

V8460/V8440/V8420 Series

Programmable nFiniteFX™
Graphics Card

USER'S MANUAL
Hardware & Video Drivers

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CONTENTS

I. Introduction	7
Highlights	7
Available Models	7
ASUS V8460 / Deluxe, V8440 / Deluxe, V8420 / Deluxe	7
ASUS V8460 / TD, V8440 / TD, V8420 / TD	7
ASUS V8460 / DVI, V8440 / DVI, V8420 / DVI	7
Features	8
2. Hardware Setup	9
ASUS V8460 / V8440 / V8420 Deluxe	9
ASUS V8460 / V8440 / V8420 TD / DVI Series	10
Installation Procedures	11
New VGA Cards	11
Systems with Existing VGA Card	11
Operating System Requirements	12
Windows 98	12
3. Software Setup	13
Display Driver Installation	13
Windows 98	13
Method 1: ASUS Quick Setup Program	13
Method 2: Display Property Page	14
Method 3: Plug and Play	15
Windows 2000	15
Method 1: ASUS Quick Setup Program	15
Method 2: Plug and Play	16
Windows NT 4.0	18
Method 1: Display Property Page	18
Drivers	19
Install Display Driver	19
Install DirectX	20
Install GART Driver	21
Uninstall the Display Driver	23
Windows 98 / ME	23
Method1: Using the Autorun Screen	23
Method 2: Using the Control Panel	23
Windows 2000 / XP	25
Method1: Using the Autorun Screen	25
Method 2: Using Control Panel	25
Windows NT 4.0	25
Method 1: Using Control Panel	25
Install WDM Capture Driver	25
Utilities	26
Install ASUS Tweak Utility	26
Install SmartDoctor	27

CONTENTS

Install VideoSecurity	28
4. Software Reference	29
ASUS Control Panel	29
Refresh Rate	29
More Resolution	30
Information	30
Color	31
Advanced	33
Windows Display Properties	41
Digital Flat Panel	43
.....	44
TV	44
Color Correction	45
Digital Vibrance	45
Active Color Channel	45
Brightness / Contrast / Gamma	45
Custom color settings	45
GeForce4	46
Additional Properties	46
Using the ASUS Utilities	55
ASUS Tweak Utility	55
ASUS VideoSecurity	57
ASUS SmartDoctor	62
ASUS Digital VCR	65
ASUS VR PictureViewer	73
5. Resolution Table	74
6. Troubleshooting	76
7. Index	77

FCC & DOC COMPLIANCE

Federal Communications Commission Statement

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

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

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

WARNING! The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Canadian Department of Communications Statement

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

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

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

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I. Introduction

Thank you for purchasing an ASUS V8460 / V8440 / V8420 Series GeForce4™ Ti4600/4400/4200 Graphics Card. With this purchase, you join an ever-increasing elite squadron of graphics enthusiasts.

Powered by the NVIDIA™ GeForce4™ Ti4600/4400/4200 graphics processing unit (GPU) and featuring the new nFiniteFX™ engine and DDR (Double Data Rate) memory with Lightspeed Memory Architecture™, the ASUS V8460 / V8440 / V8420 Series delivers cutting-edge graphics performance and superior image fidelity – regardless of the CPU (central processing unit) your computer system is using.

With the ASUS V8460 / V8440 / V8420 Series, you will experience the most dynamic, realistic and compelling 3D worlds on the market today!

Highlights

- **Powered with the world's latest programmable 3D graphics chip architecture** NVIDIA® GeForce4™ Ti4600/4400/4200 Graphics Processing Unit (GPU) with the new nFiniteFX™ II engine
- **Built-in high speed 128 / 64MB DDR video memory with Lightspeed Memory Architecture™ II** Delivers earth-shattering performance and fluid motion even for the most complex scenes
- **Programmable vertex and pixel shader** Enables up to 32-matrix skinning, custom lighting and texture blending models
- **Up to 4.9 Billion Samples per Second FSAA Fill Rate, 1.23 Trillion Operations per Second ,76 GigaFLOPS** Breakthrough performance improvement compared with the GeForce3 series
- **Optimized for DirectX® 8 and OpenGL® Features** Ensures broad application support

Available Models

ASUS V8460 / Deluxe, V8440 / Deluxe, V8420 / Deluxe

- DDR Frame Buffer, VGA + DVI-out + TV-out + Video-in + 3D glasses

ASUS V8460 / TD, V8440 / TD, V8420 / TD

- DDR Frame Buffer, VGA + DVI-out + TV-out

ASUS V8460 / DVI, V8440 / DVI, V8420 / DVI

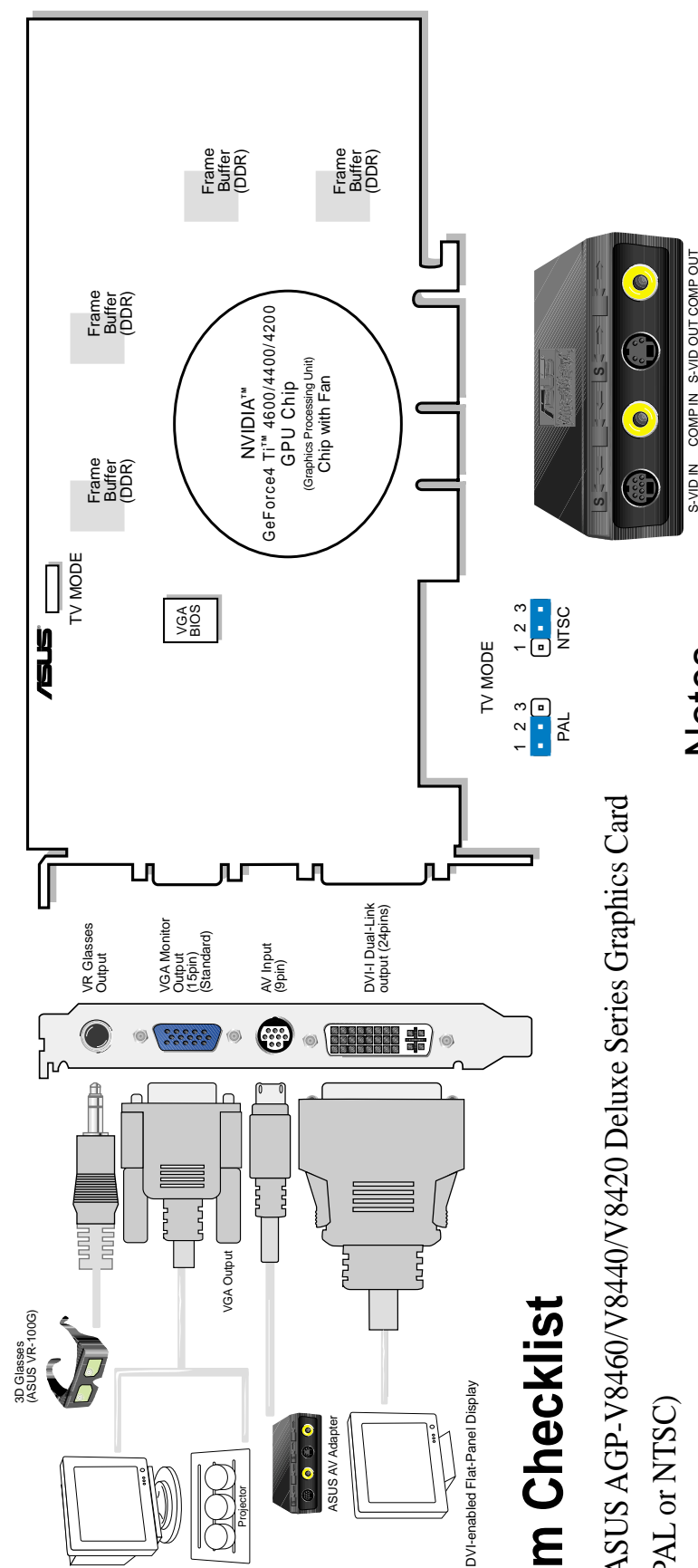
- DDR Frame Buffer, VGA + DVI-out

1. Introduction

Features

- The latest programmable nFinite-FX™II Engine: Ability to create an infinite number of special effects that bring realistic 3D characters and environments to life
- Up to 4.9 billion samples per second Full-scene Anti-aliasing (FSAA) fill rate
- 87 million triangles sampling and 800 billion operations per second
- RenderScale Technology and Lightspeed Memory Architecture II: Dramatically improve memory bandwidth efficiency up to 10.56GB/sec
- First to offer high resolution, high frame rate, Full-Scene Anti-aliasing (FSAA)
- Optimized for DirectX® and OpenGL® acceleration
- 8 texture-mapped, filtered, lit texels per clock cycle
- Single-pass multitexturing, 32-bit colors, Z/stencil buffer
- Advanced per-pixel lighting, texturing, and shading
- Cube environment mapping, bump mapping, S3 texture compression
- Programmable Vertex Shader offers complex animation to generate smooth animation and nature-look characters
- Programmable for lens effects, such as wide angle and fish eye
- Programmable for atmospheric effects, such as layer fog and volumetric fog
- Programmable Pixel Shader offers per-pixel Z-Correct reflective bump mapping
- Multibuffering (double, triple, quad) for smooth animation and video playback
- Multiple video windows with hardware color space conversion and filtering (YUV 4:2:2 and 4:2:0)
- AGP 4X / 2X / 1X complete support

ASUS V8460 / V8440 / V8420 Deluxe Series DDR Frame Buffer



Item Checklist

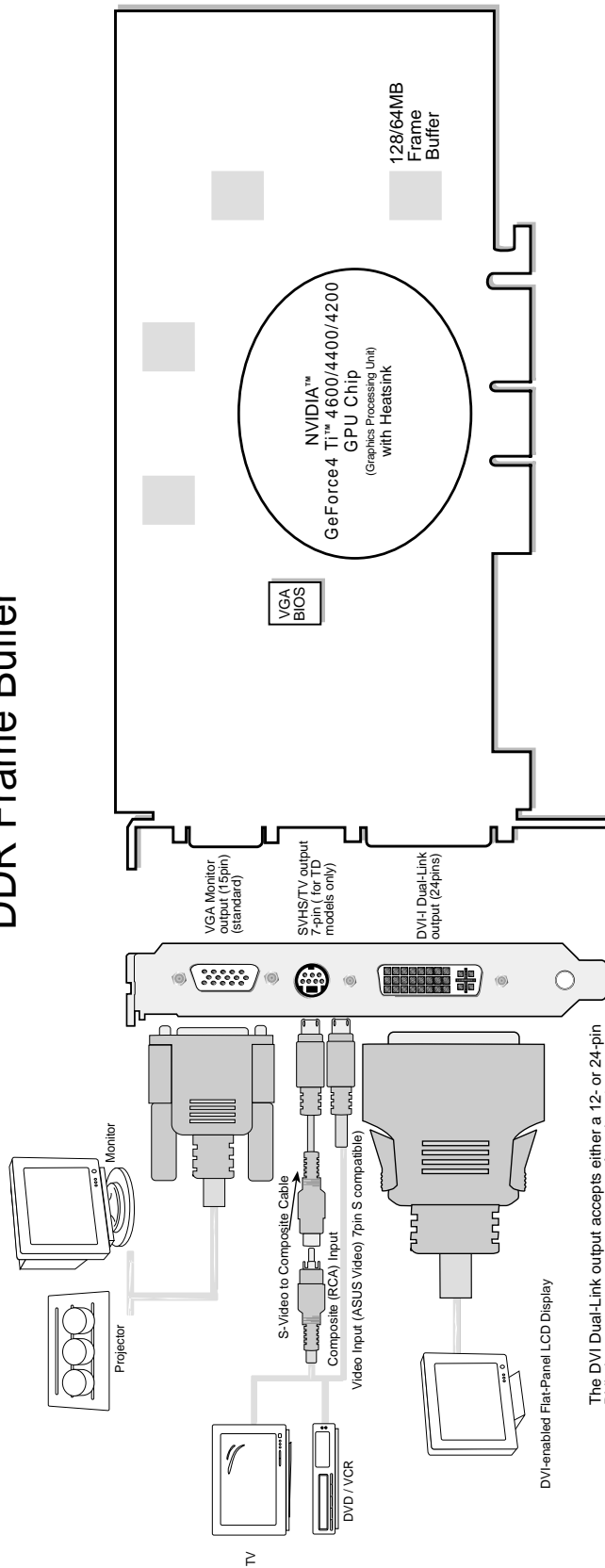
- ASUS AGP-V8460/V8440/V8420 Deluxe Series Graphics Card (PAL or NTSC)
- ASUS VR-100G
- User's Manual
- ASUS Driver and Utility CD Disc

Notes

- Use the same TV standard for all devices.
- and cannot be connected at the same time.
- Drawings are for reference only; actual cards may vary.

2. HW Setup
V8460/V8440/V8420
Deluxe Layout

ASUS V8460 / V8440 / V8420 TD / DVI Series DDR Frame Buffer





The DVI Dual-Link output accepts either a 12- or 24-pin DVI plug connector or a new type of analog plug connector that uses four additional pins, plus a ground plane plug to maintain constant impedance for the analog RGB signals.

Item Checklist

- ASUS AGP-V8460 V8440 V8420 / TD (DVI) Graphics Card (PAL or NTSC)
- ASUS VR-100G
- User's Manual
- ASUS Driver and Utility CD Disc

Notes

- Use the same TV standard for all devices.
-  and  cannot be connected at the same time.
- Drawings are for reference only; actual cards may vary.

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

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

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

Installation Procedures

New VGA Cards

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

Systems with Existing VGA Card

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

2. Hardware Setup

Operating System Requirements

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

Windows 98

Windows 98 supports full Direct3D and AGP features. If you are using a beta version of Windows 98 and you want to fully take advantage the Direct3D and AGP features, you must upgrade it 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 support CD to make sure that you have the latest version of VGARTD (*see* **3. Software Setup | Install GART Driver**).

NOTES

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

IMPORTANT!

- **To avoid damage to your graphics card**, unplug your computer's power supply before inserting your graphics card into the AGP slot.
- Make sure that the power supply of your motherboard can provide enough electrical current on the 3.3V lead to maintain normal operation.
- **Windows 98 and VIA Systems:** If your motherboard has a VIA-based chipset, the VIA VGARTD must be installed in normal mode.

3. Software Setup

Display Driver Installation

You can use one of the recommended methods to install the display drivers for your graphics card, depending on your operating system.

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

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 3. Software Setup | Install GART Driver and 3. Software Setup | Install DirectX* later in this manual for the setup steps.

Method 1: ASUS Quick Setup Program

NOTE: *See 3. Software Setup | Drivers | Install Display Driver* for more information.

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

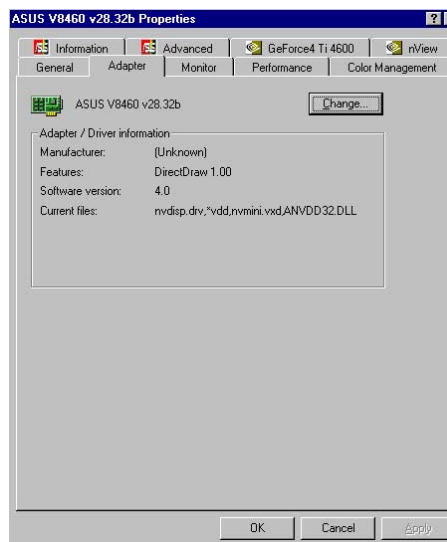


5. Follow the onscreen instructions to complete the setup.
6. When Setup has finished installing all the necessary files on your computer, it will prompt you to restart your computer. Click **Yes...** and then **Finish** to restart your computer and to complete Setup.

3. Software 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 (WIN9X folder) 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.

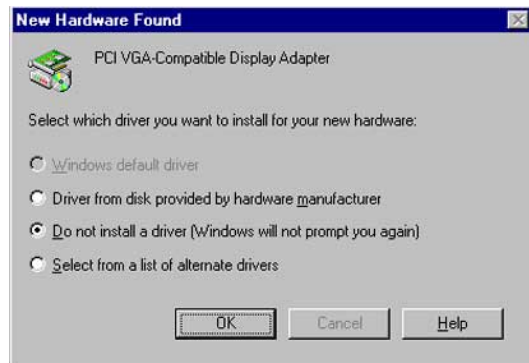


3. Software Setup

Method 3: Plug and Play

NOTE: Before proceeding with the following steps, replace your old VGA card with the ASUS V8460/V8440/V8420 series graphics card.

1. Start Windows.
2. When Windows detects your ASUS V8460/V8440/V8420 series graphics card, the **New Hardware Found** dialog box appears.
3. Click **Driver from disk provided by hardware manufacturer**.
4. When Setup prompts you for the location of the driver, type D:\WIN9x to direct Setup to the INF file and then click **Finish** to install the driver.
5. When Setup has finished installing all the necessary files on your computer, it will prompt you to restart your computer. Click **Yes** to restart your computer and to complete Setup.



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.



3. Software 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**.



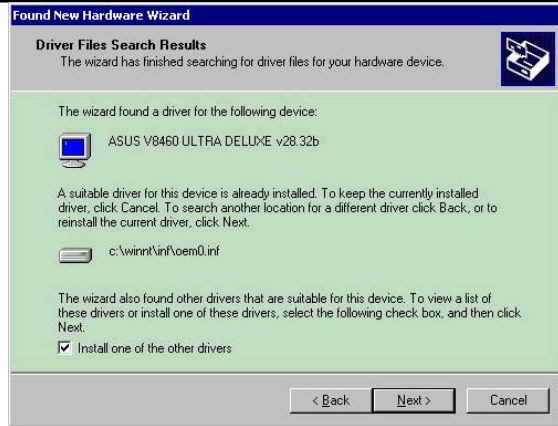
5. Insert the CD installation disc into your CD-ROM drive to bring up the **Locate Driver Files** item of the **Found New Hardware Wizard** dialog box.



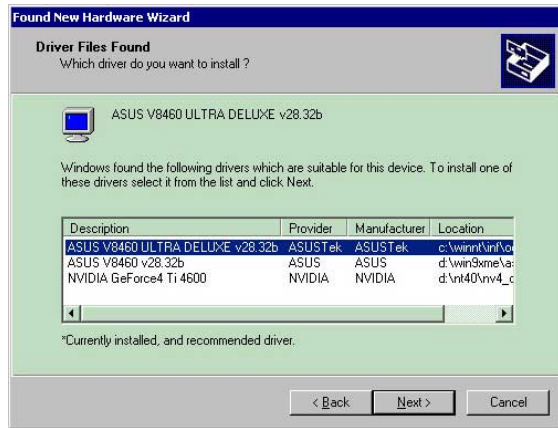
6. Check **CD-ROM drives**, uncheck all other options and then click **Next** to search for the drivers of your graphics card.

3. Software Setup

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:\WIN2KXP\ASUS 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.
11. Click **OK** to restart your computer and to complete Setup.

3. S/W Setup
Display Drivers

3. Software 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 V8460/V8440/V8420** 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.

3. Software Setup

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, Windows NT 4.0, and Windows XP.

Install Display Driver

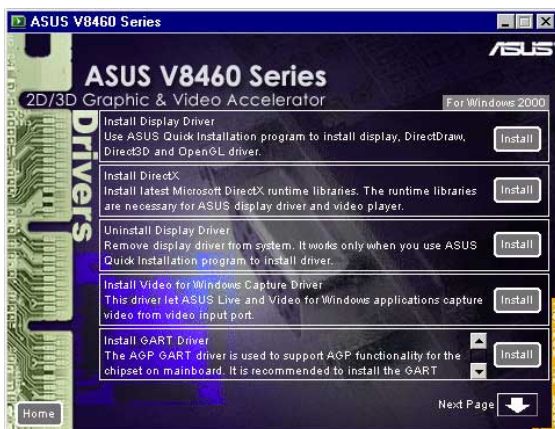
1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.

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: SETUPNT4.TXT will appear. Follow the instructions to install the display driver. You may refer to the installation procedures earlier in **3. 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.

3 Steps
Drivers

3. Software Setup

Install DirectX

Microsoft DirectX allows 3D hardware acceleration support in Windows 98, Windows 2000, Windows NT 4.0, and Windows XP. 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.

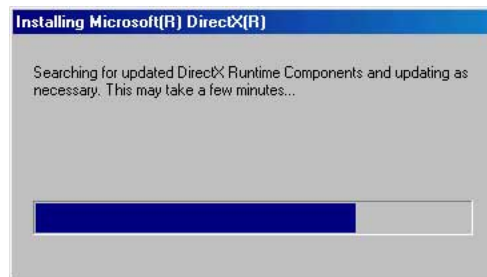
Click **Drivers**.



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 8.1 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 DirectX8. Make sure that your applications or games support DirectX8 before installing the DirectX8 runtime libraries. DirectX8 currently cannot be uninstalled by regular means, such as outlined in **3. Software Setup | Uninstall Display Driver**.

3. Software Setup

Install GART Driver

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.

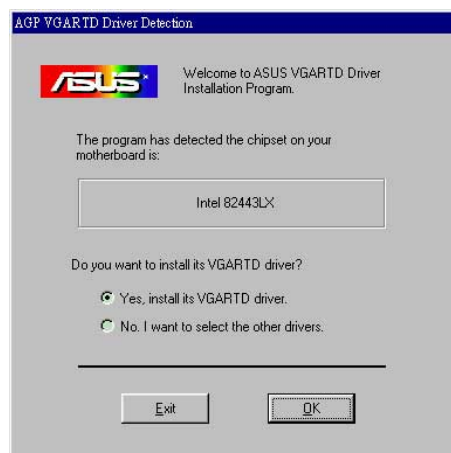
NOTE: Installation dialogs are slightly different for each chipset. Follow the on-screen instructions to finish the GART driver installation. The succeeding steps assume that you are installing for an Intel chipset.

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.



3 Steps
Drivers

3. Software Setup

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**.



3. Software Setup

Uninstall the 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 / ME

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 the 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.



3. Software Setup

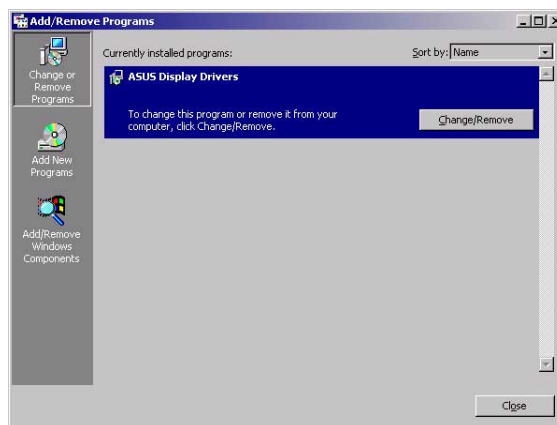
Windows 2000 / XP

Method 1: 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.

3. Software Setup

Install WDM Capture Driver

The WDM Capture Driver must be installed to use some of the latest VCR applications. The driver conforms to the Microsoft Windows Driver Model (WDM) 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.

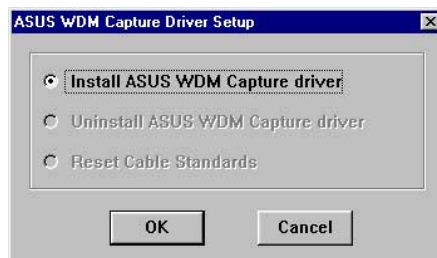
Click **Drivers**.



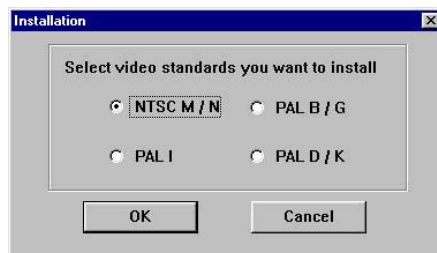
2. The **Drivers** box appears. Click the **Next Page** arrow and then click **Install WDM Capture Driver**.



3. When the **ASUS WDM Capture Driver Setup** box appears, click **Install ASUS WDM Capture driver** and then click **OK**.



4. When the **Installation** box appears, click the appropriate TV standard for your system and then click **OK**.



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

3. Software Setup

Utilities

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.

3. Software Setup

Install SmartDoctor

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

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

Click **Utilities**.



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

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



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

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



3. S/W Setup
SmartDoctor

3. Software Setup

Install VideoSecurity

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.



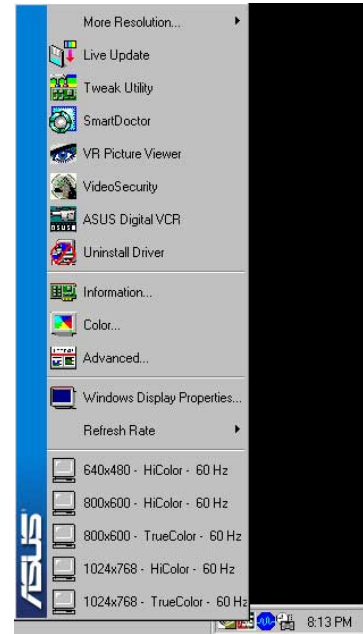
To complete the installation, simply follow the on-screen instructions or prompts.

4. Software Reference

ASUS Control Panel

After installing the display drivers, look for an **ASUS icon** on the **taskbar's status area**. **Clicking** this icon opens the **ASUS Control Panel**, a menu composed of shortcuts to the graphics board's various enhanced functions.

Alternatively: **right-click** the **Windows desktop**, then **click** the **Windows Display Properties** field and then **click** the **Settings** tab. With **Windows 98/2000**, next **click** the **Advanced** button on the **Settings** menu. **Click** the appropriate tab to change the display settings.



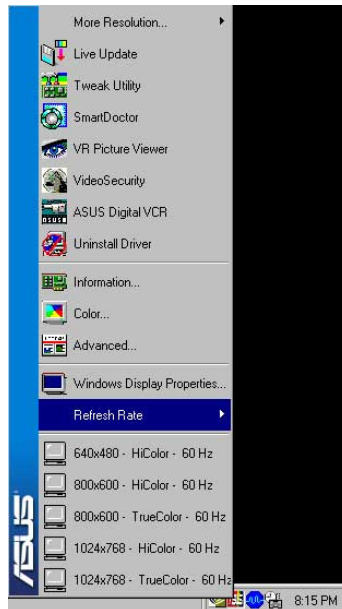
ASUS Control Panel icon 

Refresh Rate

This control changes the refresh rate of the current screen resolution.

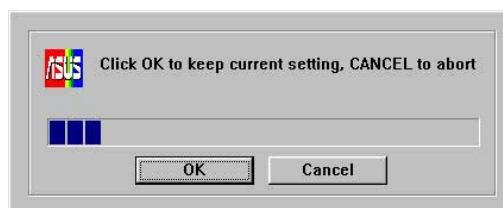
WARNING! Be sure that the refresh rate that you select is supported by your monitor. Selecting a refresh rate that is beyond your monitor's specification may damage it. **Press ESC to restore your original settings in case of problems.**

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



4. S/W Reference
Refresh Rate

Next, the system prompts whether to keep the setting. **Click OK** to keep the setting, otherwise, **click Cancel** or **press ESC**.

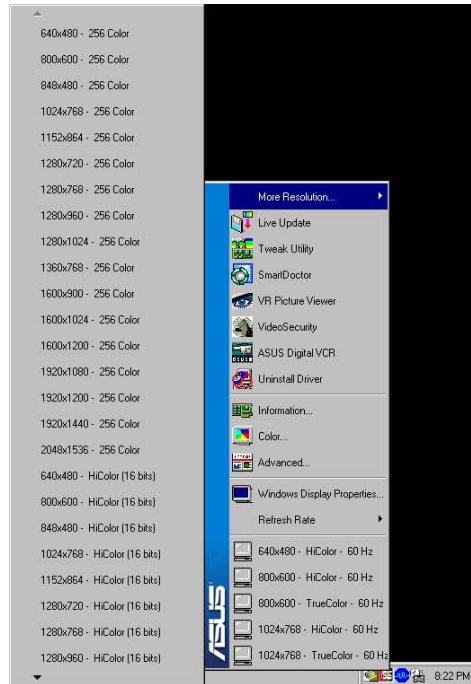


4. Software Reference

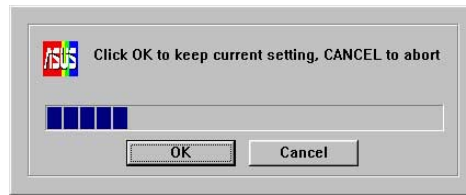
More Resolution

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

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.

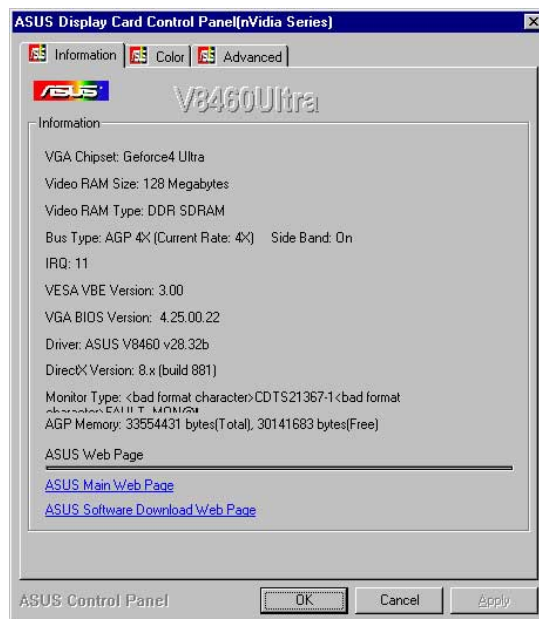


WINDOWS 95 USERS: You will be prompted to restart your computer if you select a screen resolution with a different color depth, for example, from 800x600 HiColor to 800x600 TrueColor. Click **OK** to restart your computer to make the change.



Information

Information lists pertinent data about the graphics card. It supplies links to the ASUSTeK COMPUTER, INC. web site for accessing updated data about the graphics board and its latest drivers.



4. Software Reference



Color

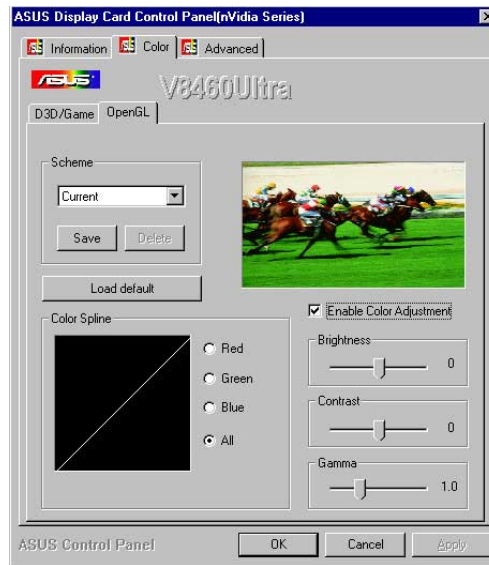
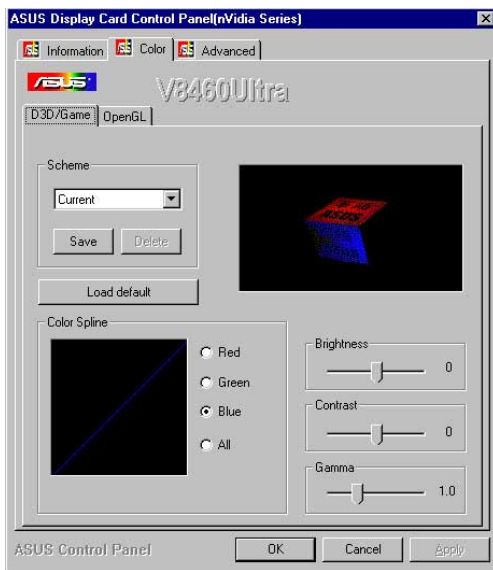
Color facilitates **adjustments** to the **brightness**, **contrast** and **gamma** values for each or all of the **RGB colors**. These adjustments can be made for **D3D/Game** and **OpenGL** environments.

D3D/Game

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

OpenGL

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



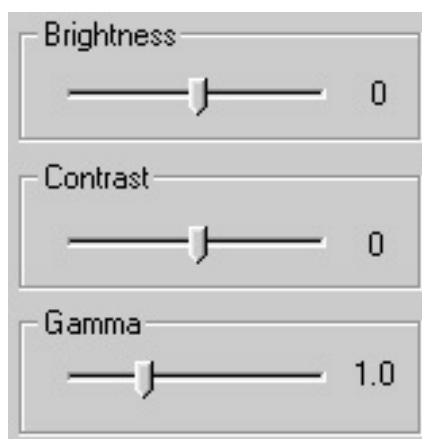
NOTE: The color settings of D3D/Game and OpenGL are not adjustable **below** 8-bit color depth.

4. Software Reference

General Functions

Brightness / Contrast / Gamma

Three sliders calibrate the brightness, contrast, and gamma output of the display card.



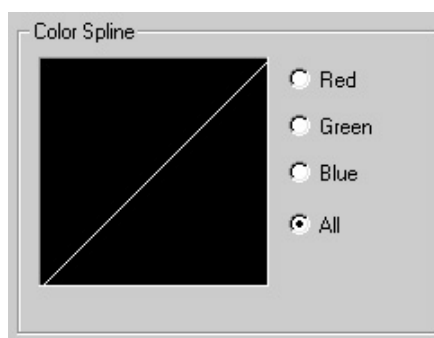
D3D/Game / OpenGL

Changes to 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; and Gamma value 0.2 to 3.0, default: 1.0.

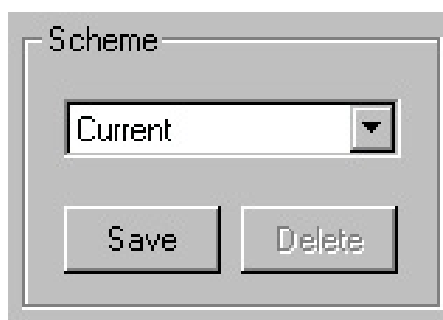
Color Spline

This tool shows the distribution of **Red, Green and Blue** color channels as adjustments are made to the **Brightness, Contrast, or Gamma** sliders. Adjust all channels at once: (**All**); or, make individual changes to each channel: (**R, G, or B**).



Scheme

This tool changes the appearance of many screen elements simultaneously and functions like a macro; saving a scheme retains particular system presets. Apply existing schemes, or create and save schemes by saving the current settings; existing schemes may be deleted. A scheme may be developed to satisfy the requirements of special situations, ie.: whenever playing a certain game or a movie.



Important Note

D3D/Game

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

4. Software Reference



Advanced

This menu supplies sophisticated settings for use with the **ASUS VR-100G 3D Glasses**. These settings are available only with the **Deluxe/TVR** models with **Video-In/TV-Out**, or models with the **ASUS VR-100 Optional Upgrade Kit**.

Direct3D

VR Effect

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

Enable Stereoscopic Mode

When selected, this feature enables the stereoscopic mode when playing Direct 3D games.

NOTE: Quit all running DirectDraw/Direct3D applications and then restart them for options to take effect.

Load Default

Restores the initial settings.

Depth

Adjust this to add more depth to the scene.

NOTE: A very high setting may cause eyes discomfort.

Embossment

Adjust this to add more to the impression that screen objects are being pulled or seem to pop from the screen. (See **On Screen Display** later in this section for more details.) **NOTE:** A very high setting may cause eyes discomfort.

Direction

Sometimes, moving the slider to the left when adjusting **embossment** does not give the expected effects. Therefore, it may be necessary to adjust the **direction** effect slider **leftwards** to gain added responsiveness.

Foreground

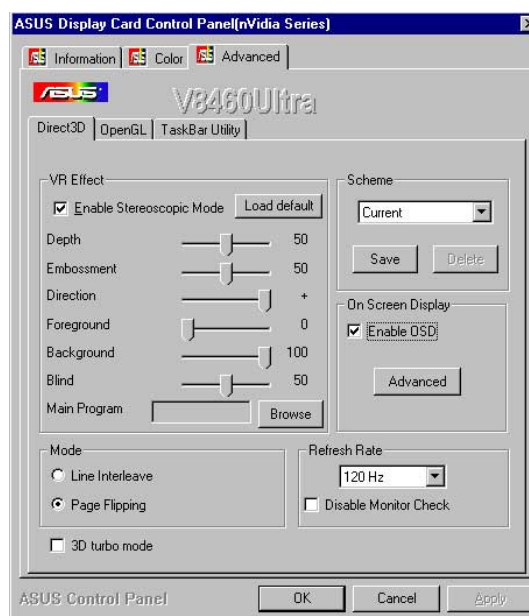
Foreground is set in conjunction with **background** to stretch the **histogram chart** on the **D3D OSD box** of current games to scale the depth of 3D objects. Move the **foreground** slider **leftwards** to shift the foreground along the Z-axis towards “0.”

Background

Background is set in conjunction with **foreground** to stretch the **histogram chart** on the **D3D OSD box** of current games to scale the depth of 3D objects. Move the **foreground** slider **leftwards** to shift the foreground along the Z-axis toward “100.”

Blind

This slider discards “garbage,” cropping out unwanted areas from the left/right peripheries of the display. Setting to “0” does not discard any of the display area, while setting to a higher value crops them away.



4. Software Reference

Main Program

This field is used in conjunction with the **Scheme** function **below**. When selecting a D3D OSD scheme for a specific program, load the scheme default file.

Mode

Line Interleave

Select this option for better monitor compatibility, particularly for monitors with less bandwidth or less range of horizontal/vertical frequency. Stereoscopic visual quality, however, will be poor since only half the vertical lines are generated.

Page Flipping

Select this option for the best stereoscopic visual quality. Page flipping provides double vertical resolution compared with Line Interleave. The 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. Consult documentation to make sure that your monitor supports the selected refresh rate; otherwise, your monitor may become unstable, ie.: a blank screen may occur.

Disable Monitor Check

Disables the specification check on the monitor.

Note: Choosing a resolution or refresh rate in excess of monitor specifications may damage the monitor.

Scheme

This field lists the various default schemes that change the appearance of many screen elements simultaneously. Use existing schemes by selecting from the games listed in the drop-down menu and then go to the **main program** field to **browse** for the default settings file supplied with each game for D3D OSD settings. Create and save your own scheme by saving current custom settings. Unwanted schemes may be deleted. 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.

Tips for VR!

1. Make sure that the 3D screen objects do not appear either too far apart, or separated into slightly overlapping images. These effects indicate **over-** or **under-compensation**. **Readjust** the settings to avoid eyestrain.
2. Settings may be adjusted to make some objects appear to hover above the screen area as other objects float below the surface. A ratio of 1:3 to 1:5 of objects above to below is recommended.
3. For race games, use **embossment** to make your car appear above the screen.
4. For first-person shooting games, use **embossment** to make only your hand/weapon appear above the screen.

4. Software Reference

On Screen Display

Enable OSD

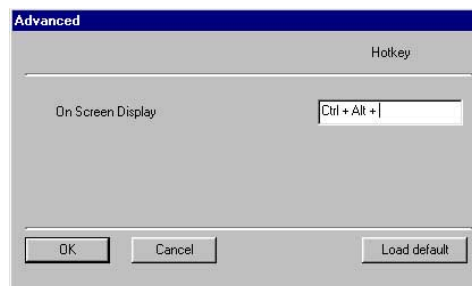
Clicking on the check box enables access to the **advanced** box. When selected, this option opens the **D3D On Screen Display**. Use the defined **Hotkey** and adjust the onscreen settings of the 3D glasses and display card while playing Direct 3D games or watching 3D movies.

Advanced

Click on the button to access the **advanced** box to access **hotkey** assignments.

Hotkey

This function assigns hot keys to enable onscreen display or OSD. Select **Enable OSD** then **click** on the **advanced button**. Change the default hot key (CTRL + ALT + O) if it conflicts with hot keys of certain games, video players or Windows programs.



To change the default hot keys

With the mouse cursor in the **Hotkey** box, press the hot key combination of your choice (only **CTRL + ALT + X** key combinations can be defined). Keys that are unavailable for hotkey **X** values include: ESC, ENTER, TAB, SPACEBAR, PRINT SCREEN, or BACKSPACE. Press any other key to complete the combination. For example: to define the hot key combination **CTRL+ALT+D**, having placed the cursor in the box - **press D**.

NOTE: Hot keys will be available only if you selected the **Enable OSD** check box

IMPORTANT: Before enabling *D3D* stereoscopic mode and using the stereoscopic or 3D glasses (ASUS VR-100G), make sure the monitor can support the selected refresh rate (interlaced mode) under the following display scales:

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 stereoscopic or 3D glasses, DO NOT use 3D glasses for an extended period of time. Take frequent short breaks to give your muscles and eyes a chance to rest: remove the 3D glasses and then look up and focus on distant objects.

4. Software Reference

Typical D3D OSD Onscreen Game Settings



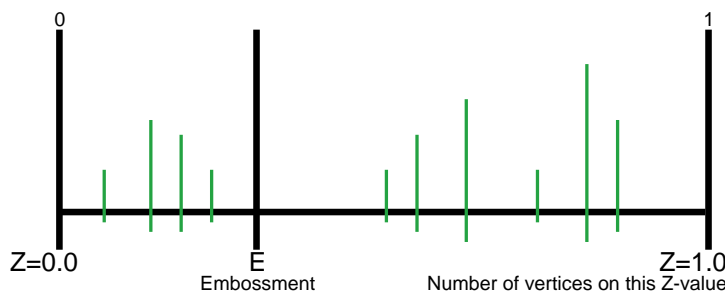
Beetle Crazy Cup™ is copyright © 2000 by INFORFRAMES
Original idea and development by XPIRAL™ (Efecto Caos S.L.)

When selected, the **D3D onscreen menu** helps to adjust the settings of 3D glasses and the display card while playing games or watching 3D videos. Typical **D3D OSD** onscreen settings include: **Depth**, **Embossment**, **Direction**, **Background**, **Foreground**, **Blind**, **Brightness**, **Contrast**, and **Gamma**.

In most games, use the keyboard **UP** or **DOWN** arrow keys to select a new setting. The **PLUS** or **MINUS** keys move the sliders. To restore the defaults, press the **HOME** key. To close screen settings display, use the **END** key.

D3D/OSD Histogram

The OSD Histogram Chart pinpoints the Z-axis range upon which 3D objects appear as well as how they gather. For example, if the above chart (simulated) was displayed for a car racing game, the vertices to the **left** of the **E** line could be the model of the game player's car, and those objects to the **right** of the **E** line could be the road, houses, other cars or trees in front of the car.



So, with this information, the user may:

- Adjust **embossment** by moving the **E** line.
- Adjust **foreground/background**, thus stretching out 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 ASUS support CD for the latest information: D3DVR.TXT in the WIN9XME folder.

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4. Software Reference

OpenGL

VR Effect

Lists all parameters to fine tune the stereoscopic effects for **OpenGL** games.

Enable Stereoscopic Mode

When selected, this enables the stereoscopic mode when using **OpenGL 3D** applications and games with the **ASUS VR-100G 3D Glasses**. These settings are available only with the **Deluxe/TVR** models with **Video-In/TV-Out**, or models with the **ASUS VR-100 Optional Upgrade Kit**.

Eyes

This field records the measure of the distance between both eyes. Adjustment brings 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.

NOTE: A very high setting may cause eyes discomfort.

Embossment

Adjust this to add more to the impression that screen objects are being pulled or seem to pop from the screen. To achieve a better stereoscopic visual quality, set **Embossment** in conjunction with **View Angle**. (See **On Screen Display** later in this section for more details.)

Mode

Line Interleave

Select this option for better monitor compatibility, particularly for monitors with less bandwidth or less range of horizontal/vertical frequency. Stereoscopic visual quality, however, will be poor since only half the vertical lines are generated.

Page Flipping

Select this option for the best stereoscopic visual quality. Page flipping provides double vertical resolution compared with Line Interleave. The monitor must be able to support the high frequency (at least 100Hz) necessary for this mode.

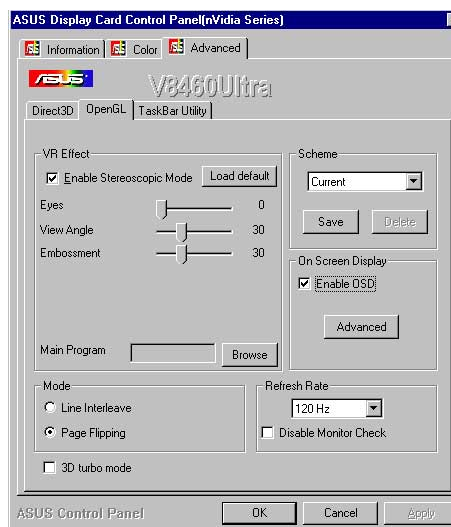
Refresh Rate

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

Disable Monitor Check

Disables the specification check on the monitor.

Note: Choosing a resolution or refresh rate in excess of monitor specifications may damage the monitor.



4. Software Reference

Scheme

This field lists the various default schemes that change the appearance of many screen elements simultaneously. Use existing schemes by selecting from the games listed in the drop-down menu and then go to the **main program** field to **browse** for the default settings file supplied with each game for OpenGL OSD settings. **Click** on **Save** to engage the file with the NVIDIA system. Create and save your own scheme by saving current custom settings. Unwanted schemes may be deleted. 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

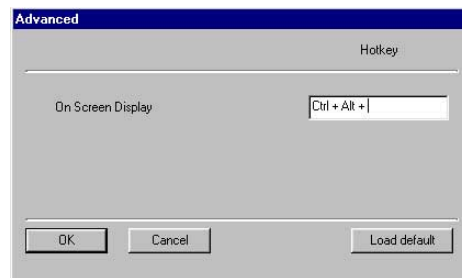
Clicking on the check box enables access to the **advanced** box. When selected, this option opens the **OpenGL On Screen Display**. Use the defined **Hotkey** and adjust the onscreen settings of the 3D glasses and display card while playing Direct 3D games or watching 3D movies.

Advanced

Click on the button to access the **advanced** box to access **hotkey** assignments.

Hotkey

This function assigns hot keys to enable onscreen display or OSD. Select **Enable OSD** then **click** on the **advanced button**. Change the default hot key (CTRL + ALT + O) if it conflicts with hot keys of certain games, video players or Windows programs.



To change the default hot keys

With the mouse cursor in the **Hotkey** box, press the hot key combination of your choice (only **CTRL + ALT + X** key combinations can be defined). Keys that are unavailable for hotkey **X** values include: ESC, ENTER, TAB, SPACEBAR, PRINT SCREEN, or BACKSPACE. Press any other key to complete the combination. For example: to define the hot key combination **CTRL+ALT+D**, having placed the cursor in the box - **press D**.

NOTE: Hot keys will be available only if you selected the **Enable OSD** check box.

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

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.

4. Software Reference

Typical OpenGL OSD Onscreen Game Settings



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

When selected, the **OpenGL onscreen menu** helps to adjust the settings of 3D glasses and the display card while playing games or watching 3D videos. Typical OSD onscreen settings include: **Eyes**, **View Angle**, **Embossment**, **Brightness**, **Contrast**, and **Gamma**.

In most games, use the keyboard **UP** or **DOWN** arrow keys to select a new setting. The **PLUS** or **MINUS** keys move the sliders. To restore the defaults, press the **HOME** key. To close screen settings display, use the **END** key.

Known Issues on Selected Games/Applications

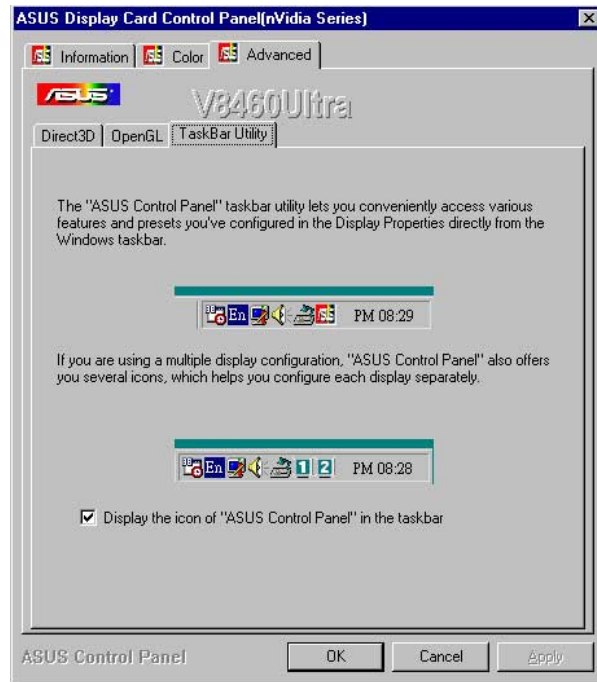
See the included support CD for the latest information: OPENGLVR.TXT in the WIN9XME folder.

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4. Software Reference

TaskBar Utility

This utility gives convenient access to various features and presets that may be configured in the **Display Properties Menu** directly from the **Windows taskbar**.




4. Software Reference

Windows Display Properties

The Windows Display Properties is a control panel that helps to make screen adjustments: to the display positions and to color correction, including: brightness, contrast, and gamma. The display properties menu is useful to enable and configure the TwinView display and to make additional property adjustments.

To use **Windows Display Properties**, click the ASUS icon on the taskbar's status area to open the **ASUS Control Panel Menu**. Click **Windows Display Properties**, click the **Settings** tab, and then click **Advanced**.

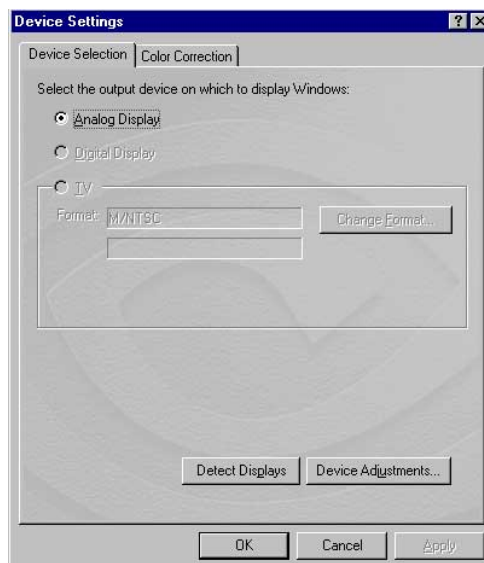
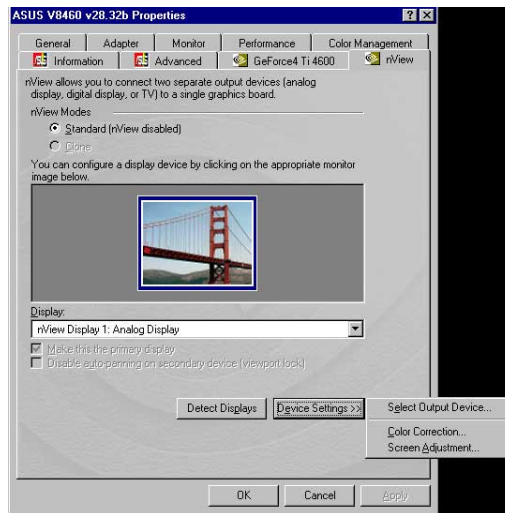
NOTE: Instead of clicking the ASUS Control Panel icon, you may right-click the Windows 98/2000 desktop, click **Properties**, and then click the **Settings** tab. Then click the **Advanced** button on the bottom right. Click the appropriate tab (with the NVIDIA icon ) to change your display settings.

TIP! You can almost always get more information about a particular option by right-clicking it and then clicking **What's This?**

Device Selection

Click the Device Settings and then click the Select Output Device.

Select the device/devices connected to your card (Analog Monitor, Digital Flat Panel, TV) or click **Detect Displays** to detect the connected device/devices.



WARNING! Adjusting position or size 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.**

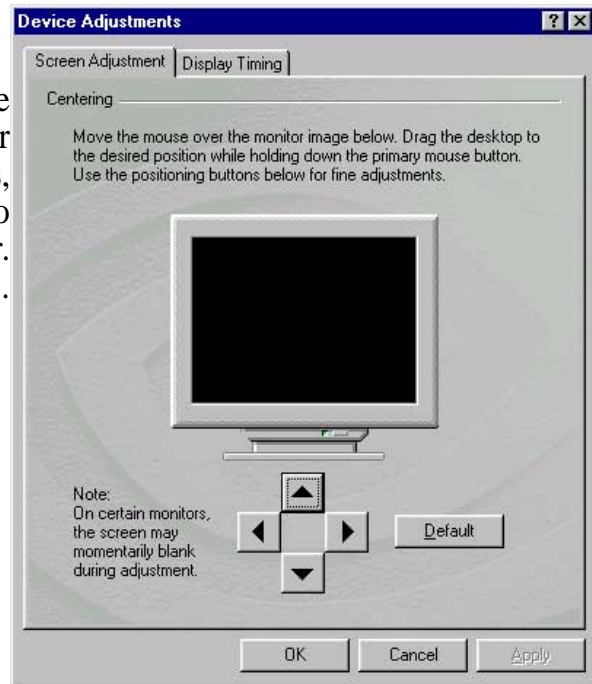
4. SW Reference
Display Properties

4. Software Reference

Analog Monitor

Screen Adjustments

Two submenus permit changes to the position and proper timing mode for your monitor. In **Screen Adjustments**, follow the onscreen instructions to adjust the position of your monitor. For fine adjustments, use the arrows.



Display Timing

Selects the proper timing mode.

Auto-Detect allows Windows to receive the proper timing information directly from the monitor itself.

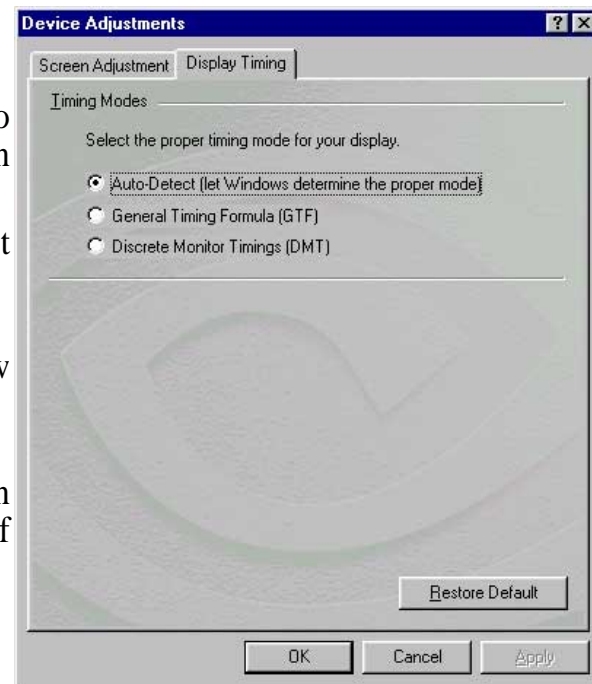
NOTE: Some older monitors may not support this feature.

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.



4. Software Reference

Digital Flat Panel

The following options determine the placement of the image on the flat panel display when running at resolutions lower than the maximum resolution supported.

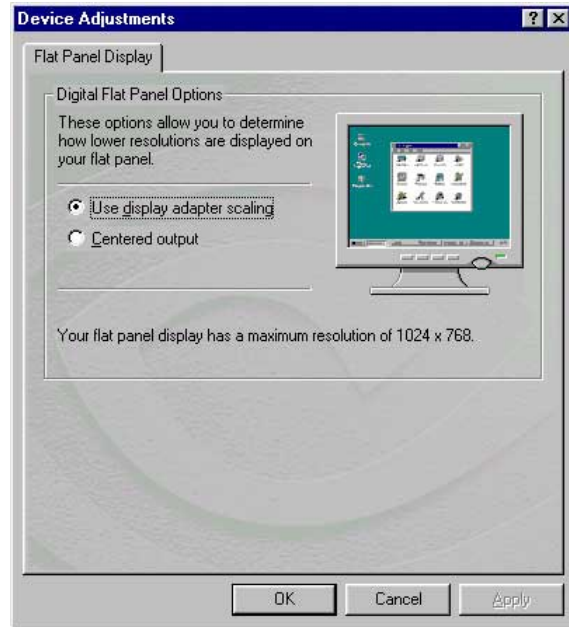
Use display adapter scaling

Adapter automatically scales the appearance of the display on the monitor. (default)

Centered output

Centers the image on the flat panel and does not adjust the scale.

NOTE: This function is only available with DVI/2V1D cards.



4. Software Reference

TV

Change Format

Opens a window that specifies a particular TV output format.

NOTE: This function is only available with T/Deluxe Combo cards.

Video output format

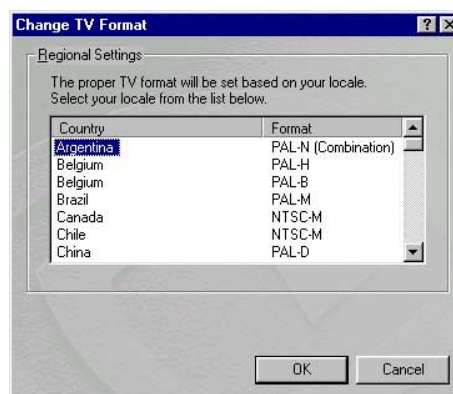
This field specifies the type of output signal sent to the TV. If the correct connector cable is connected, **S-Video out** will generally provide a higher quality output than **Composite video out**. Specify **Auto-select** to make the system determine the output signal.



Change TV Format Window

Selects the TV/video output format based on local country standards.

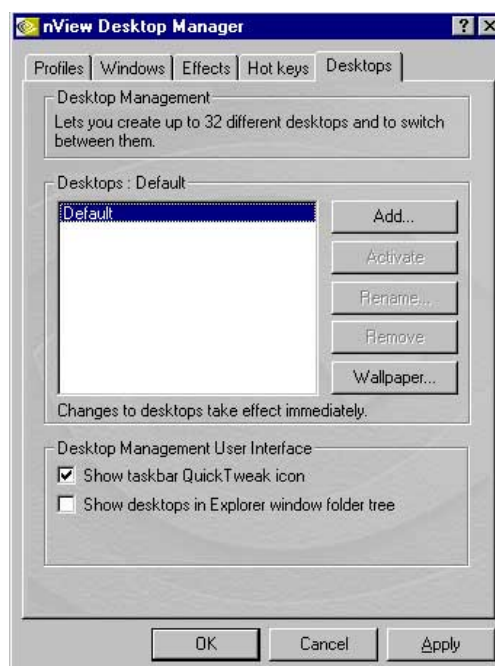
NOTE: If your country is not in the list, find out which type of TV/video output format is most commonly used locally and select it; ie.: PAL-D or NTSC-M.



Device Adjustments

Screen Positioning

Selects the TV/video output format based on the four quadrants indicated by the arrows. Click on the arrows to reposition output on the TV monitor.



4. Software Reference

Color Correction

This menu enables color adjustments like **brightness, contrast, and gamma** values for each or all of the RGB colors on the desktop.

Digital Vibrance

This setting controls the color separation and intensity of the Windows desktop.

NOTE: Increasing the levels may result in bold, dynamic visuals with sharp and balanced colors.

Active Color Channel

This setting coordinates all channels at once (**All channels**) or allows for adjustment of individual channels (**Red, Green, or Blue**).

Brightness / Contrast / Gamma

These sliders help calibrate the visual output of the display card. Changes to color settings are shown immediately on the monitor.

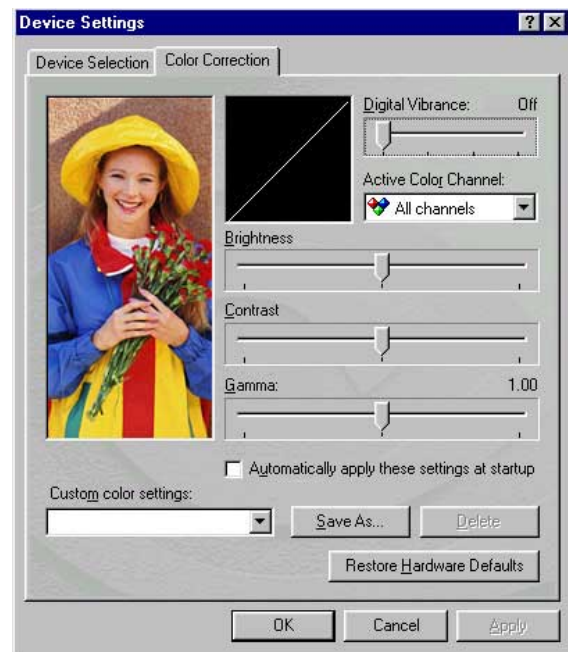
Automatically apply these settings at startup

Selecting this option will automatically restore the color adjustments when Windows is restarted.

NOTE: If the PC is running on a network, the color will be adjusted after you have logged on to Windows.

Custom color settings

This field lists the new settings. These settings can be used to change the appearance of many screen elements simultaneously. Create and/or save current settings, or delete unwanted settings. A setting may be created, saved and reused for special situations.



4. SW Reference
Color Correction

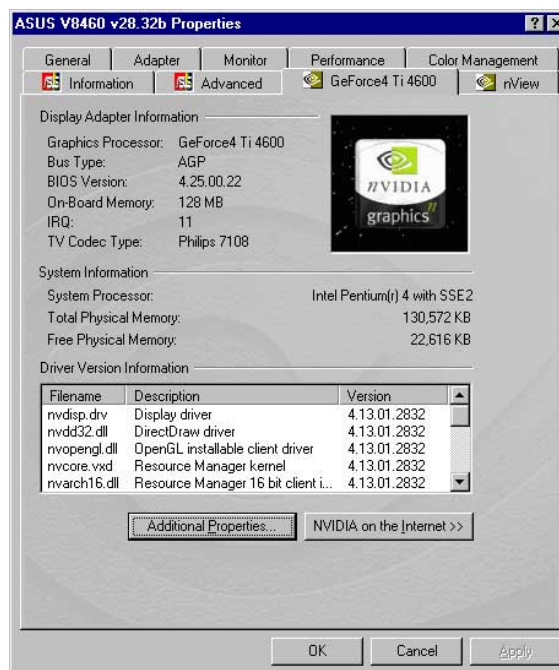
4. Software Reference

GeForce4

The **GeForce4Ti4600** tab displays information about the graphics card, computer system and driver versions; it also accesses extra features and supplies an Internet link for drivers, product updates and news.

Additional Properties

Click on the Additional Properties button to enter five submenus to configure the various functions of this card.



3D Antialiasing Settings

Antialiasing is a technique used to minimize the rough rendering of artifacts, eliminating the “staircase” or “jagged effect” seen along the edges of 3D objects. These controls select the degree to which antialiasing is used in **Direct3D** and **OpenGL** applications.

Allow applications to control the antialiasing mode:

Some 3D applications that support antialiasing automatically optimize control of this mode; it is possible to select the antialiasing mode manually.

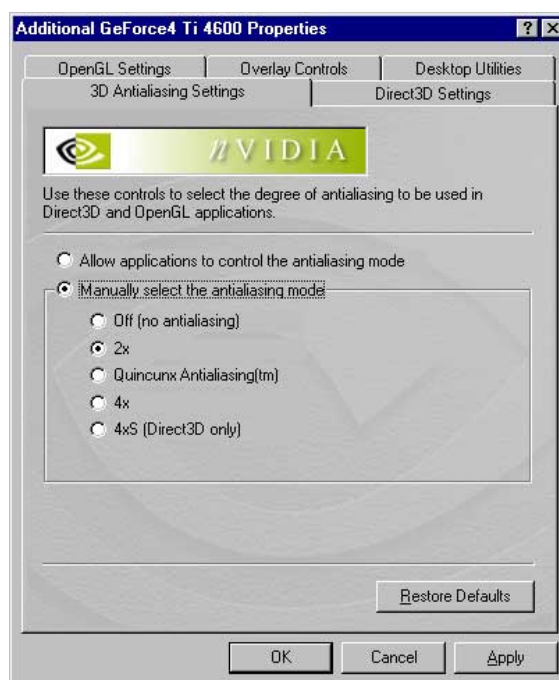
Manually Select Anti-aliasing Mode

Off (no antialiasing): Disables antialiasing in 3D applications. Select Off if you require maximum speed performance in your applications.

2x: Enables antialiasing using the 2x mode. Select this for improved image quality and high performance in 3D applications.

Quincunx Antialiasing™: Enables a patented antialiasing technique available in the GeForce3 GPU series. *Quincunx Antialiasing™* offers the quality of the slower 4x AA mode at very near the performance of the faster 2x AA mode.

4x: Enables the antialiasing using the 4x mode. Select this for the highest possible image quality at the expense of some performance drain in 3D applications.



4. Software Reference

Direct3D Settings

Performance and Compatibility Options

Enable fog table emulation

Some older games do not query D3D hardware capabilities correctly and so 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 precise depth that the application requests. Keep this option enabled, unless the work absolutely requires a specific Z-buffer depth.

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

Mipmap detail level

This option lets you adjust the Level of Detail (LOD) bias for mipmaps. A lower bias provides better image quality while a higher bias augments performance. Choose from five preset bias levels. **Options are: Best Image Quality, High Image Quality, Blend, High Performance, Best Performance.**

PCI Texture Memory Size

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

This option sets the amount of system memory for texture storage. Clicking the “up arrow” increases memory size while clicking the “down arrow” decreases the size of system memory used for textures. The maximum amount of system memory for texture storage depends on the amount of physical memory installed on the system.

Custom Direct3D settings

This option lets you create or delete custom settings or “tweaks” you have saved.

4. Software Reference

More Direct3D

Texel Alignment

These values define the position of texel origin. The default values conform to the Direct3D specifications. Some software may expect texel origin to be defined elsewhere. The image quality of such applications will improve if the texel origin is redefined. Dragging the slider leftward positions the texel origin closer to its upper left corner and moving the slider rightward positions it closer to the center.

Range: 0 to 7, default: 3.



4. Software Reference

OpenGL Settings

Performance and Compatibility Options

Enable buffer region extension

This option permits the drivers to apply the OpenGL extension: `GL_KTX_buffer_region`.

Allow the dual planes extension to use local video memory

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

Use fast linear-mipmap-linear filtering

This option permits 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.

Disable support for enhanced CPU instruction sets

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

Default color depth for textures

This option 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

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

Vertical sync

This setting specifies how vertical sync is handled in GL. **Options** are: **Always off**, **Off by default**, and **On by default (default)**.

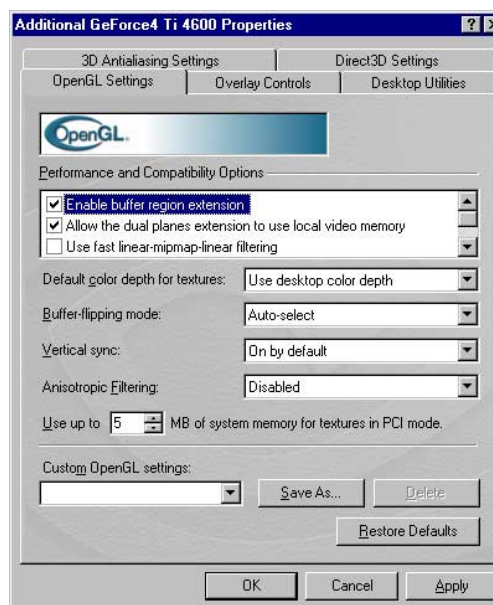
Use up to x MB of system memory for textures in PCI mode

This option sets 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.

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

Custom OpenGL settings

This option lets you create or delete custom settings or “tweaks” you have saved.



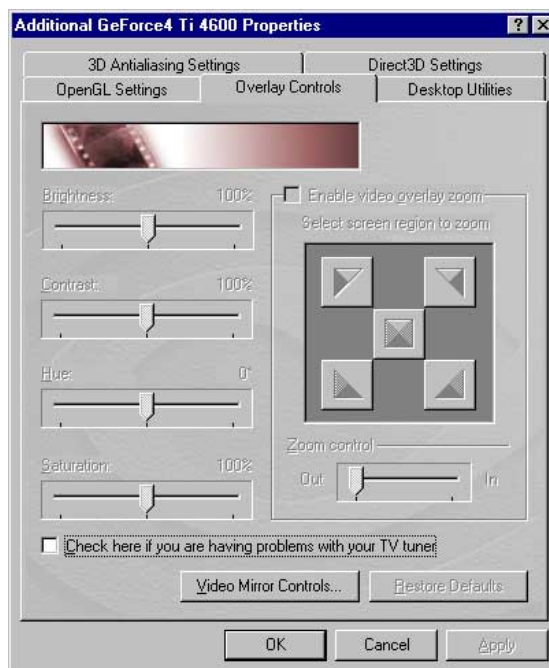
4. Software Reference

Overlay Controls

Brightness / Contrast / Hue / Saturation

Four sliders calibrate the brightness, contrast, hue, and saturation output of the card. Use this to adjust the quality of video or DVD playback on your monitor. Dragging a slider to the left decreases the level; moving to the right increases the level. The number at the right of each slider displays the brightness scale.

Range: 0% to 200%, default: 100%); Contrast (0 to 200%, default: 100%); Hue (-180° to 180°, default: 0°), and Saturation value (0% to 200%, default: 100%).



Enable video overlay zoom

This option enables the zoom controls to allow you to zoom in on a specific area of the video output screen.

NOTE: (when enabling overlay zoom): Video players that are not able to detect the presence of Video Mirror may not update the zoom factor immediately while displaying a still frame.

Select screen region to zoom

This option lets you select the region on the video playback to zoom in or out.

Zoom control

This option lets you zoom in or out on the selected portion of the video playback screen.

Check here if you are having problems with your TV tuner

This option, when selected, forces the overlay software to use busmastering. It is recommended that you leave this option cleared unless you experience problems with video playback, such as image corruption or no video image at all.

NOTE: You can only access Overlay Controls while you are playing back videos, for example, .AVI files or DVD movies on your computer.

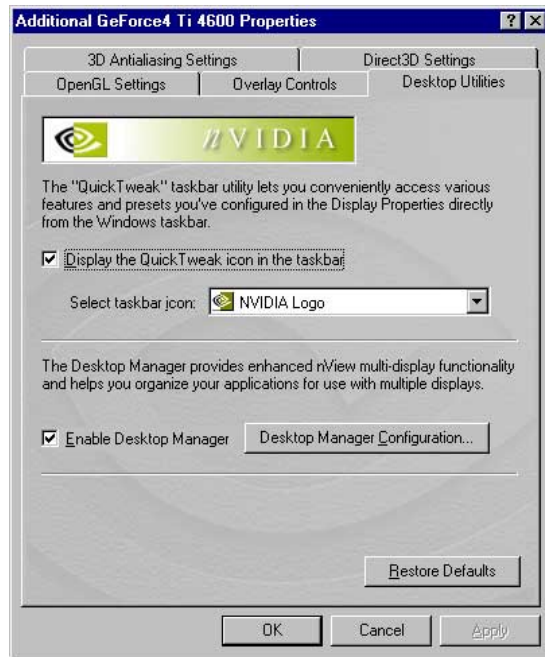
4. Software Reference

Desktop Utilities

Display the Quick Tweak icon in the taskbar

This option **adds** the NVIDIA Quick Tweak icon to the Windows **taskbar**.

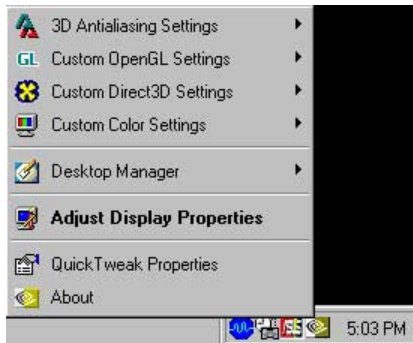
NOTE: In the **TwinView Extended Desktop** mode, an **extra check box and a button** appears on the Desktop Utilities dialog: **Enable Desktop Manager** and **Desktop Manager Configuration**. Click this button to access the *Desktop Display Manager* setup menus.



Using the Quick Tweak icon

Right click the **NVIDIA taskbar icon** to display a **popup menu** of options, including OpenGL, Direct3D or Color settings. The menu also contains items for restoring default settings. **Left click** on the icon twice, and the **Display Properties Menu** appears.

NOTE: An additional option appears on the popup menu to access the *Desktop Display Manager* setup menus.



4. Software Reference

Desktop Display Manager

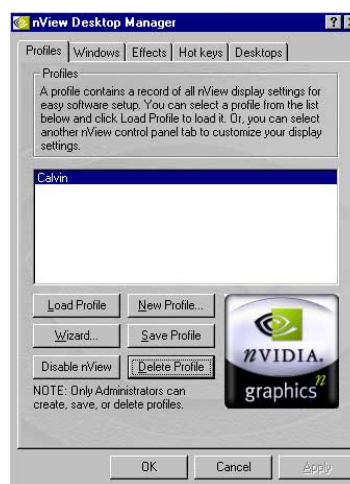
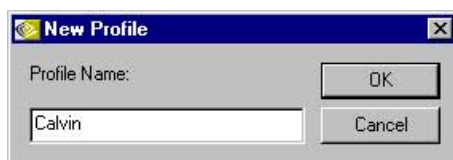
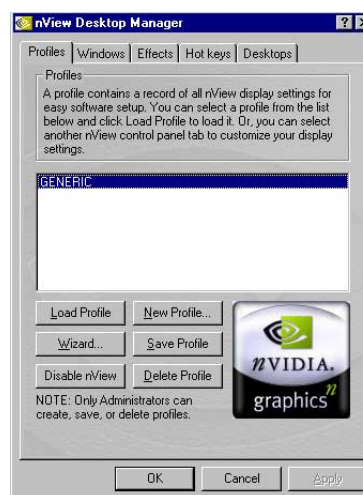
In the TwinView Extended Desktop Mode, this Display Manager sets up the PC to run one or more programs on one or both monitors or desktops. Among others, it also allows you to undertake program-management features, such as restoring application windows to their last-used position.

Setting Up Desktop Display Manager Properties

Make sure the applications the are going to run using the Desktop Display Manager are already open. To set **Display Manager** properties, check the box, **Enable Display Manager** and click the **Desktop Manager Configuration** button. The Desktop Display Manager dialog box opens.

Profiles

Profile adds your display settings to Desktop Display Manager. Click the **New Profile** button on the **Profile** tab to create a new profile. Tailor all your settings in the **Profile** page and then click the **Load Profile** button to complete profile setting. Repeat this step for each program that you want to add to the Desktop Display Manager.

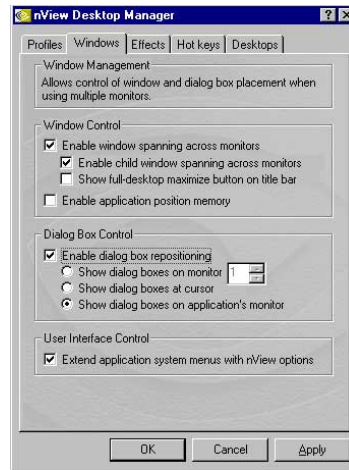


A variety of settings are available in **Desktop Display Manager**. Check: **Always start this application on screen number** selects the display or monitor to use when starting up the program. Check: **Start this application at its last position and size** restarts the program at its last position and sizes it to the same size as it was when last closed.

4. Software Reference

Windows

Use the Windows settings to specify your desired appearance.



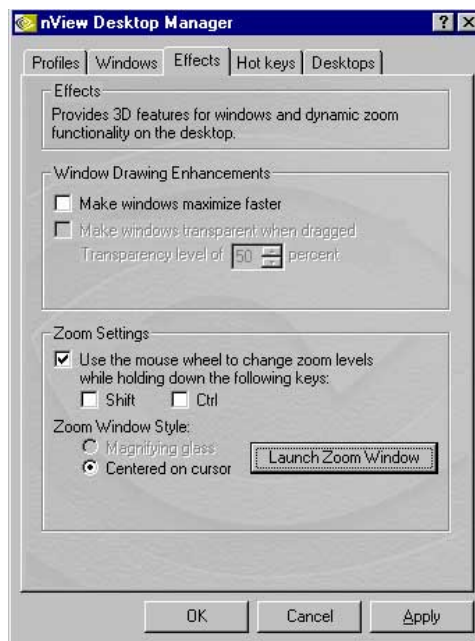
Effects

Windows Drawing Enhancement:

Select **Make windows maximize faster** to speed up Open, Maximize, and Restore windows functions. Select **Make windows transparent when dragged** to make a transparent window and save more space on your desktop (only on Windows 2000/XP).

Zoom settings:

Clicking **Launch Zoom Window** button to open a “Zoom Window” magnifies a selected area of your screen.



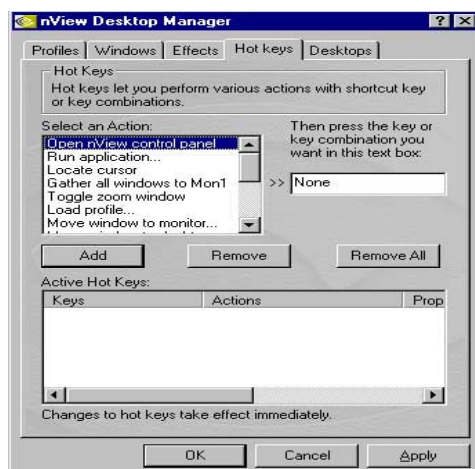
Hot keys

Highlight an item from **Select an action**, then assign a key or a combination of keys for the action.

Click the **Add** button.

Repeat the process for the other items.

Click **OK** when done.

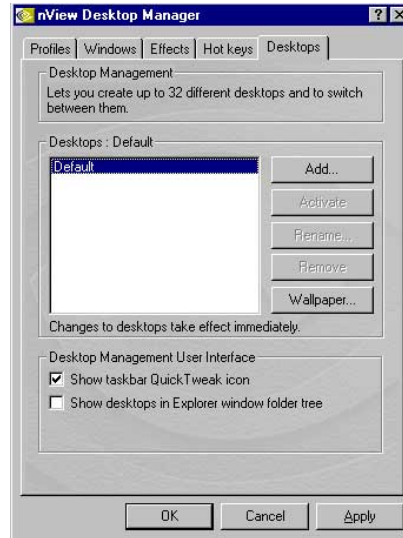


4. SW Reference
Desktop Utilities

4. Software Reference

Desktops

Under one or multiple monitors, you can create up to 32 different desktops to distribute the open applications among them. This prevents application clutter on your desktop.



Click the **Show taskbar Quick Tweak icon** to add the NVIDIA Quick Tweak icon to the Windows taskbar.



4. Software Reference

Using the ASUS Utilities



ASUS Tweak Utility

WARNING! Use the ASUS Tweak Utility 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 item allows you to use your authorized settings when Windows starts.

Graphics Speed

Engine

Lets you adjust the working frequency of the graphic engine

Memory

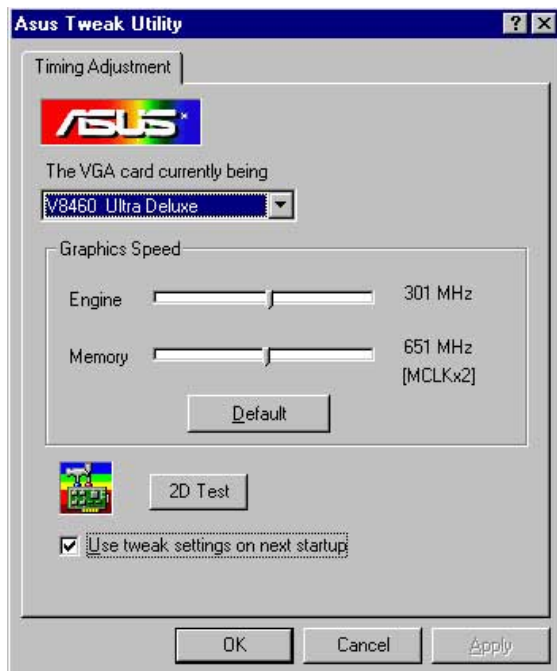
Lets you adjust the working frequency of the video memory.

Default

Restores the settings to their defaults.

2D Test

Lets you test your settings.



4. Software Reference

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.

4. Software Reference



ASUS VideoSecurity

The 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:

- The last two detected snapshot image files from the video captured stream (saved into a access file named watch dog.mdb). 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.

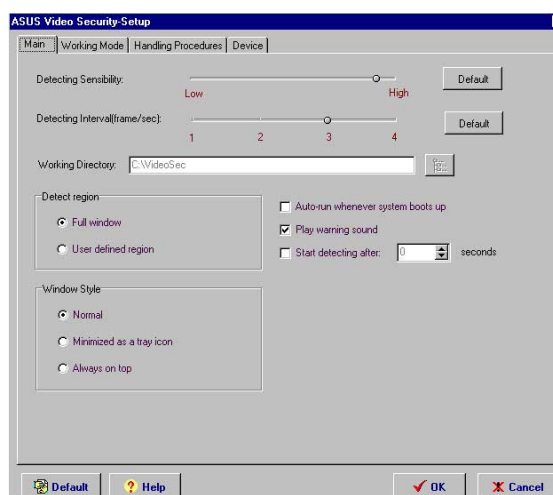
- Due to changing temperatures, the captured image of some CCDs will be twisted, which may give a wrong detection.
- If the features (e.g., color, luminance) of the object are similar to that of background, the object may not be detected clearly.
- The CCD cannot capture the object smoothly and immediately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



4. 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.

Detecting Sensibility

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.

Detecting Interval(frame/sec)

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.

Working Directory

The **Working Directory** is the folder where the utility stores its temporary working and log files. The default is C:\VIDEOSEC. The directory is user-configurable. When VideoSecurity is ran, a sub-directory automatically 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.

Detect Region

- **Full window** detects all visible area when watchdog function is on.
- **User define region** detects only the area defined by the user when watchdog function is on. Feature will take effect only when VideoSecurity runs the next time.

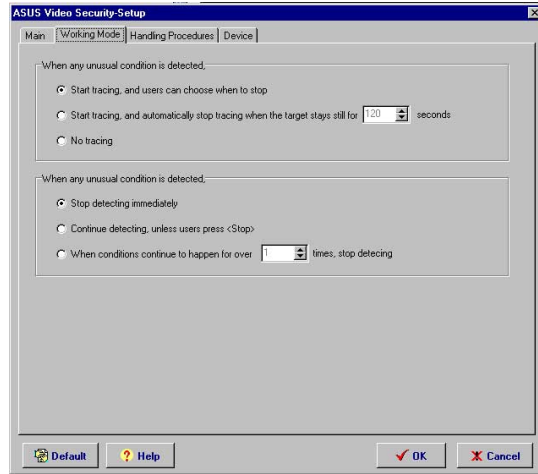
Window Style

- **Normal Window** is the default style, that is, VideoSecurity will function as a standard Windows program.
- **Minimized as a tray icon** 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.
- **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.

4. Software Reference

Working Mode

Click the Working Mode tab to define tracing procedure. VideoSecurity not only detects errors or problems in your card, but also detects an intrusion.

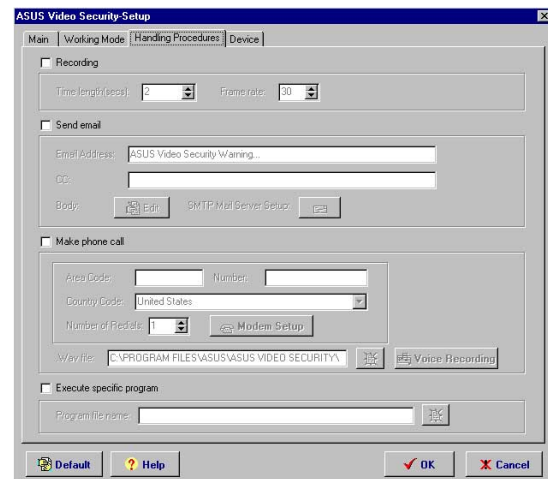


This box appears when an error occurs. Use this Tracing Box to choose the error processing method for tracing.



Handling Procedure

Click the Handling Procedure tab to set up personalized handling procedure through Recording, Send email, Make phone call or Execute specific program. VideoSecurity will execute procedures set up by the user once any error is detected.

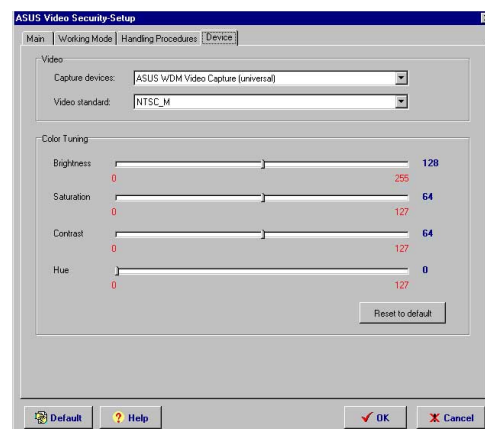


4. S/W Reference
ASUS VideoSecurity

Devices

Click the Devices tab to select capture devices and video standard.

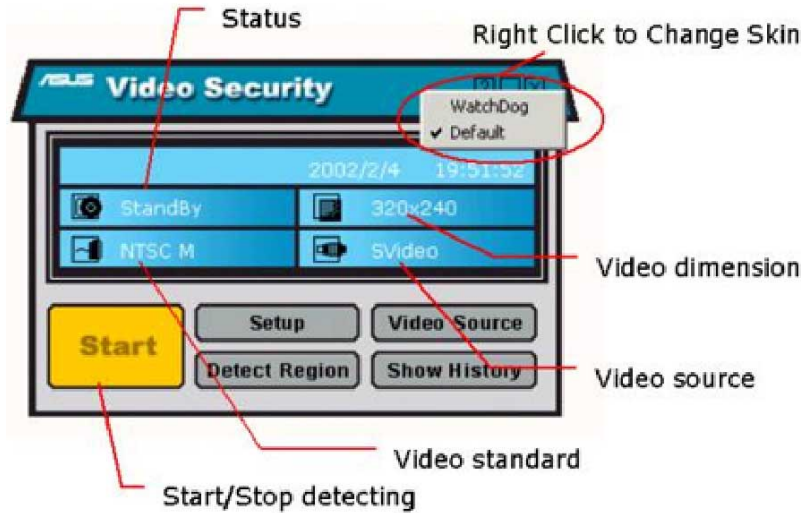
Use mouse to fine tune the Video Security screen and then click **OK** when done.



4. Software Reference

Running ASUS VideoSecurity

Click the ASUS icon on the taskbar's status area. Clicking this icon opens the ASUS Control Panel, then click the ASUS VideoSecurity to run VideoSecurity.



Detect Region

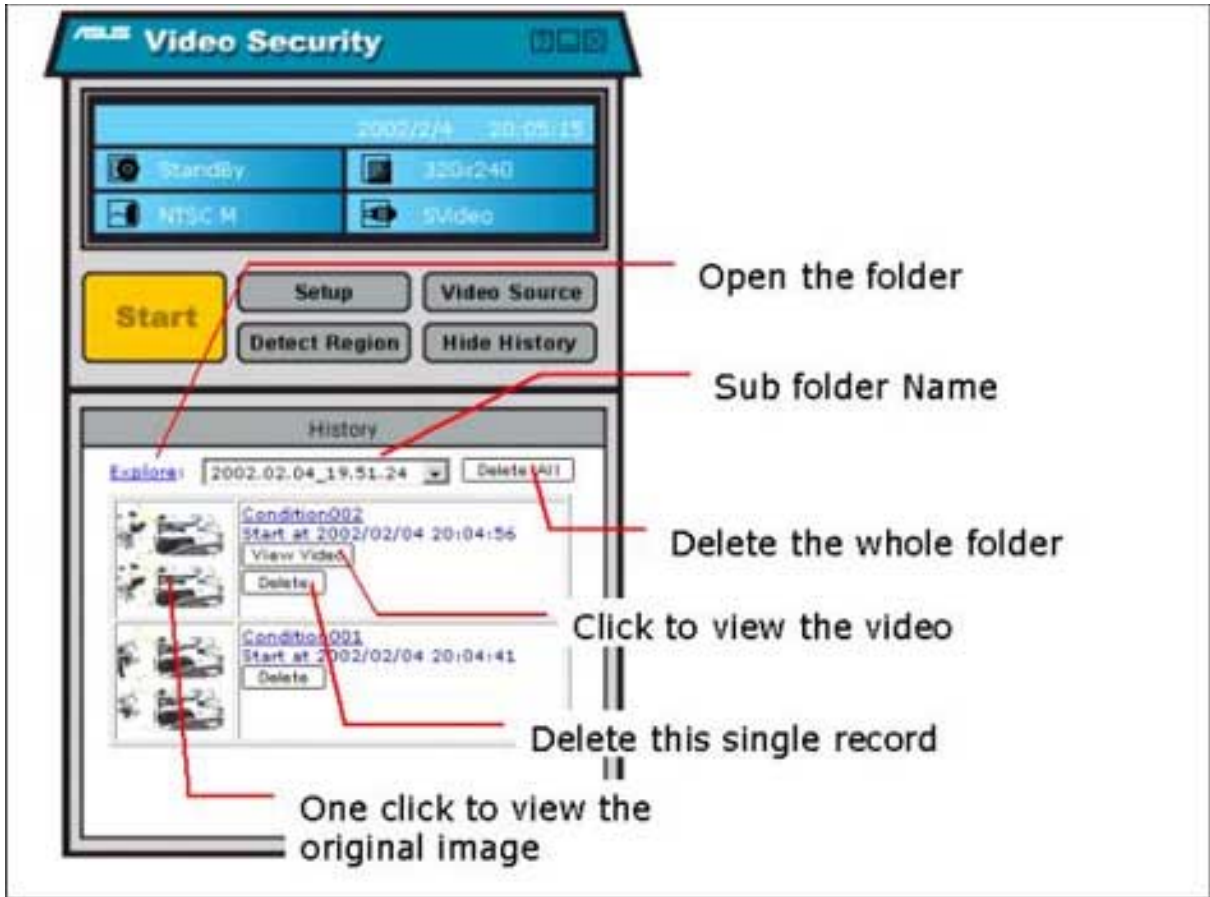
Click the Detect Region button to define your VideoSecurity video window. Use your mouse to drag your intended rectangular region.



4. Software Reference

Show History

Click the Show History button to see the abnormal situation record including the date, time, and other information.



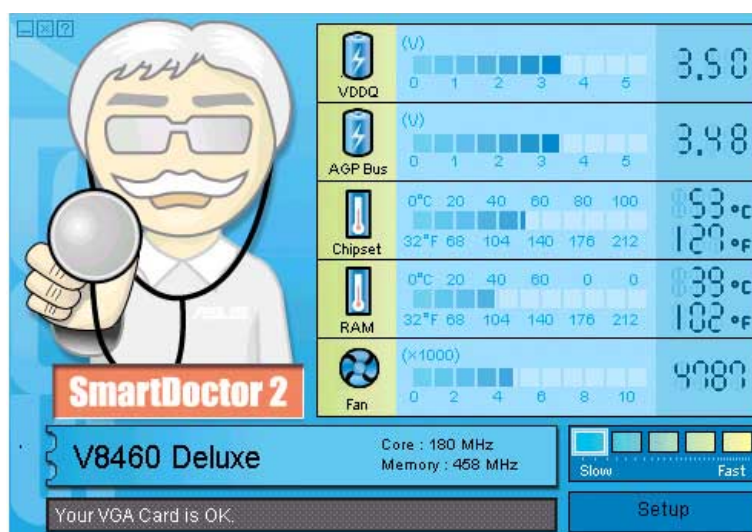
4. Software Reference

ASUS SmartDoctor

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

Functions

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



CAUTION: AGP bus VDDQ Voltage and AGP bus 3.3 Voltage should be supplied steadily by your motherboard. Otherwise, your system will crash.

4. Software Reference

Advanced Setup

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



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

If your graphics card is working properly, SmartDoctor will terminate within 5 seconds.

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

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

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

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

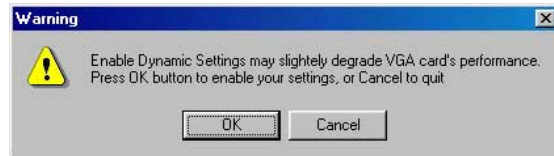
After CPU cooling is enabled, and when you run **System Monitor** in *Programs–Accessories–System Tools* to monitor CPU usage, you will find that CPU usage has reached its maximum, that is, 100%. Do not be alarmed—this is normal.

- **Enable dynamic graphic cooling** allows you to enable or disable the dynamic graphic cooling option. Enabling the graphic cooling option will cool down the graphic chip's temperature when SmartDoctor detects that the graphic chip is idle.
- **Enable overheat protection** lets you forcibly cool down the graphic chip when temperature is over the tolerable range or value.

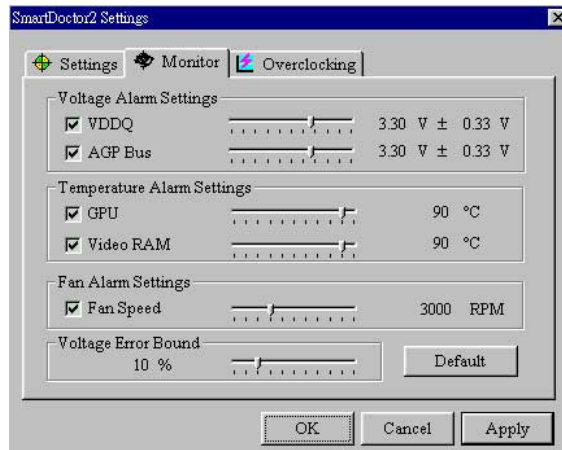
When you select **Run and keep resident** and then click **OK**, a dialog box appears to warn you of a possible graphic performance drop. This performance penalty is very slight and almost undetectable even under rigorous examination by benchmark programs.

4. Software Reference

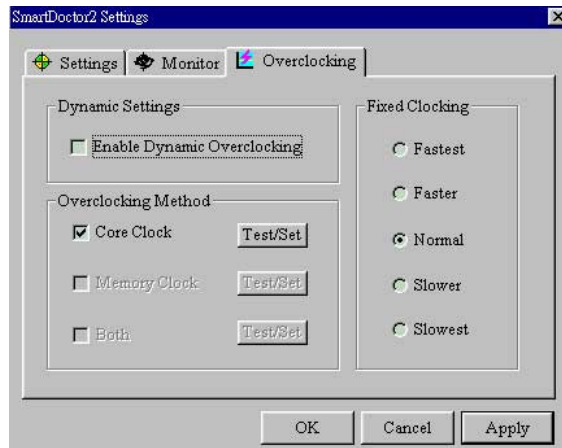
Press **OK** to set your modifications or **Cancel** to retain the original settings.



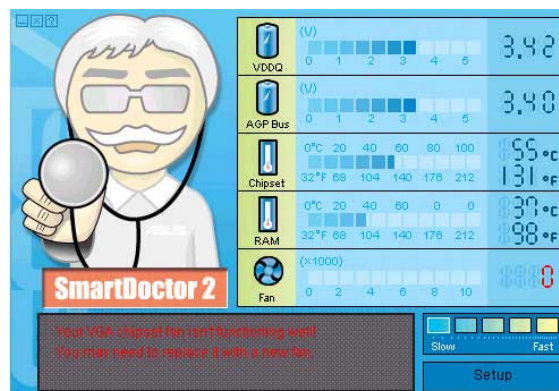
Click the Monitor tab to specify the alarm settings for voltage, temperature, and fan, that fit your system.



Click the Overclocking tab to tune the clock. SmartDoctor now only supports core clock to maintain system stability.



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



4. Software Reference



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. For MPEG-1 recording, the minimum system requirement is Pentium II 350 or AMD K6 family at 450 MHz. For MPEG-2 recording, the minimum system requirement is Pentium III 650 MHz or Athlon 650 Mhz.

ASUS Digital VCR features:

1. With ASUS Digital VCR, you can watch and record TV programs from your TV tuner, and also can enjoy all kinds of medias effortlessly from numerous signal inputs, such as analog, digital camcorderers, VCRs, and PC cameras.
2. The “Channel Surfing” function allows you to watch a snapshot of 16 channels at one time while refreshing itself continually.
3. Two different kinds of skins are available for users to choose.

NOTE: You should already have installed DirectX 8 or later to use ASUS Digital VCR (see 3. Software Setup | Install DirectX)



Click here to switch skin



4. SW Reference
ASUS Digital VCR

4. Software Reference

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

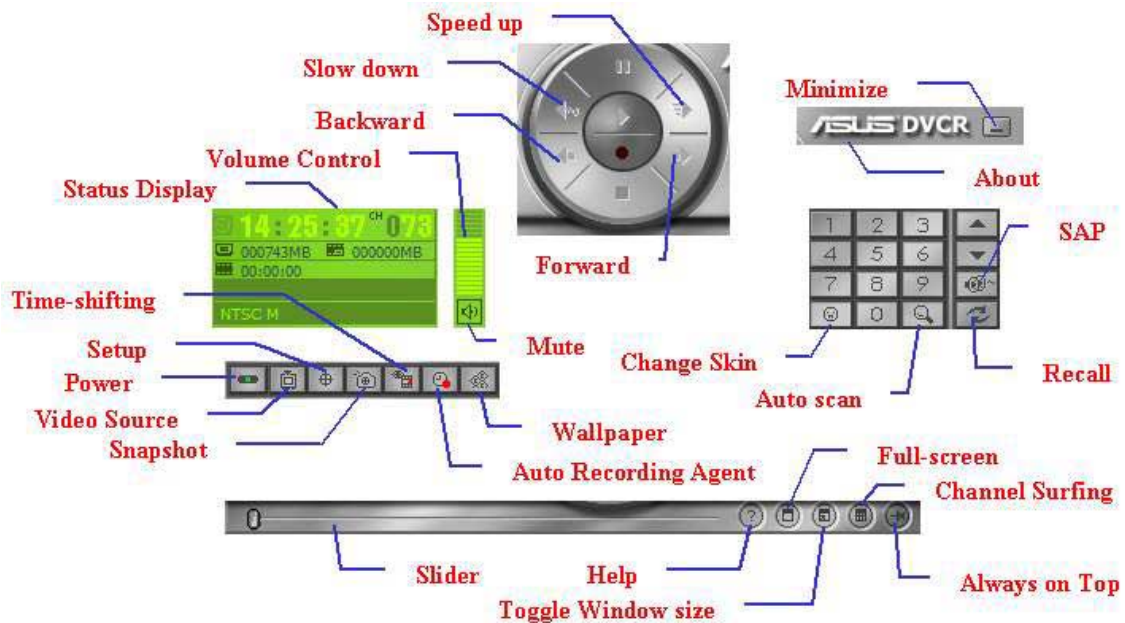
ASUS Digital VCR has been designed as a standard Windows program. The functions can be accessed by means of ASUS DVCR panel or by right-clicking the VCR screen.



4. Software Reference

Easy Access

The user-friendly skin allows you to easily operate the ASUS Digital VCR. Just like your TVsets and VCRs, you can quickly access to most of the functions with one single click.



Enable full screen

To enable full screen, click the **Full Screen** button or use the hot key, CTRL+S. To disable full screen, double-click the display, then click the **Full Screen** button. 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 the Wallpaper button or use CTRL+W. To disable desktop wallpaper, double-click anywhere the display and then click the wallpaper button. You may also use CTRL+W to disable the desktop wallpaper.

4. Software Reference

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 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 **Always on Top** button or select the **Always on Top** 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** command from the **Window(W)** menu.

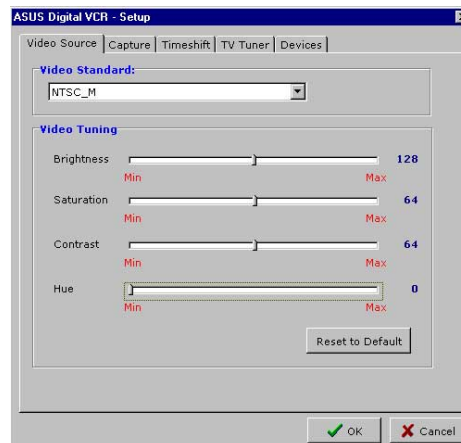
Setup

When first using ASUS Digital VCR, you must set up the video source. Use the **Setup** button on the ASUS Digital VCR Control Panel or use the F9 hot key to show or hide the video source setup screen on the monitor.

Video Source

Select the Video Standard from the list.

If the Video Standard is not set up on the Video Source page, it will be decided when you choose your country on the TV Tuner page.

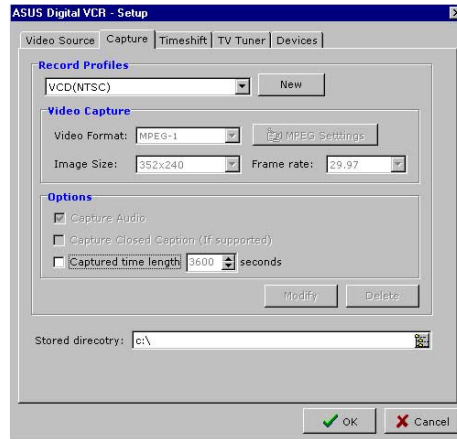


Use your mouse/pointing device or the UP and DOWN arrow keys to select options (*Brightness, Saturation, Contrast, Hue*), and the LEFT (select to the left or to decrease) or RIGHT (select to the right or to increase) arrow keys to change an option. You may also use your mouse/pointing device to change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

4. Software Reference

Capture

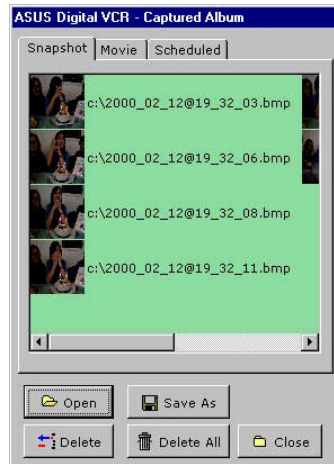
Click the Capture tab to select video capture settings. There are four default profiles in **Record Profiles** drop-down list. Click the arrow to create your most-frequently used settings.



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.

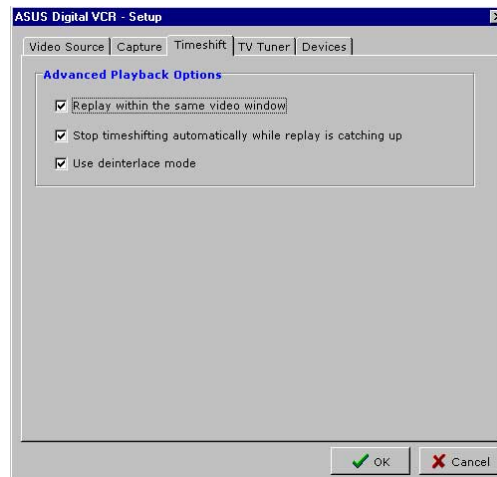
4. Software Reference

Click Video source button to select the video source. Capture the images you want by clicking the snapshot button then use consecutively numbered filenames to store the images.



Timeshift

The innovative TimeShifting™ feature of the ASUS Digital VCR lets you record incoming video feeds into a buffer. So if you are 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)!

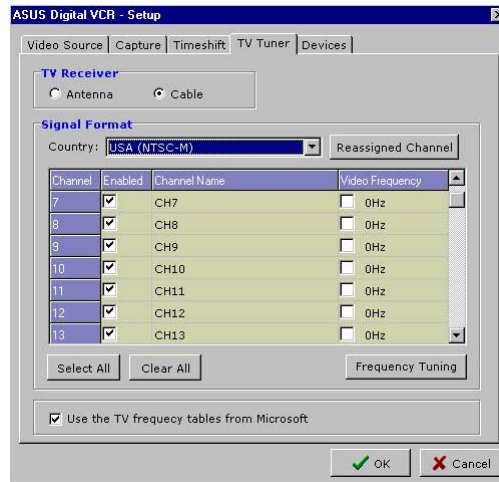


The de-interlace mode is used to filter the artifact from the interlaced TV signal. But it drains more system resources. Hence recording performance might decrease. It depends on your system capability to decide whether to use the deinterlace mode or not.

4. Software Reference

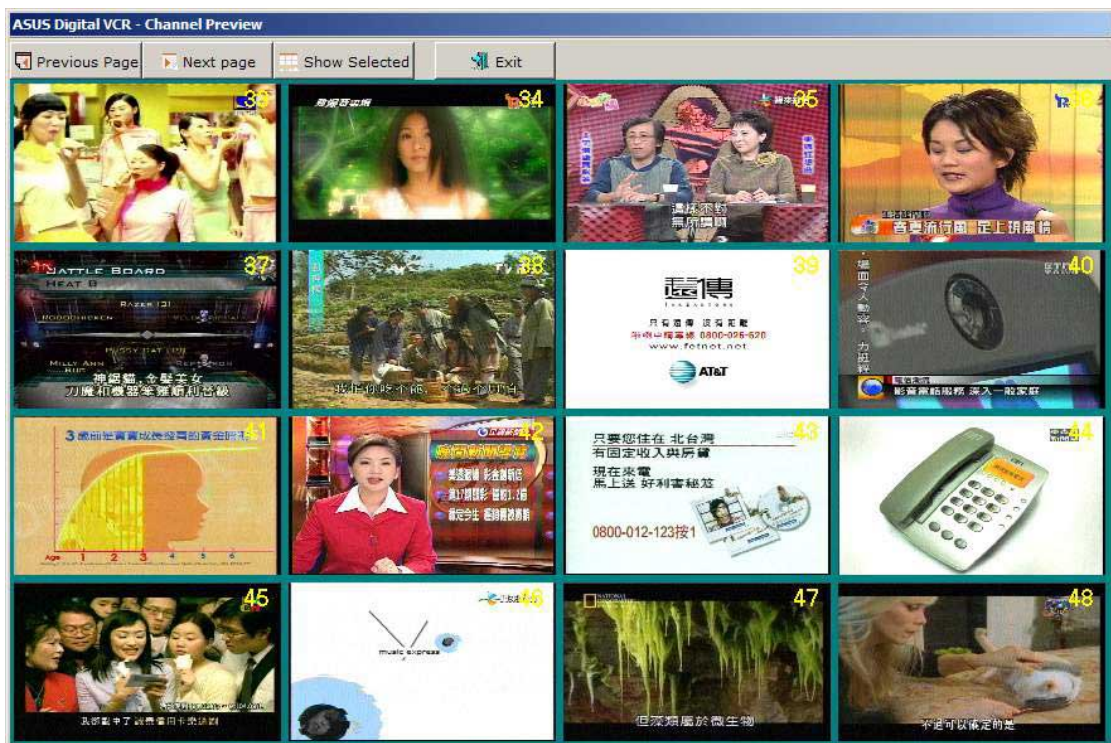
TV Tuner

Click the TV Tuner tab to select your TV receiver and country.



The ASUS Digital VCR provides Frequency Tuning function and helps you get the right signal. Click the Frequency Tuning button to fine-tune the channels and to modify the TV signal if the built-in tables don't work.

After completing the settings, you can execute Channel Surfing by clicking the Channel Surfing button to simultaneously view a snapshot of 16 channels, rather than a flipping through all the channels.

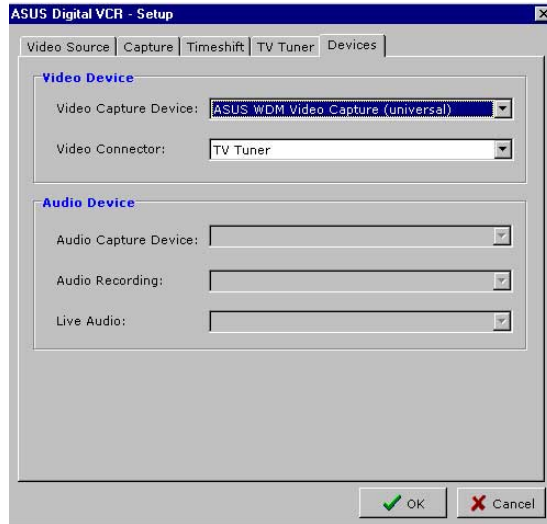


4. SW Reference
ASUS Digital VCR

4. Software Reference

Devices

Click the Devices tab to set up your Video Device and Audio Device. Many capture devices are supported by digital VCR. After a correct installation of the WDM device driver, Digital VCR will list all the available devices. Select the mixer line you use to input the live audio so that Digital VCR can properly record it into files.



4. Software Reference



ASUS VR PictureViewer

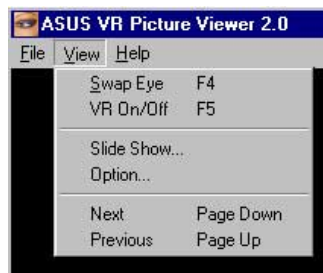
ASUS VR PictureViewer lets you view stereo images, size your stereo image, and set the VR effect of your 3D glasses.



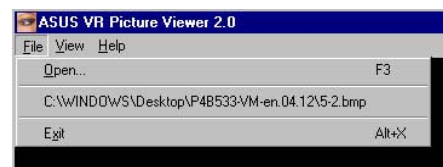
To run ASUS VR PictureViewer, click or right-click the ASUS Control Panel icon (see **4. Software Reference | ASUS Control Panel**) on the taskbar status area to display the ASUS Control Panel, point to **VR PictureViewer**, and then click it.

Opening a Stereoscopic or 3D File

1. Click the **View** 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.



5. Resolution Table

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

5. Resolution Table

Resolution	Vertical Frequency	Horizontal Frequency	Color Depth		
			8bpp = 256 colors Standard	16bpp = 65K colors High Color	32bpp = 16.7M colors True Color
1280 x 1024	60Hz	64.0	✓	✓	✓
	70Hz	74.6	✓	✓	✓
	72Hz	76.8	✓	✓	✓
	75Hz	80.0	✓	✓	✓
	85Hz	91.3	✓	✓	✓
	100Hz	108.5	✓	✓	✓
	120Hz	131.7	✓	✓	✓
	140Hz	155.9	✓	✓	✓
	144Hz	159.6	✓	✓	✓
	150Hz	167.3	✓	✓	✓
	170Hz	191.8	✓	✓	✓
1600 x 900	60Hz	55.9	✓	✓	✓
	70Hz	65.6	✓	✓	✓
	72Hz	67.5	✓	✓	✓
	75Hz	70.5	✓	✓	✓
	85Hz	80.4	✓	✓	✓
	100Hz	95.3	✓	✓	✓
	120Hz	115.4	✓	✓	✓
	140Hz	136.8	✓	✓	✓
	144Hz	140.4	✓	✓	✓
	150Hz	146.8	✓	✓	✓
1600 x 1200	60Hz	75.0	✓	✓	✓
	70Hz	87.5	✓	✓	✓
	72Hz	90.1	✓	✓	✓
	75Hz	94.0	✓	✓	✓
	85Hz	106.1	✓	✓	✓
	100Hz	127.5	✓	✓	✓
	120Hz	154.5	✓	✓	✓
1920 x 1080	60Hz	67.1	✓	✓	✓
	70Hz	78.7	✓	✓	✓
	72Hz	81.1	✓	✓	✓
	75Hz	84.6	✓	✓	✓
	85Hz	96.4	✓	✓	✓
	100Hz	113.9	✓	✓	✓
1920 x 1200	60Hz	74.6	✓	✓	✓
	70Hz	87.4	✓	✓	✓
	72Hz	90.0	✓	✓	✓
	75Hz	94.0	✓	✓	✓
	85Hz	106.7	✓	✓	✓
	100Hz	126.7	✓	✓	✓
1920 x 1440	60Hz	89.4	✓	✓	✓
	70Hz	104.9	✓	✓	✓
	72Hz	108.5	✓	✓	✓
	75Hz	112.5	✓	✓	✓
	85Hz	129.4	✓	✓	✓
2048 x 1536	60Hz	95.5	✓	✓	✓
	70Hz	111.9	✓	✓	✓
	72Hz	115.3	✓	✓	✓
	75Hz	121.3	✓	✓	✓

6. Troubleshooting

Description	Recommended Action
<i>After installation and restarting, Windows 95/98 informs me that the display setting is still incorrect.</i>	<ul style="list-style-type: none">• Make sure the “Assign IRQ to VGA” option is enabled in the BIOS.• Check if there is enough IRQ for VGA.• Uninstall the driver, restart, and reinstall the driver.
<i>My monitor is not capable of high resolution or refresh rate.</i>	<ul style="list-style-type: none">• It depends on the display characteristics of your monitor. Consult your monitor documentation for the proper configuration.
<i>DirectX or the other applications report no AGP memory available.</i>	<ul style="list-style-type: none">• Windows 95 is not OSR2.1 or later.• DirectX version is not 6.0 or later.• You have not installed appropriate drivers for the AGP chipset. (e.g. VGARTD.VXD for Intel 440LX).• Incorrect BIOS setting. BIOS must support at least 64MB for AGP aperture size.
<i>Games or applications report “No 3D acceleration hardware found.”</i>	<ul style="list-style-type: none">• 3D works only in 16- or 32-bit color depth. Switch your color depth display mode to 16-bit (high color) or 32-bit (true color).• Check necessary libraries, such as DirectX or OpenGL.• Try to switch to a lower resolution.
<i>I cannot enable AGP memory or run I-Base test.</i>	<ul style="list-style-type: none">• You may be using a motherboard with an Aladdin IV AGPset. To get the best compatibility, the display card uses AGP Bus Master mode instead of AGP execute mode for motherboards using this AGPset.
<i>My MPEG player displays bad quality video clips.</i>	<ul style="list-style-type: none">• You must install DirectX 6 or later so that your player can take advantage of the hardware acceleration mode (DirectDraw).• Try to switch to a lower resolution, color depth, or refresh rate. Switching to a lower mode allows your player to use hardware acceleration mode.• Switch dual view mode to VGA or TV mode.
<i>I am using Video Security and it seems my hard disk space is almost exhausted.</i>	<ul style="list-style-type: none">• This is a very important issue when you decide to use VideoSecurity with the “never stop” option. You must be aware of the free space of your hard disk—it must be enough for storing temporary files in the current working directory. If disk space is exhausted, VideoSecurity will not store any information and give you a warning message.

INDEX

A

- Active color channel 45
- Additional properties button 46
- Adjust Z-buffer depth 47
- Advanced 64
 - Box 35, 38
 - Button 41
 - Menu 33
 - Setup 64
- AGP bus expansion slot 11
- Allow
 - Applications 46
 - Dual planes extension 49
- Always on top 59, 68
- Analog monitor
 - Connecting 11
- Analog monitor submenu 42
 - Display timing 42
 - Screen adjustments 42
- Application management 52
- Asus
 - Utilities 55
 - VR picture viewer 73
 - VR-100 upgrade kit 37
 - VR-100G 3D glasses 37
- Auto
 - detect 42
 - select 44, 49
- Automatically apply 45
- Available models 7

B

- Background 33, 36
- Blind 33, 36
- Brightness
 - 31, 32, 36, 39, 44, 45
- Buffer flipping mode 49

C

- CCD 57
- Centered output 43
- Change
 - Default hot keys 35, 38
 - Format 44
 - TV format 44
- Chip temperature 62
- Color
 - Menu 31
 - Spline 32
- Color correction submenu 45
 - Active color channel 45
 - Automatically apply 45
 - Brightness / contrast / gamma 45
 - Custom color settings 45
- Contrast 31, 32, 36, 39, 45, 50
- Control panel 29, 41
 - More resolution 30
 - Refresh rate / resolution 29
- Custom
 - Color settings 45
 - OpenGL settings 49

D

- D3D/OSD histogram 36
- Default color depth 49
- Deluxe TVR models 37
- Depth 33, 36
- Desktop display manager 52
 - Application management 52
 - Displaying from any program 53
 - Setting up 52
 - Zoom 54
- Desktop utilities 51
 - Display quick tweak icon 51

INDEX

- Using quick tweak icon 51
 - Device adjustments 44
 - Brightness / flicker filter / contrast 44
 - Screen positioning 44
 - Device settings submenu 41
 - Color correction 45
 - Device selection status
 - Analog monitor 43
 - Digital flat panel 43
 - Digital flat panel
 - Centered output 43
 - Digital VCR 65
 - Running 66
 - Uninstalling 66
 - Using 66
 - Digital vibrance 45
 - Direct3D menu 31, 36, 46
 - General functions 32
 - VR Effect 33
 - Direct3D settings 47
 - Mipmapping 47
 - Custom 3D settings 47
 - Detail level 47
 - PCI texture memory size 47
 - More direct3D
 - Texel alignment 48
 - Performance and compatibility 47
 - Adjust z-buffer 47
 - Display logo 47
 - Enable fog table 47
 - Direction 33, 36
 - DirectX 76
 - Disable
 - Always on top 68
 - Antialiasing 46
 - Desktop wallpaper 67
 - Monitor check 34, 37, 49
 - Support for enhanced CPU 49
 - Discrete monitor timing 42
 - Display
 - Logo 47
 - Quick tweak icon 51
 - Video method 71
 - Display driver installation 13
 - Windows 2000 15
 - Windows 98 13
 - Windows NT 4.0 18
 - Display properties 29, 40, 41, 51
 - Advanced settings 41
 - GeForce2MX 46
 - Display timing 42
 - Auto-detect 42
 - Discrete monitor timings 42
 - General timing formula 42
 - Drivers 19
 - DirectX 20
 - Display driver 19
 - GART driver 21
 - DVD playback quality 50
 - Dynamic
 - Graphic cooling 63
 - Settings 63
- ## E
- E line 36
 - Embossment 33, 36, 37, 39
 - Enable
 - Anisotropic filtering 49
 - Buffer region extension 49
 - CPU cooling 63
 - Desktop manager 51
 - Dynamic graphic cooling 63
 - Fog table 47
 - OSD 35, 38
 - Overheat protection 63
 - Stereoscopic mode 33

INDEX

- Video overlay zoom 50
- Engine 55
- Extended desktop mode 51
- Eyes 37, 39
- F**
- Features 8
- Foreground 33, 36
- G**
- Gamma 31, 32, 36, 39, 45
- GeForce3 46
 - 3D antialiasing settings 46
 - Additional properties 46
 - Desktop utilities 51
 - Direct3d settings 47
 - Display manager 52
 - OpenGL settings 49
 - Overlay controls 50
 - Allow applications 46
 - Manually select antialiasing 46
- General functions
 - Color spline 32
 - Scheme 32
- General timing formula 42
- Graphics speed 55
- H**
- Highlights 7
- Histograms 36
- Hotkey 35, 38
- Hue 50
- I**
- IC chips
 - Warning 11
- Information menu 30
- Install
 - Asus Tweak utility 26
 - Asus V7100 series display driver 11
 - DirectX 13, 20, 65
 - Display driver 19
 - GART driver 13, 21
 - SmartDoctor 27
 - VideoSecurity 28
 - Installation procedures
 - New VGA cards 11
 - Systems with existing VGA card 11
- IRQ 76
- L**
- Layout
 - V7100 Magic / T 10
 - V8200 Deluxe 9
- Limitations 57
- Line interleave 34, 37
- Load default 33, 55
- M**
- Main program 34
- Manually select antialiasing 46
- Maximum
 - Resolution 43
 - Speed performance 46
- Memory 55
- Mipmapping 47
 - Custom Direct3D settings 47
 - Detail level 47
 - PCI texture memory size 47
- Mode 34, 37
 - Disable monitor check 34, 37
 - Line interleave 34, 37
 - Page flipping 34, 37
 - Refresh rate 34, 37
 - Stereoscopic 33

INDEX

Monitor

- Always on top 68
- Analog 42
- Check, disable 34, 37
- Compatibility 34
- Discrete timings 42
- IC 27
- More resolution 30
- Polling time 63
- Refresh rates 39
- More direct3D 48
- More resolution 30
- MPEG player 76

N

- NTSC-M 44
- NVIDIA icon 41

O

- Off 46, 49, 68
- On screen display 35, 38
 - Advanced 35, 38
 - Change defaults 35
 - Enable OSD 35, 38
 - Hotkey 35, 38
- OpenGL menu 31, 39, 46
 - General functions 32
 - VR effect 37
- OpenGL settings 49
 - Buffer flipping mode 49
 - Custom OpenGL settings 49
 - Default color depth 49
 - Performance and compatibility 49
 - Allow dual planes 49
 - Disble support for enhanced CPU 49
 - Enable anistropic filtering 49
 - Enable buffer 49

Use fast linear-mipmap 49

Use up to xMB 49

Vertical sync 49

OS

- System requirements 12
- Overheat protection 63
- Overlay controls 50
 - Brightness / contrast / hue / saturation 50
 - Check here 50
 - Enable video overlay zoom 50
 - Select screen region 50
 - Zoom control 50

P

- Page flipping 34, 37
- PAL 44

Q

- Quick Tweak icon 51
- Quincunx antialiasing 46

R

- Range 32, 48, 50
- Refresh rate 29, 34, 37, 39, 76
- Resolution
 - Refresh rate 29
 - Table 74
 - Win 95 users 30
- RGB 45
- Run and keep resident 63
- Running
 - Digital VCR 66

S

- S-Video 44
- Safe mode recovery
 - Tweak 56

INDEX

Saturation 50
Scheme 32, 34, 38
Screen adjustments 42
Screen positioning 44
Single frame
 Capture 55
SmartDoctor
 Advanced setup 63
 Functions 62
Software
 Installation procedures 11
Stereoscopic / 3D file 73
Stereoscopic mode 34, 37
Store
 Original settings 29
System monitor 63
System requirements
 Monitor refresh rates 34
 OS 12

T

Taskbar 29, 40
 ASUS icon 29
 NVIDIA icon 51
 VideoSecurity icon 59
Texel alignment 48
Timing adjustment 55, 56
Troubleshooting 76
TV 44
 Change format 44
 Device adjustments
 Brightness / flicker filter /
 contrast 44
 Tuner problems 50
 Video output format 44
Tweak utility 55
 Graphics speed 55
 2D test 55

 Engine 55
 Load default 55
 Memory 55
 Safe mode recovery 56
 Timing adjustment 55
 Use tweak settings 55
Typical
 D3D OSD settings 36
 OpenGL OSD settings 39

U

Uninstall
 Digital VCR 66
 Display driver 21, 23
 Windows 2000 25
 Windows 98 23
 Windows NT 4.0 25
 Driver 25
Use
 Asus utilities 55
 Block transfer 49
 Desktop color depth 49
 Display adapter scaling 43
 Embossment 35
 Fast linear-mipmap 49
 Tweak settings 55
 Up to X MB 49
Utilities
 Desktop 51
 Digital VCR 65
 SmartDoctor 27
 Tweak 26, 55
 VideoSecurity 28, 57
 VR Picture Viewer 73
Utility
 Taskbar 40

V

Vertical sync 49

INDEX

Video

Output format 44

Video-in/TV-out 37

VideoSecurity 57

Limitations 57

Setup wizard 57

Working directory 59

View

Angle 37, 39

Voltage monitoring 62

VR effect 33

Background 33

Blind 33

Depth 33

Embossment 33

Foreground 33

Load default 33

Main Program 34

Menu 73

Stereoscopic mode 33

VR picture viewer 73

Opening or displaying Stereo/
3D files 73

VR-100 upgrade kit 37

VR-100G 3-D glasses 37

W

WARNING

11, 18, 21, 26, 29, 34, 39, 41, 55

Windows desktop 29

Properties and settings 29

Windows display properties 41

Z

Z-axis range 36

Zoom control 50, 54