

### Overview

### Models

NVIDIA GeForce 8400 GS (256 MB SH) PCIe x16 Graphics Card

GJ119AA

### Introduction

If you are seeking stable 2D and advanced 3D graphics performance from your HP Compaq Business Desktop, the NVIDIA GeForce 8400 GS (256 MB SH) PCIe x16 Graphics Card is the perfect solution, providing a low profile, PCI Express x16 graphics add-in card.

The NVIDIA GeForce 8400 GS (256 MB SH) PCIe x16 Graphics Card is an excellent choice for your small business or large enterprise enabling you to engage in video conferencing or 3D image manipulation, while improving your everyday business PC experience with faster frame rates and excellent visual quality.

The NVIDIA GeForce 8400 GS (256 MB SH) PCIe x16 Graphics Card deliver superior PCI Express (PCIe) features including:

- Unprecedented flexibility for new applications and enhanced performance
- Full 16 lane support with peak bandwidth support
- High resolution LCD monitor support with the dual-link DVI port

The NVIDIA GeForce 8400 GS Graphics Card has NVIDIA TurboCache technology which allows you to maximize your system performance by combining dedicated video memory with dynamically allocated system memory. If when using Windows XP you find that you have used up all of the 256 MB of dedicated video memory with an intensive 3D application, then system memory can be used when required by the application. Windows Vista does this automatically.

**NOTE:** 1 GB of system memory required. Graphics cards use part of the total system memory (RAM) to enhance graphics performance. System memory dedicated to graphics performance is not available for other use by other programs.

### Key Benefits

- Stable 2D and advanced 3D graphics performance
- Faster frame rates and excellent visual quality
- Low profile configured with full-height bracket
- 256 MB dedicated on-board graphics frame buffer memory
- Conforms to full PCI Express 1.0A specification for low-profile form factor (x16 lanes native PCI Express implementation)
- Provides DVI-I and S-video output ports
- DVI-to-VGA adapter for VGA output support included
- Dual-link (DL) DVI support for high resolution LCD monitor support (such as the HP LP3065 LCD monitor)
- HDCP for HD movie playback support
- NVIDIA PureVideo HD (movie decode acceleration) for HD movie playback support
- S-video connection for standard definition (SD) TV connection
- DirectX 10.0 support in hardware for optimal performance in DX10 applications
- OpenGL 2.1 support in hardware for optimal performance with OpenGL applications

Memory	Peak theoretical memory bandwidth
256 MB DDR2	3.2 GB/s

### Overview

### Compatibility

The NVIDIA GeForce 8400 GS (256 MB SH) PCIe x16 Graphics Card is compatible with the HP Compaq Business Desktop dc5750 series, dc5800 series, dc5850 series and dc7800 convertible minitower and small form factor desktops.

**NOTE:** The NVIDIA GeForce 8400 GS (256 MB SH) PCIe x16 Graphics Card supports dual-link capable monitors (e.g., 30" or higher LCD monitors). For customers who do not already have a PCIe Riser board installed in their dc7700 USDT for PCIe support, (EU054AA) USDT PCIe Riser Board AMO kit must be ordered for PCIe card support.

**NOTE:** Not all models are available in all regions

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### Service and Support

Your Option Limited Warranty is a one (1) year (HP Option Limited Warranty Period) parts replacement warranty on any HP-branded or Compaq-branded options (HP Options). If your HP Option is installed in an HP Hardware Product, HP may provide warranty service either for the HP Option Limited Warranty Period or the remaining Limited Warranty Period of the HP Hardware Product in which the HP Option is being installed, whichever period is the longer but not to exceed three (3) years from the date you purchased the HP Option.

## Technical Specifications

Bus type	PCI Express (x16 lanes)	
Input/Output connectors	DVI-I (DVI port supports dual-link and HDCP) TV-out (4 pin S-video)	
Board display options	DVI-I + TV DVI-I supports analog CRT or flat panel or digital flat panel (using DVI-A, DVI-D or DVI-I connector) DVI-I supports analog CRT or flat panel (with VGA connector and DVI-I to VGA dongle) TV connector is a 4-pin mini-DIN S-video connector	
Board configuration	<b>Specification</b>	<b>Description</b>
	Graphics Chip	NVIDIA GeForce 8400 GS
	Core clock	460 MHz
	Memory clock	200 MHz
	Frame buffer	256 MB DDR2
Maximum vertical refresh rate	85 Hz	
Display support	Integrated 400 MHz RAMDAC	
Display max resolution	2048 x 1536 (analog), 2560x1600 (digital)	

NVIDIA GeForce 8400 GS (256 MB SH) PCIe x16 Graphics Controller display resolutions and refresh rates

**NOTE:** Other resolutions may be available but are not recommended as they may not have been tested and qualified by HP

Resolution	Maximum Refresh Rate (Hz)	
	Analog Connection	Digital Connection
640x480	85	60
800x600	85	60
1024x768	85	60
1280x720	85	60
1280x1024	85	60
1440x900	75	60
1600x1200	85	60
1680x1050	75	60
1920x1080	85	60-R
1920x1200	85	60-R
1920x1440	85	N/A
2048x1536	75	N/A
2560x1600	N/A	60*

\* Only supported when using a dual-link DVI or DP connection

**NOTE:** 60-R denotes reduced blanking timings are used on single-link DVI connections and may be used with other digital connections

### Technical Specifications

<b>Languages supported</b>	24 languages: English, Arabic, Chinese Simplified, Chinese Traditional, Czechoslovakian, Danish, Dutch, Finnish, French, German, Greek, Hebrew, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Russian, Spanish, Swedish, Thai, Turkish
<b>Operating systems support</b>	Windows Vista Business 64*, Windows Vista Business 32*, Windows Vista Home Basic 32*, Windows XP Professional or Windows XP Home 32* Linux® x86 and x86_64 distributions using XFree86® or X.Org**.

\* Certain Windows Vista product features require advanced or additional hardware. Windows Vista Upgrade Advisor can help you determine which features of Windows Vista will run on your computer. To download the tool, visit: <http://www.windowsvista.com/upgradeadvisor>. For Windows Vista system requirements, visit: <http://www.windowsvista.com/systemrequirements>.

\*\* Linux drivers are available from NVIDIA's website and may be available in a Linux distribution. Refer to the Open Source and Linux from HP website (<http://www.hp.com/wwwsolutions/linux/products/clients/>) for support information.

<b>System memory</b>	1GB of system memory required
<b>Core power</b>	25 W (Max board power)
<b>Option kit contents</b>	<ul style="list-style-type: none"><li>● NVIDIA GeForce 8400 GS (256 MB SH) PCIe x16 Graphics Card with full height bracket attached</li><li>● Low profile bracket</li><li>● DVI-to-VGA Adapter</li><li>● Software CD with graphics drivers</li><li>● Warranty documentation</li></ul>

<b>Compliance standards</b>	<u>EMC Emissions:</u> <ol style="list-style-type: none"><li>a. FCC Part 15, Subpart B - Unintentional Radiators, Class B Computing Devices for Home &amp; Office Use</li><li>b. CISPR22: 1997/EN 55022:1998 - Class B - Limits and methods of measurement of radio disturbance characteristics of Information Technology Equipment</li><li>c. Canadian Standard ICES-003 is equivalent to CISPR22</li><li>d. Taiwanese Standard BSMI</li><li>e. Japanese VCCI</li><li>f. Australian C-Tick</li></ol>
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EMC Immunity:  
CISPR 24:1997/EN 55024:1998 - Information Technology Equipment - Immunity Characteristics - Limits and Methods of Measurement.

Safety:  
UL 60950 (USA) & EN 60950 (EU): Safety of Information Technology Equipment, Including Electrical Business Equipment. All boards meet UL PCB flammability requirements.

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