

ASUS[®] V3400TNT Series

AGP Graphics Cards

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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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.

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.

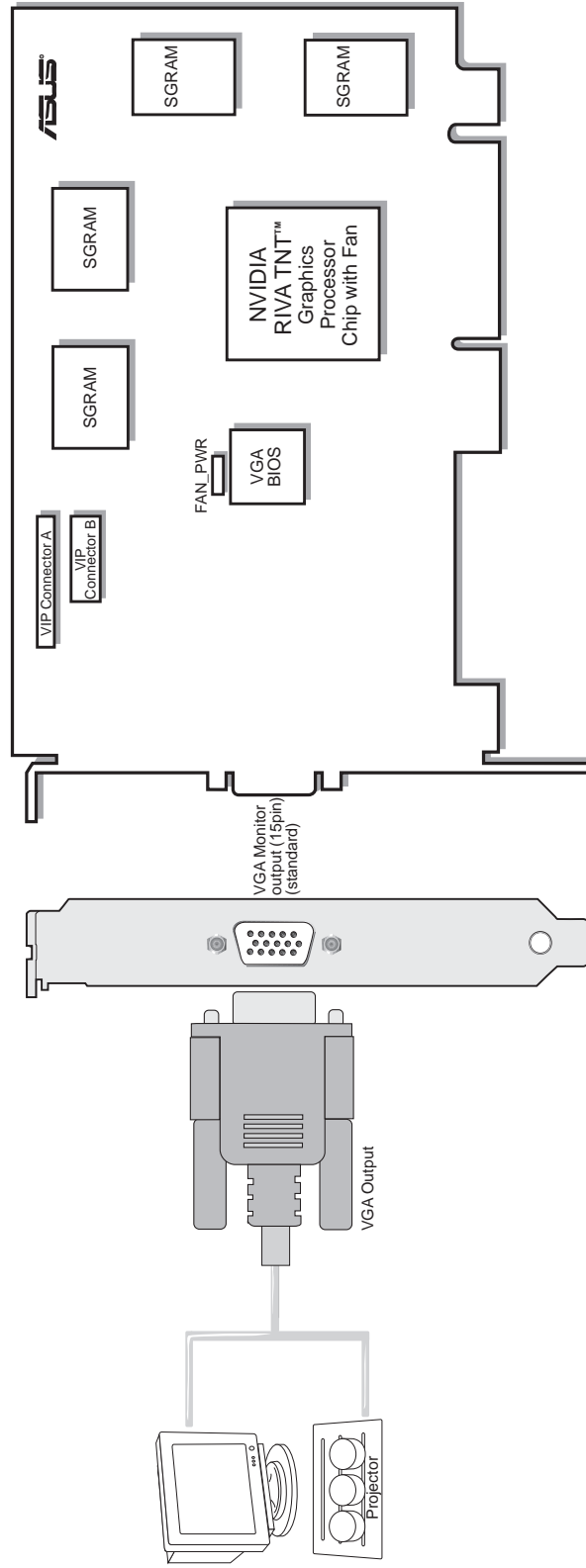
AVAILABLE MODELS

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

II. Hardware Installation

ASUS AGP-V3400TNT/8MB Layout

8MB SGRAM Frame Buffer



Item Checklist

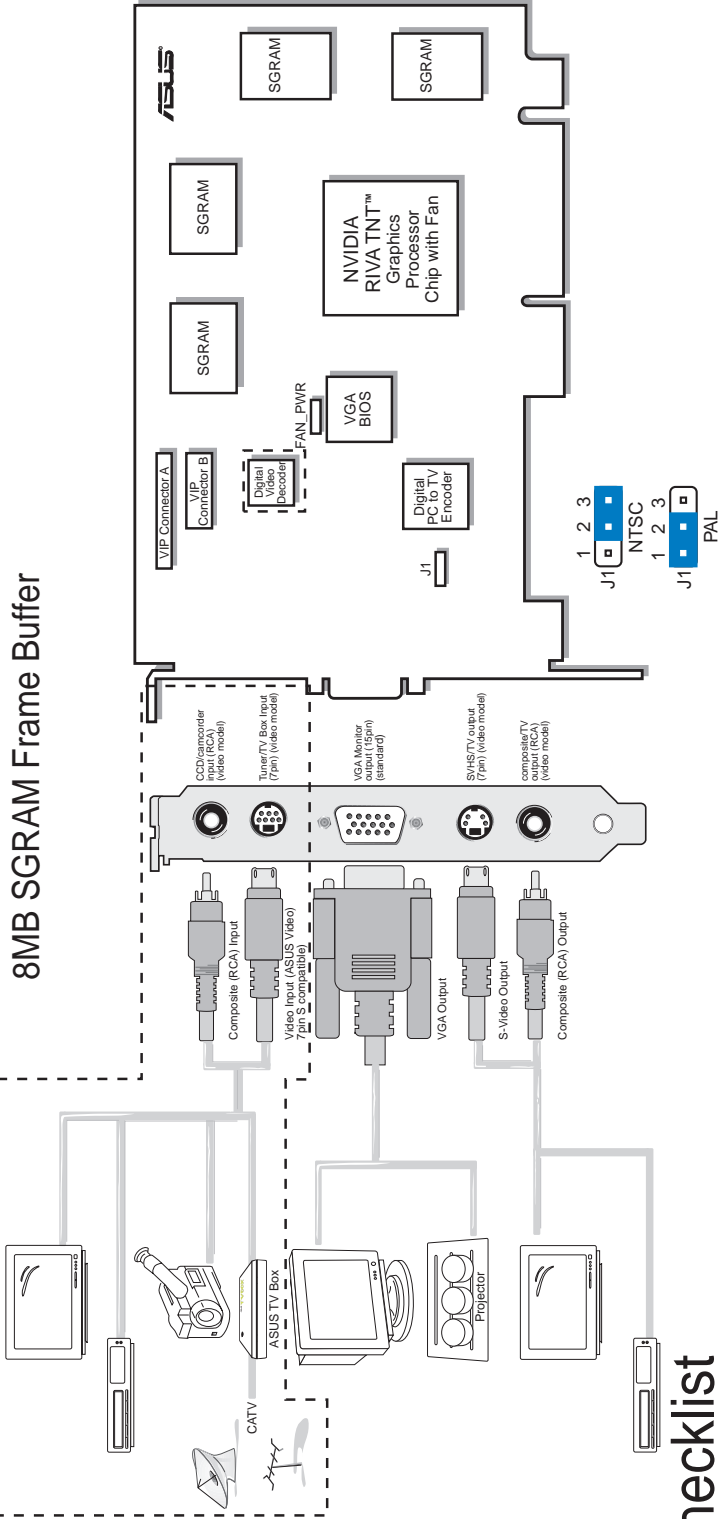
- ASUS AGP-V3400TNT
- This User's Manual
- Manual (Adobe® Acrobat® PDF)
- ASUS AGP-V3400TNT Series Driver & Utility CD Disc

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

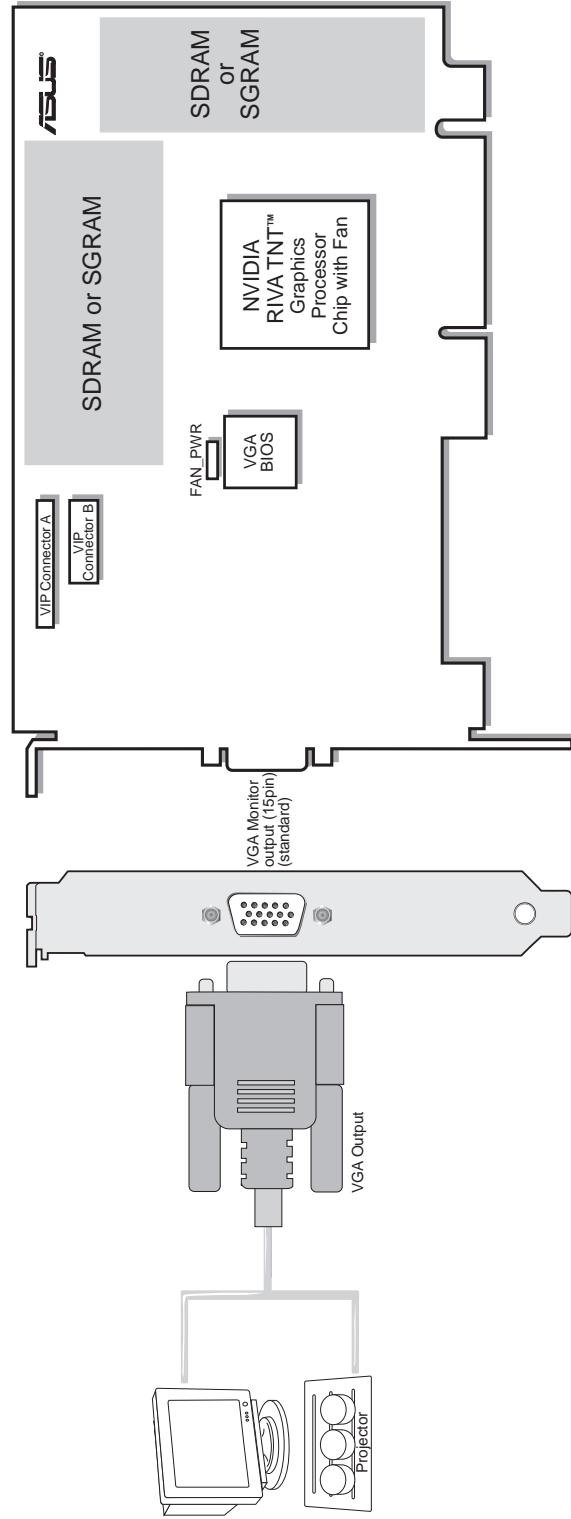
NOTES

- 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

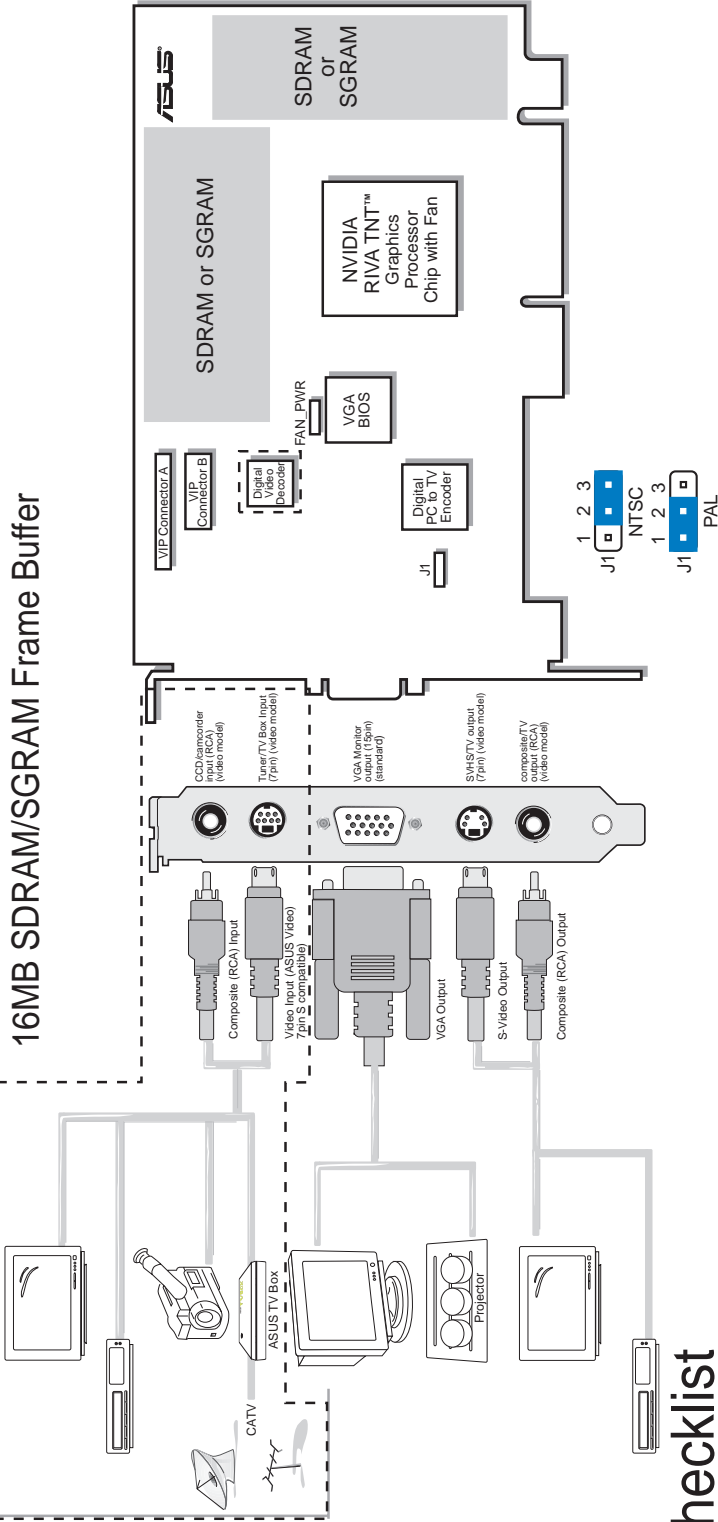
- ASUS AGP-V3400TNT
- This User's Manual
- Manual (Adobe® Acrobat® PDF)
- ASUS AGP-V3400TNT Series Driver & Utility CD Disc

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/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
- 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 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, 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

NOTE: This method is recommended if you want to use the multi-monitor function of Windows 98.

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



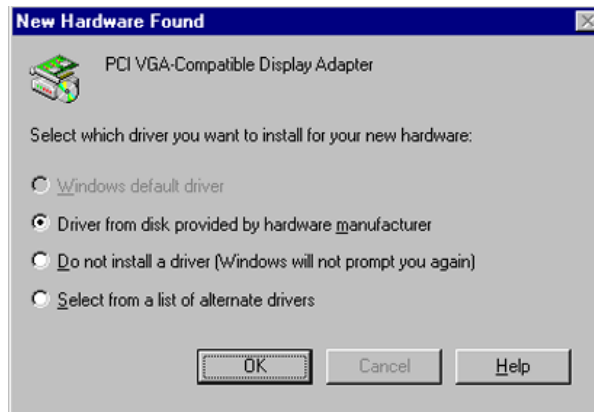
5. Click **Change** on the **Adapter** tab and then click **Have Disk...** When the **Install From Disk** dialog box appears, type the location of the ASUS3400.INF file or click **Browse** to search the CD-ROM drive.
6. In the **Drives** box of the **Open** dialog box, select your CD-ROM drive.
7. In the **Folders** box, double-click the WIN95 folder and then select ASUS3400.INF in the **File name** box.
8. Click **OK**. A list of video cards appears. Select your VGA card type and then click **OK**.
9. Follow the onscreen instructions to complete the installation.
10. 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 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.



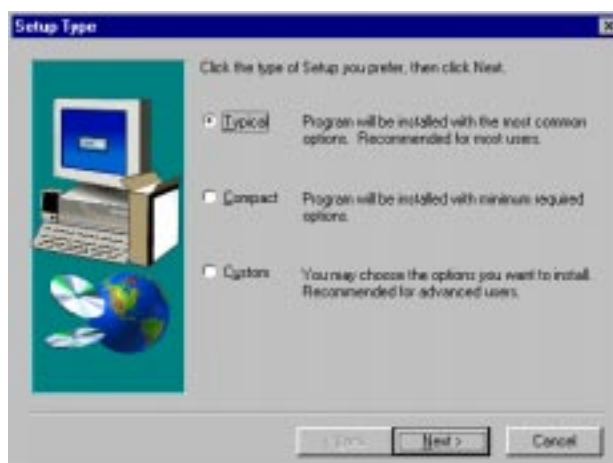
3. When the **Welcome** window appears, click **Next**.



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.



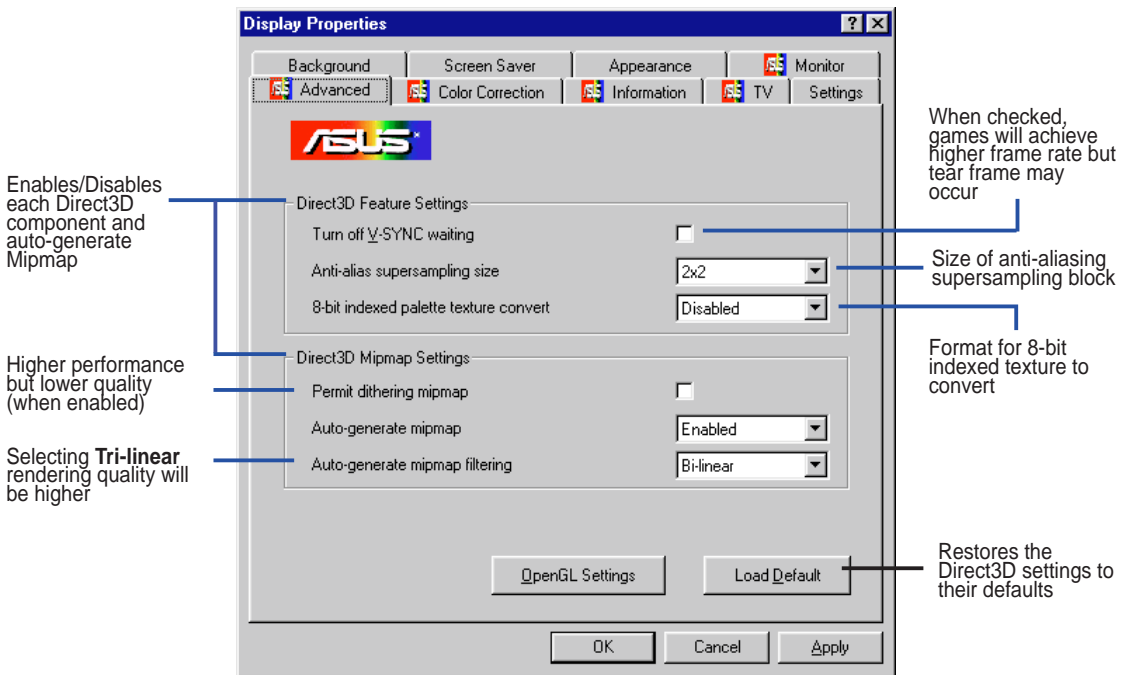
III. Windows 95/98

Change Resolution and Color (Display Properties)

To change resolution and color and other display properties, right-click the Windows 95/98 desktop, and then select **Properties**.

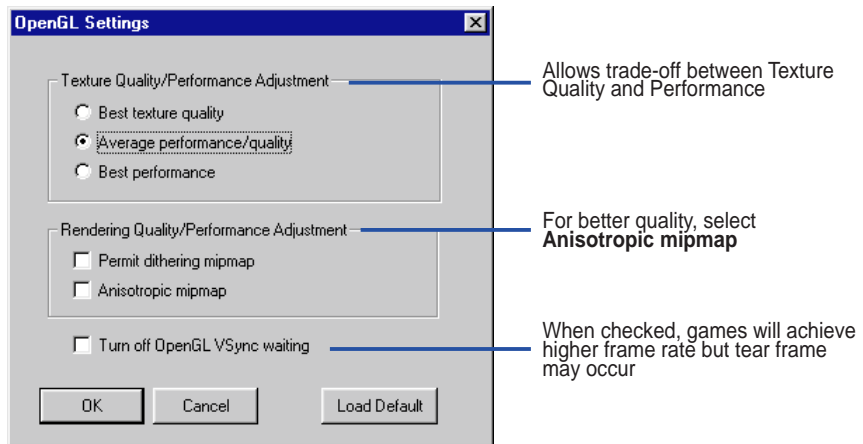
Advanced Tab

This menu provides some advanced settings for Direct3D and OpenGL.



OpenGL Settings Box

You can change the refresh rate setting for your monitor from this Menu.

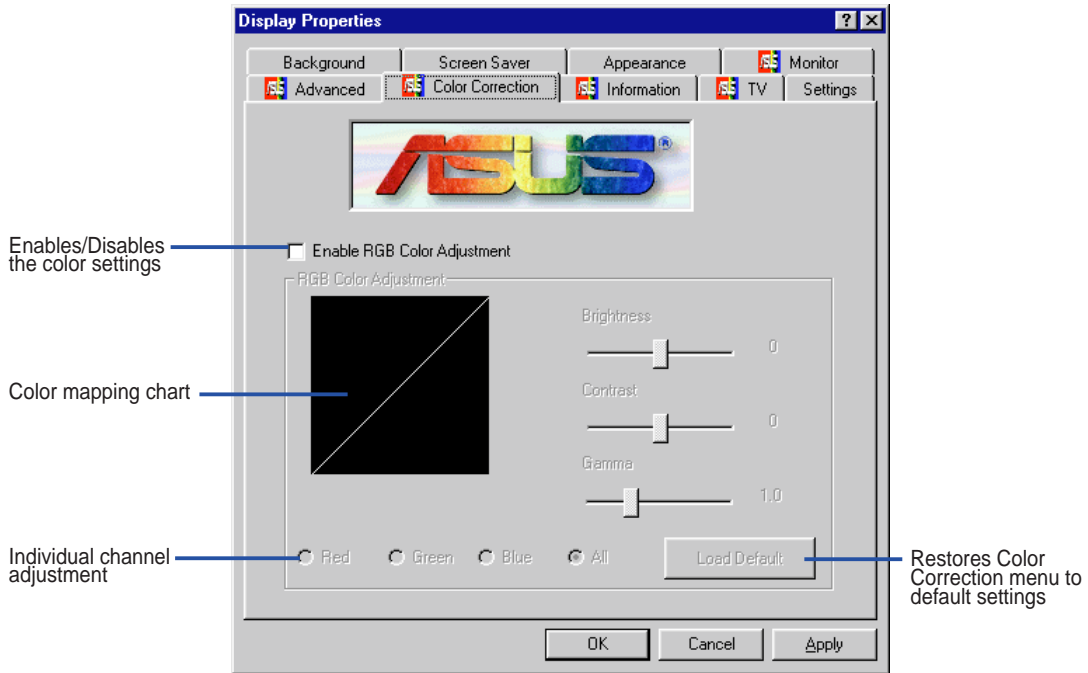


NOTE: The screen displays are provided as examples only and may not reflect the screen contents displayed on your system.

III. Windows 95/98

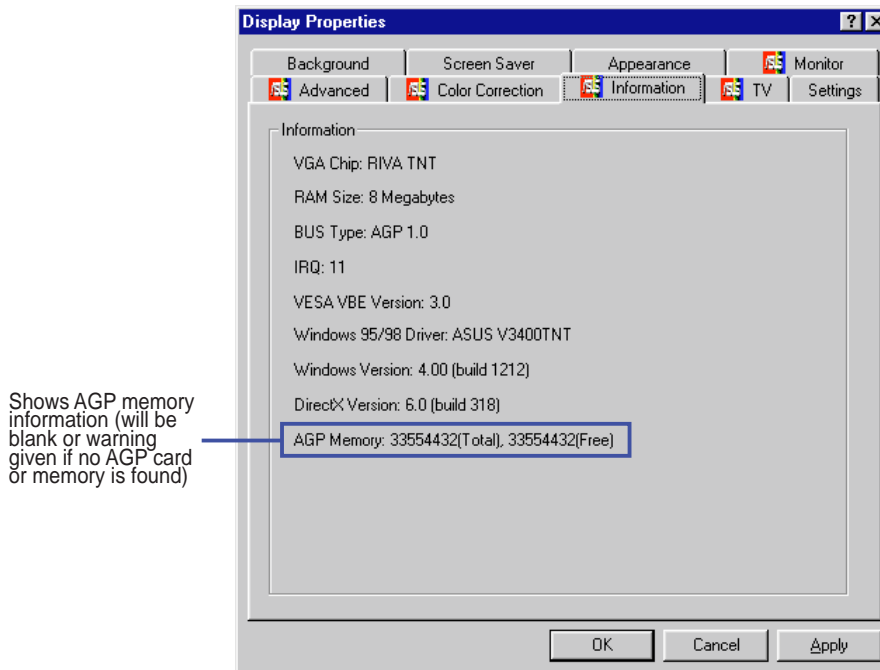
Color Correction Tab

You can adjust the brightness, contrast, and gamma values of the screen output from the Color Correction Menu. This function is only available in 16-bit and 32-bit color depth.



Information Tab

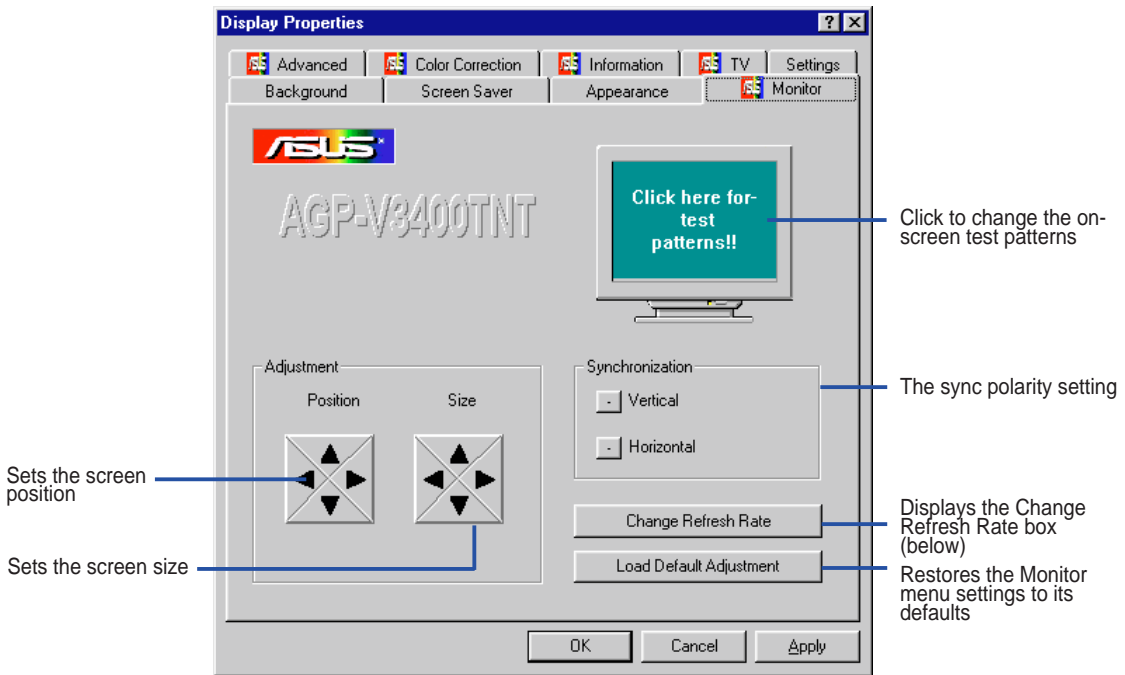
You can lists all the information about the VGA card and video configurations from the Information Menu.



III. Windows 95/98

Monitor Tab

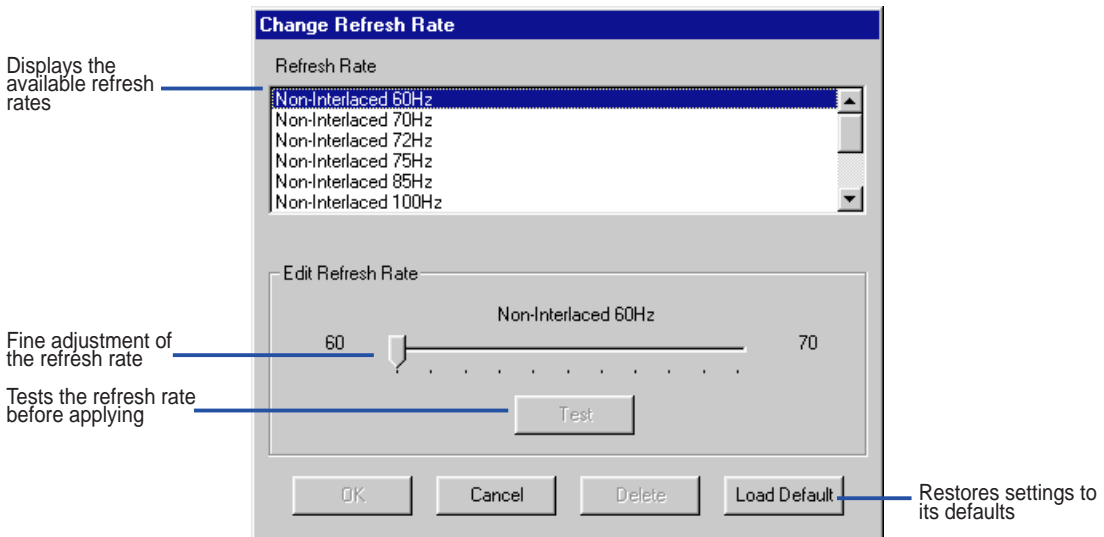
You can adjust the screen output on the monitor from the Monitor Menu.



III. Windows 95/98
Display Properties

Refresh Rate Box

You can change the refresh rate setting for your monitor from this Menu.

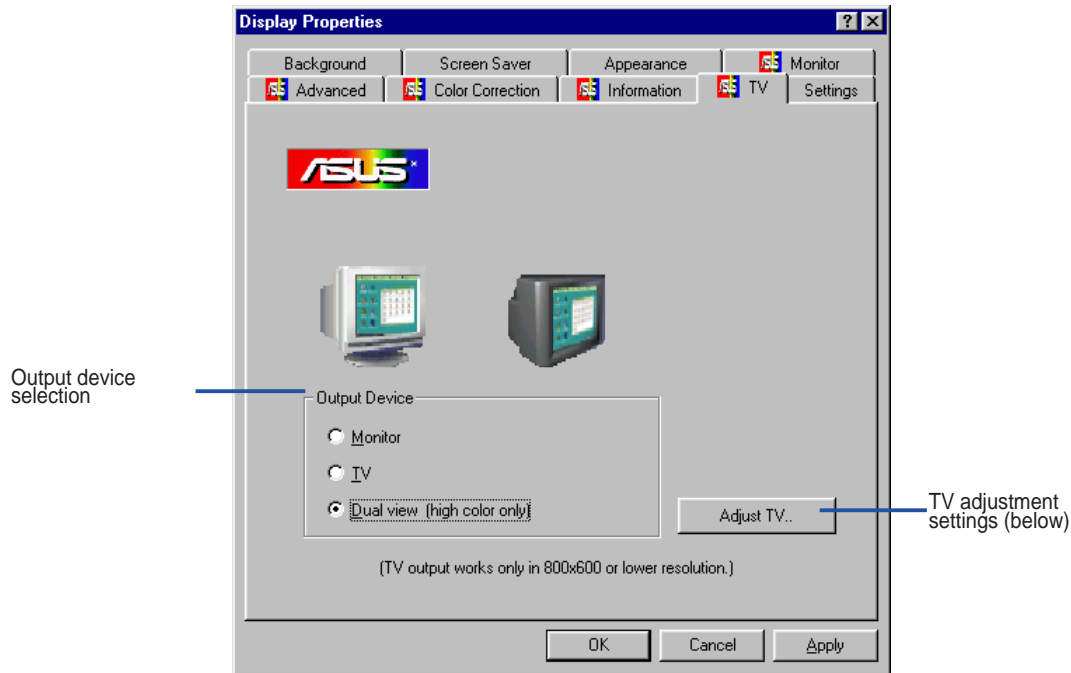


III. Windows 95/98

TV Tab (AGP-V3400TNT/TV only)

The TV tab appears if your card came with an S-Video and/or Composite connector, a TV is connected to one of these connectors (S-Video provides better quality) and turned on, and you are in any one of these modes: 640x480 or 800x600.

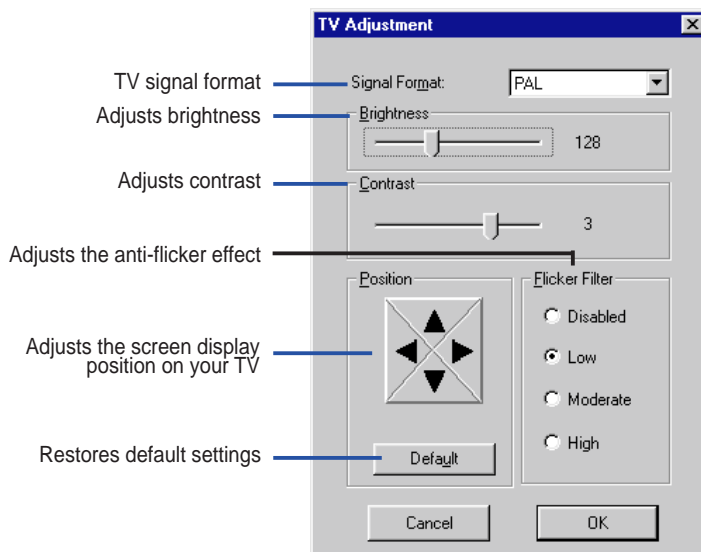
NOTE: Dual view function works only in higher color modes, such as 800x600x16 bits or 640x480x16bits.



III. Windows 95/98
Display Properties

TV Adjustment

You can adjust TV settings using this dialog box



III. Windows 95/98

Install DirectX

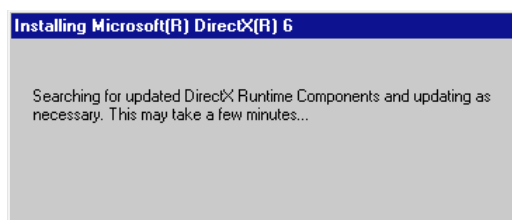
Microsoft DirectX 6 allows 3D hardware acceleration support in Windows 95/98. For Software MPEG support in Windows 95/98, you must first install the **Microsoft DirectX 6** libraries, and then the MPEG Video Player.

1. Insert your installation CD disc 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. From the ASUS Windows 95/98 Install Shell, click **Install DirectX**.



III. Windows 95/98
DirectX 6

3. The installation program will automatically install the DirectX 6 runtime libraries into your system.



4. Setup will prompt you to restart the system when it has finished copying all the files to your computer. Click **OK** to restart Windows.



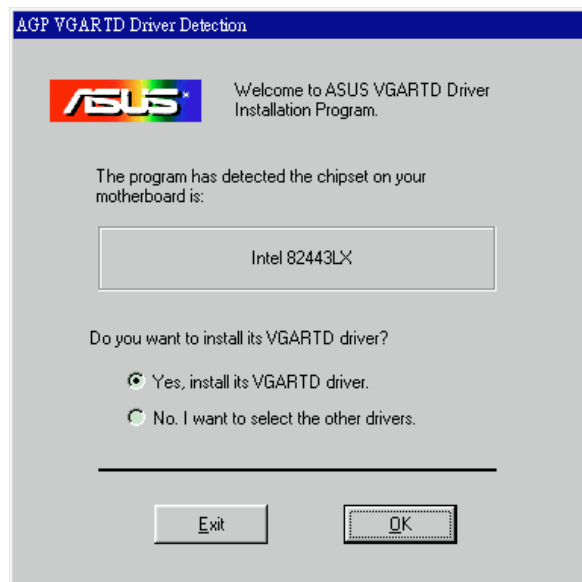
III. Windows 95/98

Install GART Driver

1. Insert your installation CD disc 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. From the ASUS Windows 95/98 Install Shell, click **Drivers and Utilities** and then click **Install GART Driver** for AGP chipset support from Intel, VIA, and ALi.



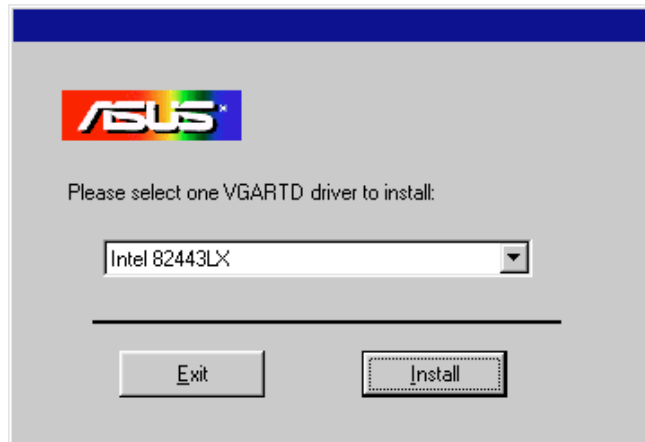
3. A driver detection screen appears to tell you which chipset is detected. Click **OK** to install the appropriate driver for your chipset.



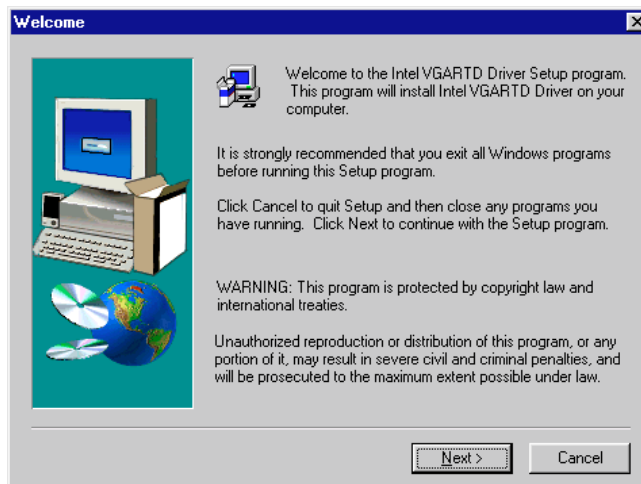
NOTE: Installation dialogs are slightly different for each chipset. Follow the instructions to finish the VGARTD installation. The steps provided are for Intel chipsets.

III. Windows 95/98

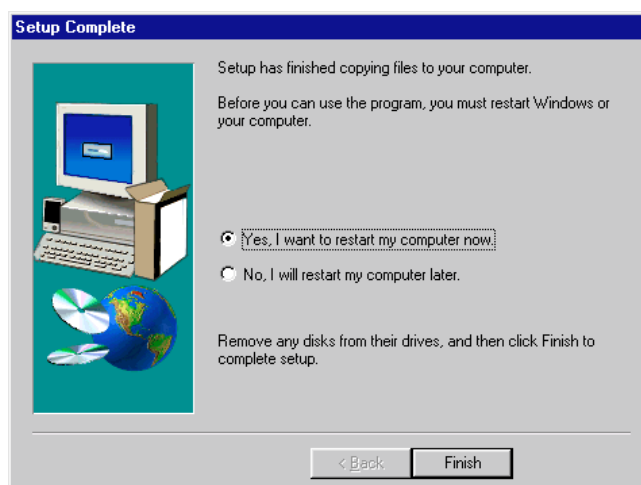
4. If you selected **No...**, on the previous screen before clicking **OK**, you will be presented with a selection of other drivers. Make your driver selection and click **Install**.



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



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



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III. Windows 95/98

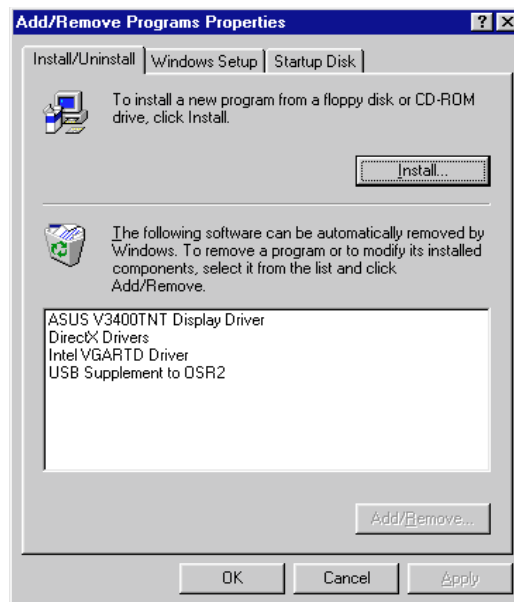
Remove V3400TNT Driver

If you want to install other graphics cards or if you no longer need the ASUS AGP-V3400TNT series display drivers, you can use the Windows 95/98 Control Panel to completely uninstall the drivers from Windows 95/98 to save disk space.

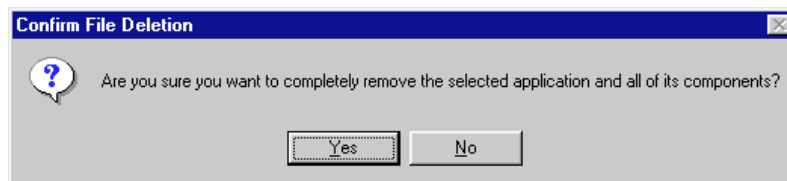
NOTE: This works only if you used **Method 1: ASUS Quick Installation Program** to install the driver (see **III. Windows 95/98 Installing the Driver**).

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. Select **ASUS V3400TNT Display Driver** from the list.
6. Click **Add/Remove**.



7. You will be warned that files will be deleted. Click **Yes** to continue.



III. Windows 95/98

8. After the display drivers have been uninstalled completely, you will be prompted to press **OK** to restart your system. Click **OK**.



III. Windows 95/98

Install Live3400 Utility (AGP-V3400TNT/TV only)

ASUS LIVE3400 must be installed to use the video-in function on the ASUS AGP-V3400TNT/TV graphics card.

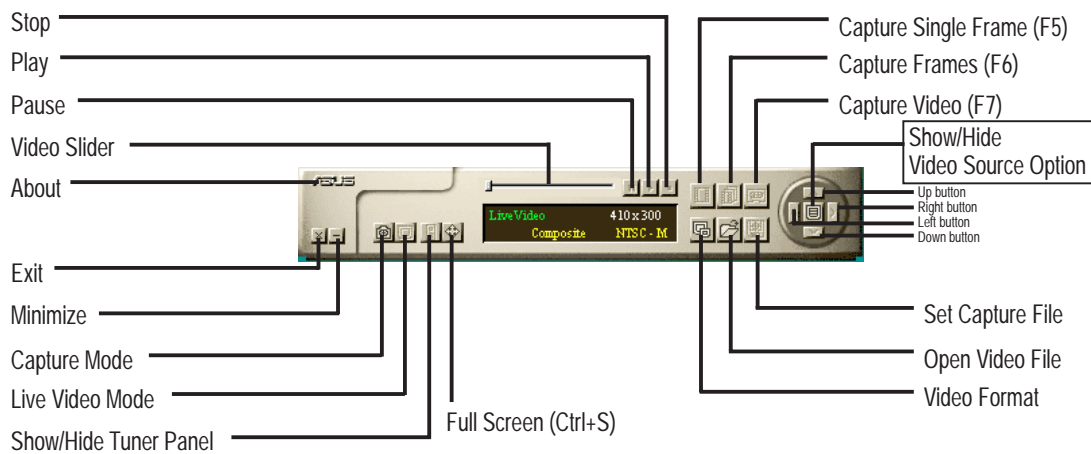
1. Insert the installation CD disc into your CD-ROM drive or double click the CD drive icon in My Computer to bring up the autorun screen or run Setup.exe in the root directory of the CD.
2. From the **Drivers and Utilities** dialog box, click **Install Live3400 Utility** and simply follow the onscreen instructions to complete the installation.



III. Windows 95/98
LIVE3400

After installation, you may run the program through **Start-Programs-ASUS LIVE3400-LIVE3400** or remove the program using unInstallSHIELD.

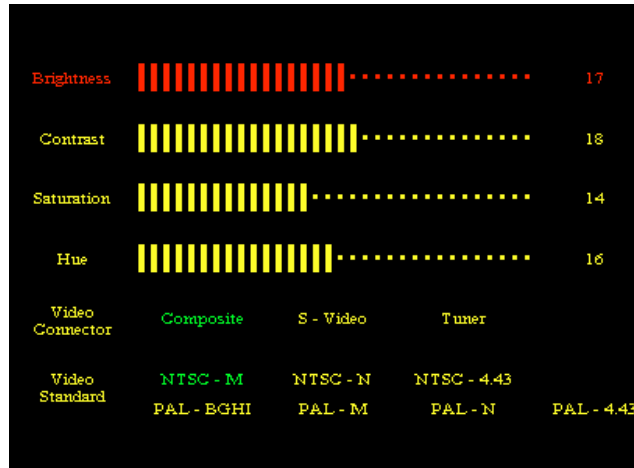
Using ASUS LIVE3400 (AGP-V3400TNT/TV only)



III. Windows 95/98

Show/Hide Video Source Option

When first using ASUS LIVE3400, you must setup the Video Source. By clicking the **Show/Hide Video Source Option** button on the panel, you can show or hide the video source setting.



You can use the Up or Down arrow buttons on the control panel to select the Video Connector or the Video Standard. The Left and Right arrow buttons are used for making selections.

Video Capture Driver

When you install the V3400 Series Windows 95/98 Driver, 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 352x240 (NTSC) or 352x288 (PAL). It can be used with some applications that use video capture as an option, such as video conference, net meeting, or digital video authoring applications.

IV. Microsoft Windows NT

Windows NT 4.0

WARNING! Before installing the ASUS AGP-V3400TNT series display driver in Windows NT 4.0, make sure that you have installed **Windows NT 4.0 Service Pack3** (available on the Internet at http://www.microsoft.com/isapi/support/bldqpage.idc?ProductPage=q_servpk). Otherwise, the system will hang and will not be able to start up!

NOTE: For all the AGP features to be available you must be using Windows NT 5.0.

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** (assuming your CD-ROM disc drive is in drive D) or click **Browse** to select the path of the display driver for Windows NT. Click **OK**.
9. You will see a list of ASUS AGP-V3400TNT Series drivers. Select your driver 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. Display Information

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	✓	✓	✓
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. Display Information

Resolution Table 16MB Video Memory

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

V. Display Info
Resolution Table

VI. Troubleshooting

Description	Recommended Action
<p><i>After installation and re-starting, Windows 95/98 informs me that the display setting is still incorrect.</i></p>	<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
<p><i>My monitor is not capable of high resolution or refresh rate.</i></p>	<ul style="list-style-type: none">• It depends on the display characteristics of your monitor. Consult your monitor documentation for the proper configuration.
<p><i>DirectX or the other applications report no AGP memory available.</i></p>	<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.
<p><i>LIVE3400 reports that your board is not a TV model.</i></p>	<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.
<p><i>Games or applications report “No 3D acceleration hardware found.”</i></p>	<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
<p><i>My MPEG player displays bad quality video clips</i></p>	<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.
<p><i>The MPEG Player window appears only on the TV screen instead of the monitor screen when using dual view mode.</i></p>	<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.
<p><i>The polygons onscreen flashes when playing games in dual view mode.</i></p>	<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.