/ISUS ®

V8170 Series

Graphics Card

Quick Start Manual
Hardware & Video Drivers

V8170 PRO / T / 64M
V8170 DDR / T / 64M
V8170 MAGIC / T / 64M / 32M
V8170 SE / T / 64M

USER'S NOTICE

Product Name:	**ASUS V8170 Series**
Manual Revision:	**1.00 QE1001**
Release Date:	**March 2002**

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.

Macrovision Corporation Product Notice

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only *unless otherwise authorized by Macrovision Corporation*. Reverse engineering or disassemby is prohibited.

1. Introduction

Thank you for purchasing an **ASUS AGP-V8170 Series GPU Graphics Card**. With this purchase, you join a legion of mainstream graphics enthusiasts.

Powered by the **NVIDIA™ GeForce4 MX™ 460/440/420** graphics processing unit (GPU), the **ASUS AGP-V8170** series delivers breakthrough leading-edge graphics performance. Enjoy superior image fidelity regardless of the CPU (central processing unit) employed by the computer system.

With the **ASUS AGP-V8170** series, you will not only see but also experience stunning, dynamic, realistic 3D worlds and characters.~ Ensures braod application support.

Highlights

- **Powered by the most integrated graphical engine: NVIDIA® GeForce4 MX460/440/420**
  ~ Bringing 3D environments to life
- **Built-in 64MB Double Data Rate frame buffer:**
  ~ More resolutions and color depths up to 2048x1536 @ 60Hz
- **Lightspeed Memory Architecture™ II:**
  ~ Advanced power behind the GPU delivers outstanding performance at all resolutions: up to 6.4 GB/Sec bandwidth
- **nVIEW™ display technology:**
  ~ The TV encoder integrates 1024x768 resolution with two independent display pipelines, providing the ultimate multiple display flexibility and user control
- **Accuview Anti-Aliasing:**
  ~ Dedicated multisample AA hardware brings 4X GeForce2 MX400 performance
- **Optimized for DirectX® 7 and OpenGL® Features:**
  ~ Ensures broad application support

Available Models

V8170 PRO / T / 64M
- DDR Frame Buffer + VGA + TV-Out

V8170 DDR / T / 64M
- DDR Frame Buffer + VGA + TV-Out

V8170 MAGIC / T / 64M
- DDR Frame Buffer + VGA + TV-Out

V8170 SE / T / 64M
- SDR Frame Buffer + VGA + TV-Out
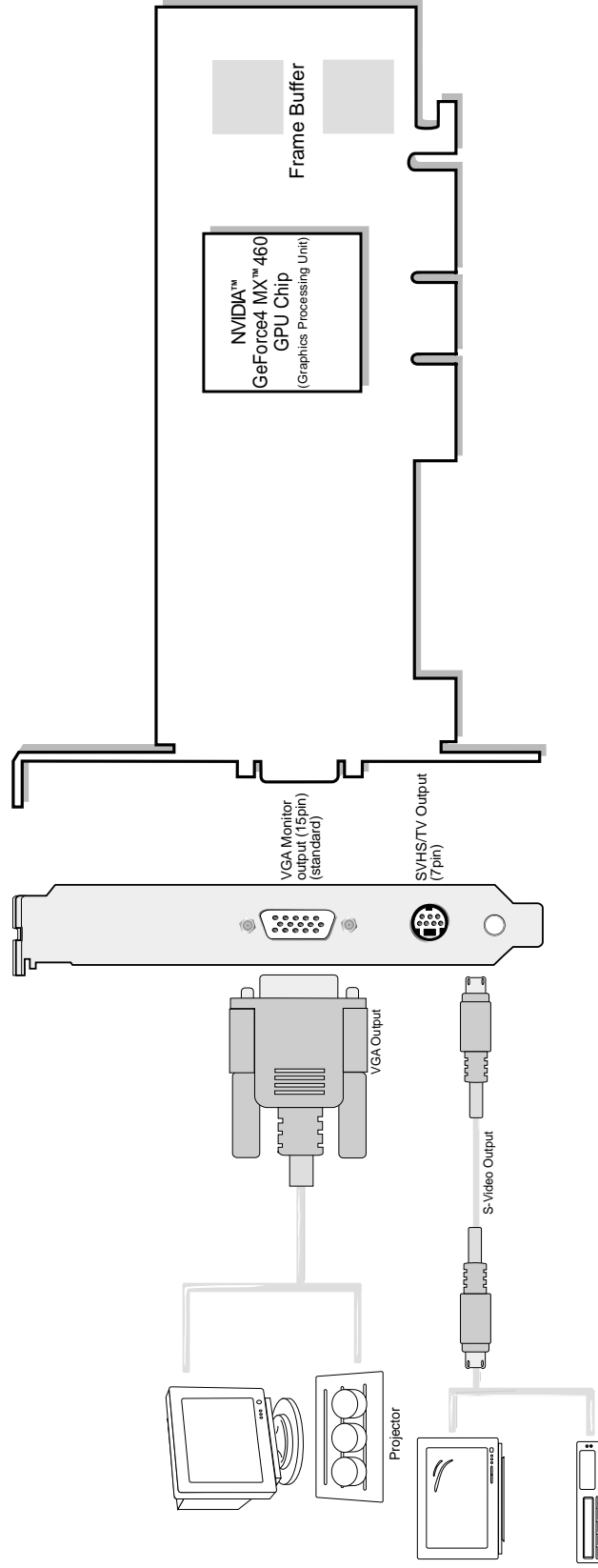
1. Introduction

Features

- The most graphically integrated engine yet: the GeForce4 MX440/420 delivers unprecedented features and effects to the demanding mainstream user. Realistic 3D characters and effects are now more life-like than ever before!

- All new 128-bit DDR memory dramatically boosts bandwidth efficiency up to 6.4GB/sec

- First to offer high resolution, high frame rate, Full-Scene Anti-aliasing (FSAA)

- Optimized for DirectX® and OpenGL® acceleration

- 8 texture-mapped, filtered, lit texels per clock cycle

- Single-pass multitexturing, 32-bit colors, Z/stencil buffer

- Advanced per-pixel lighting, texturing, and shading

- Cube environment mapping, bump mapping, S3 texture compression

- Integrated TV encoder at 1024x768 resolution

- Integrated full hardware MPEG-2 decoder processes full frame rate, full scene MPEG-2 video

- Motion compensation and IDCT allows for DVD decoding at minimum CPU usage

- Multibuffering (double, triple, quad) for smooth animation and video playback

- Multiple video windows with hardware color space conversion and filtering (YUV 4:2:2 and 4:2:0)

- AGP 4X / 2X / 1X complete support

ASUS V8170 PRO / T Layout
64MB DDR Frame Buffer

Frame Buffer

NVIDIA™
GeForce4 MX™ 460
GPU Chip
(Graphics Processing Unit)

VGA Monitor
output (15pin)
(standard)

SVHS/TV Output
(7pin)

VGA Output

S-Video Output

Projector

Item Checklist

☑ ASUS V8170 PRO / T / 64M Graphics Card (PAL or NTSC)
☑ This User's Manual
☑ ASUS V8170 Driver & Utility CD Disc

ASUS V8170 DDR / T Layout

64MB DDR Frame Buffer

Frame Buffer

Frame Buffer

NVIDIA™
GeForce4 MX™ 440
GPU Chip
(Graphics Processing Unit)

JP2 JP1

VGA BIOS

1 2 3
JP2
JP1
PAL

1 2 3
JP2
JP1
NTSC

SVHS/TV Output (7pin)

VGA Monitor output (15pin) (standard)

S-Video Output

VGA Output

Projector

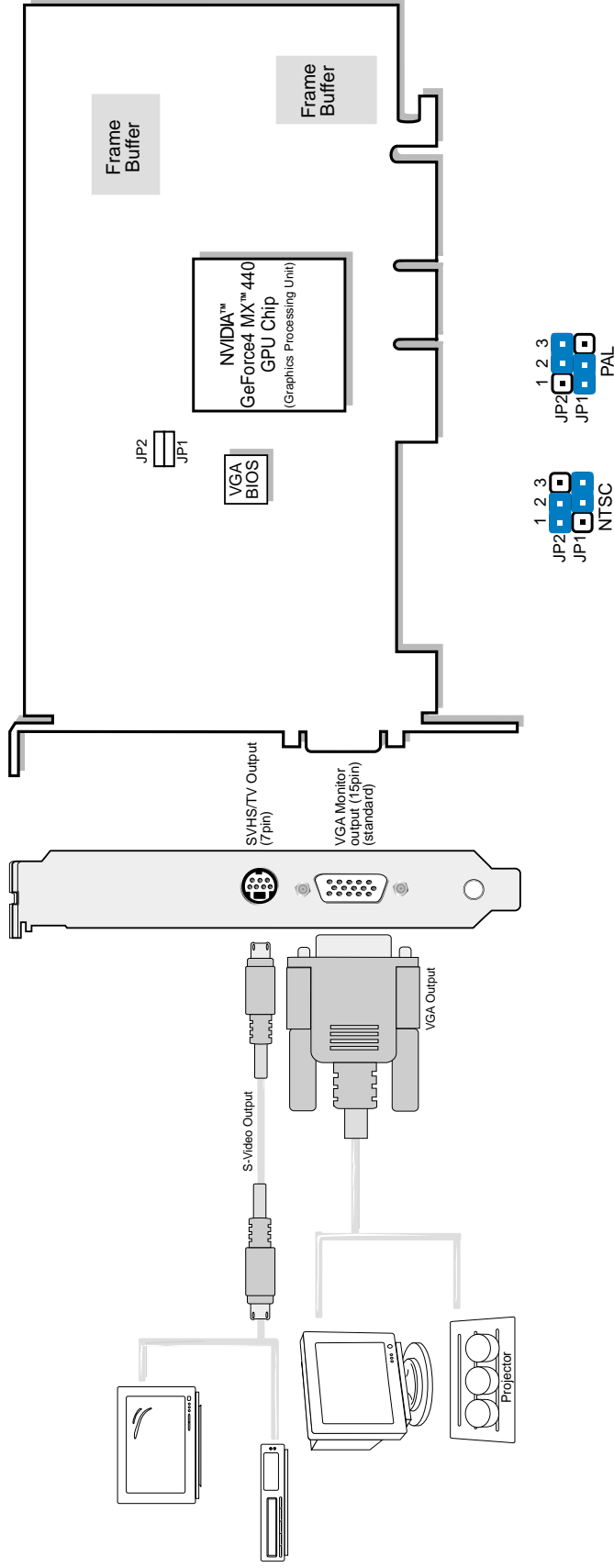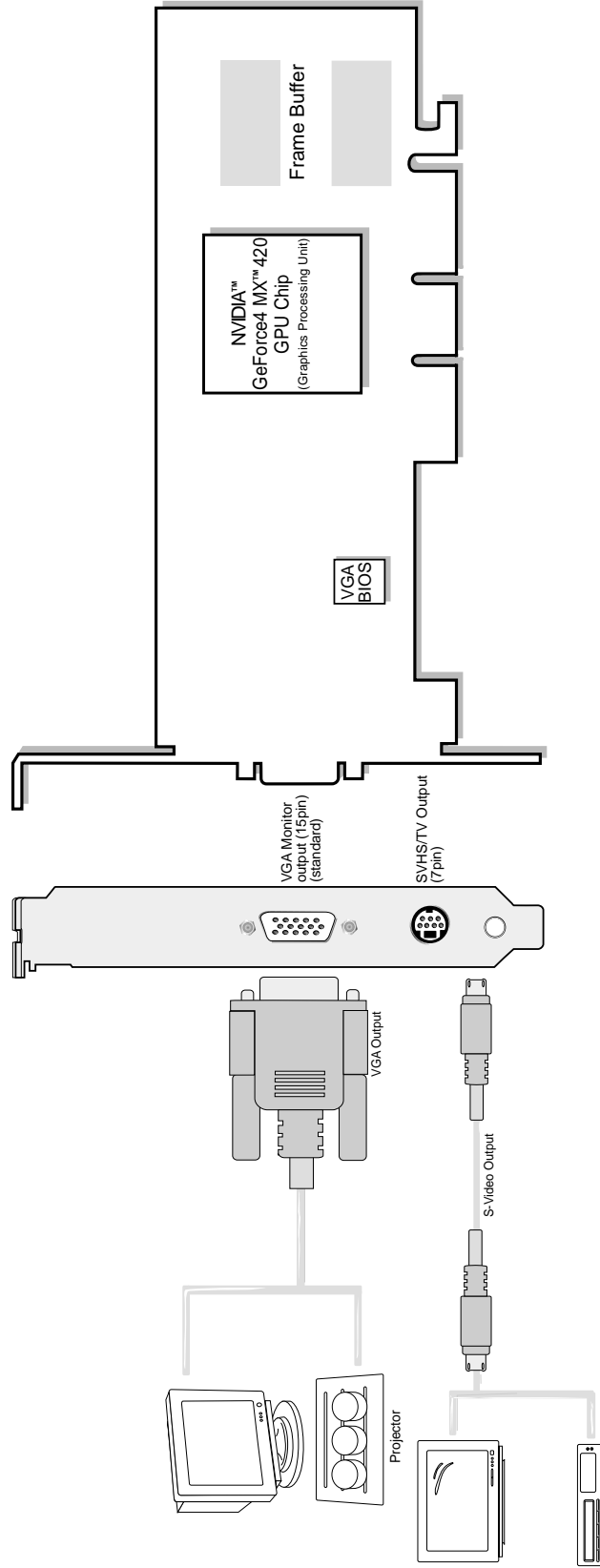## Item Checklist

☑ ASUS V8170 DDR / T / 64M Graphics Card (PAL or NTSC)
☑ This User's Manual
☑ ASUS V8170 Driver & Utility CD Disc

2. H/W Setup
V8170 DDR / T

ASUS V8170 MAGIC / T Layout

64MB / 32MB DDR Frame Buffer

Frame Buffer

NVIDIA™
GeForce4 MX™ 420
GPU Chip
(Graphics Processing Unit)

VGA
BIOS

VGA Monitor
output (15pin)
(standard)

SVHS/TV Output
(7 pin)

VGA Output

S-Video Output

Projector

Item Checklist

- ☑ ASUS V8170 MAGIC / T / 64M / 32M Graphics Card
- ☑ This User's Manual
- ☑ ASUS V8170 Driver & Utility CD Disc

ASUS V8170 SE / T Layout
64MB SDR Frame Buffer

Frame Buffer

NVIDIA™
GeForce4 MX™ 420
GPU Chip
(Graphics Processing Unit)

VGA BIOS

VGA Monitor output (15pin) (standard)
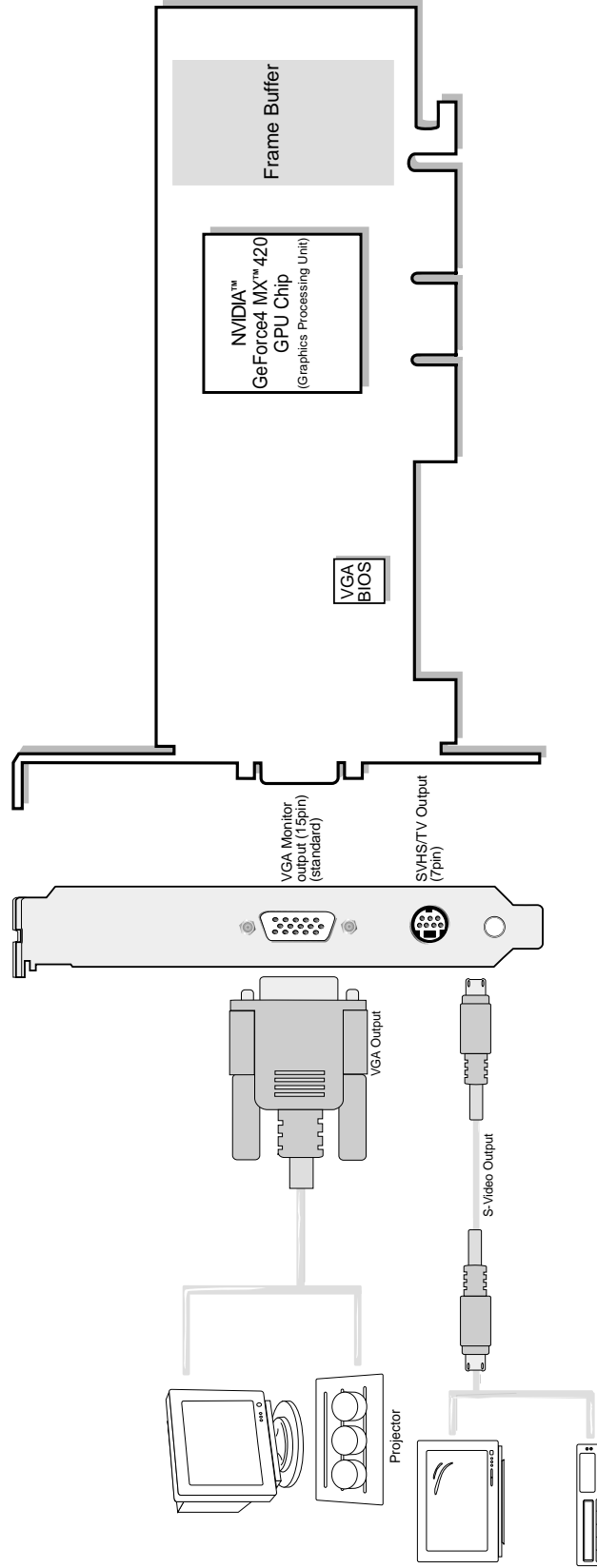
SVHS/TV Output (7pin)

VGA Output

S-Video Output

Projector

Item Checklist

☑ ASUS V8170 SE / T / 64M Graphics Card
☑ This User's Manual
☑ ASUS V8170 Driver & Utility CD Disc

2. Hardware Setup

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

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

Installation Procedures

New VGA Cards

1. Unplug all electrical cords on your computer.
2. Remove the system unit cover.
3. Locate the AGP bus expansion slot. Make sure this slot is unobstructed.
4. Remove the corresponding expansion slot cover from the computer chassis.
5. Ground yourself to an antistatic mat or other grounded source .
6. Pick up the board (still in its sleeve) by grasping the edge bracket with one hand and then remove the plastic sleeve.
7. Position the card directly over the AGP slot and insert one end of the board in the slot first. Firmly but gently press the bus connector on the bottom of the card down into the slot. Be sure the metal contacts on the bottom of the host adapter are securely seated in the slot.
8. Anchor the board's mounting bracket to the computer chassis using the screw from the slot cover that you set aside previously.
9. Replace the cover on the system unit.
10. Connect your analog monitor's 15-pin VGA connector to the card and fasten the retaining screws (if any).
11. Connect other cables and devices if available -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 your graphics card.
4. Restart your computer.
5. Install the ASUS V8170 display driver.

Operating System Requirements

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

Windows 98

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

Windows 98 includes VGARTD for the major chipsets but it is recommended that you install VGARTD from the ASUS AGP-V8170 CD to make sure that you have the latest version of VGARTD (*see* **3. Software Setup | Install GART Driver**).

NOTES

- VGARTD stands for Virtual Graphics Address Remapping Table Driver, which is necessary to use the DIME feature of AGP. DIME means Direct Memory Execute, which is accessed *directly* by most AGP chips (when VGARTD is installed) for complex texture-mapping operations.

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

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

IMPORTANT!

- **To avoid damage to your graphics card**, unplug your computer's power supply before inserting your graphics card into the AGP slot.

- Make sure that the power supply of your motherboard can provide enough electrical current on the 3.3V lead to maintain normal operation.

- **Windows 98 and VIA Systems:** If your motherboard has a VIA-based chipset, the VIA VGARTD must be installed in normal mode.
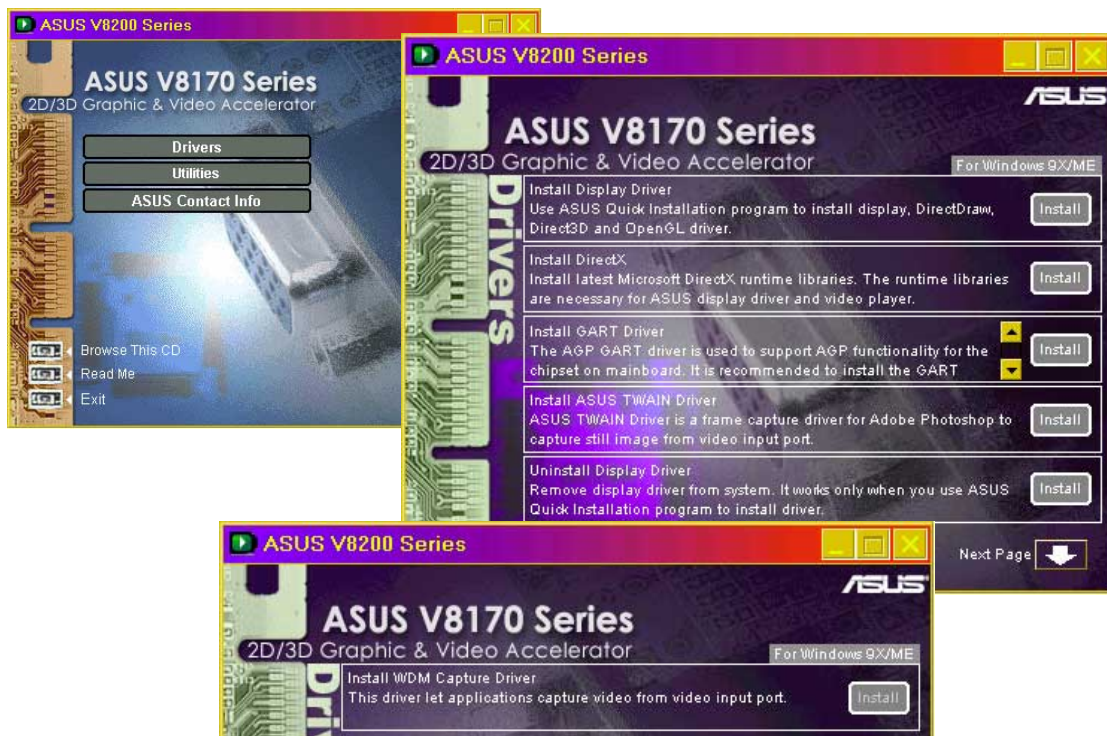
3. Display Driver

Automatic Driver Installation

The support CD with the **V8170 Series** VGA card supplies three important system drivers: the **Display driver**, **Microsoft DirectX** and the **VGART driver**. The **Display driver** coordinates the software to support a particular system, and supports the display hardware and its configuration parameters. **DirectX** permits 3D hardware acceleration and MPEG audio-video support for Windows 98/ME/2000/XP. The **VGART driver** supports AGP functions unique to the particular chipset supplied with each motherboard.
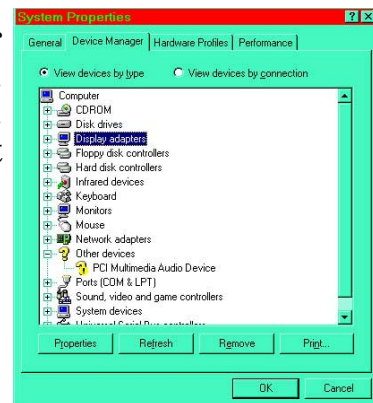
> **NOTE:** The screen displays in this manual may not reflect exactly the screen contents displayed on your screen. The contents of the support CD are subject to change at any time without notice.

1. **Boot-up** the Windows system. If installing the ASUS VGA card with an existing system, **disable** any VGA card currently in use: refer to "how-to" instructions on page 11 for Windows 98/ME, and on page 13 for Windows 2000/XP.

2. Insert the **VGA Drivers** support CD. If the previous display driver was uninstalled, or there is no display driver, the system automatically detects and installs the new **Display Driver** from the CD ROM. Otherwise, a menu displaying three options pops up. To install all drivers simultaneously, select the first option, **Install Display Driver**. The system automatically copies and installs the **Display Driver** *inf* file from the **CD ROM**. In Windows 98/ME, the PC should reboot automatically; in Windows 2000/XP, reboot the system after the files have installed. **Note**: always choose this installation option unless making updates or replacing a VGA card.

3. **DirectX** and the **VGART** drivers may be installed individually. Select this option when it is necessary to update drivers for new cards. Click on the box and follow the screen instructions. Reboot the PC.

---

3. Display Driver

Manual Display Driver Installation

To install a new VGA card display driver, follow the steps below.

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

Windows 98/ME

1. Boot-up your Windows system. If you are installing the ASUS VGA card with an existing system, it may be necessary to disable any existing VGA card currently in use. To do so, double-click on **My Computer** to enter the Windows **Control Panel**:

2. Click on **System** and then select **Device Manager** and then expand the **Display adapter** icon. Highlight the current driver and click on **Remove**. Exit the menu. Shut down the computer and **insert** the **new ASUS VGA card**. Reboot the computer.

3. To install a new **ASUS VGA** card in a new system for the first time, or to continue replacing an old card, insert the **ASUS V8170 Driver CD** and **unzip** all **Win98** files to a new **test folder** on the root drive. Shut off the PC. Install the new ASUS **V8170** VGA card. Reboot the PC. Return to the **Control Panel** and click on the **Add New Hardware Icon**.
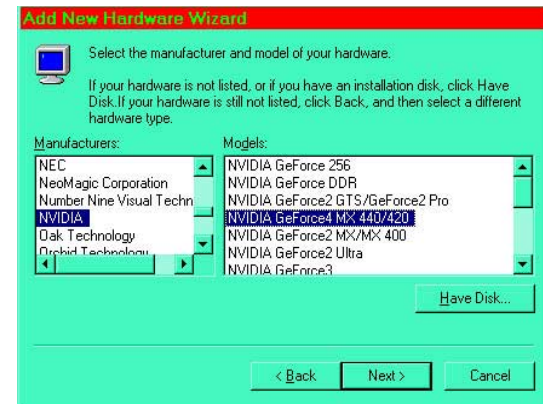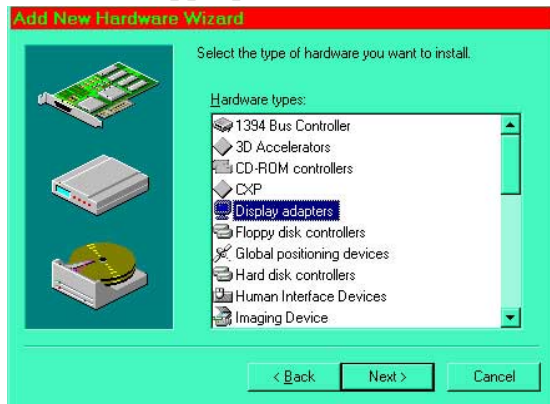
4. Enter the wizard and then check the box: **No, the device isn't in the list**.

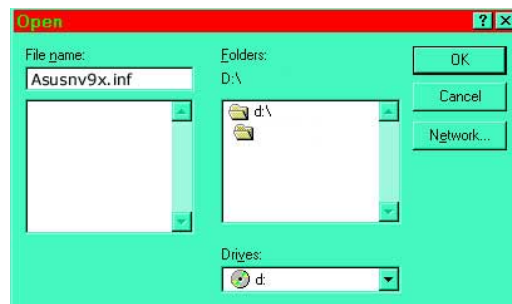5. Then, check the box: **No, I want to select the hardware from a list**.

6. Then choose **Display adapters** and then select the **NVIDIA** product category and the appropriate **GeForce driver**. Then click on **Have Disk**...

7. Type the **drive letter** for your **CD ROM** and browse for the **Asusnv9x.inf** driver file.
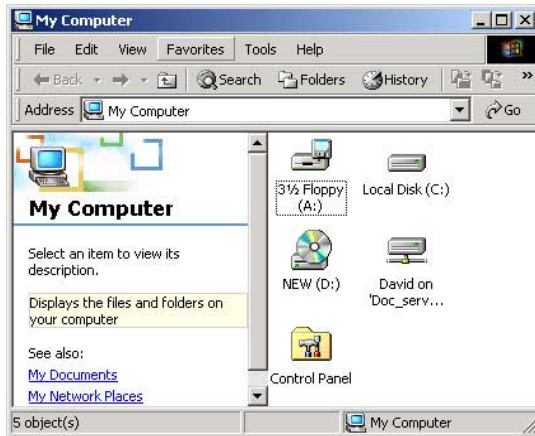
8. Click **OK** to install the driver. After the process is complete, shut off the PC and then reboot.
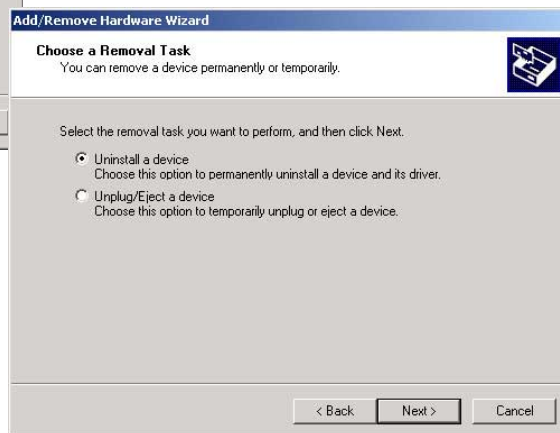
3. Display Driver

Windows 2000/XP: Uninstalling Existing Cards

1. Boot-up the PC. If you are installing the ASUS VGA card with an existing system, it may be necessary to disable any existing VGA card currently in use. To do so, double-click on **My Computer** to enter the Windows **Control Panel**:
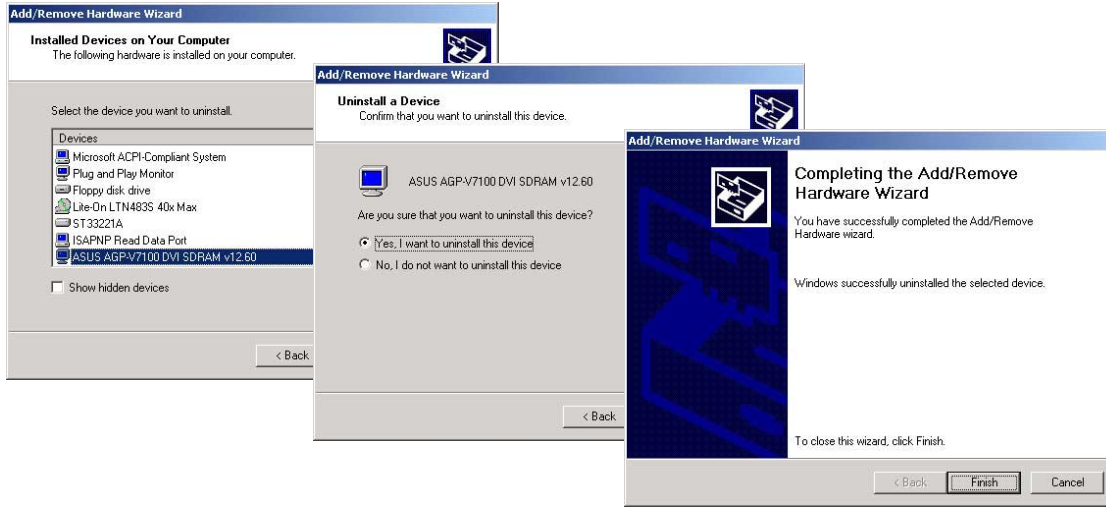
2. Click on **Add/Remove Hardware Wizard** and then select **Uninstall/ Unplug a device**. Continue and select **Uninstall a device**.
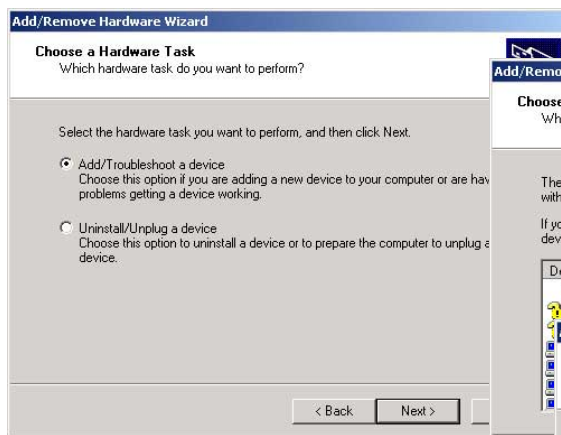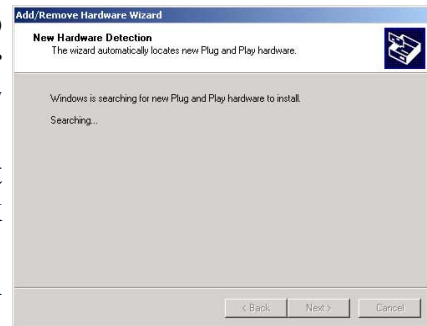
3. Display Driver

3. Click on the **current VGA card**. Then continue and select, **Yes, I want to uninstall the device**. Finish up and shut off the PC. Reboot after installing the new ASUS V8170 card. Insert your VGA support CD and install drivers.
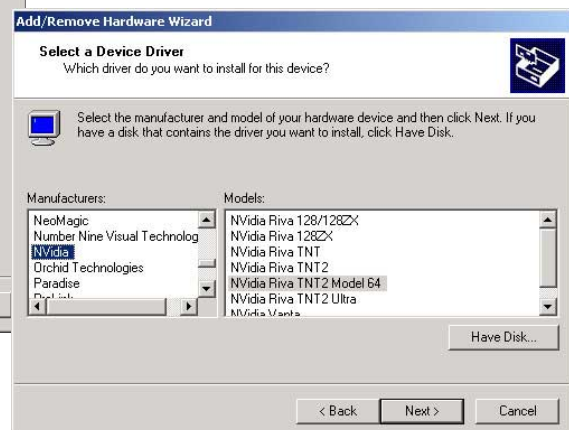
3. Display Driver

Windows 2000/XP: Manual Driver Installation

1. To manually install a new **ASUS VGA** card into a new system, insert the **ASUS V8170 Driver CD** and **transfer a**ll **Win 2000** files to a new **test folder** on the root drive. Shut off the PC. Install the new ASUS **V8170** VGA card. Reboot the PC. Return to the **Control Panel** and click on the **Add New Hardware Wizard Icon**. Choose, **Add/Troubleshoot a device**. Then choose, **Add a new device**:

2. In **Find New Hardware**, choose: **No, I want to select the hardware from a list.**

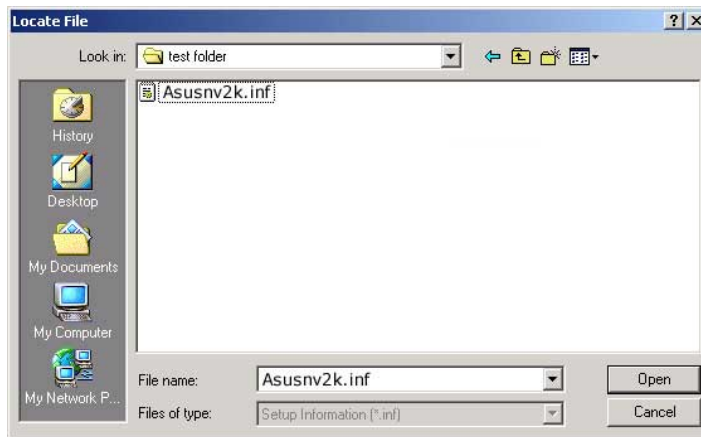3. Click on **Display adapter**. In Select a Device Driver, choose the **Nvidia** category.

3. Display Driver

4. Click **Browse** and select the **test folder** into which the Win2000 driver files were placed.

5. Locate the **Asusnv2k.inf** file and then select **Open**.

6. Then click **OK** to install the driver file. After the process is complete, shut off the PC and reboot.