ASUS® V3800 Series

3D Multimedia Accelerator

USER'S MANUAL

Hardware & Video Drivers

AGP-V3800 Pro Series

AGP-V3800 Magic Series

AGP-V3800 Combat Series

PCI-V3800 Series

USER'S NOTICE

The product name and revision number are both printed on the product itself. Manual revisions are released for each product design represented by the digit before and after the period of the manual revision number. Manual updates are represented by the third digit in the manual revision number.

For previous or updated manuals, BIOS, drivers, or product release information, contact ASUS at http://www.asus.com.tw or through any of the means indicated on the following page.

Product Name:	**ASUS V3800 Series**
Manual Revision:	**1.06 E667**
Release Date:	**December 2000**

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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.

I. Introduction

Thank you for purchasing an ASUS V3800 Series Graphics and Video Accelerator. With the NVIDIA RIVA TNT2™/TNT2™ M64™ built in, the ASUS V3800 Series graphics cards provide you with extremely fast acceleration in 2D/3D graphics and high quality scalable video playback, which can fully support 3D Business, Gaming, and Multimedia Applications.

Highlights

- Supports professional graphics design, gaming, learning, and business applications
- Flicker-free, high refresh rates for less eyestrain
- Powerful 3D rendering
- Crisp, realistic images
- Striking cinema-quality video

Available Models

AGP Series

ASUS AGP-V3800 Pro Series

- **AGP-V3800 Pro/Deluxe** (32/16MB Frame Buffer)
  VGA + Video-In + TV-Out + 3D Glasses (ASUS VR-100G Bundled Free!)
- **AGP-V3800 Pro/TV** (32/16MB Frame Buffer)
  VGA + Video-In + TV-Out (ASUS VR-100 Upgradeable)
- **AGP-V3800 Pro/T** (32/16MB Frame Buffer)
  VGA + TV-Out (ASUS VR-100 Upgradeable)
- **AGP-V3800 Pro/Pure** (32/16MB Frame Buffer)
  Pure VGA (ASUS VR-100 Upgradeable)

ASUS AGP-V3800 Magic Series

- **AGP-V3800M/T** (32/16 MB Frame Buffer)
  VGA + TV-Out (ASUS VR-100 Upgradeable)
- **AGP-V3800M/Pure** (32/16MB Frame Buffer)
  Pure VGA (ASUS VR-100 Upgradeable)

ASUS AGP-V3800 Combat Series

- **AGP-V3800 Combat** (16/8MB Frame Buffer)
  Pure VGA (ASUS VR-100 Upgradeable)

I. Introduction

PCI Series

ASUS PCI-V3800 Series

- **PCI-V3800/TV** (32/16MB Frame Buffer)
  VGA + Video-In + TV-Out (ASUS VR-100 Upgradeable)
- **PCI-V3800/T** (32/16MB Frame Buffer)
  VGA + TV-Out (ASUS VR-100 Upgradeable)
- **PCI-V3800/Pure** (32/16MB Frame Buffer)
  Pure VGA (ASUS VR-100 Upgradeable)

Specific Features

AGP-V3800 Pro Series

- Built-in NVIDIA RIVA TNT2™ Pro 128-bit 3D Graphics and Video Accelerator
- 300MHz Palette-DAC

AGP-V3800 Magic Series

- Built-in NVIDIA RIVA TNT2™ M64™ 128-bit 3D Graphics and Video Accelerator
- 300MHz Palette-DAC

AGP-V3800 Combat Series

- Built-in NVIDIA RIVA TNT2™ VANTA™ 128-bit 3D Graphics and Video Accelerator
- 250MHz Palette-DAC

PCI-V3800 Series

- Built-in NVIDIA RIVA TNT2™ Pro 128-bit 3D Graphics and Video Accelerator
- 300MHz Palette-DAC
- PCI Slot Support

I. Introduction

Common Features

- **AGP Series only:** Bus mastering AGP V2.0 slot interface with full sideband and "Execute" model support
- Optimized for Direct3D acceleration with complete support for DirectX 5.0 and 6.x features, such as multi-texturing, bump mapping, texture modulation, light maps, full-scene anti-aliasing, and Trilinear and 8-tap Anisotropic filtering (better than Trilinear Mip mapping)
- OpenGL ICD support in Windows 95/98, Windows NT, and Windows 2000
- TwiN-Texel (TNT) 32-bit graphics pipeline providing 2 texture mapped, lit pixels per clock and single pass multi-texture rendering
- 32-bit ARGB rendering with destination alpha, 16- or 24-bit Z buffer, 8-bit stencil buffer
- 100% hardware triangle setup engine
- High performance 128-bit 2D/GUI/DirectDraw acceleration
- Planar YUV12 (4:2:0) to/from packed (4:2:2) Color Space Conversion for software MPEG acceleration and H.261 video conferencing applications
- DVD sub-picture alpha blend compositing
- Video Acceleration for DirectShow MPEG 1/2 and Indeo
- VESA DDC2B+, DPMS, VBE 2.0/3.0 support

I. Introduction

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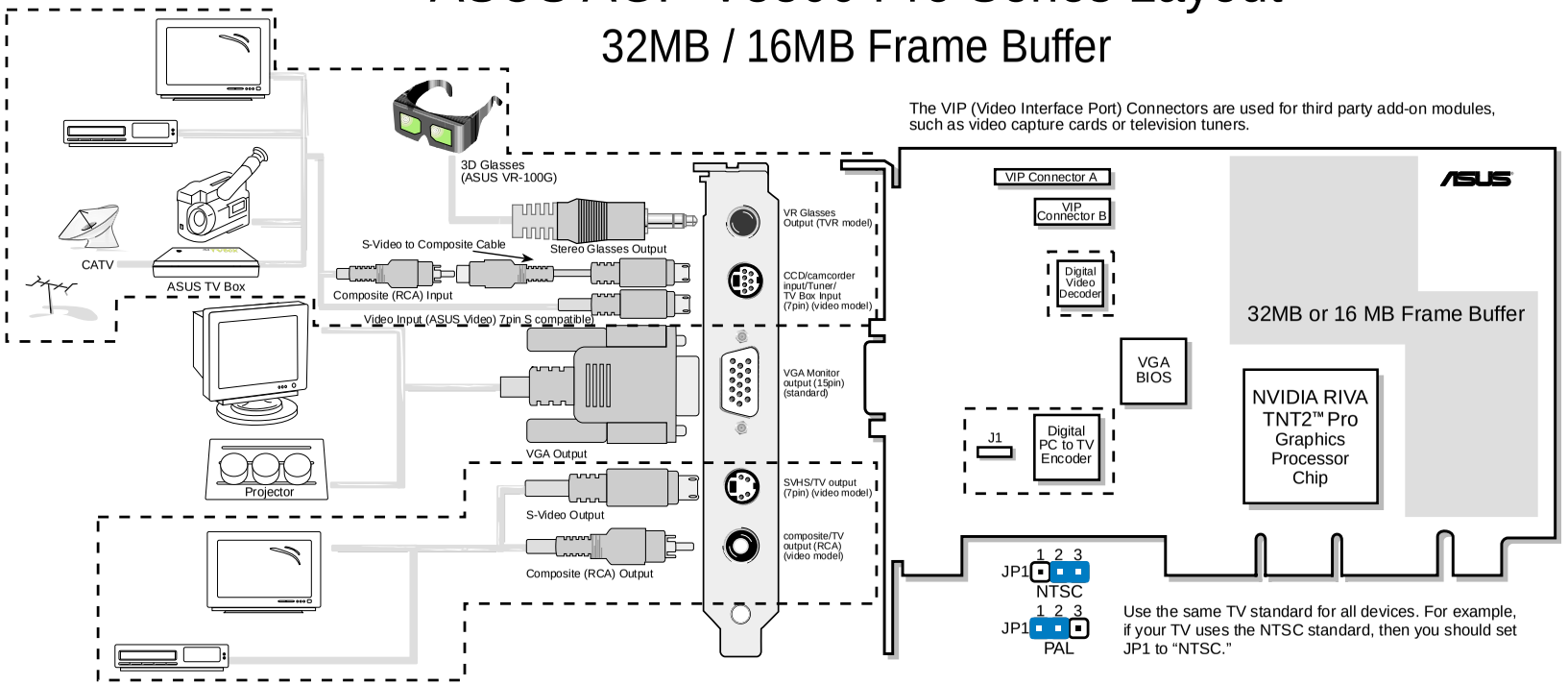
ASUS AGP-V3800 Pro Series Layout

32MB / 16MB Frame Buffer



Item Checklist

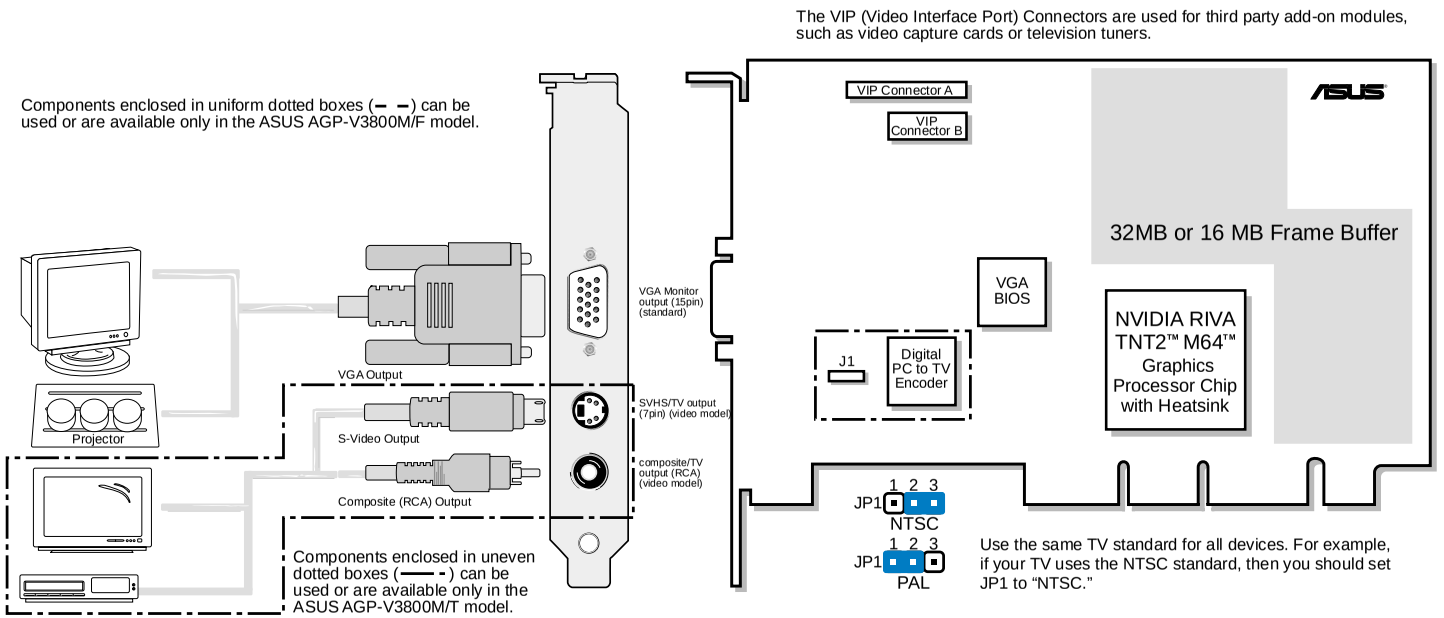
- ☑ ASUS AGP-V3800 Series card (PAL or NTSC)
- ☑ **All except Pure:** Video-in and TV-out cables
  T model: TV-out cable only
- ☑ **Pro/Deluxe only:** ASUS VR-100G
  All other models: ASUS VR-100 upgradeable (*see* page 15)
- ☑ This User's Manual (with Adobe® Acrobat® PDF copy)
- ☑ ASUS V3800 Series Driver & Utility CD Disc

NOTES

- Components enclosed in dotted boxes are not available in the Pure model of this Series.
- Use the same TV standard for all devices.
-  and  cannot be connected at the same time.

ASUS AGP-V3800 Magic Layout

32MB / 16MB Frame Buffer



Item Checklist

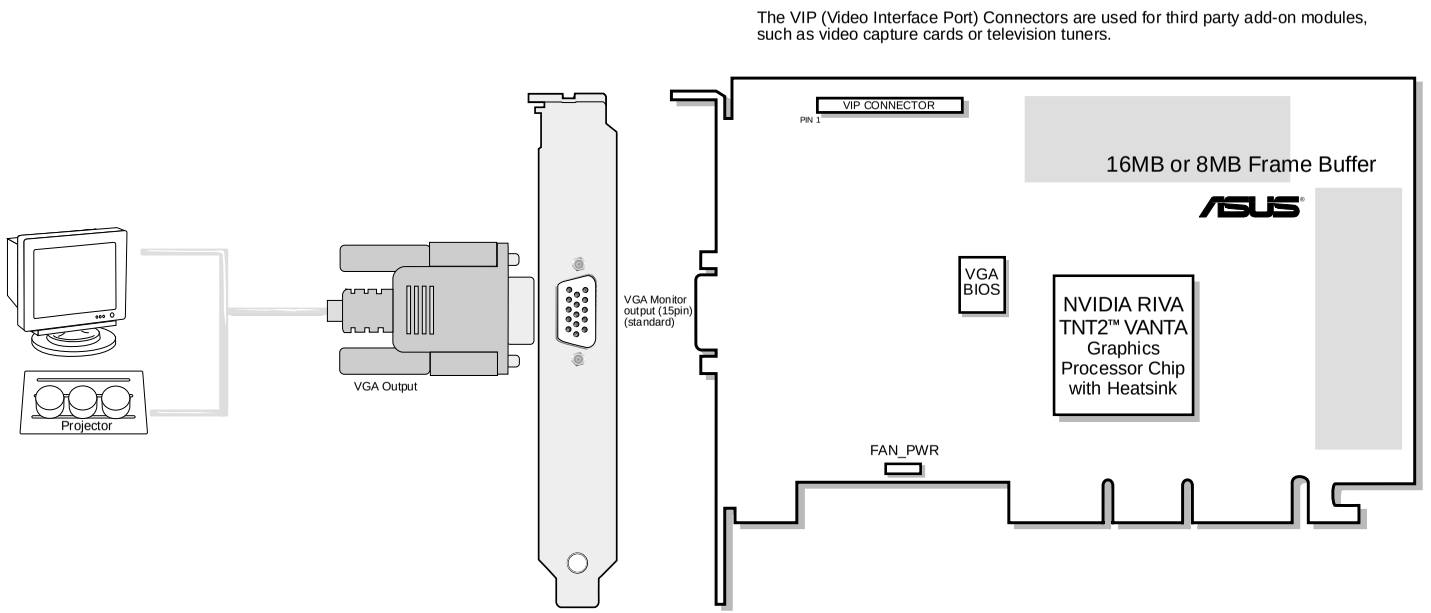
- ☑ ASUS AGP-V3800 Magic Series card (PAL or NTSC)
- ☑ **All except Pure:** TV-out cable
- ☑ ASUS VR-100 upgradeable (*see* page 15)
- ☑ This User's Manual (with Adobe® Acrobat® PDF copy)
- ☑ ASUS V3800 Series Driver & Utility CD Disc

NOTE

- Components enclosed in dotted boxes are not available in the Pure model of this Series.
- Use the same TV standard for all devices.

ASUS AGP-V3800 Combat Layout

16MB / 8MB Frame Buffer

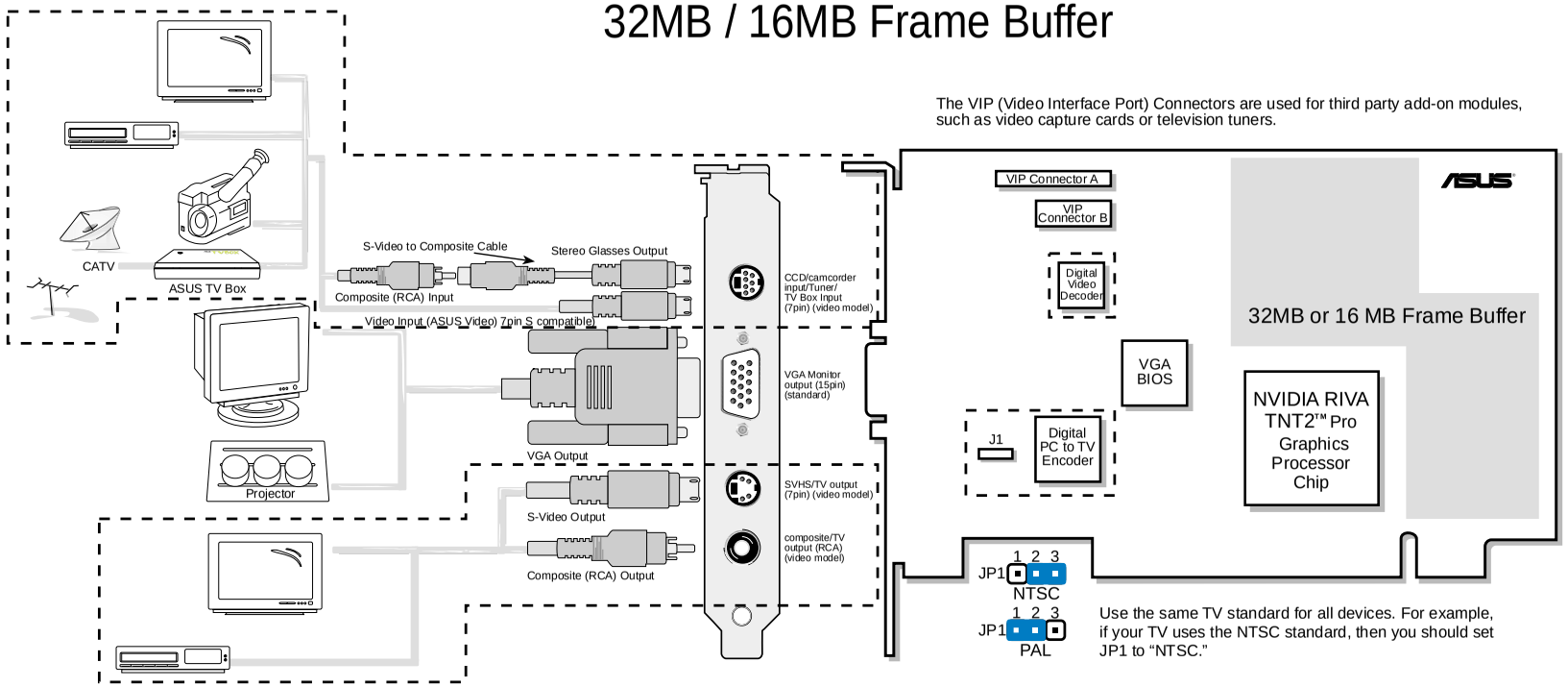


Item Checklist

- ☑ ASUS AGP-V3800 Combat Series card
- ☑ ASUS VR-100 upgradeable (*see* page 15)
- ☑ This User's Manual (with Adobe® Acrobat® PDF copy)
- ☑ ASUS V3800 Series Driver & Utility CD Disc

ASUS PCI-V3800 Series Layout

32MB / 16MB Frame Buffer



Item Checklist

- ☑ ASUS PCI-V3800 Series card (PAL or NTSC)
- ☑ **TV model:** Video-in and TV-out cables
  T model: TV-out cable only
- ☑ ASUS VR-100 upgradeable (*see* page 15)
- ☑ This User's Manual (with Adobe® Acrobat® PDF copy)
- ☑ ASUS V3800 Series Driver & Utility CD Disc

NOTES

- Components enclosed in dotted boxes are not available in the Pure model of this Series.
- Use the same TV standard for all devices.
- and cannot be connected at the same time.

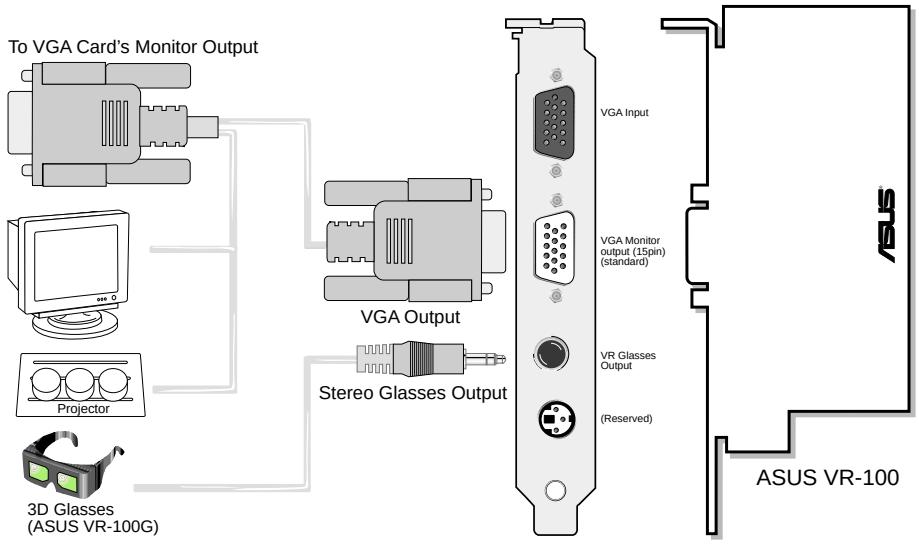
II. Hardware Setup

ASUS VR-100 Optional Upgrade Kit

The ASUS VR-100 Optional Upgrade Kit enables the ASUS VR-100G 3D Glasses to be used with non-TVR models of the V3800 Series cards. *See* your dealer for more information on the ASUS VR-100 Optional Upgrade Kit.

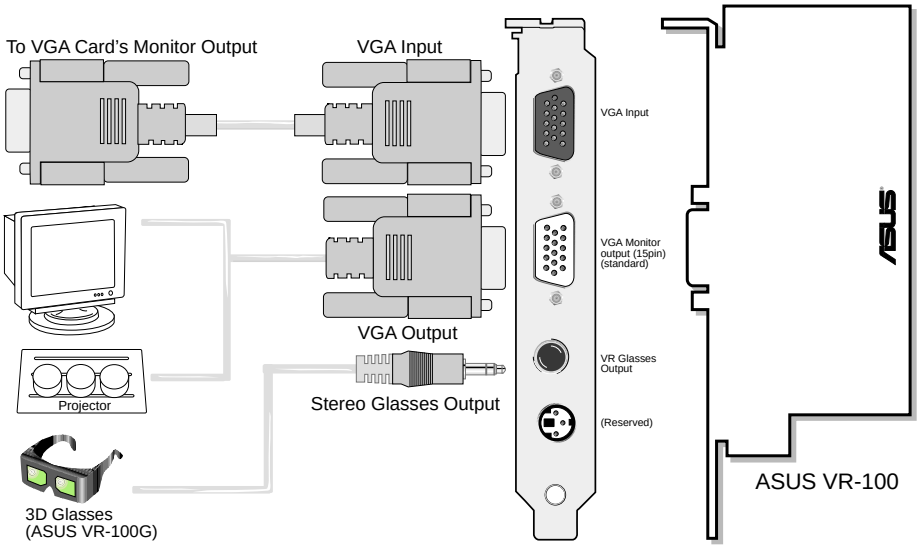
The monitor cable that came with your kit may be of the Y- or standard type. Connect your cable accordingly.

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.

NOTE: The AGP series of this graphics card can only be installed in motherboards with an AGP slot, while the PCI series can only be installed in a PCI 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/PCI 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/PCI 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 a V3800 series graphics card.
4. Restart your computer.
5. Install the ASUS V3800 series display driver.

Operating System Requirements

NOTE: The AGP series of this graphics cards require a motherboard with an AGP slot, while the PCI series require a PCI slot.

Windows 95 OSR2.0 with USB Support

Windows 95 OSR2.0 supports AGP cards, but to take advantage of all the AGP features, you must use Windows 95 OSR2.0 and install the USB upgrade and then install the VGARTD driver for the corresponding chipset on your motherboard (*see* **III. Software Setup Install GART Driver**).

To install Win95 OSR2.0 with USB support, you must have OSR2.0 installed already. Otherwise, first install OSR2.0 and then use the USB support update (you must use the same update language of your Windows language). On the April 1997 MSDN Disc-1 "Windows 95, SDKs, and Tools", OSR2.0 is found in "\OSR2" while the USB support update is found in "\OSR2\USBSUPP". To determine the installed version of the operating system, look in the registry at:

HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Version
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\VersionNumber

OSR2.0 with USB has:
Version "Windows 95" and VersionNumber "4.03.1212" or "4.03.1214".

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 V3800 Series CD to make sure that you have the latest version of VGARTD (*see* **III. Software Setup Install GART Driver**).

NOTES

- For other notes or release information, see the README files in the installation CD.
- 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.

Driver Setup

You can use one of three methods to install the Windows 95/98 drivers for your ASUS AGP-V3800 series graphics card.

NOTE: The screen display 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.

Windows 98

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. Software Setup Install GART Driver** and **III. Software Setup Install DirectX** later in this manual for the setup steps.

Method 1: ASUS Quick Setup Program

NOTE: *See* **III. Software Setup | ASUS Windows 95/98 Install Shell | Install Display Driver** for detailed steps.

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 Install Shell appears. Click **Drivers and Utilities** 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.

Method 2: Display Property Page

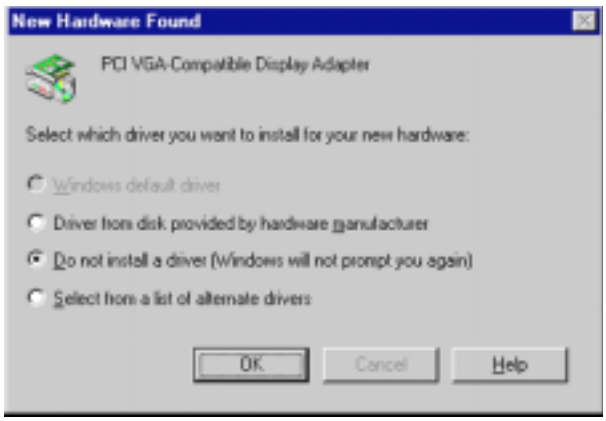
1. Start Windows.
2. Switch display to Windows' Standard Display Adapter (VGA) mode and then restart Windows.
3. Right-click the Windows desktop and click **Properties**.
4. Click the **Settings** tab and then click **Advanced**. The **Standard Display Adapter (VGA) Properties** dialog box appears.
5. 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.

Method 3: Plug and Play

NOTE: Before proceeding with these steps, replace first your old VGA card with your ASUS graphics card.

1. Start Windows.
2. When Windows detects your 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.

Windows 2000

Method 1: ASUS Quick Setup Program

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

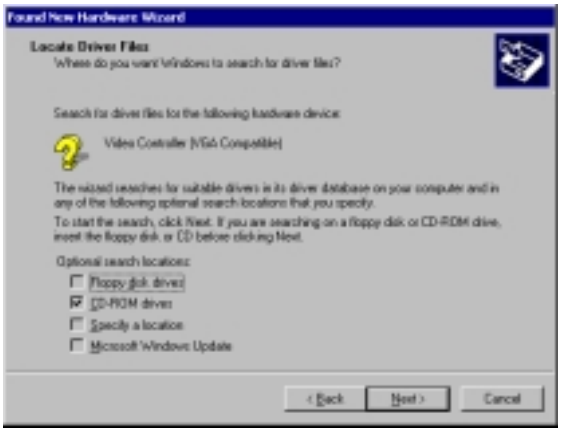
3. Click **Cancel** to enter the Windows desktop.
4. Insert the CD installation disc into your CD-ROM drive.
5. The ASUS Windows 2000 Install Shell appears. Click **Drivers** and then click **Install Display Driver** on the **Driver** dialog box.
6. Follow the onscreen instructions to complete the setup.
7. 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

Method 2: Plug and Play

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

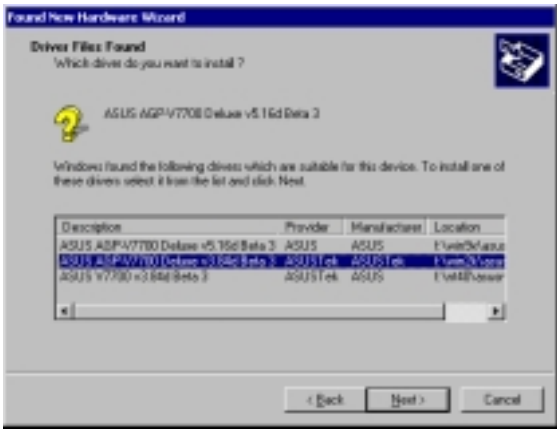
3. Click **Next**.
4. When the next **Found New Hardware Wizard** dialog box appears, select **Search for a suitable driver for my device (recommended)** and then click **Next.**.

5. Insert the CD installation disc into your CD-ROM drive to bring up the **Locate Driver Files** item of the **Found New Hardware Wizard** dialog box.
6. Check **CD-ROM drives**, uncheck all other options and then click **Next** to search for the drivers of your graphics card.



7. When the wizard has finished searching for driver files for your graphics card, select **Install one of the other drivers** and then click **Next** from the **Driver Files Search Results** item of the **Found New Hardware Wizard** dialog box.

8. When prompted to select the display driver to install in your system, select the one that is located in the D:\WIN2K and then click **Next**.



9. Follow the onscreen instructions to complete the setup.

10. When Setup has finished installing all the necessary files on your computer, it will prompt you to restart your computer.

    Click **OK** to restart your computer and to complete Setup.

Windows NT 4.0

Method 1: Display Property Page

WARNING! Before installing the display driver in Windows NT 4.0, make sure that you have installed **Windows NT 4.0 Service Pack 3 or later, to take full advantage of the AGP features of your card.** (You may download service packs at http://www.microsoft.com/ntworkstation/downloads.**)**

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

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 V3800** 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.

Drivers

NOTES: 1) 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.
2) Unless otherwise indicated, the procedures under **Drivers** apply to all the operating systems supported, namely, Windows 98, Windows 2000, and Windows NT 4.0.

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 earlier in **III. Software Setup | Windows NT 4.0 | Method 1: Display Property Page**.

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

Install DirectX

Windows 98 Only

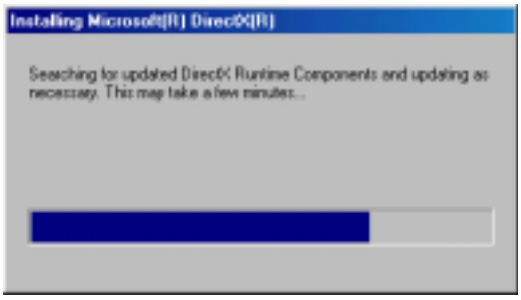
Microsoft DirectX allows 3D hardware acceleration support in Windows 98. For Software MPEG support in Windows 98, you must first install Microsoft DirectX, and then an MPEG-compliant video player.

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.

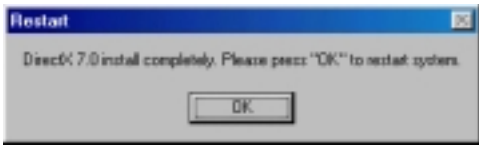
   Click **Drivers**.

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. Software Setup | Uninstall Display Driver**.

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.

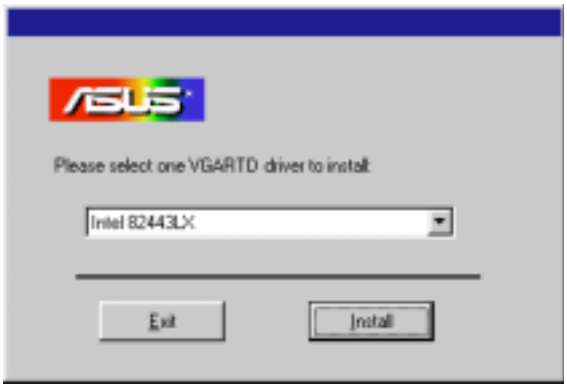
1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

   Click **Drivers**.

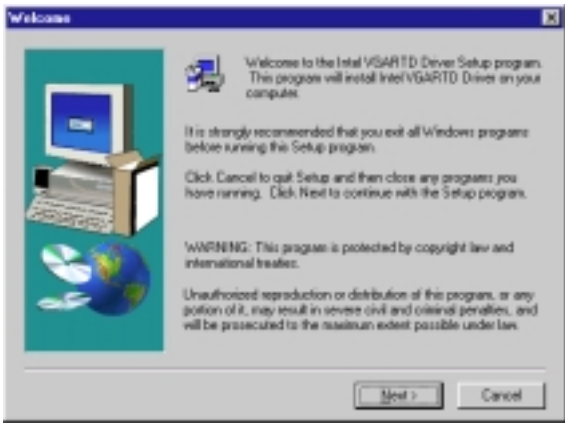
2. The **Drivers** box appears. Click **Install GART Driver** to install AGP support for motherboards with Intel, AMD, VIA, SiS, or ALi chipsets.

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.

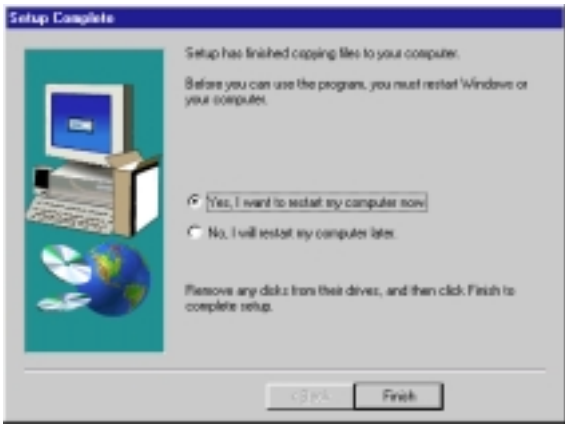
4. If you selected **No...**, on the previous screen before clicking **OK**, you will be presented with a selection of other drivers. Make your driver selection and click **Install**.



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



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



Install ASUS TWAIN Driver

Only with Video-In Models/Windows 98

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 (*Video-In models/Windows 98 only*).

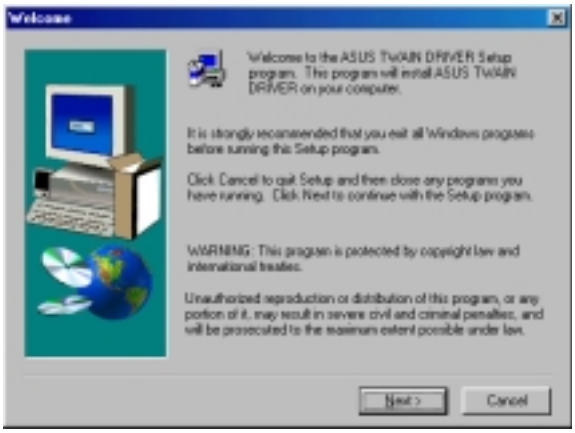
1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

   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.



Uninstall Display Driver

If you want to update your display drivers or if you no longer need the display drivers for your card, you can use one of the following procedures to completely uninstall the drivers from your system to save disk space.

Windows 98

Method 1: Using the Autorun Screen

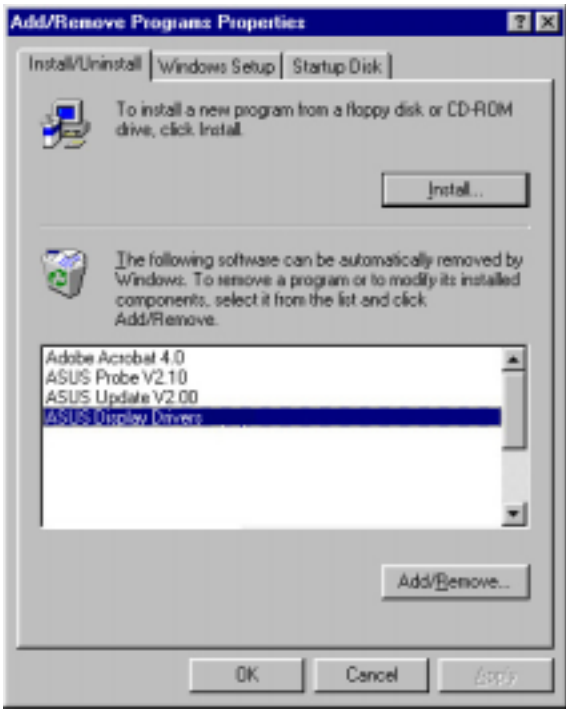
1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

   Click **Drivers**.

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

Method 2: Using 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 Display Drivers** from the list**.**
6. Click **Add/Remove**.
7. The system will prompt you to restart your computer. Click **Yes** to restart.



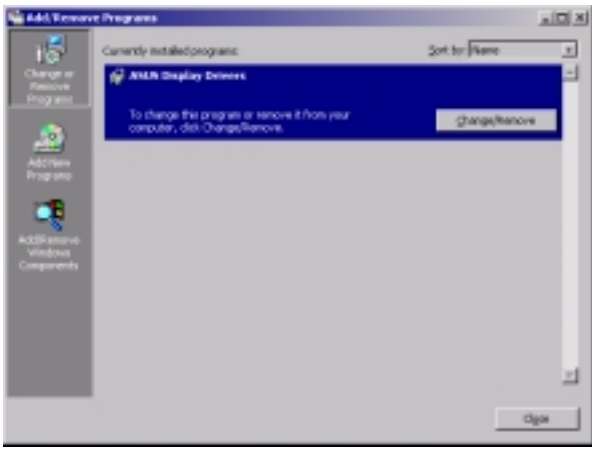
Windows 2000

Method1: Using the Autorun Screen

See **Windows 98** | **Method 1: Using the Autorun Screen** earlier in this section for the procedures.

Method 2: Using 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 **Change/Remove Programs** icon.
5. Click **ASUS Display Drivers** from the list**.**
6. Click **Change/Remove**.
7. The system will prompt you to restart your computer. Click **Yes** to restart.



Windows NT 4.0

Method 1: Using 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 Display Drivers** from the list**.**
6. Click **Add/Remove**.
7. The system will prompt you to restart your computer. Click **Yes** to restart.

Install Video for Windows Capture Driver

Windows 2000/NT 4.0 Only

The Video for Windows Capture Driver must be installed to use ASUS Live Video (*see* **IV. Software Reference | ASUS Live Video**). This driver conforms to the Microsoft Video for Windows standard.

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 **Install Video for Windows Capture Driver**.

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

NOTE: Under Windows 98, the video for Windows capture driver is installed during the installation of the display drivers.

Utilities

Install ASUS Live Utility

The ASUS Live utility lets you view and capture video images from the card's video input port.

NOTE: Make sure that you have an ASUS graphics card with VIDEO-IN connector before attempting to install the utility.

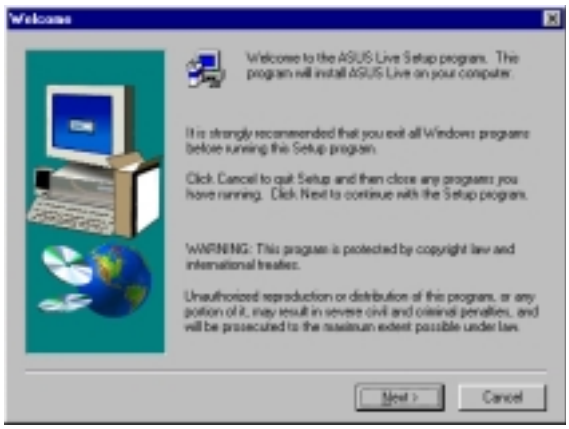
1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

   Click **Utilities**.

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

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.



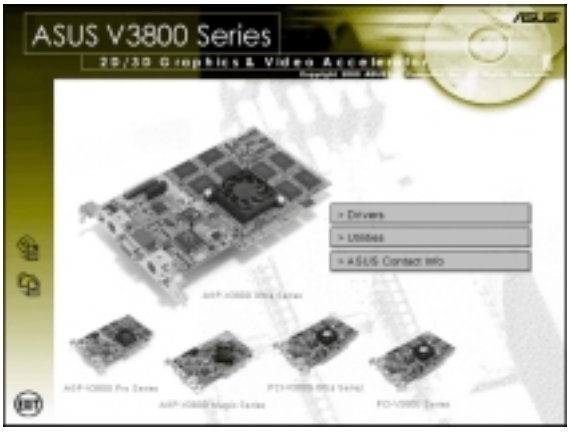
Install ASUS Tweak Utility

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.

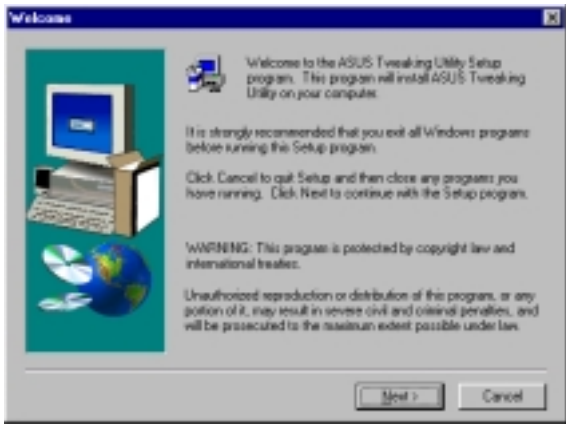
   Click **Utilities**.



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.



Install VideoSecurity

Windows 98 Only

VideoSecurity is a powerful video stream comparison and detection utility that helps in detecting potential errors or intrusions at a specific time interval by using a video capture device, such as a digital camera.

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 VideoSecurity**.

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

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

Install ASUS Digital VCR

ASUS DigitalVCR, like the ASUS Live utility, lets you view and capture video images from the card's video input port. Digital VCR, however, provides extra functions, such as a playback module and TimeShifting™.

NOTE: Make sure that you have an ASUS graphics card with VIDEO-IN connector before attempting to install the utility.

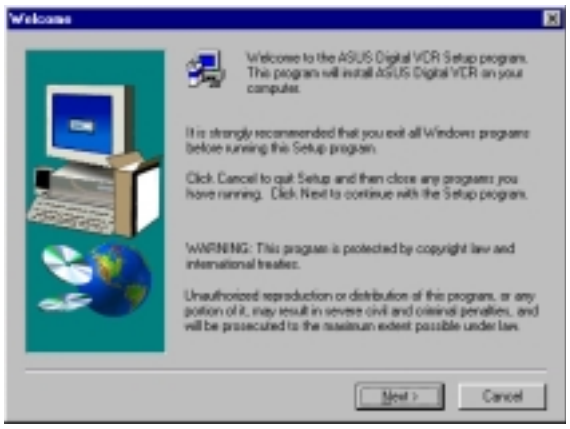
1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

   Click **Utilities**.

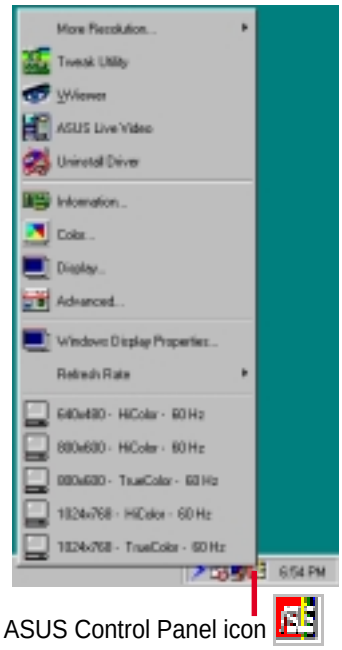
2. The **Utilities** box appears. Click **Install ASUS Digital VCR**.

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.



ASUS Control Panel



ASUS Control Panel icon

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 Windows desktop, click **Properties**, and then click **Settings**. Under Windows 98/2000, click **Advanced** after clicking **Settings**. Click the appropriate tab to change your display settings.

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.**

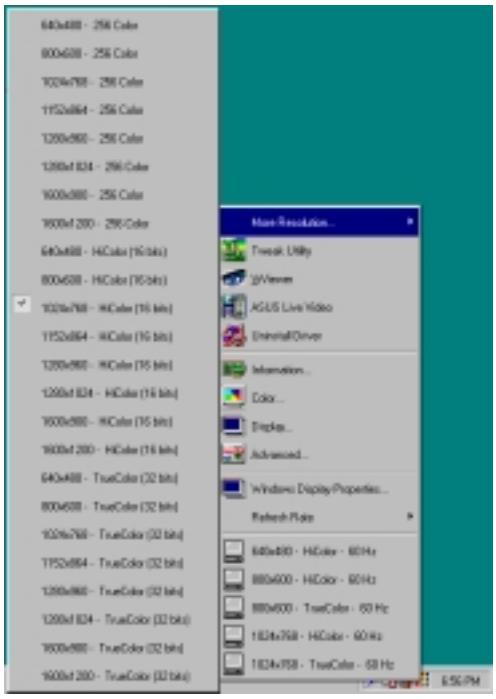
1. Click/right-click the ASUS Control Panel icon, point to **Refresh Rate**, and then click the desired refresh rate.

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.

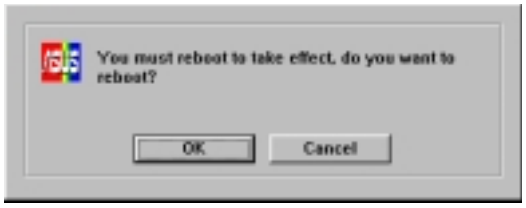
More Resolution

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.

Color

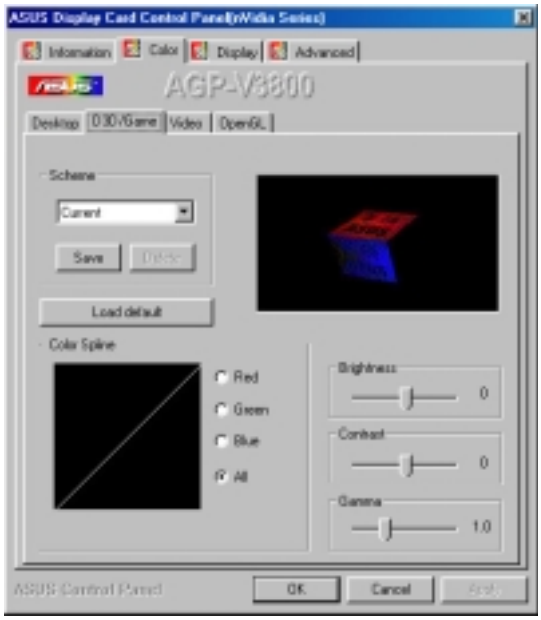
Color allows you to make color adjustments, such as brightness, contrast, and gamma values for each or all of the RGB colors. These adjustments can be made for Desktop, D3D/Game, Video, and OpenGL. The color settings of Desktop, D3D/Game, and OpenGL are not adjustable under 8-bit colr depth.

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.

General Functions

Brightness / Contrast / Gamma

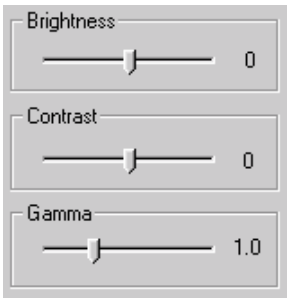
Brightness / **Contrast** / **Gamma** sliders let you calibrate the brightness, contrast, and gamma output of your display card.

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.



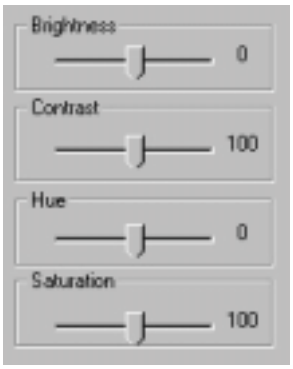
Dragging a slider to the left decreases the level and to the right increases it. The number at the right of each slider displays the brightness (value range: -128 to +128, default: 0), contrast (-30 to 30, default: 0), or gamma value (0.2 to 3.0, default: 1.0).

Brightness / Contrast / Hue / Saturation

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

Video

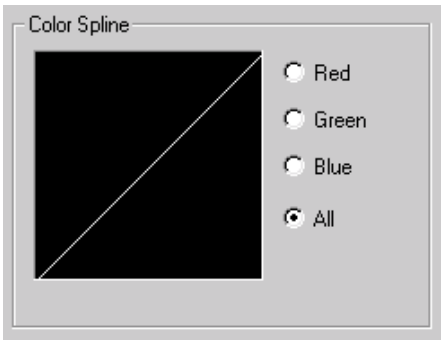
Changes to your settings can be viewed on the displayed picture (shown as race horses).



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).

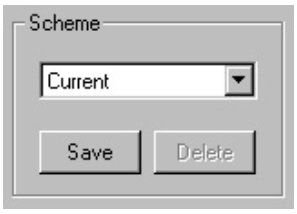
Color Spline

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.



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 ASUS AGP-V3800. 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 98/2000 multiple display environment.

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

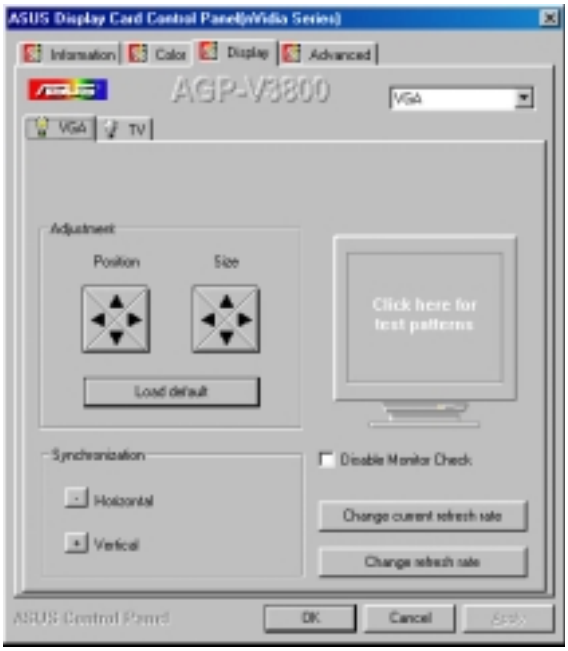
Synchronization

Adjusts the synchronization polarity settings

Disable Monitor Check

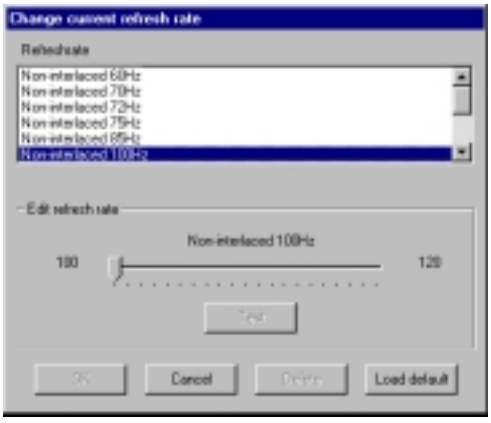
Lets you disable the specification check of your monitor. That is, you may select all the resolutions and refresh rates that the VGA card can support.

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



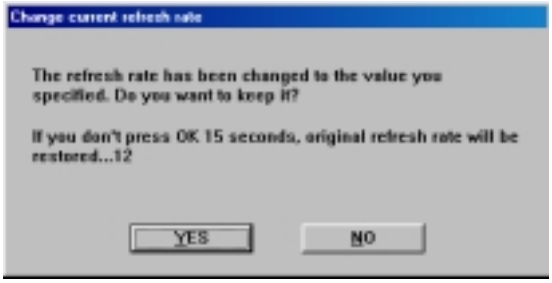
Change current refresh rate (Windows 98 only)

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.

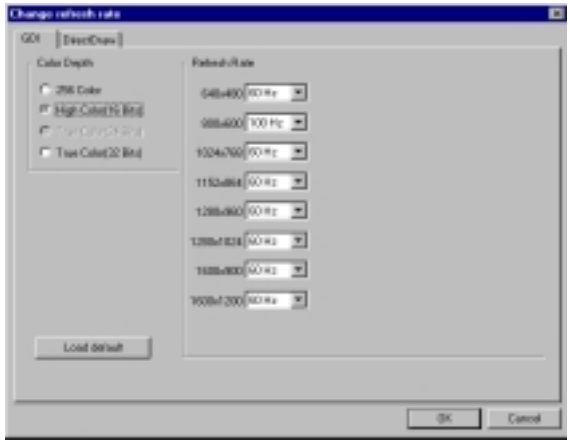


Load default

Restores the settings to their defaults.

Change refresh rate

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

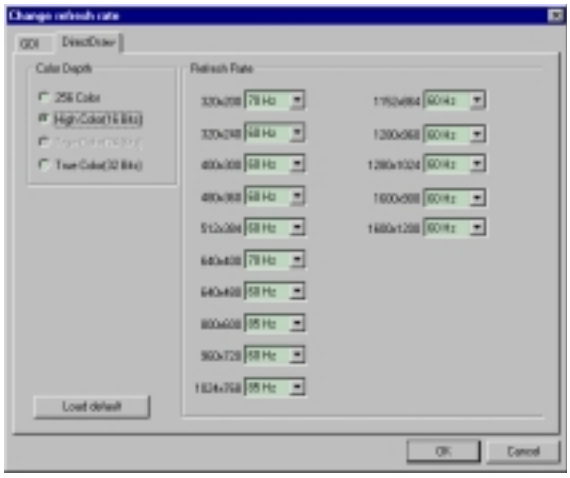


GDI
(Windows 98 only)

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.

TV

NOTE: This tab will not be available if your card is a pure model (cards without a TV Out connector).

Switch Device
Lets you assign hot keys to switch between devices.

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 a movie.

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

Black Level
Sets the brightness of the TV display.

Contrast
Sets the contrast of the TV display.

Flicker Filter
Sets the anti-flicker effect.

Position
Sets the screen position.

Output type
Displays the connection status of composite and S-Video.

Scan Type
Sets the scan type of the TV display. **Overscan** (default) bleeds the image off the edges of the picture tube of your TV. **Underscan** lets you compensate for overscanning TVs. Use **Position** to position or center the image in the TV screen.

Advanced

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

Direct3D VR

VR Effect

Lists all parameters to fine tune the stereoscopic effects for your Direct 3D games.

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 on 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.

Load Default

Restores the settings to their defaults.

Depth

Adjust this to add more depth to the scene.When set to a too high value, eye discomfort/fatigue may occur.

Embossment

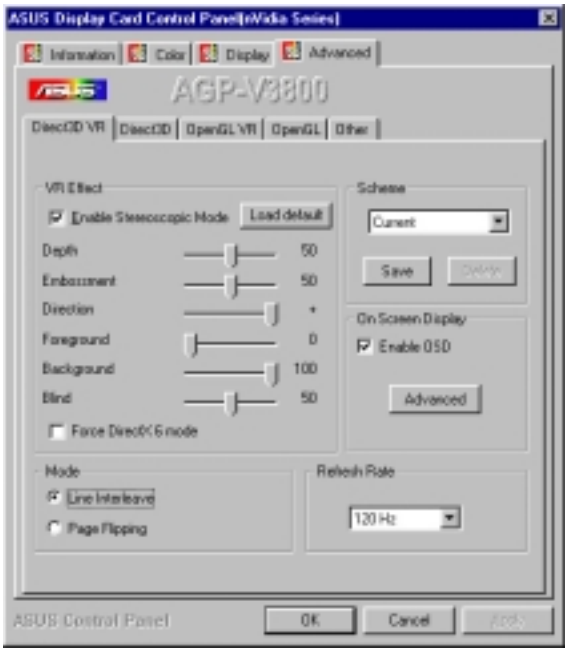
Adjust this to add more to the illusion of objects being pulled or popping out of the screen. See **On Screen Display** later in this section for details. When set to a too high value, eye discomfort/fatigue may occur.

Direction

Move the slider to the left when adjusting Embossment does not give the expected effects (e.g., some objects being pulled or popping out of the screen and other objects being pulled into the screen) to some games. This should not be a concern because only a few games require the default "+" setting to be changed, that is setting it to "–".

Foreground

Foreground is set in conjunction with Background to extend or stretch the histogram chart on the D3D OSD box to scale the depth of 3D objects. Some games require only a little range of Z to make bad stereoscopic effect. On the D3D OSD box, move the Foreground slider to the left to adjust Foreground to the Z value of objects stretched toward 0.0. On the Advanced dialog box (see above), several current games set their Foreground to 60.



Background

Background is set in conjunction with Foreground to extend or stretch the histogram chart on the D3D OSD box to scale the depth of 3D objects. On the D3D OSD box, move the Foreground slider to the left to adjust Foreground to the Z value of objects toward 1.0. On the Advanced dialog box (see above), several current games set their Background to 100.

Blind

Lets you discard "garbage" or crop the unwanted areas of your leftmost/rightmost display. Setting this to 0 will not discard any of the display area while setting it to a higher value will clear them.

Force DirectX 6 Mode

Select this for games that can only support DirectX 6 under Stereoscopic Mode.

Tips

1. Make sure that the 3D objects of your games do not appear extremely separated between the scenes of two eyes, especially near objects.
2. Make some objects appear outside your screen and other objects inside the screen. A ratio of 1:3 to 1:5 of objects outside and inside is recommended.
3. For car racing games, you can use Embossment to make just your car appear outside the screen.
4. For first-person shooting games, you can use Embossment to make just your hand/weapon appear outside the screen.

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.

Mode

Line Interleave

Select for better compatibility with most monitors, particularly monitors with less bandwidth or less range of horizontal/vertical frequency. 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. Page Flipping provides double vertical resolution compared with Line Interleave. 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.

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.

On Screen Display

Enable OSD

When selected, this lets you open the D3D On Screen Display (you may use the defined **Hotkey**) and then adjust onscreen the settings of your 3D glasses and display card when playing Direct 3D games.

Advanced

This lets you open the **Advanced** box.

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.

OSD Settings

The OSD settings include **Depth**, **Embossment**, **Direction**, **Background**, **Foreground**, **Blind**, **Brightness**, **Contrast**, and **Gamma**. *See* **4. Software Reference | Advanced** for a description of the 3D glasses settings and 4. Software Reference | Color for a description of the display settings.

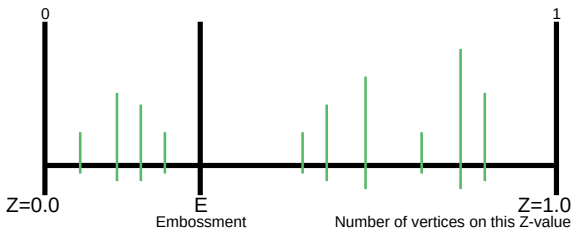
When selected, this lets you to adjust onscreen the settings of your 3D glasses and display card when playing games or watching 3D videos. These settings include **Eyes**, **Distance**, **Embossment**, **Background**, **Foreground**, **Blind**, **Brightness**, **Contrast**, and **Gamma**. *See* **4. Software Reference | Advanced** for a description of the 3D glasses settings and **4. Software Reference | 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.

OSD Histogram Chart



The OSD Histogram Chart lets you determine at which Z range 3D objects are located and how they gather. For example, if this chart (simulated) was displayed on a car racing game, the vertices to the left of the E line could be the model of your car and to the right of the E line could be the road, houses, other cars or trees in front of your car.

So, with this information, you could

- Adjust Embossment by moving the E line.
- Adjust Foreground/Background, thus stretching the histogram to make objects more evenly distributed.

NOTE: Using the histogram chart requires games using Direct3D 6.0 or earlier.

Known Issues on Specific Games

See the included support CD for the latest information (D3DVR.TXT in the WIN9X folder).

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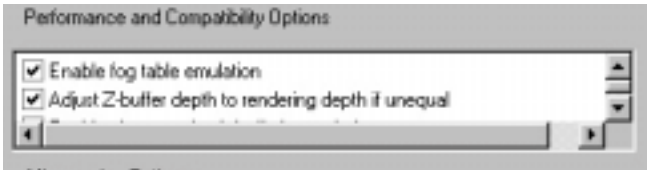
Direct3D

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.

Display logo when running Direct3D applications

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

Mipmapping 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.

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.

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 modelser a Deluxe/TVR model—models with Video-In/TV-Out—or models with the ASUS VR-100 Optional Upgrade Kit.

Eyes

Distance between both eyes. Adjust this to bring objects into focus. Default: 0.

View Angle

The angle by which your two viewing directions intersect. Adjust this to add more depth to the scene.When set to a too high value, eye discomfort/fatigue may occur.

Embossment

Adjust this to add more to the illusion of objects being pulled or popping out of the screen. See **On Screen Display** later in this section for details. When set to a too high value, eye discomfort/fatigue may occur. To achieve a better stereoscopic visual quality, set **Embossment** in conjunction with **View Angle**.

Mode

Line Interleave

Select for better compatibility with most monitors, particularly monitors with less specifications. 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. Page Flipping provides double vertical resolution compared with Line Interleave. 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.

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.

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

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

Enable OSD

When selected, this lets you open the OpenGL On Screen Display (you may use the defined **Hotkey**) and then adjust onscreen the settings of your 3D glasses and display card when playing OpenGL games.

Advanced

This lets you open the **Advanced** box.

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.

OSD Settings

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

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* **IV. Software Reference | Advanced** for a description of the 3D glasses settings and **IV. Software Reference | 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.

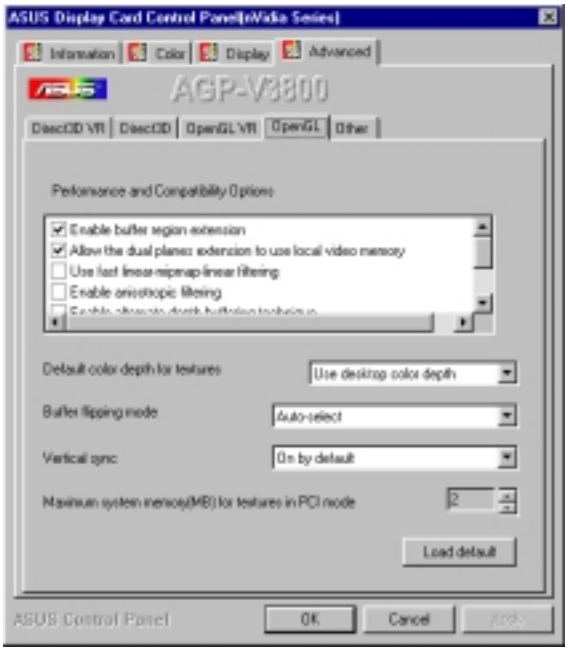
To restore the settings to their defaults, press the HOME key.

To close the onscreen display, press the END key.

Known Issues on Selected Games/Applications

See the included support CD for the latest information (OPENGLVR.TXT in the WIN9X folder).

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

Disable support for enhanced CPU instruction sets

This option disables driver support for enhanced 3D instructions sets by certain CPUs.

Enable full scene antialiasing

This option lets OpenGL use full scene antialiasing.

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**, **On by default**.

Maximum system memory (MB) for textures in PCI mode

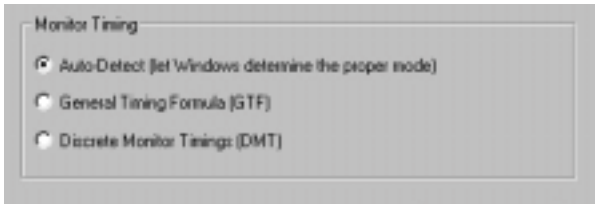
Maximum system memory (MB) for textures in PCI mode lets you set the amount of system memory for texture storage.

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.

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.

Using the Utilities

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.

Use tweak settings on next startup

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

Graphics Speed

Engine

Lets you adjust the working frequency of the graphic engine

Memory

Lets you adjust the working frequency of the video memory.

Load default

Restores the settings to their defaults.

2D Test

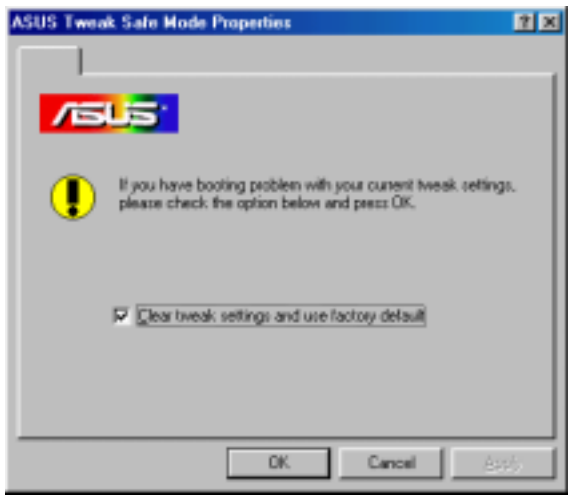
Lets you test your settings.

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**, **Tweak Utility**, 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.

ASUS VideoSecurity

Windows 98 Only

NOTE: The ASUS VideoSecurity utility can only be used with the Deluxe/TVR (or models with Video-In/TV-Out) model.

ASUS VideoSecurity lets you detect intruders into your system and environmental changes and monitor a specified location or any incoming visitor. If VideoSecurity detects any deviation from the norm that you set, it may give an error message or not. Regardless of any messages, VideoSecurity will record:

- Any information about the monitored activity and then store these to an event log file. If you have already installed Microsoft Access 97 or later, you may use these event log data and export it as an Access database for further data management and processing.
- The last two detected snapshot image files from the video captured stream (stored as bitmap format). Any image processing or editing software can then be used to view, modify, or distribute them.

Limitations

Because of differences in hardware sensitivity, VideoSecurity may not completely detect all possible errors. Before you execute VideoSecurity, there are some limitations you have to understand so that you can appropriately use it.

- Due to changing temperatures, the captured image of some CCDs will be twisted, which may give a wrong detection.
- If the features (e.g., color, luminance) of the object are similar to that of background, the object may not be detected clearly.
- The CCD cannot capture the object smoothly and immediately when an object moves too fast.

VideoSecurity is designed for the widest environments possible and error conditions, therefore it is necessary to tune the parameters in VideoSecurity Setup Wizard to get the best detection results.

Setup Wizard

Setup Wizard guides you through setting up the VideoSecurity features.

1. To open Setup Wizard, click the **Start** button, and then point to **Programs**, **ASUS Video Security**, and then click **Setup Wizard**. The **Video Security Setup Wizard** dialog box appears.

IV. Software Reference

NOTE: The following descriptions are only for selected features of the ASUS VideoSecurity utility. For a full description of the features described in this manual and other features, refer to the ASUS VideoSecurity Online Help (HTML) format included with your support CD. You may also click the **Help** button to open the online help file.

Main Window

VideoSecurity Running Style

- **Normal Window** is the default style, that is, VideoSecurity will function as a standard Windows program.
- **Always on Top** is like a Normal Window except that the main window and control panel is shown always on top of other programs or utilities. You may right click to enable or disable this function at the main window anytime.
- **Minimize on Tray** lets you hide the main VideoSecurity window. This is useful when you don't want anyone to know you are monitoring. When this option is selected, the VideoSecurity icon will appear on the taskbar in the lower-right corner of your screen. Whenever VideoSecurity detects a problem, it will run. You may also run VideoSecurity by clicking the icon.

VideoSecurity Working Directory

The **VideoSecurity Working Directory** is the folder where the utility stores its temporary working and log files. Default is C:\VIDEOSEC. The directory is user-configurable. When VideoSecurity is ran, a sub-directory will automatically be created under the main directory, using the current date and time as the folder name, for example, "1999.11.30_12.30.20" means that VideoSecurity was started on 30 November 1999 at 12:30:20 PM.

IMPORTANT: Do not change the working folder's name while VideoSecurity is running. Otherwise, a fatal runtime error will occur.

VideoSecurity Detecting Region

Detects all visible area when watchdog function is on

This sets the scan rate. Default is *2 frames*/sec. The higher the scan rate, the more accurate is the detection. Higher rates, however, entails a higher CPU usage. Do not use a high rate when you plan to use VideoSecurity while using other applications.

Detects only the area defined by the user when watchdog function is on. Feature will take effect only when VideoSecurity runs the next time

Sensibility

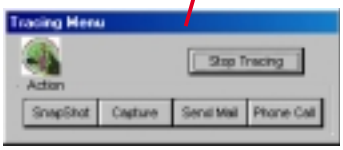
Currently, only one option is available to set the image format

This is an important parameter when setting up VideoSecurity. Your environment may change often but VideoSecurity is concerned only when there is a change in the environment. Make sure that you select a suitable sensitivity for your environment.

Define Tracing Procedure

VideoSecurity not only detects errors or problems in your card but also monitors or detects an intrusion.

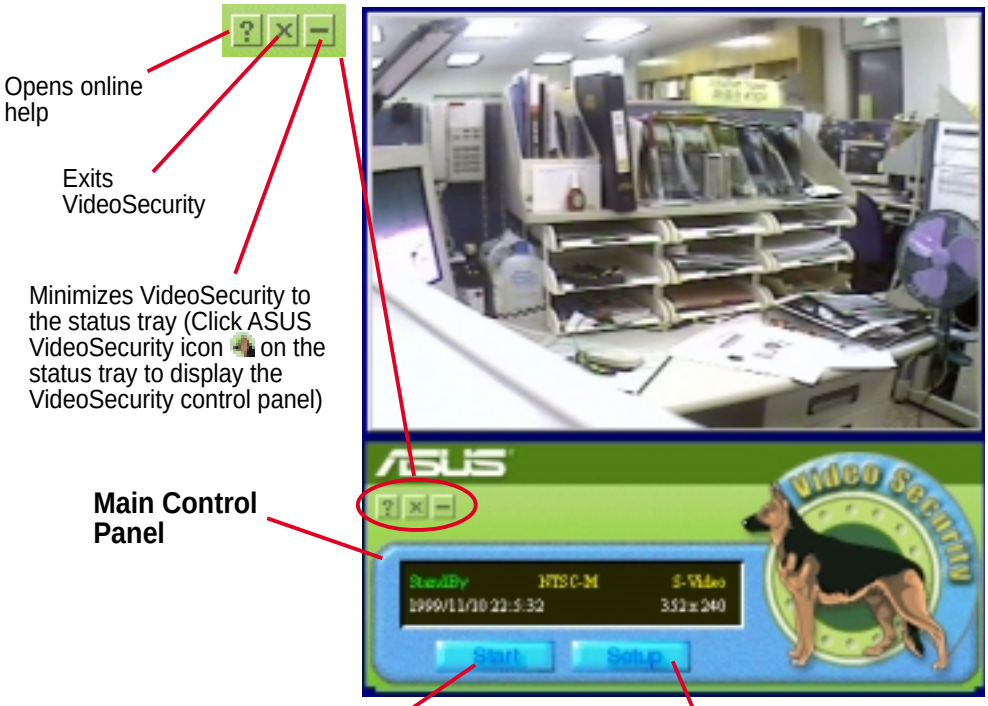
Use this to stop tracing or to choose the error processing method to use while tracing. This box appears when an error occurs.

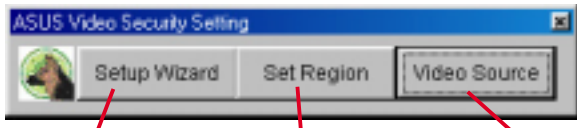


Error Processing Procedure

Stop Detecting Setting

Running ASUS VideoSecurity





Starts the Setup Wizard

Lets you define a region with which VideoSecurity will monitor for errors or intrusion.

Lets you adjust the video source parameters, such as **Color**, **Video Connector**, and **Video Standard**

Shortcut Keys

ESC	Exits VideoSecurity
F1	Opens Online help
F2	Toggles VideoSecurity / Stop Watchdog function
F3	Opens Setup menu
F4	Shows error log box

ASUS Live Video

NOTES

1. ASUS Live Video can only be used with the TVR model (models with a Video Decoder) and monitors or monitor drivers that are designed for I2C bus control.
2. ASUS Live Video supports Windows 9x/ME, Windows NT 4.0, and Windows 2000. For Windows NT/2000, however, the ASUS capture driver for NT/2000 must be installed first before opening ASUS Live Video (*see* **Install Video for Windows Capture Driver** earlier in **III. Software Setup**).

ASUS Live Video can be used to:

1. View images using your monitor 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.
2. Capture live motion video up to 30 frames/second (minimum system requirement: Pentium II/266).

NOTE: You should already have installed DirectX 7 or later to use ASUS Live (*see* **III. Software Setup | Install DirectX**)

Running ASUS Live Video

To run the utility, click **Start** and point to **Programs** and then **ASUS Live** and then click **ASUS Live**.

You may also run ASUS Live by clicking or right-clicking the ASUS Control Panel icon (*see* **IV. Software Reference | ASUS Control Panel**) on the taskbar's status area to display the ASUS Control Panel, pointing to **ASUS Live Video**, and then clicking it.

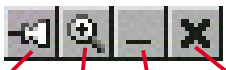
Uninstalling ASUS Live Video

To uninstall the software, click **Start** and point to **Programs** and then **ASUS Live** and then click **Uninstall**. You may also uninstall the software using the **Add/Remove Programs Properties** dialog box at the **Windows Setup** tab. *See* Windows online help for more information on removing a Windows component.

ASUS Live Control Panel

Live Mode

(Click **Capture** to switch to Capture Mode)



Keep ASUS Live Always On Top

Zoom In/Out ASUS Live Control Panel

Minimize ASUS Live Control Panel to taskbar

Exit

Click the preferred video connection (Composite, S-Video, TV Tuner) to change a current connection.

Click here to change the video standard (*NTSC-M*, *NTSC-N*, *NTSC-4.43*, *PAL-BGHI*, *PAL-4.43, PAL-M*, *PAL-N* or *SECAM*)

Click here to open the ASUS Live Pre-Recording Setting dialog box.

Click here to change the window size for viewing [*160 x 120*, *176 x 120*, *340 x 240*, *352 x 240* (default), *640 x 480*, *720 x 480* or *Full Screen*].

Opens the **About ASUS Live** (ASUS Live and Capture Driver version number) window

Shows/hides the **Video Source Option (F9)** (*see* next page)

Opens a drop-down box to let you set **Video Format**, **Video Source**, **Tuner Setting**, and **Tuner Edit**

Capture Mode

(Click **Live** to switch to Live Mode)

Click here to change the **video standard** (*NTSC-M*, *NTSC-N*, *NTSC-4.43*, *PAL-BGHI*, *PAL-4.43, PAL-M*, *PAL-N* or *SECAM*)

Click the preferred video connection (Composite, S-Video, TV Tuner) to change a current connection.

Opens the ASUS Video Format dialog box to change the capture **Image Dimensions** [*88 x 60*, *176 x 120*, *352 x 240* (default), *704 x 240*, *704 x 480*, *160 x 120*, *320 x 240*, *640 x 240*, *640 x 480* or *Full Screen*], **Image Format** [*8 bit Palettized*, *16 bit RGB*, *24 bit RGB*, *UYVY*, and *ASUS Video 2.0* (default)], and/or **ASV2 Settings (Quality Level)** [*0 - Best Compression*, *1*, *2*, *3* (default), *4*, *5 - Normal Quality*, *6*, *7*, *8*, *9 - Best Quality*].

Click here to open the ASUS Live Pre-Recording Setting dialog box.

Click an image to view it with the associated image viewer or application (a pop-up window opens to show the path and filename of the selected image). Right-click an image to **View**, **Save As**, and **Delete** that image.

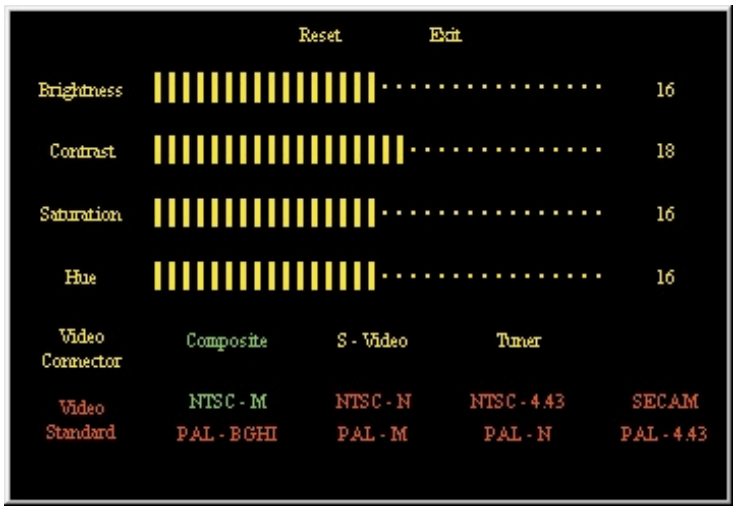
Opens a drop-down box to let you set capture format size, video compression, pre-recording settings, among others

Always On Top

The **Always On Top** option is provided for users who may wish to continue watching VCD/DVD/TV programs or want to have the display screen visible while doing other tasks, such as when downloading files from the Internet or word processing. To keep your display screen always on top of other programs, right-click the display screen and then click **Always On Top**. Position the screen where it will not interfere with your other tasks.

Video Source Option

When first using ASUS Live, you must set up the video source. By clicking the **Video Source Option (F9)** button (*hotkey:* F9) on the ASUS Live Control Panel, you can show or hide the video source setup screen.



Use your mouse/pointing device or the Up or Down Buttons on the ASUS Live Control Panel or the UP and DOWN arrow keys on your keyboard to select Video Connector and then the Left and Right Buttons or the LEFT and RIGHT arrow keys to set your video connection (*Composite*, *S-Video*, or *Tuner*) or video standard [*NTSC-M*, *NTSC-N* (not supported under Windows 2000/NT 4.0), *NTSC-4.43*, *PAL-BGHI*, *PAL-M*, *PAL-N*, *PAL-4.43* or *SECAM*]. Click or select **Reset** to set the settings back to its default. Click or select **Exit** to close the Video Source Option window.

NOTES

1. Users of the PAL D/K models should select PAL-BGHI for the Video Standard.
2. NTSC-N is not supported under Windows 2000/NT 4.0.

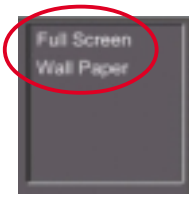
If desired, you may adjust the Brightness, Contrast, Saturation, and Hue of your display by using the video source setup screen. Use the Up or Down Buttons on the ASUS Live Control Panel or the UP and DOWN arrow keys on your keyboard to select the desired option and then the Left and Right Buttons or the LEFT and RIGHT arrow keys to make the desired adjustments.

Click again the **Video Source Option (F9)** button on the ASUS Live Control Panel to exit from the video source option screen.

ASUS Live Video Modes

ASUS Live Mode has two execution modes, namely, **Live Mode** and **Capture Mode**.

Live Mode



Live Mode lets you view live video. Under this mode, you may adjust the display screen size with your mouse, or view in full-screen mode, or set live video as wallpaper to display it.

To change video source settings, click the **Setup** button on the ASUS Live Control Panel.

NOTES

1. Currently, Live Mode does not work under Windows NT 4.0. Live Mode requires at least Direct Draw 6, which Windows NT 4.0 does not support.
2. Before using the **Wall Paper** option, make sure that the **View as Web Page** option of the Active Desktop setting is not selected (*see* **Start – Settings – Active Desktop – View as Web Page**).

Capture Mode

Capture Mode lets you capture and store images into your computer. It has three capture options: **SnapShot**, **Frame Recording**, and **Video Recording**. Video Recording adds an auto-timer recording function that allows you to schedule your video recording (*see* **Auto Video Recording Setting** later in this section).

Captured images are shown on the Preview Files window of the ASUS Live Control Panel. Click an image to view it with the associated image viewer or application (a pop-up window opens to show the path and filename of the selected image). Right-click an image to **View**, **Save As**, and **Delete** that image.

To change video capture settings, click the **Setup** button on the ASUS Live Control Panel.

Video Capture

IMPORTANT: It is the intent of ASUS that this product be used in full compliance with the copyright laws of your respective and other countries and that prior permission be obtained from copyright owners whenever necessary.

Windows 98

When you install the Windows 98 Driver of your ASUS graphics card (only models with the VIDEO-IN connector), the video capture driver will automatically be installed on your system. This video capture driver follows Microsoft Video for Windows standard and can open **up to a capture window size of 704 x 480**. It can be used with some applications that use video capture as an option, such as video conferencing, net meeting, or digital video authoring applications.

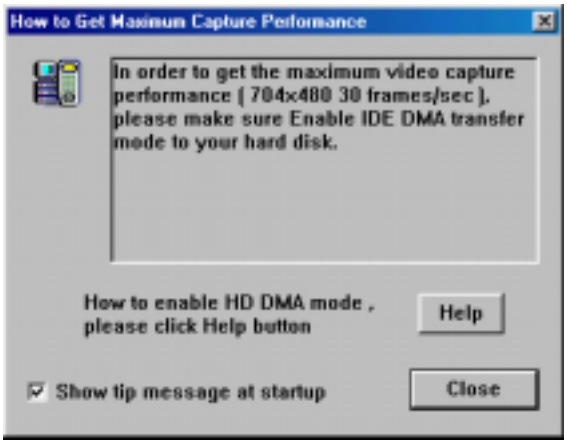
IMPORTANT: You must enable the DMA transfer mode of your hard disk (EIDE HD) to get the maximum data transfer capability (**704 x 480, 30 frames/second**) during the video capture process. Otherwise, your system may become unstable.

Windows 2000/NT 4.0

The video capture driver for Windows 2000/NT 4.0 is not automatically installed when you install the display drivers of your ASUS graphics card.

To install, insert the CD installation disc into your CD-ROM drive, click **Drivers**, and then click **Install Video for Windows Capture Driver** (*see* **III. Software Setup | Install Video for Windows Capture Driver**).

Enabling DMA Transfer Mode



NOTE: The **How to Get Maximum Capture Performance** dialog box will tell you how to enable your hard disk's DMA transfer mode to get the best capture performance. Simply follow the on-screen instructions to enable DMA mode. Otherwise, do the following:

1. Click **Start**, point to **Settings**, and then click **Control Panel**.
2. Double-click the **System** icon. The **System Properties** dialog box appears.
3. Click the **Device Manager** tab and then click the plus sign next to **Disk drives**, and then double-click your hard disk. The hard disk's **Properties** box appears.
4. Click the **Settings** tab and then select the **DMA** check box under **Options**.

Capturing Images

You must be in capture mode to capture images. To do this, click the **Capture Mode** button on the ASUS Main Panel.

NOTE: ASUS Live will automatically detect and warn you if the capture driver installed in your system is not compatible with ASUS Live.

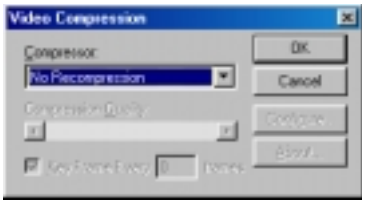
Video/Capture Setting

1. Click **Setup** and point to and then click **Capture Basic Setting** to adjust the basic video capture settings, such as **Capture Image Dimension and Format**, **Capture CODEC selection**, and **Capture Audio Format and Attribute**.

Under **Capture Image Dimension and Format**, select the **Image Dimensions**, **Image Format**, and **ASV2 Settings** of your choice.

NOTE: Windows 2000/NT 4.0 supports only the UYVY image format.

Under **Capture CODEC selection**, select the video compression of your choice for your captures.



Under **Capture Audio Format and Attribute**, select the audio **Format** and audio **Attributes** setting of your choice. This setting depends on whether you have audio set on your system.

Preallocate disk space: If you have limited space on your hard disk, you may want to limit the capture file size to a certain size. To do this, click **Preallocate disk space** and enter the desired maximum file size.

Don't ask before starting capture: This lets you start capture without the dialog box prompt.

Capture Tip: See **Enabling DMA Transfer Mode**

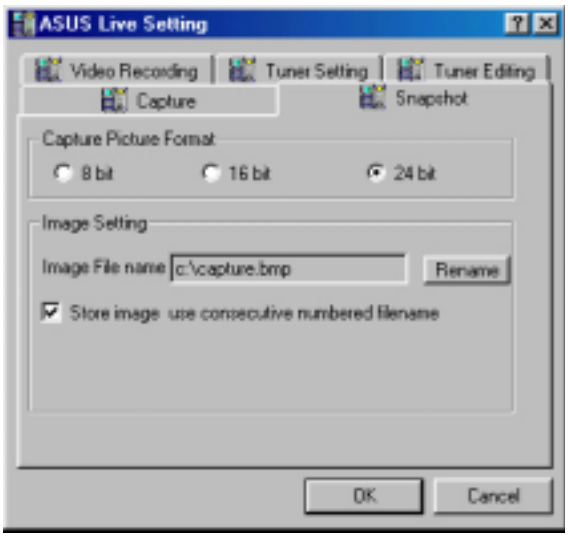
Adjust Source: This lets you select the video connection and video standard to use in the capture. It also lets you adjust the *Brightness*, *Contrast*, *Saturation*, and *Hue* of your images.

You are now ready to capture video images.

SnapShot Setting

1 Click **Setup** and point to and then click **Video SnapShot** to select your **Capture Picture Format** (*default*: 24 bit), **Image Setting** and other settings.

Under **Image Setting**, you may set the desired **Image File name** and path (*default*: C:\CAPTURE.BMP) and for the filename to be consecutively numbered (**Store image use consecutive numbered filename**).



You are now ready to capture video images.

Manual Video Recording Setting

1. Click **Setup** and point to and then click **Manual Recording** to select the video recording settings, such as the **Frame Rate (fps)** (*default*: 30), **Maximum Capture Time** (*default*: 10 *seconds*) and **File name** and path (*default*: C:\CAPTURE.AVI).

You are now ready to capture video images.

Scheduled Recording Setting (Windows 98/ME only)

NOTE: For Windows NT/2000, *refer* to **4. Software Reference | Auto Recording**.

1. Click **Setup** and point to and then click **Scheduled Recording** to select the live pre-recording settings.

These settings include the **Start Time** (Year | Month | Day | Hour | Minute | Second), **Stop Time** (Year | Month | Day | Hour | Minute | Second), **Channel Number**, **Capture Frame Rate,** and options to **Add Audio** to the recording, **View Auto Recording Log**, and to **Delete** one or **Delete All** the pre-recording settings.

2. Click **Add** to add your pre-recording setting/s.

   The video recording will start at the designated date and time.

NOTE: The video recording settings assume that you have a video device connected to your ASUS graphics card and that the device is turned on and running.

Snapshot

Snapshot (*hotkey:* F5) lets you capture video stream data as single images and then show these images on your desktop almost simultaneously through the default image viewer. It supports any plug-in picture viewer/image processing program to view the captured images (*see* **ASUS Live Control Panel** earlier in this section).

To begin capturing, do the following:

1. Click **Snapshot** on the ASUS Live Control Panel or press the F5 key to capture the desired image on ASUS Live Video's display screen.

   The screen will freeze momentarily and the captured image (saved as a BMP file, using consecutive numbers) will be previewed in the **Preview Files** window.

   You may click an image to view that captured image.

2. Repeat Step 1 as necessary.

Frame Recording

Frame Recording (*hotkey:* F6) lets you capture video stream data as consecutive images and then show these images on your desktop through your default movie player. **Frame Recording** is useful in animation.

To begin capturing, do the following:

1. Click **Frame Recording** on the ASUS Live Control Panel or press the F6 key to open the **Capture Frames** box.
2. Click **Capture** to begin capturing the desired frame or frames on ASUS Live Video's display screen and then click **Done** when the desired end frame is reached. The initial frame of the captured video (saved as an AVI file) will immediately be displayed on your movie player.

Video Recording

Video Recording (*hotkey:* F7) lets you capture video stream data continuously and then show these images on your desktop through your default movie player.

To begin capturing, do the following:

1. Click **Video Recording** on the ASUS Live Control Panel or press the F7 key.
2. Follow the on-screen instructions to begin and then stop video recording.

NOTES

1. **Windows 2000/NT4.0:** The capture performance quality under Windows 2000/NT 4.0 is not as good as that under Windows 98.
2. **Windows NT 4.0:** To run ASUS Live Video, Windows NT 4.0 Service Pack 3 or later must be installed on your computer. You may download service packs at http://www.microsoft.com/ntworkstation/downloads.
3. **Windows 2000/NT 4.0:** To enhance capture performance, select **UYVY** as the capture format size and **ASUS ASV1** as capture CODEC.

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ASUS Digital VCR

NOTES

1. The following can only be used as a general reference and may not be an exact reflection of the software version you are using. The contents are subject to change at any time without notice.
2. ASUS Digital VCR can only be used with the TVR model (models with a Video Decoder) and monitors or monitor drivers that are designed for I2C bus control.
3. ASUS Digital VCR currently only supports Windows 9x/ME.

ASUS Digital VCR can be used to:

1. View images using your monitor 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.
2. Capture live motion video up to 30 frames/second (minimum system requirement: Pentium II/266). For TimeShifting™ recording at MPEG-II format (704x480, 30 frames/second), minimum system requirement is Pentium III/600 (recommended: Pentium III/700 or higher).

NOTE: You should already have installed DirectX 7 or later to use ASUS Digital VCR (*see* **3. Software Setup | Install DirectX**)

Running ASUS Digital VCR

To run the utility, click **Start** and point to **Programs** and then **ASUS Digital VCR** and then click **ASUS Digital VCR**.

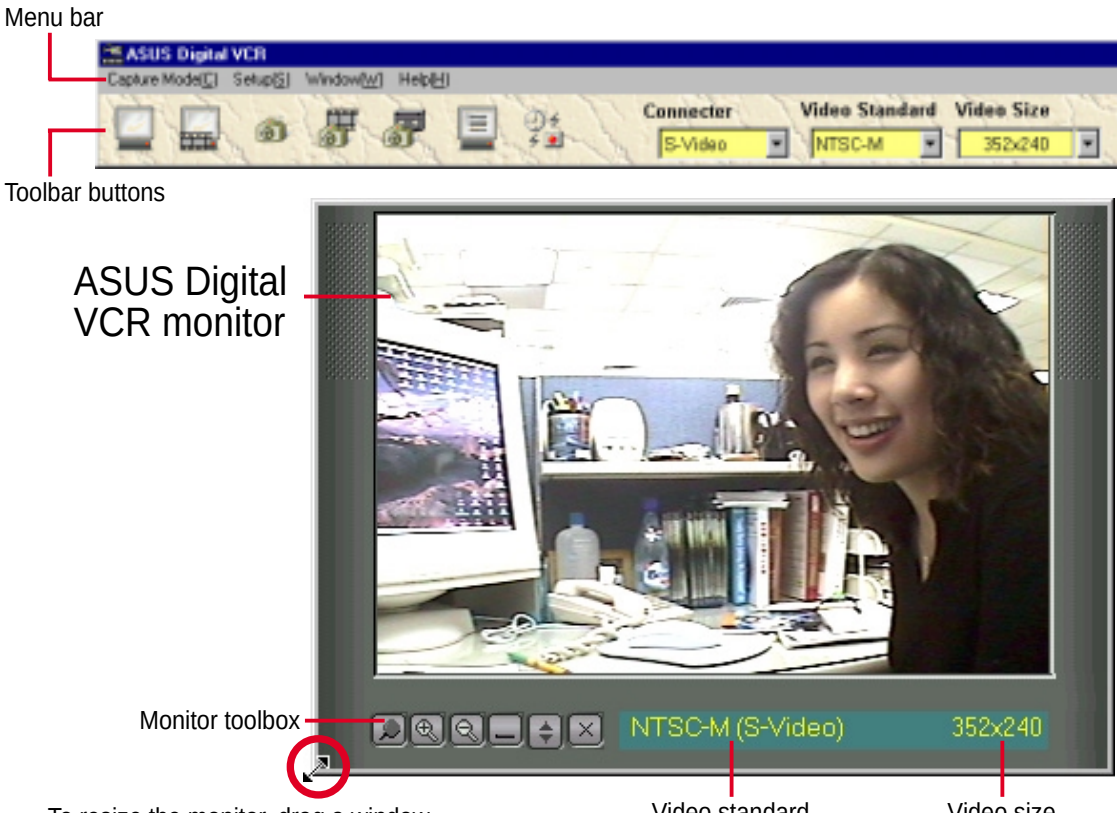
You may also run ASUS Digital VCR by clicking or right-clicking the ASUS Control Panel icon (*see* **4. Software Reference | ASUS Control Panel**) on the taskbar's status area to display the ASUS Control Panel, pointing to **ASUS Digital VCR**, and then clicking it.

Uninstalling ASUS Digital VCR

To uninstall the software, click **Start** and point to **Programs** and then **ASUS Digital VCR** and then click **Uninstall**. You may also uninstall the software using the **Add/Remove Programs Properties** dialog box at the **Windows Setup** tab. *See* Windows online help for more information on removing a Windows component.

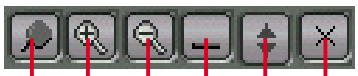
Using ASUS Digital VCR

ASUS Digital VCR has been designed as a standard Windows program. That is, functions can be accessed by means of the main menu bar or by clicking the toolbar buttons on the program window. It has three operational modes: **Live Mode**, **Capture Mode**, and **Playback Mode**.



NOTES: Users of PAL D/K models of the graphics card should select PAL-BGHI for the Video Standard.

Monitor Toolbox



Exit (Click to quit ASUS Digital VCR)

OSD Setup (Click to set up the video source and adjust Brightness/ Contrast and Saturation/Hue; *see* **On Screen Display** later in this section)

Minimize all window (Click to minimize monitor and program window)

Zoom out window

Zoom in window

Enable Always on Top (*see* **Always on Top** later in this section)

When Always on Top is enabled, this icon changes into  (Disable Always on Top)

Enable Always on Top

The **Enable Always on Top** option is provided for users who may wish to continue watching VCD/DVD/TV programs or want to have the ASUS Digital VCR monitor visible while doing other tasks, such as when downloading files from the Internet or word processing. To keep the monitor always on top of other programs, click the **Enable Always on Top** button or select the **Always on Top On** command from the **Window(W)** menu. Position the monitor where it will not interfere with your other tasks.

To disable the Always on Top option, click or select the **Always on Top Off** command from the **Window(W)** menu.

OSD Setup

When first using ASUS Digital VCR, you must set up the video source. Use the **OSD Setup** button on the ASUS Digital VCR Control Panel to show or hide the video source setup screen on the monitor.

Use your mouse/pointing device or the UP and DOWN arrow keys on your keyboard to select options (*Brightness*, *Contrast*, *Saturation*, *Hue*, *Connector*) and then the LEFT (select to the left or to decrease) or RIGHT (select to the right or to increase) arrow keys to change an option. You may also use your mouse/pointing device to change an option by clicking the appropriate item or slider.

To set the settings back to its default, click (or use theF9 hot key or select **Video Source** on the **Setup(S)** menu) and then click **Reset Video** in the **Video Source** tab. Click **OK** to close the **Video Source** tab.

Live Mode

The default mode when you open ASUS Digital VCR is **Live Mode**, which lets you view live video. Under this mode, the VCR monitor can be resized (default size: 352x240) by dragging either of the four window corners (*see* preceding illustration on the ASUS Digital VCR monitor). Live video can also be viewed in full screen mode or set as desktop wallpaper.

To switch to Live Mode from Capture Mode, click or press F2.

Enable full screen display

To *Enable full screen display*, click or use CTRL+S.

To disable full screen display, double-click the display and then click. You may also use CTRL+S or ESC to disable full screen display. The display will then revert to its previous size.

Enable wallpaper display

NOTE: Before using the *Enable wallpaper display* option, make sure that the **View as Web Page** option of the Active Desktop setting is not selected (*see* **Start – Settings –Active Desktop – View as Web Page**).

To *Enable wallpaper display*, click or use CTRL+W.

To disable desktop wallpaper, double-click anywhere the display and then click. You may also use CTRL+W to disable the desktop wallpaper.

Setup

To set up *Video Source*, click.

Video Source

Video Source lets you set the display video method, video scan option, video standard, brightness/contrast, saturation/hue and other options.

To use **Video Source**, click (or use theF9 hot key or select **Video Source** on the **Setup(S)** menu).

Display Video Method

Display Video Method lets you select ways to display video on your monitor: *BOB* (default) or *WEAVE*. These methods are simple ways of correcting interlaced display.ASUS Digital VCR by default will use the bob method for correcting interlaced display. If your video contains no motion, weave would be a best choice. For more information, visit www.microsoft.com/hwdev/devdes/vpe.htm#Interleaved.

Video Scan Option

Video Scan Option lets you select the scanning method to use: *Normal* (default), *Skip Odd Field*, and *Skip Even Field*. Use this option to reduce the strobing effect that results from fast moving objects when rendering to video. *Normal* uses both fields to render the video output. For PAL output, use *Skip Odd Field* and for NTSC output, use *Skip Even Field*.

Video Standard

Video Standard lets you select the video srandard to use for display: *NTSC-M* (default), *NTSC-N*, *NTSC-4.43*, P*AL-BGHI*, *PAL-M*, *PAL-N*, *PAL-4.43* or *SECAM*.

NOTE: Users of the PAL D/K models should select PAL-BGHI for the Video Standard.

If desired, you may adjust the Brightness, Contrast, Saturation, and Hue of the VCR monitor. Use your mouse/pointing device to make the necessary adjustments.

Click again the **Video Source Option (F9)** button on the ASUS Live Control Panel to exit from the video source option screen.

Use Hardware Pre-filtering function

Use Hardware Pre-Filtering function (default: disabled) lets you use your graphics card for pre-filtering (pre-smoothing the image before compression encoding).

Capture Mode

Capture Mode lets you capture and store images into your computer. It has three capture options: **Video Snapshot**, **Capture Frames**, and **Capture Video**. Video Recording adds an auto-timer recording function that allows you schedule your video recording (*see* **Auto Recording** later in this section).

To switch to Capture Mode from Live Mode, click or press F3.

Captured images are shown on the Preview Library. Double-click an image to play it back or view it with the associated image viewer or application (the path and file name of the selected image is shown below the image). You may also right-click an image or select an image and then click the appropriate button to **Playback** (or view), **Save As** (a new file), or **Delete** that image.

Setup

To set up *Video Capture*, click .

Video Capture

Video Capture lets you set the snapshot and video capture settings.

To use **Video Capture**, click (or use theF9 hot key or select **Capture Mode** on the **Setup(S)** menu).

4. Software Reference

IMPORTANT: It is the intent of ASUS that this product be used in full compliance with the copyright laws of your respective and other countries and that prior permission be obtained from copyright owners whenever necessary.

Windows 98

When you install the Windows 98 Driver of your ASUS graphics card (only models with the VIDEO-IN connector), the video capture driver will automatically be installed on your system. This video capture driver follows Microsoft Video for Windows standard and can open **up to a capture window size of 704 x 480**. It can be used with some applications that use video capture as an option, such as video conferencing, net meeting, or digital video authoring applications.

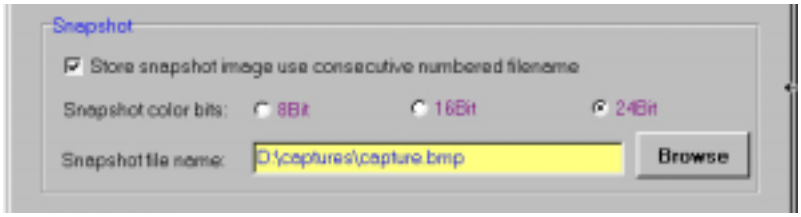
IMPORTANT: You must enable the DMA transfer mode of your hard disk (EIDE HD) to get the maximum data transfer capability (**704 x 480, 30 frames/second**) during the video capture process. Otherwise, your system may become unstable.

Setting Up for Capturing Images

You must be in capture mode to capture images. To do this, click  on the ASUS Digital VCR toolbar.

NOTE: ASUS Digital VCR will automatically detect and warn you if the capture driver installed in your system is not compatible with ASUS Digital VCR.

SnapShot



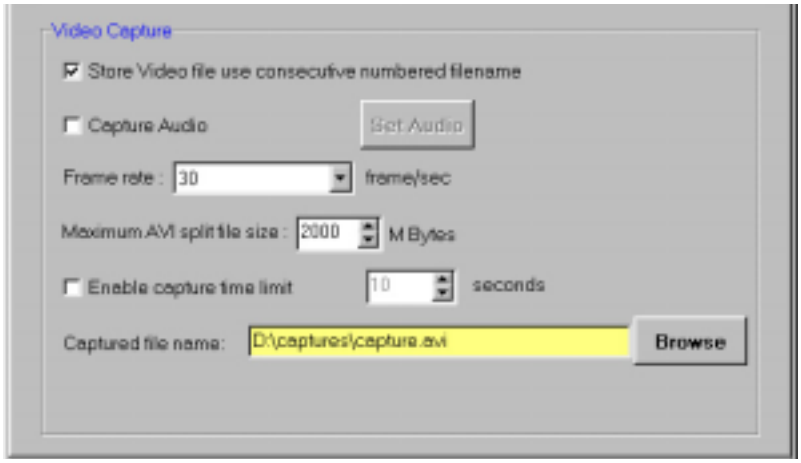
Store image use consecutive numbered filename: Select preferred file naming convention (*default:* selected)

Snapshot color bits: Select preferred color bits (*default:* 24Bit)

Snapshot file name: Type preferred path and file name (*default:* C:\CAPTURE.BMP).

You are now ready to capture video snapshots (F5).

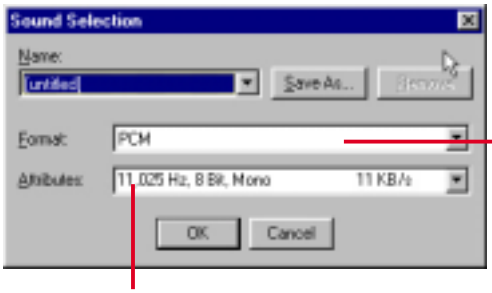
Video Capture



Store Video file use consecutive numbered filename: Select preferred file naming convention (*default:* selected)

Capture Audio: Select if you prefer to include audio when capturing video (*default:* not selected). When selected, the **Set Audio** option becomes available.

Set Audio displays the **Sound Selection** dialog box, which lets you save a scheme for your audio setting or select from a list, select the audio format type and audio format attributes of the video to be captured.



(**PCM**, which means Pulse Coded Modulation or uncompressed audio data, is currently the only available selection)

Selecting a lower quality format, for example, ***,000 Hz, 8 Bit, Mono 11KB/s**, will make your video file size smaller while a higher quality format, for example, **44,100 Hz, 16 Bit, Stereo 172 KB/s**, can make the sound quality of your video file better, but your video file size will be larger.

Frame rate lets you select the preferred video data rate for the images to be captured (*default:* 30 frame/sec, which is full motion).

Maximum AVI split file size lets you set the maximum size for each video capture (*default:* 2000 M Bytes).

Enable capture time limit lets you limit the capture time (*default:* 10 seconds).

NOTE: Make sure that you have enough space on your hard disk drive. A 640x480 pixel video size, full-color (24-bit), full-motion (30 frames /sec) video capture requires about 27MB/sec (before compression).

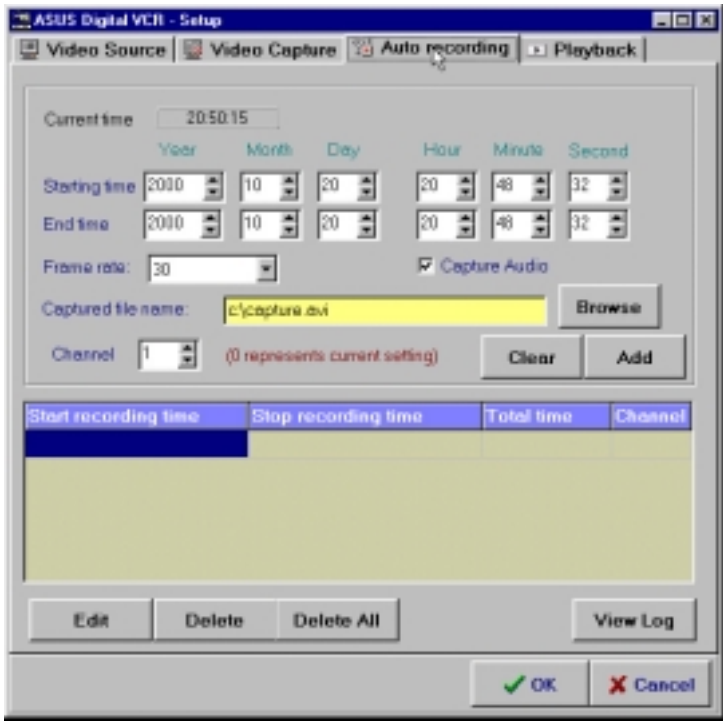
Captured file name lets you set the path and file name of the images to be captured (*default:* C:\CAPTURE.AVI).

You are now ready to capture video images.

Auto Recording

Auto recording adds an auto-timer recording function that allows you to schedule your video recording.

To use **Auto recording**, click (or use theF9 hot key) and then click the **Auto recording** tab or simply click on the toolbar or select **Auto-Recording Setup** on the **Setup(S)** menu.



Auto recording includes the **Current time** (Hour:Minute:Second), **Start Time** (Year | Month | Day | Hour | Minute | Second), **End Time** (Year | Month | Day | Hour | Minute | Second), **Frame Rate**, **Channel**, and options to **Capture Audio** to the recording, **View Log** (of auto recorded events**)**, and to **Delete** one or **Delete All** the pre-recording settings.

Add lets you add while **Clear** lets you clear your pre-recording setting/s.

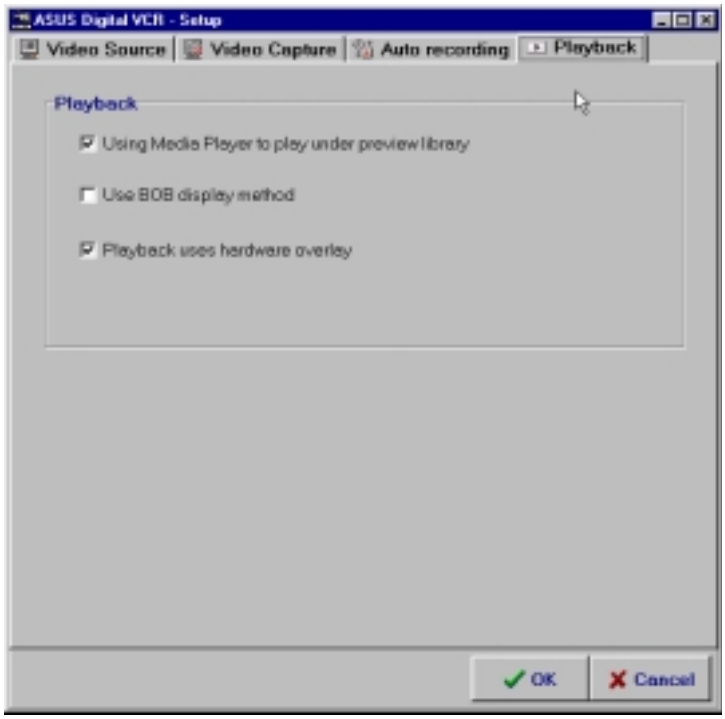
The video recording will start at the designated date and time.

NOTE: The video recording settings assume that you have a video device connected to your ASUS graphics card and that the device is turned on and running.

Playback

Playback lets you set the options when playing back video files.

To use **Playback**, click (or use theF9 hot key) and then click the **Playback** tab or simply select **Playback** on the **Setup(S)** menu.



Capturing Images

Video Snapshot F5

Video Snapshot (*hotkey:* F5) lets you capture video stream data as single images and then show these images on your desktop almost simultaneously through the default image viewer. It supports any plug-in picture viewer/image processing program to view the captured images.

To begin capturing, do the following:

1. Click on the ASUS Digital VCR toolbar or press the F5 key to capture the desired image from the ASUS Digital VCR monitor.

The screen will freeze momentarily and the captured image (saved as a BMP file, using consecutive numbers) will be previewed in the **Preview Library** window.

You may click an image to view that captured image.

2. Repeat Step 1 as necessary.

Capture Frames F6

Capture Frames (*hotkey:* F6) lets you capture video stream data as consecutive images and then show these images on your desktop through your default movie player. **Capture Frames** is useful in animation.

To begin capturing, do the following:

1. Click on the ASUS Digital VCR toolbar or press the F6 key to open the **Capture Frames** box.
2. Click **Capture** to begin capturing the desired frame or frames on ASUS Digital VCR monitor and then click **Stop** when the desired end frame is reached. The initial frame of the captured video (saved as an AVI file) will immediately be displayed on your movie player.

Capture Video F7

Capture Video (*hotkey:* F7) lets you capture video stream data continuously and then show these images on your desktop through your default movie player.

To begin capturing, do the following:

1. Click on the ASUS Digital VCR toolbar or press the F7 key.
2. The Video Capture Setup dialog box opens. Set the different options as desired and then click **Start**. Click **Stop** when the desired end frame is reached. The initial frame of the captured video (saved as an AVI file) will immediately be played back.

NOTE

1. With the new TimeShifting™ technology from ASUS, you can start playing back the captured video anytime (*see* **TimeShifting™** later in this section), even while recording!

TimeShifting™

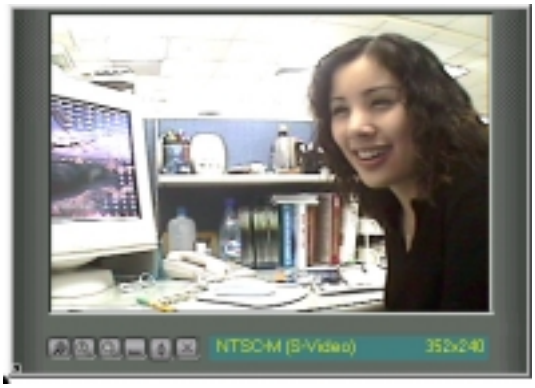
The innovative TimeShifting™ feature of the ASUS Digital VCR lets you record incoming video feeds into a buffer. So if you're watching your favorite TV show on your computer and you had to leave but you don't want to miss the rest of the show, all you need is to record it with ASUS TimeShifting™. When you come back, you don't have to wait (unlike traditional recorders) for the recording to finish to be able to watch what's been recorded. Just click **Play** and playback will start immediately (this while recording still continuing in the background)!

Playback Mode 

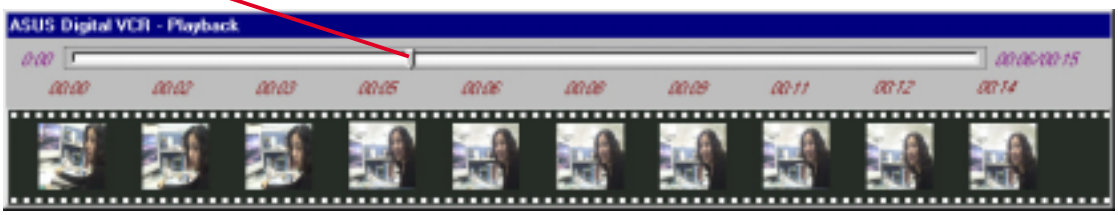
Playback (*hotkey:* F4) lets you play back captured video stream data using ASUS Digital VCR.

To begin playback, do the following:

1. Click  on the ASUS Digital VCR toolbar or press the F4 key.
2. The **Open** (video file) dialog box opens. Double-click the video file you want to open. You may need to locate the drive or folder that contains the file.
3. Playback immediately begins. A progress indicator will show the elapsed time.



Progress Indicator



NOTES

During playback,

1. You may apply some filters to create effects on your video. Simply click **Filters** to apply a filter to the video file.
2. You may apply **Fast Motion**, **Slow Motion**, and other effects. Simply select any of the effects on the **Play(P)** menu or click any of the buttons on the Playback toolbar.

Using the Other Utilities

ASUS TWAIN Interface

Windows 98 Only

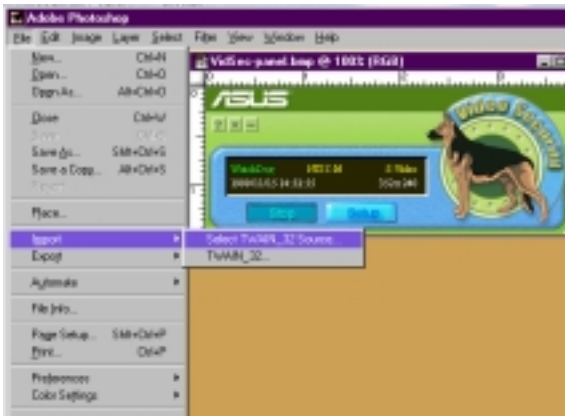
TWAIN is a cross-platform interface for acquiring images captured by scanners, digital cameras, and frame grabbers. The ASUS TWAIN Driver is currently supported only when used with Adobe Photoshop® (see www.adobe.com for details). If you already have Photoshop installed and you chose to install the ASUS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

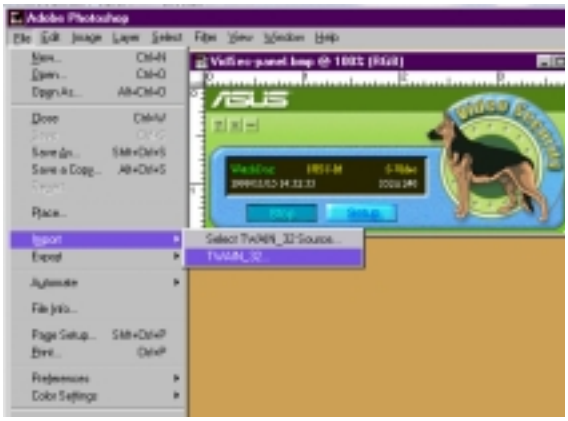
   Select **ASUS Frame Capture Source**.



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.

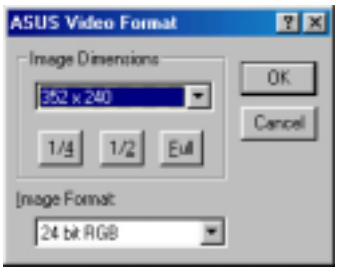
Importing an Image Using the ASUS TWAIN Interface

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



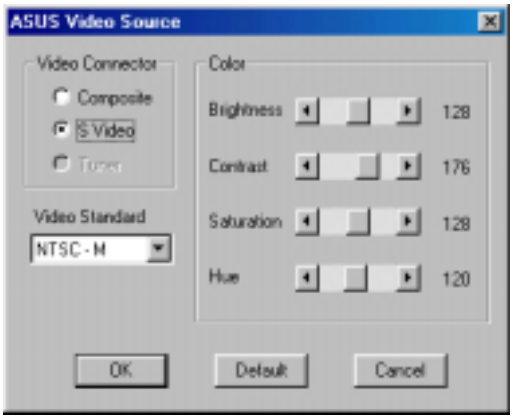
2. When the ASUS TWAIN Driver utility appears, click **Options** and then **Video Format**.

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



4. 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.

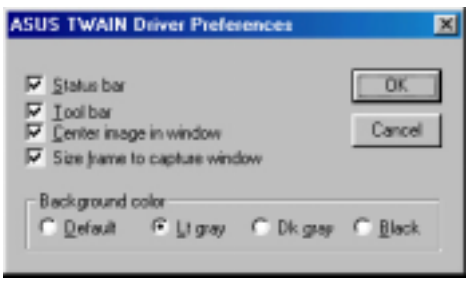
   You are now ready to capture.



5. 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.



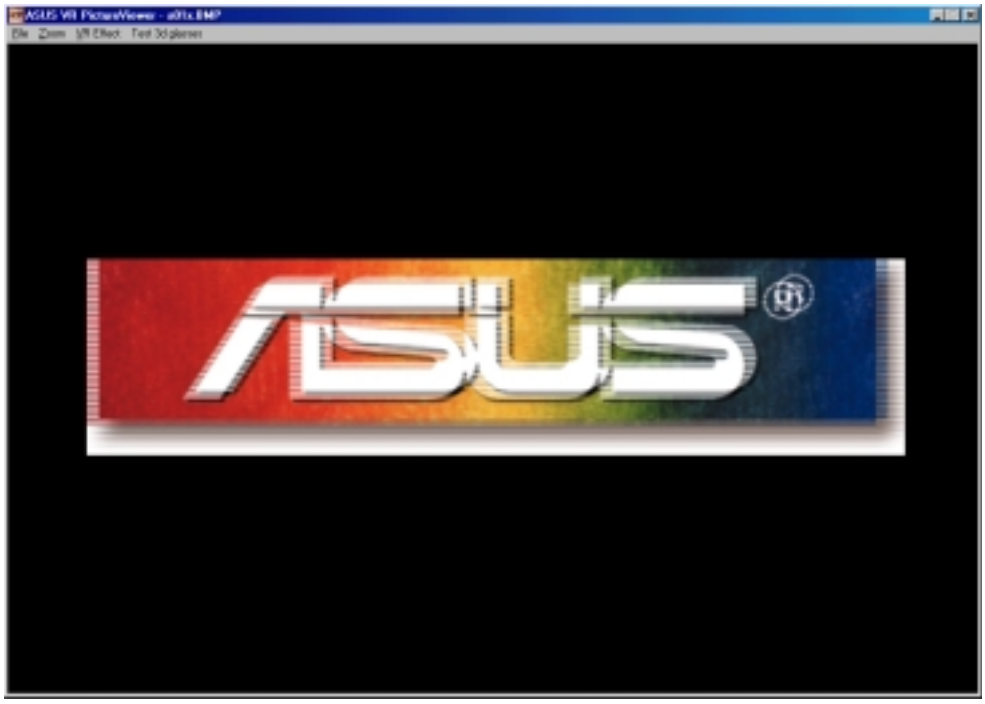
 **Toggle preview video:** Click button or click the **Options** menu and then **Preview** to toggle between the preview video options. A pressed button (or a checked **Preview** command) indicates that the preview is on and vice-versa.

 **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.

ASUS VR PictureViewer

Optional

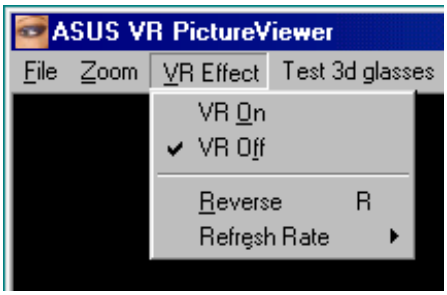
ASUS VR PictureViewer lets you view stereo images, size your stereo image, set the VR effect of your 3D glasses (ASUS VR-100G), and test your 3D glasses' functionality.



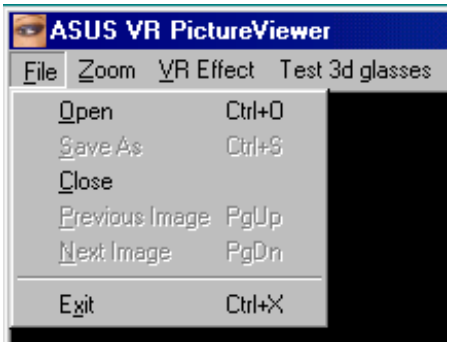
To run ASUS VR PictureViewer, click or right-click the ASUS Control Panel icon (*see* **IV. Software Reference | ASUS Control Panel**) on the taskbar's status area to display the ASUS Control Panel, point to **VR PictureViewer**, and then click it.

Opening or Displaying a Stereoscopic or 3D File

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

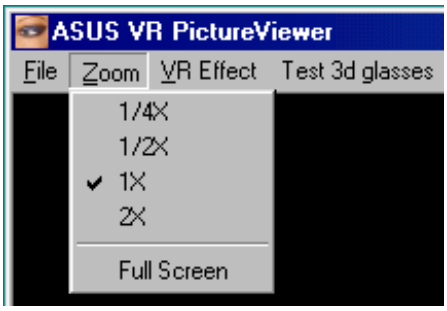


2. Click the **File** menu and then click **Open** to select a file. Select the file from the **Open** dialog box or select another folder and then click **Open**. The 3D image appears on the VrViewer main window (*see* preceding page for an opened 3D image file. Note that the 3D effect is not shown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



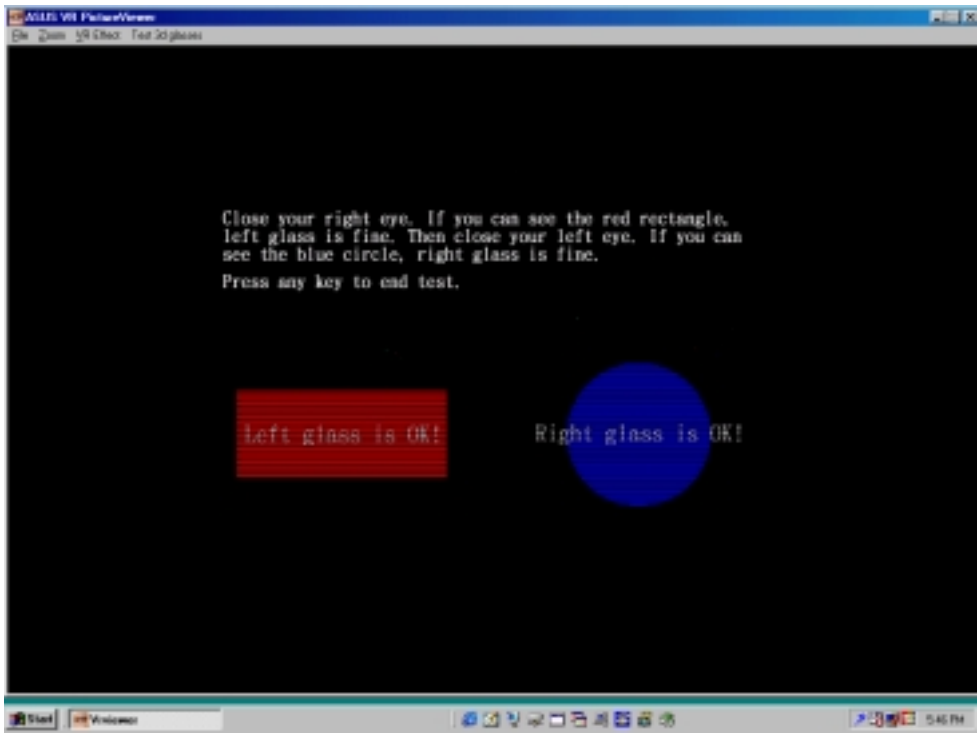
Changing the View

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



Testing the 3D Glasses

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



ASUS StereoTV

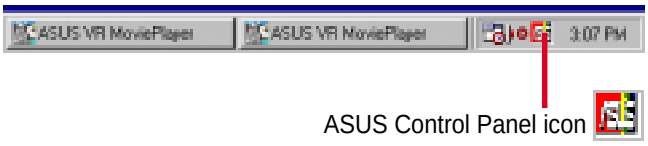
Optional
Windows 98 Only

NOTE: The ASUS StereoTV utility can only be used with the Deluxe/TVR (or models with Video-In/TV-Out) model.

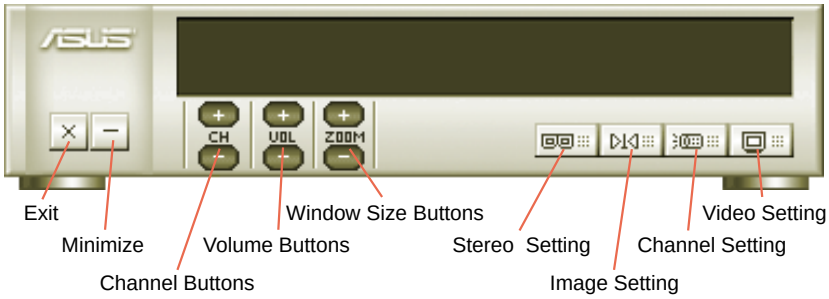
It can be used to view stereo video images with the optional 3D glasses (ASUS VR-100G) using your monitor or TV as screen from traditional consumer devices, such as videocassette players, camcorders, digital cameras, and laser disc players through the onboard RCA or SVHS VIDEO-IN connectors.

NOTE: You should already have installed DirectX 7 or higher to use ASUS StereoTV (*see* **III. Software Setup** | **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).

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**.

V. Resolution Table

8MB Video Memory

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	31.4KHz	√	√	√
	70Hz	34.9KHz	√	√	√
	72Hz	36.1KHz	√	√	√
	75Hz	37.6KHz	√	√	√
	85Hz	43.0KHz	√	√	√
	100Hz	51.0KHz	√	√	√
	120Hz	61.8KHz	√	√	√
	140Hz	72.9KHz	√	√	√
	144Hz	75.2KHz	√	√	√
	150Hz	78.7KHz	√	√	√
	170Hz	92.6KHz	√	√	√
	200Hz	108.6KHz	√	√	√
	240Hz	132.8KHz	√	√	√
	250Hz	138.6KHz	√	√	√
800 x 600	60Hz	37.9KHz	√	√	√
	70Hz	43.8KHz	√	√	√
	72Hz	45.1KHz	√	√	√
	75Hz	47.0KHz	√	√	√
	85Hz	53.6KHz	√	√	√
	100Hz	63.7KHz	√	√	√
	120Hz	77.2KHz	√	√	√
	140Hz	91.1KHz	√	√	√
	144Hz	94.0KHz	√	√	√
	150Hz	98.2KHz	√	√	√
	170Hz	112.8KHz	√	√	√
	200Hz	135.0KHz	√	√	√
	240Hz	166.3KHz	√	√	√
	250Hz	172.5KHz	√	√	√
1024 x 768	60Hz	48.4KHz	√	√	√
	70Hz	56.0KHz	√	√	√
	72Hz	57.5KHz	√	√	√
	75Hz	60.2KHz	√	√	√
	85Hz	68.6KHz	√	√	√
	100Hz	81.7KHz	√	√	√
	120Hz	98.8KHz	√	√	√
	140Hz	116.6KHz	√	√	√
	144Hz	120.0KHz	√	√	√
	150Hz	125.8KHz	√	√	√
	170Hz	144.0KHz	√	√	√
1152 x 864	60Hz	53.7KHz	√	√	√
	70Hz	62.9KHz	√	√	√
	72Hz	64.8KHz	√	√	√
	75Hz	67.6KHz	√	√	√
	85Hz	77.1KHz	√	√	√
	100Hz	91.3KHz	√	√	√
	120Hz	111.2KHz	√	√	√
	140Hz	131.4KHz	√	√	√
	144Hz	135.2KHz	√	√	√
	150Hz	141.3KHz	√	√	√
1280 x 1024	60Hz	64.0KHz	√	√	√
	70Hz	74.6KHz	√	√	√
	72Hz	76.8KHz	√	√	√
	75Hz	80.1KHz	√	√	√
	85Hz	91.3KHz	√	√	√
	100Hz	108.5KHz	√	√	√
	120Hz	131.6KHz	√	√	√
1600 x 1200	60Hz	74.6KHz	√	√	√
	70Hz	87.4KHz	√	√	√
	72Hz	90.1KHz	√	√	√
	75Hz	84.0KHz	√	√	√
	85Hz	107.1KHz	√	√	√
1920 x 1080	60Hz	67.1KHz	√	√	—
	70Hz	78.7KHz	√	√	—
	72Hz	81.1KHz	√	√	—
	75Hz	84.6KHz	√	√	—
	85Hz	96.4KHz	√	√	—
1920 x 1200	60Hz	74.6KHz	√	√	—
	70Hz	87.4KHz	√	√	—
	72Hz	90.0KHz	√	√	—
	75Hz	94.0KHz	√	√	—

V. Resolution Table

16MB Video Memory

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	31.4KHz	√	√	√
	70Hz	34.9KHz	√	√	√
	72Hz	36.1KHz	√	√	√
	75Hz	37.6KHz	√	√	√
	85Hz	43.0KHz	√	√	√
	100Hz	51.0KHz	√	√	√
	120Hz	61.8KHz	√	√	√
	140Hz	72.9KHz	√	√	√
	144Hz	75.2KHz	√	√	√
	150Hz	78.7KHz	√	√	√
	170Hz	92.6KHz	√	√	√
	200Hz	108.6KHz	√	√	√
	240Hz	132.8KHz	√	√	√
	250Hz	138.6KHz	√	√	√
800 x 600	60Hz	37.9KHz	√	√	√
	70Hz	43.8KHz	√	√	√
	72Hz	45.1KHz	√	√	√
	75Hz	47.0KHz	√	√	√
	85Hz	53.6KHz	√	√	√
	100Hz	63.7KHz	√	√	√
	120Hz	77.2KHz	√	√	√
	140Hz	91.1KHz	√	√	√
	144Hz	94.0KHz	√	√	√
	150Hz	98.2KHz	√	√	√
	170Hz	112.8KHz	√	√	√
	200Hz	135.0KHz	√	√	√
	240Hz	166.3KHz	√	√	√
	250Hz	172.5KHz	√	√	√
1024 x 768	60Hz	48.4KHz	√	√	√
	70Hz	56.0KHz	√	√	√
	72Hz	57.5KHz	√	√	√
	75Hz	60.2KHz	√	√	√
	85Hz	68.6KHz	√	√	√
	100Hz	81.7KHz	√	√	√
	120Hz	98.8KHz	√	√	√
	140Hz	116.6KHz	√	√	√
	144Hz	120.0KHz	√	√	√
	150Hz	125.8KHz	√	√	√
	170Hz	144.0KHz	√	√	√
1152 x 864	60Hz	53.7KHz	√	√	√
	70Hz	62.9KHz	√	√	√
	72Hz	64.8KHz	√	√	√
	75Hz	67.6KHz	√	√	√
	85Hz	77.1KHz	√	√	√
	100Hz	91.3KHz	√	√	√
	120Hz	111.2KHz	√	√	√
	140Hz	131.4KHz	√	√	√
	144Hz	135.2KHz	√	√	√
	150Hz	141.3KHz	√	√	√
1280 x 1024	60Hz	64.0KHz	√	√	√
	70Hz	74.6KHz	√	√	√
	72Hz	76.8KHz	√	√	√
	75Hz	80.1KHz	√	√	√
	85Hz	91.3KHz	√	√	√
	100Hz	108.5KHz	√	√	√
	120Hz	131.6KHz	√	√	√
1600 x 1200	60Hz	74.6KHz	√	√	√
	70Hz	87.4KHz	√	√	√
	72Hz	90.1KHz	√	√	√
	75Hz	84.0KHz	√	√	√
	85Hz	107.1KHz	√	√	√
1920 x 1080	60Hz	67.1KHz	√	√	√
	70Hz	78.7KHz	√	√	√
	72Hz	81.1KHz	√	√	√
	75Hz	84.6KHz	√	√	√
	85Hz	96.4KHz	√	√	√
1920 x 1200	60Hz	74.6KHz	√	√	√
	70Hz	87.4KHz	√	√	√
	72Hz	90.0KHz	√	√	√
	75Hz	94.0KHz	√	√	√

V. Resolution Table

32MB Video Memory

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	31.4KHz	√	√	√
	70Hz	34.9KHz	√	√	√
	72Hz	36.1KHz	√	√	√
	75Hz	37.6KHz	√	√	√
	85Hz	43.0KHz	√	√	√
	100Hz	51.0KHz	√	√	√
	120Hz	61.8KHz	√	√	√
	140Hz	72.9KHz	√	√	√
	144Hz	75.2KHz	√	√	√
	150Hz	78.7KHz	√	√	√
	170Hz	92.6KHz	√	√	√
	200Hz	108.6KHz	√	√	√
	240Hz	132.8KHz	√	√	√
	250Hz	138.6KHz	√	√	√
800 x 600	60Hz	37.9KHz	√	√	√
	70Hz	43.8KHz	√	√	√
	72Hz	45.1KHz	√	√	√
	75Hz	47.0KHz	√	√	√
	85Hz	53.6KHz	√	√	√
	100Hz	63.7KHz	√	√	√
	120Hz	77.2KHz	√	√	√
	140Hz	91.1KHz	√	√	√
	144Hz	94.0KHz	√	√	√
	150Hz	98.2KHz	√	√	√
	170Hz	112.8KHz	√	√	√
	200Hz	135.0KHz	√	√	√
	240Hz	166.3KHz	√	√	√
	250Hz	172.5KHz	√	√	√
1024 x 768	60Hz	48.4KHz	√	√	√
	70Hz	56.0KHz	√	√	√
	72Hz	57.5KHz	√	√	√
	75Hz	60.2KHz	√	√	√
	85Hz	68.6KHz	√	√	√
	100Hz	81.7KHz	√	√	√
	120Hz	98.8KHz	√	√	√
	140Hz	116.6KHz	√	√	√
	144Hz	120.0KHz	√	√	√
	150Hz	125.8KHz	√	√	√
	170Hz	144.0KHz	√	√	√
1152 x 864	60Hz	53.7KHz	√	√	√
	70Hz	62.9KHz	√	√	√
	72Hz	64.8KHz	√	√	√
	75Hz	67.6KHz	√	√	√
	85Hz	77.1KHz	√	√	√
	100Hz	91.3KHz	√	√	√
	120Hz	111.2KHz	√	√	√
	140Hz	131.4KHz	√	√	√
	144Hz	135.2KHz	√	√	√
	150Hz	141.3KHz	√	√	√
1280 x 1024	60Hz	64.0KHz	√	√	√
	70Hz	74.6KHz	√	√	√
	72Hz	76.8KHz	√	√	√
	75Hz	80.1KHz	√	√	√
	85Hz	91.3KHz	√	√	√
	100Hz	108.5KHz	√	√	√
	120Hz	131.6KHz	√	√	√
1600 x 1200	60Hz	74.6KHz	√	√	√
	70Hz	87.4KHz	√	√	√
	72Hz	90.1KHz	√	√	√
	75Hz	84.0KHz	√	√	√
	85Hz	107.1KHz	√	√	√
1920 x 1080	60Hz	67.1KHz	√	√	√
	70Hz	78.7KHz	√	√	√
	72Hz	81.1KHz	√	√	√
	75Hz	84.6KHz	√	√	√
	85Hz	96.4KHz	√	√	√
1920 x 1200	60Hz	74.6KHz	√	√	√
	70Hz	87.4KHz	√	√	√
	72Hz	90.0KHz	√	√	√
	75Hz	94.0KHz	√	√	√
2048 x 1536	AGP-V3800 Deluxe supports this resolution				

V. Resolution Table

(This page was intentionally left blank.)

VI. Troubleshooting

Description	Recommended Action
After installation and restarting, Windows 95/98 informs me that the display setting is still incorrect.	• Make sure the "Assign IRQ to VGA" option is enabled in the BIOS. • Check if there is enough IRQ for VGA. • Uninstall the driver, restart, and reinstall the driver.
My monitor is not capable of high resolution or refresh rate.	• It depends on the display characteristics of your monitor. Consult your monitor documentation for the proper configuration.
DirectX or the other applications report no AGP memory available.	• Windows 95 is not OSR2.1 or later. • DirectX version is not 6.0 or later. • You have not installed appropriate 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.
LIVE3800 reports that my board is not a TV model.	• Your adapter has no video-in options.
Games or applications report "No 3D acceleration hardware found."	• 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 cannot enable AGP memory or run I-Base test.	• 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.
My MPEG player displays bad quality video clips.	• You must install DirectX 6 or later so that your player can take advantage of the hardware acceleration mode (DirectDraw). • Try to switch to a lower resolution, color depth, or refresh rate. Switching to a lower mode allows your player to use hardware acceleration mode. • Switch dual view mode to VGA or TV mode.
Why can't I see anything when I adjust the display mode to 512x384 resolution? I've enabled OSD and VR stereoscope.	• The VR stereoscope only supports 640x480, 800x600, 960x720, 1024x768, 1152x864 (16 bits); and 640x480, 800x600 (32 bits) modes.

VI. Troubleshooting

Description	Recommended Action
My system freezes when I press my keyboard when I am playing Turok II.	• This occurs only when OSD is enabled in V1.91 or earlier drivers. If OSD is disabled, your system should not freeze. Upgrade your drivers to the latest version. Another workaround is to press the keyboard first before making any selection when the options menu of the game appears.