



## NVIDIA QUADRO® NVS by PNY: THE PROFESSIONAL CHOICE FOR MULTI-DISPLAY GRAPHICS

*Business professionals who spend their days in front of a desktop PC or workstation know the importance and value of a solution that helps them work more efficiently. Whether it's tracking securities across multiple displays or editing corporate videos—business professionals are looking for a competitive advantage.*

The NVIDIA Quadro® NVS by PNY series of multi-display graphics products is the premier solution for business professionals, particularly in the financial and non-linear editing (NLE) markets. Combining industry-leading hardware and software, the NVIDIA Quadro® NVS by PNY series delivers unprecedented performance and stability. The series features five distinct products: the NVIDIA Quadro® NVS 50 AGP, NVS 280 AGP 8x, NVS 280 PCI, NVS 280 PCI-Express and the NVS 400 PCI. All five products feature the multi-display software, NVIDIA® nView™, delivering professional 2D and 3D performance to the professional desktop.

## FLEXIBLE SOLUTION SUPPORTS MULTIPLE DISPLAY TYPES

The NVIDIA Quadro® NVS 280 PCI by PNY and NVS 280 PCI-Express are low-profile dual-head graphics boards. Featuring a single high-density connector, the Quadro NVS boards by PNY provide tremendous flexibility for users that require support for dual-analog and/or digital displays.

The NVIDIA Quadro® NVS 280 (AGP 8x) by PNY is a low-profile dual-head graphics board that delivers

all the features and benefits of its predecessor (NVS 200 AGP 4X) with one major performance benefit—the power of AGP 8x. The AGP 8x interface doubles the data throughput between the processor and the graphics board, increasing bus bandwidth for graphically intense applications.

The NVIDIA Quadro® NVS 400 (PCI) by PNY is the ultimate graphics board for



power users that require maximum screen real estate. Powered by two state-of-the-art Graphics Processing Units (GPUs) and equipped with two high-density connectors, the Quadro NVS 400 by PNY supports up to four analog and/or digital displays. With the ability to manage and display more data faster, power users will realize an exponential boost in productivity.

The NVIDIA Quadro® NVS 50 (AGP 8x) by PNY is a low-profile single-head graphics board ideal for three displays configurations.

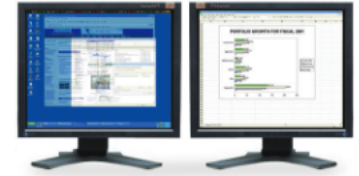


## EASY INSTALLATION AND MANAGEABILITY

Built on the patented NVIDIA® Unified Driver Architecture (UDA), the NVIDIA Quadro® NVS by PNY series provides easy installation and manageability. NVIDIA® UDA delivers a single driver for all NVIDIA® graphics products. This single driver is binary compatible with all NVIDIA® graphics products including integrated chipsets, laptop graphics, desktop graphics boards and workstation graphics boards. NVIDIA® UDA makes large-scale system deployment and unattended installations extremely easy.

NVIDIA® nView™ provides an easy to use Setup Wizard that walks users through every feature of the software, so installation is as easy as the click of a button. In addition, the nView™ Profiles feature allows IT managers to create custom desktop settings, including monitor resolutions, refresh rates, and color depth for all their users. Once created, these settings can be locked to prevent users from accidentally overriding them.

The nView™ Application Extensions enhance the functionality of commonly used Windows applications. For instance, nView™ enables advanced Web browsing with Internet Explorer to keep an existing "master" window open on one display, while users click on hyperlinks to open client Internet Explorer browser windows on a second display. This feature is extremely useful when a search engine is used to look for a particular web page.



The nView™ Advanced Window Effects feature maximizes valuable desktop real estate. Features such as transparencies can be applied to applications like Internet Explorer, so users can easily see incoming e-mail messages that are hidden behind windows.

The nView™ Setup Wizard makes installation and configuration extremely easy. Each step of the way users are prompted with text, diagrams and pictures to configure nView for their individual needs.



## INDUSTRY'S BEST SUPPORT

NVIDIA® rigorously tests core-user applications and commonly used peripheral devices to ensure that the NVIDIA Quadro® NVS series by PNY performs flawlessly. Applications in the business, financial and NLE markets are fully tested and qualified. Among these are applications from Reuters®, TradeStation, Adobe®, Avid®, and Pinnacle® Systems. Whether you're a financial trader on Wall Street, a video editor making corporate videos, or a business professional hungry for more screen real estate, the NVIDIA Quadro® NVS series by PNY is the only graphics solution to meet all of your business computing and graphics needs

## MOST STABLE AND ROBUST MULTI-DISPLAY SOLUTION

The NVIDIA Quadro® NVS series by PNY provides rock-solid hardware that delivers crystal-clear images. Featuring dual integrated 350MHz RAMDACs, and built-in dual TMDS transmitters, this series supports the latest monitors and digital flat panel displays. DisplayMate, an industry resource for image-quality testing, named the NVIDIA Quadro® NVS family as the standard of quality for dual- and quad-display.

Seamlessly integrated into the familiar Microsoft® Windows® environment, NVIDIA® nView™ offers a robust set of features to maximize productivity. For example, the Application Extensions feature makes applications like Microsoft Internet Explorer multi-display aware. Other features such as Multiple Desktop Support enable users to create up to 32 individual desktops, and the Advanced Window Effects feature utilizes transparencies to help save valuable desktop real estate.

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FEATURES	BENEFITS
<b>nView™ MULTI-DISPLAY SOFTWARE</b>	NVIDIA Quadro®'s multi-display nView™ solution sets a new standard in workstation productivity by delivering unprecedented stability, image quality and performance. No other solution features rock-solid stability with productivity-enhancing functionality, all seamlessly integrated into the Windows® environment.
<b>DUAL 350MHZ RAMDACs</b>	Deliver crystal-clear image quality.
<b>INTEGRATED TMDS TRANSMITTERS</b>	Enable support for the latest digital flat panel displays.
<b>HIGH-DENSITY FLEX CONNECTORS</b>	Provide flexible support for a variety of display types from analog to digital.
<b>LOW-PROFILE FORM FACTOR*</b>	Enables support for small form-factor systems.
<b>UNIFIED DRIVER ARCHITECTURE (UDA)</b>	Provides easy installation and manageability through a single unified driver for large scale system deployment.
<b>AGP 8X SUPPORT**</b>	Double the AGP bandwidth for increased application performance.
<b>PCI-EXPRESS SUPPORT***</b>	Designed specifically to take advantage of the next generation PCI-EXPRESS bus architecture. This new bus doubles the bandwidth of AGP 8X delivering over 4 GB per second in both upstream and downstream data transfers.

\*Low-profile form factor available with Quadro NVS 280 and NVIDIA Quadro® NVS 50 \*\*AGP 8x Support available on the NVIDIA Quadro® NVS 280 and NVIDIA Quadro® NVS 50  
 \*\*\*PCI-Express Support available on the NVIDIA Quadro® NVS 280 PCI-Express

### Package Contains

- NVIDIA Quadro® NVS by PNY Graphics Card
- CD- ROM Containing:
  - Drivers for Windows® 2000 & NT, Including DirectX® 8.1 and OpenGL® 1.3 support
  - Detailed Installation Guide
  - NVIDIA® nView™, Desktop Manager Guide
  - NVIDIA® Display Properties User Manual
- Quickstart Installation Guide
- DMS59 to Dual VGA (Y-adapter) Cable (2 for Quadro4 NVS 400)

### Minimum System Requirements

- IBM® or 100% PC compatible with genuine Intel Pentium® III or AMD Athlon® class processor or higher
- One available AGP 2.0 (NVS 280 AGP, NVS 50) or PCI (NVS 280 PCI, NVS 400) or PCI-Express (NVS 280 PCI-Express) compliant slot or better
- 128MB system memory
- CD- ROM or DVD- ROM drive
- Windows® XP, 2000 or Windows® NT4.0 (Service Pack 6)
- 50MB of available disk space for full installation

- VGA or DVI- I compatible monitor

### Warranty and Service

- PNY Technologies offers three years warranty
- Tech Support at [www.pny-europe.com](http://www.pny-europe.com) or +49 (0) 2405 4826 222 (english and german speaking) or +33 (0) 5 56 13 75 32 (french speaking)
- The latest up- to- date drivers at [www.pny-europe.com](http://www.pny-europe.com)

### BOARDS FEATURES

#### Memory

- Supports up to 64MB 64-bit DDR memory

#### nView™ Hardware Architecture

- 32-bit color
- 2048x1536 @ 75Hz maximum resolution (analog)
- Maximum resolution over digital port: 1280 x 1024 at 75Hz (1600 x 1200 for Quadro4 NVS 280)
- Dual 350MHz DACs
- Integrated TMDS
- Digital Vibrance Control (DVC)
- High-performance 2D rendering engine
- Optimized for 32-, 24-, 16-, 15- and 8-bpp modes

#### High-definition video processor (HDVP)

- Full-screen, full-frame video playback of HDTV and DVD content
- DVD-ready motion compensation for MPEG-2
- Independent hardware color controls for video overlay
- Hardware color-space conversion (YUV 4:2:2 and 4:2:0)
- IDCT Motion compensation
- 5-tap horizontal by 3-tap vertical filtering
- 8:1 up/down scaling

### SOFTWARE ARCHITECTURE

#### nView™ User Interface

- Advanced Multi-display Desktop & Application Management
- Easy to use Setup Wizard
- Seamless integration within the familiar Windows® environment
- Application Extensions for Microsoft Internet Explorer® and Microsoft Office®
- Advanced Window Effects
- Zoom features for detailed editing
- Complete set of Hot Keys
- Support for multiple display modes including:
  - Full native DualView mode: Windows® XP & Windows® 2000
  - Span or Big Desktop mode: Windows® XP, Windows® 2000 & Windows® NT
  - Clone mode: Windows® XP & Windows® 2000

#### Application Compatibility

- Rigorous compatibility testing with all major financial and non-linear editing (NLE) applications
- Fully compliant with professional OpenGL® 1.4 and DirectX® 8.1

#### Unified Driver Architecture (UDA)

- One driver supports all products
- Support for the latest applications on previous- & current-generation hardware
- Continuous performance tuning for previous- & current-generation hardware
- Microsoft Windows® Hardware Qualification Lab (WHQL)-certified for Windows® XP, Windows® 2000, and Windows® NT

#### Workstation Optimizations

- Tested with commonly used hardware peripherals, including the latest digital and analog displays
- Optimized for Intel® and AMD® workstation configurations
- Optimized for multi-processor configurations
- Enhanced customized multi-display drivers, including nView™ multi-display desktop- & application-management software

### SKUs and EAN

- **Quadro NVS 50 AGP8x:**  
Bulk (unit SKU, only sold by carton of 10 cards): VCQ450NVSBLK-1
- **Quadro NVS 280 AGP8x:**  
Retail: VCQ4280NVS-PB  
EAN: 3536403327958  
Bulk (unit SKU, only sold by carton of 10 cards): VCQ4280NVSBLK-1
- **Quadro NVS 280 PCI:**  
Retail: VCQ4280NVS-PCI-PB  
EAN: 3536403329136  
Bulk (unit SKU, only sold by carton of 10 cards): VCQ4280NVSPCIBLK-1
- **Quadro NVS 280 PCI-Express:**  
Retail: VCQ4280NVS-PCIE-PB  
EAN: 3536403329853  
Bulk (unit SKU, only sold by carton of 10 cards): VCQ4280NVS-PCIEBLK-1
- **Quadro NVS 400 PCI:**  
Retail: VCQ4400NVS-PB  
EAN: 3536403327545  
Bulk (unit SKU, only sold by carton of 10 cards): VCQ4400NVSBLK-1

### Spare parts

- **DMS59 to Dual VGA Cable for Quadro NVS 280/400 (provided with boards, for replacement):** 91004085
- **DMS59 to Dual DVI Cable for Quadro NVS 280/400 (optional):** CALI0097
- **Half size bracket for low profile Quadro NVS 50/280 (optional):** 91002312
- **DVI to VGA Adapter for Quadro NVS 50 (provided with boards, for replacement):** CALI0096



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