

# **NVIDIA Series Graphics Accelerator**

▣ GeForce2 GTS/MX

▣ GeForce 256

▣ TNT2 Pro

▣ TNT2 M64

▣ TNT2 Vanta

▣ Vanta LT

## **USER'S MANUAL**

### **中文使用手冊**

REV. 3.0 First Edition  
R-30-01-000707

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**Jul. 7 , 2000 Taipei, Taiwan**

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## 1. INTRODUCTION

### 1.1. PREFACE

Welcome to use the **NVIDIA Series** 3D/2D graphics accelerator. The **NVIDIA Series** 3D/2D graphics accelerator is an innovative design that delivers a new level of balanced, scalable and sustained 3D performance along with smooth video and great 2D graphics experience.

This manual will take you through the steps in order to properly install the **NVIDIA Series** graphics accelerator into your computer. Please note that your computer may differ slightly from the illustrations and screen shots displayed in this manual.

### 1.2. KEY FEATURES

#### **GeForce 256/Geforce2 GTS/MX**

- 350MHz Palette RAMDAC
- 32/64M 256-bit frame buffer interface SDRAM/DDR
- Transform and Lighting engine

#### **TNT2 Pro**

- 300MHz Palette RAMDAC
- 16/32M, 128-bit frame buffer interface SDRAM

#### **TNT2 M64**

- 300MHz Palette RAMDAC
- 16/32M, 64-bit frame buffer interface SDRAM

#### **TNT2 VANTA**

- 250MHz Palette RAMDAC
- 8/16M, 64-bit frame buffer interface SDRAM

#### **VANTA LT**

- 250MHz Palette RAMDAC
- 8M, 64-bit frame buffer interface SDRAM/SGRAM

#### **General Function**

- AGP 2X/4X interface (VANTA LT AGP 2X only)
- Optimized for Pentium!!! SSE and AMD 3DNow!
- High-performance GUI/DirectDraw acceleration
- High performance implementation of Direct3D and OpenGL standards
- Full-screen, full-frame rate video playback acceleration

## 2. HARDWARE INSTALLATION

### 2.1. UNPACKING

The **NVIDIA Series** graphics accelerator package contains the following:

- The **NVIDIA Series** graphics accelerator
- This USER'S MANUAL
- One driver CD for Win95 / Win98 、 Win NT 4.0 、 Win 2000 driver and Utilities

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.

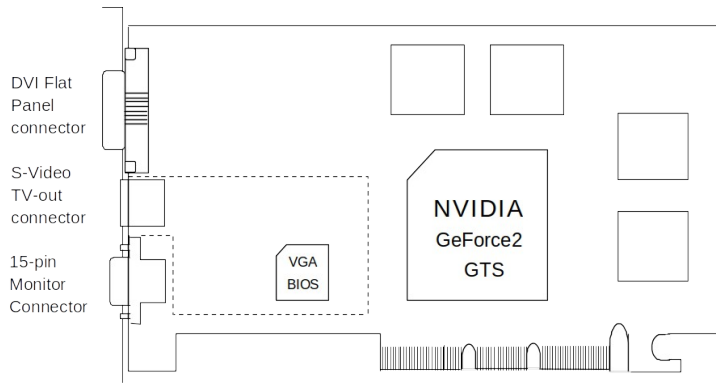
**DO NOT APPLY POWER TO YOUR SYSTEM IF IT HAS BEEN DAMAGED ON THE CARD.**

### 2.2. BOARD LAYOUT

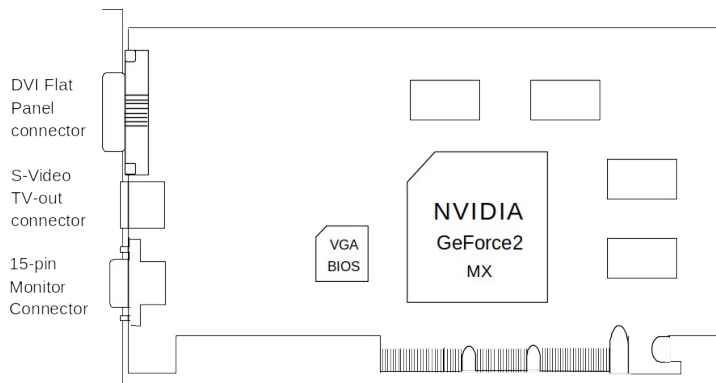
Geforce2 GTS (32MB DDR)

NVIDIA Series Graphics Accelerator

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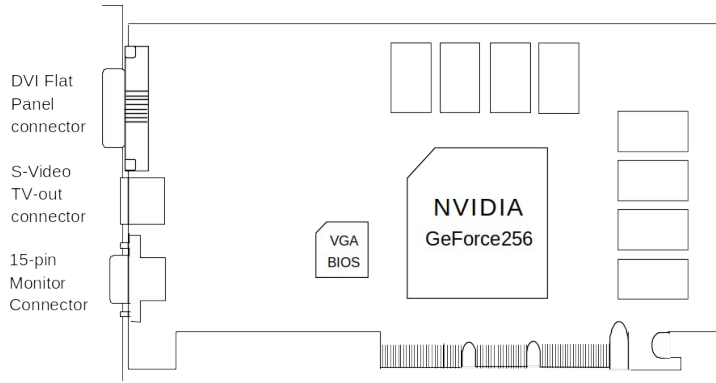


GeForce2 MX (32MB SDRAM)

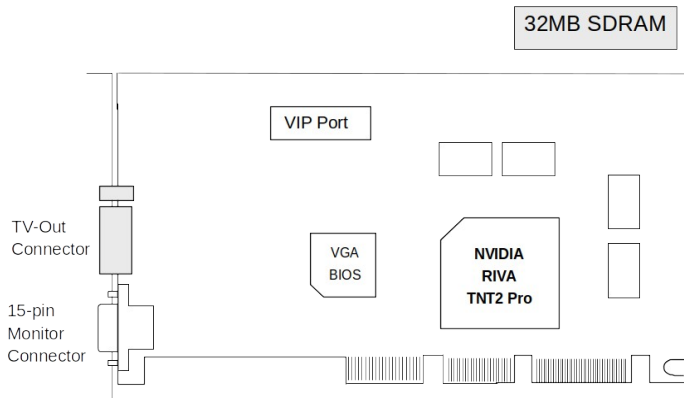


GeForce 256 (32MB SDRAM/64MB DDR)

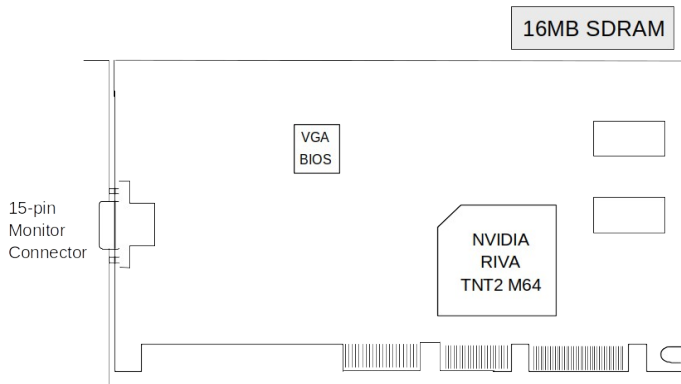
32M SDRAM/64M DDR



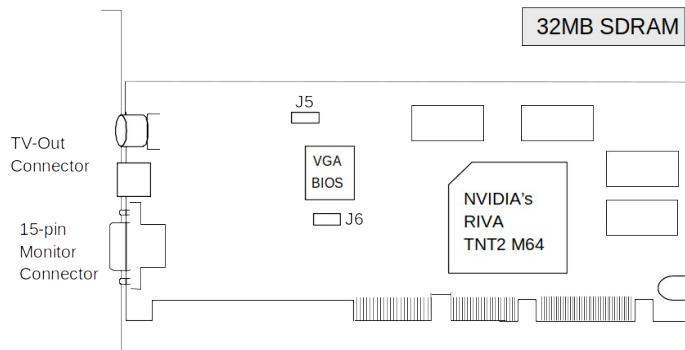
TNT2 Pro (32MB SDRAM)





TNT2 M64 (16MB SDRAM)



TNT2 M64 (32MB SDRAM)

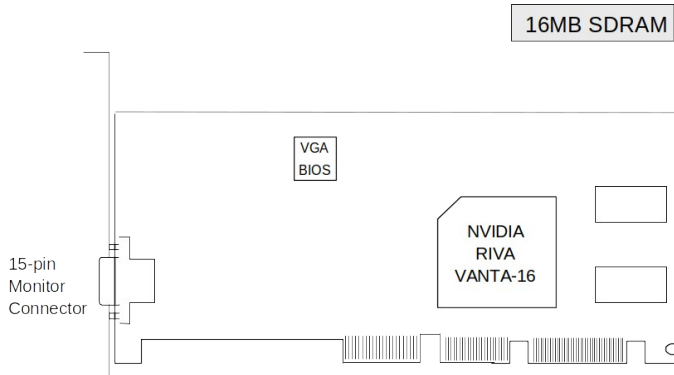


	J5	J6
1  J5	NTSC	1-2
1  J6	PAL	2-3

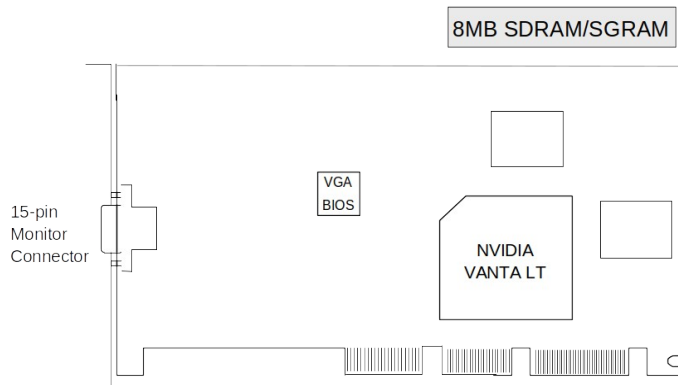
**Jumper J5 and J6 have to be adjusted to either NTSC or PAL at the same time.**

**J5 & J6 are only for TNT2 M64 VGA Card. (Ver. 4.0)**

TNT2 VANTA (16MB SDRAM)



VANTA LT (8MB SDRAM / SGRAM)



### 2.3. HARDWARE INSTALLATION

1. Shut down the computer.
2. Unplug monitor cable from your computer.
3. Remove your computer's unit cover, and ground yourself.
4. Remove the screw and slot bracket from the board's mounting.
  - **Be sure removing the existing graphics card from your system, if you have another graphics card in your system.**
5. Pick up the **NVIDIA Series Graphics Accelerator** and remove the plastic sleeve.
6. Press the card firmly into the AGP slot.
  - **Be sure the metal contacts on the card are indeed seated in the slot.**
7. Replace the screw to secure the slot bracket of the graphics accelerator
8. Replace your computer's unit cover.
9. Plug your monitor's 15-pin connector into your graphics accelerator monitor connector.
10. Turn on the power.
11. You can install the driver and utility to your system now.

### 3. SOFTWARE INSTALLATION

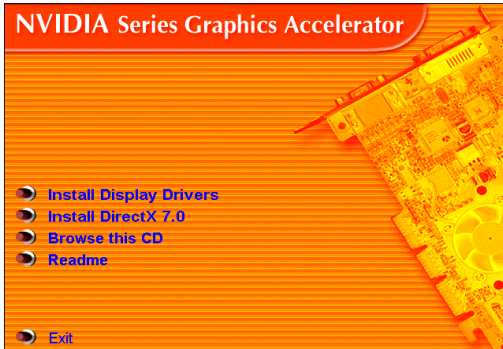
In this manual, we assume that your CD-ROM Drive letter to be Drive D:

#### 3.1. WINDOWS95 OR WIN98 DRIVER AND UTILITIES INSTALLATION

The installation of Windows 95 or Windows 98 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 guides to setup your display driver.

##### AUTORUN INSTALLATION:



##### 3.1.1. Operating system requirement

□ If your OS is Microsoft Windows , when loading the graphics accelerator drivers for the system, your Windows95 version should be OSR 2.1 or later or Windows 98 Bata3 or later. Please make sure your system has installed or DirectX6 or later.

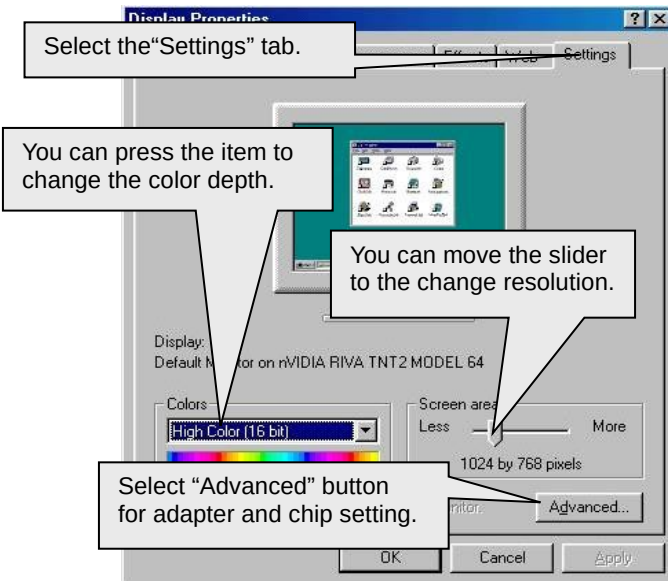
If your windows version is an older version, You must use the **USB supplement update** (make sure the update language is the same with your system language) to upgrade your system to OSR 2.1.

□ You can find the **USB supplement update** in the **April 1997 MSDN Disc1\OSR2\USBSUPP**.

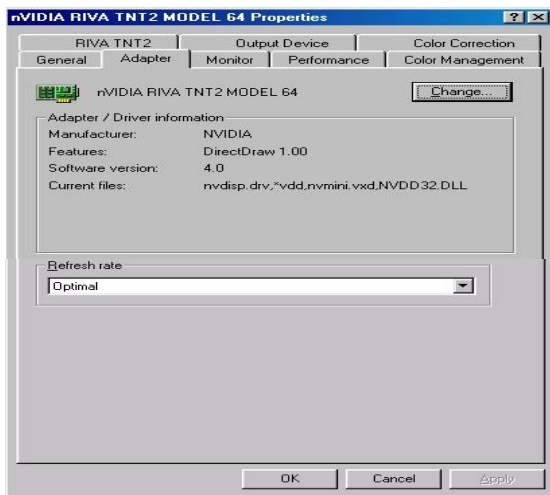
□ In Windows95, if you install the display drivers for the mainboard which consist of **SIS, ALI** or **VIA** chipsets, please install the appropriate GART.vxd program for that mainboard. Please see the driver CD for appropriate Vgartd file.

### 3.1.2 Property pages

#### Resolutions and Color depth for windows



#### Adapter tab:

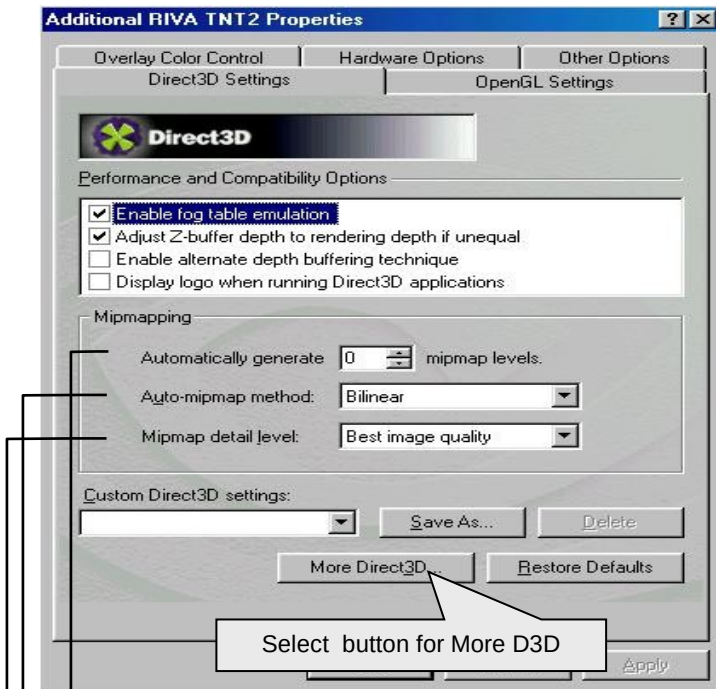


**Color Correction:**



Use sliders for the monitor color adjustment.

**Direct3D Settings:**

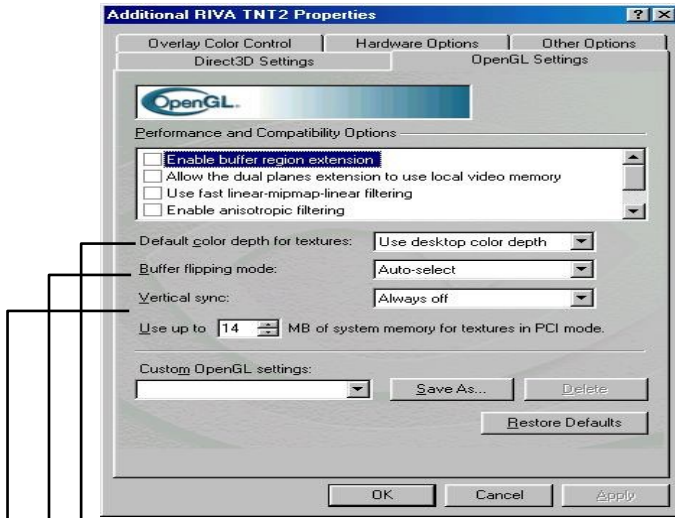


**Mipmap levels:**  
Choose higher mipmap level will increase the performance. If you encounter tearing on screen, please try to lower mipmap level.

**Mipmap method:**  
Choose bilinear for higher performance, trilinear for better quality.

**Mipmap detail level:**  
Choose one item from best image quality to best performance.

**OpenGL Settings:**

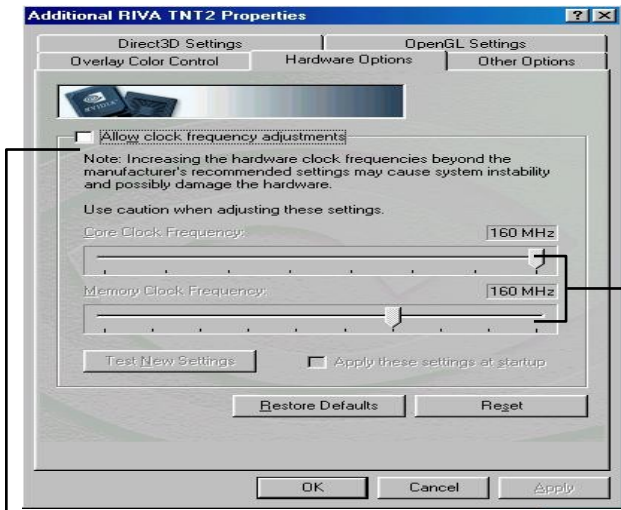


Select higher color depth to increase the color count for textures.

Select data transfer mode to increase data transfer rate.

Choose whether the video port controls the vertical synchronization of the VGA monitor.

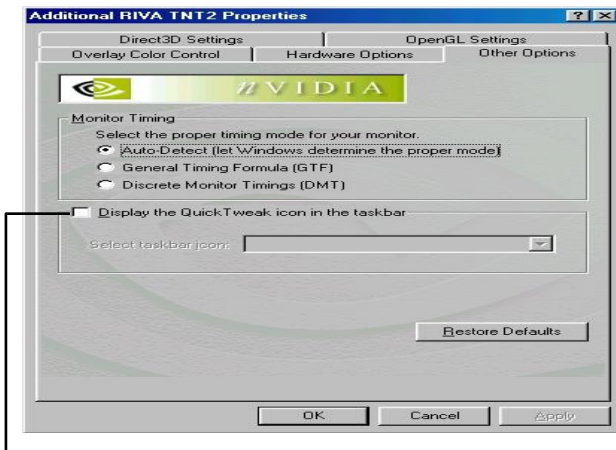
**Hardware Options :**



Check this to allow clock frequency adjustment

The sliders allow you to overclock the graphics processor's Engine Clock and Memory Clock.

**Other Options:**



Check to allow the Quick Tweak icon shown in the taskbar.

### 3.2 WINDOWS NT 4.0 DRIVER INSTALLATION

Please make sure the Windows NT 4.0 have installed **Windows NT 4.0 Service Pack version 3.0** before installing the **NVIDIA Series** graphics accelerator driver.

1. Boot Windows NT, then select "**Windows NT Workstation Version 4.0 [VGA mode]**".
2. When NT finishes loading, press your mouse right button in Windows NT wallpaper area.
3. Then select the "**Properties**" item.
4. Select the "**Settings**" Item.
5. Select the "**Display Type**" button, and press the "**Change**" button.
6. Click on "**Have Disk**" and insert the **NVIDIA Series** driver CD into your CD-ROM driver.
7. Type in **D:Winnt40** (if your CD in Driver D:), and click "**OK**".
8. The graphics model name is appeared in a window, select it and click "**OK**".
9. A window "**Installing Driver**" appears, click "**OK**" and close the **Display Properties** to restart the system.
10. When the system restart, the default settings are temporarily being used by the system. After the Display applet appears, click "**OK**" and modify the settings you want.

### 3.3 BIOS FLASH UTILITY

NVIDIA series Graphics Accelerator BIOS update procedure:

(This manual assumes that your CD-ROM device drive letter is D:).

It is recommended that you copy the Driver CD's Utility directory to Hard disk

C: (Include all of the files in the Utility directory.)

i.e. **C:\WINDOWS\COMMAND\COPY [SPACE] D:\Utility [SPACE] C:\Utility/S/E**

Restart your computer into MS-DOS mode or command prompt only for WIN98/95, go into the directory where the new BIOS files are located.

#### 3.3.1

If **TNT2 series** Graphics Accelerator are applied, please change your Hard disk C: directory as follows:

**C:\>CD\Utility\BIOSFlash\TNT2**

Use the utility **GA6Flash.exe** to update the VGA BIOS.

i.e. to type the following command:

**C:\Utility\BIOSFlash\TNT2>GA6Flash [SPACE] VANTA.ROM [SPACE] -P**

( If you are using **TNT2 M64** type **M64.ROM** instead of **VANTA.ROM**.

If you are using **TNT2 PRO** type **TNT2PRO.ROM** instead of **VANTA.ROM**.)

Once the process is finished, please reboot your system.

#### 3.3.2

If **GeForce 256** Graphics Accelerator is applied, please change your Hard disk C: directory as follows:

**C:\>CD\Utility\BIOSFlash\GeForce**

Use the utility **NVSFlash.exe** to update the VGA BIOS.

i.e. to type the following command:

**C:\Utility\BIOSFlash\GeForce> NVSFlash [SPACE] -FGEFORCE.ROM**

Once the process is finished, please reboot your system.

### 3.3.3

Geforce2 GTS/MX BIOS update procedure:

- ✓ It is recommended you copy the NVSFlash.exe, the BIOS binary files in driver CD(D:\Utility\BIOSFlash\GeForce2\NVSFlash.exe) into the same directory in your hard disk. 【e.g.: C:\Utility (denotes the directory where you put the flash utilities and BIOS file in.)】
- ✓ Restart your computer into MS-DOS mode or command prompt only for Win95/98, go into the directory where the new BIOS file are located Use the utility NVSFlash.exe to update the VGA BIOS.
- ✓ Type the following command once you have enter the directory where all the files are located  
C:\utility\ NVSFlash [space] -F <filename of the BIOS binary file>  
intended for flashing ex: C:\utility > NVSFlash [space] -FGF2KR10.ROM
- ✓ Once the process is finished, reboot the system

### 3.3.4

Vanta LT BIOS update procedure:

- ✓ It is recommended you copy the NVSFlash.exe, DOS4GW.exe and the BIOS binary files in driver CD(D:\>Utility\BIOSFlash\VANTA-LT) into the same directory in your hard disk. 【e.g.C:\utility (C:\utility denotes the directory where you put the flash utilities and BIOS file in.)】
- ✓ Restart your computer into MS-DOS mode or command prompt only for Win95/98, go into the directory where the new BIOS file are located
- ✓ Use the utility NVSFlash.exe (DOS4GW.exe is required to run this program) to update the VGA BIOS.
- ✓ Type the following command once you have enter the directory where all the files are located  
C:\utility\ NVSFlash [space] -F <filename of the BIOS binary file>  
intended for flashing ex: C:\utility > NVSFlash [space] -FVLR10.ROM
- ✓ Once the process is finished, reboot the system

## 3.4 REMOVE NVIDIA Series DRIVER

Please use the “Uninstall NVIDIA Series Driver” to completely remove the driver from hard disk.

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**APPENDIX A: Resolutions and Color Depth Table**
**GeForce 256**

Resolutions	Color Depth (bpp)	Refresh Rate (Hz)
640 × 480	8/16/32	240
800 × 600	8/16/32	240
1024 × 768	8/16/32	240/240/200
1152 × 864	8/16/32	200/200/170
1280 × 960	8/16/32	170/170/150
1280 × 1024	8/16/32	170/170/150
1600 × 900	8/16/32	150/150/120
1600 × 1200	8/16/32	120/120/100
1920 × 1080	8/16/32	100/100/85
1900 × 1200	8/16/32	100/100/85
1920 × 1440	8/16/32	85/85/75
2048 × 1536	8/16/32	75/75/60

**TNT2 Pro**

Resolutions	Color Depth (bpp)	Refresh Rate (Hz)
640 × 480	8/16/32	240
800 × 600	8/16/32	240
1024 × 768	8/16/32	200/200/170
1152 × 864	8/16/32	170/170/150
1280 × 960	8/16/32	150/150/120
1280 × 1024	8/16/32	150/150/120
1600 × 900	8/16/32	120/120/85
1600 × 1200	8/16/32	100/100/85
1920 × 1080	8/16/32	100/100/75
1900 × 1200	8/16/32	85/85/75
1920 × 1440	8/16/32	75/75/60
2048 × 1536	8/16	60/60

**TNT2 M64**

Resolution	Color Depth	Max.refresh rate
640 x 400	8/16/32	240
640 x 480	8/16/32	240
800 x 600	8/16/32	240
1024 x 768	8/16/32	200
1152 x 864	8/16/32	150
1028 x 1024	8/16/32	120
1600 x 1200	8/16/32	85
1920 x 1080	8/16/32	75
1920 x 1200	8/16/32	72

**TNT2 VANTA**

Resolution	Color Depth	Max.refresh rate
640 x 400	8/16/32	240
640 x 480	8/16/32	240
800 x 600	8/16/32	240
1024 x 768	8/16/32	170
1152 x 864	8/16/32	140
1028 x 1024	8/16/32	100
1600 x 1200	8/16/32	75
1920 x 1080	8/16/32	72
1920 x 1200	8/16	75

## Geforce2 GTS/MX

	Bits per Pixel	Memory Req.(MB)	Refresh Rates (Hz)*												
			60	70	72	75	85	100	120	140	144	150	170	200	240
640x480	8	1MB	60	70	72	75	85	100	120	140	144	150	170	200	240
	16	1MB	60	70	72	75	85	100	120	140	144	150	170	200	240
	32	2MB	60	70	72	75	85	100	120	140	144	150	170	200	240
800x600	8	1MB	60	70	72	75	85	100	120	140	144	150	170	200	240
	16	1MB	60	70	72	75	85	100	120	140	144	150	170	200	240
	32	2MB	60	70	72	75	85	100	120	140	144	150	170	200	240
960x720	8	1MB	60	70	72	75	85	100	120						
	16	2MB	60	70	72	75	85	100	120						
	32	4MB	60	70	72	75	85	100	120						
1024x768	8	1MB	60	70	72	75	85	100	120	140	144	150	170	200	240
	16	2MB	60	70	72	75	85	100	120	140	144	150	170	200	
	32	4MB	60	70	72	75	85	100	120	140	144	150	170		
1152x864	8	1MB	60	70	72	75	85	100	120	140	144	150	170	200	
	16	2MB	60	70	72	75	85	100	120	140	144	150	170		
	32	4MB	60	70	72	75	85	100	120	140	144	150			
1280x960	8	1MB	60	70	72	75	85	100	120	140	144	150	170		
	16	2MB	60	70	72	75	85	100	120	140	144	150			
	32	4MB	60	70	72	75	85	100	120	140	144	150	170		
1280x1024	8	2MB	60	70	72	75	85	100	120	140	144	150			
	16	4MB	60	70	72	75	85	100	120	140	144	150			
	32	8MB	60	70	72	75	85	100	120	140	144	150			
1600x900	8	2MB	60	70	72	75	85	100	120	140	144	150			
	16	4MB	60	70	72	75	85	100	120						
	32	8MB	60	70	72	75	85	100	120						
1600x1200	8	2MB	60	70	72	75	85	100	120						
	16	4MB	60	70	72	75	85	100	120						
	32	8MB	60	70	72	75	85	100							
1920x1080	8	2MB	60	70	72	75	85	100							
	16	4MB	60	70	72	75	85	100							
	32	8MB	60	70	72	75	85								
1920x1200	8	4MB	60	70	72	75	85	100							
	16	8MB	60	70	72	75	85								
	32	16MB	60	70	72	75	85								
1920x1440	8	2MB	60	70	72	75	85								
	16	4MB	60	70	72	75									
	32	8MB	60	70	72	75									
2048x1536	8	2MB	60	70	72	75									
	16	4MB	60	70	72	75									
	32	8MB	60												

**Vanta LT**

	Bits per Pixel	Memory Req.(MB)	Refresh Rates (Hz)*												
			60	70	72	75	85	100	120	140	144	150	170	200	240
640x480	8	1MB	60	70	72	75	85	100	120	140	144	150	170	200	240
	16	1MB	60	70	72	75	85	100	120	140	144	150	170	200	240
	32	2MB	60	70	72	75	85	100	120	140	144	150	170	200	240
800x600	8	1MB	60	70	72	75	85	100	120	140	144	150	170	200	240
	16	1MB	60	70	72	75	85	100	120	140	144	150	170	200	240
	32	2MB	60	70	72	75	85	100	120	140	144	150	170	200	240
960x720	8	1MB	60	70	72	75	85	100	120						
	16	2MB	60	70	72	75	85	100	120						
	32	4MB	60	70	72	75	85	100	120						
1024x768	8	1MB	60	70	72	75	85	100	120	140	144	150	170		
	16	2MB	60	70	72	75	85	100	120	140	144	150	170		
	32	4MB	60	70	72	75	85	100	120	140	144	150	170		
1152x864	8	1MB	60	70	72	75	85	100	120	140	144	150			
	16	2MB	60	70	72	75	85	100	120	140	144	150			
	32	4MB	60	70	72	75	85	100	120	140					
1280x1024	8	1MB	60	70	72	75	85	100	120						
	16	2MB	60	70	72	75	85	100	120						
	32	4MB	60	70	72	75	85	100							
1600x1200	8	2MB	60	70	72	75	85								
	16	4MB	60	70	72	75	85								
	32	8MB	60	70	72	75									
1920x1080	8	2MB	60	70	72	75									
	16	4MB	60	70	72	75									
	32	8MB	60	70	72										
1920x1200	8	4MB	60	70	72	75									
	16	8MB	60	70	72	75									
	32	16MB	60												