ASUS® AGP-V3200 Series

3D Multimedia Accelerator

USER'S MANUAL

Hardware & Video Drivers

AGP-V3200/8M
AGP-V3200/16M

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Product Name:	**ASUS AGP-V3200 Series**
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CONTENTS

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 the ASUS AGP-V3200 Series Graphics & Video Accelerator. With 3Dfx Interactive Inc.'s Banshee™ accelerator built in, the ASUS AGP-V3200 Series Graphics & Video Accelerator provides you with fast acceleration in both 2D/3D graphics and high quality scalable video playback, which can fully support 3D Gaming and Multimedia Applications.

Item Checklist

NOTE: The AGP-3200 Series graphics cards can only be installed in motherboards with an AGP slot.

ASUS AGP-V3200/8M
- ☑ (1) ASUS Graphics Card
- ☑ (1) Graphics Card User's Manual
- ☑ (1) ASUS Driver & Utility CD Disc
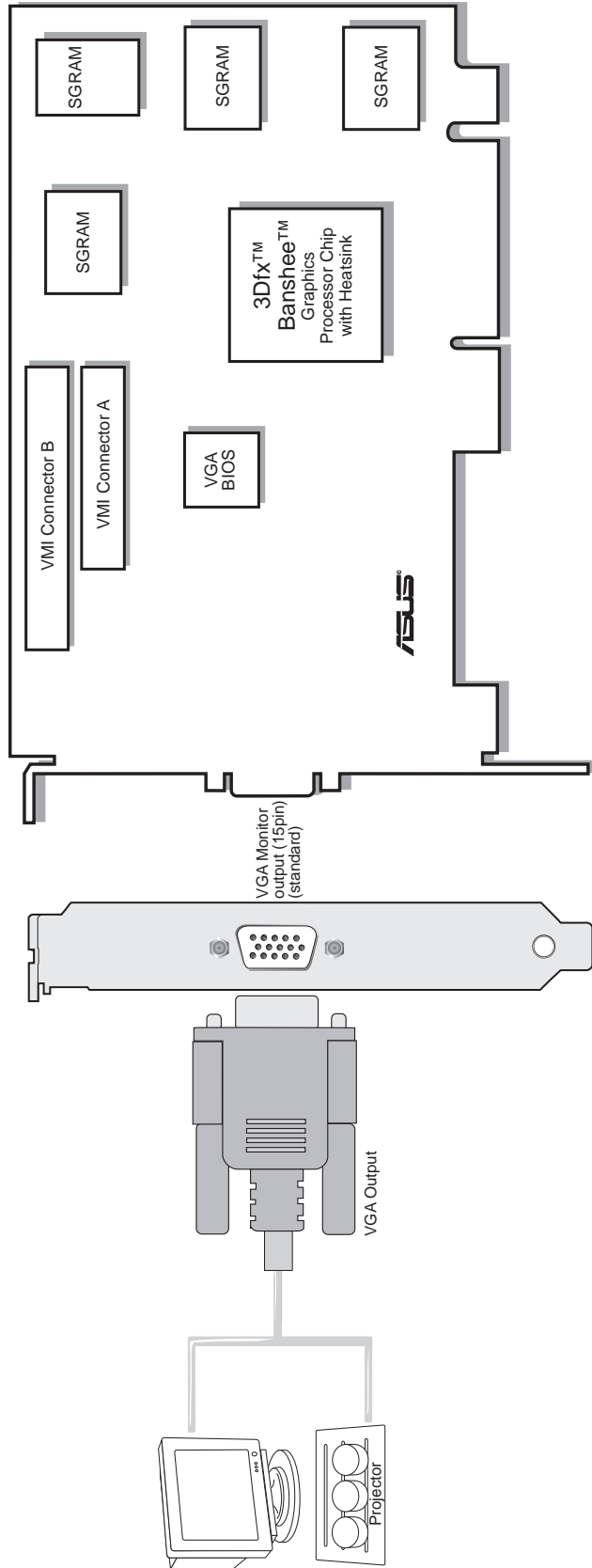
ASUS AGP-V3200/16M
- ☑ (1) ASUS Graphics Card
- ☑ (1) Graphics Card User's Manual
- ☑ (1) ASUS Driver & Utility CD Disc

Features

- Built-in 3Dfx™ Banshee™ graphics chip
- 250MHz RAMDAC
- 8MB or 16MB 128-bit 125MHz SGRAM
- Built-in VMI Bus connector for TV-Tuner, MPEG-I, MPEG-II, and Video capture
- AGP 1X interface with sideband signaling
- 128-bit hardware engine for Microsoft's GDI acceleration
- Glide, Direct3D, MiniGL, OpenGL acceleration
- Superior 3D performance
- Photo-realistic 3D quality
- High resolution 3D gaming
- ASUS Smart and User-friendly Utility: Provides one-click auto Installation for Windows95/98 and monitor and color adjustment

ASUS AGP-V3200/8M Layout
8MB SGRAM Frame Buffer

SGRAM

SGRAM

SGRAM

SGRAM

3Dfx™
Banshee™
Graphics
Processor Chip
with Heatsink

VMI Connector B

VMI Connector A

VGA
BIOS

VGA Monitor
output (15pin)
(standard)

VGA Output

Projector

ASUS AGP-V3200/16M Layout
16MB SGRAM Frame Buffer

SGRAM

SGRAM

SGRAM

SGRAM

SGRAM

SGRAM

SGRAM

SGRAM

3Dfx™
Banshee™
Graphics
Processor Chip
with Heatsink

VMI Connector B

VMI Connector A

VGA
BIOS

VGA Monitor
output (15pin)
(standard)

VGA Output

Projector
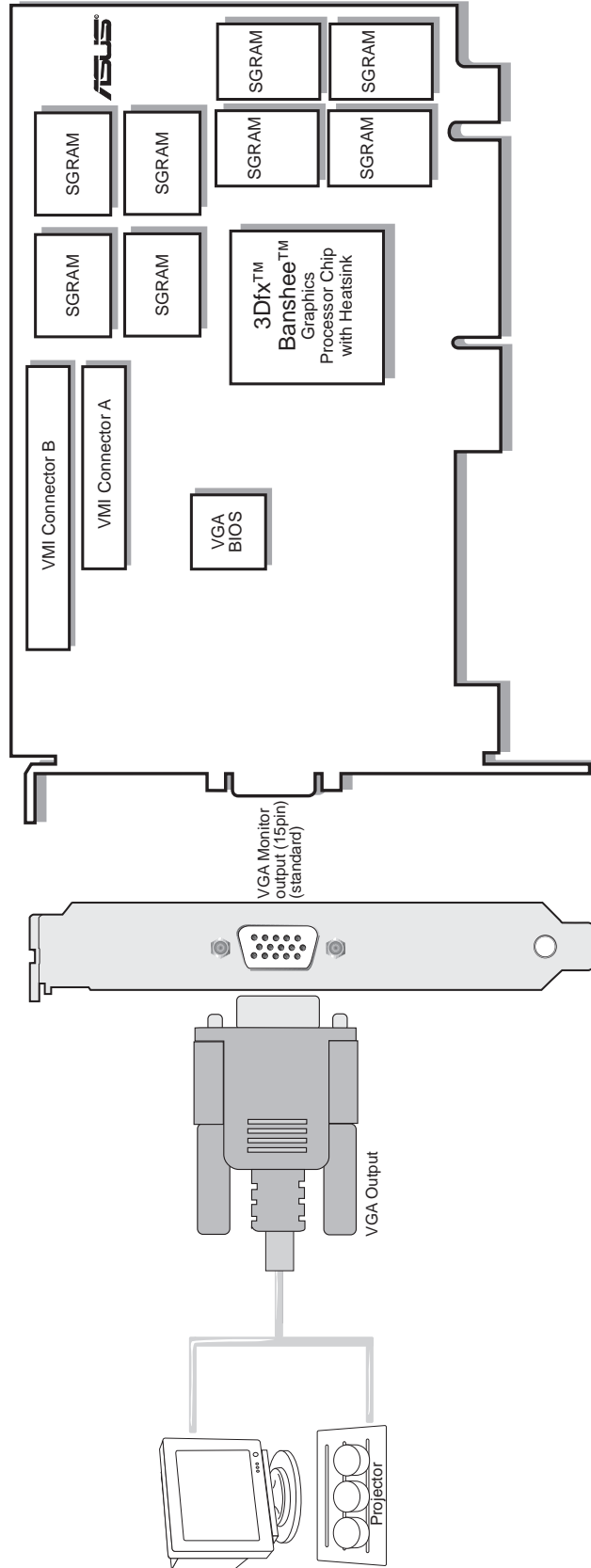
II. Hardware Installation

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

> **WARNING!** Computer boards and components contain very delicate Integrated Circuit (IC) chips. To protect the computer board and other components against damage from static electricity, you must follow some precautions.
> 1. Make sure that you unplug your power supply when adding or removing expansion cards or other system components. Failure to do so may cause severe damage to both your motherboard and expansion cards.
> 2. Keep all components such as the host adapter in its antistatic bag until you are ready to install it.
> 3. Use a grounded wrist strap before handling computer components. If you do not have one, touch both of your hands to a safely grounded object or to a metal object, such as the power supply case. Hold components by the edges and try not to touch the IC chips, leads, or circuitry.
> 4. Place components on a grounded antistatic pad or on the bag that came with the component whenever the components are separated from the system.

Installation Procedures

New Systems

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

Systems with Existing VGA Card

1. Change your display driver to Standard VGA.
2. Shut down your computer and unplug all electrical cords.
3. Replace the existing VGA card with the ASUS AGP-V3200 series graphics card.
4. Restart your computer.
5. Install the ASUS AGP-V3200 series display driver.

III. Windows 95/98

Operating System Requirements

> **IMPORTANT!** The ASUS AGP-V3200 series requires its own IRQ to work normally. If you have problems during installation, please check your BIOS setting or motherboard jumpers to make sure that "VGA INT/IRQ" has been enabled.

NOTE: The AGP-V3200 Series graphics cards require a motherboard with an AGP slot.

Windows 95 OSR2.0 with USB Support

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

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

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

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

Windows 98

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

Windows 98 includes VGARTD for the major chipsets but it is recommended that you install VGARTD from the AGP-V3200 Series CD to make sure that you have the latest version of VGARTD.

*This Manual assumes that your CD-ROM disc drive is drive **D:** and that MS Windows resides in **C:\WINDOWS**. Replace either with the actual location, if necessary.*
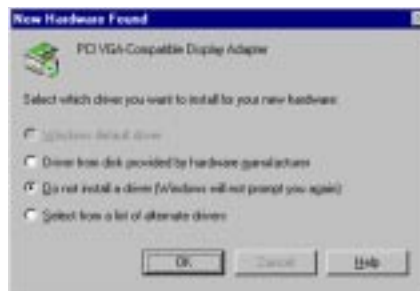
III. Windows 95/98

Installation Procedures

"New hardware found" refers to the prompt for drivers when installing Windows 95 with the ASUS AGP-V3200 series VGA card already installed.

When installing Windows 95/98, a **New Hardware Found** window will appear:

Select **Do not install a driver** and follow the steps on the next page.

When installing Windows 95 OSR2.0 or Windows 98, the **Update Device Driver Wizard** window will appear:

This wizard will complete the installation of the Standard PCI Graphics Adapter (VGA). Click **Next >** to let Windows search for an updated driver.

> **WARNING!** Only click **Next >**. The system will hang if you click **Cancel**.

Click **F**inish to install the VGA driver. You will then be asked for your Windows95/98 CD to complete the VGA driver installation. If you do not have your CD handy, direct the installation path to your **\Windows\System** directory. Windows will prompt you to restart your windows. Choose "**No**" and follow the steps on the next page.

III. Windows 95/98
Installation

Install All Drivers and Utilities

Insert the ASUS AGP-V3200 series installation CD disc. The **ASUS AGP-V3200 Install Shell** will appear. If it does not appear, run **D:\setup.exe**. You will be presented with a list of install options.

Click **Install All Drivers and Utilities** to install all the drivers and utilities into your computer. Setup will install the drivers and utilities in the following sequence: Display Driver, DirectX 6 runtime libraries, Video Player, OpenGL Driver for games, and VGARTD driver.

If you prefer to install the drivers and utilities individually, follow the steps on the next pages.

Install VGARTD

Insert the 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 the CD drive. You will be presented with a list of install options. Click **Install VGARTD**.

A message appears that the VGARTD driver is only required for AGP boards. Click <u>**Yes**</u> to proceed to install the VGARTD driver.
The **AGP VGARTD Driver Detection** dialog box appears displaying the chipset on your motherboard that the program detected.

Click **OK** to install the driver for your chipset.

Installation dialogs are slightly different for each chipset. Follow the onscreen instructions to complete the VGARTD installation. The following steps are for Intel chipsets.

In you opted to select other drivers, you will be presented with a drop-down list of other drivers. In the driver selection list, click the VGARTD driver for your chipset and then click <u>**I**</u>**nstall**.

The VGARTD driver setup program **Welcome** dialog box appears. Click <u>**Next**</u> to continue.

When the setup program is finished installing the VGARTD driver for your chipset, the **Setup Complete** dialog box appears. Click **Finish** to complete the setup.
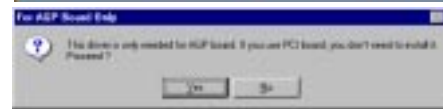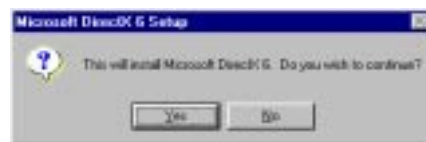
III. Windows 95/98

Install DirectX 6

Install Microsoft DirectX 6 with this feature. DirectX allows 3D hardware accelera-
tion support in Windows 95/98. For Software MPEG support in Windows 95/98,
you must first install the **Microsoft DirectX 6** libraries, then you may install the
Video Player.

Insert the 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 direc-
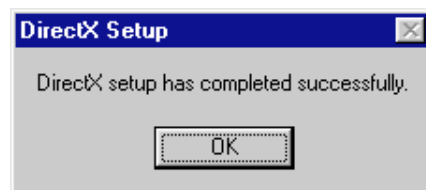tory of the CD drive. Click **Install DirectX 6.**

Click **Yes** to install Microsoft DirectX 6.

Click **Yes** after reading the agreement.

Click **OK** after installing DirectX 6.

III. Windows 95/98

Install Display Driver

Insert the instlaation 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 the CD. Click **Install Display Driver** for AGP display driver installation.

A welcome screen appears, click **Next**.

A features screen appears, click **Next**.

A notice will appear depending on whether you have installed Windows OSR2.0 or not. If your system is not OSR2.0 or later, you will be asked to upgrade. Otherwise, you will be asked to install VGARTD if you have not yet.

If your Windows is OSR2.0, the installation program will start copying files to your hard disk once you click **Next**.

When the driver installation is completed, you will be prompted to restart Windows. Click **Finish** to restart your computer.

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Install OpenGL Driver for Games

The OpenGL driver allows you to play games with OpenGL support, such as Quake, Quake II, and Hexen II, to perform optimally.

NOTE: If you do not have the preceding games mentioned installed in your computer, you do not have to install this driver.

Insert your CD or double click on your CD drive icon in My Computer to bring up the autorun screen or run Setup.exe in the root directory of the CD.

Click **Install OpenGL Driver for Games.**

Follow the onscreen instructions to complete the installation.

III. Windows 95/98

Change Resolution and Color

You can change your display settings with this feature.

Settings: This allows you to make display, resolution, color, desktop, and font settings. The maximum screen size allowed depends on the monitor specified and the frame buffer available in your graphics card.

ASUS AGP-3200: This allows you to make color and monitor adjustments, such as gamma and refresh rate for Desktop, Glide/OpenGL, and Direct3D.
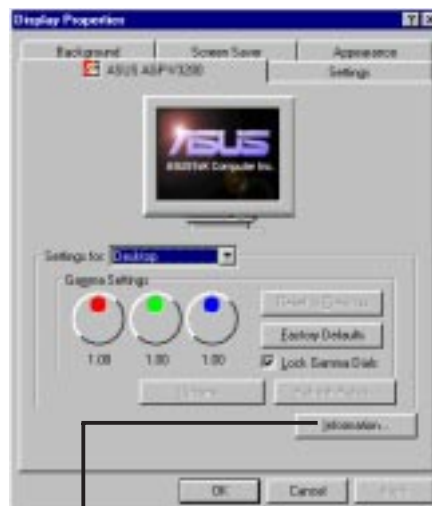
To see relevant information about your display card and other information, click **Information...**.

Aside from the relevant information about your card and driver, the **Information...** dialog box also includes links to ASUSTeK COMPUTER INC., 3Dfx Interactive Inc.'s and other web sites. Clicking any of these links will bring you to the respective web site for the latest information about your display card and/or related information.

III. Windows 95/98

Remove Display Driver

If you want to install other graphics cards or if you no longer need the AGP-V3200 display drivers, you can use one of the following procedures to completely uninstall the drivers from Windows 95 to save disk space.

Using the Autorun Screen

Insert your CD or double click on your CD drive icon in My Computer to bring up the autorun screen or run Setup.exe in the root directory of the CD. Select **Remove Display Driver** and follow the 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. Select ASUS VGA driver from the list**.**
6. Click **Add/Remove**.
7. The system will prompt you to restart your computer. Click **Yes** to restart.

Read Readme9x.txt

This shows last minute information that were not available when this manual was printed.

To select, insert your CD or double click on your CD drive icon in My Computer to bring up the autorun screen or run Setup.exe in the root directory of the CD. Click **Read Readme9x.txt**. The README9X.TXT will automatically be opened by Notepad.

Browse this CD

This allows you to view the contents of the ASUS AGP-V3200 series installation CD disc.

To select, insert your CD or double click on your CD drive icon in My Computer to bring up the autorun screen or run Setup.exe in the root directory of the CD. Click **Browse this CD**. Windows Explorer will automatically be opened showing the contents of the CD disc.

III. Windows 95/98
Readme / Browse

IV. Microsoft Windows NT 4.0

Install NT4.0 Display Driver

> **WARNING!** Before installing the ASUS AGP-V3200 series display driver in Windows NT 4.0, make sure that you have installed **Windows NT 4.0 Service Pack3** (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)**. Otherwise, the system will hang and will not be able to start up!

NOTE: Procedures assume your CD-ROM drive letter is D. To have all the AGP features, 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-V3200 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-V3200** 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.

NOTE: Basically, the procedures for the options shown in Windows NT 4.0's install shell are similar to those in Windows 95/98. Simply follow the same procedures for Windows 95/98 as stepped through in this manual for changing the resolution and color, removing the display driver, reading READMENT.TXT, and browsing the contents of the installation CD disc for Windows NT 4.0.

V. Display Information

Resolution Table

Resolution	Color Depth (Bits/Pixel)	Refresh Rate (Hz)
640x480	8 / 16 / 24 / 32	60, 72, 75, 85, 100, 120, 160, 200, 250
720x480	8 / 16 / 24 / 32	60, 72, 100, 120, 160, 200
720x576	8 / 16 / 24 / 32	60, 72, 100, 120, 160, 200
800x600	8 / 16 / 24 / 32	60, 72, 75, 85, 100, 120, 160, 200
1024x768	8 / 16 / 24 / 32	60, 70, 75, 85, 100, 120, 160
1152x864	8 / 16 / 24 / 32	60, 75, 85, 100, 120, 160
1280x960	8 / 16 / 24 / 32	60, 75, 85, 100, 120
1280x1024	8 / 16 / 24 / 32	60, 75, 85, 100, 120
1600x1200	8 / 16 / 24 / 32	60, 65, 70, 75, 80, 85
1792x1344	8 / 16 / 24 / **32**	60, 75
1856x1392	8 / 16 / 24 / **32**	60
1920x1440	8 / 16 / **24** / **32**	60

NOTE: Underscored and **bolded** Color Depth figures are available only on the AGP-V3200/16M graphics card.

VI. Troubleshooting

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Description	Recommended Action
After installation and re-starting, Windows 95 informs me that the display setting is still incorrect.	There may be a conflict between a previous and the current display drivers. This is caused by the incomplete removal of the previous display driver. Try the following steps to remove it: 1. Right-click **My Computer** on the desktop. 2. Select **Properties**. The **System Properties** dialog box appears. 3. Click the **Device Manager** tab. Be sure that **View devices by type** is selected. 4. Double-click **Display adapters**. 5. You will find two (or more) conflicting adapters. 6. Disable all previous adapters by selecting them and clicking **Remove**. 7. Close Device Manager and restart Windows 95. 8. Your display driver should work correctly this time.
My monitor is not capable of high resolution or refresh rate.	It depends on the display characteristics of your monitor. Consult your monitor documentation for the proper configuration.
DirectX or the other applications report no AGP memory available.	There may be several possible reasons: 1. Windows 95 is not OSR2.0 or later. 2. DirectX version is not 6.0 or later. 3. You have not installed appropriate drivers for AGP chipset. (e.g. VGARTD.VXD for Intel 440LX which ASUS installation automatically installs) 4. Incorrect BIOS setting. BIOS must support at least 32MB for AGP aperture size.