

**S/U/M/A/ PLATINUM
GeForce2 MX**

USER'S MANUAL

PRODUCT : SUMA PLATINUM GeForce2 MX
MANUAL REVISION : SGM2.0029C02
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This device complies with the 47 CFR, Part 2 and Part15 of FCC Requirement. Operation of this device is subject to the following two conditions :

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This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy, and if not installed to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Plug the computer into a different outlet so that the two devices are on different branch circuits.
- If necessary, the user should consult the dealer or an experienced radio / television technician for additional suggestions.

Warning

- Shielded interface cables must be used in order to comply with emission limits.
- Changes or modifications not expressly approved by the

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party responsible for compliance could void the user's authority to operate the equipment.

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. Introduction

-1. Overview

Thank you for buying a SUMA PLATINUM GeForce2 MX graphics card.

SUMA PLATINUM GeForce2 MX offers the excellent features and great performance of the nVIDIA GeForce2 MX to person looking to upgrade his or her system at a good price. SUMA PLATINUM GeForce2 MX will provide bleeding-edge graphics technology for your PC. Transform and lighting (T&L) engines, per-pixel shading and advanced video processing gives you an unprecedented visual experience.

SUMA PLATINUM GeForce2 MX is the best solution for a cost-effective VGA up-grade on earth !

-2. Specification

Cost-Effective Graphics Board

- nVIDIA Chipset GeForce2 MX
- Better Performance-Price Ratio
- The Best Solutions for Mainstream PC
- Real and Clear Visuality : NSR, Per Pixel Shading
- 2.7 GB/s Memory Bandwidth, 166MHz Memory Clock
- 2nd Integrated T&L Engine : 20million Triangles/s

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High Performance DVD / HDTV Playback

- High Definition Video Processor (HDVP)
- Full-screen, Full-frame Video Playback of 720p DVD/ HDTV Resolutions
- Optional Dual Display(HDTV / TV / LCD / CRT)

-3. OS and Driver Support

- Windows 95/98/2000/NT 4.0 display drivers
- Linux, OS2 display drivers
- DirectDraw, Direct3D, DirectVideo, ActiveX
- OpenGL ICD for Full OpenGL
- Fully PC00, PC99 and PC99a compliant

-4. Hardware Requirements

- CPU : Pentium II 233MHz
(Pentium III or AMD K7 recommended)
- Memory : 64MB (128MB or higher recommended)
- MainBoard : AGP 2x / 4x slot
- Monitor : 15" 75MHz (17" or higher recommended)
- Power Supply : at least 250W of real power-out

-5. Resolution / Color / Refresh Rate

Resolution	Color	Refresh Rate
6	Digital Creator	SUMA SYSTEM

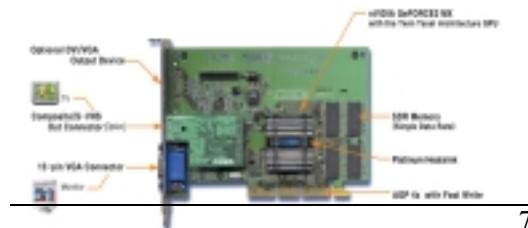
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640 X 480	32 bit	60 – 240
800 X 600	32 bit	60 – 240
1024 X 768	16 bit	60 – 240
1024 X 768	32 bit	60 – 200
1152 X 864	16bit	60 – 200
1154 X 864	32 bit	60 – 170
1208 X 1024	16 bit	60 – 170
1280 X 1204	32 bit	60 – 150
1600 X 1200	16 bit	60 – 120
1600 X 1200	32 bit	60 – 100

α. Hardware Installation

α-1. PLATINUM GeForce2 MX Layout

nVIDIA GeForce2 MX



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: Equipment of many performance related features that are available in the GeForce2 MX and the reasonable cost consumer graphics solution

SDR Memory

: SUMA has 64 - 128 bit SDR(Single Data Rate)memory interface. SDR memory runs at the speed of 166Mhz.

AGP 2x / 4x

: This board is optimized for AGP 4x with Fast Write. However you can enjoy high performance graphics acceleration with AGP 2x.

15-pin VGA Connector

: This is the connector to connect your monitor(CRT) cable. If you would like to clear graphics, you would better use D-SUB to BNC cable.

Composite / S-VHS Out Connector (Option)

: With this option you can enjoy the graphics on larger TV.

It can support both of NTSC and PAL mode at up to 800 X 600 resolution.

Optional DVI / VGA Output Device

α-2. Hardware Installation

Before beginning

Static electricity can severely damage electronic parts, take these precautions

- Before touching any electronic part, drain the static electricity from your body. You can do this by touching the internal metal frame of your computer while it is unplugged
- Don't remove a board from the anti-static container until

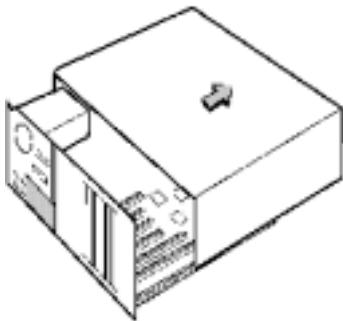
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- you are ready to install it. When you remove a board from your computer, place it back in its container.
- Don't let your clothes touch any electronic parts.
- When handling a card, hold it by its edges, and avoid touching its circuitry.

Item Checklist

- ≤ PLATINUM GeForce2 MX Graphics Card
- ≤ This User's Manual
- ≤ Installation CD

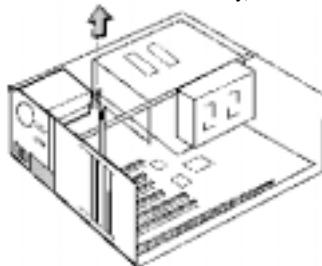
- (1) Prepare your computer for installation :
Before working on your computer, make sure all electrical codes are unplugged.
- (2) Remove the system unit cover :
You can easily find how to remove the system unit cover if you look carefully at the back of the system.



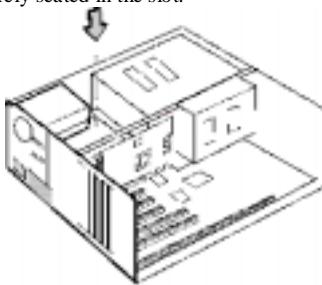
- (3) Locate the AGP bus expansion slot. Make sure this slot

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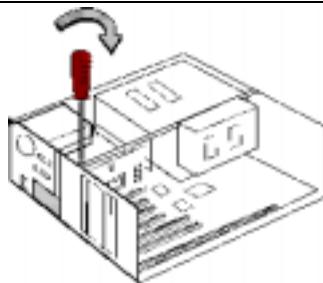
is unobstructed. Remove the corresponding expansion slot cover from the computer chassis. (Remove the existing graphics board from AGP slot, if any)



(4) Place the board directly over AGP slot and insert one end of the card down into the slot firmly but gently. Make sure that the metal contacts on the bottom of the host adapter are securely seated in the slot.



(5) Fasten the bracket screw and replace the cover on the system unit.



(6) Connect your analog monitor's 15-pin VGA connector to the card and fasten the retaining screws. (if any)

(7) Connect other cables and devices if available.

β. Driver Setup

β-1. Note

Please install the Graphics System Software, what is called "Driver Program", to take advantage of all the SUMA PLATINUM GeForce2 MX features.

The driver is in the installation CD.

You can update the driver at the nVIDIA Website (www.nvidia.com) or SUMA Website (www.suma.co.kr)

Information

The driver is normally updated 1-2 times a month. So you need to pay attention to SUMA Website in order to use the latest driver.

β-2 Windows 98 / 95

-2-1 Note

- To take advantage of all AGP features, please use Windows 95 OSR 2.1(or above version), or Windows 98.
- For other notes or release information, see the README files in the installation CD disk.
- This manual assumes that your CD/DVD – ROM disk drive is drive D: and Windows is in C:\windows.
Replace either with the actual location, if necessary

Information

Before driver setup, delete the existing graphics system software. Or switch display to Windows' Standard Display Adapter (VGA) mode.

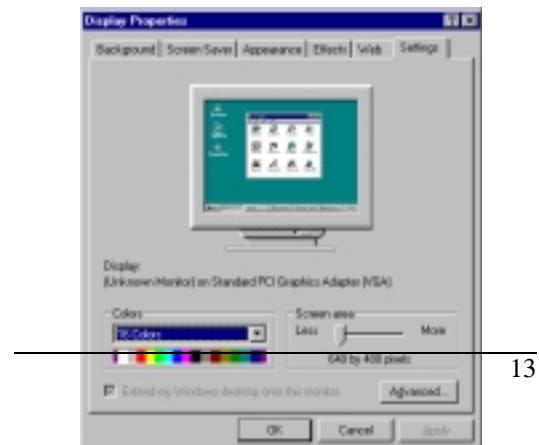
β-2-2 Windows 98/95 Setup Procedure

(1) After installation of SUMA PLATINUM GeForce2 MX graphics board, start windows 98 / 95. When windows automatically detects your new graphics board, "New Hardware Found" dialog box appears on screen.

Click *Next / OK* buttons. When "Update Device Driver Wizard" dialog box appears on screen choose *Display a list of all....* and select *Standard PCI Graphics Adapter(VGA.)*



(2) Click **mouse right** button on the desktop and select **Properties** from the popup menu. Or Click **Start** **Setting** **Control** panel. And Double click **Display** icon from the Control Panel folder. Select **Settings** tab and **Advanced** button for windows 98 (or **Advanced Properties** button for windows 95).



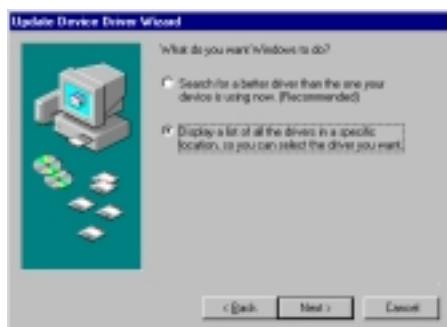
(3) Select **Adapter** tab and click **Change** button.



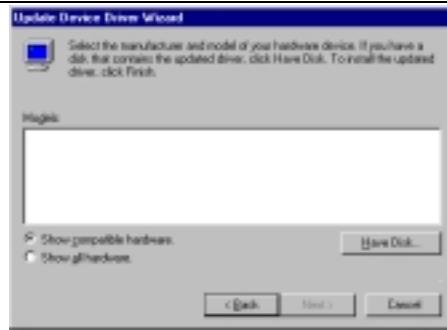
(4) When “Update Device Driver Wizard” dialog box appears on screen, click **Next** button.



Select “*Display a list of all...*” and click *Next* button.



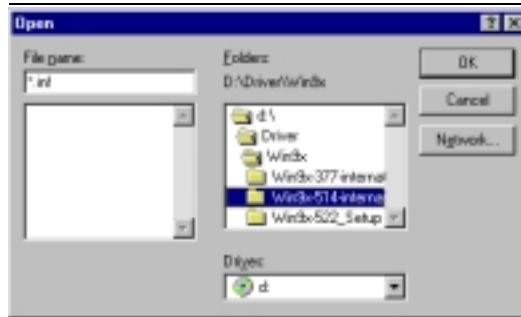
(5) Select “*Show compatible hardware*” and Click *Have Disk...* button.



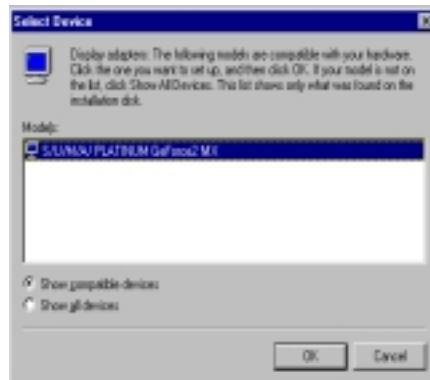
(6) Enter the driver path. (*d:\drivers\win9x*)



Or click **Browse** button to select directory.
(*d:\drivers\win9x*)

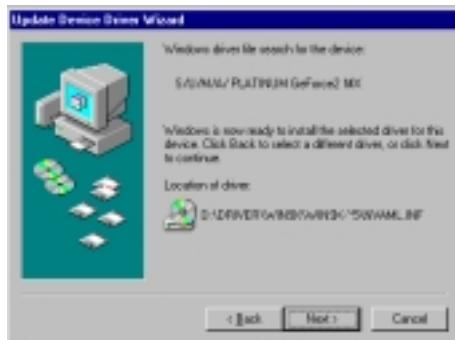


(7) If the driver path is correct, “Select Device” dialog box will appear on the screen. Select **PLATINUM GeForce2 MX**, then click **OK**.

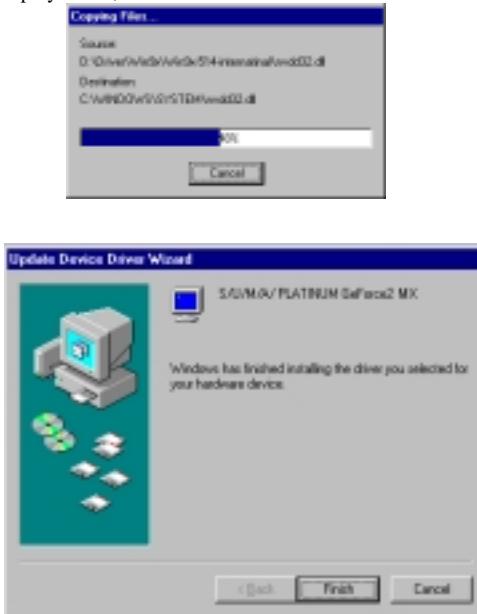


Make sure that you have chosen **PLATINUM GeForce2 MX**, and click **Next** button.

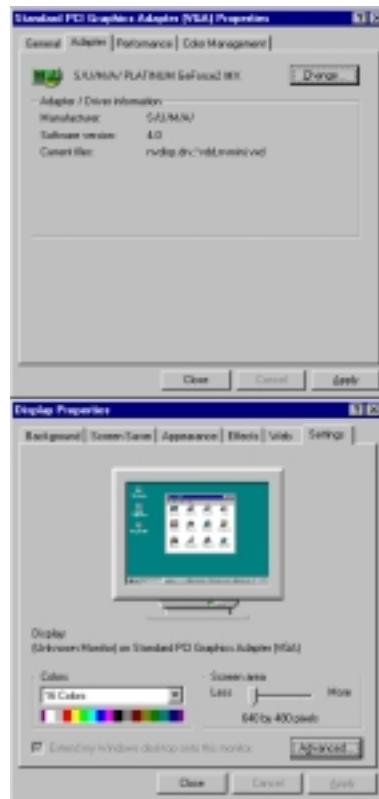
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(8) After completing installing PLATINUM GeForce2 MX display driver, click *Finish* button.

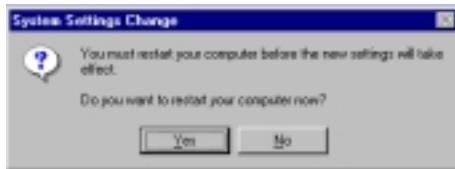


(9) When returning to “Adapter” tab click **Close** button, and “Display Properties” dialog box, Click **Close** button.



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(10) When the system prompts you to restart your computer, click **Yes** button.



After rebooting the system, you may enjoy the high performance digital display graphics card!

β-3 Windows NT4.0 Setup Procedure

Note : The setup procedure of Windows 2000 is similar to one of Windows NT4.0. The user of Windows 2000 can install the driver, using this procedure.

- (1) Start Windows NT, switch display properties to **VGA mode** (16 bit color, 640X480 pixels), then restart your computer to make the change.
- (2) After your computer restarts, click **mouse right** button on the desktop and choose **Properties**.
- (3) Select **Settings** tab.
- (4) Choose Change Display Type
- (5) Select **Adapter Type** and click **Change**.

(6) Click **Have disk.**

(7) Insert the **Installation CD** in the CDROM.

(8) Enter the path. (**D:\driver\NT40**)

Or click **Browse** to select the path of the display driver for Windows NT and click **OK**.

(9) Select **SUMA PLATINUM GeForce2 MX** and then click **OK**.

(10) Windows NT will once again prompt for confirmation.

All appropriate files are then copied to the hard disk. When all the files are copied, go back to the Display Properties dialog box by clicking **Close**. Then click **Apply** button.

(11) When the “System Settings change” dialog box is displayed, click Yes to restart Windows.

After rebooting the system, you may enjoy the high performance digital display graphics card!

β-4 DirectX 7.0 Setup Procedure

Note :In order to take advantage of all PLATINUM GeForce2 MX graphics, you can install DirectX 7.0. However you don't have to setup OpenGL, because OpenGL is automatically installed while setting the driver.

Information :

The version of DirectX in this installation CD is DirectX 7.0.

If you need DirectX 8.0, you can download it from Microsoft Website. (www.microsoft.com)

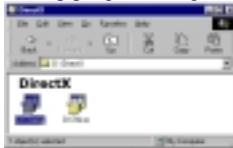
(1) Insert the installation CD disk in your CDROM.

(2) Double click My Computer, choose **D:** (CDROM Drive)

(3) Select DirectX folder and double click **DX7Aeng.exe** to

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enter DirectX 7.0 setup program. (English Version)



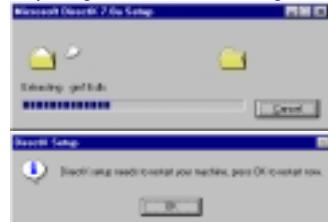
(4) When the DirectX setup program is started, just follow the step.



Click **Yes** Button to start the program.



Click **Yes** if you agree with the license agreement.



Click **OK** to finish it.

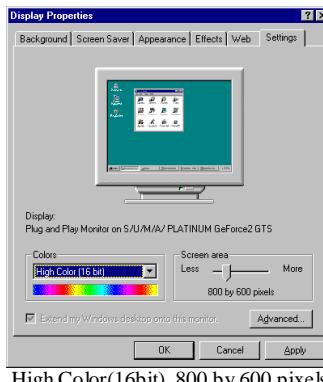
χ. Display Properties

After installing the display drivers, you are now ready to configure the display properties of your graphics board.

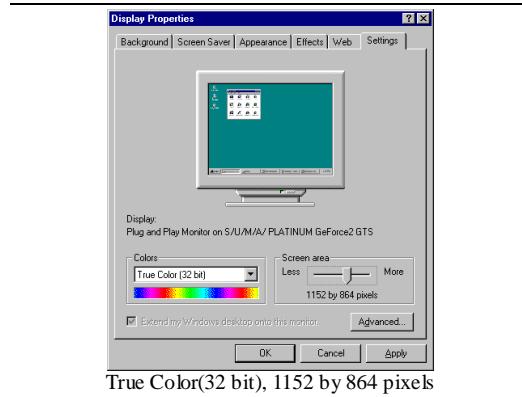
χ-1 Color and Resolution

To open the properties page for your computer or change the display properties, click **Start**, point **Settings**, click **Control Panel**, double click **Display**, choose **Settings** tab.

Or double click **mouse right** button, point **Display Properties** and choose **Settings** tab.



High Color(16bit), 800 by 600 pixels



True Color(32 bit), 1152 by 864 pixels

- **Colors** : You can choose the colors.
True Color (32 bit) recommended
- **Screen area** : You can select the resolution.
SUMA PLATINUM GeForce2 MX
supports up to 1600 X 1200.

After choosing the colors and resolution, click **Advanced** button.

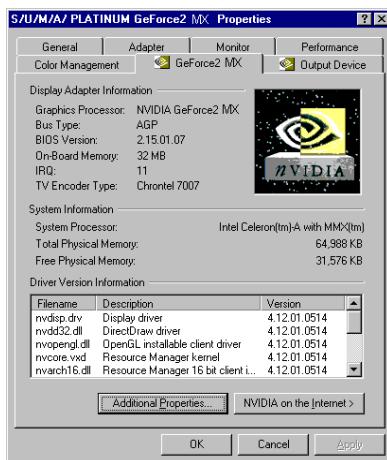
2 Additional Properties

Choose GeForce2 MX tab. GeForce2 MX lists the relevant information about your graphics board. Aside from this, it has links to the nVIDIA.com.

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You can also visit www.suma.co.kr web site for updated information about the graphics board, latest drivers, and other information.

To change display properties, click *Additional Properties* button.



χ-3 Color Correction

It allows you to make color adjustments, such as brightness, contrast, and gamma values for each or all of the RGB



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colors. This function is not available when the screen is in 256 color mode.

Active Color channel

You can adjust all channels at once or individual channels from the Active Color Channel



- **All channels** : adjust all channels(colors) at once
- **Red** : adjust Red channels only
- **Green** : adjust Green channels only
- **Blue** : adjust Blue channels only

Custom Color Settings

It lists schemes or settings that you can use to change the appearance of many screen elements simultaneously. You can use existing scheme or create and save your own scheme by saving your current settings, or delete unwanted schemes. Click **Save As...** to save your current settings as different scheme, then you may restore the setting back whenever you need.

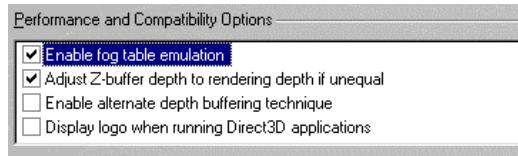
χ-4 Direct3D Settings

It allows you to make adjustments on the color settings for your direct3D games, namely Mipmapping, Anti-Aliasing.



Performance and Compatibility Options

It lets you set options that affect the performance and compatibility of your Direct3D games.



- Enable fog table emulation

Some old games do not correctly query the Direct3D hardware capabilities and expect table fog support. Choosing this option will ensure that such games will run properly.

- Adjust Z-buffer depth to rendering depth if unequal.

This Option forces the hardware to automatically adjust the depth of its Z-buffer to the depth that the application

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requests. Normally you will want to keep this option enabled, unless your work absolutely requires a specific Z-buffer depth.

- Enable alternate depth buffering technique

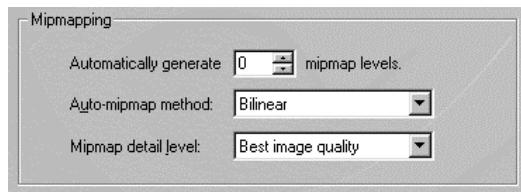
This option lets the hardware use a different mechanism for depth buffering in 16-bit applications. Enabling this setting can produce higher quality rendering of 3D images.

- Display logo when running Direct3D applications

This Option lets you display the nVIDIA logo in the lower corner of the screen while running Direct3D applications.

Mipmapping

It lets you set options that affect the performance and compatibility of Direct3D games.



- Automatically generate x mipmap levels

This option lets the hardware automatically generate mipmaps to increase the efficiency of texture transfers across the bus and provide higher application performance.

- Auto-mipmap method

This option lets you choose the auto-mipmap method. Choose bilinear method for a generally improved performance or anisotropic method for a generally higher quality image.

Mipmap detail level

This option lets you adjust the level of detail bias will increase the application performance.

Custom Direct3D settings

It lists schemes or settings that you can use to change the Direct3D settings simultaneously. You can use existing schemes or create and save your own scheme by saving your current settings, or delete unwanted schemes. Click Save As... to save your current settings as different scheme, then you may restore the setting back whenever you need.

χ-4-1 More Direct3D



Texel Alignment

Changing these values will change where the texel origin is defined. Dragging the slider to the left positions the texel origin toward the upper left corner and to the right positions it toward the center. The selected value is shown at the top. (Range : 0 to 7, Default : 3)

PCI Texture Memory Size

You can set the amount of system memory for texture storage. (This setting applies only to PCI display adapters or AGP display adapter running in PCI compatibility mode.)

χ-4-2 Antialiasing

It allows you to determine which degree of hardware anti-aliasing control to be used in Direct3D. Enabling anti-aliasing much improve the image quality while the applications performance is rapidly reduced.

Note :

You don't have to enable the hardware anti-aliasing control at the resolution of more than 1280x1024

Hardware Antialiasing Control

You can select the degree of antialiasing to be used in Direct3D applications.



Note :

- 1 : disable anti-aliasing
- 2 : High resolution, Mipmap 1x2 super sampling
- 3 : Low resolution, Mipmap 2x2 super sampling
- 4 : High resolution, Mipmap 2x2 super sampling
- 5 : Low resolution, Mipmap 2x2 super sampling
(3x3 down filtering)
- 6 : High resolution, Mipmap 3x3 super sampling
- 7 : Low resolution, Mipmap 3x3 super sampling
- 8 : High resolution, Mipmap 4x4 super sampling
- 9 : Low resolution, Mipmap 4x4 super sampling

χ-5 OpenGL Settings

It allows you to adjust the detail configuration of your OpenGL settings.



Performance and Compatibility Options

It lets you set options that affect the performance and compatibility of your OpenGL applications.



- Enable buffer region extension

This option allows the drivers to use the OpenGL extension buffer region.

- Allow the dual planes extension to use local video memory

This option allows the use of local video memory when the buffer region extension is enabled. However it can also reduce the application performance of Direct3D.

- Use fast linear-mipmap-linear filtering

This option allows increased application performance at the expense of some image quality loss. In many cases, the loss of image quality may not be noticeable.

- Enable anisotropic filtering

This option allows OpenGL to use anisotropic filtering for improved image quality.

- Enable alternate depth buffering technique

This option lets the hardware use a different mechanics, for depth buffering in 16-bit applications. Enabling this setting produces higher quality rendering of 3D images.

- Disable support the enhanced CPU instruction sets

This option disables driver support for enhanced 3D instructions used by certain CPUs.
(such as Intel Pentium3 SSE, AMD K6-2/3 3DNOW)

- Enable full scene antialiasing

This option allows OpenGL to use full scene anti-aliasing for improved image quality at the expense of some application performance loss.

Default color depth for textures

This option determines whether texture of a specific color depth should be used by default in OpenGL applications

Default color depth for textures: 

- Use desktop color depth : default

- Always use 16bpp color depth : 16-bit color mode

- Always use 32bpp color depth : 32-bit color mode

Buffer flipping mode

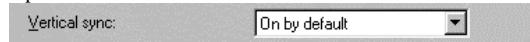
This option determines the buffer flipping mode for full-screen OpenGL applications.



- **Auto select** : default
- **Buffer flip** : dual buffer transfer mode
- **Block transfer** : prevent the graphics form blinking

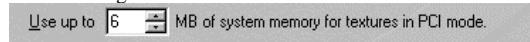
Vertical sync

This option lets you specify how vertical sync is handled in OpenGL.



System memory for texture in PCI mode

This option lets you set the amount of system memory for texture storage.



The maximum amount of system memory for texture storage depends on the physical memory installed on your system.
(This setting applies only to PCI display adapters or to AGP display adapters running in PCI compatibility mode)

Custom OpenGL settings

It lists schemes or settings that you can use to change the OpenGL settings simultaneously. You can use existing schemes or create and save your own scheme by saving your current settings, or delete unwanted schemes. Click **Save As...** to save your current settings as a different scheme, then you may restore the setting back whenever you need.

χ-6 Overlay Color Control

It allows you to make adjustments on the quality of video or DVD playback on your monitor. You can independently control the Brightness, Contrast, Hue and Saturation to achieve optimal image quality when playing back videos or DVD movies on your computer.



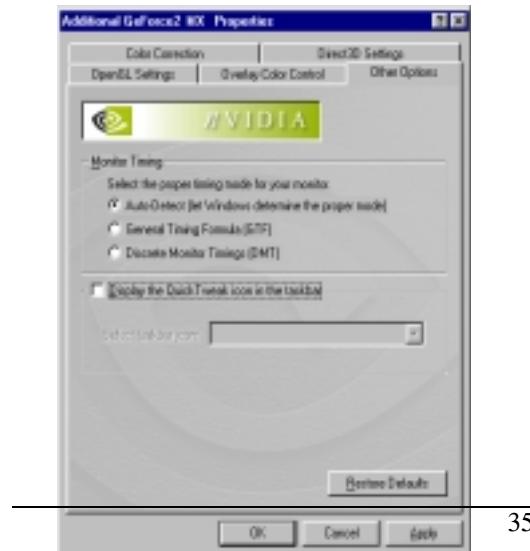
Video Overlay Controls

Dragging a slider to the left decreases the level and to right increases it. The number at the right of each slider displays the levels.

- **Brightness** : Range 0 – 200 %, Default 100 %
- **Contrast** : Range 0 – 200 %, Default 100 %
- **Hue** : Range -180 – +180° , Default 0 °
- **Brightness** : Range 0 – 200 %, Default 100 %

χ-7 Other Options

It allows you to select the proper timing mode of your monitor and display the Quick Tweak icon in the taskbar.



Monitoring Timing

This option lets you select the proper timing mode for your monitor.

- Auto-Detect (let Windows determine the proper mode)

Windows receives the proper timing information directly from the monitor itself. (default setting)

- General Timing Formula (GTF)

Standard used by most new hardware

- Discrete Monitor Timing (DMT)

An older standard still in use on some hardware

Display Quick Tweak icon in the taskbar

This Option lets you add the nVIDIA Quick Tweak icon on the Windows taskbar.

δ. Troubleshooting

(1) After installing and restarting, Windows 98/95 informs me that the display setting is still incorrect.

- Make sure the “Assign IRQ to VGA” option is enabled in the BIOS.
- Check if there is enough IRQ for VGA.
- Uninstall the driver, restart and reinstall the driver.

(2) My monitor is not capable of high resolution or refresh rate.

- It depends on the display characteristics of your monitor.
- Consult your monitor documentation for the proper configuration.

(3) DirectX or the other applications report no AGP memory available.

- Windows 95 is not OSR2.1 or later.
- DirectX version is not 6.0 or later.
- You have not installed appropriate driver for the AGP chipset.
- Incorrect BIOS settings. BIOS must support at least 64MB for AGP aperture size

(4) Games or applications report “ No 3D acceleration hardware found.”

- 3D works only in 16-bit or 32-bit color depth. Switch your color depth display mode to 16-bit (High Color) or 32-bit (True Color)
- Check necessary libraries, such as DirectX or OpenGL.
- Try to switch to a lower resolution.

(5) I can not enable AGP memory or run I-Base test.

- You may be using a mainboard with an Aladdin AGP set. To get the best compatibility, the display card uses AGP Bus Master mode instead of AGP execution mode for mainboard using this AGP set.

(6) My MPEG player displays bad quality video clips.

- You must install DirectX 6 or later so that your player can take advantage of the hardware acceleration mode (DirectDraw)
- Try to switch to a lower resolution, color depth or refresh rate.
- Switch dual view mode to VGA or TV mode.