



V7700 Series

GigaTexel Shader Graphics Card

USER'S MANUAL

Hardware & Video Drivers

AGP-V7700 / 32MB

AGP-V7700 / 64MB

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FCC & DOC 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, and
- 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 manufacturer's instructions, may cause harmful interference to radio communications. 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:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and 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 connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

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I. Introduction

Thank you for purchasing an ASUS AGP-V7700 GigaTexel Shader Graphics Card. With this purchase, you join an elite squadron of graphics enthusiasts.

Powered by the NVIDIA™ GeForce2 GTS™ graphics processing unit (GPU) and featuring DDR (Double Data Rate) memory, the ASUS AGP-V7700 delivers not only cutting-edge graphics performance but also image fidelity regardless of the CPU (central processing unit) your computer system is using.

With the ASUS AGP-V7700, you will not only see but also experience dynamic, realistic 3D worlds and characters.

Highlights

- **Powered by the World's First Per-Pixel Shading Graphics Processing Unit (GPU)** NVIDIA™ GeForce2 GTS™
- **Built-in 32/64MB DDR video memory with up to 5.3GB/sec bandwidth** Provides more resolutions and color depths
- **Dual-texture pixel-fill capacities with four new Hypertexel pipelines** Sets a new milestone for realism
- **1.6 Gtexel fill rate, 25 Mtriangles/sec through T&L/Setting** Performs up to 3x improvement over GeForce™
- **ASUS SmartDoctor™ Technologies** Provide the greatest security to your valuable system
- **Optimized for DirectX® 7 and OpenGL® Features** Ensures broad application support

Available Model

ASUS AGP-V7700

- 32/64MB DDR Frame Buffer
- VGA (ASUS VR-100 Upgradeable)

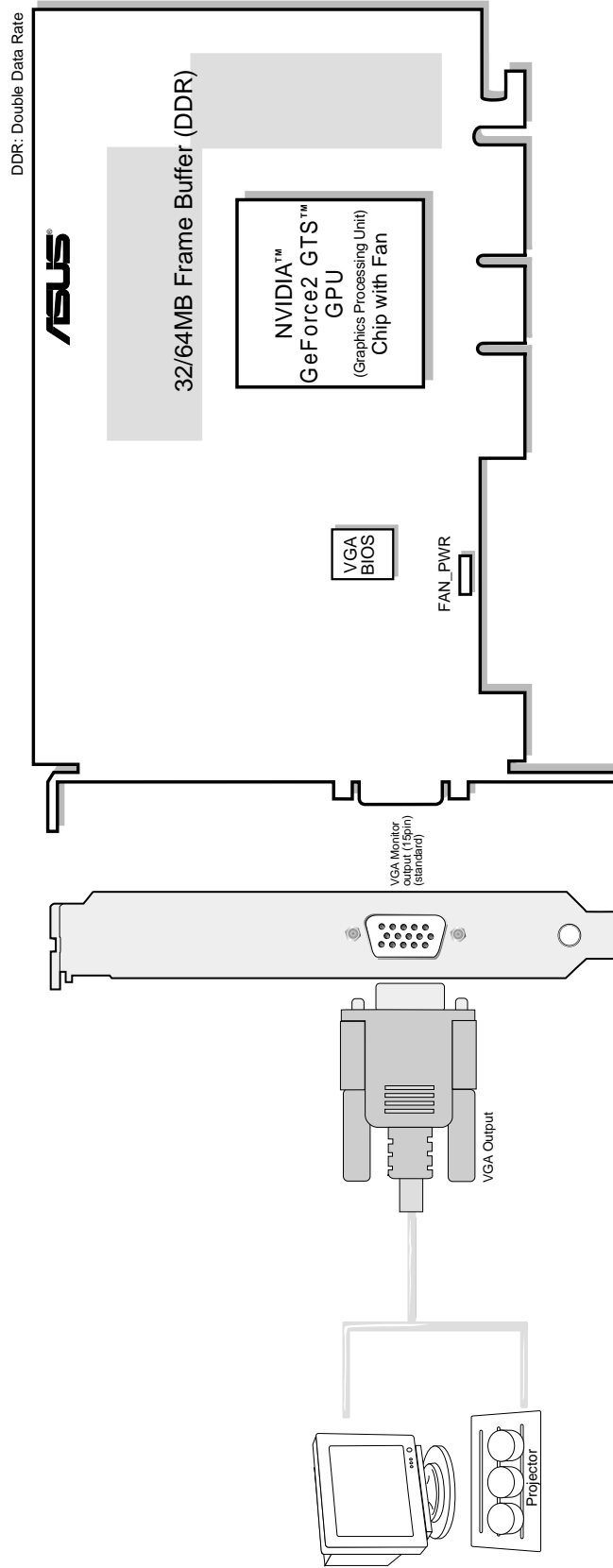
I. Introduction

Features

- AGP 4X/2X with Fast Writes
- Four new Hypertexel pipelines process two texture per pixel, in true color, at full speed up to 1.6 Gtexel fill rate
- Built-in 32MB high speed DDR video memory with up to 5.3GB/sec bandwidth
- Eight texture mapped, lit pixels per clock cycle
- Second generation Transform and Lighting (T&L) Engine
- Up to 25 million triangles per second at peak rates
- Optimized for Direct3D acceleration with complete support for DirectX 7 features, such as multi-texturing, bump mapping, light maps, reflection maps, full scene anti-aliasing, trilinear and 8-tap anisotropic filtering (better than trilinear mipmapping)
- Fully 1.2 compliant OpenGL support
- 32-bit colors, Z/stencil buffer
- Multi-buffering (double, triple, quad buffering) for smooth animation and video playback
- Multiple video windows with hardware color space conversion and filtering (YUV 4:2:2 and 4:2:0)
- Integrated 350MHz RAMDAC supporting from 640x480 up to 2048x1536 in true color
- BRDF (Bidirectional Reflectance Distribution Function) support
- Video acceleration for Direct Show and MPEG-1, MPEG-2, and Indeo

II. Hardware Installation

ASUS AGP-V7700 Layout 32/64MB Frame Buffer



Item Checklist

- ASUS AGP-V7700 Graphics Card
- This User's Manual
- ASUS V7700 Series Driver & Utility CD Disc

II. Hardware Installation

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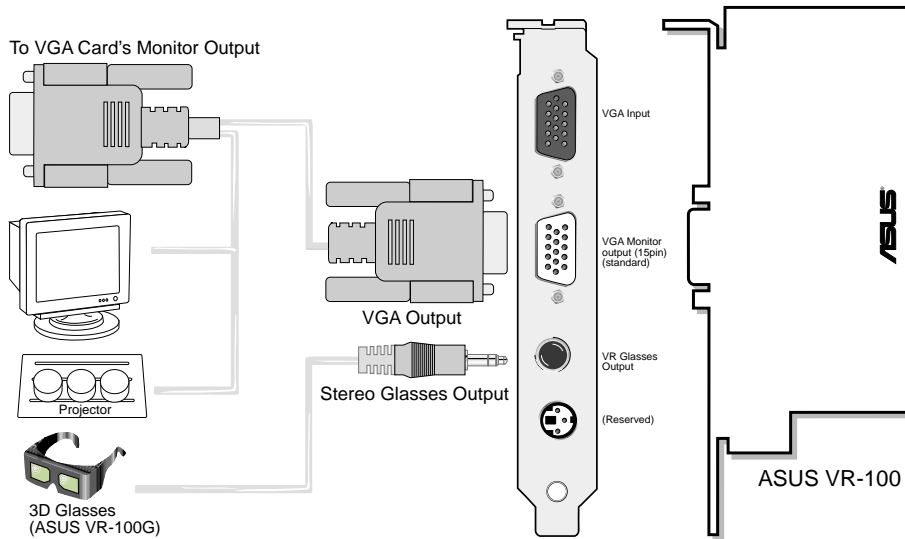
II. Hardware Installation

ASUS VR-100 Optional Upgrade Kit

The ASUS VR-100 Optional Upgrade Kit enables the ASUS VR-100G 3D Glasses to be used with Pure models of the V7700 Series cards. *See your dealer for more information on the ASUS VR-100 Optional Upgrade Kit.*

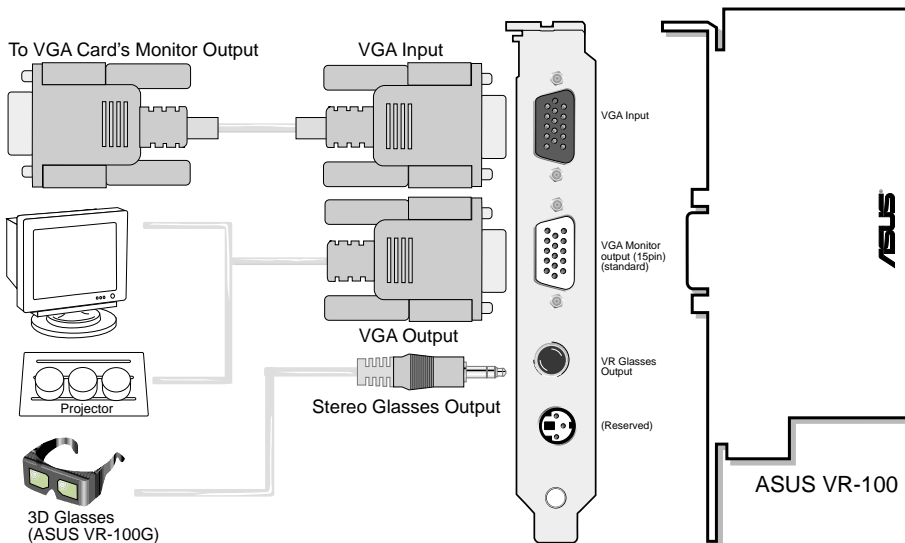
The monitor cable that came with your kit may be of the Y- or standard type. Connect your cable accordingly.

Y-Type Connection



When using a Y-type cable, you do not need to connect the VGA Input of the VR-100 to your VGA card's monitor output (see diagram above).

Standard Connection



You must anchor the ASUS VR-100's mounting bracket with a screw to a free expansion slot in your computer chassis.

II. Hardware Installation

NOTE: This graphics card series can only be installed in motherboards with an AGP slot.

WARNING! Computer boards and components contain very delicate Integrated Circuit (IC) chips. To protect the computer board and other components against damage from static electricity, you must follow some precautions.

1. Make sure that you unplug your power supply when adding or removing expansion cards or other system components. Failure to do so may cause severe damage to both your motherboard and expansion cards.
2. Keep all components such as the host adapter in its antistatic bag until you are ready to install it.
3. 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. Hold components by the edges and try not to touch the IC chips, leads, or circuitry.
4. Place components on a grounded antistatic pad or on the bag that came with the component whenever the components are separated from the system.

Installation Procedures

New Systems

1. Unplug all electrical cords on your computer.
2. Remove the system unit cover.
3. Locate the AGP bus expansion slot. Make sure this slot is unobstructed.
4. Remove the corresponding expansion slot cover from the computer chassis.
5. Ground yourself to an antistatic mat or other grounded source .
6. Pick up the board (still in its sleeve) by grasping the edge bracket with one hand and then remove the plastic sleeve.
7. Position the card directly over the AGP slot and insert one end of the board in the slot first. Firmly but gently press the bus connector on the bottom of the card down into the slot. Be sure the metal contacts on the bottom of the host adapter are securely seated in the slot.
8. Anchor the board's mounting bracket to the computer chassis using the screw from the slot cover that you set aside previously.
9. Replace the cover on the system unit.
10. Connect your analog monitor's 15-pin VGA connector to the card and fasten the retaining screws (if any).
11. Connect other cables and devices if available -You are now ready to install the software drivers and utilities.

Systems with Existing VGA Card

1. Change your display driver to Standard VGA.
2. Shut down your computer and unplug all electrical cords.
3. Replace the existing VGA card with your graphics card.
4. Restart your computer.
5. Install the ASUS V7700 series display driver.

III. Windows 98

Operating System Requirements

NOTE: This graphics card requires a motherboard with an AGP slot.

Windows 98

Windows 98 supports full Direct3D and AGP features. If you are still using the beta version of Windows 98 and you want to fully take advantage the Direct3D and AGP features, you must upgrade your current Windows to the release version before installing the AGP display driver.

Windows 98 includes VGARTD for the major chipsets but it is recommended that you install VGARTD from the ASUS AGP-V7700 Series CD to make sure that you have the latest version of VGARTD (*see* **III. Windows 98 | Install GART Driver**).

NOTES

- VGARTD stands for Virtual Graphics Address Remapping Table Driver, which is necessary to use the DIME feature of AGP. DIME means Direct Memory Execute, which is accessed *directly* by most AGP chips (when VGARTD is installed) for complex texture-mapping operations.
- For other notes or release information, see the README files in the installation CD disc.
- This Manual assumes that your CD-ROM disc drive is drive D: and that Windows is in C:\WINDOWS. Replace either with the actual location, if necessary.

III. Windows 98

Driver Setup

You can use one of three methods to install the Windows 98 drivers for your ASUS AGP-V7700 series graphics card.

Method 2 and Method 3 will not install the appropriate AGP GART driver if your motherboard does not use the Intel AGPset. Installing the AGP GART driver will ensure that the AGPset's AGP functions are available. Method 2 and Method 3 will not install also the DirectX runtime libraries. DirectX must be installed so that your video player can take advantage of hardware acceleration. *See III. Windows 98 | Install GART Driver* and *III. Windows 98 | Install DirectX* later in this manual for the setup steps.

NOTE: The screen displays in this manual may not reflect exactly the screen contents displayed on your screen. The contents of the support CD are subject to change at any time without notice.

Method 1: ASUS Quick Setup Program

(For Windows 98/Windows 2000)

NOTE: *See III. Windows 98 | Drivers | Install Display Driver* for more information.

1. Start Windows.
2. Switch display to Windows' Standard Display Adapter (VGA) mode and then restart Windows.
3. Insert the CD installation disc into your CD-ROM drive.
4. The ASUS Windows 98 Install Shell appears. Click **Drivers** and then click **Install Display Driver** on the **Drivers** dialog box.



5. Follow the onscreen instructions to complete the setup.
6. When Setup has finished installing all the necessary files on your computer, it will prompt you to restart your computer. Click **Yes...** and then **Finish** to restart your computer and to complete Setup.

III. Windows 98

Method 2: Display Property Page

(For Windows 98)

1. Start Windows.
2. Switch display to Windows' Standard Display Adapter (VGA) mode and then restart Windows.
3. Right-click the Windows desktop and click **Properties**.
4. Click the **Settings** tab and then click **Advanced**. The **Standard Display Adapter (VGA) Properties** dialog box appears.



5. Click **Change** on the **Adapter** tab. The **Update Device Driver Wizard** dialog box appears. Click **Next**, click **Display a list of all the drivers...** and then click **Next**.
6. Click **Show all hardware** and then click **Have Disk...**. When the **Install From Disk** dialog box appears, type the location of the ASUSNV9X.INF file and then proceed to step 9. Otherwise, proceed to the next step.
7. Click **Browse** to search the CD-ROM drive. In the **Drives** box of the **Open** dialog box, select your CD-ROM drive and then click **OK**.
8. In the **Folders** box, double-click the WIN9x folder and then select ASUSNV9X.INF in the **File name** box.
9. Click **OK**. A list of video cards appears. Select your VGA card type for your operating system and then click **OK**.
10. The **Update Driver Warning** box appears. Click **Yes** to confirm the setting up of the ASUS enhanced display drivers and then follow the onscreen instructions to start the setup.
11. Setup will prompt you when it has finished installing all the necessary files on your computer. Click **Finish** to close Setup.
12. When you are returned to the **Standard Display Adapter (VGA) Properties** box, click **Close**. The **Display Properties** box appears. Click **Close**.
13. The system will prompt you to restart your computer. Click **Yes** to restart your computer and to complete Setup.

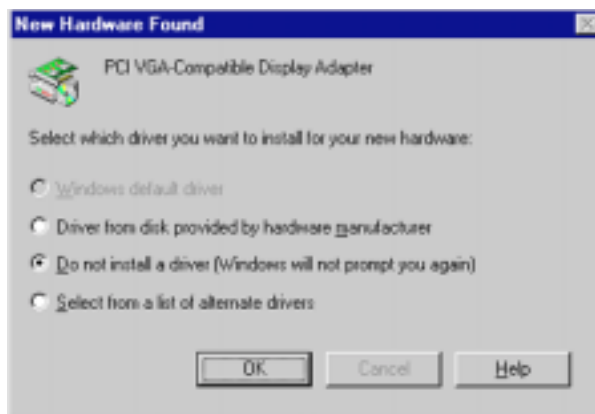
III. Windows 98

Method 3: Plug and Play

(For Windows 98)

NOTE: Before proceeding with these steps, replace first your old VGA card with an ASUS AGP-V7700 series graphics card.

1. Start Windows.
2. When Windows detects your ASUS AGP-V7700 series graphics card, the **New Hardware Found** dialog box appears.



3. Click **Driver from disk provided by hardware manufacturer**.
4. When Setup prompts you for the location of the driver, type D:\WIN9x to direct Setup to the INF file and then click **Finish** to install the driver.
5. When Setup has finished installing all the necessary files on your computer, it will prompt you to restart your computer. Click **Yes** to restart your computer and to complete Setup.

III. Windows 98

Drivers

Install Display Driver

1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

Click **Drivers**.



2. **Windows 98:** The **Drivers** box appears. Click **Install Display Driver** to install all the drivers and utilities into your computer. Setup will install the drivers in the following order: Display Driver (Direct3D and OpenGL Drivers), DirectX runtime libraries, and VGART driver. Just follow the on-screen instructions to complete the installation.

Windows 2000: Setup will only copy the display drivers.

Windows NT 4.0: SETUPNT.TXT will appear. Follow the instructions to install the display driver. You may refer to the installation procedures on page *xx*.



III. Windows 98
Install Display

If you prefer to install the drivers individually, follow the steps on the following pages.

III. Windows 98

Install DirectX (Windows 98 only)

Microsoft DirectX allows 3D hardware acceleration support in Windows 98. For Software MPEG support in Windows 98, you must first install Microsoft DirectX, and then an MPEG-compliant video player.

1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

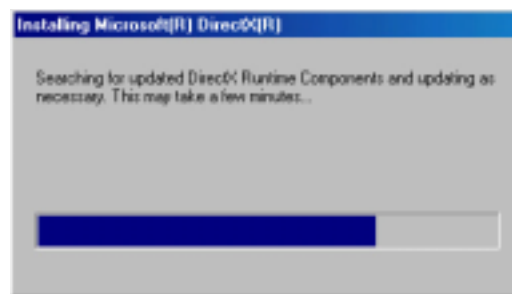
Click **Drivers**.



2. The **Drivers** box appears. Click **Install DirectX** to select the DirectX version you want to install.



3. The installation program will automatically install the DirectX 7 runtime libraries into your system.



4. Setup will prompt when it has finished copying all the files to your computer. Click **OK** to finish the installation.



WARNING! Some games written for older DirectX versions may not work properly under DirectX 7. Make sure that your applications or games support DirectX 7 before installing the DirectX 7 runtime libraries. DirectX 7 currently cannot be uninstalled by regular means, such as outlined in **III. Windows 98 | Uninstall Display Driver**.

III. Windows 98

Install GART Driver (Windows 98 only)

The AGP GART Driver is used to support AGP functionality for the chipset on your PC's motherboard. It is recommended to install the GART driver if it is newer than the one you have installed in your system. The GART driver is only necessary for an AGP graphics card.

NOTE: Installation dialogs are slightly different for each chipset. Follow the on-screen instructions to finish the GART driver installation. The succeeding steps assume that you are installing for an Intel chipset.

1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

Click **Drivers**.



2. The **Drivers** box appears. Click **Install GART Driver** to install AGP support for motherboards with Intel, AMD, VIA, SiS, or ALi chipsets.



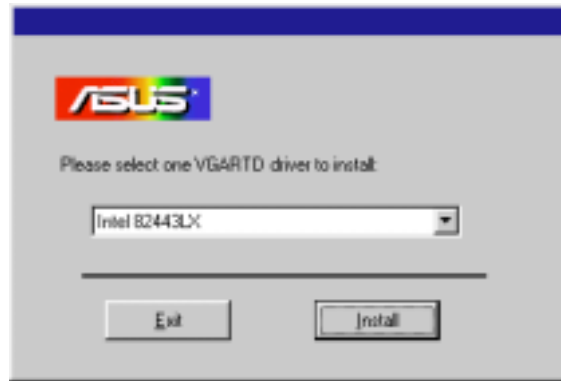
3. The **AGP VGARTD Driver Detection** box appears with the chipset detected on your motherboard. Click **OK** to install the appropriate driver for your AGPset.



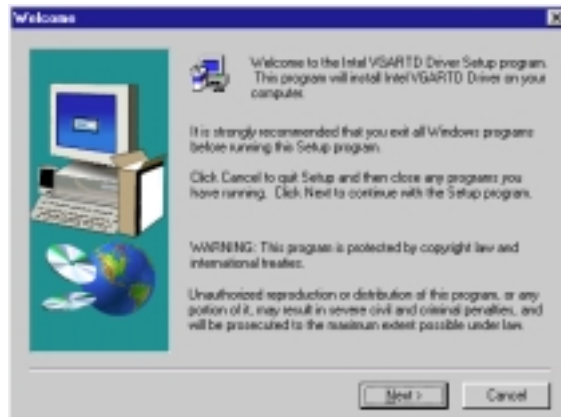
III. Windows 95/98
Install GART

III. Windows 98

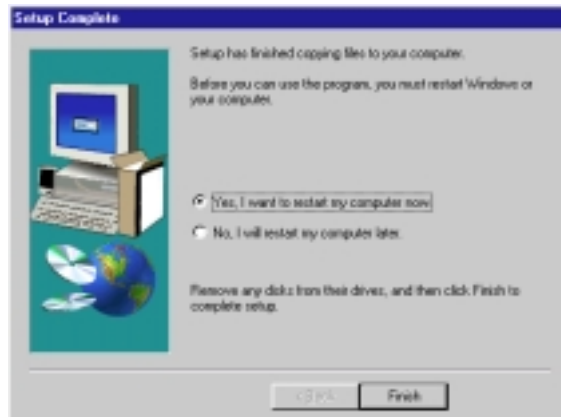
4. If you selected **No...**, on the previous screen before clicking **OK**, you will be presented with a selection of other drivers. Make your driver selection and click **Install**.



5. When the **Welcome** screen appears, click **Next** to continue.



6. Once the driver installation is finished, click **Finish**.



III. Windows 98

Install ASUS TWAIN Driver

ASUS TWAIN Driver is a frame capture driver for Adobe Photoshop®, an image editing software. With this driver, you can capture still images through Photoshop using the video input port of your card (Deluxe model only).

1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

Click **Drivers**.

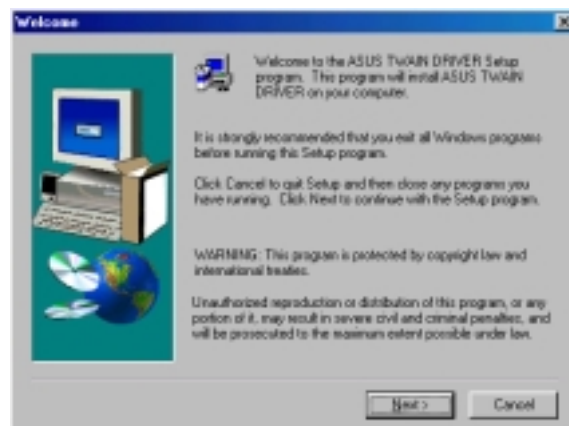


2. The **Drivers** box appears. Click **Install ASUS TWAIN Driver**.



3. When the **Welcome** box appears, click **Next** to start copying the files. Setup automatically starts copying the necessary files to the default folder.

To complete the installation, simply follow the on-screen instructions or prompts.



III. Windows 98
Install TWAIN Driver

III. Windows 98

Uninstall Display Driver

If you want to update your display drivers or if you no longer need the AGP-V7700 display drivers, you can use one of the following procedures to completely uninstall the drivers from Windows 98 to save disk space.

Using the Autorun Screen

1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

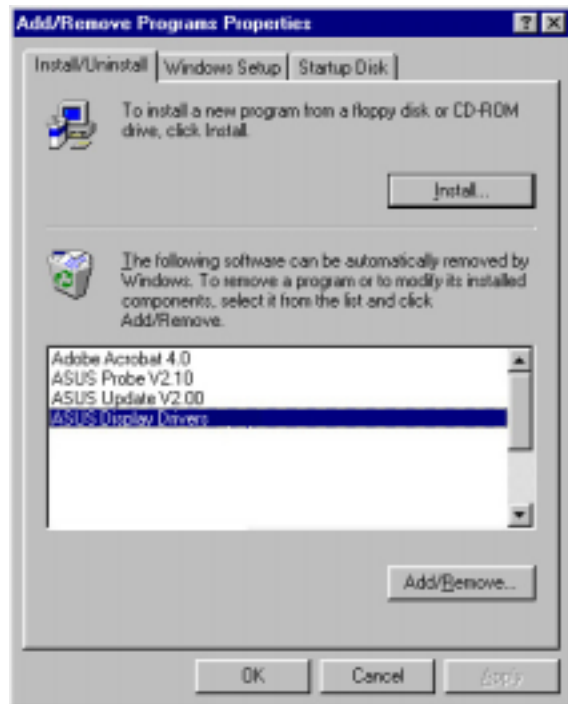
Click **Drivers**.

2. Click **Uninstall Display Driver** and follow the on-screen directions.



Using Windows 98 Control Panel

1. Click **Start**, and then point to **Settings**.
2. Click **Control Panel**.
3. Double-click the **Add/Remove Programs** icon.
4. Click the **Install/Uninstall** tab.
5. Click **ASUS V7700 Series Display Driver** from the list.
6. Click **Add/Remove**.
7. The system will prompt you to restart your computer. Click **Yes** to restart.



III. Windows 98

Run ASUS VGA Live Update (Windows 98 only)

The ASUS VGA Live Update is a utility that allows you to update your VGA card's BIOS and drivers. The use of this utility assumes that you are properly connected to the Internet through an Internet Service Provider (ISP).

1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

Click **Drivers** and when the **Drivers** box appears, click **Run ASUS VGA LiveUpdate**.



2. Select an update method from the drop-down list box and then click **Next**.
 - *Update BIOS/Driver from the Internet* lets you update the BIOS or driver from the Internet. The updating (running the flash utility or the installation program) will be done automatically.
 - *Download BIOS/Driver from the Internet* lets you download the BIOS or driver to a folder in your computer.



3. After you have selected your preferred update method, you will need to select an Internet site. Choose the site that is closest to you and then click **Next** or click **Auto Select**.

Follow any on-screen instructions or prompts to complete setup.



If you selected *Download BIOS/Driver from the Internet*, you will be prompted for a destination folder. Create or select an existing folder to save the file or files that you selected.



III. Windows 98
Run LiveUpdate

III. Windows 98

Install Acrobat Reader

Acrobat Reader is necessary for reading the PDF copy of this manual.

1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

Click **Utilities**.



2. The **Utilities** box appears. Click **Install Acrobat Reader**.



3. When the **Acrobat Reader x.x Setup** box appears, click **Next**.



To complete the installation, simply follow the on-screen instructions or prompts.

III. Windows 98

Install SmartDoctor

SmartDoctor is a utility that monitors the card's graphic chip state, alerting users about abnormal events, such as a fan malfunction or chip overheat. Likewise, the utility "cools" down the graphic chip temperature when it is idle or returns it to its maximum capability when necessary.

1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

Click **Utilities**.



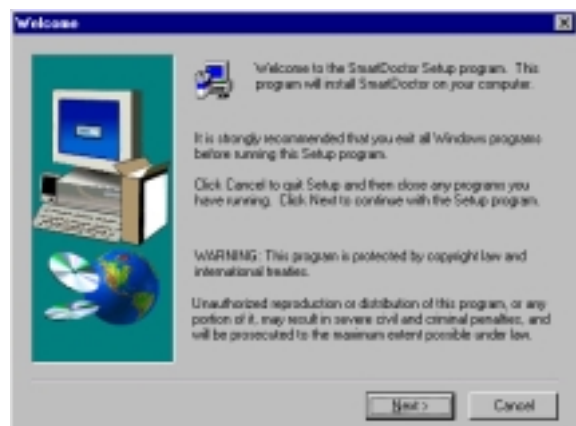
2. The **Utilities** box appears. Click **Install SmartDoctor**.

NOTE: If your graphics card is not equipped with a monitor IC, an error message warns you that monitor IC was not detected. The installation will abort. **SmartDoctor** works only with cards with a monitor IC.



3. When the **Welcome** box appears, click **Next** to start the installation.

To complete the installation, simply follow the on-screen instructions or prompts.



III. Windows 98

Install ASUS Tweak Utility

The ASUS Tweak Utility lets you control the core clock speed and the memory interface speed of your graphics card.

WARNING! Use this option with caution. Using this inappropriately may damage your card and cause your system to be unstable.

1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

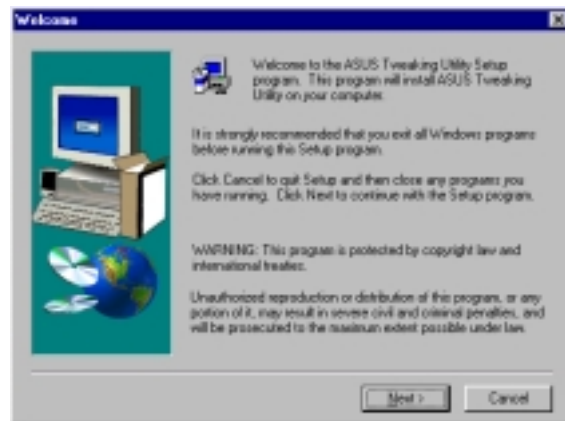
Click **Utilities**.



2. The **Utilities** box appears. Click **Install ASUS Tweak Utility**.



3. When the **Welcome** box appears, click **Next**.



To complete the installation, simply follow the on-screen instructions or prompts.

III. Windows 98

Using the Utilities



ASUS TWAIN Interface (Windows 98 only)

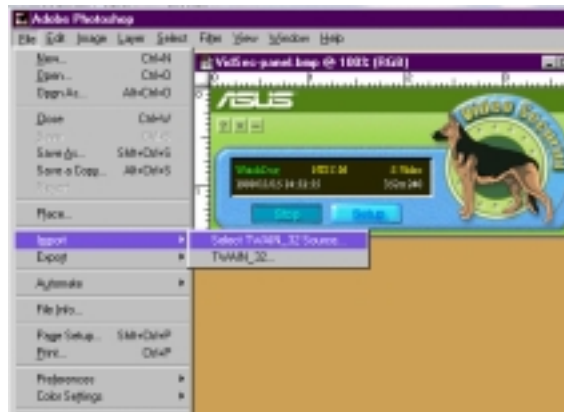
TWAIN is a cross-platform interface for acquiring images captured by scanners, digital cameras, and frame grabbers. The ASUS TWAIN Driver is currently supported only when used with Adobe Photoshop® (see www.adobe.com for details). If you already have Photoshop installed and you chose to install the ASUS TWAIN Driver, you can use Photoshop to import a still image using the ASUS TWAIN interface installed.

NOTE: The following steps assume that you are already running Photoshop and that you have already connected a compatible and working capture device, such as a web cam, to your system.

Using the ASUS TWAIN Interface for the First Time

1. From the **File** menu, click **Import** and then **Select TWAIN_32 Source** to specify the capture option.

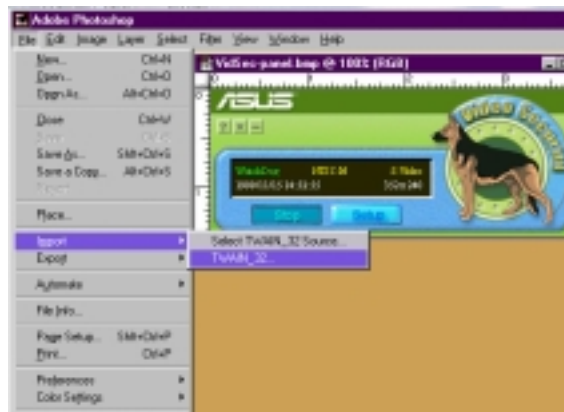
Select **ASUS Frame Capture Source**.



NOTE: You do not need to repeat this step for subsequent uses of the ASUS TWAIN module. If more than one TWAIN device is installed in your system and you want to switch devices, use **Select TWAIN_32 Source** command.

Importing an Image Using the ASUS TWAIN Interface

1. From the **File** menu, click **Import** and then **TWAIN_32**.



III. Windows 95/98
ASUS TWAIN

III. Windows 98

- When the ASUS TWAIN Driver utility appears, click **Options** and then **Video Format**.

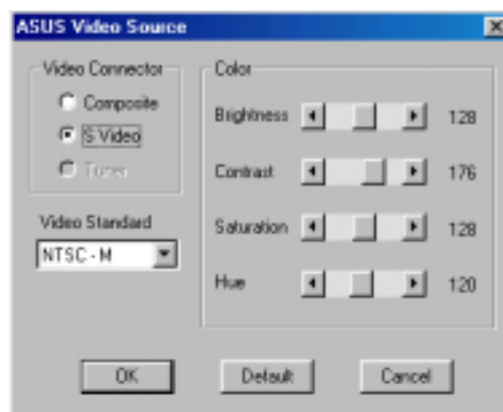


- In the **Image Format** list of the **ASUS Video Format** dialog box, click **24 bit RGB**.



- Click **Options** and then **Video Format** to select your video source. If desired or necessary, you may adjust the **Brightness**, **Contrast**, **Saturation**, and **Hue** of your image.

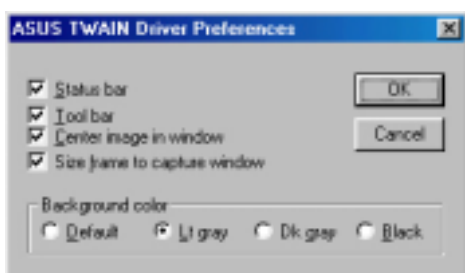
You are now ready to capture.





- To capture, click the capture button  or click the **Capture** menu and then **Single Frame**.

Other Options

Preferences Menu: Click to adjust the background color of your image and other options.



 **Toggle preview video:** Click button or click the **Options** menu and then **Preview** to toggle between the preview video options. A pressed button (or a checked **Preview** command) indicates that the preview is on and vice-versa.

 **Toggle overlay video:** Click button or click the **Options** menu and then **Overlay** to toggle between the overlay video options. A pressed button (or a checked **overlay** command) indicates that the overlay preview is on and vice-versa.

III. Windows 98

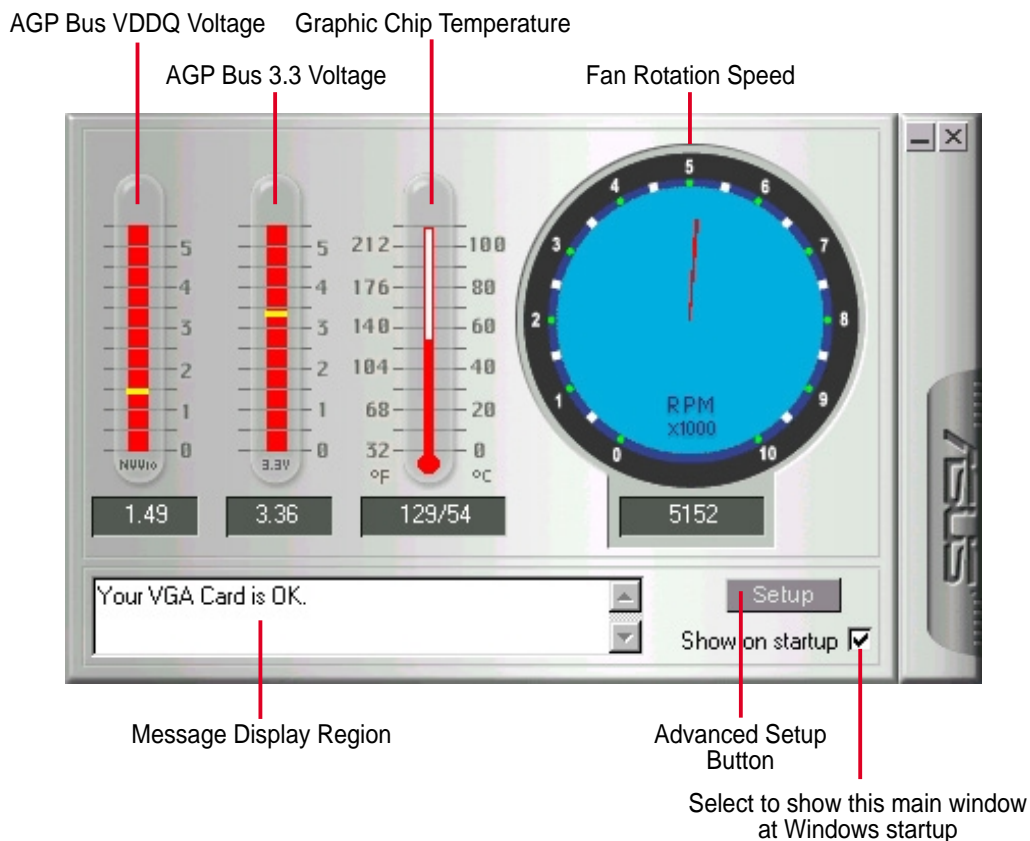


ASUS SmartDoctor

ASUS SmartDoctor is designed to satisfy two major goals. One is to monitor the graphic chip status, alerting users about abnormal events, such as fan malfunction or chip overheat. The other, as the name “SmartDoctor” implies, is to “cool” down the graphic chip smartly when it is not necessary for it to be kept running at full speed.

Functions

- Monitors graphic chip temperature, fan speed and voltage
- Notifies users about irregular hardware events, such as temperature overheat, fan malfunction, and out-of-safe-range voltage.
- Forcibly cools down the graphic chip when the graphic chip’s temperature is over an acceptable temperature, to protect the graphic chip from overheat damage.
- Cools down the graphic chip’s temperature when it is idle, and restores it to its maximum capability once needed, thus smartly extending the graphic chip’s lifetime.
- Cools down the CPU’s temperature (for Windows 95/98/98 Second Edition only) to lengthen CPU lifetime.

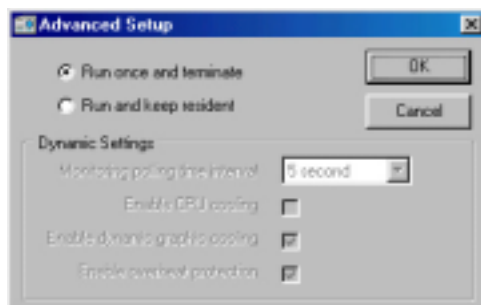


NOTE: AGPbus VDDQ Voltage and AGPbus 3.3 Voltage should be supplied steadily by your motherboard, otherwise, your system will crash.

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Advanced Setup

When you click the **Setup** button, the **Advanced Setup** dialog box appears.



The default setting of SmartDoctor is **Run once and terminate**, which means that SmartDoctor will run every time Windows starts and checks the graphic card's status.

If your graphics card is working properly, SmartDoctor will just exit or terminate in 5 seconds.

If you want SmartDoctor to continue running in the background and to monitor your graphic card's status, select **Run and keep resident**.

Dynamic Settings will become available when you select **Run and keep resident**.

- **Monitoring polling time interval** lets you specify the time intervals that SmartDoctor will take to check the graphic chip. The default setting is 5 seconds. You can choose a longer time interval value. SmartDoctor, however, will be less sensitive to graphic chip condition changes.
- **Enable CPU cooling** allows you to enable or disable the CPU cooling option. Enabling CPU cooling option will cool down the CPU's temperature when SmartDoctor detects that CPU is idle. The CPU's temperature will then drop.

NOTE: If you have already installed any CPU cooling software in your system, you should just choose only one. Running more than one CPU cooling software at the same time is redundant.

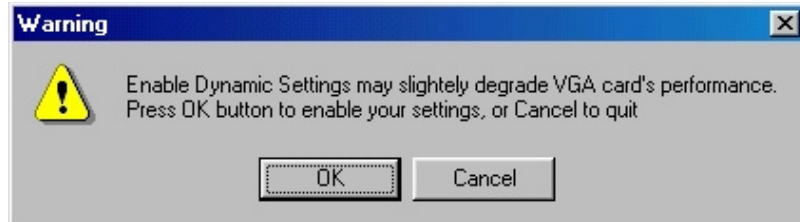
After CPU cooling is enabled, and when you run **System Monitor** in *Programs–Accessories–System Tools* to monitor CPU usage, you will find that CPU usage has reached its maximum, that is, 100%. Do not be alarmed—this is normal.

- **Enable dynamic graphic cooling** allows you to enable or disable the dynamic graphic cooling option. Enabling the graphic cooling option will cool down the graphic chip's temperature when SmartDoctor detects that the graphic chip is idle.

III. Windows 98

- **Enable overheat protection** lets you forcibly cool down the graphic chip when temperature is over the tolerable range or value.

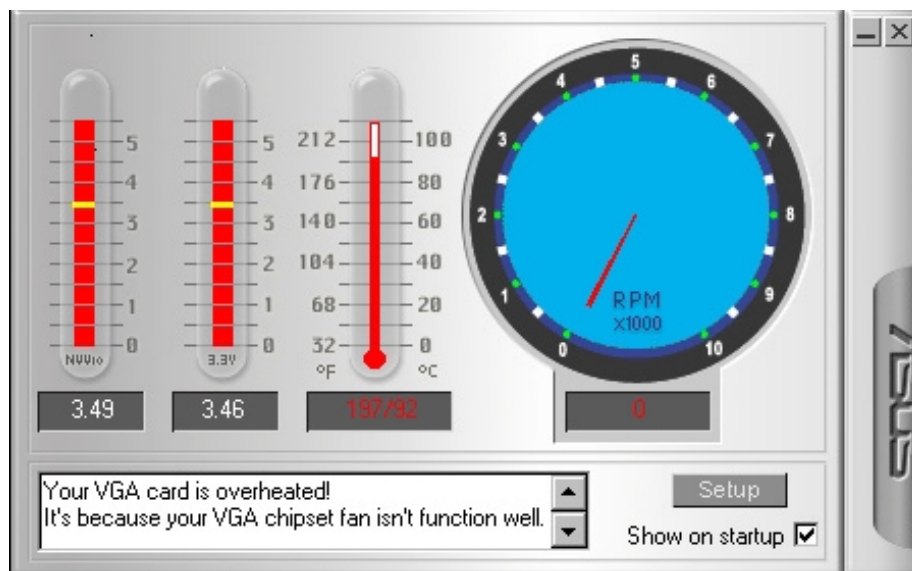
When you select **Run and keep resident** and then click **OK**, a dialog box appears to warn you of a possible graphic performance drop. This performance penalty is very slight and almost undetectable even under rigorous examination by benchmark programs.



Press **OK** to set your modifications or **Cancel** to retain the original settings

Abnormal Events

When SmartDoctor senses that something is wrong with your card's graphic chip, the message display region will display a detailed description of the error or trouble. The component in question will also have a flashing red value. If you enabled overheat protection in **Advanced Setup** dialog, SmartDoctor will cool down the graphic chip in time to protect it from possible overheat damage.



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ASUS Tweak Utility

WARNING! Use the ASUS Tweak Utility with extreme caution and only if you are well acquainted with your display card. Using this inappropriately may damage your card, its components, and your system.

To run the ASUS Tweak Utility, click **Start** and point to **Programs, Asus, Tweaking Utilities**, and then click **Tweak**.

Timing Adjustment

Timing Adjustment lets you adjust the working frequency of the graphic engine and video memory.

Graphics Speed

Engine

Lets you adjust the working frequency of the graphic engine

Memory

Lets you adjust the working frequency of the video memory.

Default

Restores the settings to their defaults.

Test settings

Lets you test your settings.

Use tweak settings on next startup

Selecting this allows you to use your settings when Windows starts.



III. Windows 98

Tweak Safe Mode Recovery

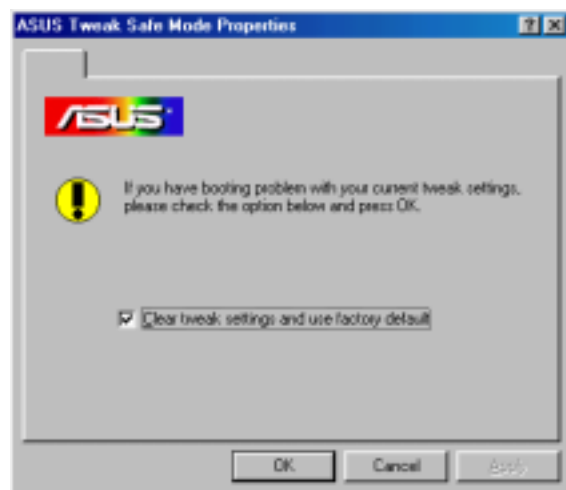
Timing Adjustment (Safe Mode) lets you restore the working frequency of the graphic engine and video memory to their factory default settings. This mode is used when you encounter problems when starting or restarting Windows using your customized tweak settings.

Using Tweak Safe Mode Recovery

1. Restart Windows in safe mode. To start Windows in safe mode, hold the F8 key until the Windows Startup Menu appears. For some machines and Windows 98, you can use CTRL to bring up the Startup Menu. Enter the number for **Safe mode** and then press ENTER.
2. In Windows, click **Start** and point to **Programs, Asus, Tweaking Utilities**, and then click **Tweak Safe Mode Recovery**.
3. The **ASUS Tweak Safe Mode Properties** box appears. Click the appropriate settings.

Timing Adjustment (Safe Mode)

Select the **Clear tweak settings and use factory default** box to change back the timing adjustment settings to their factory defaults and then click **OK** to restart Windows properly.



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ASUS Control Panel

(Windows 9x/Windows 2000 only)

After installation of the display drivers, you will find an ASUS icon on the taskbar's status area. Clicking or right-clicking this icon opens the ASUS Control Panel, showing a menu composed of shortcuts of the graphics board's enhanced and other functions.

NOTE: Instead of clicking the ASUS Control Panel icon, you may right-click the Windows95/98/2000 desktop, click **Properties**, and then click **Settings**. Under Windows98/2000, click **Advanced** after clicking **Settings**. Click the appropriate tab to change your display settings.



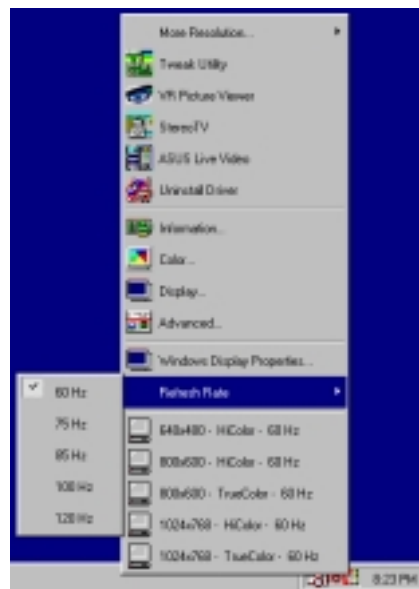
ASUS Control Panel icon 

Refresh Rate

Refresh Rate lets you change the refresh rate of your current screen resolution.

WARNING! Be sure that the refresh rate that you select is supported by your monitor. Selecting a refresh rate that is beyond your monitor's specification may damage it. **Press ESC to restore your original settings in case of problems.**

1. Click/right-click the ASUS Control Panel icon, point to **Refresh Rate**, and then click the desired refresh rate.



2. The system will prompt you whether you want to keep the setting you just selected. Click **OK** to keep the setting, otherwise, click **Cancel** or press ESC.

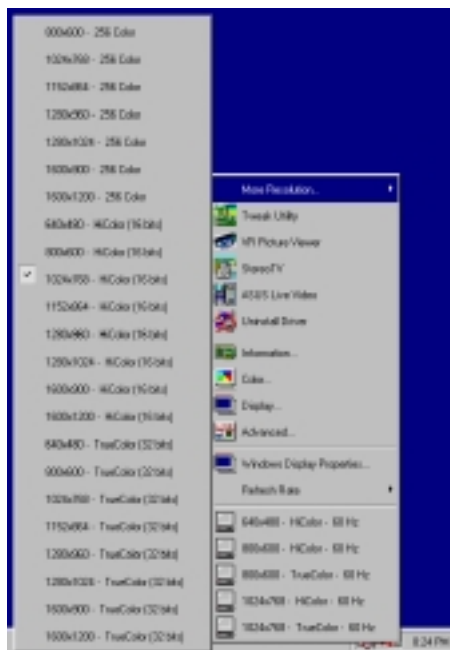


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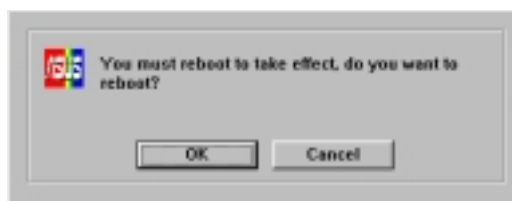
More Resolution

More Resolution lets you change the screen resolution of your monitor.

1. Click/right-click the ASUS Control Panel icon, point to **More Resolution**, and then click the desired screen resolution. The system will automatically set the resolution selected without restarting your computer.



WINDOWS95 USERS: You will be prompted to restart your computer if you select a screen resolution with a different color depth, for example, from 800x600 HiColor to 800x600 TrueColor. Click **OK** to restart your computer to make the change.



Information

Information lists the relevant information about your card. Aside from this, it has links to the ASUSTeK COMPUTER, INC. web site for updated information about the graphics board, latest drivers, and other information.



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More Resolution

III. Windows 98



Color

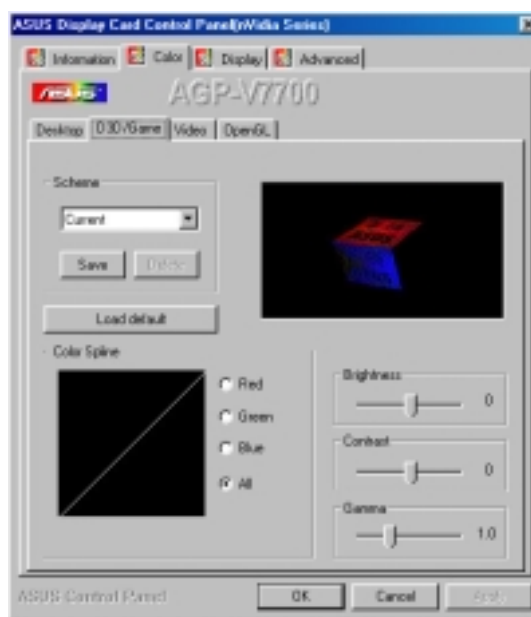
Color allows you to make color adjustments, such as brightness, contrast, and gamma values for each or all of the RGB colors. These adjustments can be made for Desktop, D3D/Game, Video, and OpenGL. The color settings of Desktop, D3D/Game, and OpenGL are not adjustable under 8-bit color depth.

Desktop

Desktop lets you adjust the color of your Windows desktop.

D3D/Game

D3D/Game lets you make your favorite color settings for D3D games.



Video

Video lets you make your favorite color settings for videos.

OpenGL

OpenGL lets you make your favorite color settings for OpenGL applications.



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General Functions

Brightness / Contrast / Gamma

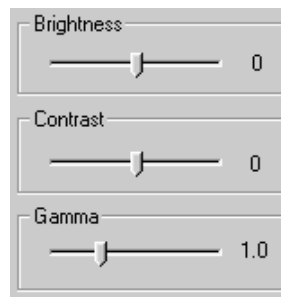
Brightness / Contrast / Gamma sliders let you calibrate the brightness, contrast, and gamma output of your display card.

Desktop

Changes to your color settings are shown immediately on your monitor. You may change the preview picture by clicking **Load** from the **Desktop** box.

D3D/Game / OpenGL

Changes to your color settings are shown immediately on your monitor.



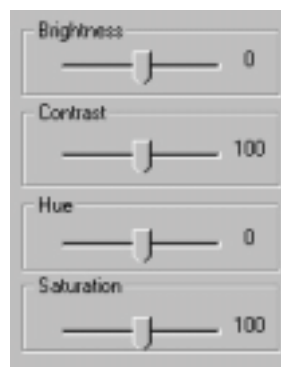
Dragging a slider to the left decreases the level and to the right increases it. The number at the right of each slider displays the brightness (value range: -128 to +128, default: 0), contrast (-30 to 30, default: 0), or gamma value (0.2 to 3.0, default: 1.0).

Brightness / Contrast / Hue / Saturation

Brightness / Contrast / Hue / Saturation sliders let you calibrate the brightness, contrast, hue, and saturation output of your display card.

Video

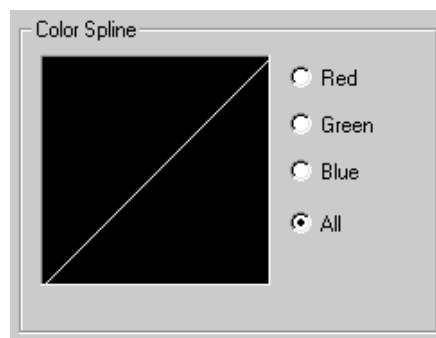
Changes to your settings can be viewed on the displayed picture (shown as race horses).



Dragging a slider to the left decreases the level and to the right increases it. The number at the right of each slider displays the brightness (value range: -100 to 100, default: 0), contrast (0 to 200, default: 100), hue (-180 to 180, default: 0), or saturation value (0 to 200, default: 100).

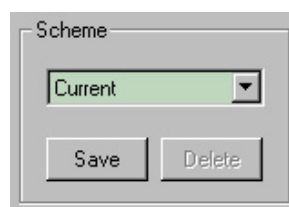
Color Spline

Color Spline shows how each (R, G, or B) or all channels are distributed when you move the Brightness, Contrast, or Gamma slider to make your adjustments. You can adjust all channels at once (**All**) or individual channels (**R**, **G**, or **B**).



Scheme

Scheme lists schemes that you can use to change the appearance of many screen elements simultaneously. You can use existing schemes, or create and save your own scheme by saving your current settings, or delete unwanted schemes. You may want to save a scheme that you created for some special situations, such as when you want to use the same settings when playing a certain game or a movie.



III. Windows 98

Important Notes

D3D/Game

The color settings of **D3D/Game** take effect only when you are playing a **full-screen** DirectDraw/Direct3D game.

Video

Only one overlay is allowed at a time with either ASUS AGP-V7700. That is, when you click *Video* first and then run your favorite video player, you can only see the adjustments you made to the settings in the preview window because the video player cannot use the hardware acceleration function (overlay). On the other hand, if you run your video player first before opening *Video*, the preview window will show a warning message. The message may also appear when you click *Video* and the dialog box is on the wrong monitor in a Windows 98 multiple display environment.

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Display

Display lets you make monitor adjustments, such as position, size, and refresh rate.

WARNING! Adjusting position or size, especially refresh rate is a highly dangerous operation. Selecting a value that is beyond your monitor's specification may damage it. **Press ESC to restore your original settings in case of problems.**

VGA

Adjustment

Position sets the screen position

Size sets the screen size

Synchronization

Adjusts the synchronization polarity settings

Disable Monitor Check

Lets you disable the specification check of your monitor. That is, you may select all the resolutions and refresh rates that the VGA card can support.

Note: Choosing a resolution or refresh rate beyond the monitor specifications may damage your monitor.

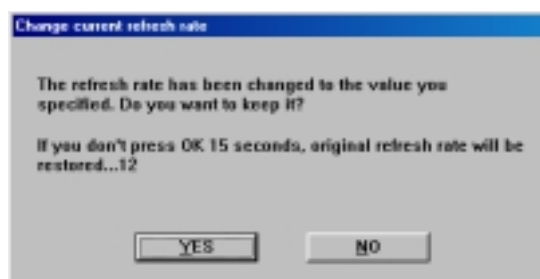
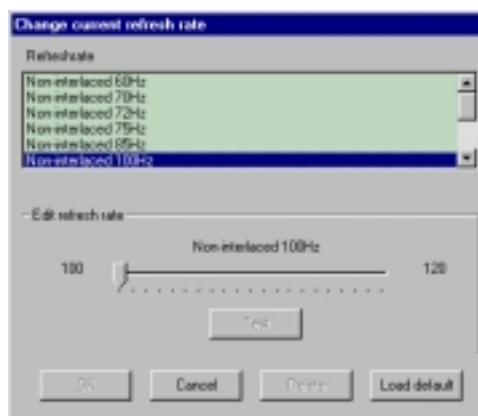


Change current refresh rate (Windows 9x only)

Displays the **Change current refresh rate** box to let you customize a new refresh rate.

To change the current refresh rate

1. Click **Change current refresh rate**.
2. In the **Refresh rate** list under **Change current refresh rate**, click the nearest default refresh rate and then adjust the **Edit refresh rate** slider to the rate you want, click **Test** and then click **YES** when prompted to add the new refresh rate into the list. Otherwise, the original refresh rate will be restored.



Load default

Restores the settings to their defaults.

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Change refresh rate

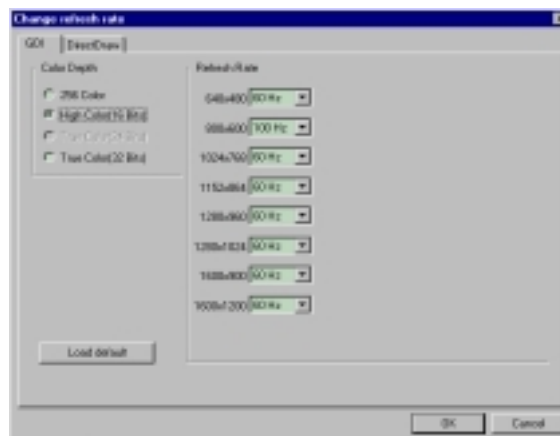
Displays the **Change refresh rate** box to let you change the refresh rate of any screen resolution.

GDI (for Windows 9x only)

GDI lets you change the refresh rate of the Windows desktop.

To change the refresh rate

1. Click **Change refresh rate**.
2. In the **Refresh Rate** list under the **GDI** tab, select the refresh rate you want to use. A **Test** button appears to let you test the selected refresh rate and resolution combination. Click **YES** when prompted whether to keep the new refresh rate. Otherwise, the original refresh rate will be restored.

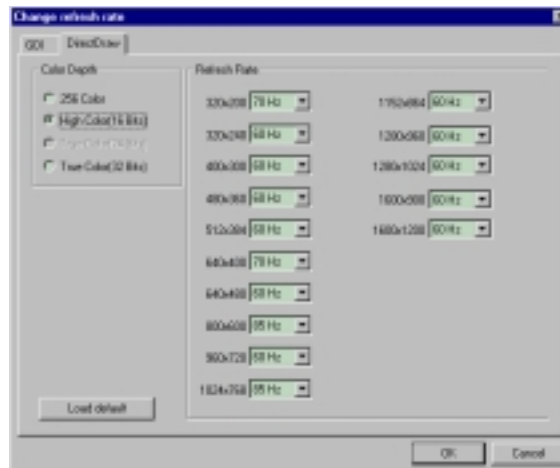


DirectDraw

DirectDraw lets you change the refresh rate of DirectDraw. It is most useful when you are playing a **full-screen** game.

To change the refresh rate

1. Click **Change refresh rate**.
2. In the **Refresh Rate** list under the **DirectDraw** tab, select the refresh rate you want to use.



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TV

NOTE: This tab is not available with the Pure model.

Position

Sets the screen position.

Standard

Sets the TV signal format, for example, PAL or NTSC.

Output type

Displays the connection status of composite and S-Video.

Scan type

Sets the scan type of the TV display.

Black Level

Sets the brightness of the TV display.

Contrast

Sets the contrast of the TV display.

Flicker Filter

Sets the anti-flicker effect.



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Advanced

Advanced provides some advanced settings for the ASUS VR-100G 3D Glasses (setting is available only with the ASUS Deluxe model or models with the ASUS VR-100 Optional Upgrade Kit) and Direct3D and OpenGL, which are software interfaces for your ASUS V7700 Series graphics cards.

Direct3D VR

VR Effect

Enable Stereoscopic Mode

When selected, this enables you to use the stereoscopic mode when playing games or watching 3D videos. This mode is available only with the ASUS Deluxe models or models with the ASUS VR-100 Optional Upgrade Kit.

NOTE: You must quit all running DirectDraw/ Direct3D applications and then restart them for this option to take effect.

Eyes

Distance between both eyes. Adjust this to bring objects into focus.

Distance

Distance between foreground objects and eyes. When set to a small value, eye fatigue may occur.

Embossment

The effect to make objects virtually pop out of the screen. When set to a too high value, eye fatigue may occur.

Background / Foreground

Background is the distance between background and eyes while **Foreground** is the distance between foreground and eyes. These two options form a range and allow you to adjust the degree of stereoscopic effect between this range. Several current games set their Foreground to 60 and Background to 100.

Mode

Line Interleave

Select for better compatibility with most monitors. Stereoscopic visual quality, however, will be poor because only half the number of vertical lines are generated with this mode.

Page Flipping

Select for the best stereoscopic visual quality. Your monitor must be able to support the high frequency (at least 100Hz) necessary for this mode.

Refresh Rate

To prevent eye discomfort and fatigue, high refresh rates are preferred. Some monitors, however, may not be able to support a high refresh rate. Make sure that your monitor supports a selected refresh rate; otherwise, your monitor may become unstable, for example, a blank screen may occur.



Blind

Lets you discard or crop the unwanted areas of your display. Setting this to 0 will not discard any of the display area.

Load Default

Restores the settings to their defaults.

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IMPORTANT: Before enabling stereoscopic mode and using your stereoscopic or 3D glasses (ASUS VR-100G), make sure that your monitor can support the selected refresh rate (interlaced mode) under the following display modes:

16 bits: 640 x 480, 800 x 600, 960 x 720, 1024 x 768, 1152 x 864

32 bits: 640 x 480, 800 x 600

WARNING! To prevent discomfort and eye fatigue when using your stereoscopic or 3D glasses, DO NOT try to use your 3D glasses for an extended period of time. Take frequent short breaks to give your muscles and eyes a chance to rest by taking off your 3D glasses and then looking up and focusing on distant objects.

On Screen Display (ASUS OSD) (Not available on Windows 2000)

Enable OSD

When selected, this lets you to adjust onscreen the settings of your 3D glasses and display card when playing games or watching 3D videos. These settings include **Eyes**, **Distance**, **Embossment**, **Background**, **Foreground**, **Blind**, **Brightness**, **Contrast**, and **Gamma**. See **III. Windows 98 | Advanced** for a description of the 3D glasses settings and **III. Windows 98 | Color** for a description of the display settings.

Use the UP or DOWN arrow keys on your keyboard to select a setting that you want to change or adjust and the PLUS or MINUS keys to move or drag the slider.

To restore the settings to their defaults, press the HOME key.

To close the onscreen display, press the END key.



Moto Racer 2™ is copyright © 1999 by Electronic Arts.

Hotkey

This lets you assign hot keys to enable onscreen display or OSD. To use this function, select **Enable OSD**. You may want to change the default hot key (CTRL + ALT + O) when it conflicts with hot keys of certain games, video players, or Windows programs.

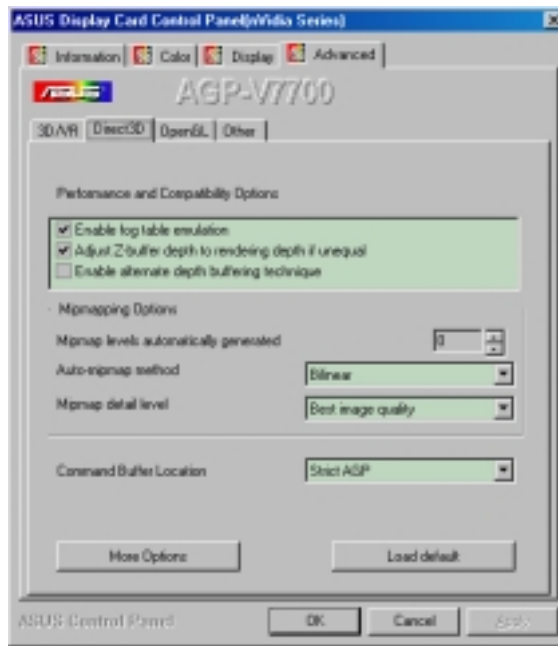
To change the default hot keys

1. With your mouse cursor in the **Hotkey** box, press the hot key combination of your choice (you can only define CTRL+ALT key combinations). Hot keys automatically include CTRL+ALT. Press any valid key (you cannot use ESC, ENTER, TAB, SPACEBAR, PRINT SCREEN, or BACKSPACE) you want to add to this combination. For example, to define the hot key combination CTRL+ALT+D, press D.

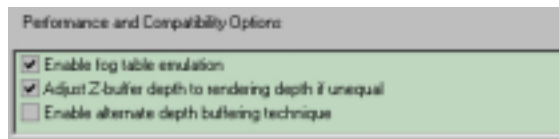
NOTE: The hot keys will be available only if you selected the **Enable OSD** check box and if you have either an ASUS Deluxe model or a model with the ASUS VR-100 Optional Upgrade Kit installed.

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Direct3D



Performance and Compatibility Options



Enable fog table emulation

Some old games do not correctly query the D3D 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

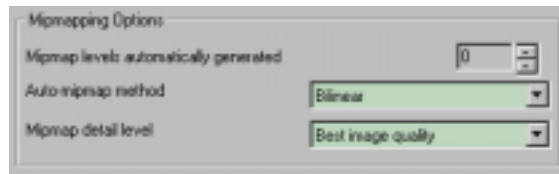
This option forces the hardware to automatically adjust the depth of its Z-buffer to the depth that the application requests. Normally, you will want to keep this option enabled, unless your work absolutely requires a specific Z-buffer depth.

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.

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Mipmapping Options



Mipmap levels automatically generated

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

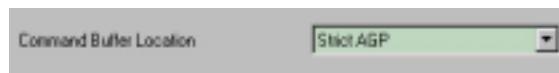
Auto-mipmap method

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 for mipmaps. A lower bias will increase the application performance.

Command Buffer Location



Command Buffer Location lets you choose the location of the command buffer. Default setting is **Strict AGP**.

Strict AGP

This option forces all the command buffer into the AGP memory. Choose for best performance.

PCI

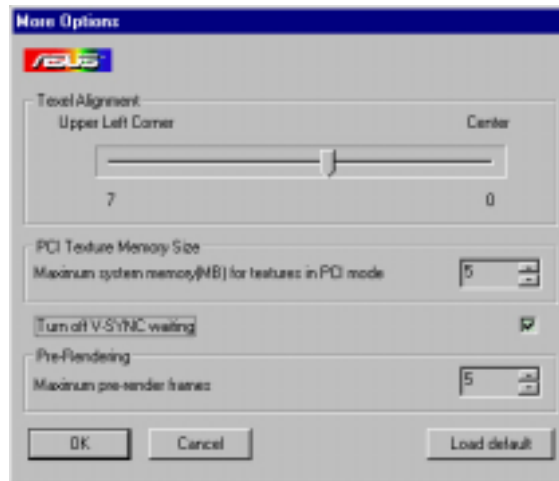
This option forces the command buffer to be created into the PCI memory. If you are experiencing stability problems with your system (especially with some Socket 7 motherboards), choose this option for better compatibility.

PCI with reduced heap

This option forces the command buffer to be created into the PCI memory. This, however, also reduces the AGP heap size by an amount equal to the size of the command buffer. If you are experiencing stability problems with your system (especially with some Socket 7 motherboards), choose this option for best compatibility. Performance is, however, poorer using this option compared with the **PCI** option.

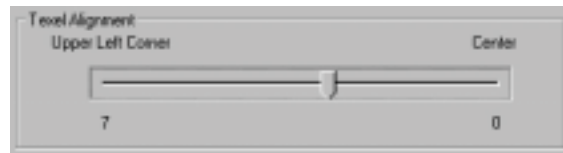
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More Options



Texel Alignment

Changing these values will change where the texel origin is defined. The default values conform to the Direct3D specifications. Some software may expect the texel origin to be defined elsewhere. The image quality of such applications will improve if the texel origin is redefined.

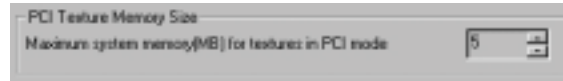


Dragging the slider to the left positions the texel origin toward the upper left corner and to the right positions it toward the center (range: 0 to 7, default: 3).

PCI Texture Memory Size

NOTE: This setting applies only to PCI display adapters or to AGP display adapters running in PCI compatibility mode.

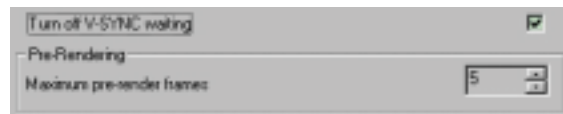
PCI Texture Memory Size lets you set the amount of system memory for texture storage.



Clicking the up arrow increases the memory size while clicking the down arrow decreases the size of system memory for textures. The maximum amount of system memory for texture storage depends on the physical memory installed on your system.

Turn off V-SYNC waiting

Turn off V-SYNC waiting lets an image to be immediately rendered to the screen without waiting to be synchronized with the vertical retrace of the monitor. This option allows for frame rates higher than the refresh rate of your monitor. This may, however, produce visual artifacts and tearing, resulting in reduced image quality.



Pre-Rendering

Maximum pre-render frames allows you to limit the number of frames the CPU can prepare before they are processed by the graphics chip when vertical sync is turned off. Reduce this value if you experience, while playing games, a noticeable delay in the response of the input devices connected to your computer.

III. Windows 98

OpenGL VR

VR Effect

Enable Stereoscopic Mode

When selected, this enables you to use the stereoscopic mode when running OpenGL 3D applications AND GAMES. This mode is available only with the ASUS Deluxe models or models with the ASUS VR-100 Optional Upgrade Kit.

Eyes

Distance between both eyes. Adjust this to bring objects into focus.

View Angle

The angle by which your two viewing directions intersect. To change this virtual viewing depth, adjust this value.

Embossment

The effect to make objects virtually pop out of the screen. This is done by setting this field to a high value. When set to a too high value, eye fatigue or discomfort may occur due to focusing problems. To achieve a better stereoscopic visual quality, set **Embossment** in conjunction with **View Angle**.



Mode

Line Interleave

Select for better compatibility with most monitors. Stereoscopic visual quality, however, will be poor because only half the number of vertical lines are generated with this mode.

Page Flipping

Select for the best stereoscopic visual quality. Your monitor must be able to support the high frequency (at least 100Hz) necessary for this mode.

Refresh Rate

To prevent eye discomfort and fatigue, high refresh rates are preferred. Some monitors, however, may not be able to support a high refresh rate. Make sure that your monitor supports a selected refresh rate; otherwise, your monitor may become unstable, for example, a blank screen may occur.

IMPORTANT: Before enabling OpenGL stereoscopic mode and using your stereoscopic or 3D glasses (ASUS VR-100G), make sure that you select a high resolution. The equivalent Stereo Mode resolution of a particular resolution is lower, thus:

16 bits:	2048x1536	→	1024x768	Stereo Mode
32 bits:	1280x960	→	640x480	Stereo Mode
	1280x1024	→	640x480	Stereo Mode
	1600x900	→	800x600	Stereo Mode
	1600x1200	→	800x600	Stereo Mode

III. Windows 98

On Screen Display (OpenGL OSD)

Enable OSD

When selected, this lets you to adjust onscreen the settings of your 3D glasses and display card when playing games or watching 3D videos. These settings include **Eyes**, **View Angle**, **Embossment**, **Brightness**, **Contrast**, and **Gamma**. See **III. Windows 98 | Advanced** for a description of the display settings.

Use the UP or DOWN arrow keys on your keyboard to select a setting that you want to change or adjust and the PLUS or MINUS keys to move or drag the slider.

To restore the settings to their defaults, press the HOME key.

To close the onscreen display, press the END key.



Unreal Tournament™ is copyright © 1999 by Epic Games, Inc.

Hotkey

This lets you assign hot keys to enable onscreen display or OSD. To use this function, select **Enable OSD**. You may want to change the default hot key (CTRL + ALT + O) when it conflicts with hot keys of certain games, video players, or Windows programs.

To change the default hot keys

1. With your mouse cursor in the **Hotkey** box, press the hot key combination of your choice (you can only define CTRL+ALT key combinations). Hot keys automatically include CTRL+ALT. Press any valid key (you cannot use ESC, ENTER, TAB, SPACEBAR, PRINT SCREEN, or BACKSPACE) you want to add to this combination. For example, to define the hot key combination CTRL+ALT+D, press D.

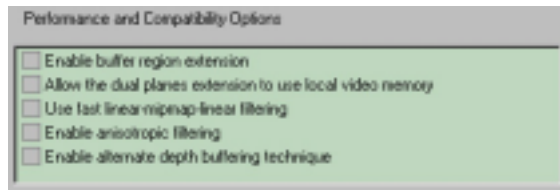
NOTE: The hot keys will be available only if you selected the **Enable OSD** check box and if you have either an ASUS Deluxe model or a model with the ASUS VR-100 Optional Upgrade Kit installed.

III. Windows 98

OpenGL



Performance and Compatibility Options



Enable buffer region extension

This option allows the drivers to use the OpenGL extension `GL_KTX_buffer_region`.

Allow the dual planes extension to use local video memory

This option allows the use of local video memory when the `GL_KTX_buffer_region` extension is enabled.

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 mechanism, for depth buffering in 16-bit applications. Enabling this setting produces higher quality rendering of 3D images.

III. Windows 98

Default color depth for textures



Default color depth for textures determines whether textures of a specific color depth should be used by default in OpenGL applications. Options are **Use desktop color depth** (default), **Always use 16 bpp**, and **Always use 32 bpp**.

Buffer flipping mode



Buffer flipping mode determines the buffer flipping mode for full-screen OpenGL applications. Options are **Auto-select** (default), **Use block transfer**, and **Use page flip**.

Vertical sync



Vertical sync lets you specify how vertical sync is handled in OpenGL. Options are **Always off** (default), **Off by default**, and **On by default**.

Maximum system memory (MB) for textures in PCI mode



Maximum system memory (MB) for textures in PCI mode lets you set the amount of system memory for texture storage.

NOTE: This setting applies only to PCI display adapters or to AGP display adapters running in PCI compatibility mode.

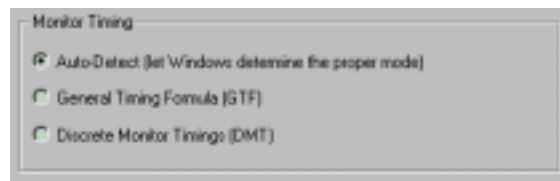
Clicking the up arrow increases the memory size while clicking the down arrow decreases the size of system memory for textures. The maximum amount of system memory for texture storage depends on the physical memory installed on your system.

III. Windows 98

Other



Monitor Timing



Monitor Timing lets you select the proper timing mode for your monitor.

Auto-Detect (let Windows determine the proper mode)

This option allows Windows to receive the proper timing information directly from the monitor itself. This is the default setting.

NOTE: Some older monitors may not support this feature.

General Timing Formula (GTF)

GTF is a standard used by most new hardware.

Discrete Monitor Timings (DMT)

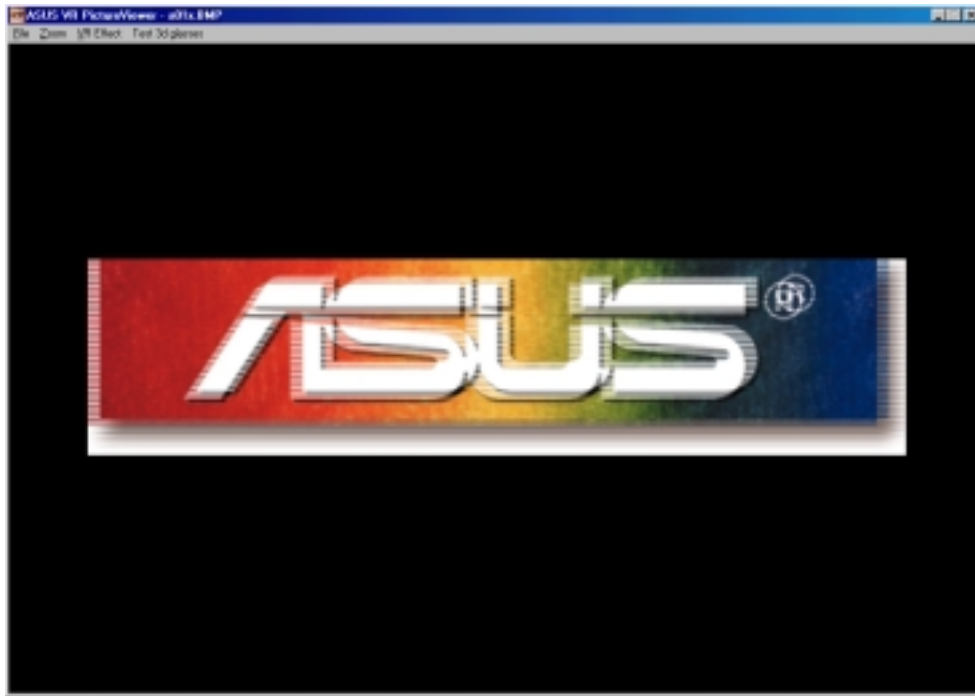
DMT is an older standard still in use on some hardware. Select this option if your hardware requires DMT.

III. Windows 98



ASUS VR PictureViewer (optional)

ASUS VR PictureViewer lets you view stereo images, size your stereo image, set the VR effect of your 3D glasses (ASUS VR-100G), and test your 3D glasses' functionality.

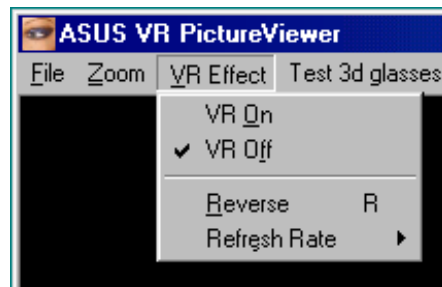


III. Windows 98
VR PictureViewer

To run ASUS VR PictureViewer, click or right-click the ASUS Control Panel icon (see **III. Windows 98 ASUS Control Panel**) on the taskbar's status area to display the ASUS Control Panel, point to **VR PictureViewer**, and then click it.

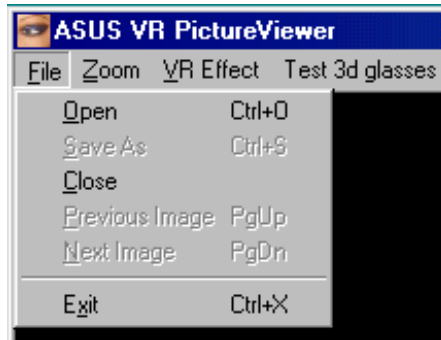
Opening or Displaying a Stereoscopic or 3D File

1. Click the **VR Effect** menu and then click **VR On** to enable stereoscopic display.



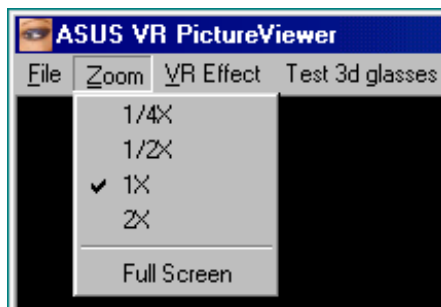
III. Windows 98

2. Click the **File** menu and then click **Open** to select a file. Select the file from the **Open** dialog box or select another folder and then click **Open**. The 3D image appears on the VrViewer main window (see preceding page for an opened 3D image file. Note that the 3D effect is not shown in this picture).



Changing the View

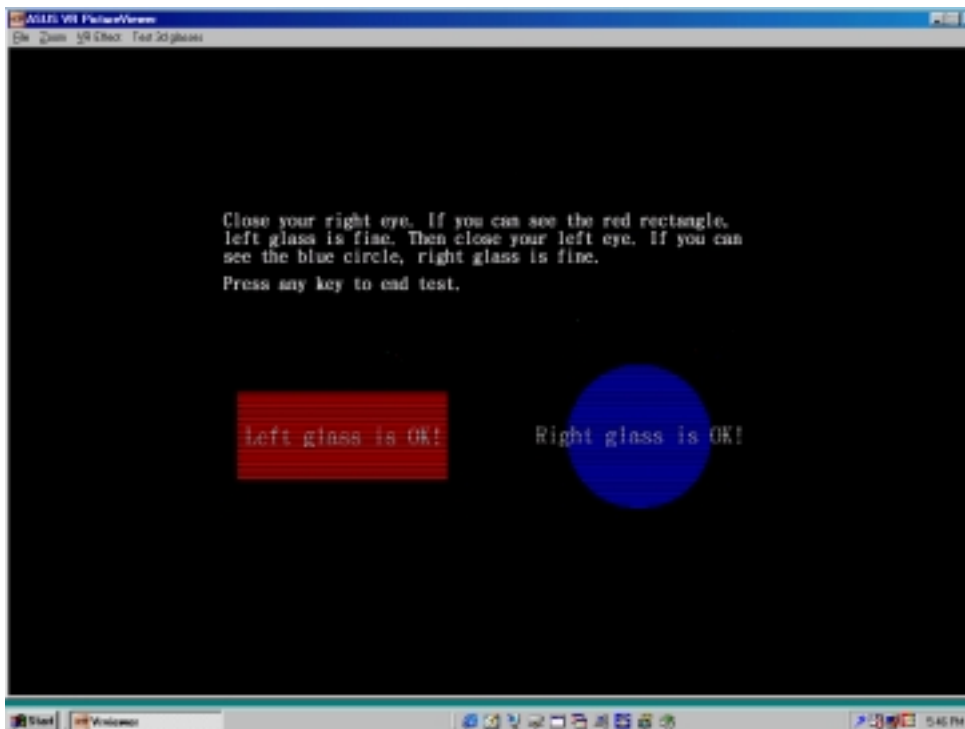
1. Click the **Zoom** menu and then click the desired zoom percentage.



III. Windows 98
VR PictureViewer

Testing the 3D Glasses

1. Click the **Test 3D glasses** and then follow the onscreen instructions.



III. Windows 98



ASUS StereoTV (optional)

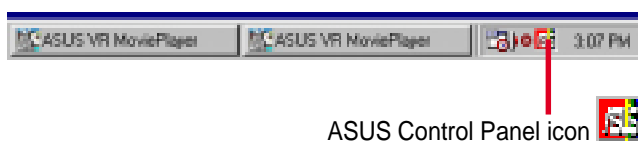
(Windows 9x only)

NOTE: The ASUS StereoTV utility can only be used with the Deluxe model.

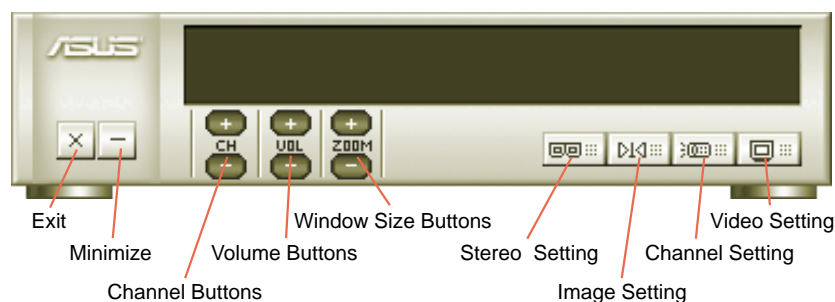
It can be used to view stereo video images with the optional 3D glasses (ASUS VR-100G) using your monitor or TV as screen from traditional consumer devices, such as videocassette players, camcorders, digital cameras, and laser disc players through the onboard RCA or SVHS VIDEO-IN connectors.

NOTE: You should already have installed DirectX 7 or higher to use ASUS StereoTV (see **III. Windows 98 Install DirectX**)

To run **StereoTV**, right-click the ASUS Control Panel icon on the taskbar's status area to display the ASUS Control Panel, point to **StereoTV**, and then click it.



ASUS VR MoviePlayer



Buttons and Functions

Channel Buttons

Clicking selects the next higher channel while pressing selects the next lower channel.

Volume Buttons

Clicking increases the volume while pressing decreases the volume.

Window Size Buttons

Clicking increases the window size while pressing decreases the window size.

Stereo Setting

Use this button to toggle between non-stereoscopic and stereoscopic mode.

Image Setting

Use this button to view correctly a stereoscopic image. For example, with a space inverted pseudoscopic spatial image, where the background appears in front and the foreground in the back. (**Hotkey:** R).

III. Windows 98

Channel Setting

Use this button to select an appropriate cable standard for your video system.

IMPORTANT! Be sure that the system and standard of the country where you will be installing your card is set appropriately. For example, you should have the NTSC model if you plan to use your card in countries with NTSC systems, PAL-BGHI model in countries with PAL-BGHI systems, or PAL-4.43 model in countries with PAL-4.43 systems.

Video Setting

Use this button to select the video format (**Options:** NTSC, PAL-BGHI, PAL-4.43) and video source (**Options:** Composite, Video).

Minimize Button

Clicking this button minimizes the ASUS VR MoviePlayer.

Exit Button

Clicking this button closes **StereoTV**.

IV. Windows NT 4.0

Install Display Driver

WARNING! Before installing the display driver in Windows NT 4.0, make sure that you have installed **Windows NT 4.0 Service Pack3 or later, to take full advantage of the ASUS AGP-V7700 AGP features.** (You may download service packs at <http://www.microsoft.com/networkstation/downloads>.)

NOTE: The following steps assume your CD-ROM drive letter is D.

Installation Procedures

1. Start Windows NT, switch display properties to VGA mode (16 colors, 640 x 480 pixels), then restart your computer to make the change.
2. After your computer restarts, right-click the desktop and click **Properties**.
3. Click the **Settings** tab.
4. Select **Change Display Type**.
5. Select **Adapter Type** and click **Change**.
6. Click **Have Disk**.
7. Insert the CD installation disc.
8. Type **D:\NT40** or click **Browse** to select the path of the display driver for Windows NT. Click **OK**.
9. Select **ASUS V7700** 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 files are copied, go back to the **Display Properties** box by clicking **Close**. Click **Apply**.
11. The **System Settings Change** dialog box is displayed. Click **Yes** to restart Windows.
12. Windows NT will restart with the default settings. The Display applet will appear to allow for mode selection.

V. Resolution Table

Resolution	Vertical Frequency	Horizontal Frequency	Color Depth		
			8bpp = 256 colors Standard	16bpp = 65K colors High Color	32bpp = 16.7M colors True Color
640 x 480	60Hz	31.5	✓	✓	✓
	70Hz	34.9	✓	✓	✓
	72Hz	37.9	✓	✓	✓
	75Hz	37.5	✓	✓	✓
	85Hz	43.3	✓	✓	✓
	100Hz	51.0	✓	✓	✓
	120Hz	61.8	✓	✓	✓
	140Hz	72.9	✓	✓	✓
	144Hz	75.2	✓	✓	✓
	150Hz	78.7	✓	✓	✓
	170Hz	90.3	✓	✓	✓
	200Hz	108.0	✓	✓	✓
240Hz	132.9	✓	✓	✓	
800 x 600	60Hz	37.9	✓	✓	✓
	70Hz	43.8	✓	✓	✓
	72Hz	48.2	✓	✓	✓
	75Hz	46.9	✓	✓	✓
	85Hz	53.7	✓	✓	✓
	100Hz	63.7	✓	✓	✓
	120Hz	77.2	✓	✓	✓
	140Hz	91.1	✓	✓	✓
	144Hz	94.0	✓	✓	✓
	170Hz	112.7	✓	✓	✓
	200Hz	135.1	✓	✓	✓
	240Hz	166.2	✓	✓	✓
1024 x 768	60Hz	48.4	✓	✓	✓
	70Hz	56.4	✓	✓	✓
	72Hz	57.5	✓	✓	✓
	75Hz	60.0	✓	✓	✓
	85Hz	68.7	✓	✓	✓
	100Hz	81.7	✓	✓	✓
	120Hz	98.8	✓	✓	✓
	140Hz	116.6	✓	✓	✓
	144Hz	120.2	✓	✓	✓
	150Hz	125.7	✓	✓	✓
	170Hz	144.1	✓	✓	✓
	200Hz	172.8	✓	✓	✓
240Hz	212.1	✓	✓	✓	
1152 x 864	60Hz	53.7	✓	✓	✓
	70Hz	62.9	✓	✓	✓
	72Hz	64.9	✓	✓	✓
	75Hz	67.5	✓	✓	✓
	85Hz	77.1	✓	✓	✓
	100Hz	91.3	✓	✓	✓
	120Hz	111.2	✓	✓	✓
	140Hz	131.3	✓	✓	✓
	144Hz	135.2	✓	✓	✓
	150Hz	141.4	✓	✓	✓
	170Hz	162.9	✓	✓	✓
	200Hz	194.9	✓	✓	✓
1280 x 960	60Hz	60.0	✓	✓	✓
	70Hz	69.9	✓	✓	✓
	72Hz	72.1	✓	✓	✓
	75Hz	75.2	✓	✓	✓
	85Hz	86.0	✓	✓	✓
	100Hz	101.7	✓	✓	✓
	120Hz	123.5	✓	✓	✓
	140Hz	145.1	✓	✓	✓
	144Hz	150.5	✓	✓	✓
	150Hz	157.2	✓	✓	✓
170Hz	179.8	✓	✓	✓	

V. Resolution

V. Resolution Table

Resolution	Vertical Frequency	Horizontal Frequency	Color Depth		
			8bpp = 256 colors Standard	16bpp = 65K colors High Color	32bpp = 16.7M colors True Color
1280 x 1024	60Hz	64.0	√	√	√
	70Hz	74.6	√	√	√
	72Hz	76.8	√	√	√
	75Hz	80.0	√	√	√
	85Hz	91.3	√	√	√
	100Hz	108.5	√	√	√
	120Hz	131.7	√	√	√
	140Hz	155.9	√	√	√
	144Hz	159.6	√	√	√
	150Hz	167.3	√	√	√
1600 x 900	60Hz	55.9	√	√	√
	70Hz	65.6	√	√	√
	72Hz	67.5	√	√	√
	75Hz	70.5	√	√	√
	85Hz	80.4	√	√	√
	100Hz	95.3	√	√	√
	120Hz	115.4	√	√	√
	140Hz	136.8	√	√	√
	144Hz	140.4	√	√	√
	150Hz	146.8	√	√	√
1600 x 1200	60Hz	75.0	√	√	√
	70Hz	87.5	√	√	√
	72Hz	90.1	√	√	√
	75Hz	94.0	√	√	√
	85Hz	106.1	√	√	√
	100Hz	127.5	√	√	√
1920 x 1080	60Hz	67.1	√	√	√
	70Hz	78.7	√	√	√
	72Hz	81.1	√	√	√
	75Hz	84.6	√	√	√
	85Hz	96.4	√	√	√
	100Hz	113.9	√	√	√
1920 x 1200	60Hz	74.6	√	√	√
	70Hz	87.4	√	√	√
	72Hz	90.0	√	√	√
	75Hz	94.0	√	√	√
	85Hz	106.7	√	√	√
	100Hz	126.7	√	√	√
1920 x 1440	60Hz	89.4	√	√	√
	70Hz	104.9	√	√	√
	72Hz	108.5	√	√	√
	75Hz	112.5	√	√	√
	85Hz	129.4	√	√	√
2048 x 1536	60Hz	95.5	√	√	√
	70Hz	111.9	√	√	√
	72Hz	115.3	√	√	√
	75Hz	121.3	√	√	√

VI. Troubleshooting

Description	Recommended Action
<i>After installation and re-starting, Windows 95/98 informs me that the display setting is still incorrect.</i>	<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.
<i>My monitor is not capable of high resolution or refresh rate.</i>	<ul style="list-style-type: none">• It depends on the display characteristics of your monitor. Consult your monitor documentation for the proper configuration.
<i>DirectX or the other applications report no AGP memory available.</i>	<ul style="list-style-type: none">• Windows 95 is not OSR2.1 or later.• DirectX version is not 6.0 or later.• You have not installed appropriate drivers for the AGP chipset. (e.g. VGARTD.VXD for Intel 440LX).• Incorrect BIOS setting. BIOS must support at least 64MB for AGP aperture size.
<i>Games or applications report “No 3D acceleration hardware found.”</i>	<ul style="list-style-type: none">• 3D works only in 16- 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.
<i>I cannot enable AGP memory or run I-Base test.</i>	<ul style="list-style-type: none">• You may be using a motherboard with an Aladdin IV AGPset. To get the best compatibility, the display card uses AGP Bus Master mode instead of AGP execute mode for motherboards using this AGPset.
<i>My MPEG player displays bad quality video clips.</i>	<ul style="list-style-type: none">• 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. Switching to a lower mode allows your player to use hardware acceleration mode.• Switch dual view mode to VGA or TV mode.
<i>I can't use VideoSecurity with my USB CCD or IEEE 1394 CCD.</i>	<ul style="list-style-type: none">• VideoSecurity currently only supports S-Video or Composite CCDs. Any device used must be connected to an ASUS video card.
<i>I am using Video Security and it seems my hard disk space is almost exhausted.</i>	<ul style="list-style-type: none">• This is a very important issue when you decide to use VideoSecurity with the “never stop” option. You must be aware of the free space of your hard disk—it must be enough for storing temporary files in the current working directory. If disk space is exhausted, VideoSecurity will not store any information and give you a warning message.

VI. Troubleshooting

I am using VideoSecurity and I set the password option. I have forgotten my password, though. Is there a way to recover my password?

- The only way to remove password protection is to recall the original password that you assigned. The password protection is still active even when you uninstall VideoSecurity and install a new copy. Make sure that the password that you assigned can be easily remembered. You may write down your password and store it in a safe place.

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Compact Professional Notebook PC

- 14.1" TFT Color Display
- 450MHz to 700MHz+
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- 13.3" or 12.1" TFT Color Display
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	Pentium® III Pentium® II Support	PC100 ECC Max. Memory (GB)	Ultra2 SCSI Onboard (Channels)	5.25" Fixed Storage Devices	Hot-Swap Trays
AP100	1	1	1	3	0
AP200	2	1	1	3	0
AP2000	2	1	1	4	3 or 5*
AP2500	2	1	1	4	3 or 5*
AP3000	2 Xeon™	2	2	4	3 or 5*
AP6000	2	1	1	4	8**
AP7500	2	1	1	4	8**
AP8000	2 Xeon™	2	2	4	8**

* Three 1.6-inch or five 1-inch SCA-2 SCSI hard drives

** Eight 1.6-inch or 1-inch SCSI hard drives

Mid-Range Servers

AP6000
AP7500
AP8000

Value Servers

AP2000
AP2500
AP3000

Group Servers

AP100
AP200



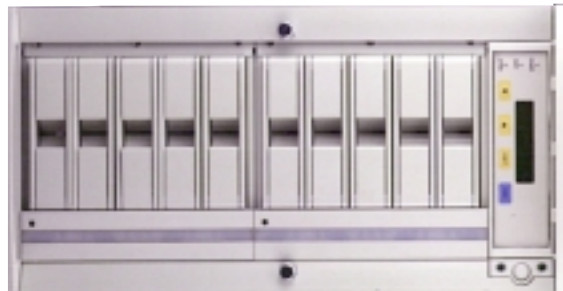
Rack Mountable

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ASUS AR1000 RAID Sub-system

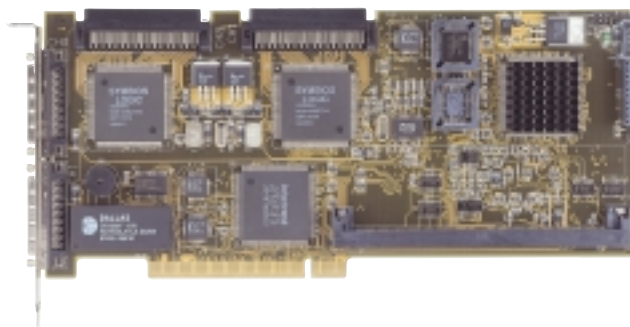
with DA3000 SCSI-to-SCSI RAID Controller

- Supports 5x86 RAID processor and two 72-pin SIMM sockets for up to 128MB cache memory
- Supports three Ultra2 SCSI channels; up to 80MB/sec data transfer rate
- Supports multiple Host/Drive channel capacity
- Redundant controller capacity
- Supports non-RAID, RAID levels 0, 1, 0+1, 3, 5
- On-line failure drive rebuilding
- Automatic rebuilding — supports local/global spare drive
- On-line expansion capacity
- Supports SAF-TE (SCSI Accessed Fault-Tolerant Enclosure) feature
- Provides LCD panel and RS-232 port to configure RAID
- Ten 1.0" or six 1.6" Ultra2 SCSI SCA-2 hot-swappable drive bays
- 19" rack mountable (height: 5U)
- LED for hard disk power and working status
- Two 8cm system fans and four 6cm drive fans
- Aluminum disk arrays for easy heat dissipation
- 350W redundant power supply



ASUS PCI-DA2100/2200 Series SCSI RAID Card

- PCI-DA2100 series support 4x86 DX4-100 processor
- PCI-DA2200 series support 5x86-133 processor
- One 72-pin SIMM socket supports up to 128MB cache memory
- RAID levels 0, 0+1, 3, 5, non-RAID
- PCI-DA2100A supports Ultra Wide SCSI interface and dual channels
- PCI-DA2200A supports Ultra2 SCSI interface and single channel
- PCI-DA2200B supports Ultra2 SCSI interface and dual channels
- Automatic bad sector reassignment
- Supports both global and local spare drive operation
- Background rebuilding
- PCI rev. 2.1 compliant
- Up to 8 logical drives and 8 partitions per logical drive; number of drives for each logical drive has no limitation



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ASUS® 8x DVD-ROM Drive



- Industry-leading performance for even the most demanding applications
- Maximum transfer rate: 8X DVD-ROM / 40X CD-ROM
- High speed digital audio extraction
- Supports UltraDMA/33 transfer mode
- Complies with MPC3 standard
- Supports Multi-Read function

ASUS® Ultra-Fast CD-ROM



- Supports high speed CD-Audio playback
- Supports high speed digital audio extraction
- Supports UltraDMA/33 transfer mode
- Compatible with all CD formats
- Supports multi-read function (CD-R/CD-RW)

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