



# **Graphics Card**

## **Installation Guide**

**E1453**

**Revised Edition V2**

**October 2003**

**Copyright © 2003 ASUSTeK COMPUTER INC. All Rights Reserved.**

No part of this manual, including the products and software described in it, may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form or by any means, except documentation kept by the purchaser for backup purposes, without the express written permission of ASUSTeK COMPUTER INC. ("ASUS").

Product warranty or service will not be extended if: (1) the product is repaired, modified or altered, unless such repair, modification or alteration is authorized in writing by ASUS; or (2) the serial number of the product is defaced or missing.

ASUS PROVIDES THIS MANUAL "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL ASUS, ITS DIRECTORS, OFFICERS, EMPLOYEES OR AGENTS BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES (INCLUDING DAMAGES FOR LOSS OF PROFITS, LOSS OF BUSINESS, LOSS OF USE OR DATA, INTERRUPTION OF BUSINESS AND THE LIKE), EVEN IF ASUS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES ARISING FROM ANY DEFECT OR ERROR IN THIS MANUAL OR PRODUCT.

SPECIFICATIONS AND INFORMATION CONTAINED IN THIS MANUAL ARE FURNISHED FOR INFORMATIONAL USE ONLY, AND ARE SUBJECT TO CHANGE AT ANY TIME WITHOUT NOTICE, AND SHOULD NOT BE CONSTRUED AS A COMMITMENT BY ASUS. ASUS ASSUMES NO RESPONSIBILITY OR LIABILITY FOR ANY ERRORS OR INACCURACIES THAT MAY APPEAR IN THIS MANUAL, INCLUDING THE PRODUCTS AND SOFTWARE DESCRIBED IN IT.

Products and corporate names appearing in this manual are used only for identification or explanation and to the owner's benefit, without intent to infringe.

ASUS and the ASUS logo are registered trademarks of ASUSTeK COMPUTER INC.

Microsoft, Windows, Windows 98, windows 98SE, Windows ME, Windows 2000, Windows NT and Windows XP are registered trademarks of Microsoft Corporation. Intel is a registered trademark of Intel Corporation. NVIDIA is a registered trademark of NVIDIA Corporation. SiS is a registered trademark of Silicon Integrated Systems Corporation. ATI is a registered trademark of ATI Technologies Inc. ALi is a registered trademark of ALi Corporation. VIA is a trademark of VIA Technologies, Inc. All other company and product names may be trademarks or registered trademarks of the respective owners with which they are associated.

# Contents

Notices .....	iv
Safety information .....	v
About this guide .....	vi
1. Support CD information .....	1
2. Display drivers .....	2
2.1 ASUS WHQL display driver .....	2
2.1.1 Windows XP .....	2
2.1.2 Windows 2000 .....	4
2.1.3 Windows 98SE/ME .....	5
2.2 Updating the Windows display driver .....	6
2.2.1 Windows 2000/XP .....	6
2.2.2 Windows 98SE/ME .....	8
2.3 Removing display driver .....	9
2.3.1 Windows 2000/XP .....	9
2.3.2 Windows 98/ME .....	10
2.4 DirectX® .....	11
2.5 AGP GART driver .....	12
2.6 WDM capture driver .....	14
3. Utilities .....	15
3.1 ASUS Smart Doctor .....	15
3.2 ASUS VideoSecurity .....	16
3.3 ASUS Digital VCR .....	17
3.4 ASUS GameFace .....	18
3.4.1 Installing ASUS enhanced driver .....	18
3.4.2 Installing ASUS GameFace .....	19

# Notices

## Federal Communications Commission Statement

This device complies with Part 15 of the FCC Rules. 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.



---

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 Communication 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.

# Safety information

## Electrical safety

- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Make sure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

## Operation safety

- Before installing devices on your motherboard, carefully read all the manuals that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

## 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 disassembly is prohibited.

# About this guide

## Conventions used in this guide

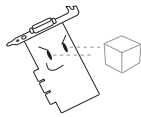
To make sure that you perform certain tasks properly, take note of the following symbols used throughout this manual.



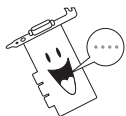
**WARNING:** Information to prevent injury to yourself when trying to complete a task.



**CAUTION:** Information to prevent damage to the components when trying to complete a task.



**IMPORTANT:** Information that you **MUST** follow to complete a task.



**NOTE:** Tips and additional information to aid in completing a task.

## Where to find more information

Refer to the following sources for additional information and for product and software updates.

### 1. **ASUS Websites**

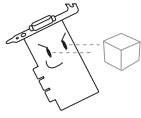
The ASUS websites worldwide provide updated information on ASUS hardware and software products. The ASUS websites are listed in the ASUS Contact Information on the inside front cover of this installation guide.

### 2. **Optional Documentation**

Your product package may include optional documentation, such as warranty flyers, that may have been added by your dealer. These documents are not part of the standard package.

# 1. Support CD information

The support CD that came with the VGA card contains useful software and several utility drivers that enhance the video features.



- The screen displays in this manual may not exactly match the display on your screen.
- Some driver and utility items in the support CD apply only to specific ASUS VGA card models.
- The contents of the support CD are subject to change at any time without notice. Visit the ASUS website for updates.

To begin using the support CD, simply insert the CD into your CD-ROM drive. The support CD automatically displays the **2D/3D Graphics & Video Accelerator** main menu if autorun is enabled in your computer.

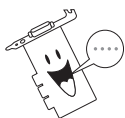


Click a menu item to open other installation menus

Click to exit application

Click to view readme file

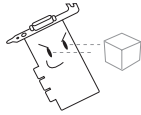
Click to display CD information



If autorun is NOT enabled in your computer, browse the contents of the support CD to locate the file **SETUP.EXE**. Double-click the **SETUP.EXE** to run the support CD installation program.

## 2. Display drivers

A display driver is the software program that makes the device work with your operating system. You can install, update or remove the display driver of your graphics card using any of the recommended methods in this section.



If you are replacing an old graphics card with a new ASUS graphics card, make sure to remove the old display driver from your system. Refer to section “2.3 Removing display drivers” for details.

### 2.1 ASUS WHQL display driver

After physically installing your graphics card, use any of the recommended methods in this section to install your display driver for your operating system.

#### 2.1.1 Windows XP

To install the display driver for Windows XP:

##### *Method 1: ASUS Quick Setup Program*

1. From the **Found New Hardware Wizard** dialog box, click **Cancel** to enter the Windows desktop.
2. Insert the support CD into your CD-ROM drive.
3. If autorun is enabled, the 2D/3D Graphics & Video Accelerator appears automatically.

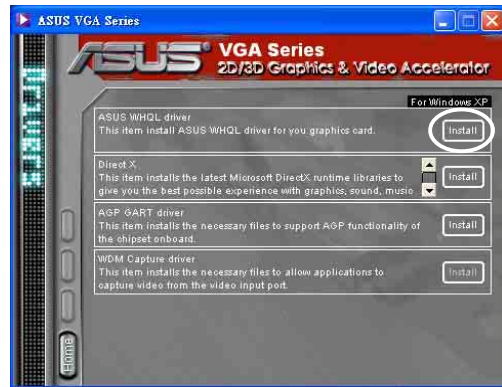
If autorun is disabled, run **Setup.exe** from the root directory of your support CD.

4. From the 2D/3D Graphics & Video Accelerator main menu, click **Drivers**.





5. Click the **ASUS WQHL Driver Install** button from the **Drivers** menu to copy the necessary files to your computer.
6. When Setup has finished installing all the necessary files to your computer, it prompts you to restart your computer. Click **OK**.



### *Method 2: Plug n Play*

1. From the **Found New Hardware Wizard** dialog box, click **Next** to automatically search for the drivers of your graphics card.
2. Follow the succeeding onscreen instructions.
3. When Setup has finished installing all the necessary files to your computer. Click **Finish**.



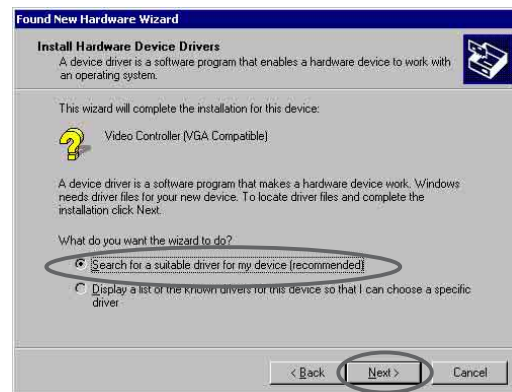
## 2.1.2 Windows 2000

To install the display driver for Windows 2000:

1. From the **Found New Hardware Wizard** dialog box appears. Click **Next**.



2. Select **Search for a suitable driver for my device (recommended)**, then click **Next**.



3. When the **Locate Driver Files** dialog box appears, insert the support CD into your CD-ROM drive.
4. Check **CD-ROM drives** and uncheck all other options. Click **Next** to search for the drivers of your graphics card.



5. When the wizard has finished searching for driver files for your graphics card, check **Install one of the other drivers**, then click **Next**.



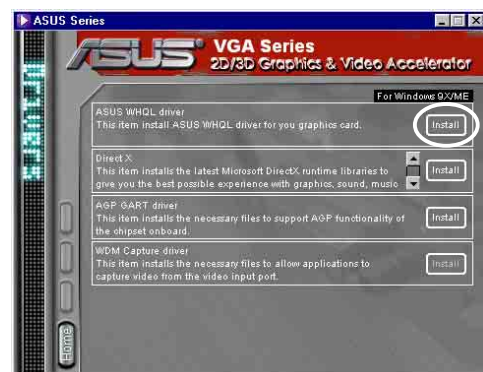
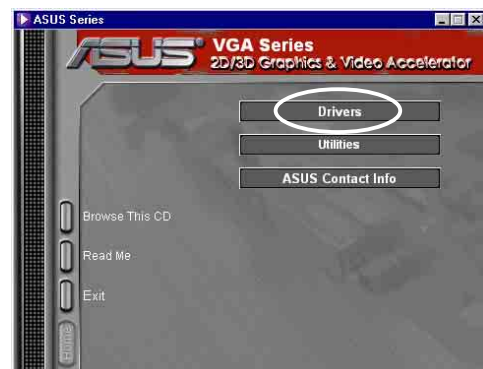
6. When prompted, select the appropriate display driver to install in your system and click **Next**.
7. Follow the succeeding onscreen instructions.
8. When Setup has finished installing all the necessary files to your computer, it prompts you to restart your computer. Click **OK**.



### 2.1.3 Windows 98SE/ME

To install the display driver for Windows 98SE or Windows ME:

1. From the **Found New Hardware Wizard** dialog box, click **Cancel** to enter the Windows desktop.
2. Insert the support CD into your CD-ROM drive.
3. If autorun is enabled, the 2D/3D Graphics & Video Accelerator appears automatically. If autorun is disabled, run **Setup.exe** from the root directory of your support CD.
4. From the 2D/3D Graphics & Video Accelerator main menu, click **Drivers**.
5. Click the **ASUS WQHL Driver Install** button from the **Drivers** menu to copy the necessary files to your computer.
6. When Setup has finished installing all the necessary files to your computer, it prompts you to restart your computer. Click **OK**.



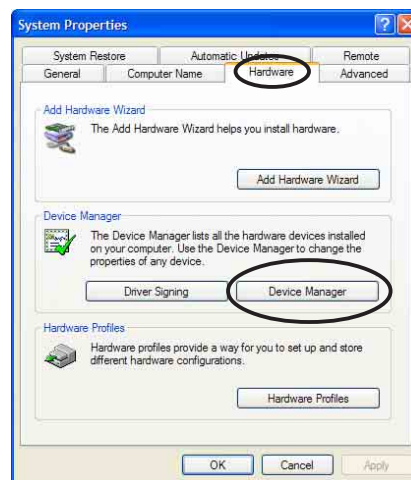
## 2.2 Updating the Windows display driver

The latest display driver for your ASUS graphics card is available at the ASUS website ([www.asus.com](http://www.asus.com)). Visit the ASUS website to download driver updates.

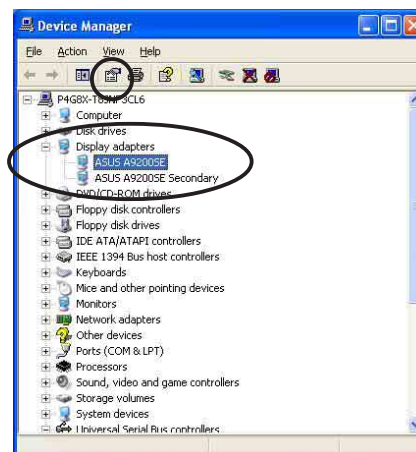
### 2.2.1 Windows 2000/XP

To update the Windows display driver for Windows 2000 or Windows XP:

1. Boot your computer.
2. Click the **Start** button. Select **Settings**, then **Control Panel**.
3. Double-click the **System** icon in the Control Panel. Select the **Hardware** tab.
4. Click **Device Manager**, then double-click on **Display adapters**.



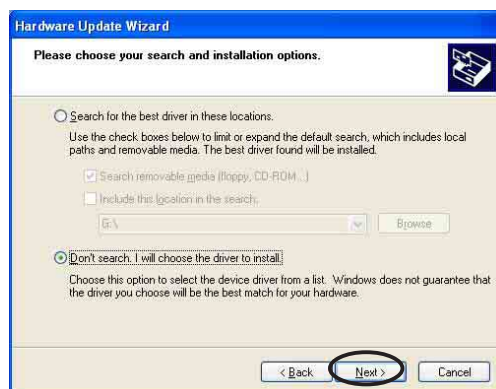
5. Select the current display adapter then click on the **Properties** icon.



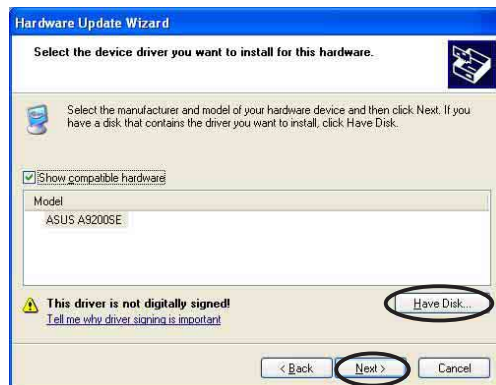
- From the Properties dialog box, select the **Driver** tab, then click on **Update Driver**.



- Select the **Don't search. I will choose the driver to install** option, then click **Next**.



- Click **Have Disk...** on the following screen then click **Next**.
- When setup prompts you for the location of the driver, click **Browse** to locate the saved driver file in your hard disk, network, floppy or CD-ROM drive.
- Follow the succeeding screen instructions.
- The application prompts you to restart your computer to complete the process. Click **Yes**.



## 2.2.2 Windows 98SE/ME

To update the Windows display driver for Windows 98SE or Windows ME:

1. Boot your computer.
2. Click the **Start** button. Select **Settings**, then **Control Panel**.
3. Double-click the **System** icon in the Control Panel. Select the **Device Manager** tab.
4. Double-click on **Display Adapters**.
5. Select the current display adapter then click on **Properties**.
6. From the Properties dialog box, select the **Driver** tab then click on **Update Driver**.



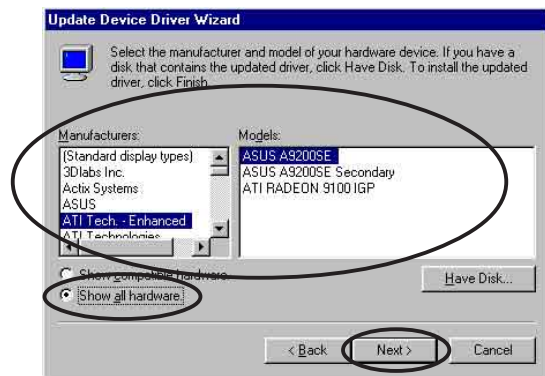
7. Click **Next** on the succeeding screen.



8. Select the **Display a list of all the drivers in a specific location, so you can select the driver you want** option, then click **Next**.



9. From the Update Device Driver Wizard dialog box, select **Show all hardware**.
10. Select the manufacturer of your installed ASUS graphics card from the Manufacturers list box and the graphics card model from the Models list box. Click **Next**.
11. When prompted to update the driver, click **Yes**.
12. Click **Next** on the succeeding screens.
13. When Setup has finished installing all the necessary files to your computer, it prompts you to restart your computer. Click **OK**.



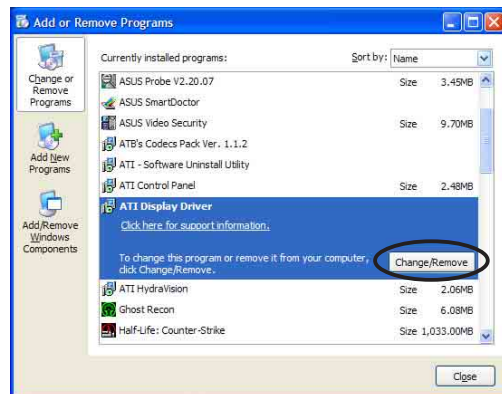
## 2.3 Removing display driver

If you want to replace your display driver or if you no longer need the display driver for your card, follow the procedures in this section to completely remove the display driver from the system.

### 2.3.1 Windows 2000/XP

To remove the display driver in Windows 2000 or Windows XP:

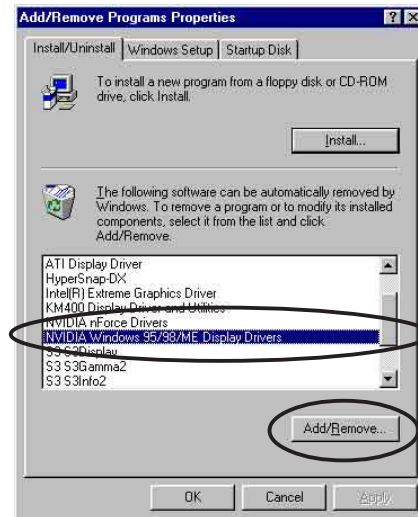
1. Click the **Start** button, then **Control Panel**.
2. From the Control Panel, double-click the **Add or Remove Programs** icon to display the **Add or Remove Programs** screen.
4. Highlight your current display driver from the list, then click on the **Change/Remove** button.
5. Follow the succeeding screen instructions.
6. The application prompts you to restart your computer to complete the process. Click **Yes**.



## 2.3.2 Windows 98/ME

To remove the display driver in Windows 98 or Windows ME:

1. Click on the **Start** button. Select **Settings**, then **Control Panel**.
2. Double-click the **Add/Remove Programs** icon in the Control Panel.
3. Select the **Install/Uninstall** tab to display a list of installed programs.
4. Highlight your current display driver from the list, then click on the **Add/Remove** button.
5. Follow the succeeding screen instructions.
6. The application prompts you to restart your computer to complete the process. Click **Yes**.



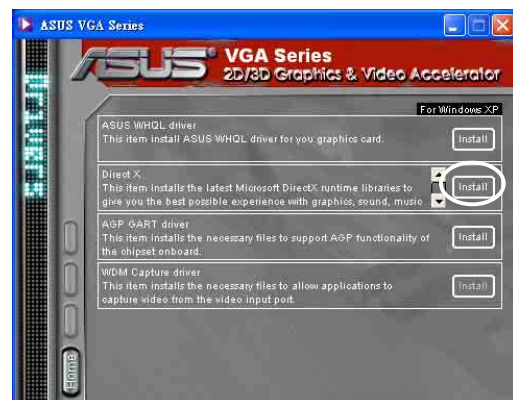


## 2.4 DirectX®

DirectX® is a group of application program interface (API) and libraries for creating and managing graphic images and multimedia effects in applications such as games or active web pages that will run in Microsoft Windows operating systems.

To install DirectX®:

1. Insert the support CD into your CD-ROM drive.
2. If autorun is enabled, the 2D/3D Graphics & Video Accelerator appears automatically.  
If autorun is disabled, run **Setup.exe** from the root directory of your support CD.
3. From the 2D/3D Graphics & Video Accelerator main menu, click **Drivers**.
4. Click the **DirectX Install** button from the **Drivers** dialog box to copy the necessary files to your computer.
5. When Setup has finished installing all the necessary files to your computer, it prompts you to restart your computer. Click **OK**.



## 2.5 AGP GART driver

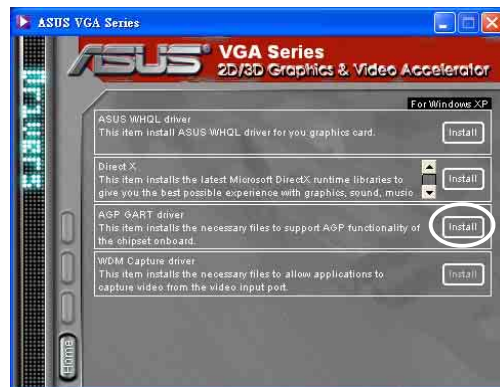
The AGP GART driver is used to support the AGP functionality of the chipset on your motherboard.



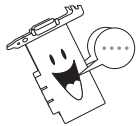
- Installation dialog boxes are slightly different for each chipset. Follow the screen instructions to install the GART driver.
- The GART driver is automatically installed when you install the motherboard drivers from your motherboard support CD. However, it is recommended to install the GART driver if it is newer than the one from the motherboard support CD.

To install AGP GART driver on your computer:

1. Insert the support CD into your CD-ROM drive.
2. If autorun is enabled, the 2D/3D Graphics & Video Accelerator appears automatically. If autorun is disabled, run **Setup.exe** from the root directory of your support CD.
3. From the 2D/3D Graphics & Video Accelerator main menu, click **Drivers**.
4. Click the **GART Driver Install** button from the **Drivers dialog box** to install AGP support for motherboards with Intel®, AMD®, VIA™, SiS®, NVIDIA®, ATI® or ALi® chipsets.
5. The **AGP VGARTD Driver Detection** box appears showing the chipset detected on your motherboard.
6. Select an option to install the displayed VGART driver or to select from a list. Click **OK**.



7. If you selected **Yes, install its VGART driver** on the previous screen, proceed to step 8.  
If you selected **No, I want to select the other drivers**, select a driver from the combo list box and click **Install**.

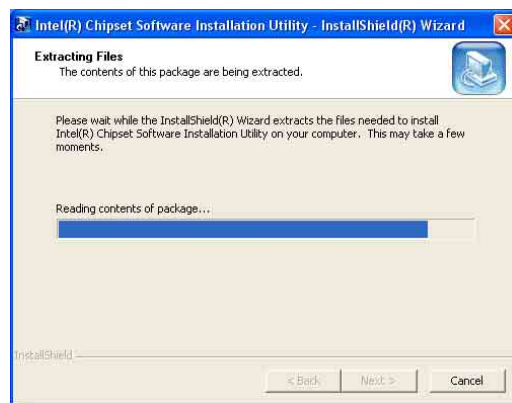


---

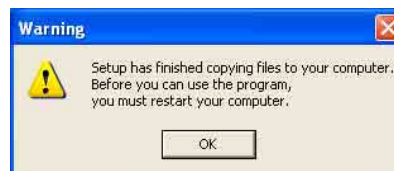
The appropriate driver for the detected motherboard chipset appears as default.

---

8. Follow the succeeding instructions to complete the setup. Click **Cancel** if you wish to abort the installation.



9. When Setup has finished installing all the necessary files to your computer, it prompts you to restart your computer. Click **OK**.

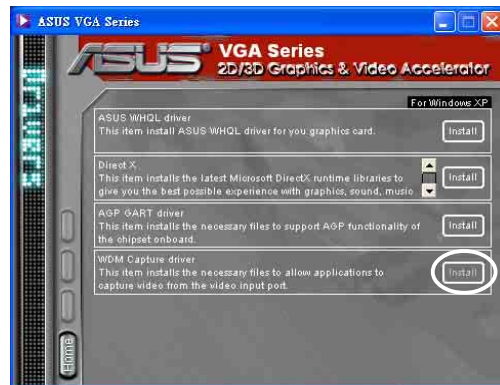
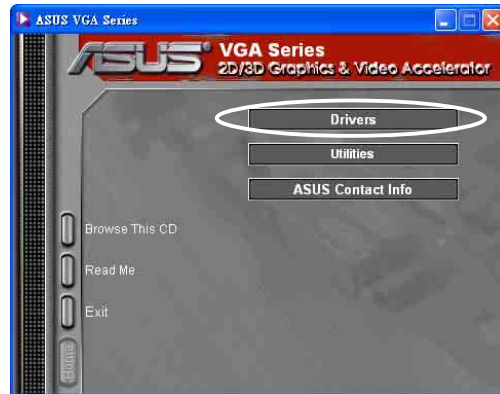


## 2.6 WDM capture driver

The Windows Driver Model (WDM) capture driver allows you to capture video from the video input port.

To install the WDM capture driver on your computer:

1. Insert the support CD into your CD-ROM drive.
2. If autorun is enabled, the 2D/3D Graphics & Video Accelerator appears automatically.  
If autorun is disabled, run **Setup.exe** from the root directory of your support CD.
3. From the 2D/3D Graphics & Video Accelerator main menu, click **Drivers**.
4. Click the **WDM Capture driver Install** button from the **Drivers** menu to copy the necessary files to your computer.



5. From the **ATI Software** setup dialog box, click **Next** to install the appropriate driver for your graphics card.
6. Follow the succeeding screen instructions.
7. When prompted, select **Yes, I want to restart my computer now** then click **Finish**.



The WDM capture driver only works on graphics card models with video-in function.

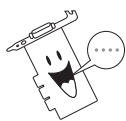
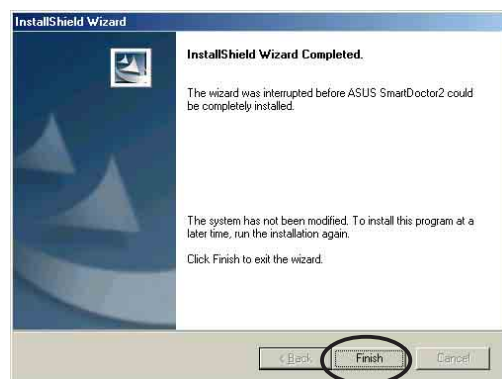
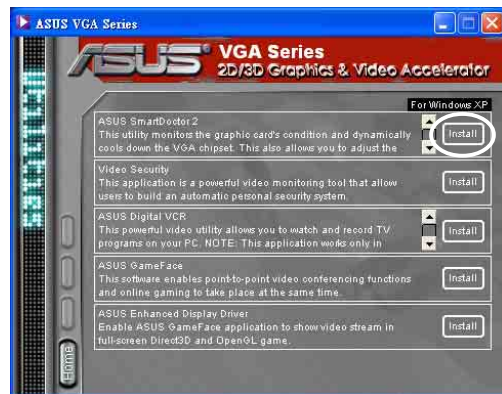
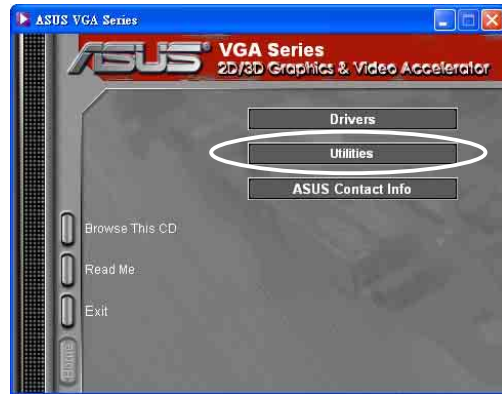
# 3. Utilities

## 3.1 ASUS Smart Doctor

The Smart Doctor utility monitors the VGA card condition and significantly cools down the VGA Graphics Processing Unit (GPU). This utility also allows you to adjust the graphics card clock settings.

To install the ASUS Smart Doctor:

1. Insert the support CD into your CD-ROM drive.
2. If autorun is enabled, the 2D/3D Graphics & Video Accelerator appears automatically.  
If autorun is disabled, run **Setup.exe** from the root directory of your support CD.
3. From the 2D/3D Graphics & Video Accelerator main menu, click **Utilities**.
4. Click the **ASUS SmartDoctor Install** button from the **Utilities** menu to copy the necessary files to your computer.
5. Follow the succeeding screen instructions.
6. Click **Finish**, when setup is complete.



- The Smart Doctor utility works only for graphics card models with a built-in hardware monitor IC. If the hardware monitor IC is not present, only the SmartDoctor overclocking function will be installed.
- The Smart Doctor utility is not supported in the Radeon 9600SE and Radeon 9200SE graphics card models.

## 3.2 ASUS VideoSecurity

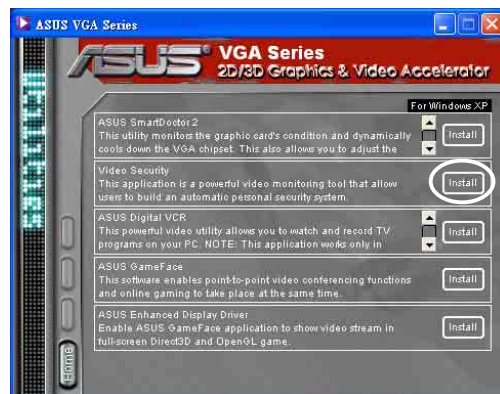
VideoSecurity is a powerful security utility that detects any change in a specified surveillance region. Using video capture devices, video snapshots are captured automatically when there is a deviation in the user-defined surveillance region. An optional warning message is also sent to the user via email or phone.

To install the ASUS VideoSecurity:

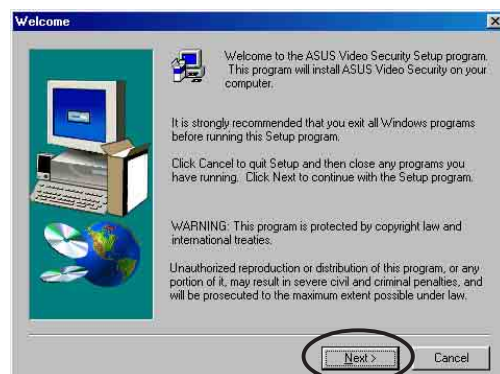
1. Insert the support CD into your CD-ROM drive.
2. If autorun is enabled, the 2D/3D Graphics & Video Accelerator appears automatically.  
If autorun is disabled, run **Setup.exe** from the root directory of your support CD.



3. From the 2D/3D Graphics & Video Accelerator main menu, click **Utilities**.
4. Click the **VideoSecurity Install** button from the **Utilities** menu to copy the necessary files to your computer.



5. From the Welcome screen, click **Next** then follow the succeeding screen instructions.
6. Click **Finish**, when setup is complete.

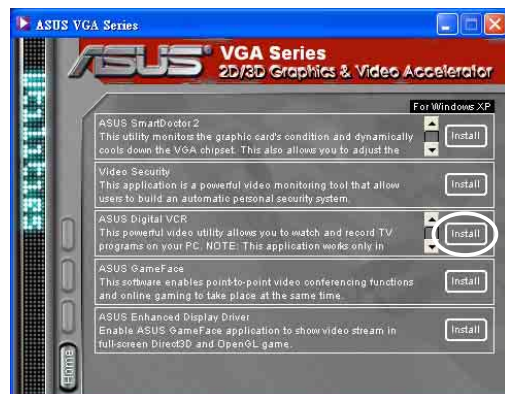


### 3.3 ASUS Digital VCR

ASUS Digital VCR is a comprehensive video utility that allows you to watch and record TV programs on your PC. This utility also supports time-shift recording that allows you to record, watch, and replay your favorite TV programs at the same time.

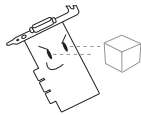
To install the ASUS Digital VCR:

1. Insert the support CD into your CD-ROM drive.
2. If autorun is enabled, the 2D/3D Graphics & Video Accelerator appears automatically.  
If autorun is disabled, run **Setup.exe** from the root directory of your support CD.
3. From the 2D/3D Graphics & Video Accelerator main menu, click **Utilities**.
4. Click the **ASUS Digital VCR Install** button from the **Utilities menu** to copy the necessary files to your computer.
5. From the Welcome screen, click **Next** then follow the succeeding screen instructions.
6. Click **Finish**, when setup is complete.



## 3.4 ASUS GameFace

The revolutionary ASUS GameFace is a real-time audio/video communication feature that enhances your interactive gaming experience. This utility enables point-to-point video conferencing functions and online gaming to take place at the same time. With this feature, you can see and talk to your opponents while playing full-screen online games!

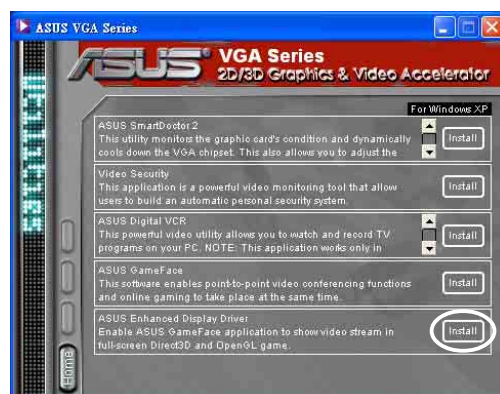


For better 3D performance and video output, install the ASUS enhanced driver before using ASUS GameFace.

### 3.4.1 Installing ASUS enhanced driver

To install the ASUS enhanced driver:

1. Boot your computer.
2. Insert the support CD into your CD-ROM drive.
3. If autorun is enabled, the 2D/3D Graphics & Video Accelerator appears automatically.  
If autorun is disabled, run **Setup.exe** from the root directory of your support CD.
4. From the 2D/3D Graphics & Video Accelerator main menu, click **Utilities**.
5. Click the **ASUS Enhanced Driver Install** button from the **Drivers** menu to copy the necessary files to your computer.
6. Follow the succeeding screen instructions.
7. When Setup has finished installing all the necessary files to your computer, it prompts you to restart your computer. Click **OK**.





### 3.4.2 Installing ASUS GameFace

To install ASUS GameFace:

1. Insert the support CD into your CD-ROM drive.
2. If autorun is enabled, the 2D/3D Graphics & Video Accelerator appears automatically.  
If autorun is disabled, run **Setup.exe** from the root directory of your support CD.
3. From the 2D/3D Graphics & Video Accelerator main menu, click **Utilities**.
4. Click the **ASUS GameFace Install** button from the **Utilities menu** to copy the necessary files to your computer.
5. From the Welcome screen, click **Next** then follow the succeeding screen instructions.
6. Click **Finish**, when setup is complete.

