

SiS 315 AGP 4X Graphic Card

User's Manual

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- There are Chinese and English editions, and the Chinese one is yardstick
- This company reserves the authority for the interpretation.

FCC Compliance

Federal Communications Commission Statement

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

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 and used in accordance with the manufacturer's instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful 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:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning !

The use of shielded cables for the connection of the monitor to the graphics card is required to assure compliance with FCC regulations changes or modifications to this authority to operate this equipment.

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Thank you for purchasing this SIS315 VGA card.

*Following the tradition of meeting customer's every need by having a comprehensive VGA product line, Pine is proud to present the **PV-S04A**.*

Capable of higher data bandwidth, the SIS315 effortlessly churns out awesomely vivid graphics and textures at lightning speeds, giving users a truly remarkable visual experience with life-like levels of realism.

Chapter I

1-1 Introduction

PV-S04A adopts high-powered 256-bit 3D AGP engine---SIS315 chip. It supports hardware T&L to meet the demand for high performance and speed of 3D virtual real-condition. It makes use of the dynamic compensation technique of DVD acceleration play to smooth the act of DVD. This card also introduces the firenew super-sample to apply to FSAA and improves the quality of 3D image. In addition, the card with SIS301 chip makes the TV-out, digit-out, 3D eyeglass and TwinView with high-definition available. Generally speaking, PV-S04A is the preferred 3D acceleration card with high capability, stability and speed.

1-2 Specifications

<p>Display Chip</p>	<ul style="list-style-type: none"> ▶ SIS315 chip <ul style="list-style-type: none"> ● Adopts 256-bit 3D engine ● Supports hardware T&L technique ● Supports FSAA ▶ SIS301 chip (optional) <ul style="list-style-type: none"> ● Supports DVI-out/TV-out synchronously
<p>Bus Type</p>	<ul style="list-style-type: none"> ▶ AGP 4X 266MHz, compatible with AGP 2.0
<p>Core Bandwidth</p>	<ul style="list-style-type: none"> ▶ 128-bit
<p>Display Cache</p>	<ul style="list-style-type: none"> ▶ 64-bit/128-bit 32MB/64MB SDRAM or DDR video memory ▶ Video memory bandwidth 2.7GB/s (SDRAM) or 5.4GB/s (DDR RAM) ▶ Video memory frequency up to 166MHz
<p>3D Acceleration</p>	<ul style="list-style-type: none"> ▶ Built-in 256-bit 3D engine with high performance <ul style="list-style-type: none"> ● Core frequency up to 166MHz ● Supports 266MHz AGP 4X ▶ Built-in 3D engine with high quality <ul style="list-style-type: none"> ● Supports Z-test, Z-buffer special effect ● Dual-texture per clock cycle ● Supports up to 2048 X 2048 mapping ● Supports vertex fog, fog table and hardware T&L

2D Acceleration	<ul style="list-style-type: none"> ▶ Built-in Direct Draw acceleration ▶ Built-in GDI 2000 acceleration ▶ Built-in IT pipe 128-bit BITBLE graphics core ▶ Supports up to 128MB frame buffer (linear address)
MPEG 2/1 Video Decoder	<ul style="list-style-type: none"> ▶ Built-in dynamic compensation decoder for VCD, DVD and HDTY (all ATSC modes) ▶ Supports direct TV-out playback for DVD
High Integration	<ul style="list-style-type: none"> ▶ Built-in programmable 375MHz 24-bit true color RAMDAC, resolution up to 2048 X 1536@85Hz ▶ Built-in VMI interface ▶ Built-in VIP 1.1, VIP 2.0 interfaces ▶ Built-in TV coder ▶ Built-in VESA Plug & Display (PanelLink interface)
RAMDAC	▶ 375MHz
Refresh Rate	▶ 60-240Hz
CMOS	▶ 1.8V, 0.15 micron technique
Output Mode	<ul style="list-style-type: none"> ▶ Supports color TV with PAL/NTSL system ▶ Supports LCD digital display device etc ▶ Supports 3D VR eyeglass
Input/Output Interface	<ul style="list-style-type: none"> ▶ DB-15 standard display output interface ▶ S-Video output interface (optional) ▶ DVI-out interface (optional) ▶ 3D output interface ▶ VIP-in interface
Additional Component	▶ Initialized heat sink offers effect to prevent overheating

1-3 Features

Feature	Description
Hardware T&L (Polygon Transform and Lighting) Technique	Increases the exterior smooth degree. SIS315 provides 10 individual lamp-houses to make the image vivid by cooperating with GPU.
High-Definition Video Processor (HDVP)	Provides your PC with full capabilities of DVD and HDTV receiving / playing.
Hardware 2X FSAA	Adorns the sawtooth, rough edge and regret and possesses high resolution, high image quality and high dual-sample capability.
Fully supports AGP 4X with Fast Write and Execution Mode	Takes advantage of new methods of transferring information more efficiently, and allows to use high-quality 32-bit true color textures and polygon-count scenes.
Supports Microsoft® DirectX® and OpenGL® Optimization	Delivers the best performance and guarantees compatibility with all current and future applications and games.
VIP-in Interface	Inputs video signals of video devices (such as VCD/DVD decoder, TV receiver card) and overlay displays through the overlay mode and display signal.
DVI-out (optional)	Extends your office-range with digital terminal devices such as LCD, etc.
S-Video TV-out (optional)	Gives terminal users the option of big-screen game, and the shielded TV-out linker enhances the quality and definition of the image.

1-4 Minimum System Operating Requirements

- Intel Pentium II 300MHz higher or compatible with CPU
- Windows 95 OSR2, Windows 98, Windows ME, Windows 2000 or Windows NT4.0
- 64 MB memory
- CD-ROM or DVD-ROM
- One available AGP slot (supports AGP 4X)
- 20MB hard drive free space

1-5 S04A Series Specification

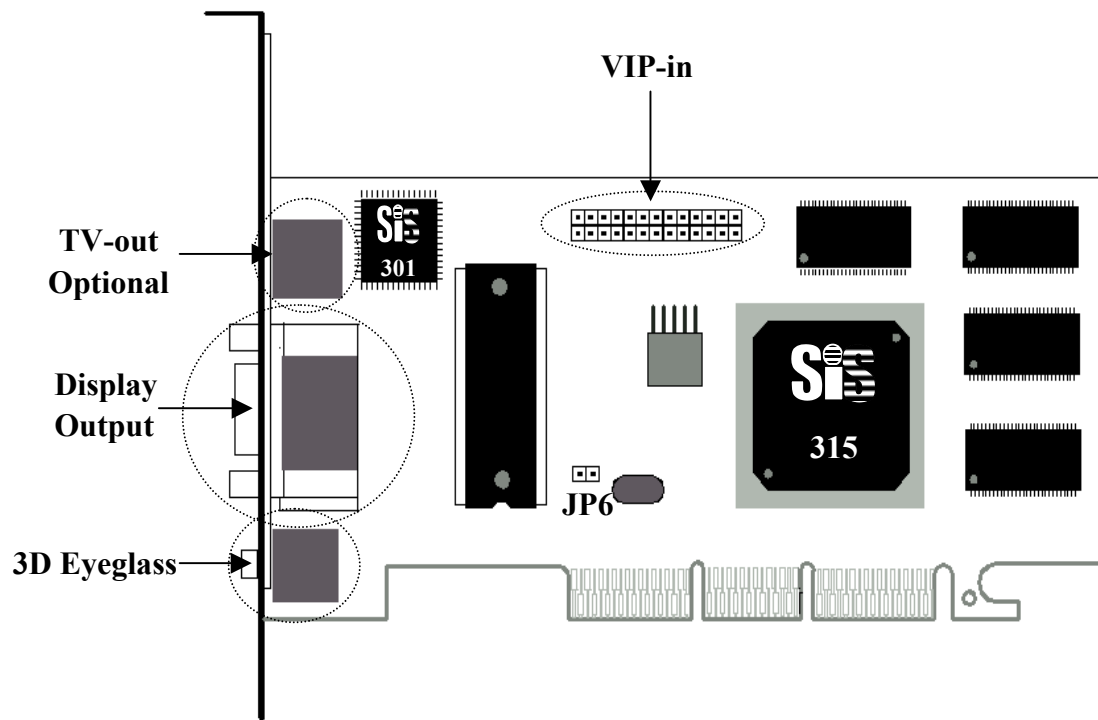
Model	Video Memory	TV-out	DVI-out	Model	Video Memory	TV-out	DVI-out
S04A-BR	32M SDRAM	×	×	S04A-LR	32M DDR	×	×
S04A-BT	32M SDRAM	✓	×	S04A-LT	32M DDR	✓	×
S04A-BL	32M SDRAM	×	✓	S04A-LL	32M DDR	×	✓
S04A-BA	32M SDRAM	✓	✓	S04A-LA	32M DDR	✓	✓
S04A-CR	64M SDRAM	×	×	S04A-MR	64M DDR	×	×
S04A-CT	64M SDRAM	✓	×	S04A-MT	64M DDR	✓	×
S04A-CL	64M SDRAM	×	✓	S04A-ML	64M DDR	×	✓
S04A-CA	64M SDRAM	✓	✓	S04A-MA	64M DDR	✓	✓

1-6 Packing List

- ✓ One PV-S04A SIS315 video card
- ✓ One driver CD
- ✓ One S-Video signal wire
- ✓ One user's manual

Chapter 2

2-1 Graphics Card Board Layout



★ **Warning:**

Owing to the damages to electronic components by static, you are suggested to take action to prevent it, for example: touch the computer metal shell to eliminate static or hold the edge instead of contacting the circuit when fetching the sound card.

2-2 Hardware Installation

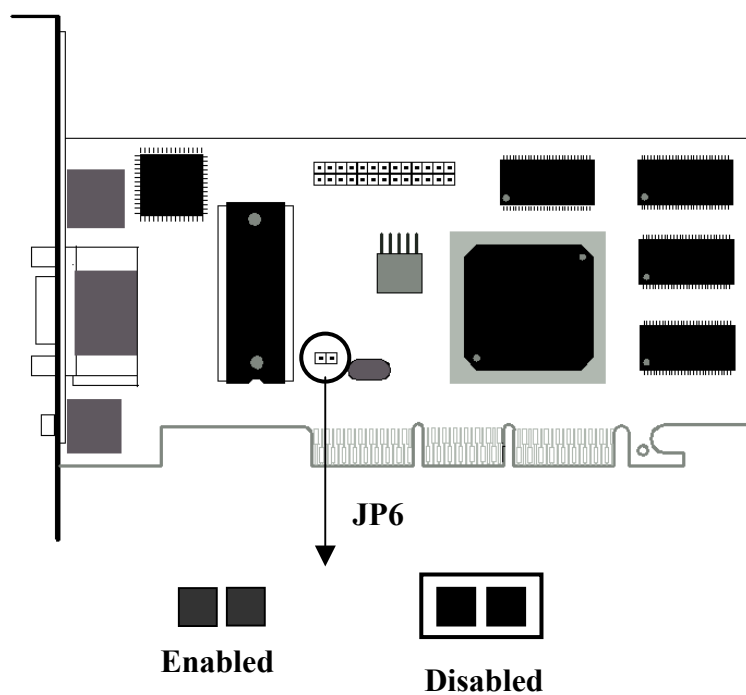
2-2.1 Uninstall Quondam Video Card

- Skip this step if you are installing a vacant computer.
- Uninstall quondam drivers if you want to install a new one. Double-click system icon from control panel and select device controller. Click on the quondam video drivers and delete them (please refer to the user's manual).

2-2.2 Install Video Card

1. Change system display mode to standard VGA mode.
Skip this step if Windows 95 OS2/98 is used.
Change into standard VGA mode according to the manual if other Windows is used (e.g. Windows NT4.0).
2. Turn off the computer and remove power cord and connection cable away.
3. Open up the chassis.
4. Remove the quondam card.
5. Insert the new card. Earth yourself then take the card out of static bag. Aim at the PCI slot and insert it. Pay attention to the slot direction and avoid the damage to mainboard and sound card.
6. Replace the chassis and power cord.
7. Restart the computer, and Windows will detect the new card.

2-2.3 TV System Setting



- Enable JP6 when selecting NTSL system.
- Disable JP6 when selecting PAL system.

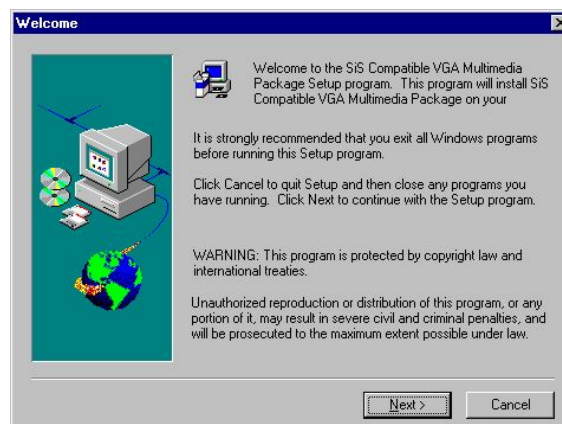
Chapter 3

3-1 Installation for Windows 95 OSR2/ Windows 98/ Windows ME

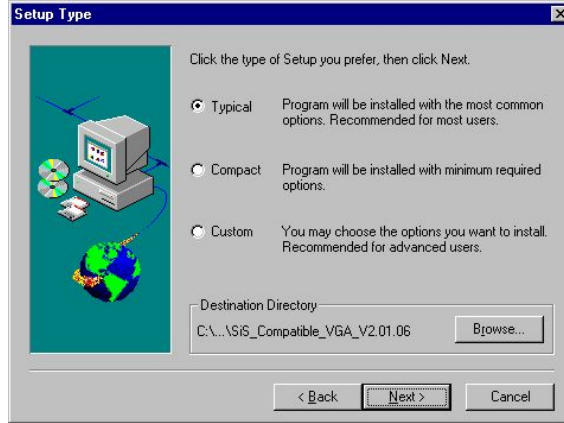
1. Put the attached CD into CD-ROM, dual-click **For Win9X**.



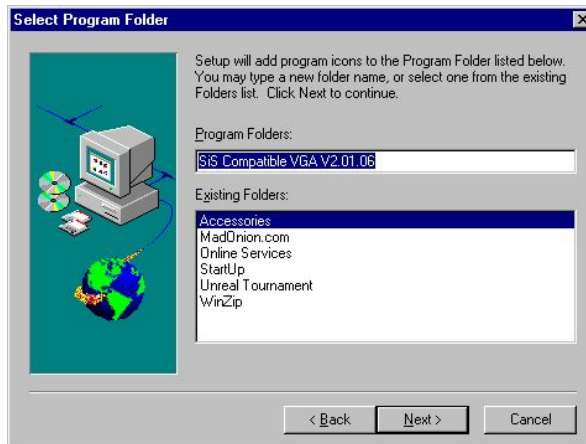
2. Click **Next** to go on.



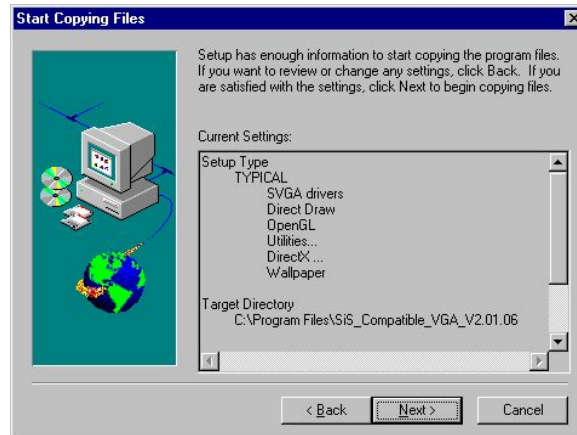
3. Click **Next** to go on.



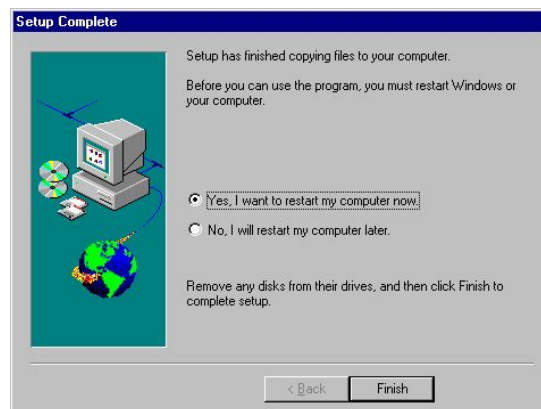
4. Click **Next** to go on.



5. Click **Next** to go on.



6. Click **Finish** to end the installation.



3-2 Installation for Windows 2000

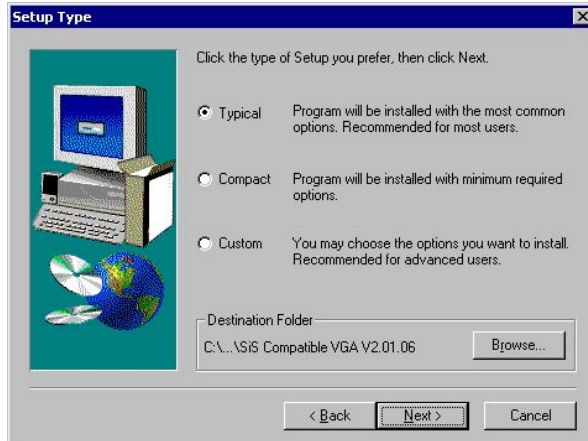
1. Put the attached CD into CD-ROM, dual-click **For Win2000**.



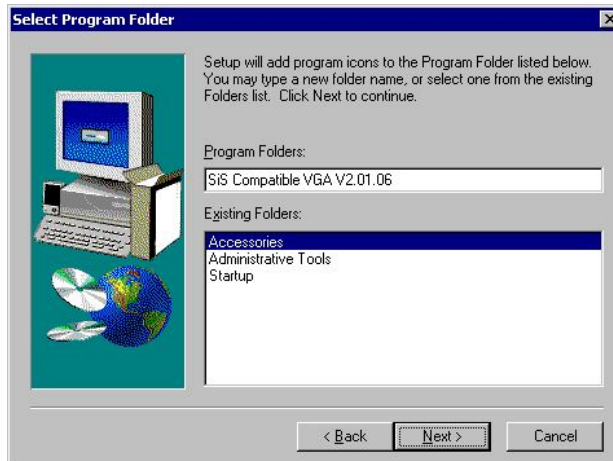
2. Click **Next** to go on.



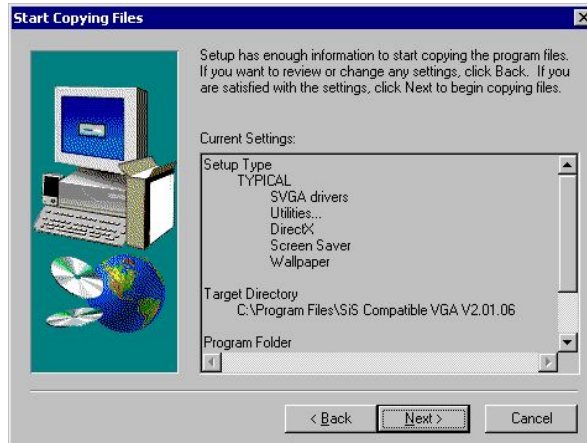
3. Click **Next** to go on.



4. Click **Next** to go on.



5. Click **Next** to go on.



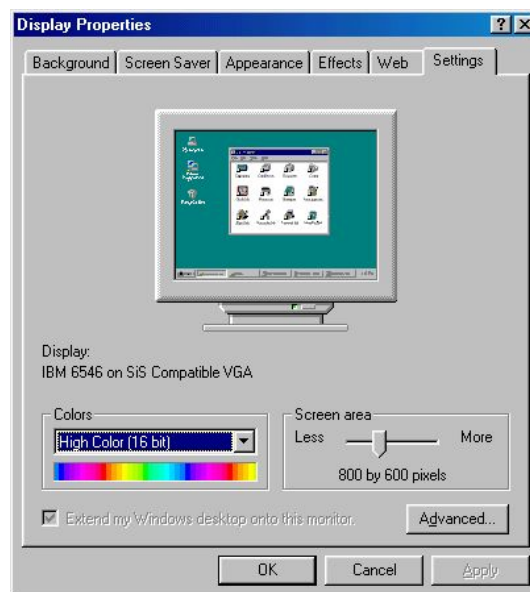
6. Click **Finish** to end the installation.



Chapter 4

4-1 Display Properties (Apply to Windows 98)

After the installation of the display drivers, click **Display** icon in Control Panel to view display properties. Or you may right-click the Windows desktop to pop up the shortcut menu then click **Display Properties**. The **Settings** item allows to change your display settings.

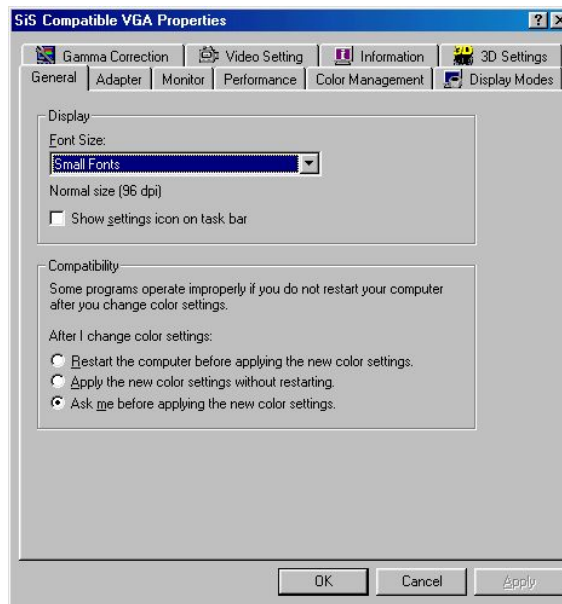


- **Screen area**
Lets you change the resolution of your monitor.
- **Colors**
Lets you change the color depth of your monitor.

4-2 Advanced Settings

Click *Advanced* to change various settings of SIS video card.

4-2.1 General



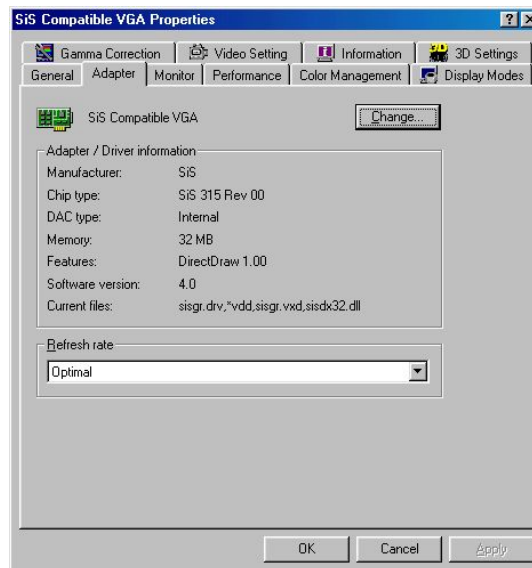
- **Display Box**
Sets system font size.
- **Compatibility**
Sets the operating system mode after modifying color settings.

4-2.2 Adapter

In this label, you may rejigger and renew VGA card driver.

- **Refresh Rate**

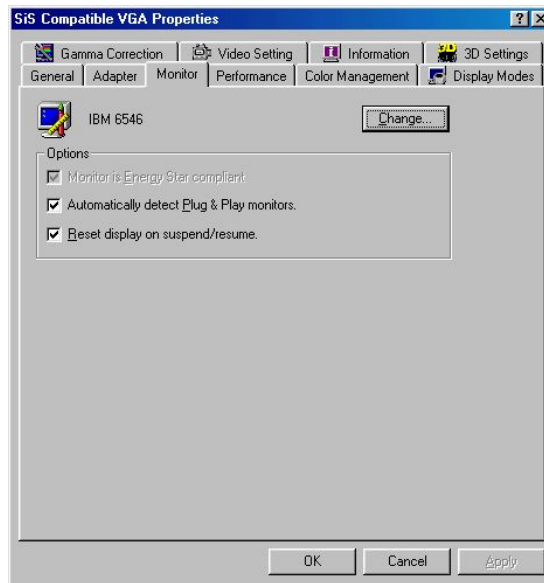
The refresh rate (among the range supported by your computer) may change the vertical refresh rate of current monitor. High refresh rate reduces flicker and is beneficial to your eyes.



★ **WARNING:**

Be sure that the selected refresh rate should be supported by your monitor. Otherwise the device may be damaged.

4-2.3 Monitor



- **Change**

Set monitor type. Be sure what you set should conform to the actual type.

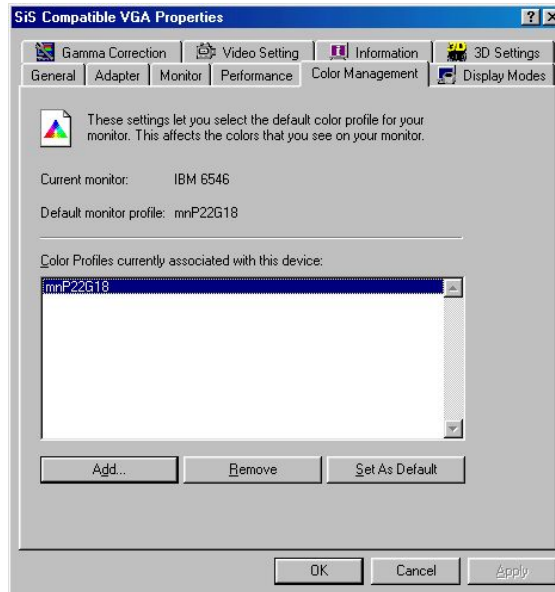
4-2.4 Performance

No need to modify the acceleration functions recommended by system.

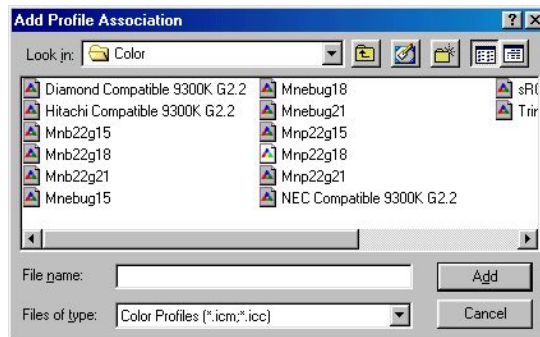


4-2.5 Color Management

In this label, you may manage and set the monitor color.

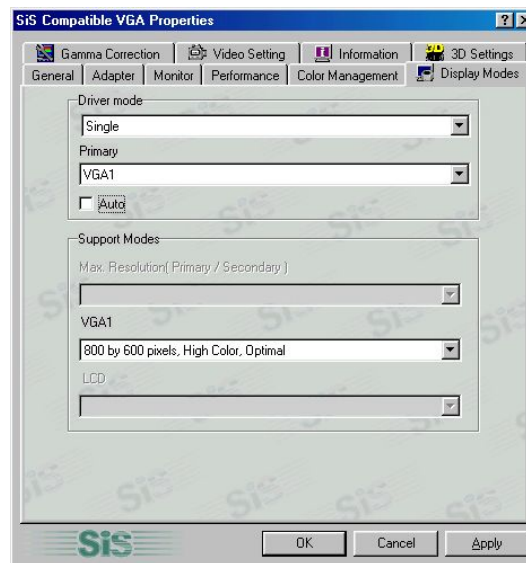


Click **Add** to append appropriate color or change the current color in the “Add Profile Association” window.



4-2.6 Display Modes

This card supports VGA-out and TV-out. Users can enable the functions according to their request.

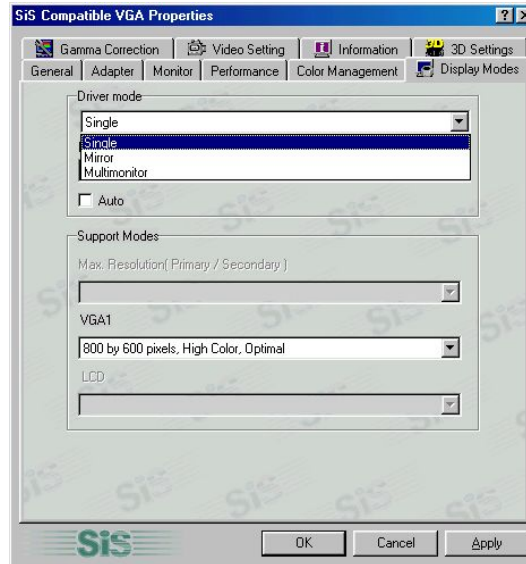


Disable the auto function through the check box. By clicking the following buttons, the corresponding menus will pop up.

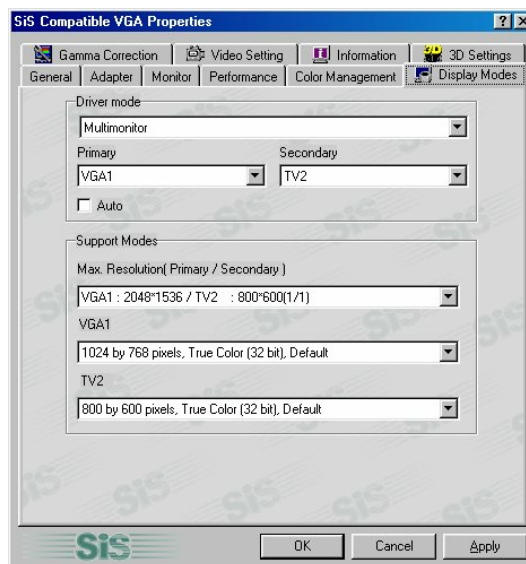
- **Driver Modes**

- ◆ Single Mode: select VGA1 or TV2 to use individual display output device.

- ◆ Mirror Mode: select VGA1 and TV2 to use primary and secondary TwinView output devices. The secondary device acts as the mirror output of primary device.



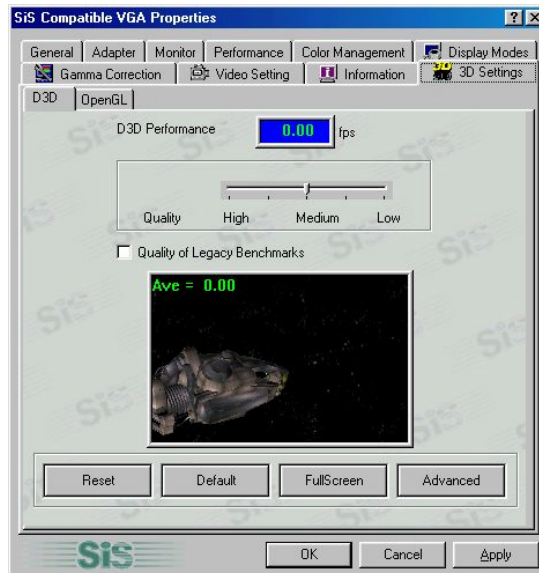
- ◆ Multimonitor Mode: select VGA1 and TV2 to use primary and secondary TwinView output devices. The both devices act independently.



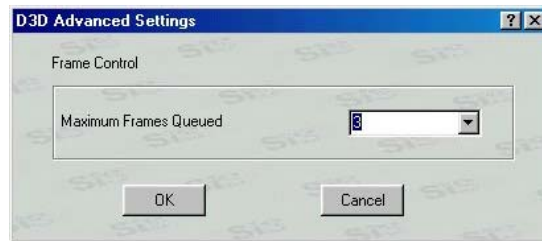
- **Primary**
Allows to choose primary display output device.
- **Secondary**
Allows to choose secondary display output device under non-single mode.
- **VGA1**
Sets the display mode of primary display device. The name will change along with the change of primary display device.
- **LCD**
Sets the display mode of secondary display device. The name will change along with the change of secondary display device.

4-2.7 3D settings

4-2-7.1 Direct 3D setting

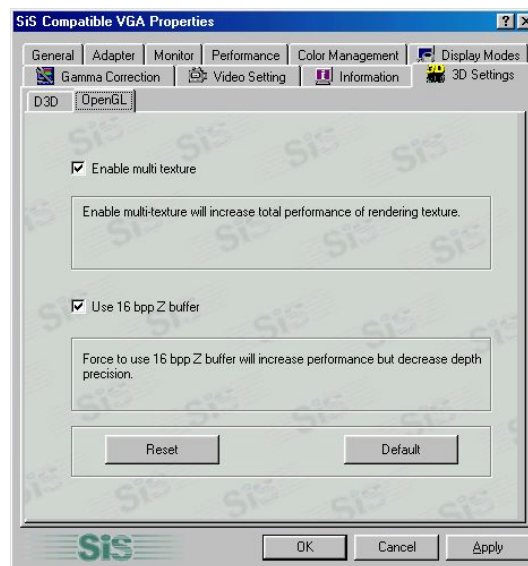


- **Reset**
Resets the 3D performance.
- **Default Value**
Use the default value of driver.
- **Full Screen**
Displays 3D demonstration menu with full screen.
- **Advanced**
Allows to choose the maximal number of frame.



4-2-7.2 OpenGL Setting

Allows to change the settings of OpenGL in this label. But the default values result in good performance and are recommended.

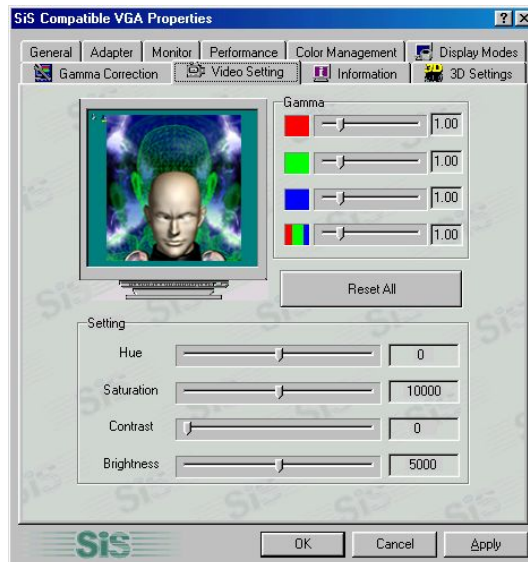


4-2.8 Information

Displays the information of drive files of this chipset and other relative information.



4-2-9 Video Setting



- **Gamma**

Adjust the Gamma values of red, green, blue colors along by dragging their sliders or adjust them synchronously by dragging the downmost slider.

- **Set**

- ◆ Hue: drag the slider to adjust the hue. The effect will appear on the above simulative display.

- ◆ Saturation: drag the slider to adjust the saturation. The effect will appear on the above simulative display.

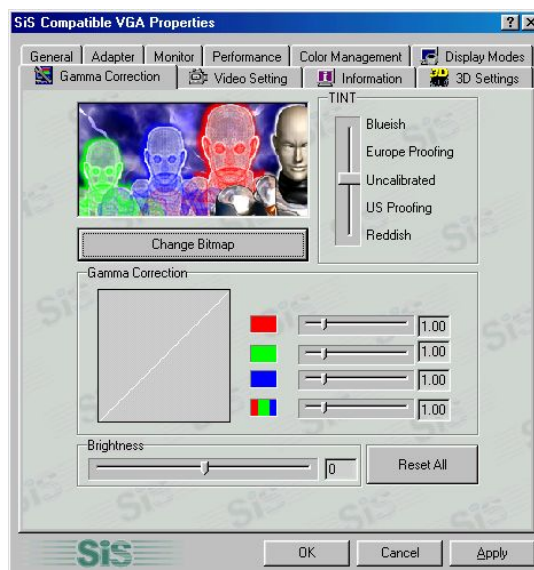
- ◆ Contrast: drag the slider to adjust the contrast. The effect will appear on the above simulative display.

- ◆ Brightness: drag the slider to adjust the brightness. The effect will appear on the above simulative display.

- **Reset All**

Click the button to resume the default values.

4-2-10 Gamma Correction



- ***Hue***

Drag the slider to adjust the hue. The effect will appear on the simulative display.

- ***Gamma Correction***

Adjust the Gamma values of red, green, blue colors along by dragging their sliders or adjust them synchronously by dragging the downmost slider. The effect will appear on the simulative display.

- ***Brightness***

Drag the slider to adjust the brightness. The effect will appear on the simulative display.

Chapter 5

5-1 Troubleshooting

Descriptions	Recommended Actions
After installation and restarting, Windows 95/98 informs that the display settings are still incorrect.	<ul style="list-style-type: none"> - 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.
The above problem or other troubles appear when using non-Intel mainboard.	<ul style="list-style-type: none"> - Install display pack program corresponding to mainboard (chipset) such as VIA-AGP4X, etc.
Fail to set high refresh rate.	<ul style="list-style-type: none"> - It depends on the features of monitor. Query your vendor about the correctly installed display driver
DirectX or other applications report no AGP memory available.	<ul style="list-style-type: none"> - Windows 95 is not OSR2.1 or later. - DirectX version is not 7.0 or later. - You have not installed appropriate drivers for the AGP chipset. - Incorrect BIOS setting. BIOS must support at least 64MB for AGP buffers size.
Games or applications report no 3D acceleration hardware found.	<ul style="list-style-type: none"> - 3D works only in 16-bit or 32-bit color depth. Switch your color depth display mode to the corresponding color depth. - Check the necessary libraries such as DirectX or OpenGL. - Try to switch to a lower resolution.
MPEG bad display.	<ul style="list-style-type: none"> - You must install DirectX 7 or later so that you can take advantage of the hardware acceleration mode (DirectDraw). - Try to switch to a lower resolution, color depth, or refresh rate. And be sure to allow hardware acceleration.

5-2 Technical Support

Pinegroup Website: <http://www.pinegroup.com>

Technical Support Website: <http://www.pine-support.com>

Support E-mail: pinesupport@pinegroup.com.cn

P/N:73-S04A1010-000