



AGP-V3400TNT Series

3D Multimedia Accelerator

USER'S MANUAL

Hardware & Video Drivers

AGP-V3400TNT/8MB

AGP-V3400TNT/T/8MB

AGP-V3400TNT/TV/8MB

AGP-V3400TNT/16MB

AGP-V3400TNT/T/16MB

AGP-V3400TNT/TV/16MB

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CONTENTS

I. Introduction	7
Highlights	7
Key Features	7
II. Hardware Installation	9
ASUS AGP-V3400TNT/8MB Layout	9
ASUS AGP-V3400TNT/TV/8MB Layout	10
ASUS AGP-V3400TNT/T/8MB Layout	10
ASUS AGP-V3400TNT/16MB Layout	11
ASUS AGP-V3400TNT/TV/16MB Layout	12
ASUS AGP-V3400TNT/T/16MB Layout	12
Installation Procedures	13
New Systems	13
Systems with Existing VGA Card	13
III. Windows 95/98	14
Operating System Requirements	14
Windows 95	14
Windows 98	14
Driver Installation	15
Method 1: ASUS Quick Installation Program	15
Method 2: Display Property Page	16
Method 3: Plug and Play	17
ASUS Windows 95/98 Install Shell	18
Install Display Driver	18
Install DirectX	20
Install GART Driver	21
Install Live3400 Utility	23
Always On Top	24
Using ASUS Live3400	24
Uninstall Display Driver	26
Using the Autorun Screen	26
Using Windows 95/98 Control Panel	26
Install Acrobat Reader	27
Install ASUS Tweak Utility	29
Using the ASUS Tweak Utility	30

CONTENTS

ASUS Control Panel	32
Refresh Rate	32
More Resolution	33
Information	33
Color	34
Desktop	34
D3D/Game	34
General Functions	35
Important Notes	36
Display	37
VGA	37
TV	39
Advanced	40
StereoGlasses	40
Direct3D	41
OpenGL	41
IV. Windows NT 4.0	42
Install Display Driver	42
Installation Procedures	42
V. Resolution Table	43
VI. Troubleshooting	45

FCC & DOC COMPLIANCE

Federal Communications Commission Statement

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

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

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

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

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

Canadian Department of Communications Statement

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

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

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

I. Introduction

Thank you for purchasing an ASUS AGP-V3400TNT Series Graphics and Video Accelerator. With the NVIDIA RIVA TNT™ built in, the ASUS AGP-V3400TNT Series graphics cards provide you with extremely fast acceleration in 2D/3D graphics and high quality scalable video playback, which can fully support 3D Business, Gaming, and Multimedia Applications.

Highlights

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

Key Features

- Built-in NVIDIA RIVA TNT™ 128-bit 3D Graphics and Video Accelerator
- 250MHz Palette-DAC
- Bus mastering DMA 2X 66MHz AGP V1.0 Interface with full sideband and “Execute” model support
- Optimized for Direct3D acceleration with complete support for DirectX 5.0 and 6.0 features, such as multi-texturing, bump mapping, texture modulation, light maps, full-scene anti-aliasing, and Trilinear and 8-tap Anisotropic filtering (better than Trilinear Mip mapping)
- OpenGL ICD support in both Windows 95/98 and Windows NT
- Twin-Texel (TNT) 32-bit graphics pipeline providing 2 texture mapped, lit pixels per clock and single pass multi-texture rendering
- 32-bit ARGB rendering with destination alpha, 16- or 24-bit Z buffer, 8-bit stencil buffer
- 100% hardware triangle setup engine
- High performance 128-bit 2D/GUI/DirectDraw acceleration
- Planar YUV12 (4:2:0) to/from packed (4:2:2) Color Space Conversion for software MPEG acceleration and H.261 video conferencing applications
- DVD sub-picture alpha blend compositing
- Video Acceleration for DirectShow MPEG 1/2 and Indeo
- VESA DDC2B+, DPMS, VBE 2.0/3.0 support
- Built-in quality video capture and crystal clear TV-Out (V3400TNT/TV only)

I. Introduction

IMPORTANT ASUS AGP-V3400TNT/TV video cards have NTSC and PAL versions. Make sure that your video card is of the same type as the devices you will be connecting to your card. Otherwise, video capabilities will not be available.

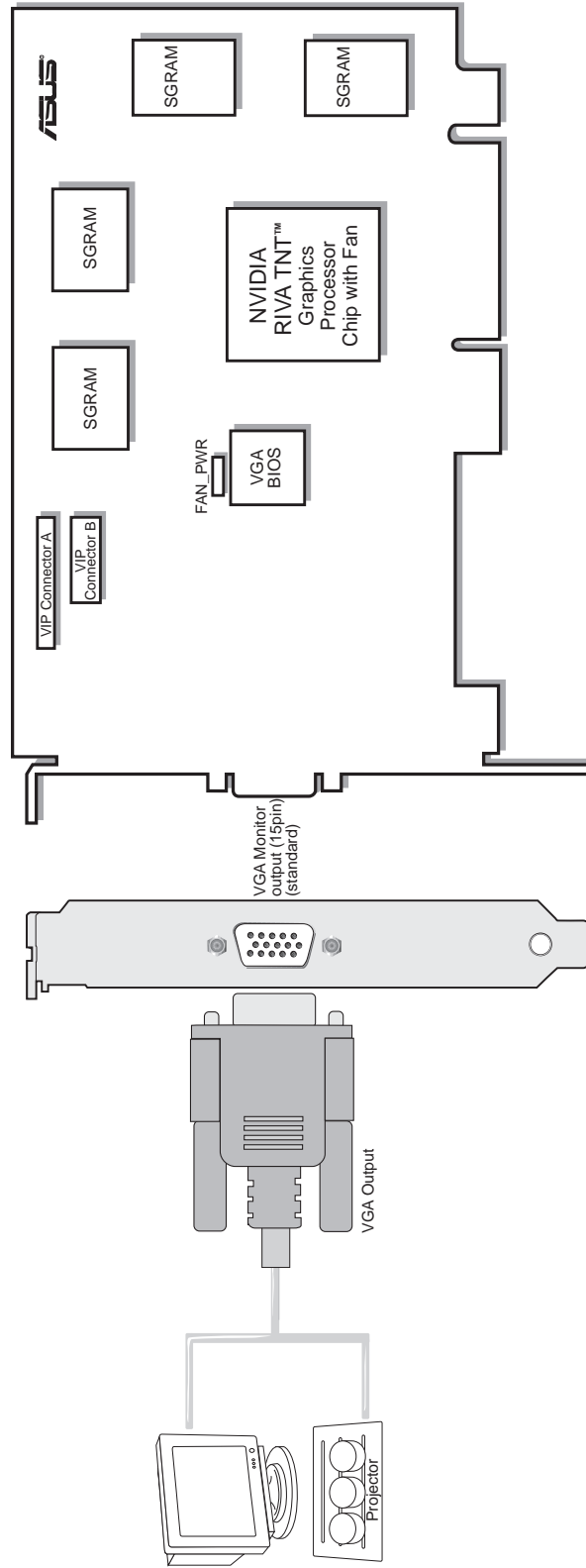
AVAILABLE MODELS

- **8MB SGRAM Frame Buffer**
 - AGP-V3400TNT/8MB: Pure VGA
 - AGP-V3400TNT/T/8MB: VGA + TV-Out
 - AGP-V3400TNT/TV/8MB: VGA + Video-In + TV-Out
- **16MB SDRAM Frame Buffer**
 - AGP-V3400TNT/16MB: Pure VGA
 - AGP-V3400TNT/T/16MB: VGA + TV-Out
 - AGP-V3400TNT/TV/16MB: VGA + Video-In + TV-Out

II. Hardware Installation

ASUS AGP-V3400TNT/8MB Layout

8MB SGRAM Frame Buffer



Item Checklist

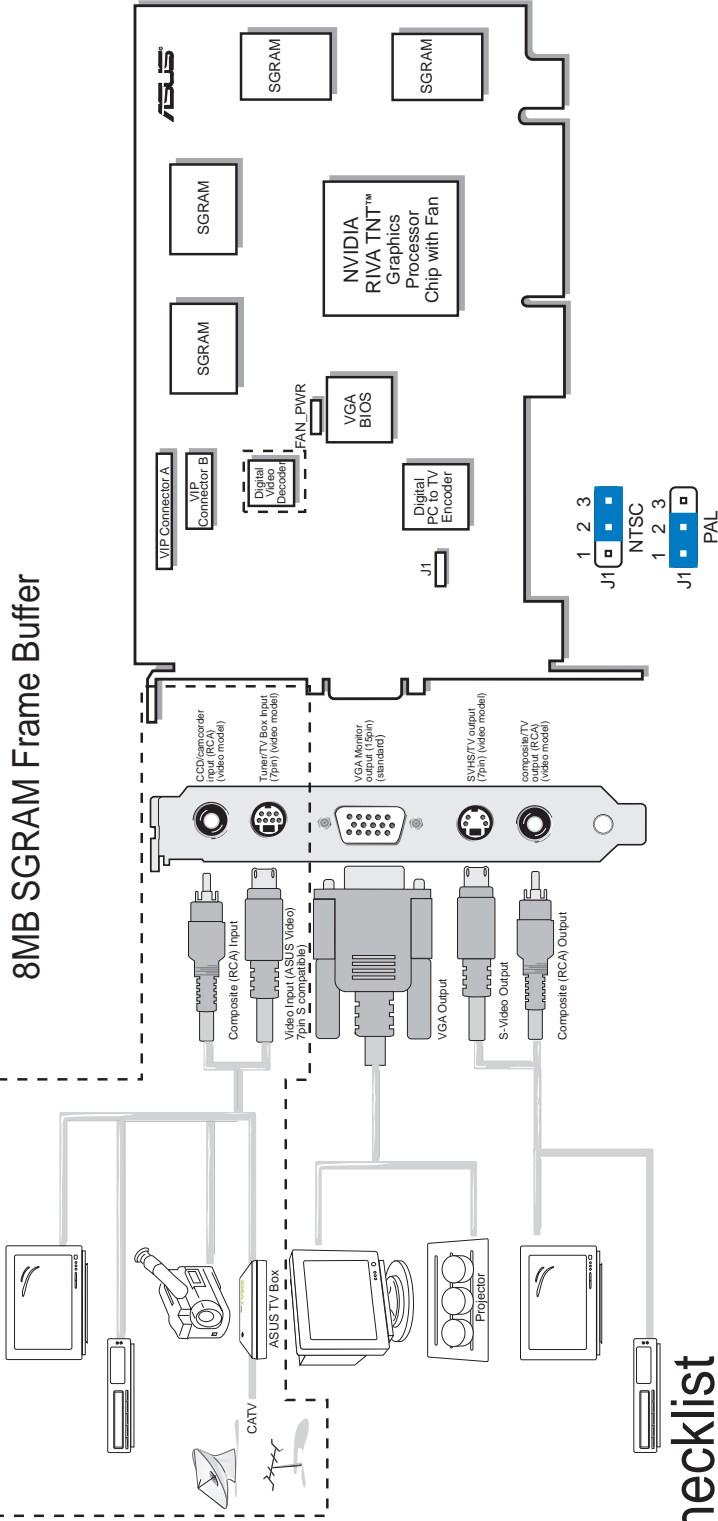
- ASUS AGP-V3400TNT
- This User's Manual
- Manual (Adobe® Acrobat® PDF)
- ASUS AGP-V3400TNT Series Driver & Utility CD Disc

NOTES

- The AGP-V3400TNT does not have video-in and TV-out connectors. Thus the video/TV utilities are not needed for this model.

II. Hardware Installation



ASUS AGP-V3400TNT/TV/8MB Layout ASUS AGP-V3400TNT/T/8MB Layout



Item Checklist

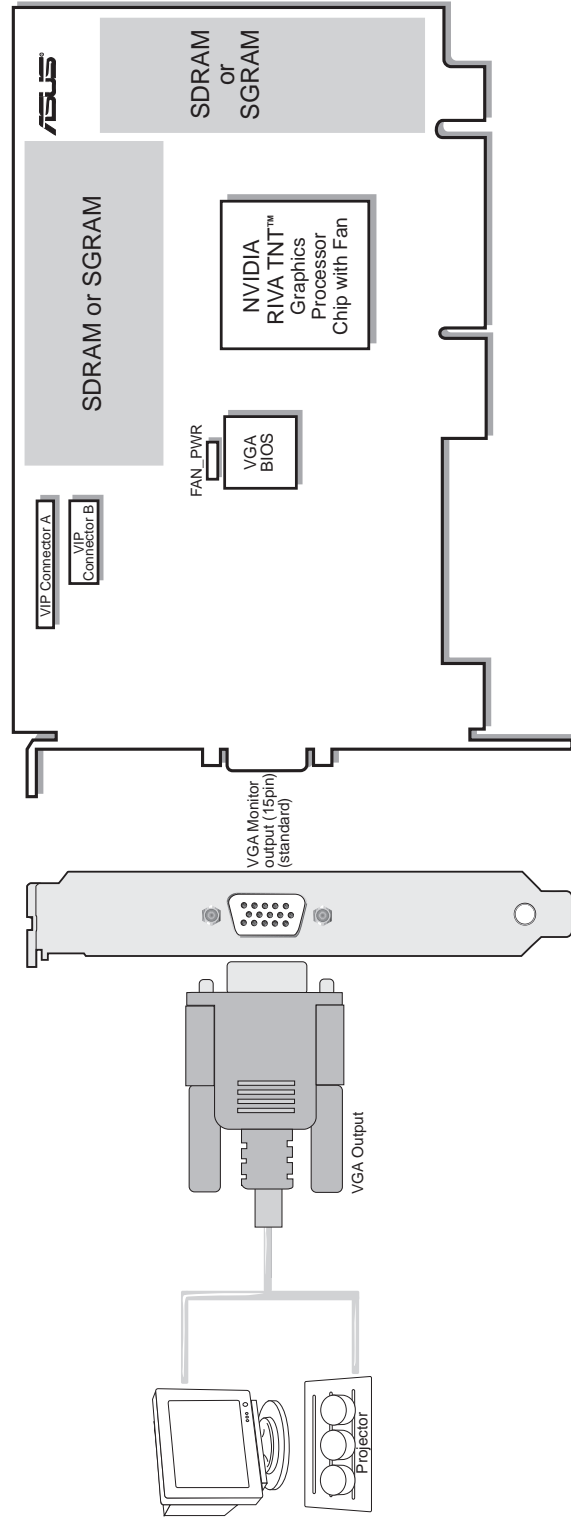
- ASUS AGP-V3400TNT/TV (PAL or NTSC) or ASUS AGP-V3400TNT/T Video-in (AGP-V3400TNT/TV only) and TV-out cables
- This User's Manual
- Manual (Adobe® Acrobat® PDF)
- ASUS AGP-V3400TNT Series Driver & Utility CD Disc

NOTES

- Components enclosed in dotted boxes can only be used or are available only in the AGP-V3400TNT/TV models.
- Use the same TV standard for all devices.
-  and  antenna cannot be connected at the same time (AGP-V3400TNT/TV only).

II. Hardware Installation

ASUS AGP-V3400TNT/16MB Layout 16MB SDRAM/SGRAM Frame Buffer



Item Checklist

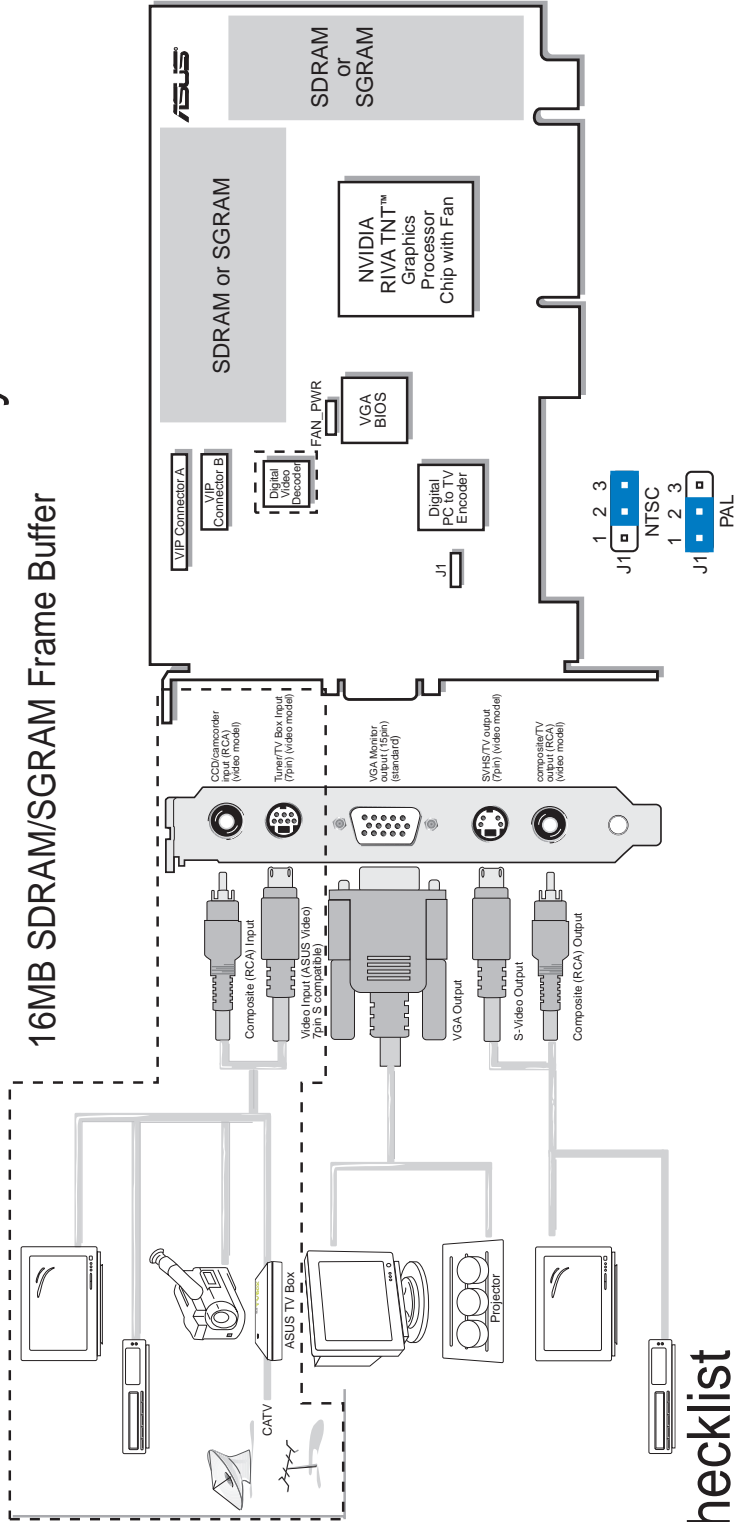
- ASUS AGP-V3400TNT
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NOTES

- The AGP-V3400TNT does not have video-in and TV-out connectors. Thus the video/TV utilities are not needed for this model.

II. Hardware Installation

ASUS AGP-V3400TNT/TV/16MB Layout ASUS AGP-V3400TNT/T/16MB Layout



Item Checklist

- ASUS AGP-V3400TNT/TV (PAL or NTSC) or ASUS AGP-V3400TNT/T Video-in (AGP-V3400TNT/TV only) and TV-out cables
- This User's Manual
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- ASUS AGP-V3400TNT Series Driver & Utility CD Disc

NOTES

- Components enclosed in dotted boxes can only be used or are available only in the AGP-V3400TNT/TV models.
- Use the same TV standard for all devices.
- and cannot be connected at the same time.

II. Hardware Installation

NOTE: The ASUS AGP-V3400TNT Series graphics cards can only be installed in motherboards with an AGP slot.

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

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

Installation Procedures

New Systems

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

Systems with Existing VGA Card

1. Shut down your computer and unplug all electrical cords.
2. Replace the existing VGA card with the ASUS AGP-V3400TNT Series graphics card.
3. Restart your computer — the ASUS AGP-V3400TNT Series graphics card should be automatically detected and the display drivers automatically updated.

III. Windows 95/98

Operating System Requirements

IMPORTANT The ASUS AGP-V3400TNT Series graphics card requires its own IRQ to work normally. If you have problems during installation, check your BIOS setting or motherboard jumpers to make sure that “VGA INT/IRQ” has been enabled.

Windows 95

To take advantage of all the AGP features, you must use Windows 95 OSR2.0, install the USB upgrade and then install the GART driver for the corresponding chipset on your motherboard. (see **III. Windows 95/98 Install GART Driver**).

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

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

OSR2.0 with USB has:

Version “Windows 95” and VersionNumber “4.03.1212” or “4.03.1214”.

Windows 98

Only Windows 98 supports full Direct3D and AGP features. If you are not using Windows 98 and you want to use full Direct3D and AGP features, you must upgrade Windows before installing the AGP display driver.

Windows 98 includes GART drivers for the major chipsets but it is recommended that you install the GART driver from the AGP-V3400TNT Series installation CD disc to make sure that you have the latest version of the GART driver.

NOTES

- For other notes or release information, see the README files in the installation CD.
- This Manual assumes that your CD-ROM disc drive is drive D: and that Windows is in C:\WINDOWS. Replace either with the actual location, if necessary.

III. Windows 95/98

Driver Installation

You can use one of three methods to install the Windows 95/98 drivers for your ASUS AGP-V3400TNT series graphics card.

NOTE: If your motherboard uses either the Intel, VIA, SiS, or ALi AGPset and you are using Windows 95 OSR2.1/Windows 98 (see **III. Windows 95/98 Operating System Requirements**), install the appropriate AGP GART driver by running D:\VGARTD\VGINST.EXE (see **III. Windows 95/98 Install GART Driver** for details). Installing the AGP GART driver will ensure that the AGPset's AGP functions are available

Method 1: ASUS Quick Installation Program

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

1. Start Windows.
2. Switch display to Windows' Standard Display Adapter (VGA) mode and then restart Windows.
3. Insert the CD installation disc into your CD-ROM drive.
4. The ASUS Windows 95/98 Install Shell appears. Click **Drivers and Utilities** and then click **Install Display Driver** on the **Drivers** dialog box.



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

III. Windows 95/98

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.



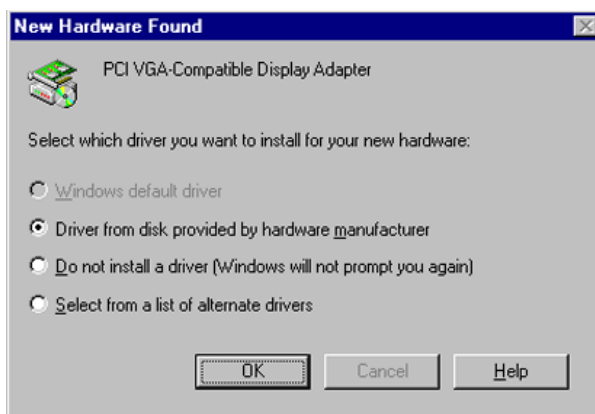
5. Click **Change** on the **Adapter** tab. The **Update Device Driver Wizard** dialog box appears. Click **Next**, click **Display a list of all the drivers...** and then click **Next**.
6. Click **Show all hardware** and then click **Have Disk...** When the **Install From Disk** dialog box appears, type the location of the ASUS3400.INF file and then proceed to step 9. Otherwise, proceed to the next step.
7. Click **Browse** to search the CD-ROM drive. In the **Drives** box of the **Open** dialog box, select your CD-ROM drive and then click **OK**.
8. In the **Folders** box, double-click the WIN95 folder and then select ASUS3800.INF in the **File name** box.
9. Click **OK**. A list of video cards appears. Select your VGA card type for your operating system and then click **OK**.
10. The **Update Driver Warning** box appears. Click **Yes** to confirm the setting up of the ASUS enhanced display drivers and then follow the onscreen instructions to start the setup.
11. Setup will prompt you when it has finished installing all the necessary files on your computer. Click **Finish** to close Setup.
12. When you are returned to the **Standard Display Adapter (VGA) Properties** box, click **Close**. The **Display Properties** box appears. Click **Close**.
13. The system will prompt you to restart your computer. Click **Yes** to restart your computer and to complete Setup.

III. Windows 95/98

Method 3: Plug and Play

NOTE: Before proceeding with these steps, replace first your old VGA card with an ASUS AGP-V3400TNT series graphics card.

1. Start Windows.
2. When Windows detects your ASUS AGP-V3400TNT 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:\WIN95 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...** and then **Finish** to restart your computer and to complete Setup.

NOTE: This method will not install the DirectX runtime libraries. *See III. Windows 95/98 Install DirectX 6* later in this manual for the installation steps.

III. Windows 95/98

ASUS Windows 95/98 Install Shell

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 the CD.



Click **Drivers and Utilities**.

2. The **Drivers** box appears. Click **Install Display Driver** to open the **Welcome** dialog box of Setup.



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



4. The Setup Type dialog box appears. For most users, a **Typical** setup is adequate. If hard disk space is an issue, click **Compact**. If you want to choose the options to be installed, click **Custom**. Click **Next** after you have chosen your preferred Setup Type.

III. Windows 95/98

NOTE: If you choose either Typical or Compact setup, proceed to step 5. Otherwise, proceed to the next step. Typical setup installs all items listed in the **Select Component** dialog box while Compact setup installs the display driver only.



5. The Select Components dialog appears. Select the components you want to install. Click **Next**.



6. After all drivers and components have been copied, you will be prompted to restart your computer. Click **No...** and then **Finish** to go back to Windows. Shutdown and turn off your computer. Replace your VGA card with the ASUS AGP-V3400TNT series graphics card. Restart your computer, and the drivers should be installed automatically.



III. Windows 95/98
V3400TNT Driver

III. Windows 95/98

Install DirectX

Microsoft DirectX allows 3D hardware acceleration support in Windows 95/98. For Software MPEG support in Windows 95/98, you must first install the **Microsoft DirectX** libraries, 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.

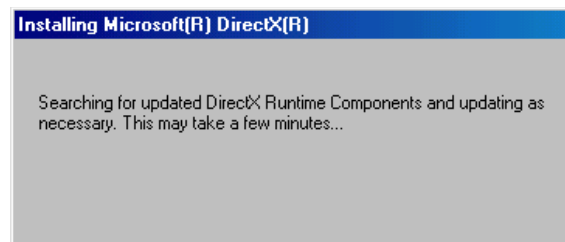
Click **Drivers and Utilities**.



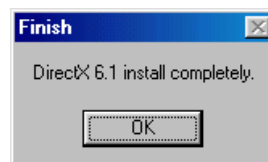
2. The **Drivers** box appears. Click **Install DirectX** to install the DirectX libraries.



3. The installation program will automatically install the DirectX 6 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.



III. Windows 95/98

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.

NOTE: Installation dialogs are slightly different for each chipset. Follow the onscreen instructions to finish the VGARTD installation. The succeeding steps assume that you are installing for an Intel AGPset.

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

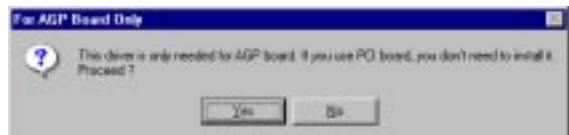
Click **Drivers and Utilities**.



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



3. A message appears that the VGARTD driver is only required for AGP boards. Click **Yes** to continue to install the driver.

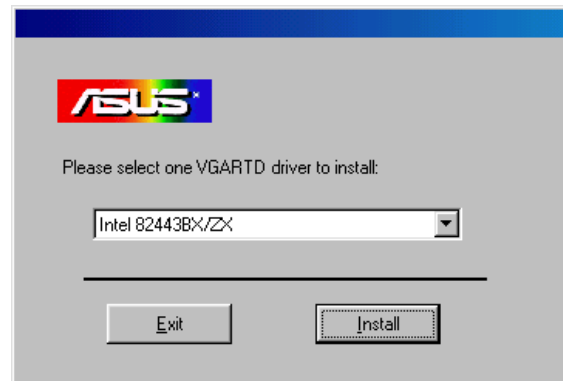


III. Windows 95/98

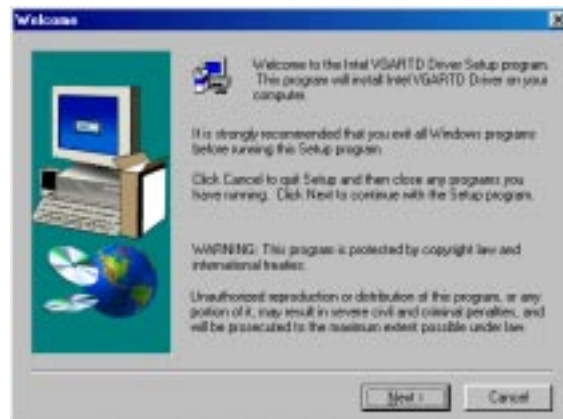
4. The **AGP VGARTD Driver Detection** box appears with the chipset detected on your motherboard. Click **OK** to install the appropriate driver for your AGPset.



5. 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**.



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



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



III. Windows 95/98

Install Live3400 Utility

Live3400 lets you view and capture video images from the card's video input port.

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

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

Click **Drivers and Utilities**.



2. The **Drivers** box appears. Click **Install Live3400 Utility**.



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

To complete the installation, simply follow the onscreen instructions.



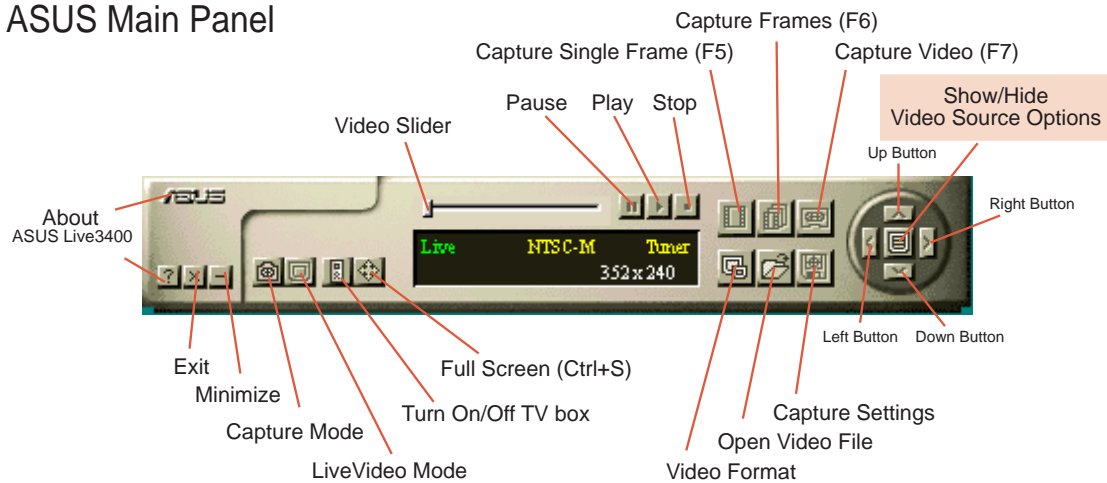
III. Windows 95/98

Using ASUS Live3400

The ASUS Live utility software can be used to:

1. View images using your monitor as screen from traditional consumer devices, such as videocassette players, camcorders, digital cameras, and laser disc players through the onboard RCA or SVHS VIDEO-IN connectors (TV model only).
2. Capture live motion video up to 30 frames/second (minimum Pentium II/266 system).
3. Play any *.AVI file.

ASUS Main Panel

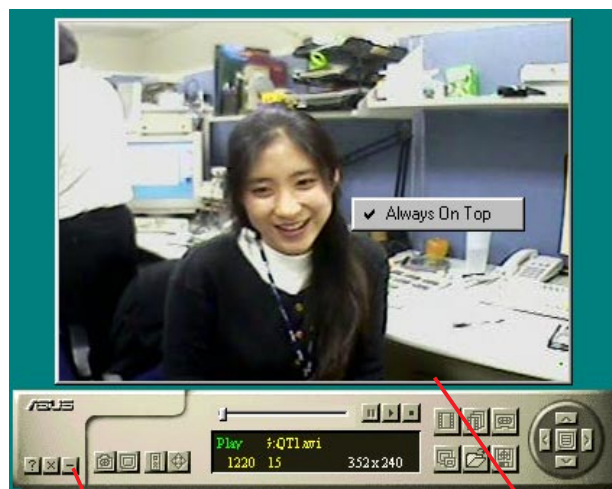


To run the software, click **Start** and point to **Programs** and then **ASUS LIVE3400** and then click **LIVE3400**.

To uninstall the software, click **Start** and point to **Programs** and then **ASUS LIVE3400** 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.

Always On Top

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



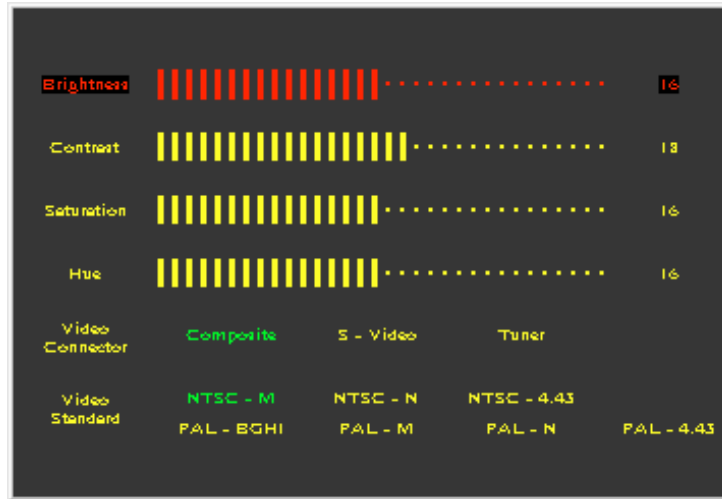
Click **Minimize** to shrink the ASUS Main Panel to the taskbar when viewing

Display screen

III. Windows 95/98

Show/Hide Video Source Option

When first using ASUS Live, you must set up the video source. By clicking the **Show/Hide Video Source Options** button on the ASUS Main Panel, you can show or hide the video source setup screen.



Use the Up or Down arrow buttons on the ASUS Main Panel to select Video Connector and then the Left and Right arrow buttons to select *Tuner* to start using your TV Box to view programs.

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

If desired, you may adjust Brightness, Contrast, Saturation, and Hue of your display using the video source setup screen. Click again the **Show/Hide Video Source Options** button on the ASUS Main Panel to exit from this screen.

For the other options on the ASUS Live utility software, click the appropriate button on the ASUS Main Panel to open its dialog box.

Video Capture Driver

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.

When you install the Windows 95/98 Driver of your ASUS graphics card with the VIDEO-IN connector, the video capture driver will automatically be installed on your system. This video capture driver follows Microsoft Video for Windows standard and can open **up to a capture window size of 704 x 480**. It can be used with some applications that use video capture as an option, such as video conferencing, net meeting, or digital video authoring applications.

To start capturing images on your screen, click the **Capture Mode** button on the ASUS Main Panel.

III. Windows 95/98

Uninstall Display Driver

If you want to update your display drivers or if you no longer need the AGP-V3400 display drivers, you can use one of the following procedures to completely uninstall the drivers from Windows 95/98 to save disk space.

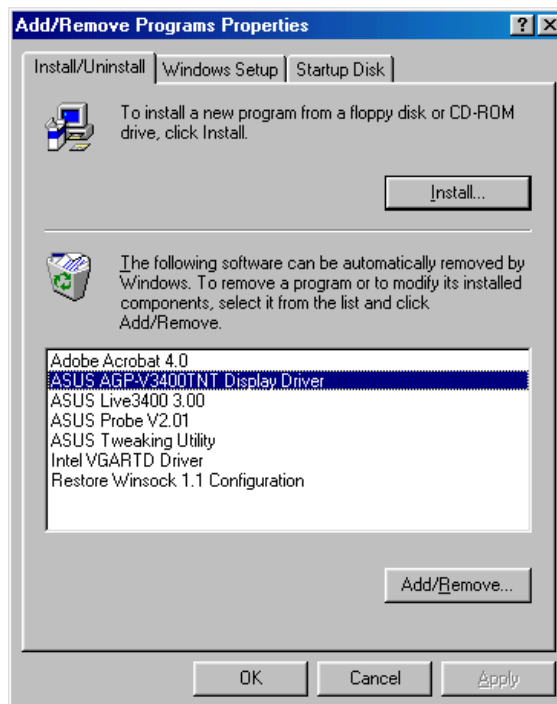
Using the Autorun Screen

1. Insert the CD installation disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run **Setup.exe** in the root directory of your CD-ROM drive.
2. Click **Uninstall Display Driver** and follow the onscreen directions.



Using Windows 95/98 Control Panel

1. Click **Start**, and then point to **Settings**.
2. Click **Control Panel**.
3. Double-click the **Add/Remove Programs** icon.
4. Click the **Install/Uninstall** tab.
5. Click **ASUS AGP-V3400 Display Driver** from the list.
6. Click **Add/Remove**.
7. The system will prompt you to restart your computer. Click **Yes** to restart.



III. Windows 95/98

Install Acrobat Reader

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

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

Click **Drivers and Utilities**.



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



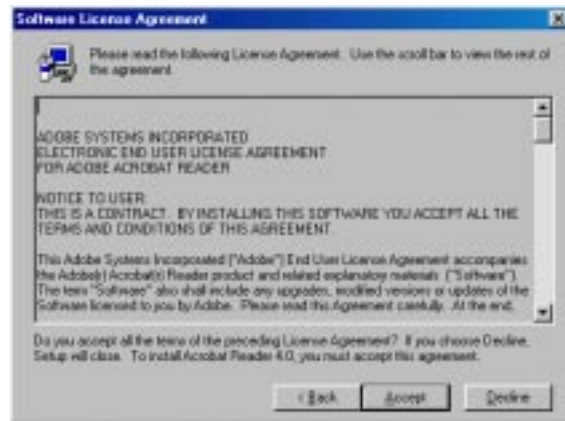
3. When the **Acrobat Reader x.x Setup** box appears, click **Next**.



III. Windows 95/98
Install Reader

III. Windows 95/98

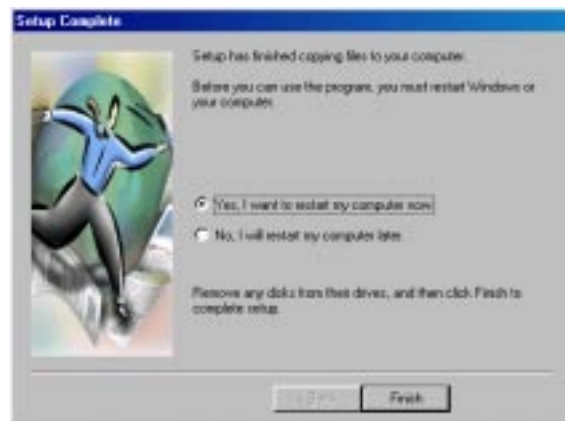
4. When the **Software License Agreement** box appears, click **Accept** to signify your acceptance of the License Agreement.



5. When the **Choose Destination Location** box prompts you for a destination folder, click **Next** to select the default location. Setup starts to copy the necessary files to your computer.



6. When Setup has finished copying files to your computer, click **Yes, I want to restart my computer now** and then click **Finish** to restart your computer to begin using Acrobat Reader. You may select **No, I will restart my computer later** if you still want to install other software or want to use your computer and then click **Finish**.



III. Windows 95/98

Install ASUS Tweak Utility

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

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

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

Click **Drivers and Utilities**.



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



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



III. Windows 95/98
Install Tweak

III. Windows 95/98

4. When the **Information** box appears, click **Next** to signify your acceptance of the warning and other related information.

Setup starts to copy the necessary files to your computer. Follow the onscreen instructions to complete the installation.



Using the ASUS Tweak Utility

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

To run the ASUS Tweak Utility, click **Start** and point to **Programs, Asus, Tweaking Utilities**, and then click **Tweak** or right-click the ASUS Control Panel icon (see **III. Windows 95/98 | ASUS Control Panel** later on this chapter) on the taskbar's status area and then click **Tweak Utility**.

Timing Adjustment

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

Graphics Speed

Engine

Lets you adjust the working frequency of the graphic engine

Memory

Lets you adjust the working frequency of the video memory.

Load Default

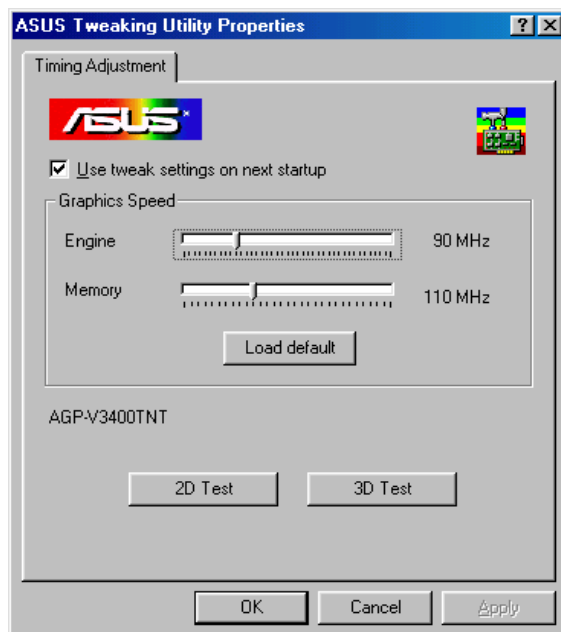
Restores the settings to their defaults.

2D

Lets you test your tweak settings using 2D.

3D

Lets you test your tweak settings using 3D.



III. Windows 95/98

Test settings

Lets you test your settings.

Use tweak settings on next startup

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

Tweak Safe Mode Recovery

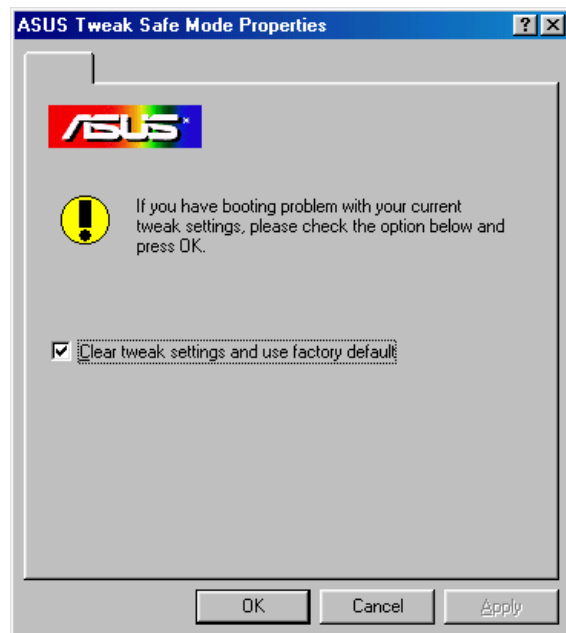
Timing Adjustment (Safe Mode) lets you restore the working frequency of the graphic engine and video memory to their factory default settings. This mode is used when you encounter problems when starting or restarting Windows using your customized tweak settings.

Using Tweak Safe Mode Recovery

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

Timing Adjustment (Safe Mode)

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

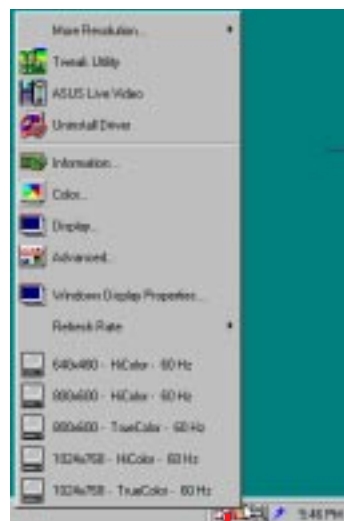


III. Windows 95/98

ASUS Control Panel

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

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



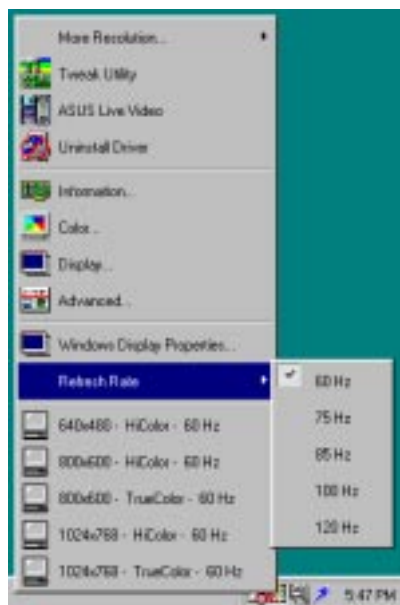
ASUS Control Panel icon 

Refresh Rate

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

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

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



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

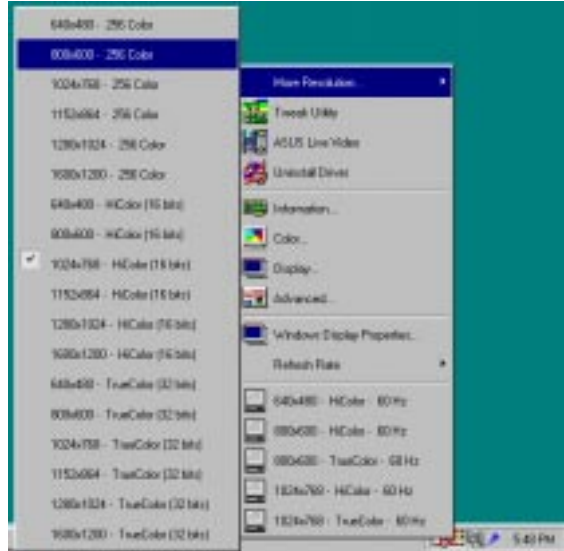


III. Windows 95/98

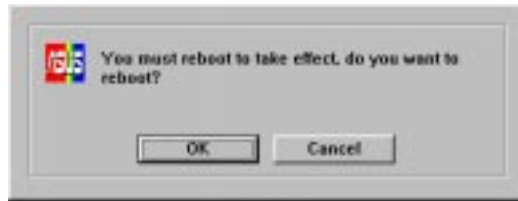
More Resolution

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

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



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



Information

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



III. Windows 95/98
More Resolution

III. Windows 95/98



Color

Color allows you to make color adjustments, such as brightness, contrast, and gamma values for each or all of the RGB colors. These adjustments can be made for Desktop and D3D/Game. This function is not available in 8-bit color depth.

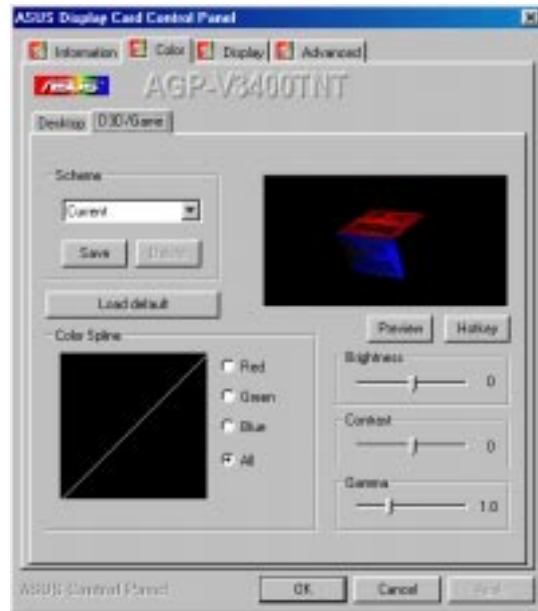
Desktop

Desktop lets you adjust the color of your Windows 95/98 desktop.



D3D/Game

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



III. Windows 95/98

General Functions

Brightness / Contrast / Gamma

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

Desktop

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

D3D/Game

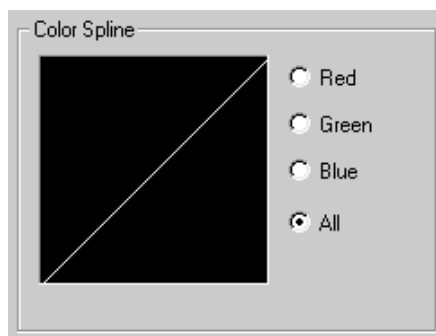
Changes to your color settings can be viewed by clicking **Preview**. When playing a **full-screen** DirectDraw/Direct3D game, changes can be interactively made if **Hotkey** is enabled.



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

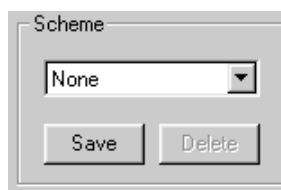
Color Spline

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



Scheme

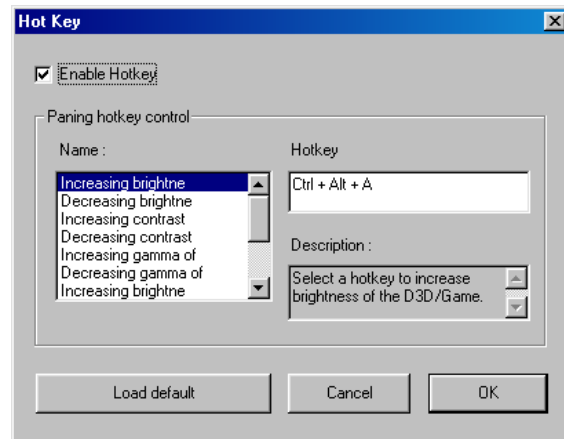
Scheme lists schemes that you can use to change the appearance of many screen elements simultaneously. You can use existing schemes, or create and save your own scheme by saving your current settings, or delete unwanted schemes. You may want to save a scheme that you created for some special situations,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



III. Windows 95/98

Hotkey

Hotkey lets you assign hot keys to adjust color settings interactively while playing a DirectDraw/Direct3D game or watching a movie. To use this function, click **Hotkey** to open the **Hot Key** box and then select **Enable Hotkey**. You may want to change the default hot keys when they conflict with hot keys of certain games, video players, or Windows programs.



To change the default hot keys

1. In the **Name** list under **Panning hotkey control**, click the hot key control that you want to change and then click the **Hotkey** box.
2. Hot keys automatically include CTRL+ALT. Press any valid key (you cannot use ESC, ENTER, TAB, SPACEBAR, PRINT SCREEN, or BACKSPACE) you want to add to this combination. For example, to define the hot key combination CTRL+ALT+B, press B.

NOTE: The hot keys will be available only if you selected the **Enable Hotkey** check box and if you are in the appropriate environment. That is, with the **Enable Hotkey** check box selected, hot keys take effect only if you are playing a **full-screen** DirectDraw/Direct3D game or video hot keys are valid only when you are playing a movie with hardware acceleration (**YUV** overlay) turned on.

Important Notes

D3D/Game

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

III. Windows 95/98



Display

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

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

VGA

Adjustment

Position sets the screen position

Size sets the screen size

Synchronization

Adjusts the synchronization polarity settings



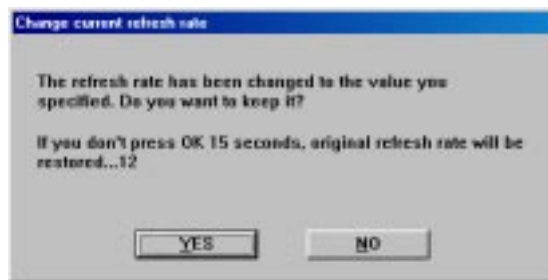
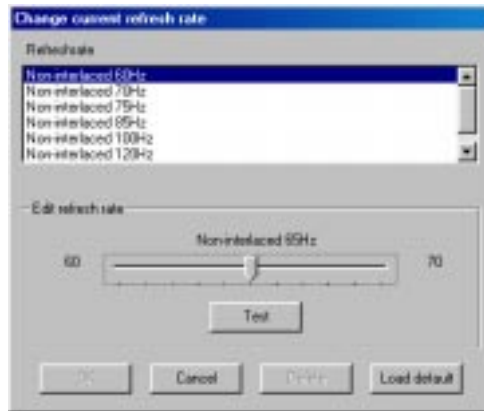
III. Windows 95/98
Display

Change current refresh rate

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

To change the current refresh rate

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



Load default

Restores the settings to their defaults.

III. Windows 95/98

Change refresh rate

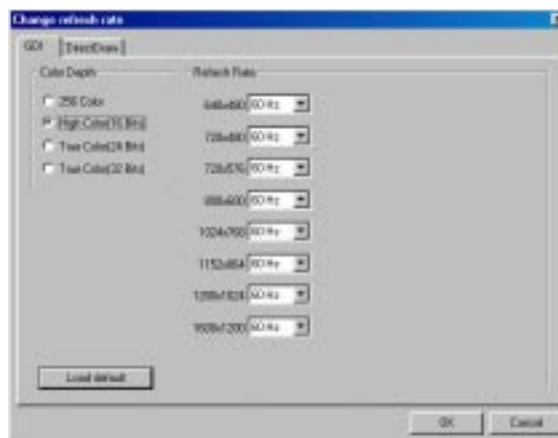
Displays the **Change refresh rate** box to let you change the refresh rate of any screen resolution.

GDI

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

To change the refresh rate

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

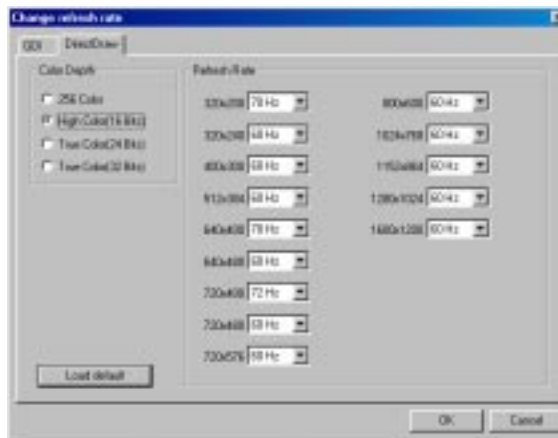


DirectDraw

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

To change the refresh rate

1. Click **Change refresh rate**.
2. In the **Refresh Rate** list under the **DirectDraw** tab, select the refresh rate you want to use. A **Test** button appears to let you test the selected refresh rate and resolution combination. Click **Test** to preview the new refresh rate.
3. To keep the new refresh rate, press **F1**. Otherwise, press **F2** to select another refresh rate.



III. Windows 95/98

TV

Position

Sets the screen position.

Size

Sets the screen size.

Standard

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

Output type

Displays the connection status of composite and S-Video.

Scan type

Sets the scan type of the TV display.

Black Level

Sets the brightness of the TV display.

Contrast

Sets the contrast of the TV display.

Flicker

Sets the anti-flicker effect.



III. Windows 95/98



Advanced

Advanced provides some advanced settings for StereoGlasses (setting is available only with the ASUS AGP-V3400 Deluxe model or AGP-V3400TV model with the VR Stereoscope upgrade), Direct3D and OpenGL, software interfaces for your ASUS AGP-V3400 3D graphics board.

StereoGlasses

Enable Stereoscopic Mode

When selected, this enables you to use the stereoscopic mode when playing games or watching 3D videos. This mode is available only

Stereoscopic Glasses

Eyes

Distance between your eyes.

Distance

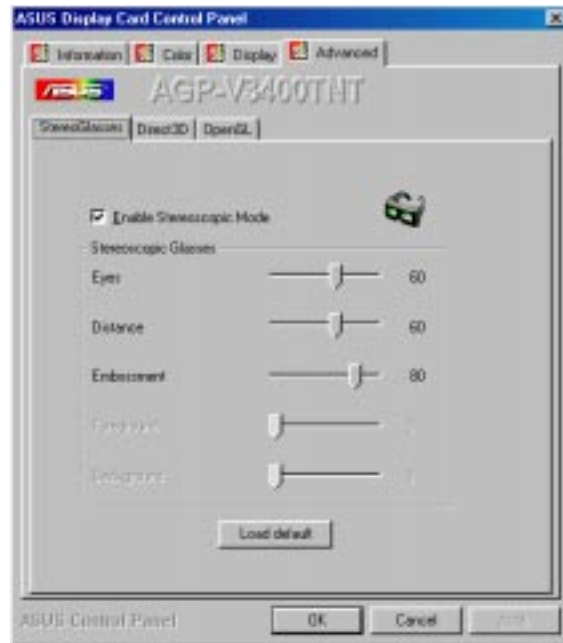
Distance between foreground and eyes.

Embossment

The effect to make objects virtually pop out of the screen.

Load Default

Restores the settings to their defaults.



IMPORTANT! Before enabling stereoscopic mode and using your stereoscopic or VR glasses (ASUS VR-100G), make sure that your monitor can support 120Hz interlaced mode under the following display modes:

640 x 480 x 16 bits	640 x 480 x 32 bits
800 x 600 x 16 bits	800 x 600 x 32 bits
960 x 720 x 16 bits	
1024 x 768 x 16 bits	
1152 x 864 x 16 bits	

WARNING! To prevent discomfort and eye fatigue when using your stereoscopic or VR glasses, DO NOT try to use your VR 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 VR glasses and then looking up and focusing on distant objects.

III. Windows 95/98

Direct3D

Direct3D Feature Settings

Turn off V-SYNC waiting

When selected, games will achieve higher frame rate but tear frame may occur.

Anti-alias supersampling size

Lets you select the size of anti-aliasing, supersampling block.

8-bit indexed palette texture convert

Format for 8-bit indexed texture to convert.

Direct3D Mipmap Settings

Permit dithering mipmap

When selected, rendering performance may be higher; visual quality may, however, be lower.

Auto-generate mipmap

When selected, rendering performance may be higher; visual quality may, however, be lower.

Auto-generate mipmap filtering

Select **Tri-linear** for higher rendering quality.

Load default

Restores the settings to their defaults.



OpenGL

Enable buffer region extension

Enables region extension for 3D Studio Max.

Permit dithering mipmap

When selected, texture mipmap dithering will be enabled. Visual quality may improve when selected; a decrease in rendering performance, however, may occur.

Anisotropic mipmap

When selected, quality/performance may be better.

Turn off OpenGL VSync waiting

When selected, games will achieve higher frame rate but tear frame may occur.

Load default

Restores the settings to their defaults.



III. Windows 95/98
Advanced

IV. Windows NT 4.0

Install Display Driver

WARNING! Before installing the display driver in Windows NT 4.0, make sure that you have installed **Windows NT 4.0 Service Pack3 or later, to take full advantage of the ASUS AGP-V3400TNT AGP features.** (You must use the same update language of your Windows language available on the Internet at http://www.microsoft.com/isapi/support/bldqpage.idc?ProductPage=q_servpk.)

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

Installation Procedures

1. Start Windows NT, switch display properties to VGA mode (16 colors, 640 x 480 pixels), then restart your computer to make the change.
2. After your computer restarts, right-click the desktop and click **Properties**.
3. Click the **Settings** tab.
4. Select **Change Display Type**.
5. Select **Adapter Type** and click **Change**.
6. Click **Have Disk**.
7. Insert the ASUS AGP-V3400TNT Series installation CD disc.
8. Type **D:\NT40** or click **Browse** to select the path of the display driver for Windows NT. Click **OK**.
9. Select **ASUS AGP-V3400TNT** and then click **OK**.
10. Windows NT will once again prompt for confirmation. All appropriate files are then copied to the hard disk. When all files are copied, go back to the **Display Properties** box by clicking **Close**. Click **Apply**.
11. The **System Settings Change** dialog box is displayed. Click **Yes** to restart Windows.
12. Windows NT will restart with the default settings. The Display applet will appear to allow for mode selection.

V. Resolution Table

8MB Video Memory

Resolution	Vertical Frequency	Horizontal Frequency	Color Depth		
			8bpp = 256 colors Standard	16bpp = 65K colors High Color	32bpp = 16.7M colors True Color
640 x 480	60Hz	31.4KHz	✓	✓	✓
	70Hz	34.9KHz	✓	✓	✓
	72Hz	36.1KHz	✓	✓	✓
	75Hz	37.6KHz	✓	✓	✓
	85Hz	43.0KHz	✓	✓	✓
	100Hz	51.0KHz	✓	✓	✓
	120Hz	61.8KHz	✓	✓	✓
	140Hz	72.9KHz	✓	✓	✓
	144Hz	75.2KHz	✓	✓	✓
	150Hz	78.7KHz	✓	✓	✓
	170Hz	92.6KHz	✓	✓	✓
	200Hz	108.6KHz	✓	✓	✓
	240Hz	132.8KHz	✓	✓	✓
250Hz	138.6KHz	✓	✓	✓	
800 x 600	60Hz	37.9KHz	✓	✓	✓
	70Hz	43.8KHz	✓	✓	✓
	72Hz	45.1KHz	✓	✓	✓
	75Hz	47.0KHz	✓	✓	✓
	85Hz	53.6KHz	✓	✓	✓
	100Hz	63.7KHz	✓	✓	✓
	120Hz	77.2KHz	✓	✓	✓
	140Hz	91.1KHz	✓	✓	✓
	144Hz	94.0KHz	✓	✓	✓
	150Hz	98.2KHz	✓	✓	✓
	170Hz	112.8KHz	✓	✓	✓
	200Hz	135.0KHz	✓	✓	✓
	240Hz	166.3KHz	✓	✓	✓
250Hz	172.5KHz	✓	✓	✓	
1024 x 768	60Hz	48.4KHz	✓	✓	✓
	70Hz	56.0KHz	✓	✓	✓
	72Hz	57.5KHz	✓	✓	✓
	75Hz	60.2KHz	✓	✓	✓
	85Hz	68.6KHz	✓	✓	✓
	100Hz	81.7KHz	✓	✓	✓
	120Hz	98.8KHz	✓	✓	✓
	140Hz	116.6KHz	✓	✓	✓
	144Hz	120.0KHz	✓	✓	✓
	150Hz	125.8KHz	✓	✓	✓
170Hz	144.0KHz	✓	✓	✓	
1152 x 864	60Hz	53.7KHz	✓	✓	✓
	70Hz	62.9KHz	✓	✓	✓
	72Hz	64.8KHz	✓	✓	✓
	75Hz	67.6KHz	✓	✓	✓
	85Hz	77.1KHz	✓	✓	✓
	100Hz	91.3KHz	✓	✓	✓
	120Hz	111.2KHz	✓	✓	✓
	140Hz	131.4KHz	✓	✓	✓
	144Hz	135.2KHz	✓	✓	✓
	150Hz	141.3KHz	✓	✓	✓
1280 x 1024	60Hz	64.0KHz	✓	✓	✓
	70Hz	74.6KHz	✓	✓	✓
	72Hz	76.8KHz	✓	✓	✓
	75Hz	80.1KHz	✓	✓	✓
	85Hz	91.3KHz	✓	✓	✓
	100Hz	108.5KHz	✓	✓	✓
	120Hz	131.6KHz	✓	✓	✓
1600 x 1200	60Hz	74.6KHz	✓	✓	✓
	70Hz	87.4KHz	✓	✓	✓
	72Hz	90.1KHz	✓	✓	✓
	75Hz	84.0KHz	✓	✓	✓
	85Hz	107.1KHz	✓	✓	✓
1920 x 1080	60Hz	67.1KHz	✓	✓	—
	70Hz	78.7KHz	✓	✓	—
	72Hz	81.1KHz	✓	✓	—
	75Hz	84.6KHz	✓	✓	—
	85Hz	96.4KHz	✓	✓	—
1920 x 1200	60Hz	74.6KHz	✓	✓	—
	70Hz	87.4KHz	✓	✓	—
	72Hz	90.0KHz	✓	✓	—
	75Hz	94.0KHz	✓	✓	—

V. Resolution
8MB Memory

V. Resolution Table

16MB Video Memory

Resolution	Vertical Frequency	Horizontal Frequency	Color Depth		
			8bpp = 256 colors Standard	16bpp = 65K colors High Color	32bpp = 16.7M colors True Color
640 x 480	60Hz	31.4KHz	✓	✓	✓
	70Hz	34.9KHz	✓	✓	✓
	72Hz	36.1KHz	✓	✓	✓
	75Hz	37.6KHz	✓	✓	✓
	85Hz	43.0KHz	✓	✓	✓
	100Hz	51.0KHz	✓	✓	✓
	120Hz	61.8KHz	✓	✓	✓
	140Hz	72.9KHz	✓	✓	✓
	144Hz	75.2KHz	✓	✓	✓
	150Hz	78.7KHz	✓	✓	✓
	170Hz	92.6KHz	✓	✓	✓
	200Hz	108.6KHz	✓	✓	✓
	240Hz	132.8KHz	✓	✓	✓
250Hz	138.6KHz	✓	✓	✓	
800 x 600	60Hz	37.9KHz	✓	✓	✓
	70Hz	43.8KHz	✓	✓	✓
	72Hz	45.1KHz	✓	✓	✓
	75Hz	47.0KHz	✓	✓	✓
	85Hz	53.6KHz	✓	✓	✓
	100Hz	63.7KHz	✓	✓	✓
	120Hz	77.2KHz	✓	✓	✓
	140Hz	91.1KHz	✓	✓	✓
	144Hz	94.0KHz	✓	✓	✓
	150Hz	98.2KHz	✓	✓	✓
	170Hz	112.8KHz	✓	✓	✓
	200Hz	135.0KHz	✓	✓	✓
	240Hz	166.3KHz	✓	✓	✓
250Hz	172.5KHz	✓	✓	✓	
1024 x 768	60Hz	48.4KHz	✓	✓	✓
	70Hz	56.0KHz	✓	✓	✓
	72Hz	57.5KHz	✓	✓	✓
	75Hz	60.2KHz	✓	✓	✓
	85Hz	68.6KHz	✓	✓	✓
	100Hz	81.7KHz	✓	✓	✓
	120Hz	98.8KHz	✓	✓	✓
	140Hz	116.6KHz	✓	✓	✓
	144Hz	120.0KHz	✓	✓	✓
	150Hz	125.8KHz	✓	✓	✓
	170Hz	144.0KHz	✓	✓	✓
1152 x 864	60Hz	53.7KHz	✓	✓	✓
	70Hz	62.9KHz	✓	✓	✓
	72Hz	64.8KHz	✓	✓	✓
	75Hz	67.6KHz	✓	✓	✓
	85Hz	77.1KHz	✓	✓	✓
	100Hz	91.3KHz	✓	✓	✓
	120Hz	111.2KHz	✓	✓	✓
	140Hz	131.4KHz	✓	✓	✓
	144Hz	135.2KHz	✓	✓	✓
	150Hz	141.3KHz	✓	✓	✓
1280 x 1024	60Hz	64.0KHz	✓	✓	✓
	70Hz	74.6KHz	✓	✓	✓
	72Hz	76.8KHz	✓	✓	✓
	75Hz	80.1KHz	✓	✓	✓
	85Hz	91.3KHz	✓	✓	✓
	100Hz	108.5KHz	✓	✓	✓
	120Hz	131.6KHz	✓	✓	✓
1600 x 1200	60Hz	74.6KHz	✓	✓	✓
	70Hz	87.4KHz	✓	✓	✓
	72Hz	90.1KHz	✓	✓	✓
	75Hz	84.0KHz	✓	✓	✓
	85Hz	107.1KHz	✓	✓	✓
1920 x 1080	60Hz	67.1KHz	✓	✓	✓
	70Hz	78.7KHz	✓	✓	✓
	72Hz	81.1KHz	✓	✓	✓
	75Hz	84.6KHz	✓	✓	✓
	85Hz	96.4KHz	✓	✓	✓
1920 x 1200	60Hz	74.6KHz	✓	✓	✓
	70Hz	87.4KHz	✓	✓	✓
	72Hz	90.0KHz	✓	✓	✓
	75Hz	94.0KHz	✓	✓	✓

VI. Troubleshooting

Description	Recommended Action
<i>After installation and re-starting, Windows 95/98 informs me that the display setting is still incorrect.</i>	<ul style="list-style-type: none">• Make sure the “Assign IRQ to VGA” option is enabled in the BIOS• Check if there is enough IRQ for VGA• Uninstall the driver, restart, and reinstall the driver
<i>My monitor is not capable of high resolution or refresh rate.</i>	<ul style="list-style-type: none">• It depends on the display characteristics of your monitor. Consult your monitor documentation for the proper configuration.
<i>DirectX or the other applications report no AGP memory available.</i>	<ul style="list-style-type: none">• Windows 95 is not OSR2.1 or later.• DirectX version is not 6.0 or later.• You have not installed appropriate drivers for the AGP chipset. (e.g. VGARTD.VXD for Intel 440LX)• Incorrect BIOS setting. BIOS must support at least 64MB for AGP aperture size.
<i>LIVE3400 reports that your board is not a TV model.</i>	<ul style="list-style-type: none">• Your adapter has no video-in options.• Your monitor has wrong DDC circuit implemented. Contact your monitor dealer for a solution.
<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>My MPEG player displays bad quality video clips</i>	<ul style="list-style-type: none">• You must install DirectX 6 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.
<i>The MPEG Player window appears only on the TV screen instead of the monitor screen when using dual view mode.</i>	<ul style="list-style-type: none">• This is due to the chip’s limitation. The YUV overlay surface can only appear through the TV output when dual view mode is enabled.
<i>The polygons onscreen flashes when playing games in dual view mode.</i>	<ul style="list-style-type: none">• Select the “Turn off V-Sync waiting” check box under the Advanced tab of the Display Properties sheet. Although selecting this box may result in your games getting a higher frame rate, tear frames may occur.

NOTES
