 120
1280 x 960	16	60 70 72 75 85 100 120
1280 x 1024	16	60 70 72 75 85 100 120
1400 x 1050	16	60 70 72 75 85 100
1600 x 1024	16	60 70 72 75 85 100
1600 x 1200	16	60 70 72 75 85 100
1920 x 1080	16	60 70 72 75 85 100
1920 x 1200	16	60 70 72 75 85
1920 x 1440	16	60 70 72 75 85
2048 x 1536	16	60 70 72 75 85

---

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 85 100 120
640 x 480	32	60 70 72 75 85 100 120
720 x 480	32	60 70 72 75 85 100 120
800 x 600	32	60 70 72 75 85 100 120
1024 x 768	32	60 70 72 75 85 100 120
1088 x 612	32	60 70 72 75 85 100 120
1152 x 864	32	60 70 72 75 85 100 120
1280 x 720	32	60 70 72 75 85 100 120
1280 x 768	32	60 70 72 75 85 100 120
1280 x 960	32	60 70 72 75 85 100 120
1280 x 1024	32	60 70 72 75 85 100 120
1400 x 1050	32	60 70 72 75 85
1600 x 1024	32	60 70 72 75 85
1600 x 1200	32	60 70 72 75 85
1920 x 1080	32	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
1440 x 480	8	60 70 72 75 85 100 120
1600 x 600	8	60 70 72 75 85 100 120
2048 x 768	8	60 70 72 75 85 100 120
2176 x 612	8	60 70 72 75 85 100 120
2304 x 864	8	60 70 72 75 85 100 120
2560 x 720	8	60 70 72 75 85 100 120
2560 x 768	8	60 70 72 75 85 100 120
2560 x 960	8	60 70 72 75 85 100 120
2560 x 1024	8	60 70 72 75 85 100 120
2800 x 1050	8	60 70 72 75 85 100
3200 x 1024	8	60 70 72 75 85 100
3200 x 1200	8	60 70 72 75 85 100
3840 x 1080	8	60 70 72 75 85 100
3840 x 1200	8	60 70 72 75 85
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
1440 x 480	16	60 70 72 75 85 100 120
1600 x 600	16	60 70 72 75 85 100 120
2048 x 768	16	60 70 72 75 85 100 120
2176 x 612	16	60 70 72 75 85 100 120
2304 x 864	16	60 70 72 75 85 100 120
2560 x 720	16	60 70 72 75 85 100 120
2560 x 768	16	60 70 72 75 85 100 120
2560 x 960	16	60 70 72 75 85 100 120
2560 x 1024	16	60 70 72 75 85 100 120
2800 x 1050	16	60 70 72 75 85 100
3200 x 1024	16	60 70 72 75 85 100
3200 x 1200	16	60 70 72 75 85 100
3840 x 1080	16	60 70 72 75 85 100
3840 x 1200	16	60 70 72 75 85
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

1440 x 480 32 60 70 72 75 85 100 120

1600 x 600 32 60 70 72 75 85 100 120

2048 x 768 32 60 70 72 75 85 100 120

2176 x 612 32 60 70 72 75 85 100 120

2304 x 864 32 60 70 72 75 85 100 120

2560 x 720 32 60 70 72 75 85 100 120

2560 x 768 32 60 70 72 75 85 100 120

2560 x 960 32 60 70 72 75 85 100 120

2560 x 1024 32 60 70 72 75 85 100 120

2800 x 1050 32 60 70 72 75 85

3200 x 1024 32 60 70 72 75 85

3200 x 1200 32 60 70 72 75 85

3840 x 1080 32 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

720 x 960 8 60 70 72 75 85 100 120

800 x 1200 8 60 70 72 75 85 100 120

1024 x 1536 8 60 70 72 75 85 100 120

1088 x 1224 8 60 70 72 75 85 100 120

1152 x 1728 8 60 70 72 75 85 100 120

1280 x 1440 8 60 70 72 75 85 100 120

1280 x 1536 8 60 70 72 75 85 100 120

1280 x 1920 8 60 70 72 75 85 100 120

1280 x 2048 8 60 70 72 75 85 100 120

1400 x 2100 8 60 70 72 75 85 100

1600 x 2048 8 60 70 72 75 85 100

1600 x 2400 8 60 70 72 75 85 100

1920 x 2160 8 60 70 72 75 85 100

1920 x 2400 8 60 70 72 75 85

1920 x 2880 8 60 70 72 75 85

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

2048 x 3072	8	60 70 72 75 85
-----		
640 x 960	16	60 70 72 75 85 100 120
720 x 960	16	60 70 72 75 85 100 120
800 x 1200	16	60 70 72 75 85 100 120
1024 x 1536	16	60 70 72 75 85 100 120
1088 x 1224	16	60 70 72 75 85 100 120
1152 x 1728	16	60 70 72 75 85 100 120
1280 x 1440	16	60 70 72 75 85 100 120
1280 x 1536	16	60 70 72 75 85 100 120
1280 x 1920	16	60 70 72 75 85 100 120
1280 x 2048	16	60 70 72 75 85 100 120
1400 x 2100	16	60 70 72 75 85 100
1600 x 2048	16	60 70 72 75 85 100
1600 x 2400	16	60 70 72 75 85 100
1920 x 2160	16	60 70 72 75 85 100
1920 x 2400	16	60 70 72 75 85
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
720 x 960	32	60 70 72 75 85 100 120
800 x 1200	32	60 70 72 75 85 100 120
1024 x 1536	32	60 70 72 75 85 100 120
1088 x 1224	32	60 70 72 75 85 100 120
1152 x 1728	32	60 70 72 75 85 100 120
1280 x 1440	32	60 70 72 75 85 100 120
1280 x 1536	32	60 70 72 75 85 100 120
1280 x 1920	32	60 70 72 75 85 100 120
1280 x 2048	32	60 70 72 75 85 100 120
1400 x 2100	32	60 70 72 75 85
1600 x 2048	32	60 70 72 75 85
1600 x 2400	32	60 70 72 75 85
1920 x 2160	32	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

---

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.