Release 190 Graphics Drivers
Release Notes

Version 190.62

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

NVIDIA Corporation
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INTRODUCTION TO *RELEASE NOTES*

This edition of *Release Notes* describes the Release 190 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:

- "Release 190 Driver Changes" on page 3 gives a summary of changes, and fixed and
  open issues in this version.

- "The Release 190 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

This edition of the *Release Notes* for Windows Vista includes information about
NVIDIA graphics driver version 190.62, and lists changes made to the driver since
version 186.18. These changes are discussed beginning with the chapter "Release 190
Driver Changes" on page 3.

C H A P T E R

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RELEASE 190 DRIVER CHANGES

This chapter describes open issues for version 190.62, and resolved issues and driver enhancements for versions of the Release 190 driver up to version 190.62. The chapter contains these sections:

Version 190.62 Highlights

This section provides highlights of version 190.62 of the NVIDIA Release 190 Driver for Windows Vista.

- What's New in Release 190

- What's New in Version 190.62

- Limitations in This Release

What's New in Release 190

The section summarizes the following driver changes in Release 190:

- NVIDIA Control Panel Updates

- Display Driver Updates

- CUDA Updates

- OpenGL Updates

NVIDIA Control Panel Updates

Display Settings Pages–Organizational Changes

- The following pages have been revised to include TV settings controls:

  - **Adjust Desktop Color Settings**
    Now includes controls to adjust TV color settings.

  - **Change Resolution**
    Now includes controls to adjust TV and HDTV signal formats and resolution.

  - **Adjust Desktop Size and Position**
    Now includes controls to adjust the TV screen size and position, and to resize the HDTV desktop.

- The following pages and links now appear in the Display category:

  - **HDCP Status** page

  - **Digital Audio** page

- The controls in the Manage Custom Resolutions page are now located in the **Change Resolution** page.

Display Settings Pages - Feature Changes

- **Adjust Desktop Color Settings** page

  For Geforce 8 series and later GPUS, the Digital Vibrance range is extended to include the black and white limit which now corresponds to 0%. The new default value is 50%.

- After resizing the HDTV desktop, the new resolution created is now added to the list of available resolutions for that display, and also added to the resolution list within the game or application.

Video & Television Pages

- The following pages and controls have been moved to the Display category:
  - **Adjust Television Color Settings** page (see Display->Adjust Desktop Color Settings)
  - **Change the signal or HD format** page (see Display->Change Resolution)
  - **Select Digital color format** page (see Display->Change Resolution)
  - **Adjust screen size and position** page (see Display->Adust Desktop Size and Position)
  - **Resize HDTV desktop** page (see Display->Adjust Desktop Size and Position)
  - **HDCP Status** page
  - **Digital Audio** page

3D Settings Pages

- **Preferred Refresh Rate**

  The Preferred Refresh Rate control lets you override the refresh rate limitations imposed by the 3D application for the indicated monitor.

- **Power Management mode**

  Many NVIDIA graphics cards support multiple performance levels so that the PC can save power when full graphics performance is not required. To provide more control over these power management capabilities, NVIDIA has added the Power Management Mode control. The control consists of two settings–*Adaptive* and *Prefer Maximum Performance*.

  Adaptive: This is the default setting in which the graphics card monitors GPU usage and seamlessly switches between modes based on the performance demands of the application. This allows the GPU to always use the minimum amount of power required to run a given application, and can allow even older 3D games to run in lower power modes if the game does not require full 3D performance. NVIDIA recommends this setting for best overall balance of power and performance.

Prefer Maximum Performance: This setting lets you maintain the card at its maximum performance level when 3D applications are running regardless of GPU usage. This option can be set Globally (for all 3D applications), or an application profile can be created under Program Settings to set the preference for a particular 3D application.

This feature is supported only on select GeForce 9 Series and later GPUs and applies only to DirectX and OpenGL-based applications.

Display Driver Updates

- Added support for hardware overlays on both Clone mode displays.

  Previously, the driver supported only one hardware overlay, so only one Clone mode display could present the video overlay.

- EDID Override (for monitor manufacturers)

  The graphics driver now can use Extended Display Identification Data (EDID) overrides provided by the monitor manufacturers. These overrides are updated EDIDs contained within the monitor INF.

  Refer to the Microsoft white paper http://www.microsoft.com/whdc/device/display/edid_over.mspx.

CUDA Updates

- Added support for 64-bit video encoding.

- Added support to make all GPUs within an SLI group available for CUDA applications to use.

OpenGL Updates

- Added support for OpenGL 3.1

What's New in Version 190.62

- This driver version adds support for NVIDIA PhysX acceleration on all GeForce 8-series, 9-series, 100-series, and 200-series GPUs with a minimum of 256MB dedicated graphics memory and a minimum of 32 processor cores (this driver package installs NVIDIA PhysX System Software v9.09.0814).

- See "Changes in Version 190.62" on page 8 for a list of resolved issues.

Limitations in This Release

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.

Changes in Version 190.62

The following sections list the changes made and issues resolved since driver version 190.38.

The NVIDIA bug number is provided for reference.

Windows Vista 64-bit Issues

Multi-GPU Resolved Issues

- [SLI], GeForce 7 Series: There is no confirmation popup when some changes are made in the NVIDIA Control Panel. [511417]

Changes in Version 190.38

The following sections list the changes made and issues resolved since driver version 186.18.

The NVIDIA bug number is provided for reference.

Windows Vista 64-bit Issues

Single GPU Resolved Issues

- GeForce 9800 GX2: The system does not resume from Standby mode. [558284]

Open Issues in Version 190.62

As with every released driver, version 190.62 of the Release 190 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.

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Windows Vista 32-bit Issues

Single GPU Issues

All GPUs
- Half Life 2: Episode 2–the in-game brightness is greatly reduced if Enhanced or Override AA is enabled from the NVIDIA Control Panel. [429254]

GeForce 200 Series
- GeForce GTX 285: When playing a 3D game at a different resolution than the desktop and then quitting, the desktop resolution switches to the game resolution after a system reboot or resume from sleep mode. [567964]

GeForce 9 Series
- GeForce 9800 GTX: Far Cry 2–with the in-game resolution set to 1920x1200 and antialiasing set to 2x or higher, there is corruption when looking up at the sky. [555163]

- GeForce 9800 GT: With Dualview mode enabled, the GPU runs at the highest performance level even when no video or 3D applications are running. [531538]

GeForce 8 Series GPUs
- GeForce 8800: Default custom resolutions cannot be created when using the DVI connection. [446476]

- GeForce 8600: HD resolutions higher than 720p are not available.[308627]

Multi-GPU Issues

GeForce 200 Series GPUs
- [3-way SLI], GeForce GTX 280/260: 3DMark06–the TV screen (component or S-Video) goes blank after launching the benchmark with SLI mode enabled. [491193]

GeForce 9 Series GPUs
- [SLI], GeForce 9800 GTX: Mass Effect–there is a band of corruption on the edge of the screen when switching from a high resolution to a lower resolution. [433929]

Windows Vista 64-bit Issues

Single GPU Issues

- NVIDIA Control Panel: Adding a custom profile with an open bracket in the name results in an error. [437056]

- Half Life 2: Episode 2–the in-game brightness is greatly reduced if Enhanced or Override AA is enabled from the NVIDIA Control Panel. [429254]

GeForce 200 Series
- GeForce 200 Series: When entering custom resolution values from the Manage Custom Resolutions page, the values are not validated. [524691]

- GeForce GTX 295: Settings on the "Adjust desktop color settings" page are at 0% for the secondary Clone or Dualview mode display. [514218]

- GeForce GTS 250: The graphics card does not switch to reduced power after closing a 3D application. [582271]

GeForce 9 Series
- GeForce 9800 GT: Lineage 2–the game world is extremely dark. [531486]

GeForce 8 Series
- GeForce 8800 GT/GTX: Default custom resolutions cannot be created when using the DVI connection. [446476]

- GeForce 8800 GTX, NVIDIA Control Panel: The user is unable to select Resize my Desktop while playing an HD DVD. [357674]

- GeForce 8400 GS: Screen size changes made from the NVIDIA Control Panel "Adjust screen size and position "page are not preserved after resuming from Hibernate/Standby. [544085]

Multi-GPU Issues

GeForce 200 Series
- [3-way SLI], GeForce GTX 280: Farcry2–there are black patches of corruption with SLI enabled at 2560x1600 resolution. [535524]

- [SLI], GeForce 200 Series: With two displays connected in Dualview mode, changes to the NVIDIA Control Panel-> Adjust Desktop Color Settings->NVIDIA settings are not preserved after enabling or disabling SLI mode. [554097]

- [SLI], GeForce GTX 280: After enabling SLI, you cannot switch the SLI Focus display under Dualview mode. [570159]

GeForce 9 Series

- [3-way SLI], GeForce 9800 GTX: Crysis (64-bit) (DirectX 9)– there is a lengthy pause or the system freezes when firing a weapon. [450562]

  This issue does not occur with the DirectX 10 version of the game, which is the recommended version.

- [SLI], GeForce 9800 GTX: Call of Duty: World at War–there is geometric corruption after applying Ambient Occlusion from the NVIDIA Control Panel. [526733]

- [SLI], GeForce 9600 GT, GeForce 8500/8400/8300: Changes made from the Resize HDTV Settings page are note saved after enabling SLI mode. [529759]

GeForce 8 Series

- [SLI], GeForce 8800 GTX: After resizing the desktop, the change is not preserved when you reboot the system. [529812]

- [SLI], GeForce 8800 GTS: The display turns monochromatic (black and white) after changing the resolution. [568405]

- [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

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

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

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 System Tools software, which you can download from 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.

• **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.

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
- 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

- World of Warcraft–if you have run the 3D Vision setup wizard, then the game automatically enables 3D stereo even after you disable it.

  To work around this issue, you must uninstall the 3D Vision driver.

- Counter Strike–the application crashes to the desktop if the resolution or bit-depth is changed from the in-game video options menu. [416582]

  This is an application issue, but the problem does not occur if you change the resolution or bit-depth from the game's main menu and not while in a game.

- Star Wars: Knights Of The Old Republic 2–the game fails to launch, and an "application has stopped working" error message appears. [420115]

  This occurs because the application is not able to interpret the driver version correctly.

- 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.

- Windows Vista 64-bit, [PhysX]: TheGameCreators PhysX Screen Saver doesn't get installed properly. [491613]

This is not an NVIDIA issue, but a bug in Vista 64-bit OS that affects the installation of many screen savers. To work around, locate the corresponding .scr file for the screen saver, then right-click and select **Install***.*

Note: *PhysXscreensaver.scr is located in \windows\SysWOW64.*

- GeForce 9800 GTX: Flight Simulator Acceleration (DirectX 10) - the sky box does not render correctly when zoomed all the way out. [436158]

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

- GeForce 9800 GTX: Flight Simulator Acceleration (DirectX 10) - there is no antialiasing preview window. [436156]

- 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 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]

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

- 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. [308248/316633]

- 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 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 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]

- 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.

- [Quad SLI], GeForce 9800 GX2: Test Driver Unlimited–there is pausing/hitching during the cut scene transitions. [395207]

- [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

- 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

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 23

- "1280x1024 @ 60 Hz not Available on BenQ FP241W Monitors" on page 23

- "Image Sharpening Control not Available with GeForce 8 Series and later GPUs" on page 23

- "Gigabyte GA-6BX Motherboard" on page 23

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

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

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

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

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.

3

THE RELEASE 190 DRIVER

This chapter covers the following main topics:

Hardware and Software Support

Supported Operating Systems

The Release 190 driver, version 190.62, 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

Table 3.1 lists the NVIDIA products supported by the Release 190 driver, version 190.62

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

Supported Languages

The Release 190 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

Minimum Hard Disk Space

The hard disk space requirement for 32-bit is minimum 105 MB for English-only, and 142 MB for International.

The hard disk space requirement for 64-bit is minimum 135 MB for English-only, and 170 MB for International.

Before You Begin

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

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.

A

MODE SUPPORT FOR WINDOWS

This chapter details the Windows modes supported by the Release 190 driver for NVIDIA products. It contains these sections:

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
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

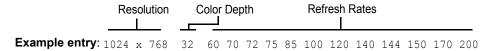| Resolution |
|---|
| 1680 x 1050 |
| 1366 x 768 |

Default Modes Supported by GPU

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 34

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,
                               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

This sections lists the supported display resolutions, color depths, and refresh rates for the the products listed in .

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
 800 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
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
-------------------------------------------------------------------
 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
 800 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
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
-------------------------------------------------------------------
 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
 800 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
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


-------------------------------------------------------------------
```

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 8 Series and later GPUs.
480p (EDTV)	
720p (HDTV)	
1080i (HDTV)	
576i (PAL)	
576p (PAL)	

The driver supports manual overscan correction for component and DVI outputs. See the online NVIDIA Control Panel Help for instructions on how to use the overscan correction features.