GV-3D1-68GT

Dual GeForce™ 6800 GT Graphics Accelerator

User's Manual

Rev. 101

12MD-3D168GT-101R

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Notice

Please do not remove any labels on VGA card, this may void the warranty of this VGA card.

Due to rapid change in technology, some of the specifications might be out of date before publication of this booklet.

The author assumes no responsibility for any errors or omissions that may appear in this document nor does the author make a commitment to update the information contained herein.

English

Table of Contents

1. Introduction 3
   1.1. Features 3
   1.2. Minimum system requirement 3

2. Hardware Installation 4
   2.1. Board layout 4
   2.2. Hardware installation 6

3. Software Installation 8
   3.1. Win® XP driver and utilities installation 8
      3.1.1. Operating system requirement 8
      3.1.2. DirectX installation 9
      3.1.3. Driver installation 11
      3.1.4. Enabling the dual GeForce 6800 GT GPUs 13
      3.1.5. Utilities on driver CD 14
      3.1.6. Taskbar icon 16
      3.1.7. Display properties pages 19
      3.1.8. nView properties pages 23
   3.2. Win® 2000 driver installation 28

4. Troubleshooting Tips 29

5. Appendix 30
   5.1. How to Reflash the BIOS 30
      5.1.1. Reflash BIOS in MS-DOS mode 30
      5.1.2. Reflash BIOS in Windows mode 30
   5.2. Resolutions and color depth table (In Windows® XP) 31

1. Introduction

1.1. Features

- Powered by dual **NVIDIA® GeForce™ 6800 GT** Graphics Processing Units (GPUs) (To enable the dual 6800 GT GPUs, please check Page 6~8 for hardware settings and Page 13 for software settings.)
- Supports the newest PCI Express x 16
- Integrated with 512MB DDRIII memory
- Supports DirectX 9.0c
- Supports TV-Out connector
- Supports D-Sub (by adapter) and DVI-I connector

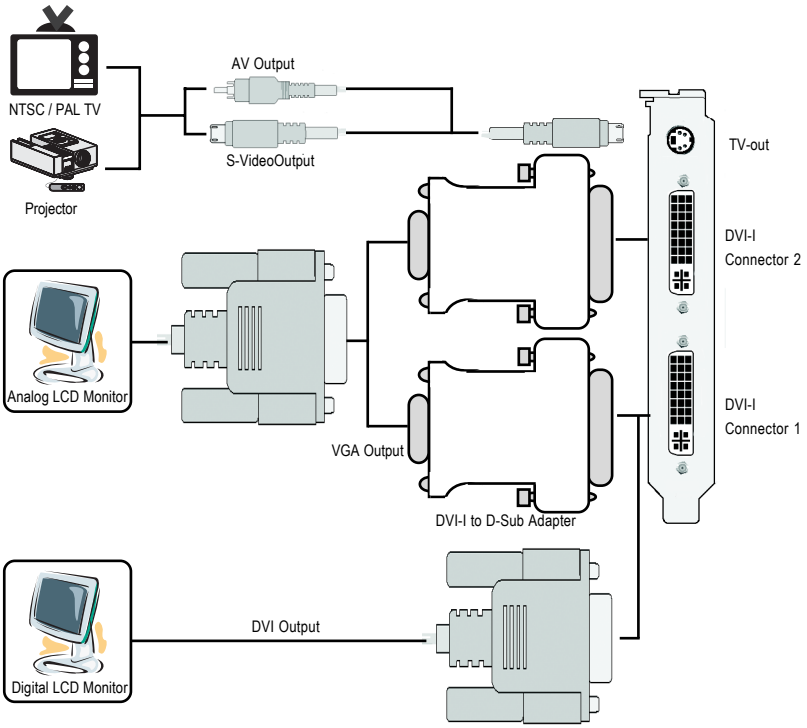
1.2. Minimum system requirement

- IBM® or 100% PC compatible with Pentium® III 650MHz or AMD Athlon 650MHz class processor or higher
- One PCI Express x 16 slot
- Operating Systems Win® 2000 / Win® XP
- 64MB system memory
- 50MB of available disk space for full installation
- CD-ROM or DVD-ROM drive
- Minimum power supply 500W

Important The GV-3D1-68GT graphics card can only work with GIGABYTE's K8/P4 SLI motherboards that are based on NVIDIA's chipset.

2. Hardware Installation

2.1. Board Layout



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 IT HAS BEEN DAMAGED ON THE CARD.**
- **In order to ensure your graphics card working correctly, please use official Gigabyte BIOS only. Use none official Gigabyte BIOS might cause problem on the graphics card.**

2.2. Hardware installation

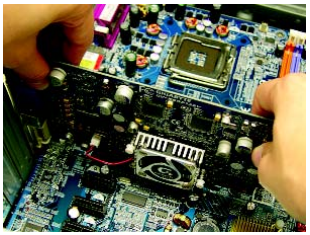
Now that you have prepared your computer, you are ready to install your graphics card.

To remove the existing graphics card:

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

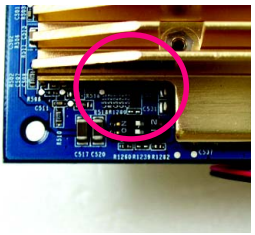
2. Remove the computer cover. If necessary, consult your computer's manual for help in removing the cover.

3. Remove any existing graphics card from your computer.
   Or, if your computer has any on-board graphics capability, you may need to disable it on the motherboard. For more information, please see you computer documentation.



To install your new graphics card:

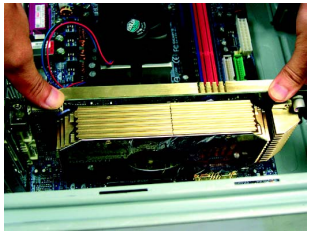
1. Remove the graphics card from its anti-static package. Set the dip switch located in the lower left corner on the back of the graphics card.



OFF: Single-GPU mode

ON: Dual-GPU mode

2. Locate the PCI Express x 16 slot. If necessary, remove the metal cover from this slot; then align your graphics card with the PCI Express x 16 slot, and press it in firmly until the card is fully seated.

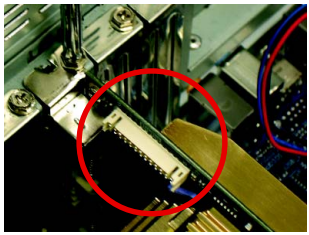


NOTE

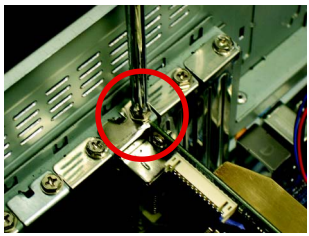
Before installing the GV-3D1-68GT on GIGABYTE's K8 or P4 motherboard based on NVIDIA's SLI chipset, read the following hardware setting directions:

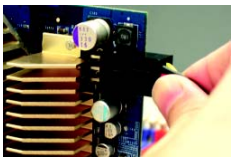
1. On a K8 SLI motherboard, set the SLI switch module to Normal Mode. (Refer to motherboard user's manual.)
2. On a P4 SLI motherboard, set the SLI switch module to 3D1 mode. (Refer to motherboard user's manual.)

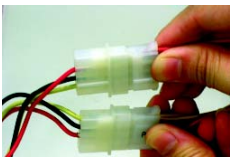
3. If you wish to use the Quad View (multiple-monitor output) function, please install the included Dual D-Sub bracket. Connect the white connector of the bracket to the J13 header on the graphics card. Secure the bracket to the chassis back panel with a screw.



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







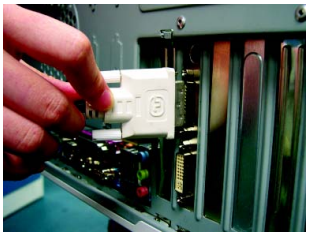
CAUTION

After installation, you must connect the power cable to your GV-3D1-68GT graphics card (connect the black power connector to the graphics card and both of the two white power connectors to the power supply), or system will not boot.

5. Plug the display cable into your graphics card; then turn on the computer and monitor. To connect a flat panel directly to your graphics card, use the DVI-I connector. To connect a VGA monitor to the DVI-I connector, plug the DVI-I to D-sub adapter into the DVI-I connector, then plug the monitor cable into the adapter.

To Flat Panel Display

To TV or VCR



Connect a flat panel

Connect a VGA monitor via DVI-I to D-sub adapter

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 Win® 2000 / Win® 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 guides to setup your graphics card driver. (Please follow the subsection 3.1.3 "Driver installation" to install the driver for your graphics accelerator.)

3.1. Win® XP driver and utilities installation

3.1.1. Operating system requirement

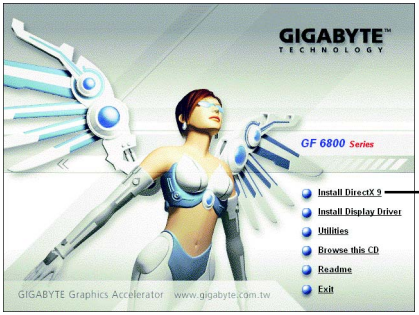
- When loading the graphics card drivers for the system, please make sure your system has installed DirectX 9 or later version.

- If you install the graphics card drivers for the motherboard, which consist of SIS or VIA chipsets, please install the appropriate driver program for that motherboard. Or please contact your motherboard nearest dealer for motherboard driver.

3.1.2. DirectX installation

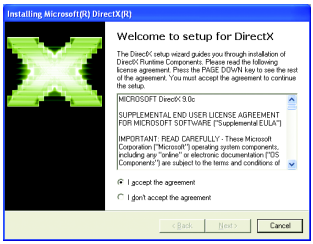
Install Microsoft DirectX to enable 3D hardware acceleration support for Windows® 2000 or Windows® XP to achieve better 3D performance.

Note: 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.

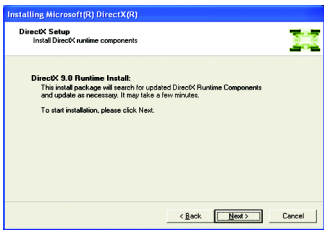


Step 1. When autorun window show up, click **Install DirectX 9** item.

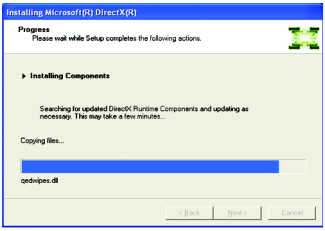
Click "Install DirectX 9" item.



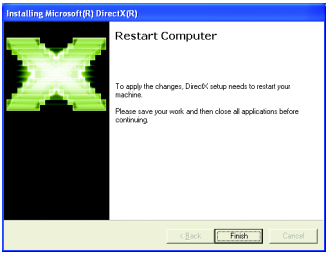
Step 2. Choose **I accept the agreement** and Click "Next" button.



Step 3. Click "Next" button.



Installing the components.



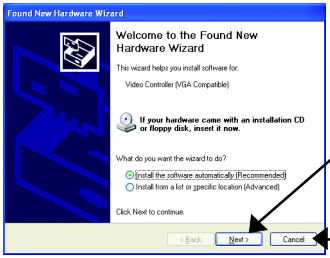
Step 4. Click "Finish" to restart computer.
Then the DirectX 9 installation is completed.

3.1.3. Driver installation

A. New hardware found

After the graphics card is inserted into your computer at the first time, the windows will automatically detect a new hardware in the system and pop out a "New Hardware Found" message. The following is the step-by-step installation guide.

Step 1: Found new hardware wizard: Video controller (VGA Compatible)

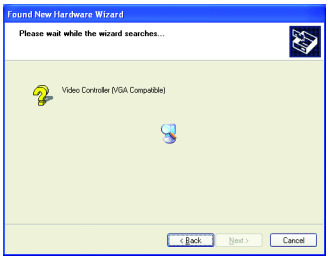


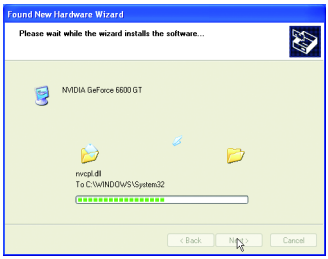
Click "Next" button to install the driver. (There is a driver CD disk that came with your graphics accelerator, please insert it now.)

Or click the "Cancel" button to install the driver from AUTORUN window.

Step 2: Found new hardware wizard: Searching and installing

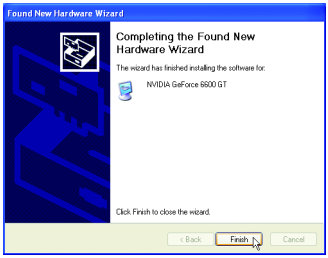
The wizard will search for the driver and install it automatically.





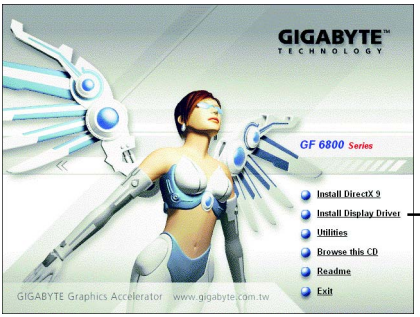
Step 3: Found new hardware wizard: Finish

Click the "Finish" button to finish the installation.



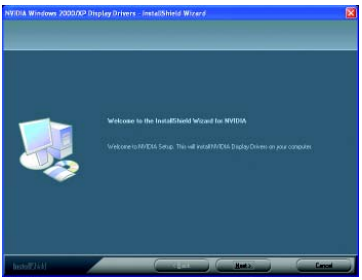
B. Driver installation (Autorun Window)

Insert the driver CD disk into your CD-ROM, and then you can see the AUTORUN window. If it does not show up, please run "D:\setup.exe".

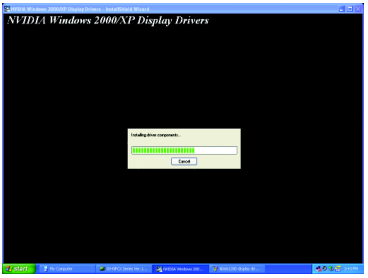


Step 1. When autorun window show up, click **Install Display Driver** item.

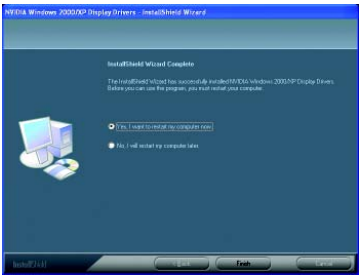
Click "Install Display Driver" item.



Step 2. Click "Next" button.



Windows installings the components.



Step 3. Click "Finish" button to restart computer. Then the driver installation is completed.

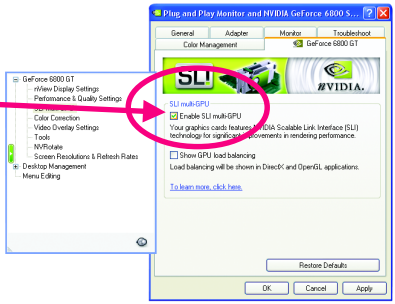
3.1.4. Enabling the dual GeForce 6800 GT GPUs

Important After installation of the GV-3D1-68GT graphics driver, assure that the dual 6800 GT GPUs are enabled* by following the steps below.

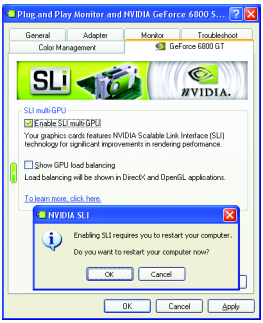
Step 1: Right-click on Desktop and select **Properties**. When **Display Properties** dialog box appears, select the **Settings** tab. In **Settings**, click the **Advanced** button.

Step 2: Click the **Geforce 6800 GT** tab when advanced properties dialog box appears. Select **SLI multi-GPU** from the side menu and select the **Enable SLI multi-GPU** check box and click **Apply**.

Select the **Enable SLI multi-GPU** check box



Step 3: Restart your system when prompted.



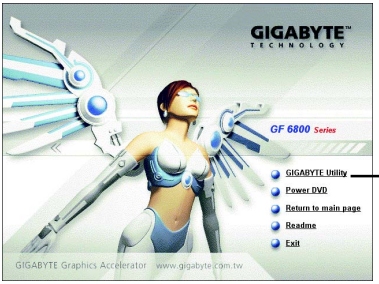
"*" Only Windows XP operating system supports the dual GPUs mode. Please do not enable **SLI multi-GPU** in Windows 2000.

3.1.5. 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".

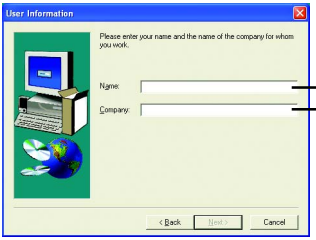
- Install V-Tuner 2:

Step 1.Click "Utilities" item.



Step 2.Click "GIGABYTE Utility" item.

Step 3. Click "Next" button.

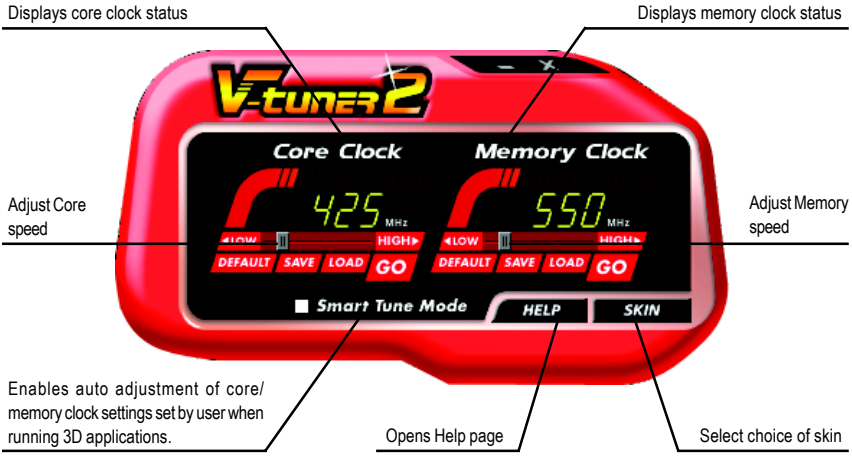


Step 4. Enter your name and company.

Step 5. Click "Finish" button to restart computer.
Then the utilities installation is completed.

V-Tuner 2

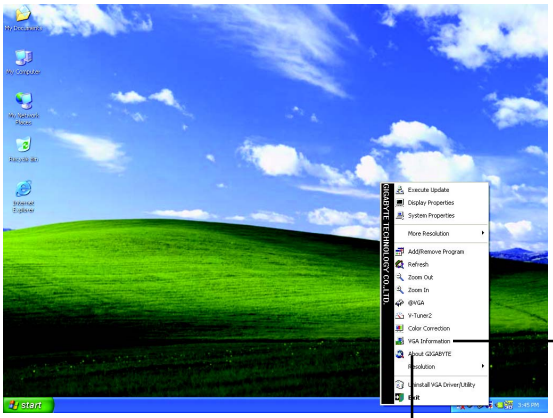
V-Tuner 2 lets you adjust the working frequency of the graphic engine and video memory (Core Clock and Memory Clock).



3.1.6. Taskbar icon

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.

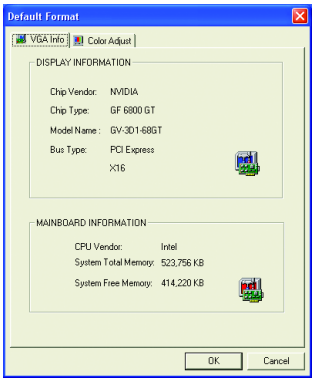


Click "VGA Information" item into the "VGA Info" and "Color Adjust" tabs.

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

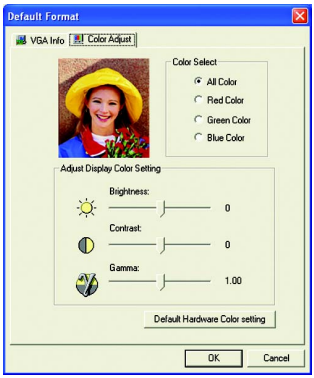
VGA Information

VGA Info lists the relevant information about your card.



Color Adjust

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



After installation of the display drivers, you will find a NVIDIA icon on the taskbar's status area. Click this icon to open the control panel.

Right click the icon.

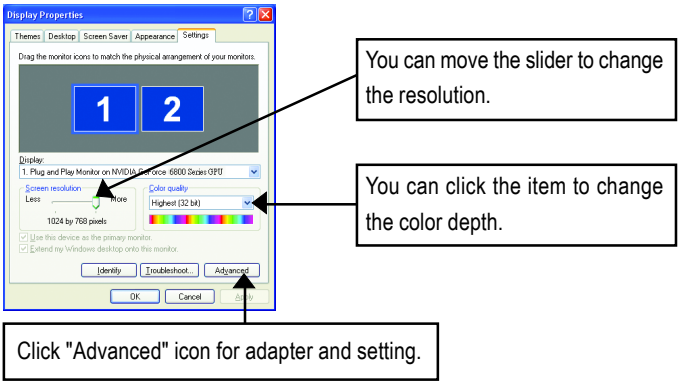
You can adjust the properties of the graphics accelerator from here.

3.1.7. Display Properties pages

To access Display Properties pages, right-click the GBT icon on the taskbar and select **Display Properties** or 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 depth for Windows)

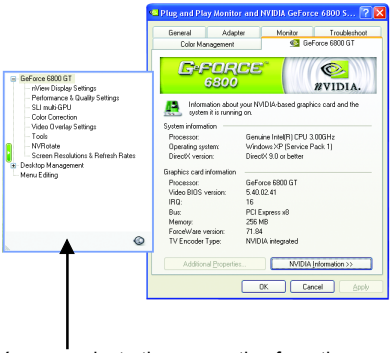
You may adjust the screen resolution and color quality settings in this dialog box.



To access more advanced options, click the "Advanced" button.

GeForce 6800 GT properties

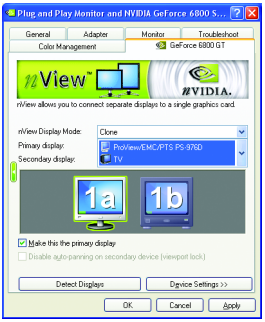
After pressing the "Advanced" button in **Settings**, you'll see the **Plug and Play Monitor and NVIDIA GeForce 6800 Series GPU** dialog box. Click the **GeForce 6800 GT** tab. (You can also click the Nvidia icon on the taskbar and select **Nvidia Display** to access the Geforce 6800 GT page.)



- This page shows the Adapter, System and Driver version information.

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

nView Display Settings properties[Note 1]

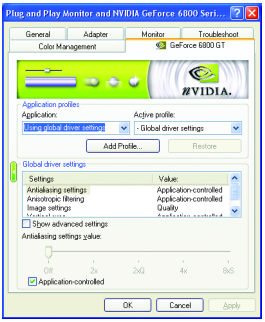


- nView allows you to connect separate displays to single graphics card.
  - nView modes: select your preferred nView display modes here. Options: Single display/ Clone/ Horizontal Span/ Vertical Span/ Dualview
  - Display pair: select a single display or display pair. The selected display combination will appear in the graphical representation below.
- If TV is chosen as the display, you will need to select the proper TV format. To do this, click "Device Setting" followed by "Select TV format". Select the format for your television and then click "Apply" followed by "OK".

Display Matrix	Model	GV-3D1-68GT
	CRT+TV	Yes
	CRT+DVI	Yes
	DVI+TV	Yes

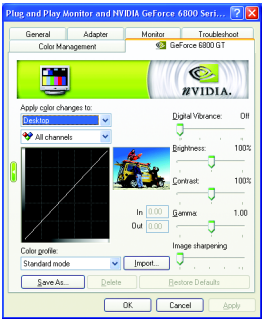
"Note 1" This feature will not be available when SLI multi-GPU is enabled.

Performance and Quality Settings properties



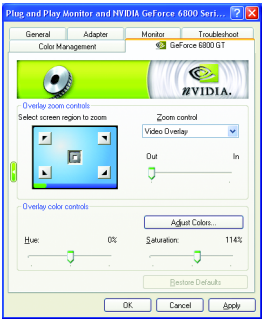
- The sliders lets to decide whether your application should use quality or high performance texture.
  - Application profiles: Select the application profile from the list of profiles.
  - Global Driver Settings: Select the Settings item and move the slider below to set the degree of antialiasing to used in Direct3D and OpenGL applications.
  - Antialiasing settings: allows to set the degree of the Global Driver Settings.

Color Correction properties



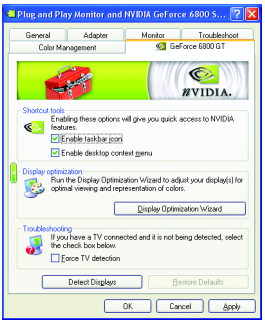
- **The Color Correction Properties** is used to compensate for variations in luminance between a source image and its output on a display device. Adjust the color correction settings to provide more accurate color reproduction of images(such as photographs) on your display device. Also, many 3D-accelerated 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 Overlay Controls 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.

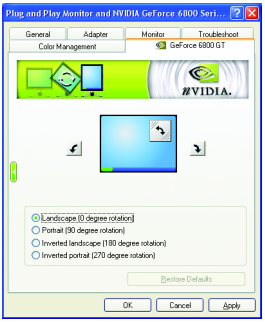
Tools properties



■ 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:
  Enabling these options will give you quick access to NVIDIA features.
- Display Optimization:
  Run the Display Optimization Wizard to adjust your display(s) for optimal viewing and representation of colors .
- Troubleshooting:
  If you have a TV connected and it is not being detected, select the check box below.

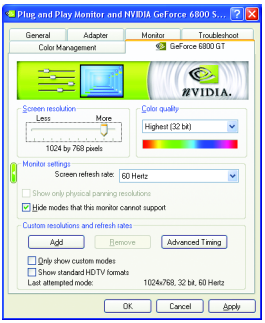
NV Rotate properties



■ 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.

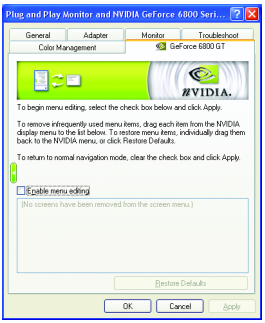
- Landscape (0 degree rotation)
- Portrait (90 degree rotation)
- Inverted Landscape (180 degree rotation)
- Inverted Portrait (270 degree rotation)

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



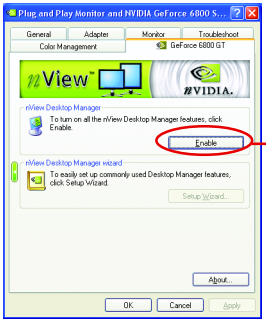
- The **Menu Editing Properties** can remove infrequently used screens by dragging them from the screen menu to the list below. Restore screens to the menu by dragging them individually, or click Restore Defaults.
  To begin, check the **Enable screen menu editing** check box. To return to normal navigation mode, uncheck the check box.

3.1.8. 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.

Enable the nView Desktop Manager features:

Right-click on desktop and choose Properties\Settings\Advanced\GeForce 6800 GT\Desktop Management

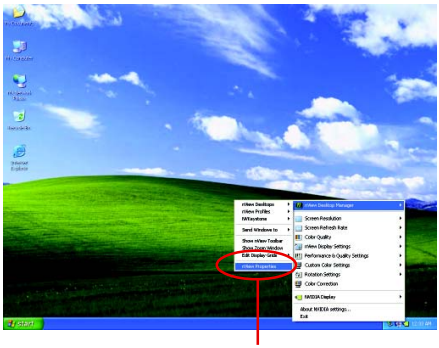


Click Enable button to turn on all the nView Desktop Manager features.

Access nView properties page:

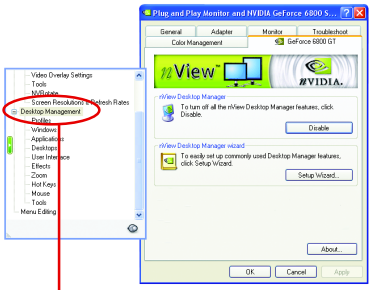
To access the **nView** properties page, you can click the NVIDIA icon on the taskbar and select **nView Properties** under **nView Destop Manager** (Method A). Or right-click on Desktop, select Properties/Settings/Advanced/ GeForce 6800 GT. Double-click **Desktop Management** item on the pop-up menu (Method B).

Method A:



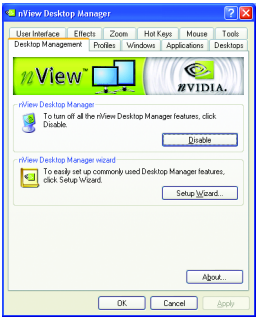
Click the item to start nView Properties.

Method B:



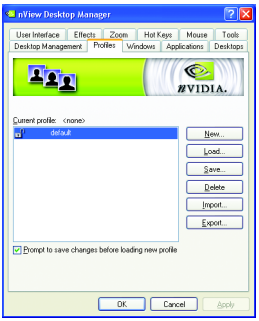
Double-click Desktop Management to see more nView properties.

nView Desktop Management properties



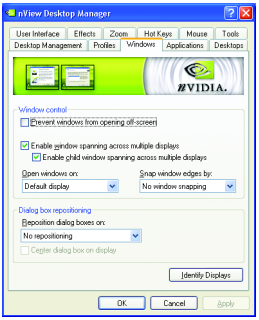
- This tab contains information about the nView Desktop Manager. The setup wizard can also be accessed from this tab.

nView Profile properties



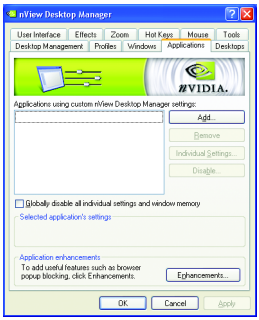
- This tab contains a record all nView display settings for easy software setup.

nView Windows properties



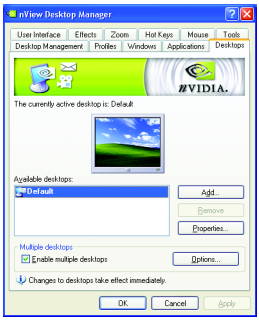
- This tab allows you to control of window and dialog box placement when using multiple monitors.

nView Applications properties



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

nView Desktops properties

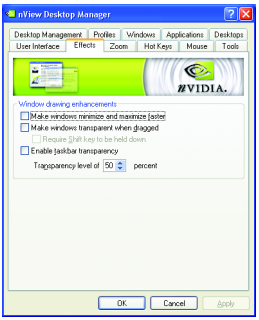


- This tab allows you to create up to 32 unique desktops.

nView User Interface properties

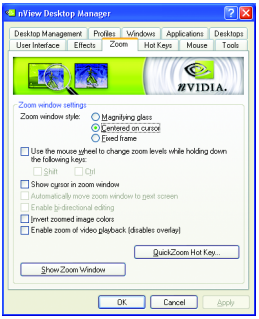
- This tab allows customization of the nView user interface.

nView Effects properties



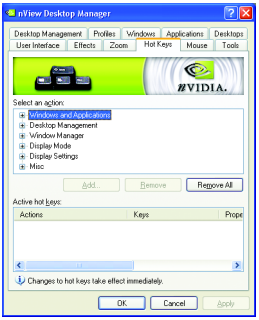
- This tab provides special windows effects that you can apply to your applications.

nView Zoom properties



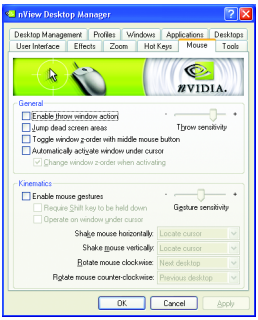
- This tab provides dynamic zoom functionality on the desktop. Also enables full screen video playback via the video mirroring control button.

nView Hot Keys properties



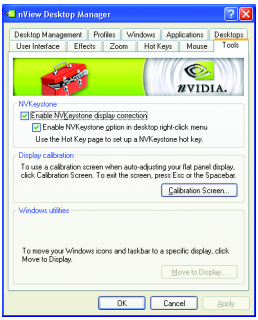
- This tab lets you perform various actions with shortcut keys or key combinations.

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. Win® 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 Installation CD that shipped with your graphics card.

To install the graphics card driver for Win® 2000, please insert the Installation CD. Then the AUTORUN window will show up. Click **Install Display Driver** item, and follow the wizard to install the driver.

If Windows® does not show the CD automatically, please run following steps:

1. Click the Start button on the control bar.
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 on "Install Display Drivers" to begin 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 have installed Windows® 2000 Service Pack (or later) before installing the graphics accelerator driver.

Note: Only Windows XP operating system supports the SLI mode. Please do not enable SLI multi-GPU in Windows 2000.

4. Troubleshooting Tips

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

- Check that the card is seated properly in the PCI Express x 16 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 installed the graphics driver.
- Restart your computer.
  Press the F8 key 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.

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

5. Appendix

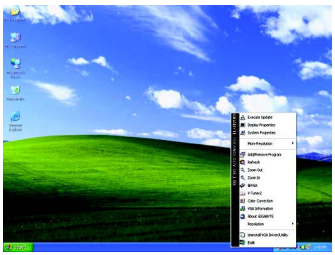
5.1. How to Reflash the BIOS

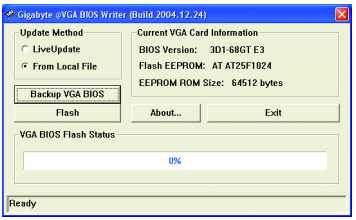
5.1.1. Reflash BIOS in MS-DOS mode

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: gvf11 -s nx66t128d.f1)** and press **Enter**.
5. To flash BIOS, at the A:\> prompt, type `[BIOS flash utility name] -p [BIOS file name]` **(example: gvf11 -p nx66t128d.f2)** and press **Enter**.
6. Wait until it's done, then restart your computer.

5.1.2. Reflash BIOS in Windows mode

1. After installing the display drivers, you will find a GIGABYTE icon in the lower-right corner of the Taskbar. Right-click to select the @VGA utility.





@VGA flash BIOS utility.

2. Update BIOS through the Internet
   a. Select the **Live Update** check box and click **Flash**. Then @VGA will automatically download the BIOS for your card from GIGABYTE @VGA server and do the update for you.(@VGA will not download/update the BIOS if it detects the current BIOS on your card is the latest one.)
3. Update BIOS NOT through the Internet
   a. Download the BIOS ZIP file for your card from GIGABYTE website and extract it to your hard disk (or floppy disk).
   b. Select the **From Local File** check box and then click **Flash**.
   c. Select the BIOS file from your hard disk (or floppy disk).
   d. Complete the update procedure following the on-screen instructions.

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

GeForce 6800 GT Single Display Stardard Modes

Display Screen Resolution	Maximum Refresh Rate (Hz)	Color Depth (bpp) 8bpp(256 color) Standard mode	16bpp(65K color) High mode	32bpp(16.7M) True mode
320 x 200	75	✓	✓	✓
320 x 240	75	✓	✓	✓
400 x 300	75	✓	✓	✓
480 x 360	75	✓	✓	✓
512 x 384	75	✓	✓	✓
640 x 400	75	✓	✓	✓
640 x 480	240	✓	✓	✓
720 x 480	60	✓	✓	✓
720 x 576	60	✓	✓	✓
800 x 600	240	✓	✓	✓
848 x 480	240	✓	✓	✓
960 x 600	240	✓	✓	✓
1024 x 768	240	✓	✓	X
1088 x 612	240	✓	✓	X
1152 x 864	200	✓	✓	X
1280 x 720	170	✓	✓	X
1280 x 768	170	✓	✓	X
1280 x 800	170	✓	✓	X
1280 x 960	170	✓	✓	X
1280 x 1024	170	✓	✓	X
1360 x 768	170	✓	✓	X
1600 x 900	150	✓	✓	X
1600 x 1024	120	✓	✓	X
1600 x 1200	120	✓	✓	X
1920 x 1080	100	✓	✓	X
1920 x 1200	100	✓	✓	X
1920 x 1440	85	✓	✓	✓
2048 x 1536	85	✓	✓	✓

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