

PNY Quadro Professional Graphics Accelerators User Manual

Quadro4 XGL Series

Quadro4 NVS Series

Quadro2 Series

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Table of Contents

Chapter 1	Introduction	
Chapter 2	Hardware Installation	5
Chapter 3	Software Installation	
Chapter 4	nVidia nView Installation	
Chapter 5	Display Properties	
Chapter 6	MAXtreme	
Chapter 7	POWERdraft	
Chapter 8	QuadroView	60
Chapter 9	Technical Specifications	
Chapter 10) Support	

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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 while 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 a nincorrect 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 XGL, Quadro4 200 NVS and Quadro4 400 NVS Connectors

The Quadro4 200 NVS and the Quadro4 550 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 700/750 XGL Connectors

The Quadro4 700/750 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.



Quadro4 900 XGL Connectors

The Quadro4 900 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



page 11

Quadro DCC Connectors

The Quadro DCC has both VGA and DVI-I connectors, but only supports a single display. This card supports:

- Single VGA output
- Single DVI-I output
- The Quadro DCC also supports TV out



Quadro2 MXR Connectors

The Quadro2 MXR has both VGA and DVI-I connectors. This card supports:

- Single VGA output
- Dual VGA output (using a DVI-I to VGA adapter)
- VGA + DVI-I output



Quadro2 EX Connector

The Quadro2 EX has a single VGA connector, supporting a single monitor.



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.
- 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.









NVIDIA nView Wizard - Step 1 of 11
Enable nView Using nView Desktop Manager
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.
< <u>B</u> ack <u>N</u> ext > Cancel

NVIDIA nView Wizard - Step 2 of 11	
Profiles How to load and use a profile	WIDIA. graphics ¹
nView can record all of its display settings in a singl several generic profiles for different industries. In ac profiles specific to a company, workgroup, or user. By selecting a profile below, you can configure all n	e file, called a profile. nView includes Idition, Administrators can add new View display settings in a single step.
<mark><none></none></mark> 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.</none>
Skip the detailed configuration and go directly	to the last Wizard page
< <u>E</u>	lack <u>N</u> ext > Cancel



NVIDIA nView Wizard - Step 4	of 11 🛛 🔀
Window Management Dialog Repositioning	RVIDLA. Braphes
nView helps manage dialog bo boxes in the center of the desk unexpected monitor when usin	x placement. Many programs are designed to place dialog top, which can cause the dialog box to be displayed on an g multiple monitors.
nView solves this problem by re When a dialog box is drawn, n' below.	elocating dialog boxes to a specified monitor or location. View positions the dialog box according to the setting
Reposition dialog boxes - boxes, then configure dia	Check this box if you want nView to manage your dialog log box management below.
	 On monitor This relocates all dialog the selected monitor.
	C 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

NVIDIA nView Wizard - Step 5 of 11
Window Management Application Position Memory
rView helps manage application positioning. When an application is closed, rView 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
< <u>B</u> ack <u>N</u> ext> Cancel

NVIDIA nView Wizard - Step	6 of 11 🛛 🔀
Window Management System Menu Extensions	RVIDIA. graphics
You can access nView fea system menu extension. Every window has a syster nView extends this menu t moving the window to ano You can also access nVie these extensions, you can links between two Internet	tures quickly and easily from any application using nView's n menu for basic tasks such as moving or resizing the window. o add features such as making the window transparent or ther monitor or desktop. w application-specific extensions from the system menu. Using select where Microsoft Dutlook(tm) attachments open or create Explorer windows.
Right A	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 < <u>Back</u> <u>Next</u> Cancel

NVIDIA nView Wizard - Step 7 of 11
Desktop Management Number of Desktops
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.
want to use multiple desktops and set up 1 initial desktops (you can change this later)
< Back Next > Cancel

NVIDIA nView Wizard - Step 8 of 11
Desktop Management Desktop Names
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.
< <u>B</u> ack <u>Next</u> Cancel

NVIDIA nView Wizard - Step 9	of 11 🛛 🔀
Desktop Management Use Explorer to navigate desk	tops
Several methods of navigating One of the easiest and most p nView can extend your Windc node within the Explorer folde	g multiple desktops were discussed on the previous page, owerful navigators is accessed through Windows Explorer. wws Explorer windows to show all of your desktops as a r tree view.
Desktop My Documents Source Source Source Desktop Explorer Default Default 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



NVIDIA nView Wizard - Step 11 of 11
Window Effects Fast Window Maximize
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.
Other effects you can access from the riView Desktop Manager control panel or the riView 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 riView, please refer to the user's guide.
< <u>B</u> ack <u>N</u> ext > 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:

<u> n</u> View Desktop	Manager		? ×	
Profiles Windows	Effects Hot ke	ys Desktops		
Profiles A profile contains easy software se below and click I another nView co settings.	s a record of all nVi tup. You can selec Load Profile to load ontrol panel tab to	ew display settings fo t a profile from the list l it. Or, you can select customize your display	r y	
Load Profile	New Profile			
<u>W</u> izard	<u>S</u> ave Profile			
Disable nView	Delete Profile	nvidia		
NOTE: Only Administrators can create, save, or delete profiles.				
	OK	Cancel Ap	ply	

PNY Quadro User Manual

page 31

Windows:

nView D	esktop I	Manager			?
rofiles	Windows	Effects H	ot keys	Desktops	1
Windo	w Manage	ment			
Allows (using m	control of v ultiple mor	vindow and hitors.	dialog box	: placemer	nt when
Windo	w Control				
E En	able windo	w spanning	across mo	onitors	
M	Enable ch	ild window s	panning a	icross mor	nitors
	Show full-	desktop mai	simize butt	on on title	bar
En En	able applic	ation positio	n memory		
000	Show dialı Show dialı Show dialı	og boxes on og boxes at og boxes on	monitor cursor applicatio	n's monito	or
-User In	iterface Co	ontrol			
🔽 Ext	end applic	ation system	n menus w	ith nView	options
		OK	Car	icel	Apply

Effects:

nView D	esktop Manager		?
Profiles W	indows Effects H	ot keys Desktops	
Effects			
Provides function	3D features for windo ality on the desktop.	ows and dynamic zoon	n
Window	Drawing Enhanceme	nts	
□ Mak	e windows maximize f	aster	
🗖 Mak	e windows transparer	it when dragged	
Tran	sparency level of 50) 🚊 percent	
-Zoom S	ettings		
☐ Use	the mouse wheel to c	hange zoom levels	
while	holding down the fol Shift 🗖 Ctrl	lowing keys:	
Zoom W	indow Style:		
0	vlagnifying glass	Launch Zoom Wind	l wot
	Lentered on cursor		de la
			E.
	OK	Cancel	Apply

Hot Keys:

nView	Deskto	p Manag	er		?
Profiles	Window	s Effect:	s Hotkeys	Desktops	
Hot k	Keys eys let yo v combina	u perform ·	various actio	ns with shorte	ut key
Select Open Run a Locat Gathe Toggl Load Move	an Action nView co application e cursor er all wind zoom w profile window t	ntrol pane h pws to Mor indow o monitor		hen press the ey combinatio vant in this tex None	key or n you t box:
	٨dd		Remove	Remo	ive All
Keys	Hot Keys	:	Actions		Prop
↓ Chang	es to hot	keys take (effect immedi	ately.	Þ
	[OK		ancel	Apply

Desktops:

Add
Add Activate
Add Activate
Activate
Rename
Remove
Wallpaper
у.
er tree
Acolu

PNY Quadro User Manual

page 35

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.

ViewSonic G773 a	nd NVIDIA Quadro4	900 XGL Proper	ties ?×
Color Manager General	nent 📔 💁 Quad Adapter 📔	fro4 900 ×GL Monitor	☑ nView Troubleshoot
Display If your screen comfortably, y font sizes only <u>D</u> PI setting: <mark>Normal size (9</mark>	resolution makes screer su can increase the DPI click Cancel and go to 16 DPI) 6 dpi)	n items too small to I to compensate. 1 the Appearance to	view 'o change ab.
Compatibility Some program computer after After I change <u>B</u> estart the Apply the p Some games a	s might not operate pro changing display setting computer before apply gew display settings with fore applying the new d	perly unless you res gs. ing the new display nout restarting isplay settings t be run in 256-cold	start the settings or mode.
Learn more at	out <u>running programs in</u> OK	256-color mode.	

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.

ViewSonic G773 and NVIDIA Quadro4 900 XGL Properties 🛛 🤶 🗙
Color Management 🧧 Quadro4 900 XGL 🧧 💁 nView
General Adapter Monitor Troubleshoot
Are you having problems with your graphics hardware? These settings can help you troubleshoot display-related problems.
Hardware acceleration
Manually control the level of acceleration and performance supplied by your graphics hardware. Use the Display Troubleshooter to assist you in making the change.
Hardware acceleration: None Full
All accelerations are enabled. Use this setting if your computer has no problems. (Recommended)
✓ Enable write combining
OK Cancel Apply

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.

				THERE I	opercies	<u> </u>
General	A	dapter) Mor	nitor	Troubl	leshoot
Color Manage	ement	Ś	🔰 Quadro4	900 XG	L 🕺	nView
Display Adapte	r Inform	ation		_		
Graphics Proc	essor:	Quadro	4 900 XGL	·		
Bus Type:		AGP				
BIOS Version:		4.25.00	.22.03		2VIDI	A
On-Board Mer	mory:	128 MB			-	11
IRQ:		5			graphic	S.
				ľ		
System Informa	tion —					
System Proce	ssor		ΔM	ID Ath	on(tm) with 3D	Nowl(tm)
TILD						
 Lotal Physical 	Memor	U:			523	3.760 KB
Free Physical	Memory Memory	y: r			523 363	3,760 KB 3,260 KB
Free Physical	Memor, Memory	y: /:			52: 36:	3,760 KB 3,260 KB
Free Physical Driver Version I	l Memor, Memory nformat	y: /: ion			52: 36:	3,760 KB 3,260 KB
Free Physical Driver Version I Filename	Memor, Memory nformat Descri	y: /: ion ption			523 363 Version	3,760 KB 3,260 KB
Free Physical Driver Version I Filename nv4_disp.dll	Memor, Memory nformat Descri Display	y: /: ion ption y driver			523 363 Version 6.13.10.2833	3,760 KB 3,260 KB
Free Physical Driver Version I Filename nv4_disp.dll nv4_mini.sys	Memory Memory nformat Descri Display Display	y: /: ption y driver y driver m	niniport		52: 363 Version 6.13.10.2833 6.13.10.2833 6.13.10.2833	3,760 KB 3,260 KB
Free Physical Driver Version I Filename nv4_disp.dll nv4_mini.sys nvogin.dll	Memory Memory nformat Descri Display Display Open0 Display	y: ion ption y driver y driver m àL installa u Properti	niniport able client dri	ver	52: 363 Version 6.13.10.2833 6.13.10.2833 6.13.10.2833 6.12.10.2833	3,760 KB 3,260 KB
Free Physical Driver Version I Filename nv4_disp.dll nv4_mini.sys nvogInt.dll nvcpl.dll nvcpl.dll	Memor, Memory nformat Descri Display Open0 Display Taskh	y: ,: ption y driver y driver m àL installa y Properti ar utility li	niniport able client dri ies extension hraru	ver	52: 36: Version 6.13.10.283; 6.13.10.283; 6.13.10.283; 6.13.10.283; 6.13.10.283; 6.13.10.283;	3,760 KB 3,260 KB 2 2 2 2 2 2 2 2
Free Physical Driver Version I Filename nv4_disp.dll nv4_mini.sys nvogint.dll nvcpl.dll nvqtwk.dll	Memory Memory nformat Descri Display OpenO Display Taskb	y: ion ption y driver y driver m àL installa y Properti ar utility li	niniport able client dri ies extension brary	ver	52: 36: Version 6.13.10.283; 6.13.10.283; 6.13.10.283; 6.13.10.283; 6.13.10.283;	3,760 KB 3,260 KB 2 2 2 2 2 2 2 2 2 2 2
Filename nv4_disp.dll nvcpt.dll nvcpt.dll nvqtwk.dll	Memory Memory nformat Descri Display Display Taskb	y: , ption y driver y driver m åL installa y Properti ar utility li	niniport able client dri ies extension brary	ver	52: 36: Version 6.13.10.283; 6.13.10.283; 6.13.10.283; 6.13.10.283; 6.13.10.283;	3,760 KB 3,260 KB 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Filename Priver Version I Filename nv4_disp.dll nv4_mini.sys nvogint.dll nvcpl.dll nvcpl.dll	Memor, Memory nformat Descri Displa OpenO Displa Taskb	y: , ption y driver y driver m 3L installa y Properti ar utility li itional <u>P</u> ro	iiniport able client dri ies extension brary operties	ver	52: 36: Version 6.13.10.283; 6.13.10.283; 6.13.10.283; 6.13.10.283; 0.13.10.283; DIA on the Inte	3,760 KB 3,260 KB 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
Fitea Physical Driver Version I Filename nv4_disp.dll nv4_mini.sys nvogInt.dll nvcpl.dll nvqtwk.dll	Memor, Memory nformat Display Display Display Display Taskb	y: , ption y driver y driver m aL installe y Properti ar utility li itional <u>P</u> ro	niniport able client dri ies extension brary operties	ver	52: 36: Version 6.13.10.283; 6.13.10.283; 6.13.10.283; 6.13.10.283; 0IA on the Inte	3,760 KB 3,260 KB 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2

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

Additional Quadro4 900 XGL Pro	perties	<u>?</u> ×			
Direct3D Settings 0v 3D Antialiasing Settings	erlay Controls Desktop Utiliti OpenGL Settings	es			
OpenGL.					
Performance and Compatibility Op	tions	-			
 Enable buffer region extension Allow the dual planes extension Use fast linear-mipmap-linear 	on sion to use local video memory r filtering				
Default color depth for textures:	Use desktop color depth	•			
Buffer-flipping mode:	Auto-select	•			
Vertical sync:	On by default	•			
Anisotropic <u>Filtering</u> :	Disabled	•			
Use up to 5 ♣ MB of system memory for textures in PCI mode.					
Custom OpenGL applications set	ting:				
		•			
Additional OpenG	iL Properties				
	OK Cancel <u>Ap</u>	oly			

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 Autoselect. 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.

Additional Quadro4 900 XGL Properties					
3D Antialiasing Settings DpenGL Settings Direct3D Settings Dverlay Controls Desktop Utilities					
DIRECTX					
Performance and Compatibility Options					
Enable fog table emulation Display logo when running Direct3D applications					
Mipmapping					
Mipmap detail level: Best image quality					
PCI Texture Memory Size					
Custom Direct3D settings:					
<u>Save As</u> Delete					
More Direct3D <u>Restore Defaults</u>					
OK Cancel Apply					

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

More Direct3D	<u>?</u> ×
More Direct3D	
	1
DIRECTX	
I exel Alignment	-
This slider allows you to position the texel origin between the upper-left corner and the center of the texel.	
Value: 3	
Upper-Left Center	
<u>H</u> estore Default	
OK Cancel	ply

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

dditional Quadro4 900) XGL Properties	? ×
3D Antialiasing Direct3D Settings	Settings 0 Overlay Controls	OpenGL Settings Desktop Utilities
	100%	
	Select scre	seo overlay zoom
Contrast:	100%	
Hue:		
Saturation:	100% Out ↓	In
lvurd	Video Mirror Controls	<u>R</u> estore Defaults
	ок с	Cancel Apply

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

dditional Quadro4 900 XGL Pr	operties		? X
3D Antialiasing Settings Direct3D Settings 0	 verlay Controls	OpenGL Settings Desktop Utili	ties
🥺 <i>1</i> / V	IDIA		
The "QuickTweak" taskbar utili features and presets you've con from the Windows taskbar.	ty lets you conver figured in the Disp	iently access variou: play Properties direct	s ly
Display the QuickTweak icc	n in the taskbar		
Select taskbar joon: 🔯	VIDIA Logo	-	
The Desktop Manager provides and helps you organize your app desktops.	enhanced nView blications for use v	multi-display function vith multiple displays	and
Enable Desktop Manager	Desktop Manaj	ger <u>C</u> onfiguration	
		<u>R</u> estore Defaul	ts
	ОК	Cancel A	oply

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 multidisplay 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

Device Settings			? ×
Device Selection Color Co	orrection		
Custom color settings:	Brightness Contrast Gamma:	Digital Vibrance: Active color chann Image: Active color channels Image: All	Off el:
	OK	Cancel	Apply

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.



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

Device Adjustments
Screen Adjustment Display Timing
Centering
Move the mouse over the monitor image below. Drag the desktop to the desired position while holding down the primary mouse button. Use the positioning buttons below for fine adjustments.
Note: On certain monitors, the screem may go blank momentarity during adjustment.
OK Cancel Apply

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:

 From the Windows desktop, click Start > Settings > Control Panel > Add/Remove Programs.
 Click the "Add/Remove Programs" icon. 3. Click "QuadroView" from the list.
 Click the "Change/Remove" button.
 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

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

Display Modes Table (continued)

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

Digital Flat Panel Supported Modes

The following flat panel displays have been certified for use with the PNY Quadro4 200 NVS:

Compaq TFT5010	HP 1520
Compaq TFT5030	IBM T560
Dell 1702FP	IBM T84H
Eizo L365	IBM T545
Eizo L685	Princeton Senergy 751
Eizo L461	Samsung SyncMaster 150T
Flatron LG-782LE	Samsung SyncMaster 151D
Flatron LG-L1800P	Samsung SyncMaster 181T
HP Pavilion F50	Sony SDM-M51D
HP Pavilion F70	Sony SDM-M61
HP L1720	Sony SDM-N80

PNY Quadro User Manual

page 64

The following flat panel displays have been certified for use with the PNY Quadro4 550 XGL:

Compaq TFT7020 Compaq TFT5010 Dell 1702FP Eizo L685 Eizo L365 Eizo L461 Flatron LG-782LE Flatron LG-1800P HP Pavilion F50 HP Pavilion F70 HP L1520 IBM T560 IBM T560 IBM T750 Samsung Syncmaster 181T

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)