GV-NX72G512E1/ GV-NX72G512E2

GeForce™ 7200 GS Graphics Accelerator

User's Manual

Rev. 223
12MD-NX72G5E-223R

Declaration of Conformity
We, Manufacturer/Importer
(full address)

G.B.T. Technology Trading GMbH
Bullenkoppel 16, 22047 Hamburg, Germany

declare that the product
(description of the apparatus, system, installation to which it refers)

VGA Card
GV-NX72G512E1/GV-NX72G512E2

is in conformity with
(reference to the specification under which conformity is declared)
in accordance with 89/336 EEC-EMC Directive

☐ EN 55011	Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM) high frequency equipment	☒ EN 61000-3-2	Disturbances in supply systems caused
		☒ EN 61000-3-3	Disturbances in supply systems caused by household appliances and similar electrical equipment "Voltage fluctuations"
☐ EN 55013	Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment	☒ EN 55024	Information Technology equipment-Immunity characteristics-Limits and methods of measurement
☐ EN 55014-1	Limits and methods of measurement of radio disturbance characteristics of household electrical appliances, portable tools and similar electrical apparatus	☐ EN 50082-1	Generic immunity standard Part 1: Residual, commercial and light industry
		☐ EN 50082-2	Generic immunity standard Part 2: Industrial environment
☐ EN 55015	Limits and methods of measurement of radio disturbance characteristics of fluorescent lamps and luminaries	☐ EN 55014-2	Immunity requirements for household appliances tools and similar apparatus
☐ EN 55020	Immunity from radio interference of broadcast receivers and associated equipment	☐ EN 50091-2	EMC requirements for uninterruptible power systems (UPS)
☒ EN 55022	Limits and methods of measurement of radio disturbance characteristics of information technology equipment		
☐ DIN VDE 0855 ☐ part 10 ☐ part 12	Cabled distribution systems; Equipment for receiving and/or distribution from sound and television signals		
☒ CE marking			(EC conformity marking)

The manufacturer also declares the conformity of above mentioned product
with the actual required safety standards in accordance with LVD 2006/95/EC

☐ EN 60065	Safety requirements for mains operated electronic and related apparatus for household and similar general use	☒ EN 60950	Safety for information technology equipment including electrical business equipment
☐ EN 60335	Safety of household and similar electrical appliances	☐ EN 50091-1	General and Safety requirements for uninterruptible power systems (UPS)

Manufacturer/Importer

Signature: _Timmy Huang_

Name: _Timmy Huang_

Date: Nov. 23, 2007

(Stamp)

DECLARATION OF CONFORMITY
Per FCC Part 2 Section 2.1077(a)

Responsible Party Name: G.B.T. INC. (U.S.A.)

Address: 17358 Railroad Street
City of Industry, CA 91748

Phone/Fax No: (818) 854-9338/ (818) 854-9339

hereby declares that the product

Product Name: VGA Card
Model Number: GV-NX72G512E1/
GV-NX72G512E2

Conforms to the following specifications:

FCC Part 15, Subpart B, Section 15.107(a) and Section 15.109
(a),Class B Digital Device

Supplementary Information:

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

Representative Person's Name: ERIC LU

Signature: _Eric Lu_

Date: Nov. 23, 2007

Table of Contents

1. Introduction

1.1. Features

- The graphics card supports NVIDIA TurboCache technology, which enhances graphics card performance by allowing the graphics processing unit (GPU) to dynamically share the available system memory. The total effective VGA memory differs depending on system memory. See the following tables for details:

Available Graphics Memory Calculation for the GV-NX72G512E1

System Memory	256 MB	512 MB	1 GB or above
Onboard Graphics Memory (a)	128 MB	128 MB	128 MB
Allocated System Memory (b)	0 MB	128 MB	384 MB
Total Effective Graphics Memory (a)+(b)	128 MB	256 MB	512 MB

Available Graphics Memory Calculation for the GV-NX72G512E2

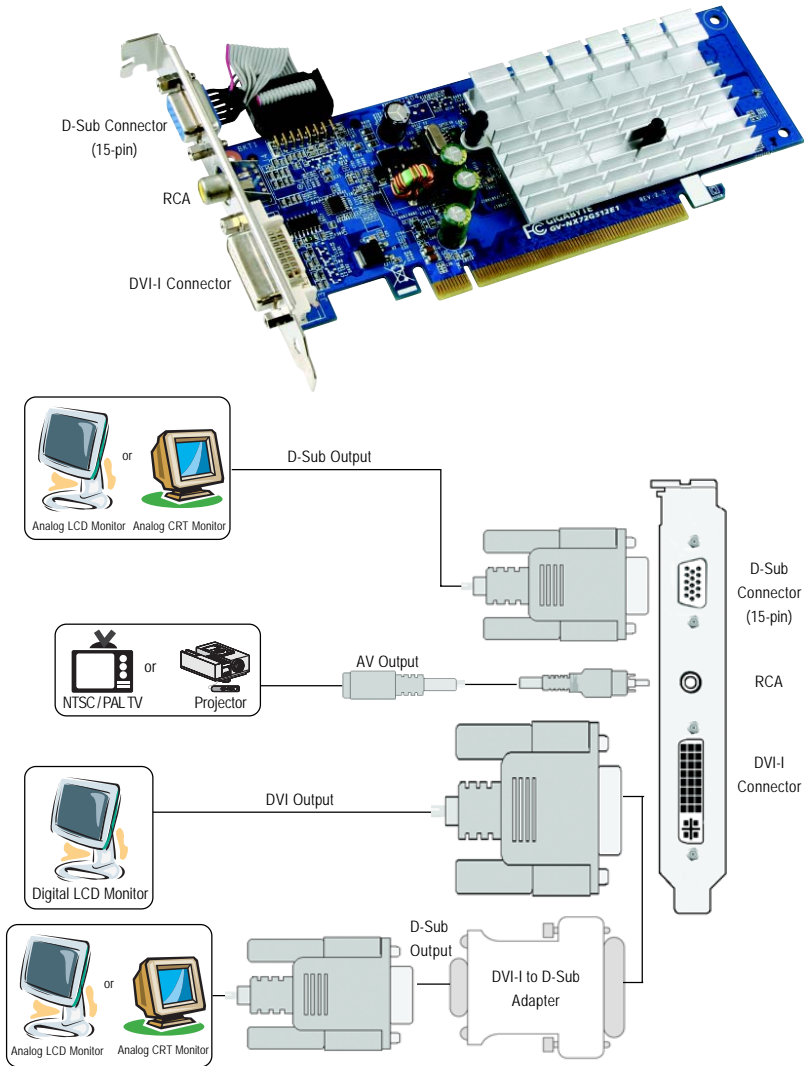| System Memory	256 MB	512 MB	1 GB or above
Onboard Graphics Memory (a)	256 MB	256 MB	256 MB
Allocated System Memory (b)	0 MB	0 MB	256 MB
Total Effective Graphics Memory (a)+(b)	256 MB	256 MB	512 MB

- Powered by NVIDIA® GeForce™ 7200 GS Graphics Processing Unit (GPU)
- Integrated with 128 MB GDDR2 memory (for GV-NX72G512E1 only)
- Integrated with 256 MB GDDR2 memory (for GV-NX72G512E2 only)
- Supports DirectX 9.0c
- Supports AV output
- Supports 1 DVI-I connector
- Supports 1 D-Sub connector

1.2. Minimum System Requirements

- **Hardware**
  - Intel® Pentium® 4 or AMD Athlon™
  - 128 MB of system memory; 2 GB or more for best performance
  - Optical drive for software installation (CD-ROM or DVD-ROM drive)
  - A power supply with 300-watt is recommended

- **Operating System**
  - Windows® XP with Service Pack 2 (SP2)
  - Windows® XP Professional x64 Edition
  - Windows® 2000

2. Hardware Installation

2.1. Board Layout

D-Sub Connector
(15-pin)

RCA

DVI-I Connector

Analog LCD Monitor Analog CRT Monitor or

D-Sub Output

D-Sub
Connector
(15-pin)

NTSC / PAL TV Projector or

AV Output

RCA

Digital LCD Monitor

DVI Output

DVI-I
Connector

Analog LCD Monitor Analog CRT Monitor or

D-Sub
Output

DVI-I to D-Sub
Adapter

⚠ **CAUTION**

Expansion cards contain very delicate Integrated Circuit (IC) chips. To protect them against damage from static electricity, you should follow some precautions whenever you work on your computer.

1. Turn off your computer and unplug power supply.
2. Use a grounded wrist strap before handling computer components. If you do not have one, touch both of your hands to a safely grounded object or to a metal object, such as the power supply case.
3. Place components on a grounded antistatic pad or on the bag that came with the components whenever the components are separated from the system.

The card contains sensitive electric components, which can be easily damaged by static electricity, so the card should be left in its original packing until it is installed.

Unpacking and installation should be done on a grounded anti-static mat. The operator should be wearing an anti-static wristband, grounded at the same point as the anti-static mat.

Inspect the card carton for obvious damage. Shipping and handling may cause damage to your card. Be sure there are no shipping and handling damages on the card before proceeding.

● **DO NOT APPLY POWER TO YOUR SYSTEM IF THE GRAPHICS CARD IS DAMAGED.**

● **In order to ensure that your graphics card can work correctly, please use official GIGABYTE BIOS only. Using non-official GIGABYTE BIOS might cause problem(s) on the graphics card.**

2.2. Hardware Installation

Now that you have prepared your computer, you are ready to install your graphics card.

To remove the existing graphics card:

Step 1.

Power off the computer and monitor, then disconnect the display cable from the back of your computer.
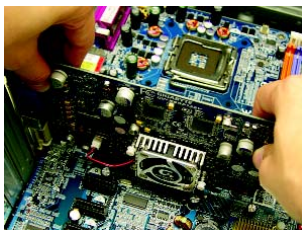
Step 2.

Remove the computer cover. If necessary, consult your computer's manual for help in removing the cover.

Step 3.

Remove any existing graphics card from your computer.

**To install your new graphics card:**

Step 1.

Locate the PCI Express x16 slot. If necessary, re-move the metal cover from this slot; then align your graphics card with the PCI Express x16 slot, and press it in firmly until the card is fully seated.

* Please make sure that the gold edge connector of the graphics card is securely inserted.
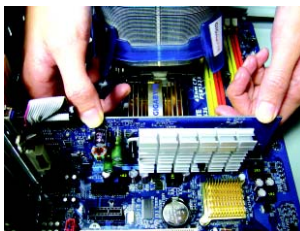
Step 2.

Replace the screw to fasten the card in place, and replace the computer cover.
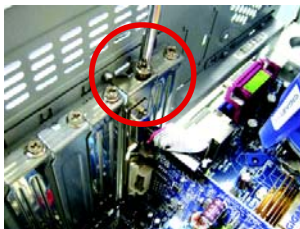
Step 3.

Plug the display cable into your card; then turn on the computer and monitor. If your graphics card came with a DVI-I connector, you can connect a flat panel display to the appropriate connector, as shown below.

To D-Sub Monitor   To TV/VCR   To Flat Panel Display

You are now ready to proceed with the installation of the graphics card driver. Please refer to next chapter for detailed instructions.

3. Software Installation

In this manual, we assume that your CD-ROM drive letter to be Drive D:
The installation of Windows 2000 / Windows XP drivers is very simple. When you insert the driver CD into your CD-ROM drive, you can see the autorun window (if it does not show up, run "D:\setup.exe"). Then you can follow the instructions to setup your graphics card driver. (Please follow the subsection "3.1.3 Driver Installation" to install the driver for your graphics card.)

3.1. Windows® XP Driver and Utilities Installation

3.1.1. Operating System Requirements

Notice the following guidelines before installing the drivers:
1. First make sure your system has installed DirectX 9.0c or later version.
2. Make sure your system has installed the appropriate motherboard drivers (for the motherboard drivers, please contact the motherboard manufacturer.)

3.1.2. DirectX Installation

Install Microsoft DirectX to enable 3D hardware acceleration support for Windows 2000 or Windows XP to achieve better 3D performance.
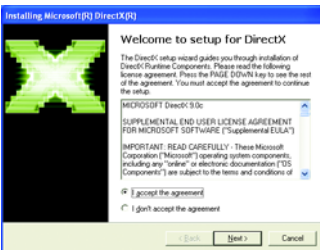
For software MPEG support in Windows 2000 or Windows XP, you must install DirectX first. Users who run Windows XP with Service Pack 2 or above do not need to install DirectX separately.
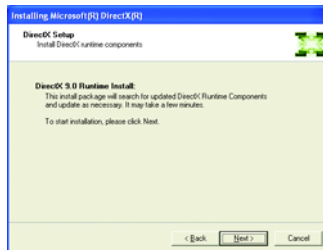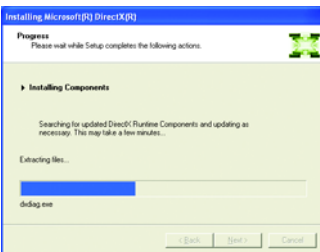
Step 1.
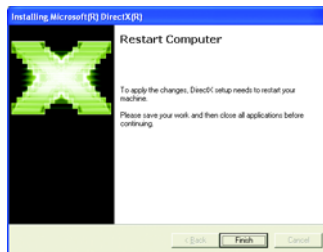When the autorun window shows up, click the **Install DirectX 9** item.

Step 2. Choose **I accept the agreement** and click the **Next** button.

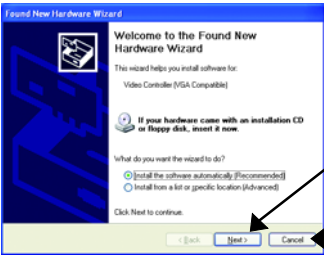Step 3. Click the **Next** button.

The system is installing the components.

Step 4. Click **Finish** to restart computer. Then the DirectX 9 installation is completed.

3.1.3. Driver Installation

A. New Hardware Found

When the graphics card is inserted into your computer for the first time, the operating system will detect the graphics card automatically and display a New Hardware Found message. The following are step-by-step installation instructions.

**Step 1: Found New Hardware Wizard: Video Controller (VGA Compatible)**

Click the **Next** button to install the driver. (Insert the driver CD-ROM that came with your graphics card.)

Or click the **Cancel** button to install the driver from the autorun window.
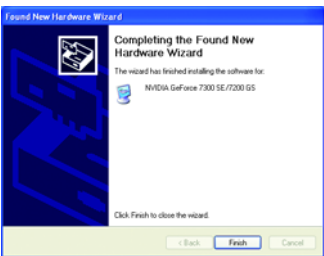
Step 2: Found New Hardware Wizard: Searching and Installing

The wizard will search for the driver and install it automatically.
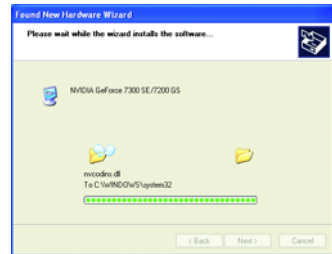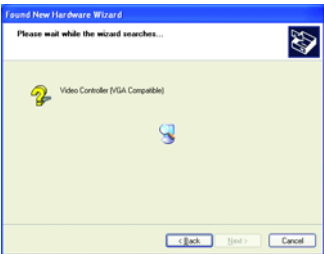
Step 3: Found New Hardware Wizard: Finish

Click the **Finish** button to finish the installation.

B. Driver Installation (Autorun Window)

Insert the driver CD-ROM into your CD-ROM drive. The autorun window will appear. If it does not show up, please run "D:\setup.exe".

Step 1.
When the autorun window shows up, click the **Install Display Driver** item.
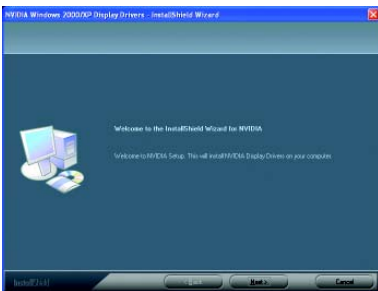
Step 2. Click the **Next** button.
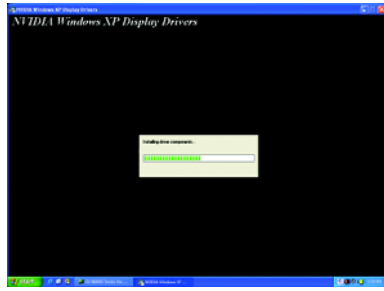
The system is installing the components.
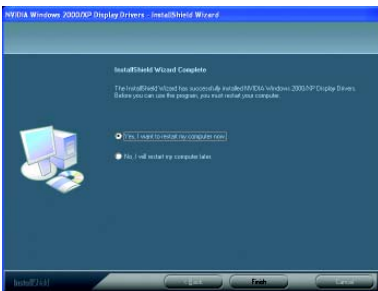
Step 3. Click the **Finish** button to restart the computer. Then the driver installation is completed.

3.1.4. Utilities on Driver CD

Insert the driver CD disk into your CD-ROM, and then you can see the AUTORUN window. If it does not show up, please run "D:\setup.exe".
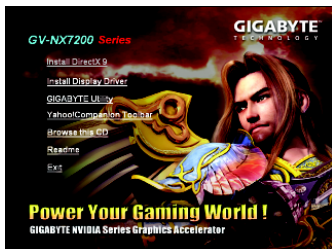
Step 1. When autorun window shows up, please click the **GIGABYTE Utility** item.
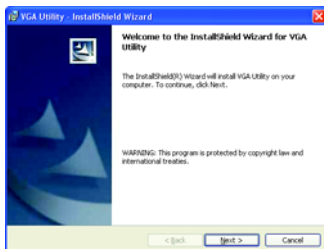
Step 2. Click the **Next** button.
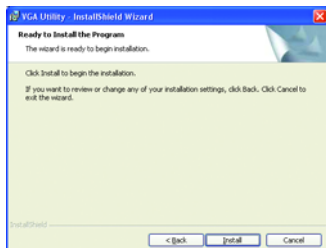
Step 3. Click the **Install** button.
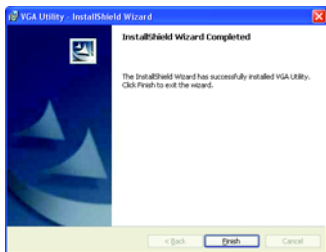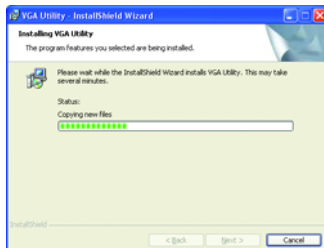
Step 4. Click the **Finish** button.

Step 5. Click the **Next** button.

Step 6. Click the **Next** button.
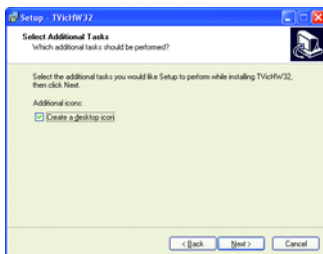
Step 7. Click the **Next** button.
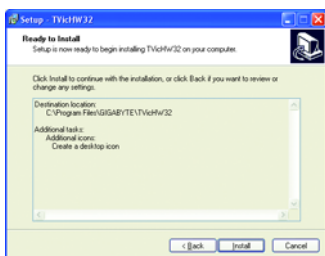
Step 8. Click the **Install** button.
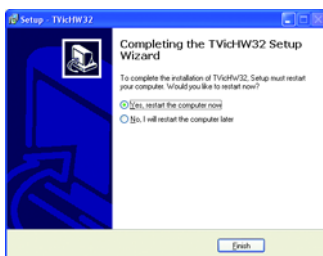
Step 9. Click the **Finish** button to restart computer. Then the utilities installation is completed.
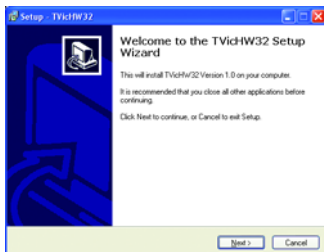
V-Tuner 3

V-Tuner 3 lets you adjust the working frequency of the graphic engine and video memory (Core Clock and Memory Clock).

Displays 2D/3D core clock status

Displays memory clock status

Adjust 2D core clock

Auto-Optimized core / memory clock

Adjust 3D core clock   Fixed Clock

Adjust memory clock   Hardware Monitor
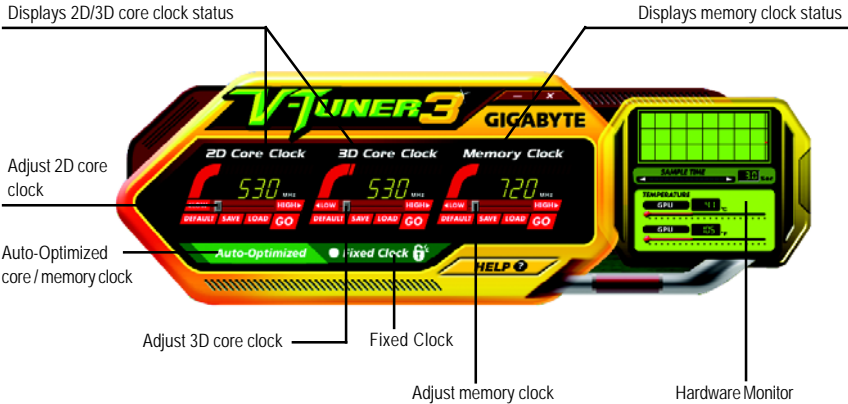
Button	Function
DEFAULT	You may click this button to restore to the default setting
SAVE	You may click this button to save the frequency you wanted
LOAD	After saving the specific value, you may click this button to load the frequency you saved last time
Auto-Optimized	The V-Tuner3 clock configuration utility will determine the recommended GPU and memory clock setting your system. If the utility should hang, restart your system and then enter "Auto-Optimized" mode
Fixed Clock	The V-Tuner3 clock configuration utility will lock the GPU and memory clock you choose, whether you restart your system or not. To rechange clock, uncheck the "Fixed Clock" mode and then adjust
Hardware Monitor	If your card have Hardware Monitor function, you will see the extend window. The window will display the GPU temperature and show the thermal curve. Besides, you can move the slider to adjust the frequency-time temperature of GPU, and you will see the change of thermal curve from now on.
HELP	Opens Help page

3.1.5. Taskbar Icons

After installation of the display drivers, you will find a GIGABYTE icon 🟢 on the taskbar's status area. Right-clicking this icon opens the GIGABYTE control panel, showing a menu composed of shortcut of the graphics card's enhanced and other functions.

You may click the Display Properties item, and then click Settings. Click Advanced after clicking Settings. Click the appropriate tab to change your display settings.

Right click the icon.
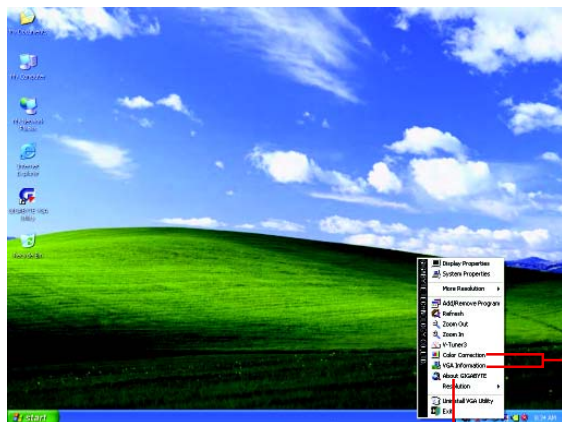
Click the Color Correction and VGA Information items to open the "Color Adjust" and "VGA Info" tabs.

You can link to GIGABYTE website for up-dated information about the graphics accelerator, latest drivers, and other information.

Color Adjust

Color Adjust allows you to make color adjustments, such as brightness, contrast and gamma values for each or all of RGB colors.

VGA Info

VGA Info lists the relevant information about your card.

Software Installation
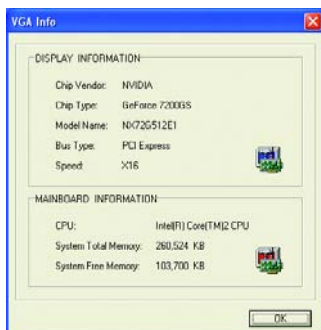
After installing the graphics card driver, you will find an NVIDIA icon in your system tray. Click this icon to open the control panel.

Right click the icon.

You can adjust the properties of the graphics card here.

3.1.6. Display Properties Pages

To access **Display Properties** pages, right-click on desktop and then select **Properties**. The **Display Properties** dialog box shows the information of display adapter, color, the range of display area, and the refresh rate.

Settings (Resolutions and Color Quality for Windows)
You may adjust the screen resolution and color quality settings in this dialog box.

You can move the slider to change the resolution.

You can click the item to change the color quality.

Click the **Advanced** button for advanced settings

GeForce 7200 GS properties

After pressing the **Advanced** button in **Settings**, you'll see **Plug and Play Monitor and NVIDIA GeForce 7300 SE/7200 GS** dialog box. Click the **GeForce 7300 SE/7200 GS** tab. (You can also click the Nvidia icon in the system tray and select **Nvidia Display** to access the GeForce 7300 SE/7200 GS properties page.)
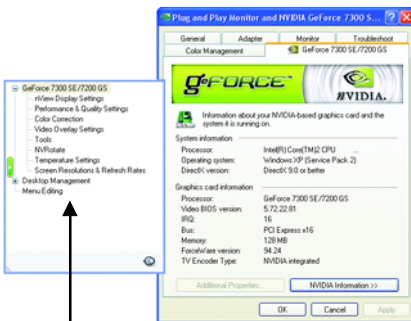
■ This page shows the Adapter, System and Driver versions information.

You can select other properties from the pop-out menu.

nView Display Settings properties
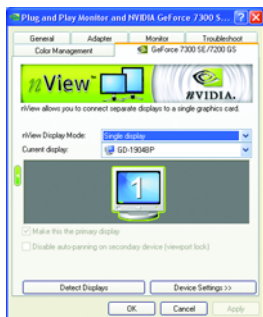
■ nView allows you to connect separate displays to single graphics card.
  • nView Display mode: select your preferred nView display modes here.
    Options: Single display/ Clone/ Dual View
  • Primary/Secondary display: select a single display or display pair. The selected display combination will appear in the graphical representation below.
  • Make this the primary display: Specifies that the display corresponding to the icon you selected above is the primary display.
  • Click **Apply** to apply settings or click **OK** to save settings.
■ If TV is chosen as the display, you will need to select the proper TV format. To do this, click **Device Settings** followed by **Select TV format**. Select the format for your television and then click **Apply** followed by **OK**.

Display	Model	GV-NX72G512E1/GV-NX72G512E2
Matrix	CRT+TV	Yes
	CRT+DVI	Yes
	DVI+TV	Yes

Dual-Monitor Setup:

You can set the display to output from two monitors on the nView Display Settings page.

This graphics card supports the following modes:

(1) Clone Mode:

Clone mode indicates that both displays in the display pair show images of the same desktop. Select **Clone** from the **nView Display Mode** list and click **Apply**.

(2) Dual View Mode:

Dualview mode indicates that both displays in the display pair function as one virtual desktop. Unlike Horizontal Span or Vertical Span mode, Dualview treats each display as a separate device. This means that the taskbar will not be stretched across displays and 3D applications are not accelerated as efficiently as when the application spans displays.

Select **DualView** from the **nView Display Mode** list and click **Apply**.

Clone Mode

Dual View Mode

Performance and Quality Settings properties
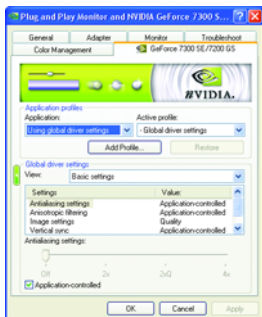
■ The sliders lets to decide whether your application should use quality or high performance texture.

- Application profiles: Select the application profile from the list of profiles.
- Global driver settings: Select the Settings item and move the slider below to set the degree of antialiasing to used in Direct3D and OpenGL applications.
- Antialiasing settings value: allows to set the degree of the Global Driver Settings.

Color Correction properties
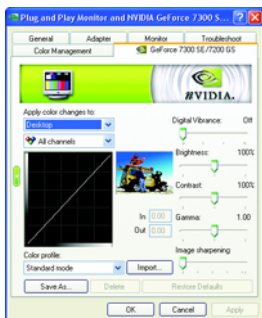
■ **The Color Correction Properties** is used to compensate for variations in luminance between a source image and its output on a display device. Adjust the color correction settings to provide more accurate color reproduction of images (such as photographs) on your display device. Also, many 3D-accelerated games may appear too dark to play. Increasing the brightness and/or the gamma value equally across all channels makes these games appear brighter and more playable.

Video Overlay Settings properties
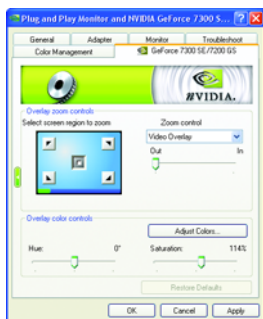
■ **The Video Overlay Settings Properties** can adjust Overlay zoom controls and Overlay color controls. There is only one video overlay, which is only available on the **Primary** display. The video overlay controls are automatically activated during playback of any video file type that supports overlay adjustments. The "Adjust Colors" button will access "Color Correction" properties page.

Tools properties

■ The NVIDIA settings taskbar utility lets you conveniently access various features and presets you've configured in the Display Properties directly from the Windows taskbar.
  • Shortcut tools
    The Desktop Manager provides enhanced nView multi-display functionality and helps you organize your applications for use with multiple displays and desktops.
  • Display optimization
    Run the Display Optimization Wizard to adjust your display(s) for optimal viewing and representation of colors.
  • Troubleshooting
    This option can be used to force detection of an attached TV set which does not report its presence to the graphics card.

NV Rotate properties
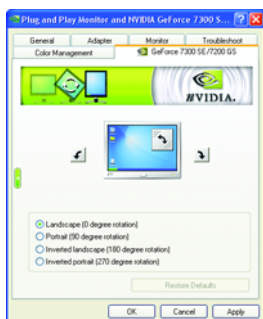
■ The **NV Rotate Properties** is used to rotate the screen. If your monitor is capable of operating in either Landscape or Portrait mode, you can adjust the screen by this properties.
  • Landscape (0 degree rotation)
  • Portrait (90 degree rotation)
  • Inverted landscape (180 degree rotation)
  • Inverted portrait (270 degree rotation)

Temperature Settings properties

- The **Temperature Settings Properties** can auto detected the GPU Core temperature. You can select the **Notify when GPU core temperature exceeds threshold** check box.

Screen Resolutions & Refresh Rates properties
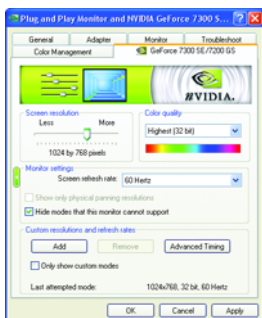
- The **Screen Resolutions & Refresh Rates Properties** allows you to adjust the screen resolution, color quality and monitor settings (screen refresh rates). Or you can customize resolutions and refresh rates.

Menu Editing properties

- The **Menu Editing Properties** can remove infrequently used screens by dragging them from the screen menu to the list below. Restore screens to the menu by dragging them individually, or click Restore Defaults.
  To begin, select the **Enable menu editing** check box. To return to normal navigation mode, do not select the check box.

3.1.7. nView Properties Pages

nView is a set of desktop tools designed to help you be more productive when using your graphics card. With **nView** you can set up multiple desktops to work with your applications. Multiple desktops give you extra desktop areas on which to run your applications so you won't have to crowd several open application windows on one desktop.

<u>**Enable the nView Desktop Manager features:**</u>

Right-click on desktop and choose Properties\Settings\Advanced\GeForce 7300 SE/7200 GS\Desktop Management

Click the **Enable** button to turn on all the nView Desktop Manager features.

<u>**Access nView properties page:**</u>

To access the **nView** properties page, you can click the NVIDIA icon on the taskbar and select **nView Properties** under **nView Destop Manager** (Method A). Or right-click on Desktop, select Properties\Settings\Advanced\GeForce 7300 SE/7200 GS. Double-click **Desktop Management** item on the pop-up menu (Method B).

<u>Method A:</u>   <u>Method B:</u>
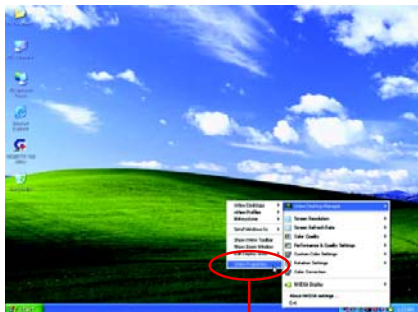
Click the item to start nView Properties.   Double-click Desktop Management
                                              to see more nView properties.
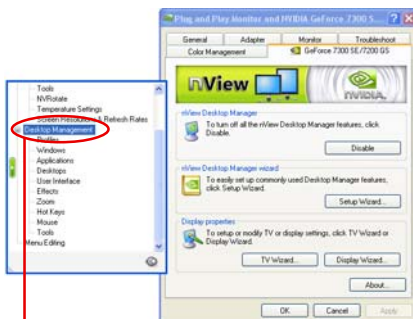
nView Desktop Management properties

■ This tab contains information about the nView Desktop Manager. The setup wizard can also be accessed from this tab.

nView Profiles properties

■ This tab contains a record all nView display settings for easy software setup.

nView Windows properties

■ This tab allows you to control window and dialog box placement when using multiple monitors.

Software Installation

nView Applications properties

■ This tab allows you to control nView settings depending different applications.

nView Desktops properties

■ This tab allows you to create up to 32 unique desktops.

nView User Interface properties

■ This tab allows for customization of the nView user interface.

nView Effects properties

■ This tab provides special windows effects that you can apply to your applications.

nView Zoom properties

■ This tab provides dynamic zoom functionality on the desktop. Also enables full screen video playback via the video mirroring control button.

nView Hot Keys properties

■ This tab lets you perform various actions with shortcut keys or key combinations.

Software Installation

nView Mouse properties

■ This tab can modify and extend mouse behavior with kinematic actions.

nView Tools properties

■ This tab can improve nView functionality for mobile and desktop users.

3.2. Windows® 2000 Driver Installation

With Windows running on your computer, you need to install the graphics card driver to take advantage of the higher performance, resolutions, and special graphics features of the graphics card. To ensure you install the latest driver, insert the driver CD-ROM that came with your graphics card.

To install the graphics card driver for Windows 2000, please insert the driver CD-ROM. Then the autorun window will show up. Click the Install Display Driver item, and follow the wizard to install the driver.

If the autorun window does not show up automatically, run the following steps:
1. On the menu bar, click the **Start** button.
2. Select **Run**.
3. Type the following: D:\SETUP.exe
   (If D is not your CD-ROM drive, substitute D with the correct drive letter.)
4. Click **OK**.
5. Click **Install Display Drivers** to start the Installation Wizard.
6. Click **Next**.
7. Click **Yes** to the license agreement.
8. Follow the Wizard's on-screen instructions to complete the installation.

Please make sure the Windows® 2000 has installed Windows® 2000 Service Pack (or later) before installing the graphics card driver.

CAUTION

4. Troubleshooting Tips

The following troubleshooting tips may help if you experience problems. Contact your dealer or GIGABYTE for more advanced troubleshooting information.

- Check that the card is seated properly in the PCI Express x16 slot.
- Ensure that the display cable is securely fastened to the card's display connector.
- Make sure that the monitor and computer are plugged in and receiving power.
- If necessary, disable any built-in graphics capabilities on your motherboard. For more information, consult your computer's manual or manufacturer.
  (NOTE: Some manufacturers do not allow the built-in graphics to be disabled or to become the secondary display.)
- Make sure you selected the appropriate display device and graphics card when you install the graphics driver.
- Restart your computer.
  Press <F8> on your keyboard after system starts up. When the Windows Advanced Options Menu appears, select Safe Mode and press <Enter>.
  After getting into Safe Mode, in Device Manager check whether the driver for the graphics card is correct.
- For more assistance, use the Troubleshooting Guide located in the Windows Help or contact your computer manufacturer.

NOTE If necessary, adjust your monitor's setting using monitor's adjust panel to make the screen look focused, crisp, and sharp. (Please refer to the monitor's manual.)

5. Appendix

5.1. How to Reflash the BIOS in MS-DOS Mode

1. Extract the downloaded Zip file to your hard disk(s) or floppy disk. This procedure assumes drive A.
2. Restart the computer in MS-DOS mode. (For Windows 2000/XP, you need a startup disk to restart the computer in MS-DOS mode.)
3. Change the command prompt to A:\>.
4. To back up the current BIOS, at the A:\> prompt, type `[BIOS flash utility name] -s [BIOS file name]` **(example: gvf18 -s x72g5e1.f1)** and press **Enter**.
5. To flash BIOS, at the A:\> prompt, type `[BIOS flash utility name] -p [BIOS file name]` **(example: gvf18 -p x72g5e1.f2)** and press **Enter**.
6. Wait until it's done, then restart your computer.

5.2. Resolutions and Color Depth Table (In Windows XP)

GeForce 7200 GS Single Display Standard Modes

Display Screen Resolution	Refresh Rate (Hz)	Color Depth (bpp)		
		8bpp(256 color) Standard mode	16bpp(65K color) High mode	32bpp(16.7M) True mode
320 x 200	60~75	✓	✓	✓
320 x 240	60~75	✓	✓	✓
400 x 300	60~75	✓	✓	✓
480 x 360	60~75	✓	✓	✓
512 x 384	60~75	✓	✓	✓
640 x 400 (16:10)	60~75	✓	✓	✓
640 x 480	60~240	✓	✓	✓
720 x 480	60	✓	✓	✓
720 x 576	50~60	✓	✓	✓
800 x 600	60~240	✓	✓	✓
848 x 480	60~240	✓	✓	✓
960 x 600 (16:10)	60~240	✓	✓	✓
1024 x 768	60~200	✓	✓	✓
	240	✓	✓	X
1088 x 612 (16:9)	60~200	✓	✓	✓
	240	✓	✓	X
1152 x 864	60~170	✓	✓	✓
	200	✓	✓	X
1280 x 720 (16:9)	60~150	✓	✓	✓
	170	✓	✓	X
1280 x 768	60~150	✓	✓	✓
	170	✓	✓	X
1280 x 800	60~150	✓	✓	✓
	170	✓	✓	X
1280 x 960	60~150	✓	✓	✓
	170	✓	✓	X
1280 x 1024	60~150	✓	✓	✓
	170	✓	✓	X
1360 x 768	60~150	✓	✓	✓
	170	✓	✓	X
1600 x 900 (16:9)	60~120	✓	✓	✓
	140~150	✓	✓	X
1600 x 1024	60~100	✓	✓	✓
	120	✓	✓	X

Display Screen Resolution	Refresh Rate (Hz)	Color Depth (bpp)		
		8bpp(256 color) Standard mode	16bpp(65K color) High mode	32bpp(16.7M) True mode
1600 x 1200	60~100	✓	✓	✓
	120	✓	✓	X
1920 x 1080 (16:9)	60~85	✓	✓	✓
	100	✓	✓	X
1920 x 1200 (16:10)	60~85	✓	✓	✓
	100	✓	✓	X
1920 x 1440	60~85	✓	✓	✓
2048 x 1536	60~85	✓	✓	✓

* This table is for reference only. The actual resolutions supported depend on the monitor you use.

Regulatory Statements

Regulatory Notices

This document must not be copied without our written permission, and the contents there of must not be imparted to a third party nor be used for any unauthorized purpose. Contravention will be prosecuted. We believe that the information contained herein was accurate in all respects at the time of printing. GIGABYTE cannot, however, assume any responsibility for errors or omissions in this text. Also note that the information in this document is subject to change without notice and should not be construed as a commitment by GIGABYTE.

Our Commitment to Preserving the Environment

In addition to high-efficiency performance, all GIGABYTE motherboards fulfill European Union regulations for RoHS (Restriction of Certain Hazardous Substances in Electrical and Electronic Equipment) and WEEE (Waste Electrical and Electronic Equipment) environmental directives, as well as most major worldwide safety requirements. To prevent releases of harmful substances into the environment and to maximize the use of our natural resources, GIGABYTE provides the following information on how you can responsibly recycle or reuse most of the materials in your "end of life" product.

Restriction of Hazardous Substances (RoHS) Directive Statement

GIGABYTE products have not intended to add and safe from hazardous substances (Cd, Pb, Hg, Cr+6, PBDE and PBB). The parts and components have been carefully selected to meet RoHS requirement. Moreover, we at GIGABYTE are continuing our efforts to develop products that do not use internationally banned toxic chemicals.

Waste Electrical & Electronic Equipment (WEEE) Directive Statement

GIGABYTE will fulfill the national laws as interpreted from the 2002/96/EC WEEE (Waste Electrical and Electronic Equipment) directive. The WEEE Directive specifies the treatment, collection, recycling and disposal of electric and electronic devices and their components. Under the Directive, used equipment must be marked, collected separately, and disposed of properly.

WEEE Symbol Statement

The symbol shown below is on the product or on its packaging, which indicates that this product must not be disposed of with other waste. Instead, the device should be taken to the waste collection centers for activation of the treatment, collection, recycling and disposal procedure. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local government office, your household waste disposal service or where you purchased the product for details of environmentally safe recycling.

- When your electrical or electronic equipment is no longer useful to you, "take it back" to your local or regional waste collection administration for recycling.
- If you need further assistance in recycling, reusing in your "end of life" product, you may contact us at the Customer Care number listed in your product's user's manual and we will be glad to help you with your effort.

Finally, we suggest that you practice other environmentally friendly actions by understanding and using the energy-saving features of this product (where applicable), recycling the inner and outer packaging (including shipping containers) this product was delivered in, and by disposing of or recycling used batteries properly. With your help, we can reduce the amount of natural resources needed to produce electrical and electronic equipment, minimize the use of landfills for the disposal of "end of life" products, and generally improve our quality of life by ensuring that potentially hazardous substances are not released into the environment and are disposed of properly.

China Restriction of Hazardous Substances Table

The following table is supplied in compliance with China's Restriction of Hazardous Substances (China RoHS) requirements:

关于符合中国《电子信息产品污染控制管理办法》的声明
Management Methods on Control of Pollution from Electronic Information Products
(China RoHS Declaration)

产品中有毒有害物质或元素的名称及含量
Hazardous Substances Table

部件名称(Parts)	有毒有害物质或元素(Hazardous Substances)					
	铅(Pb)	汞(Hg)	镉(Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
PCB板 PCB	○	○	○	○	○	○
结构件及风扇 Mechanical parts and Fan	×	○	○	○	○	○
芯片及其他主动零件 Chip and other Active components	×	○	○	○	○	○
连接器 Connectors	×	○	○	○	○	○
被动电子元器件 Passive Components	×	○	○	○	○	○
线材 Cables	○	○	○	○	○	○
焊接金属 Soldering metal	○	○	○	○	○	○
助焊剂，散热膏，标签及其他耗材 Flux, Solder Paste, Label and other Consumable Materials	○	○	○	○	○	○

○:表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006标准规定的限量要求以下。
Indicates that this hazardous substance contained in all homogenous materials of this part is below the limit requirement SJ/T 11363-2006

×:表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T11363-2006标准规定的限量要求。
Indicates that this hazardous substance contained in at least one of the homogenous materials of this part is above the limit requirement in SJ/T 11363-2006

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This table shows where these substances may be found in the supply chain of our electronic information products, as of the date of the sale of the enclosed products. Note that some of the component types listed above may or may not be a part of the enclosed product.