PNY Quadro

Professional Graphics Accelerators

User Manual

Quadro4 XGL Series

Quadro4 NVS Series

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Table of Contents

Chapter 1 Introduction 3
Chapter 2 Hardware Installation 5
Chapter 3 Software Installation 15
Chapter 4 nVidia nView Installation 17
Chapter 5 Display Properties 36
Chapter 6 MAXtreme 56
Chapter 7 POWERdraft 58
Chapter 8 QuadroView 60
Chapter 9 Technical Specifications 62
Chapter 10 Support 66

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Chapter 1
Introduction

Congratulations on the purchase of your Quadro graphics accelerator board from PNY Technologies. You are now the owner of a state-of-the-art graphics accelerator that was designed for professional 3D and 2D applications, and offers features and functionality beyond any other card in its class. We recommend that you read through this ***User Guide*** before installing your accelerator board to ensure a proper installation.

Minimum System Requirement

- IBM® or 100% PC compatible with genuine Pentium® III or AMD Athlon® class processor or higher
- One available AGP 2.0 compliant slot or better, or one available PCI slot (as required for your specific card)
- Windows® XP, 2000 or Windows® NT4.0. (Service Pack 5 or 6)
- 128 MB system memory
- 20 MB of available disk space for full installation
- CD-ROM or DVD-ROM drive
- VGA or DVI-I compatible monitor

Package Contents

Please check your package, which contains the items below. If you find any damaged or missing items, please contact your dealer.

- Graphics board
- Adapters or cables
- CD-ROM: software drivers for Windows® 2000, XP, NT4.0, DirectX 8.1®
- Installation Guide

Before You Begin

- Before installing the Display driver, make sure your Windows® /2000/ XP or NT was installed in VGA mode and functions properly.
- To use an AGP graphics card with Windows® NT4.0, you may need to re-install NT with Service Pack 5 (SP5) or Service Pack 6 (SP6) before installing the AGP card.
- If you are running Windows® NT4.0, please note that some drivers are not compatible with earlier releases of Windows® NT. Consult your dealer or local support to ensure you have the most recent releases for Windows NT and the drivers.

IMPORTANT

Uninstalling Your Existing VGA Driver

- Remove your existing Display Driver using the Add/Remove Icon in **'Control Panel'**
- Shut down your computer.
- Remove your existing video card
- **NOTE:** If your system (motherboard) has an onboard graphics controller, please contact the system vendor on how to properly disable it.

Chapter 2
Hardware Installation

IMPORTANT

Static electricity can severely damage electronic parts.

Please take these precautions when installing your graphics card:

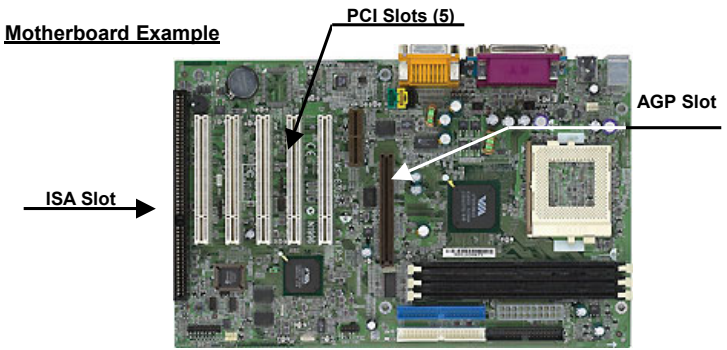
- Before touching any electronic parts, discharge the static electricity from your body by touching the internal metal frame of your computer while it is unplugged.
- Do not remove a card from the anti-static container it shipped in until you are ready to install it. Whenever you remove a card from your computer, always make sure to place it back in its container.
- Do not let your clothing touch any electronic parts..
- When handling a card, hold it by its edges, and avoid touching its circuitry.

Preparing Your Computer for Installation

Prior to working on your computer, make sure the power of the computer and any attached equipment such as a monitor or printer is turned off. Unplug your computer and remove the cover. Remove your current graphics card. For systems with 'On-Board 3D Graphics', there is no graphics card to remove. Some systems may require you to disable your 'On-Board 3D Graphics'. Consult your PC users' manual or vendor manual on how to properly do this.

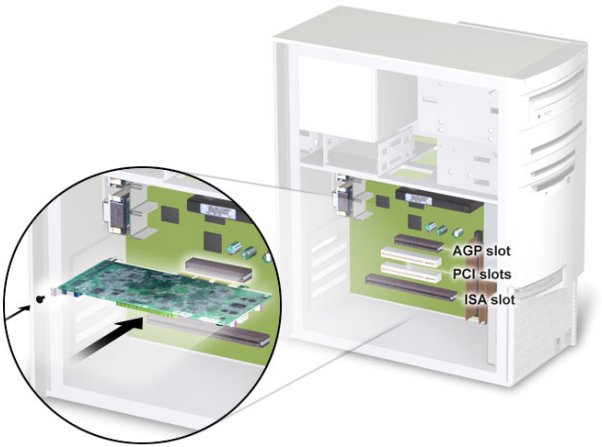
Selecting the Proper Expansion Slot

Most computers have a combination of AGP, PCI and ISA expansion slots. All these slots may look similar at first, however you will notice their differences once you examine them more closely. The ISA connectors are black and are the largest of the three types. The AGP slot on your computer motherboard is usually the closest connector to the CPU and is made from a plastic of a contrasting brown color. The PCI connectors are usually located between the AGP and ISA connectors are made from a white plastic, and are the same connector type that most Sound or Modem Cards are connected. If you are still unsure which connectors are AGP and PCI, consult your system manual to help you identify them. Plugging your graphics card into an incorrect slot could damage the card, your computer, or both. Do not try to force a card into a slot that does not accommodate it, as it is probably the wrong slot. The diagram below should help you in identifying the proper slot.



Inserting Your Graphics Card

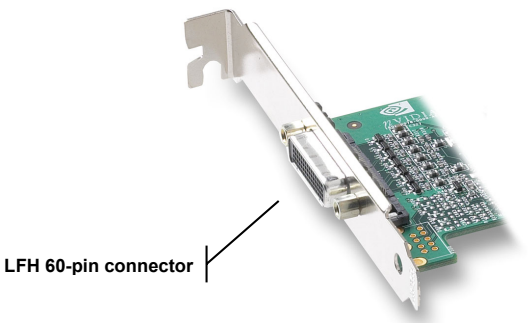
Remove the back of the PC cover for the slot you intend to use and save the screw for the mounting bracket of your new PNY Quadro graphics card. Position the Quadro graphics card over the expansion slot that coincides with the type (AGP or PCI) of card purchased. Push the card firmly and evenly until it's fully seated into the slot. Replace the screw to secure the bracket of the graphic's card to the computer chassis. Replace the cover of your computer.



Plug your Monitor or Flat Panel Display cable into the appropriate connector on your graphic card. All cables MUST be connected before your computer is powered on.

Quadro4 550 & 580 XGL, Quadro4 200, 280 & 400 NVS Connectors

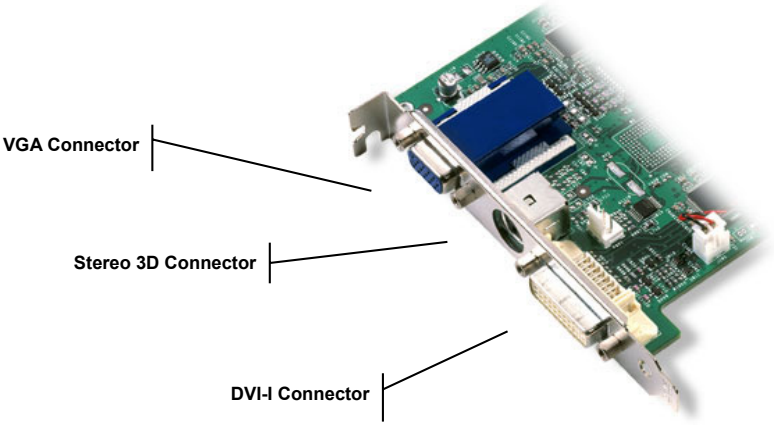
The Quadro4 200/280 NVS and the Quadro4 550/580 XGL have a single LFH 60-pin connector. The Quadro4 400 NVS has two LFH 60-pin connectors. Each LFH connector can support two monitors, using the supplied splitter cable. Your card ships with one VGA+VGA splitter cable per LFH port. DVI-I + DVI-I splitter cables are available at an additional cost. Visit PNY Technologies' web site at www.pny.com for more information.



Quadro4 750 XGL Connectors

The Quadro4 750 XGL has both VGA and DVI-I connectors. These connectors support:

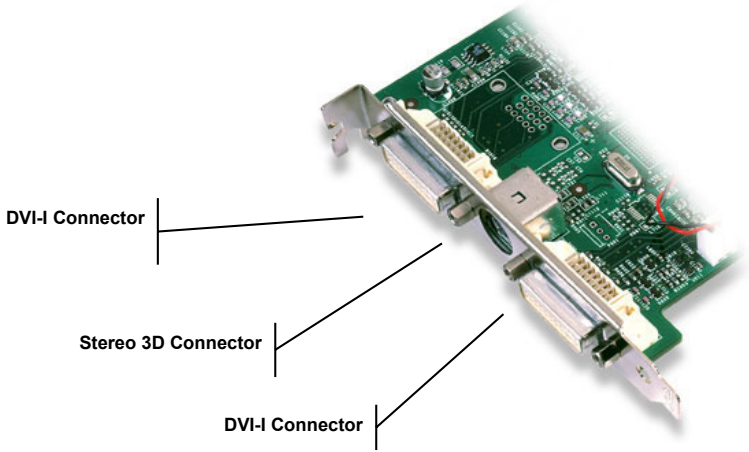
- Single VGA output
- Dual VGA output (using a DVI-I to VGA adapter)
- Single DVI-I output
- VGA + DVI-I output
- The Quadro4 750 XGL also supports 3D stereo out through a standard 3-pin connector.


VGA Connector
Stereo 3D Connector
DVI-I Connector

Quadro4 900/980 XGL Connectors

The Quadro4 900/980 XGL has dual DVI-I connectors. This card supports:

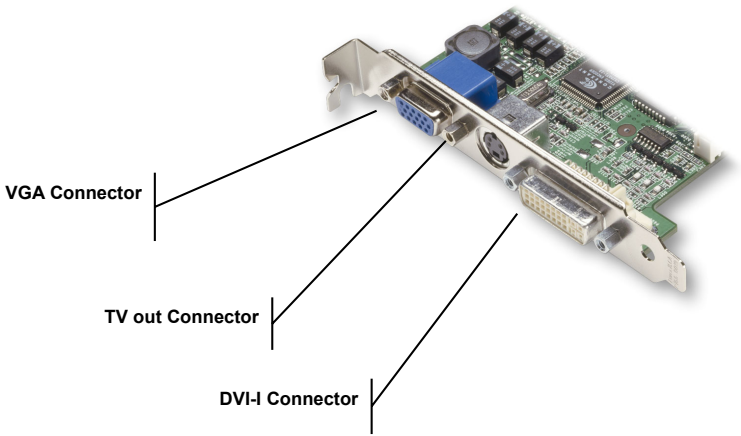
- Single VGA output (using a DVI-I to VGA adapter)
- Dual VGA output (using two DVI-I to VGA adapters)
- VGA + DVI-I output (using a DVI-I to VGA adapter)
- DVI-I + DVI-I output
- The Quadro4 900 XGL also supports 3D stereo out through a standard 3-pin connector



Quadro4 380 XGL Connectors

The Quadro4 380 XGL has VGA,DVI-I & TV out connectors and supports dual monitors. This card supports:

- VGA output
- DVI-I output
- The Quadro4 380XGL also supports TV out



Chapter 3
Software Installation

Did you **Uninstall** your existing VGA driver?

- If yes, proceed with Chapter 3.
- If No, go back to Chapter 1 **'Uninstalling Your VGA Driver',** complete the process and then continue with Chapter 3.

Installing the *Standard Graphics Adapter (VGA)* Driver.

- Power up you computer and launch Windows®, 2000, XP or NT.
- The **Building Driver Database** dialog box will appear as the Windows® operating system builds the database.
- When the **Add New Hardware Wizard** appears, click **Next.**
- Choose **Search For The Best Driver For Your Device,** and click **Next.**
- Make sure that all of the four choices are left blank. If not, un-check the applicable box. Then click **Next**.
- Windows® is now ready to install the **Standard Graphics Adapter** driver. Click **Next** to continue.
- Click **Finish.** Windows® will install the **Standard Graphics Adapter** driver.
- You will now be prompted to re-start your computer. Click **Yes.**

Installing Quadro Graphics Drivers

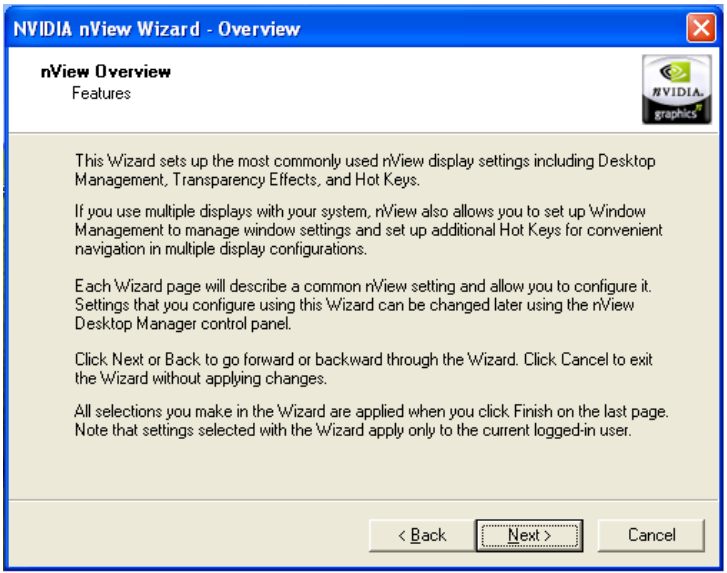
1. Insert the PNY Quadro CD-ROM into the CD-ROM drive.
2. For Windows®, 2000/XP go to PNY CD-ROM directory: Drivers /WIN 2K-XP double click on the Set-up Icon and follow the screen instructions.
3. For Windows® NT go to PNY CD-ROM directory: Drivers /WIN NT4 double click on the Set-up Icon and follow the screen instructions.
4. For Windows®, 2000 DirectX Drivers go to PNY CD-ROM directory: Drivers/DirectX8.1/Win2K double click on the DXGINTENG.EXE and follow the screen instructions.

Chapter 4
nVidia nView Installation

About NVidia nView
nVidia's nView is a desktop utility designed to give you an easier way of managing multiple displays and enhancing your desktop. Once you install the nVidia drivers and reboot, the nVidia nView wizard will appear. You can either choose to install it or cancel the nView setup. Each screen will give you a brief description of the options nView will enable. Detailed documentation of nView is available on the Installation CD in the manuals/user/nView folder.

1st Screen:

2nd Screen:


NVIDIA nView Wizard - Overview
nView Overview
Features
This Wizard sets up the most commonly used nView display settings including Desktop Management, Transparency Effects, and Hot Keys.
If you use multiple displays with your system, nView also allows you to set up Window Management to manage window settings and set up additional Hot Keys for convenient navigation in multiple display configurations.
Each Wizard page will describe a common nView setting and allow you to configure it. Settings that you configure using this Wizard can be changed later using the nView Desktop Manager control panel.
Click Next or Back to go forward or backward through the Wizard. Click Cancel to exit the Wizard without applying changes.
All selections you make in the Wizard are applied when you click Finish on the last page. Note that settings selected with the Wizard apply only to the current logged-in user.
< Back
Next >
Cancel

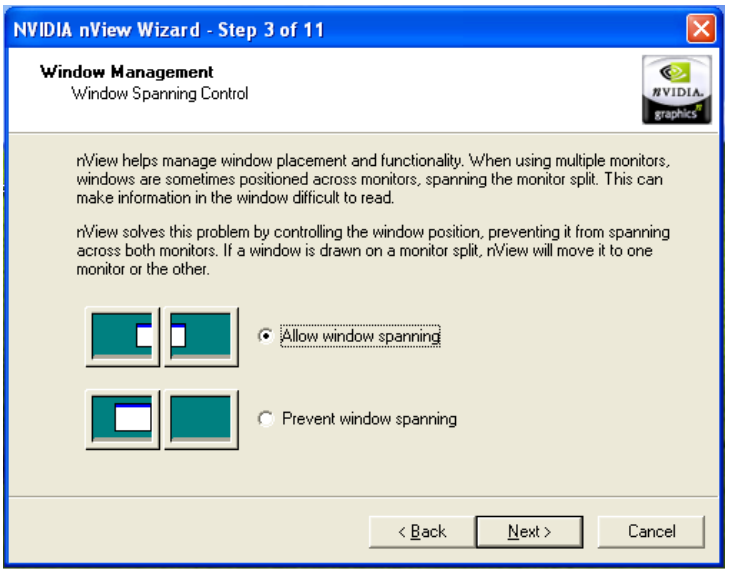
3rd Screen:

NVIDIA nView Wizard - Step 1 of 11
Enable nView
Using nView Desktop Manager
NVIDIA
graphics
nView Desktop Manager has been installed on your computer but it has not been enabled.
To enable nView, you can open nView Desktop Manager (control panel) from the Windows Control Panel group and then click the Load nView button. This will temporarily enable nView until you log off and log on again.
You can also set up nView to automatically load every time you start Windows by checking the box below. This option is recommended for all multi-monitor users or if you plan on frequently using the features offered by nView.
Automatically enable nView when starting Windows
This automatic load setting can always be changed in the future though the Wizard button on the nView Desktop Manager control panel.
< Back
Next >
Cancel

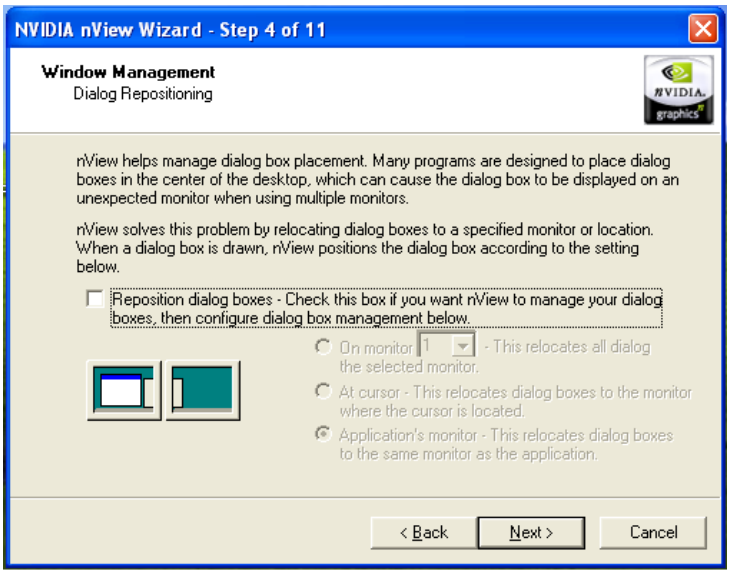
4th Screen:

NVIDIA nView Wizard - Step 2 of 11
Profiles
How to load and use a profile
nVIDIA graphics
nView can record all of its display settings in a single file, called a profile. nView includes several generic profiles for different industries. In addition, Administrators can add new profiles specific to a company, workgroup, or user.
By selecting a profile below, you can configure all nView display settings in a single step.
<none>
generic
From the list on the left, select a profile that matches either your company, computer manufacturer or industry, or select <none> if you do not want to load a profile.
Skip the detailed configuration and go directly to the last Wizard page
< Back
Next >
Cancel

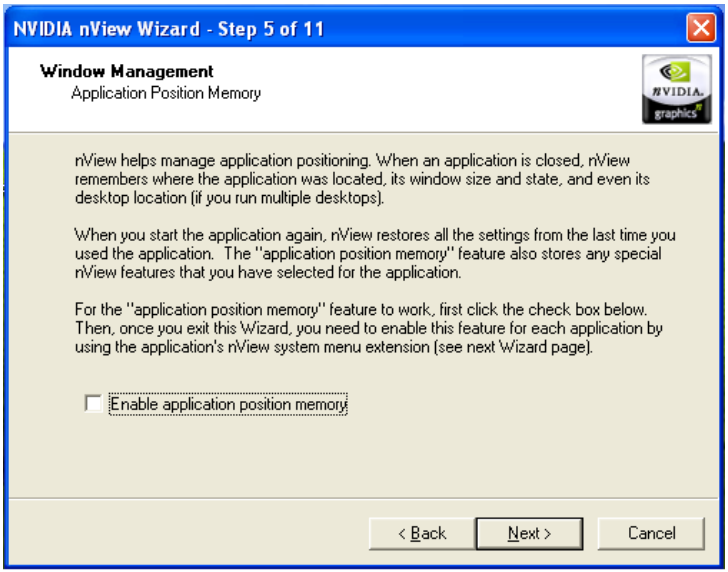
5th Screen:


NVIDIA nView Wizard - Step 3 of 11
Window Management
Window Spanning Control
NVIDIA graphics
nView helps manage window placement and functionality. When using multiple monitors, windows are sometimes positioned across monitors, spanning the monitor split. This can make information in the window difficult to read.
nView solves this problem by controlling the window position, preventing it from spanning across both monitors. If a window is drawn on a monitor split, nView will move it to one monitor or the other.
Allow window spanning
Prevent window spanning
< Back
Next >
Cancel

6th Screen:


NVIDIA nView Wizard - Step 4 of 11
Window Management
Dialog Repositioning
NVIDIA graphics
nView helps manage dialog box placement. Many programs are designed to place dialog boxes in the center of the desktop, which can cause the dialog box to be displayed on an unexpected monitor when using multiple monitors.
nView solves this problem by relocating dialog boxes to a specified monitor or location. When a dialog box is drawn, nView positions the dialog box according to the setting below.
Reposition dialog boxes - Check this box if you want nView to manage your dialog boxes, then configure dialog box management below.
On monitor 1 - This relocates all dialog the selected monitor.
At cursor - This relocates dialog boxes to the monitor where the cursor is located.
Application's monitor - This relocates dialog boxes to the same monitor as the application.
< Back
Next >
Cancel

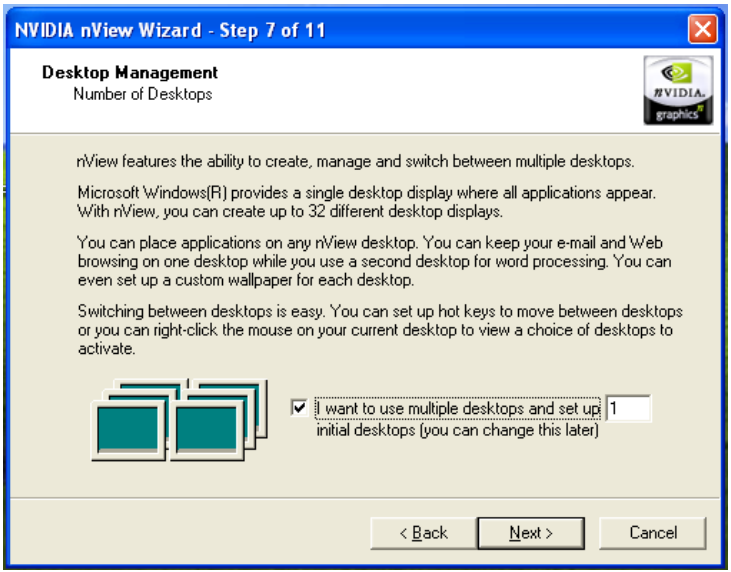
7th Screen:


NVIDIA nView Wizard - Step 5 of 11
Window Management
Application Position Memory
nVIDIA graphics
nView helps manage application positioning. When an application is closed, nView remembers where the application was located, its window size and state, and even its desktop location (if you run multiple desktops).
When you start the application again, nView restores all the settings from the last time you used the application. The "application position memory" feature also stores any special nView features that you have selected for the application.
For the "application position memory" feature to work, first click the check box below. Then, once you exit this Wizard, you need to enable this feature for each application by using the application's nView system menu extension (see next Wizard page).
Enable application position memory
< Back
Next >
Cancel

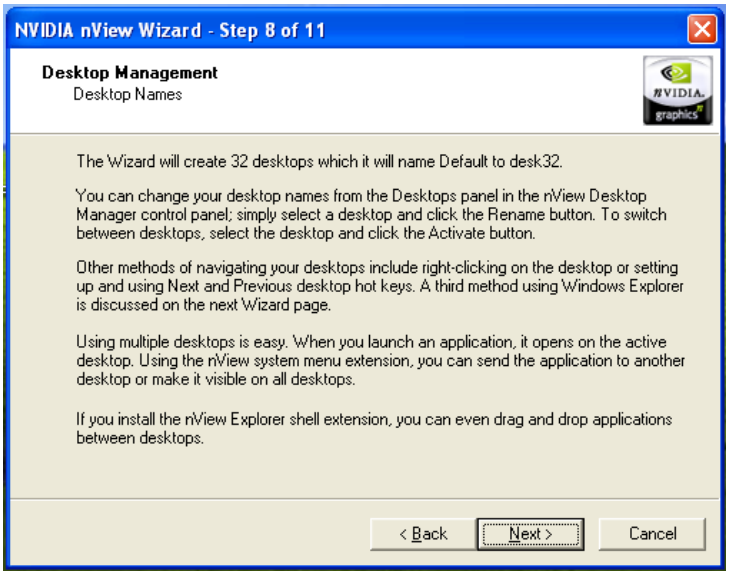
8th Screen:

NVIDIA nView Wizard - Step 6 of 11
Window Management
System Menu Extensions
NVIDIA graphics
You can access nView features quickly and easily from any application using nView's system menu extension.
Every window has a system menu for basic tasks such as moving or resizing the window. nView extends this menu to add features such as making the window transparent or moving the window to another monitor or desktop.
You can also access nView application-specific extensions from the system menu. Using these extensions, you can select where Microsoft Outlook(tm) attachments open or create links between two Internet Explorer windows.
Right Click
To enable nView system menu extensions, click the check box below. To access an application's system menu, right click the appplication's title bar.
Enable nView system menu extensions
< Back
Next >
Cancel

9th Screen:


NVIDIA nView Wizard - Step 7 of 11
Desktop Management
Number of Desktops
NVIDIA graphics
nView features the ability to create, manage and switch between multiple desktops.
Microsoft Windows(R) provides a single desktop display where all applications appear. With nView, you can create up to 32 different desktop displays.
You can place applications on any nView desktop. You can keep your e-mail and Web browsing on one desktop while you use a second desktop for word processing. You can even set up a custom wallpaper for each desktop.
Switching between desktops is easy. You can set up hot keys to move between desktops or you can right-click the mouse on your current desktop to view a choice of desktops to activate.
I want to use multiple desktops and set up
1
initial desktops (you can change this later)
< Back
Next >
Cancel

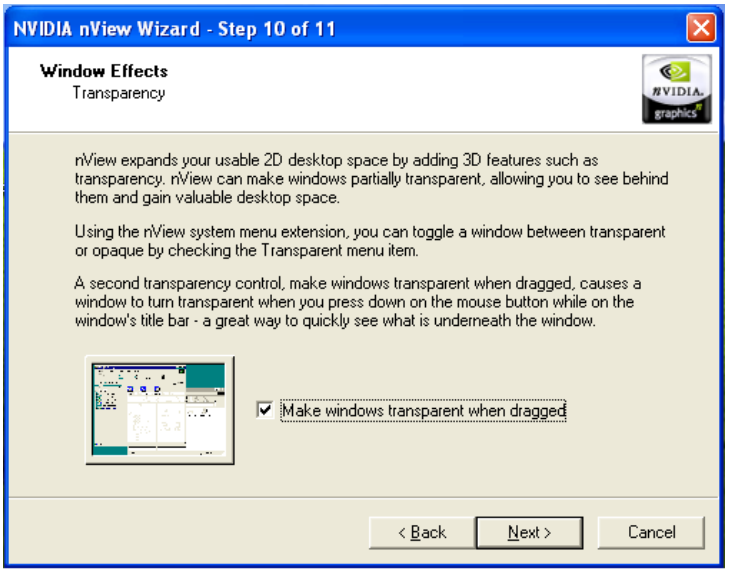
10th Screen:


NVIDIA nView Wizard - Step 8 of 11
Desktop Management
Desktop Names
NVIDIA
graphics
The Wizard will create 32 desktops which it will name Default to desk32.
You can change your desktop names from the Desktops panel in the nView Desktop Manager control panel; simply select a desktop and click the Rename button. To switch between desktops, select the desktop and click the Activate button.
Other methods of navigating your desktops include right-clicking on the desktop or setting up and using Next and Previous desktop hot keys. A third method using Windows Explorer is discussed on the next Wizard page.
Using multiple desktops is easy. When you launch an application, it opens on the active desktop. Using the nView system menu extension, you can send the application to another desktop or make it visible on all desktops.
If you install the nView Explorer shell extension, you can even drag and drop applications between desktops.
< Back
Next >
Cancel

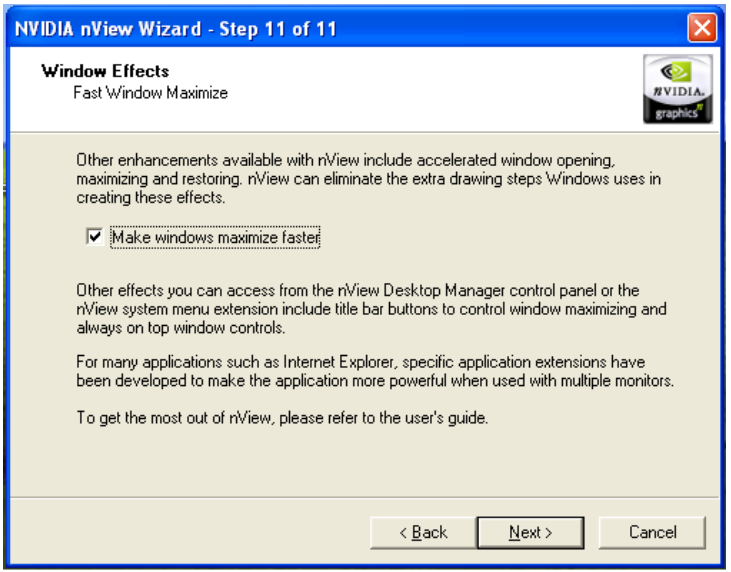
11th Screen:

NVIDIA nView Wizard - Step 9 of 11
Desktop Management
Use Explorer to navigate desktops
NVIDIA
graphics
Several methods of navigating multiple desktops were discussed on the previous page. One of the easiest and most powerful navigators is accessed through Windows Explorer.
nView can extend your Windows Explorer windows to show all of your desktops as a node within the Explorer folder tree view.
Desktop
My Documents
Desktop Explorer
Default
Finance
Turn on the Explorer extension
Through this folder view, you can switch between desktops, drag applications from one desktop to another and even get a thumbnail view of what a desktop looks like before switching to it.
The Explorer extension also offers you a small "ripaway" toolbar to switch between desktops quickly. It is highly recommended that you take advantage of the Explorer extension if you use multiple desktops.
< Back
Next >
Cancel

12th Screen:


NVIDIA nView Wizard - Step 10 of 11
Window Effects
Transparency
nVIDIA graphics
nView expands your usable 2D desktop space by adding 3D features such as transparency. nView can make windows partially transparent, allowing you to see behind them and gain valuable desktop space.
Using the nView system menu extension, you can toggle a window between transparent or opaque by checking the Transparent menu item.
A second transparency control, make windows transparent when dragged, causes a window to turn transparent when you press down on the mouse button while on the window's title bar - a great way to quickly see what is underneath the window.
Make windows transparent when dragged
< Back
Next >
Cancel

13th Screen:


NVIDIA nView Wizard - Step 11 of 11
Window Effects
Fast Window Maximize
NVIDIA graphics
Other enhancements available with nView include accelerated window opening, maximizing and restoring. nView can eliminate the extra drawing steps Windows uses in creating these effects.
Make windows maximize faster
Other effects you can access from the nView Desktop Manager control panel or the nView system menu extension include title bar buttons to control window maximizing and always on top window controls.
For many applications such as Internet Explorer, specific application extensions have been developed to make the application more powerful when used with multiple monitors.
To get the most out of nView, please refer to the user's guide.
< Back
Next >
Cancel

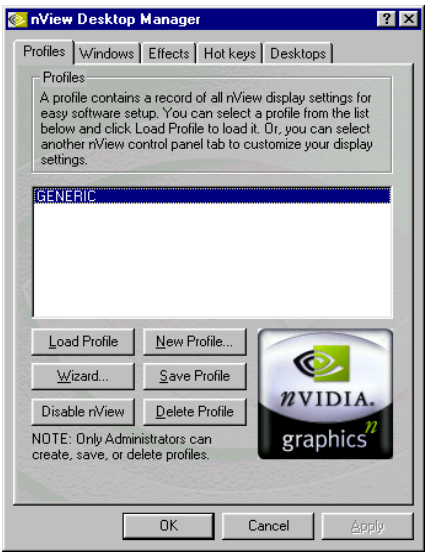
14th Screen:

Completion of the NVIDIA nView Wizard
Completing nView Setup...
The nView Wizard is now complete. Click the Finish button below to save the display setting choices you have made.
nView offers many other features including hot keys, the ability to customize your desktop names and icons, adjustable display settings on a per-application basis, special zoom window controls and more.
You can access these extended features by opening the nView Desktop Manager from the Windows Control Panel group. Once nView is loaded, you can also right click on your Windows desktop to access the nView Desktop Manager control panels settings.
Thank you for selecting nView!
< Back
Finish
Cancel

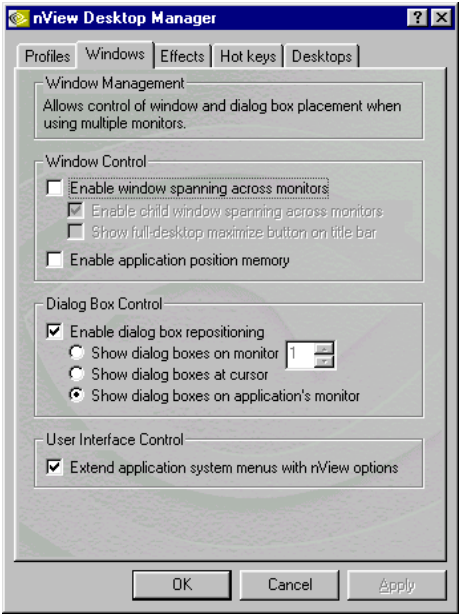
Using nView Desktop Manager:

Once nView is setup, you can access the nView Desktop manager and adjust different settings to how you wish. There are a total of 5 options to go through: Profiles, Windows, Effect, Hot Keys and Desktops.

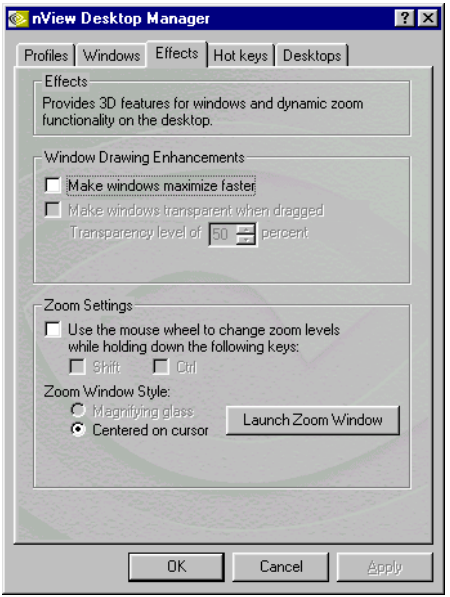
Profiles:



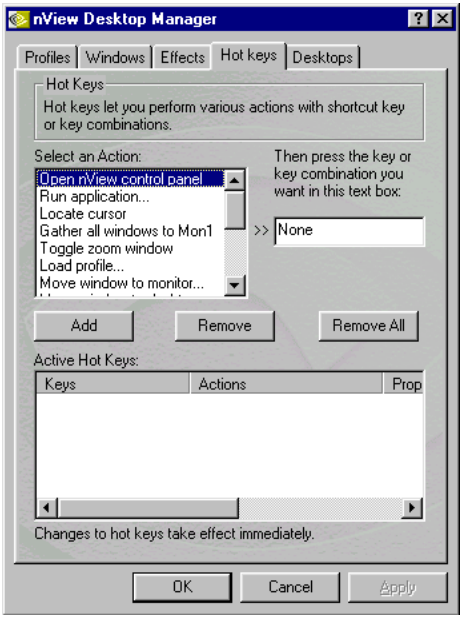
Windows:


nView Desktop Manager
Profiles
Windows
Effects
Hot keys
Desktops
Window Management
Allows control of window and dialog box placement when using multiple monitors.
Window Control
Enable window spanning across monitors
Enable child window spanning across monitors
Show full-desktop maximize button on title bar
Enable application position memory
Dialog Box Control
Enable dialog box repositioning
Show dialog boxes on monitor
1
Show dialog boxes at cursor
Show dialog boxes on application's monitor
User Interface Control
Extend application system menus with nView options
OK
Cancel
Apply

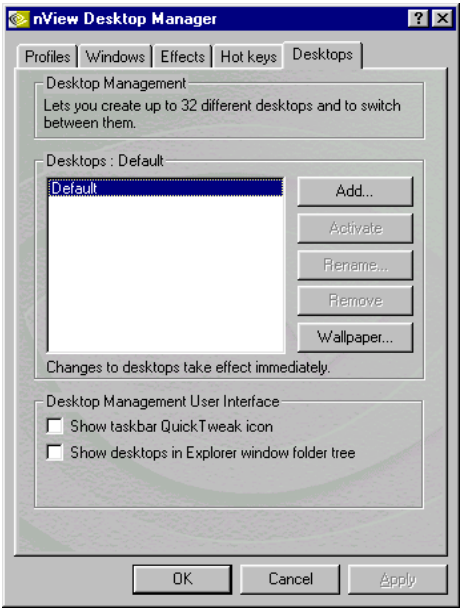
Effects:


nView Desktop Manager
Profiles
Windows
Effects
Hot keys
Desktops
Effects
Provides 3D features for windows and dynamic zoom functionality on the desktop.
Window Drawing Enhancements
Make windows maximize faster
Make windows transparent when dragged
Transparency level of 50 percent
Zoom Settings
Use the mouse wheel to change zoom levels while holding down the following keys:
Shift
Ctrl
Zoom Window Style:
Magnifying glass
Centered on cursor
Launch Zoom Window
OK
Cancel
Apply

Hot Keys:


nView Desktop Manager
Profiles
Windows
Effects
Hot keys
Desktops
Hot Keys
Hot keys let you perform various actions with shortcut key or key combinations.
Select an Action:
Open nView control panel
Run application...
Locate cursor
Gather all windows to Mon1
Toggle zoom window
Load profile...
Move window to monitor...
Then press the key or key combination you want in this text box:
>>
None
Add
Remove
Remove All
Active Hot Keys:
Keys
Actions
Prop
Changes to hot keys take effect immediately.
OK
Cancel
Apply

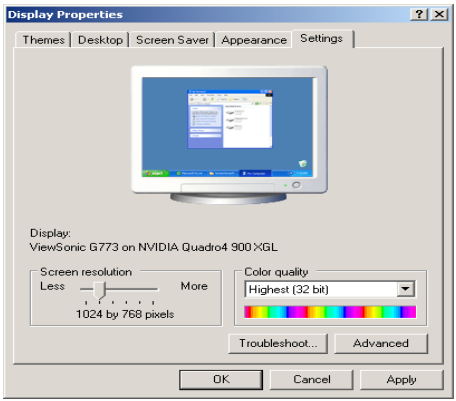
Desktops:


nView Desktop Manager
Profiles
Windows
Effects
Hot keys
Desktops
Desktop Management
Lets you create up to 32 different desktops and to switch between them.
Desktops : Default
Default
Add...
Activate
Rename...
Remove
Wallpaper...
Changes to desktops take effect immediately.
Desktop Management User Interface
Show taskbar QuickTweak icon
Show desktops in Explorer window folder tree
OK
Cancel
Apply

Chapter 5
Display Properties

Color Settings and Screen Area

After completing installation of the display drivers, you are now ready to configure the display properties of your card. To open the properties page of your computer or change the display properties, simply right-click the Windows XP desktop wallpaper area and select “Properties”. The “Display Properties” windows will appear on your screen as shown below.



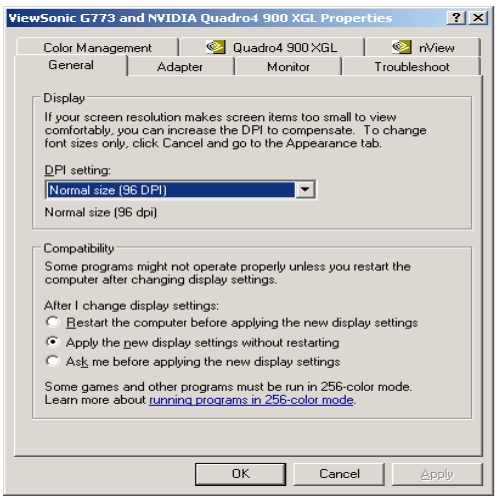
Colors: Displays the current color setting for the monitor. To use a different color setting, click the arrow, and then click the setting you want.

Screen area: Displays the current screen area setting for the monitor. Drag the slider to specify the screen area you want. The higher the number of pixels, the more information you can display on your screen.

Advanced: Clicking on this button will bring up the video cards advanced options, where you can “tweak” your video cards performance.

Quadro Properties

The following screenshots are representative of the Quadro based products, but may vary based on actual card installed. The following screenshots were taken using a Quadro4 900 XGL.

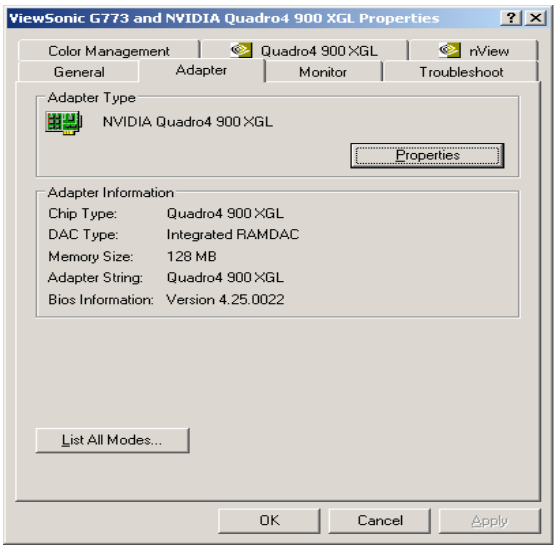


DPI setting: Enables you to set the dots per inch so that screen items and fonts are legible.

Compatibility: Select the appropriate choice as to when you want settings applied.

Adapter Information

This tab displays adapter information and system information.

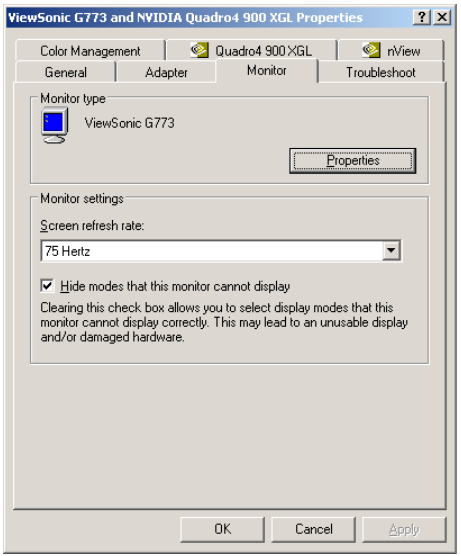


Properties: Shows driver version number and resource settings.

List All Modes: Displays the supported monitor resolutions and refresh rates.

Monitor

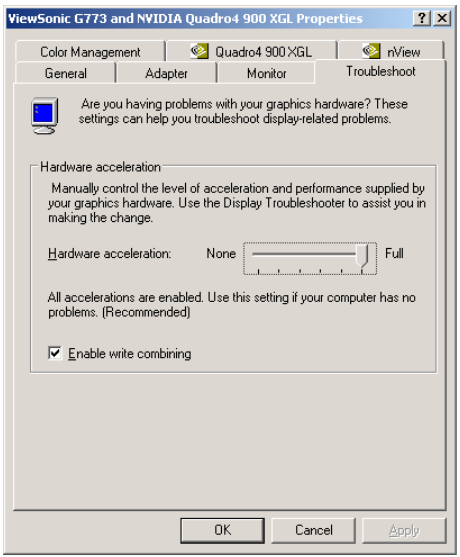
The Monitor tab displays the identification and refresh rate information for the connected monitor.



Properties: Shows driver version number for the monitor.

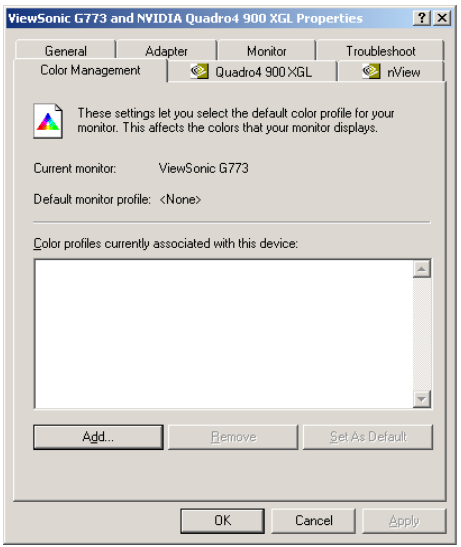
Troubleshoot

The Troubleshoot tab enables you to adjust the level of hardware acceleration when attempting to solve problems with your system.



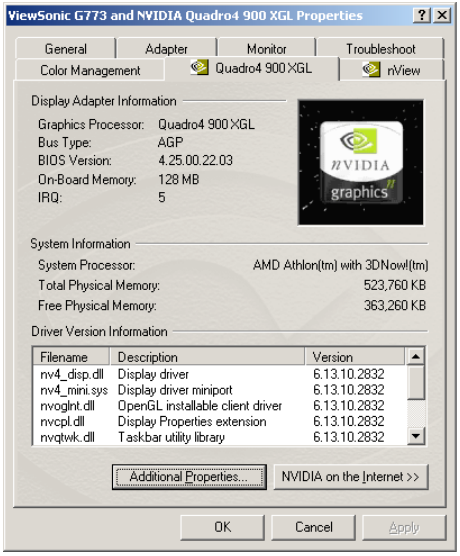
Color Management

The Color Management tab enables you to load color profiles for your monitor.



Graphic's Card Specific Settings

This tab enables you to make adjustments to settings specific to your accelerator card. Display driver version numbers and other key information on your card are displayed.

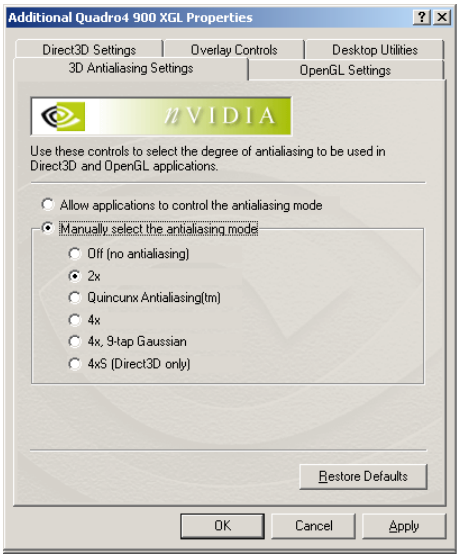


Additional Properties: Brings up the subsequent dialogs to adjust your driver settings for optimal performance and quality.

NVIDIA on the Internet: Connects to NVIDIA's web site for the most current information and software downloads.

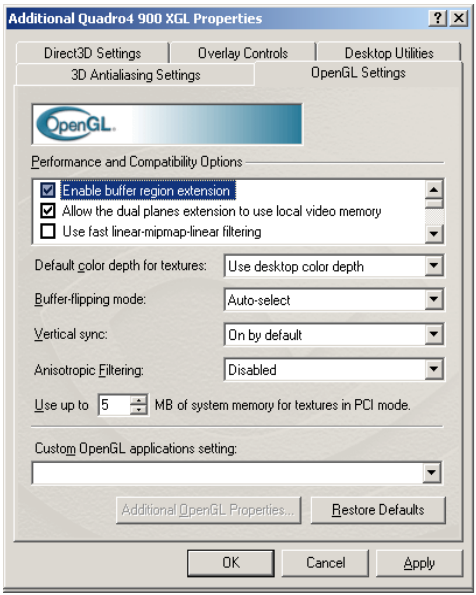
Antialiasing Settings

This tab will allow you to manually or automatically select the antialiasing mode to be used with your 3D applications



You can allow applications to adjust the antialiasing mode, or manually override and select the type of antialiasing your desire.

OpenGL Settings



Performance and Compatibility Options:
These options can increase application performance in OpenGL 3D applications.

Default color depth for textures: This option determines the color depth of textures used by default in OpenGL applications: 16 bpp, 32 bpp or the desktop color depth.

Buffer flipping mode:
You can select from the block transfer method, or Auto-select. Auto-select allows the driver to determine the best method based on your hardware configuration.

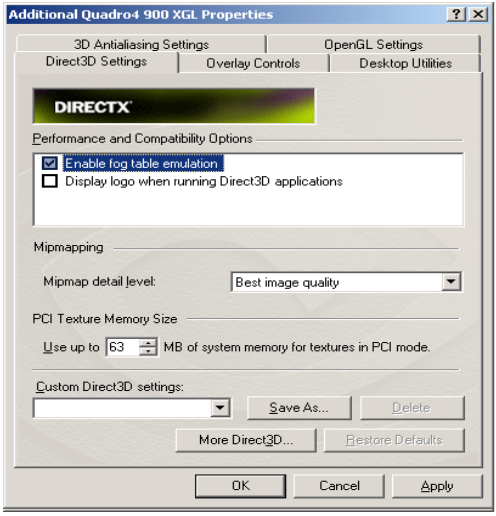
Vertical sync: You can specify how vertical sync is handled in OpenGL.**Always off** will always disable vertical sync. **Off by default** will keep vertical sync disabled, unless an application specifically requests that it be enabled. **On by default** will keep vertical sync enabled, unless an application specifically requests that it be disabled.

Anisotropic Filtering: Select the filtering rate

Custom: Select the application for which you want to load predetermined, optimized settings.

Direct3D Settings

The following Direct3D Performance and Compatibility Options are explained so that the user may adjust the settings if needed to obtain optimal performance.



Enable fog table emulation

This option is used to turn fog table emulation on or off. Direct3D specifies that a display adapter capable of Direct3D hardware acceleration should be able to implement either vertex fog or table fog. Some games do not correctly query the D3D hardware capabilities and expect table fog support. Choosing this option will ensure that such games will run properly on your NVIDIA graphics processor.

Display logo when running Direct3D applications

Enabling this setting will display the NVIDIA logo in the lower corner of the screen while running Direct3D applications.

Mipmapping: Allows you to adjust the LOD (Level of Detail) bias for mipmaps. A lower bias will provide better image quality, while a higher bias will increase application performance. You can choose from five preset bias values, varying from “Best Image Quality” to Best Performance.

Direct3D Settings (continued)

PCI Texture Memory Size

This allows the graphics processor to utilize up to specified amount of system memory for texture storage (in addition to the memory installed on the display adapter itself).

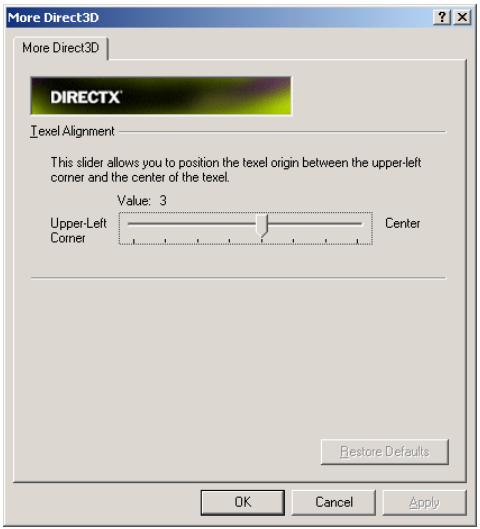
Note: The maximum amount of system memory that can be reserved for texture storage is calculated based on the amount of physical RAM installed in your computer. The more system RAM, the higher the value you will be able to set. This setting applies only to PCI display adapters (or AGP display adapters running in PCI compatibility mode).

Custom Direct3D Settings

A list of the custom settings (or "tweaks") you have saved. Selecting an item from the list will activate the custom setting. To apply the setting, choose the "OK" or "Apply" button.

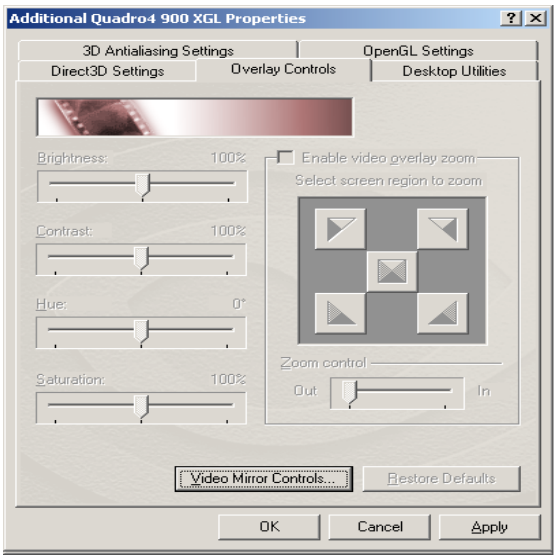
More Direct3D brings up the following dialog box.

More Direct3D Settings



Texel Alignment: This option changes the hardware texture addressing scheme for texels (texture elements). Changing these values will change where texel origin is defined. The default values conform to the Direct3D specifications. Some software may expect the texel origin to be defined elsewhere. The image quality of such applications will improve if the texel origin is redefined. Use the slider control to adjust the texel origin anywhere between the upper left corner and the center of the texel.

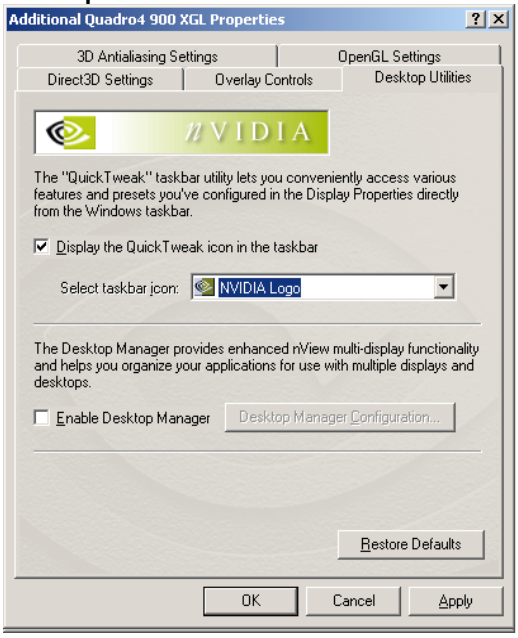
Overlay Controls



Brightness, Contrast, Hue and Saturation Control allows the adjustment of the quality of video or DVD playback on your monitor. You can independently control the brightness, contrast, hue and saturation to achieve optimal quality when playing back videos or DVD movies on your computer.

Video Overlay Zoom: Enables the controls to zoom in on a specific area of the video output.

Desktop Utilities

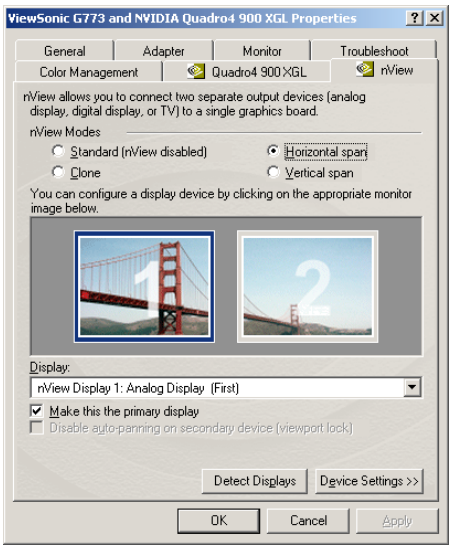


Quick Tweak lets you add the NVIDIA Quick Tweak icon to the Windows taskbar. The icon allows you to apply any of the custom Direct3D, OpenGL or color settings "On the fly" from a convenient popup menu. The menus also contain items for restoring default settings and accessing the Display Properties dialog.

Desktop Manager enables enhanced multi-display functionality. Complete Desktop Manager documentation is located on the Quadro CD.

nView

nVidia nView is an extremely flexible system for managing multiple displays as a single desktop space. Complete nView documentation is located on the Software Installation CD in the nView directory.

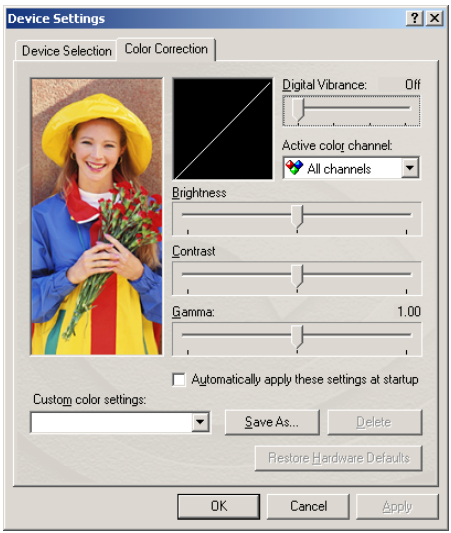


nView Modes allows you to control the relative position of multiple displays.

Detect Displays is used to have your Quadro card recognize the displays that are connected.

Device Settings gives you access to 'Color Correction' and 'Screen Adjustment' dialog boxes.

Color Correction



Digital Vibrance gives you more control over color separation and intensity, resulting in brighter cleaner images in all of your applications.

Active Color Channel allows you to select the color channel controlled by the sliders. You can adjust the red, green or blue channels individually or all three channels at once.

Brightness, Contrast and Gamma Controls: allow you to adjust the selected color channel. The color correction controls help you to compensate for variations in luminance between a source image and its output on a display device. This is useful when working with image processing applications to help provide more accurate color reproduction of images.

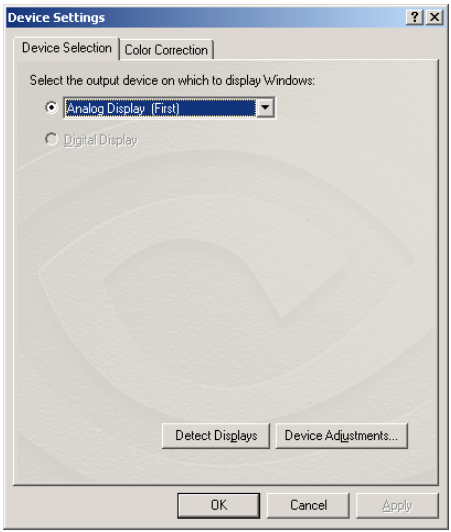
Also many 3D-accelerated games may appear too dark. Increasing the brightness and/or gamma value equally across all channels will make these games appear brighter.

Automatically apply these settings at startup will automatically restore the color adjustments you have made when Windows is restarted.

Note: If your computer is running on a network, the color will be adjusted after you have logged on to Windows.

Device Selection

This tab enables you to select the output display device (monitor or digital flat panel) depending on which devices your display adapter supports.

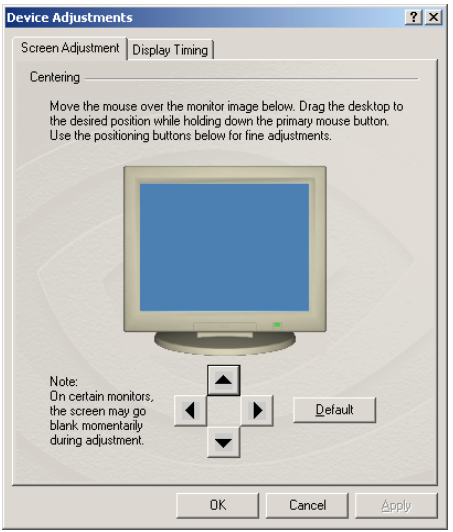


Detect Displays is used to have your Quadro card recognize the displays that are connected.

Device Adjustments gives you access to 'Screen Adjustment' and 'Display Timing' dialog boxes.

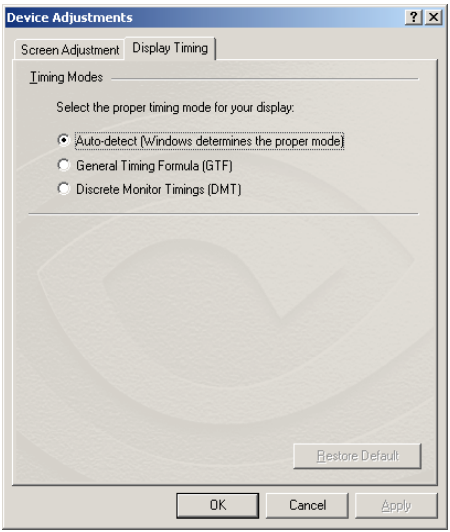
Screen Adjustment

This tab enables you to fine tune the position of the desktop on your monitor.



Display Timing

This tab enables you to fine tune the position of the desktop on your monitor.



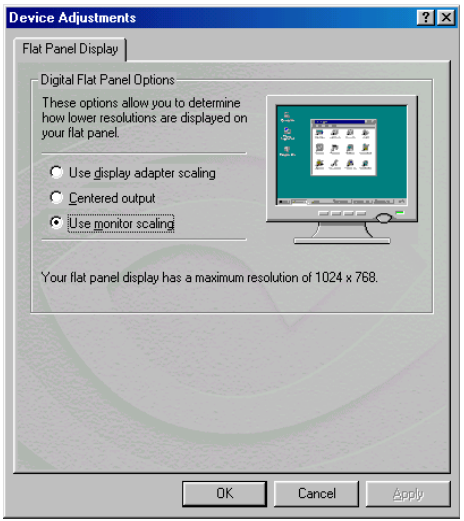
Auto-Detect allows Windows to receive the proper timing information directly from the monitor itself. This is the default setting. Note that some older monitors may not support this feature.

General Timing Formula or GTF is a standard used by the newer hardware.

Discrete Monitor Timings or DMT is an older standard still in use on some hardware. Enable this option if your hardware requires DMT.

Digital Flat Panel

The options on this tab allow you to determine the placement of the image on your flat panel display when running at resolutions lower than the maximum resolution supported.



Chapter 6

MAXtreme

Introduction

MAXtreme is a 3D driver that is specifically optimized for use with the PNY Quadro4 XGL Series, Quadro2 Series and Quadro DCC workstation graphics cards. Together, this driver and your new graphics hardware enhances the capabilities of the interactive renderer in several applications from Discreet, including:

- 3ds max 4
- 3D Studio MAX Release 3
- 3D Studio VIZ Release 3i
- 3D Studio VIZ Release 3

Using Stereo shutter glasses, you can also use the MAXtreme Stereo feature to view your drawings and animations in true stereo.

Installing MAXtreme

One of the applications listed above must already be installed on your computer before you install and run MAXtreme. The MAXtreme Setup program automatically installs the version of MAXtreme (Release 3 or Release 4) that is compatible with your installed version of the 3D Studio MAX/VIZ application. (MAXtreme 4 works with 3ds max 4 but is not compatible with 3D Studio MAX 3.)

The MAXtreme SETUP directory on your CD contains the following files:

Readme.txt	contains important release notes
Setup.exe	installation program for Windows
(all others)	files required for installation

Before you install and use this driver, you must have the following components fully functional on your system:

- Windows NT 4.0 or Windows 2000/XP operating system
- A PNY Quadro workstation graphics card
- Windows 2000/XP Display Driver or Windows NT 4.0 Display Driver (Version 6.49 or higher)
- AutoCAD already installed
- "Write access" to the 3D Studio MAX/VIZ main directory and the Windows system directory

From the MAXtreme directory, click the Setup.exe icon and follow the instructions that appear in the subsequent prompts. The Help file (MAXtreme*.chm) will be installed during MAXtreme installation in the 3D Studio Help directory.

NOTE: If the installation program stops processing and generates an error message, run the program when logged in with Administrator privileges.

For additional information about MAXtreme, view the Readme.txt file in the MAXtreme directory.

Uninstalling MAXtreme

1. From the Windows desktop, click
   Start > Settings > Control Panel > Add/Remove Programs.
2. Click the "Add/Remove Programs" icon.
3. Click " MAXtreme" from the list.
4. Click the "Change/Remove" button.
5. Follow the instructions from the InstallShield program to complete uninstallation.

Chapter 7
POWERdraft

Introduction
POWERdraft is designed to enhance the performance and features of the following applications when used in conjunction with a PNY Quadro4 XGL Series, Quadro2 Series or Quadro DCC workstation graphics card:

- AutoCAD 2002/2000/2000i
- AutoCAD Architectural Desktop Version 2/3.3
- Autodesk Mechanical Desktop 4/5/6

For detailed information on the features of POWERdraft, refer to the online Help file.

Installing POWERdraft
The driver Setup directory contains the following files:

- README.TXT important notes about using this software
- LANG15EN.HLP Windows help files in English
- SETUP.EXE installation program for Windows
- (all others) files needed by SETUP

Before you install and use this driver, you must have the following components fully functional on your system:

- Windows NT 4.0 or Windows 2000/XP operating system
- A PNY Quadro workstation graphics card
- Windows 2000/XP Display Driver or Windows NT 4.0 Display Driver (Version 6.49 or higher)
- AutoCAD already installed
- "Write access" to the AutoCAD main directory and the Windows system directory

To install POWERdraft:

1. Make sure AutoCAD is not running.

2. Start SETUP.EXE from the POWERdraft installation directory.

The driver is installed in a separate driver directory. SETUP creates a program group containing the following icons:

- "POWERdraft Help" opens the online Help file.
- "Configure POWERdraft" configures POWERdraft as the AutoCAD display driver.
- "Configure Original Driver" configures the AutoCAD original display driver (WHIP).

NOTE: The two Configure icons only work when AutoCAD is not running.

3. Use these icons to configure either POWERdraft or the original driver shipped with AutoCAD (WHIP) as the actual display driver for AutoCAD. After Setup has completed successfully, POWERdraft is already configured.

When POWERdraft is configured, the POWERdraft logo will appear when AutoCAD starts up.

Uninstalling POWERdraft

To uninstall POWERdraft from your computer

1. From your Windows desktop, click
   Start > Settings > Control Panel.
2. Click "Add/Remove Programs".
3. Click "POWERdraft" from the list.
4. Click the "Change/Remove" button.
5. Follow the instructions from the InstallShield program to complete uninstall.

Chapter 8
QuadroView

Introduction

NVIDIA QuadroView is an add-on 3D viewing application designed as a stand alone application or for use with any of the following applications when used in conjunction with a PNY Quadro4 XGL Series, Quadro2 Series or Quadro DCC workstation graphics card:

- AutoCAD 2002/2000/2000i
- AutoCAD Architectural Desktop Release 2/2i
- Mechanical Desktop Release 4/5/6

NOTE: QuadroView can also be run in stand-alone mode

The NVIDIA QuadroView directory contains the following files:

Readme.txt	important information about QuadroView
Setup.exe	installation program for Windows
(all others)	files required by SETUP

Installing QuadroView

Before you install and use NVIDIA QuadroView (Version 2.04), you must have the following components fully functional on your system:

- Windows NT 4.0, Windows 2000 or Windows XP operating system
- A PNY Quadro workstation graphics card
- Windows NT 4.0 Display Driver or Windows 2000/XP Display Driver
- If you are using QuadroView within another application, such as AutoCAD, that application must already be installed on your computer.
- If you are using QuadroView stereo features, depending on the stereo mode you are using, you may need any combination of shutter glasses, stereo monitor, and colored filter glasses.

To install QuadroView, click the Setup.exe icon in the QuadroView directory and follow the prompts from the InstallShield program.

NOTE: If the installation program stops processing and generates an error message, try to run the installer after logging in with Administrator privileges.

Starting QuadroView

To start QuadroView in stand-alone mode…

From your Windows desktop, click
Start > Programs > NVIDIA Corporation > QuadroView 2.04 > QuadroView

To start QuadroView from an AutoCAD application…

Please refer to the QuadroView online Help for Demand Load Configuration.

Uninstalling QuadroView

To uninstall QuadroView, follow these steps:

1. From the Windows desktop, click
   Start > Settings > Control Panel > Add/Remove Programs.
2. Click the "Add/Remove Programs" icon.
3. Click "QuadroView" from the list.
4. Click the "Change/Remove" button.
5. Follow the instructions from the InstallShield program to complete uninstallation.

Chapter 9
Technical Specifications

Display Modes Table

Resolution	Colors	Vertical Refresh Rate
640x480	8/16/32 bits	60Hz to 240Hz
800x600	8/16/32 bits	60Hz to 240Hz
1024x768	8/16 bits	60Hz to 240Hz
1024x768	32 bits	60Hz to 200Hz
1152x864	8/16 bits	60Hz to 200Hz
1152x864	32 bits	60Hz to 170Hz
1280x960	8/16 bits	60Hz to 170Hz
1280x960	32 bits	60Hz to 150Hz
1280x1024	8/16 bits	60Hz to 170Hz
1280x1024	32 bits	60Hz to 150Hz

Display Modes Table (continued)

Resolution	Colors	Vertical Refresh Rate
1600x900	8/16 bits	60Hz to 150Hz
1600x900	32 bits	60Hz to 120Hz
1600x1200	8/16 bits	60Hz to 120Hz
1600x1200	32 bits	60Hz to 100Hz
1920x1080	8/16 bits	60Hz to 100Hz
1920x1080	32 bits	60Hz to 85Hz
1920x1200	8/16 bits	60Hz to 100Hz
1920x1200	32 bits	60Hz to 85Hz
1920x1440	8/16 bits	60Hz to 85Hz
1920x1440	32 bits	60Hz to 75Hz
2048x1536	8/16 bits	60Hz to 75Hz
2048x1536	32 bits	60Hz

Digital Flat Panel Supported Modes

Resolution	Colors
640x480	8/16/32 bits
800x600	8/16/32 bits
1024x768	8/16/32 bits
1280x1024	8/16/32 bits

Please check the PNY Quadro Web Site at: http://www.pny.com/quadro for LCD flat pannel displays that have been certified.

Chapter 10
Support

PNY Technologies provides 'Live Technical Support' 5 days a week from 10:00 am to 7:00 pm Monday thru Pacific Standard Time. Our Automated Technical Support System is designed to provide help with common day-to-day graphic card issues. It's available 24 hours a day, 7 days a week. For additional help you may visit the PNY Tech Support website at http://www.pny.com

PNY's Replacement Warranty

PNY Technologies, Inc. ("PNY"), manufacturer of your newly purchased PNY graphics card (the "product"), warrants the product to be free from defects in materials and workmanship for `three-years (upon completion of a registration form on PNY's website)` of the product as sold to the original purchaser ("purchaser"), subject to all the terms and conditions hereunder. This warranty is not assignable.

PNY's sole obligation under this warranty is to replace the product with like or similar product. This warranty applies only on the condition that the product has been installed, maintained and operated under conditions of normal use and in accordance with the installation guide provided herewith. The provisions of this warranty shall not apply if, in PNY's judgment, the product has been subject to misuse or neglect, improper installation, damaged in an accident, or repaired or altered in any way that adversely affects its performance or reliability.

THIS WARRANTY IS IN LIEU OF ANY OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR

PURPOSE OR TITLE AGAINST INFRINGEMENT, WHICH OTHER WARRANTIES ARE EXPRESSLY EXCLUDED AND DISCLAIMED. PNY SHALL NOT BE LIABLE FOR LOSS OF PROFITS OR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES WHICH PURCHASER MAY SUSTAIN, EVEN IF PNY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH LOSSES OR DAMAGES. IN NO EVENT SHALL PNY'S LIABILITY EXCEED THE PURCHASE PRICE OF THE DEFECTIVE PRODUCT.
SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THESE LIMITATIONS MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AND YOU MAY ALSO HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE.
THIS WARRANTY SHALL NOT BE EXTENDED, ALTERED OR VARIED EXCEPT BY A WRITTEN INSTRUMENT DULY SIGNED BY PNY.

Warranty coverage requires proof of purchase documentation evidencing the date of purchase (sales receipt or invoice). To obtain warranty service, phone PNY at 1-800-234-4597.

The information in this document is subject to change without notice.

FCC Information

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on. The user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connecting the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference and, (2) this device must accept any interference received, including interference that may cause undesired operation.

Notice to user: Changes or modifications to this product not approved by the party responsible for FCC compliance could void your authority to operate this equipment. In order for an installation of this product to maintain compliance with the limits for a Class B device, shielded cables must be used for the connection of any devices external to this product.

To the judgment of the products with regard to electromagnetic compatibility according following regulations:

EN 50081-1 (EN55022 class B)

EN 50082-1 (IEC 801 Part 2, 4 / ENV 50140 / ENV 50141)