MX400 Series

Graphics Accelerator

USERS' GUIDE

Version 1.0
Oct. 2001
G52-MA00455

CE N1996

FCC-B Radio Frequency Interference Statement

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 when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Notice 1
The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Notice 2
Shielded interface cables and A.C. power cord, if any, must be used in order to comply with the emission limits.

VOIR LA NOTICE D'INSTALLATION AVANT DE RACCORDER AU RESEAU.

Copyright Notice

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VGA is a trademark of International Business Machines Corporation.
Pentium is a registered trademark of Intel Corporation.
Windows is a registered trademark of Microsoft Corporation.

Revision History

Revision	Date
V 1.0	October 2001

Important Safety Precautions

Always read and follow these basic safety precautions carefully when handling any piece of electronic component.

1. Keep this User's Manual for future reference.
2. Keep this equipment away from humidity.
3. Lay this equipment on a reliable flat surface before setting it up.
4. The openings on the enclosure are for air convection hence protects the equipment from overheating.
5. Make sure the voltage of the power source and adjust properly 110/220V before connecting the equipment to the power inlet.
6. Place the power cord such a way that people can not step on it. Do not place anything over the power cord.
7. Always Unplug the Power Cord before inserting any add-on card or module.
8. All cautions and warnings on the equipment should be noted.
9. Never pour any liquid into the opening that could damage or cause electrical shock.
10. If any of the following situations arises, get the equipment checked by a service personnel:
    - The power cord or plug is damaged
    - Liquid has penetrated into the equipment
    - The equipment has been exposed to moisture
    - The equipment has not work well or you can not get it work according to User's Manual
    - The equipment has dropped and damaged
    - If the equipment has obvious sign of breakage
11. DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT UNCONDITIONED, STORAGE TEMPERATURE ABOVE 60^0 C (140^0F), IT MAY DAMAGE THE EQUIPMENT.

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How to Use this Users' Guide

This users' guide is a compound designing for a series of VGA cards. The layout of each VGA card may be different, and some functions are optional design to meet your need.

In Chapter 1, the brief specification and function of each VGA card are listed whereas the detailed information can be found in the rest of chapters. We have collected all possible functions in Chapter 2-6, the rest of chapters; however, all functions are not suitable for your VGA card. So, in Chapter 1, the "Reference" item will index the proper sections. These sections may be useful while your are installing the hardware or software. We also list some solutions if you have trouble in using or updating your VGA card.

Key to Entries

The product name of the VGA card

Special Hardware Features

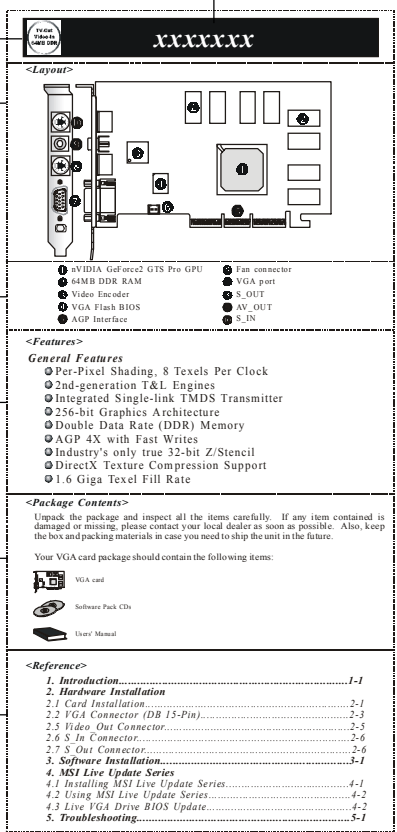
The layout of the VGA card

The components on the VGA card

The specifications of the VGA card

The package contents of this VGA card

The suitable sections for this VGA card



1. Introduction

1.1 The nVIDIA GeForce2 MX400 GPU

Congratulations on purchasing the VGA card with *n*VIDIA GeForce2 MX400 GPU, a high performance graphics accelerator that enables you to experience the realistic and exciting 3D world.

Based on *n*VIDIA GeForce2 MX400 GPU, the VGA card uses the first shading GPU (Graphics Processing Unit) with the new *n*VIDIA Shading Rasterizer and a High Definition Video Processor (HDVP). Incorporating a radical new per-pixel shading architecture, *n*VIDIA GeForce2 MX400 GPU is the real-time, per-pixel shading processor, raising image quality to never-before-seen heights for interactive content.

The VGA card delivers the industry fastest Direct3D and OpenGL acceleration, and continues *n*VIDIA's tradition of providing leadership, single-chip, integrated VGA, 2D, 3D and high definition digital video performance, enabling a range of applications from 3D games to HDTV, DVD, digital content creation, internet browsing and general productivity.

1.2 System Requirements

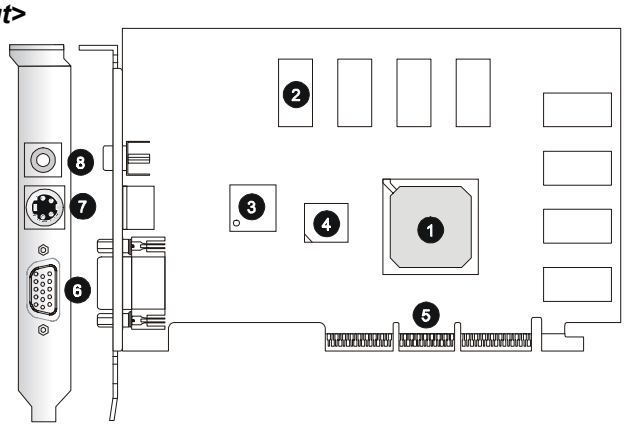
To install the VGA card, your system needs to meet the following requirements:

Computer	Intel® Pentium II/III/4 processor, Intel® Celeron processor, or compatible system
Expansion Slot	AGP slot
Monitor	VGA support, minimum 640 x 480 resolution
Operating System	Windows® 98/ME, Windows® NT 4.0, Windows® 2000, XP
CD-ROM Drive	Double Speed or Higher

1.3 The MX400 Series

MX400 Pro-TC64S

<Layout>



1. nVIDIA GeForce2 MX400 GPU
2. 64MB SDRAM
3. Video Encoder
4. VGA Flash BIOS
5. AGP Interface
6. VGA port
7. TV_Out connector (S)
8. TV_Out connector (C)

<Features>

General Features

- Optimized for Direct3D acceleration with complete support for Microsoft DirectX 5.0, 6.0, 7.0 and 8.1
- 256-bit 2D and 3D graphics accelerator
- 350MHz Palette-DAC
- 128-bit Memory Interface
- Digital Dual Display Architecture
- nVIDIA Shading Rasteriser
- 4 Texels per Clock
- Integrated second-generation transform and lighting engine
- 32-bit color with 32-bit Z/stencil
- Cube Environment mapping
- DirectX and S3TC texture compression
- 700 Mtexel fill rate
- 20Mtriangles/sec setup

- 2.8GB/second memory bandwidth
- Support 64/128-bit SDRAM
- AGP 4x fast writes
- Supports NTSC, NTSC-EIA(Japan), and PAL(B, D, G, H, I, M, and N) TV formats

High quality video playback

- DVD and HDTV ready motion compensation for MPEG-2 decoding up to 1920x1080i ATSC format
- Support for VIP 2.0 interface

Full Software Support

- Windows® 95 / 98 /ME / 2000 / NT / XP Display Drivers
- OpenGL ICD for Windows® 95 / 98 /ME / 2000 / NT / XP
- Linux® compatible
- Mac® OS compatible

Supports super high resolution graphics modes

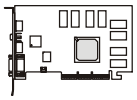
640x480	8/16/32 bit colors with 150Hz
800x600	8/16/32 bit colors with 150Hz
1024x768	8/16/32 bit colors with 120Hz
1152x864	8/16/32 bit colors with 120Hz
1280x1024	8/16/32 bit colors with 100Hz
1600x1200	8/16/32 bit colors with 85Hz
1920x1200	8/16/32 bit colors with 75Hz
2048x1536	8/16 bit colors with 60Hz

Note: The Display Modes listed above are for your reference; the actual settings may be different on your system because of using different monitors.

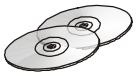
<Package Contents>

Unpack the package and inspect all the items carefully. If any item contained is damaged or missing, please contact your local dealer as soon as possible. Also, keep the box and packing materials in case you need to ship the unit in the future.

Your VGA card package should contain the following items:



VGA card



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MX400 Pro-VT32S

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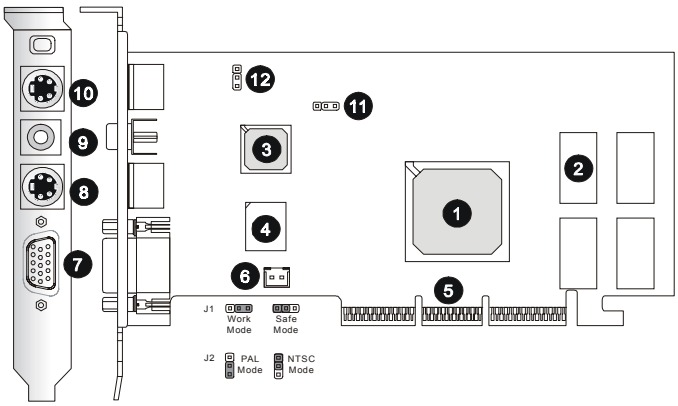

1. nVIDIA GeForce2 MX400 GPU
2. 32MB SDRAM
3. Video Encoder
4. VGA SafeBIOS™
5. AGP Interface
6. Fan connector
7. VGA port
8. TV_Out connector (S)
9. TV_Out connector (C)
10. Video_In connector (S)
11. VGA SafeBIOS™ jumper (J1)
12. TV mode jumper (J2)

<Features>

General Features

- Optimized for Direct3D acceleration with complete support for Microsoft DirectX 5.0, 6.0, 7.0 and 8.1
- 256-bit 2D and 3D graphics accelerator
- 350MHz Palette-DAC
- 128-bit Memory Interface
- Digital Dual Display Architecture
- nVIDIA Shading Rasteriser
- 4 Texels per Clock
- Integrated second-generation transform and lighting engine
- 32-bit color with 32-bit Z/stencil
- Cube Environment mapping
- DirectX and S3TC texture compression
- 700 Mtexel fill rate
- 20Mtriangles/sec setup

- 2.8GB/second memory bandwidth
- Support 128-bit SDRAM w/ 200MHz
- Supports NTSC, NTSC-EIA(Japan), and PAL(B, D, G, H, I, M, and N) TV formats
- Supports Video In (Capture) function (S/AV)
- MSI Safe BIOS™ Technology support

High quality video playback

- DVD and HDTV ready motion compensation for MPEG-2 decoding up to 1920x1080i ATSC format

Full Software Support

- Windows® 95 / 98 /ME / 2000 / NT / XP Display Drivers
- OpenGL ICD for Windows® 95 / 98 /ME / 2000 / NT / XP
- Linux® compatible
- Mac® OS compatible

Supports super high resolution graphics modes

640x480	8/16/32 bit colors with 150Hz
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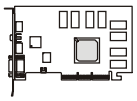
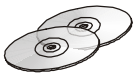


VGA card



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MX400 Pro2-T32S

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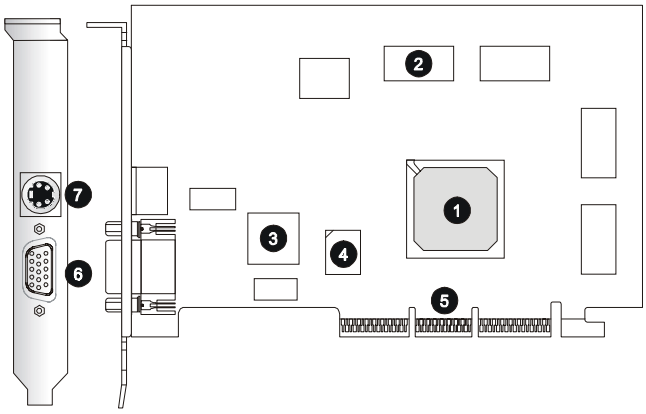

1. nVIDIA GeForce2 MX400 GPU
2. 32MB SDRAM
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4. VGA Flash BIOS
5. AGP Interface
6. VGA port
7. TV_Out connector (S)

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General Features

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- 256-bit 2D and 3D graphics accelerator
- 350MHz Palette-DAC
- 128-bit Memory Interface
- Integrated Dual 135MHz LVDS/TMDS Transmitter
- nVIDIA Shading Rasteriser
- 4 Texels per Clock
- Integrated second-generation transform and lighting engine
- 32-bit color with 32-bit Z/stencil
- Cube Environment mapping
- DirectX and S3TC texture compression
- 700 Mtexel fill rate
- 20Mtriangles/sec setup

- 2.8GB/second memory bandwidth
- Support 64/128-bit SDRAM
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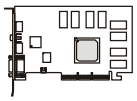
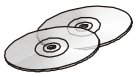


VGA card



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2. Hardware Installation

2.1 Card Installation

To install the VGA card to your computer, please follow the steps below:

Installation on new system

1. Remove the computer case.

2. Locate the AGP slot on your mainboard.

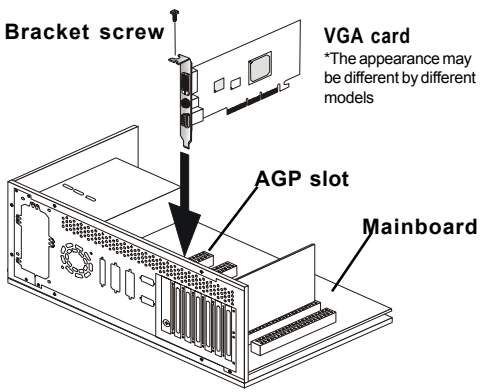
Warning: *Inserting your VGA card into a wrong type of slot (e.g. PCI slot) will damage your card (refer to your mainboard manual for more information).*

3. Put the card directly over the AGP slot and press one end of the card into the slot first. Slightly but firmly press the other end until it is fully seated in the slot.

4. Secure the card with a bracket screw.

5. Install all other cards and devices and connect all the cables, and then replace the case.

6. Connect the monitor. Now, you are ready to install the software on your computer.



Installation on system with existing VGA card

To replace the existing VGA card to your computer, please follow the steps below:

1. If your operating environment is Windows® NT system, switch your display driver to standard VGA first (refer to Windows® NT documentation for more information). If you are using Windows® 98/ ME/2000, skip this step.

2. Turn off the computer and unplug all the cables and power cords.

3. Remove the computer case.

4. Remove the existing VGA card. Locate the AGP slot on your mainboard.

Warning: *Inserting the VGA card into a wrong type of slot (e.g. PCI slot) will damage your card (refer to your mainboard manual for more information).*

5. Put the card directly over the AGP slot and press one end of the card into the slot first. Slightly but firmly press the other end until it is fully seated in the slot.

6. Secure the card with a bracket screw.

7. Replace the case.

8. Connect the monitor (see previous section).

9. Restart the computer. Now, you are ready to install the driver for the VGA card.

2.2 VGA Connector (DB 15-Pin)

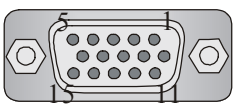
The VGA card provides a standard VGA connector, which allows you to connect a CRT or LCD monitor. Simply plug your monitor cable into the VGA connector on your VGA card, and make sure that the other end of the cable is properly connected to your monitor (refer to your monitor manual for more information).

VGA Connector

CRT Monitor

LCD Monitor

VGA Connector Pin Definition



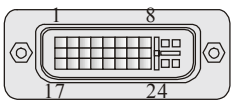
Analog Video Display Connector (DB15-S)	
Pin	**Signal Description**
1	Red
2	Green
3	Blue
4	Not used
5	Ground
6	Ground
7	Ground
8	Ground
9	5V
10	Ground
11	Not used
12	SDA
13	Horizontal Sync
14	Vertical Sync
15	SCL

2.3 Digital Panel Connector (DVI-I)

The VGA card provides a DVI (Digital Visual Interface) connector which allows you to connect an LCD monitor. The DVI connector provides a high-speed digital interconnection between the computer and its display device. To connect a LCD monitor, simply plug your monitor cable into the DVI connector on the VGA card, and make sure that the other end of the cable is properly connected to your monitor. (refer to your monitor manual for more information)

DVI connector LCD Monitor

DVI-I Connector Pin Definition



DVI-I Connector			
Pin	Signal Assignment	Pin	Signal Assignment
1	T.M.D.S.* Data2-	13	T.M.D.S. Data3+
2	T.M.D.S. Data2+	14	+5V
3	T.M.D.S. Data2/4 Shield	15	GND (for +5V)
4	T.M.D.S. Data4-	16	Hot Plug Detect
5	T.M.D.S. Data4+	17	T.M.D.S. Data0-
6	DDC Clock	18	T.M.D.S. Data0+
7	DDC Data	19	T.M.D.S. Data0/5 Shield
8	N/C	20	T.M.D.S. Data5-
9	T.M.D.S. Data1-	21	T.M.D.S. Data5+
10	T.M.D.S. Data1+	22	T.M.D.S. Clock Shield
11	T.M.D.S. Data1/3 Shield	23	T.M.D.S. Clock+
12	T.M.D.S. Data3-	24	T.M.D.S. Clock-

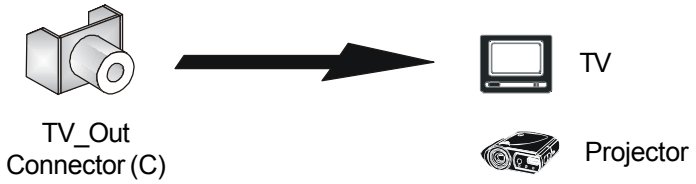
C 1	Analog Red	C 4	Analog Horizontal Sync
C 2	Analog Green	C 5	Analog Ground (analog R, G & B return
C 3	Analog Blue		

*T.M.D.S. Technology

The graphics data sent to the digital monitor use Transition Minimized Differential Signaling (T.M.D.S.)technology. TMDS uses an encoding algorithm to 8-bits of data into a 10-bit transition minimixed, DC balanced character, which are transition-minimized to reduce EMI with copper cables and DC-balanced for transmission over fiber optic cables. The TMDS algorithm also provides robust clock recovery for greater skew tolerance with longer cables or low cost short cables.

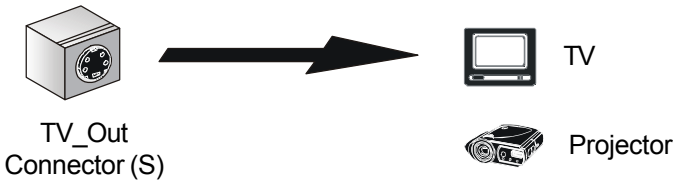
2.4 TV_Out Connector (C)

The VGA card provides a TV_Out connector for video-out function which allows you to output the image to a TV or video device. Simply plug one end of the RCA cable into the TV_Out connector on the VGA card, and the other end to the video input connector on your TV or video device. Most TVs and video devices support such kind of input connector. For the correct connection, please refer to the TVs and video devices' manuals for more information.



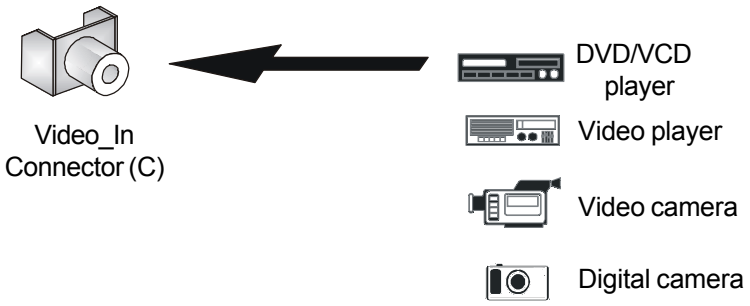
2.5 TV_Out Connector (S)

The VGA card provides a TV_Out connector for video-out function which allows you to output the image to a TV or video device. Simply plug one end of the S_Video cable into the TV_Out connector on the VGA card, and the other end to the video input connector on your TV or video device. Some TVs and video devices may support such kind of input connector. For the correct connection, please refer to the TVs and video devices' manuals for more information.



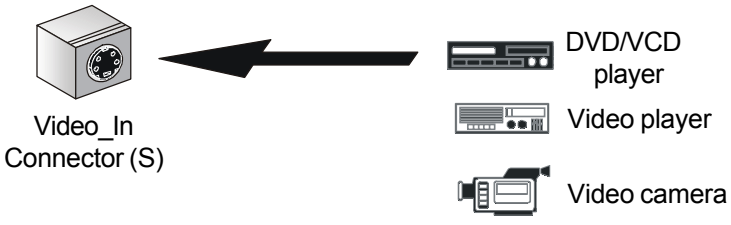
2.6 Video_In Connector (C)

The VGA card provides a Video _In connector for video-in function which allows you to input the image from video devices. Simply plug one end of the RCA cable into the Video_In connector on the VGA card, and the other end to the video output connector on your video devices. Most video devices support such kind of output connector. For the correct connection, please refer to the video devices' manuals for more information.



2.7 Video_In Connector (S)

The VGA card provides a Video_In connector for video-in function which allows you to input the image from video devices. Simply plug one end of the S_Video cable into the Video_In connector on the VGA card, and the other end to the video output connector on your video devices. Some video devices may support such kind of output connector. For the correct connection, please refer to the video devices' manuals for more information.



3. Software Installation

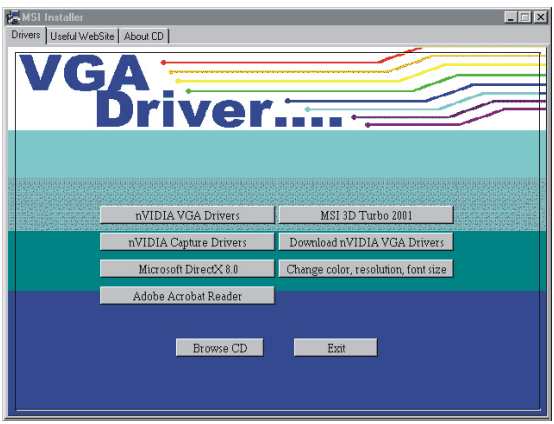
This chapter describes how to install MSI VGA card software for Windows® 98/ME/2000 or NT, including the driver and useful utilities.

3.1 Drivers for Windows® 98/ME

To install the driver for the VGA card to your computer running Windows® 98/ME, please follow the steps below:

1. Turn on the computer.

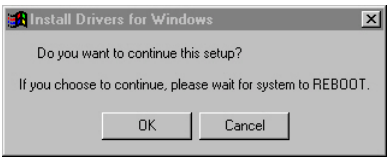
2. Insert the CD-ROM provided into the CD-ROM drive. The "Autorun" will launch the setup program, and shows the setup screen as below:



*Tip: If, on your computer, the "Autorun" program does not execute automatically, please **1)** enable the CD-ROM drive's auto-detect function from **Control Panel**; or **2)** find and run the **setup.exe** manually from the CD-ROM.*

Note: The figures in this section are based on the tested platform and for reference only; the actual displays and information (such as settings, driver's version, etc.) on your system may be different.

3. Click the “nVIDIA VGA Drivers” button on the setup program. You can easily complete the driver installation through the on-screen instructions.



4. After finishing the installation, restart the computer as instruction.

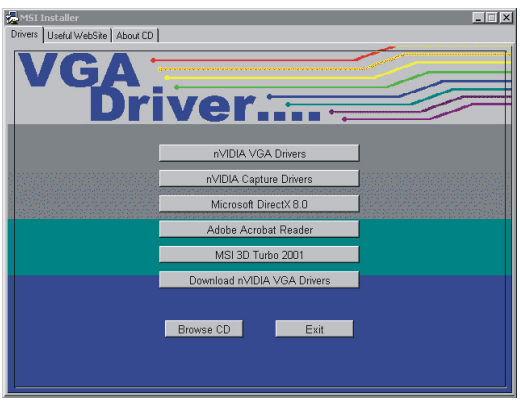
3.2 Drivers for Windows® 2000/NT

Note: *For Windows® NT 4.0 users, “Service Pack 3” or later version must be installed before installing the driver.*

To install the driver for the VGA card to your computer running Windows® 2000/NT, please follow the steps below:

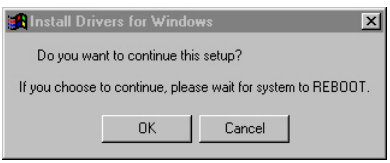
1. Turn on the computer.

2. Insert the CD-ROM provided into the CD-ROM drive. The “Autorun” will launch the setup program and show the setup screen as below:

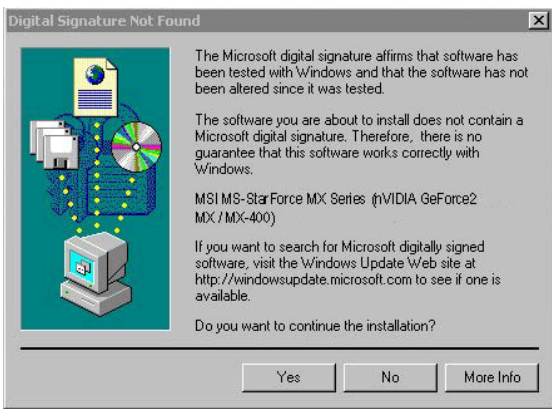


Tip: *If, on your computer, the "Autorun" program does not execute automatically, please* ***1)*** *enable the CD-ROM drive's auto-detect function from* ***Control Panel****; or* ***2)*** *find and run the* ***setup.exe*** *manually from the CD-ROM.*

3. Click the "nVIDIA VGA Drivers" button on the setup program. You can easily complete the driver installation through the on-screen instructions.



Note: *Under Windows® 2000, it will pop up the "****Digital Signature****" message (as shown below) during the installation. Press* ***Yes*** *to continue installation.*



4. After finishing the installation, restart the computer as instruction.

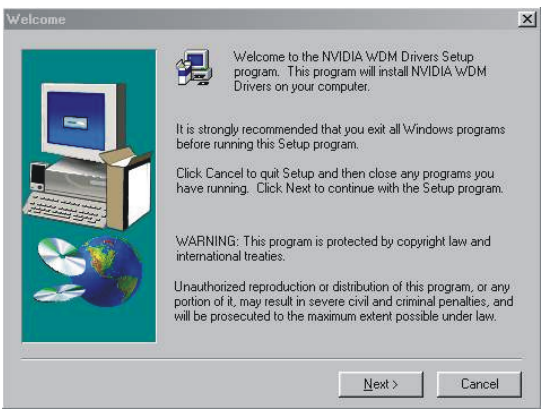
3.3 Install nVIDIA Capture Driver

The VGA card provides a video-in function that allows you to connect the external video devices for images capture function. With this driver installed, you can capture the images on your computer through the video input port on the card.

1. Turn on the computer.

2. Insert the CD-ROM provided into the CD-ROM drive and enter the setup program.

3. Click the "nVIDIA Capture Drivers" button on the setup program. You can easily complete the driver installation through the on-screen instructions.



4. After finishing the installation, restart the computer as instruction.

3.4 Install Optional Software

After restarting the computer, you can install the optional software from the CD-ROM provided, such as *Microsoft DirectX 8.0, Adobe Acrobat Reader*, *and MSI 3D Turbo 2001*. Simply click the button you select and follow the on-screen instructions to complete installation.

1. Insert the CD-ROM provided into the CD-ROM drive, and enter the setup program.
2. Choose the **Drivers** tab on the setup screen.
3. Click the software's button that you want to install, then follow the on-screen instructions to complete the installation.

3.5 Surf the Web

Since our products are under continual improvement, and there may be the latest version of driver and BIOS for the products you have purchased, please visit our website on the World Wide Web to get the latest news. Also, we collect lots of useful website on the World Wide Web for you. Simply click the button you select and go to these websites.

1. Insert the CD-ROM provided into the CD-ROM drive, and enter the setup program.
2. Choose the **WebSite** tab on the setup screen.
3. Click the corresponding button to launch your browser and access the website.

Note: *To surf these websites, you have to make connection to the Internet first.*

3.6 More Information

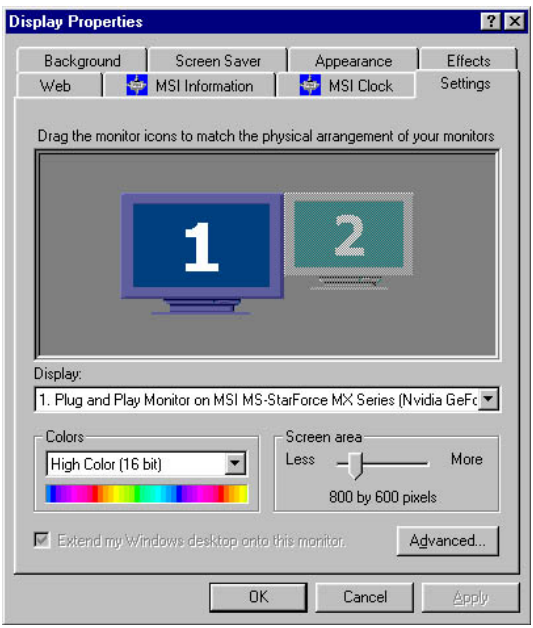
To browse the contents of the CD-ROM provided, simply click the “Browse CD” button under each tabs; and, you can use the **Manual** tab to learn more on your MSI products.

1. Insert the CD-ROM provided into the CD-ROM drive and enter the setup program.
2. Click the “About CD” button to learn more about the CD-ROM.
3. Choose the **Manual** tab on the setup screen.
4. Click the corresponding button to get the more information.

3.7 Display Adjustment

After you have completed the driver installation, the setup program adds many specific options into Windows® **Display Properties**. You can configure the specific display properties of the VGA card to obtain optimized performance.

To launch the display properties window, click Start in the task bar, choose **Settings --> Control Panel**, and double-click the [Display] icon. Also, you may simply right-click on the blank Windows® desktop area and choose the "Properties" item in the pop-up menu. The "Display Properties" window will show on your screen as below:



Note: *The figures in this section are for reference only; the actual information on display properties screens may be different on different operating systems.*

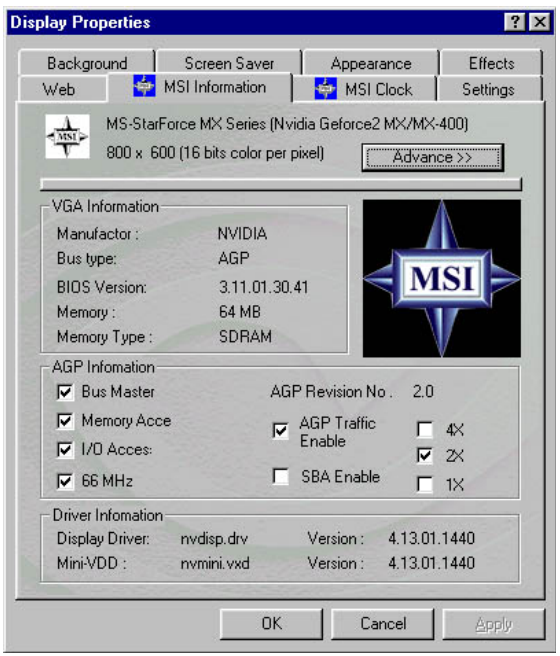
In this section, we list the most important information on how to configure these specific options of the VGA card.

Display Settings

Launch the “Display Properties” window as the instructions above, and click the **Settings** tab, you will see a figure as shown in *page 3-7*. This screen shows the information of display adapter, colors, the range of display area, and the refresh rate.

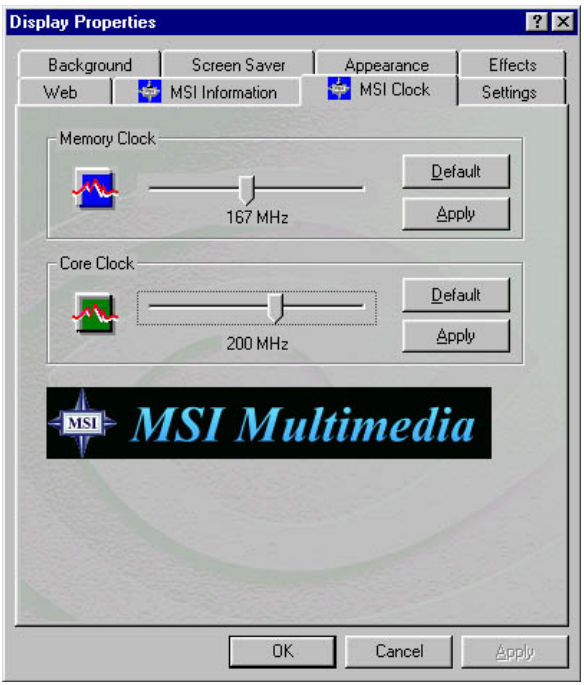
MSI Information

This screen shows the detail information of the VGA card, including the model name, display mode, version of driver and BIOS, memory size, AGP mode, and so on.



MSI Clock

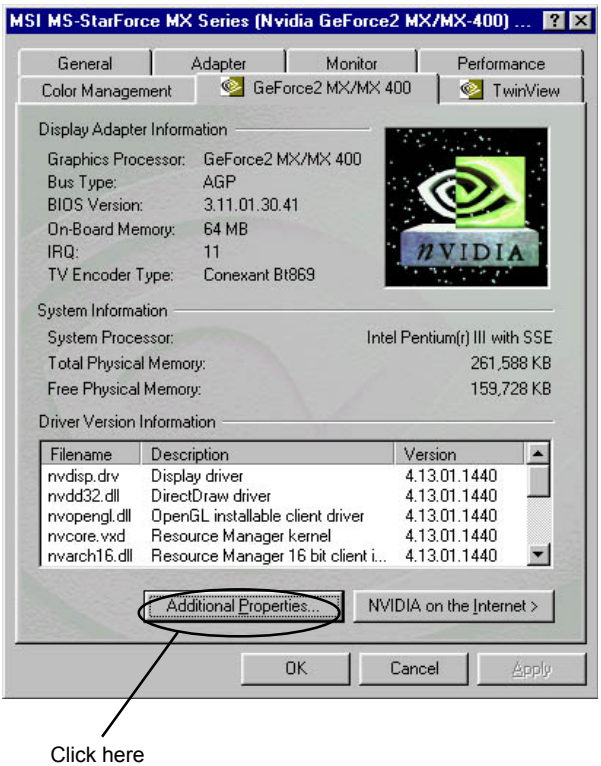
This screen shows the settings of the VGA card's core clock and memory clock, and it provides you the overclocking function. Simply use the mouse to adjust the slide bar to the value you want, then click on "Apply" button.



WARNING: Overclocking may cause the display to be abnormal. It is recommended to use the Default settings for most stable performance.

GPU Information

This screen shows the detailed information of GPU used on your VGA card, including the bus type, BIOS version, memory size, and so on.



Click the “Additional Properties” button, you may access further settings on Direct3D and OpenGL.

Direct3D Settings

This screen allows you to adjust the Performance and Compatibility options, Mipmapping, and PCI Texture Memory Size for your 3D games.

Performance and Compatibility Options

This option contains many items that allow you to set the options influencing the performance and compatibility in your 3D games.

Mipmapping

This option allows you to set the mipmapping levels, decide to get higher application performance or have better image effects.

PCI Texture Memory Size

This option allows you to adjust the size of the PCI texture memory. For some applications using Direct3D technology, setting higher value in this field may significantly increase the performance. However, this option does not work on the display adapter using AGP bus.

Click the “More Direct3D” button to access additional settings of Direct3D.

Texel Alignment

This option allows you to change the addressing scheme of hardware texture for texel. Use the mouse to adjust the slide bar to the value you want, which will change the texel origin between the upper-left corner and the center position.

OpenGL Settings

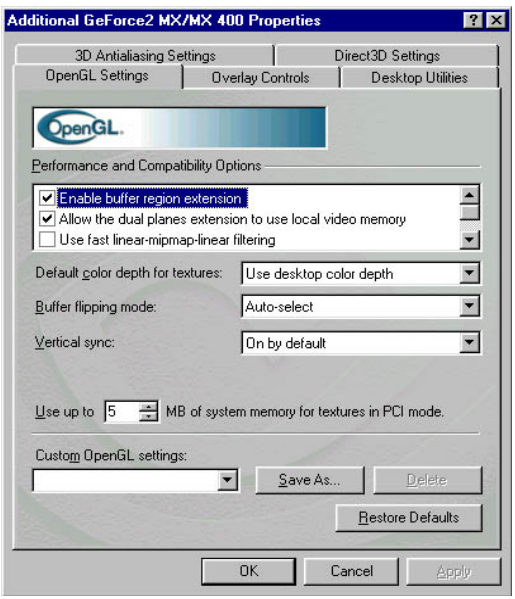
This screen allows you to adjust the Performance and Compatibility options for your OpenGL application.

Performance and Compatibility Options

This option contains many items that allow you to set the options influencing the performance and compatibility in your OpenGL application.

Default Color Depth for Textures

This option allows you to choose the default color depth for texture.



Buffer Flipping Mode

When using OpenGL application under full-screen mode, turn on page flipping function may significantly increase the performance.

Vertical Sync

This option allows you to choose the type of vertical sync.

Full Scene Antialiasing Method

This option allows you to choose the method of full scene antialiasing.

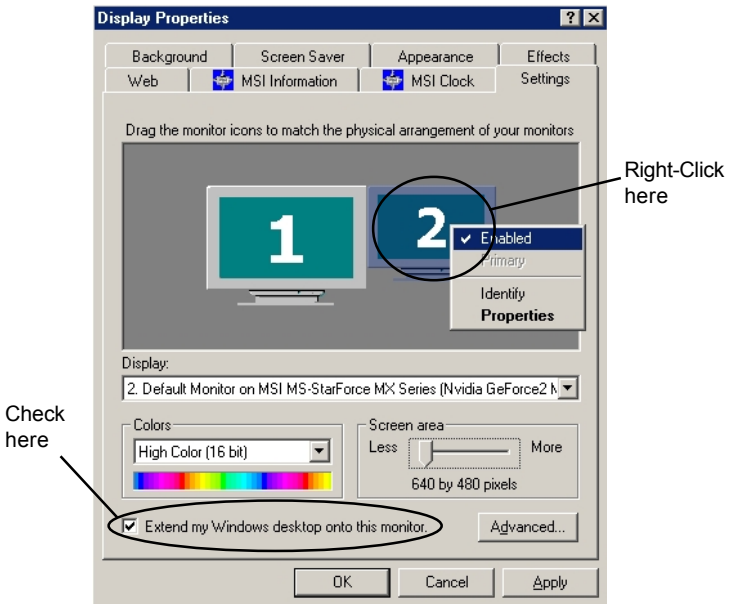
TwinView (for MX Series only)

If your VGA card is equipped with a S-Video connector, you can use a second output device (e.g. a TV or a computer monitor) as part of your operating desktop --- extending your desktop to the second device or copying your desktop on the second device.

Extending the Desktop (for MX Series only)

When the second video output device (TV or monitor) is connected:

1. Open the **Display Properties** windows.



2. Under the **Settings** tab, right-click on the icon of the second device in the main screen, and choose “Enabled” item in the pop-up menu.

3. The option “Extend my Windows desktop onto this monitor” will be checked as default.

4. Click “Apply” button to enable the function, or “OK” to accept and exit the setup screen.

Note: When the extending function is enabled, you can move your mouse, place the icons and show program windows on the second device. However, some certain programs do not support this function. If your program stops working or intermittently when using more than one monitor, please disable the function.

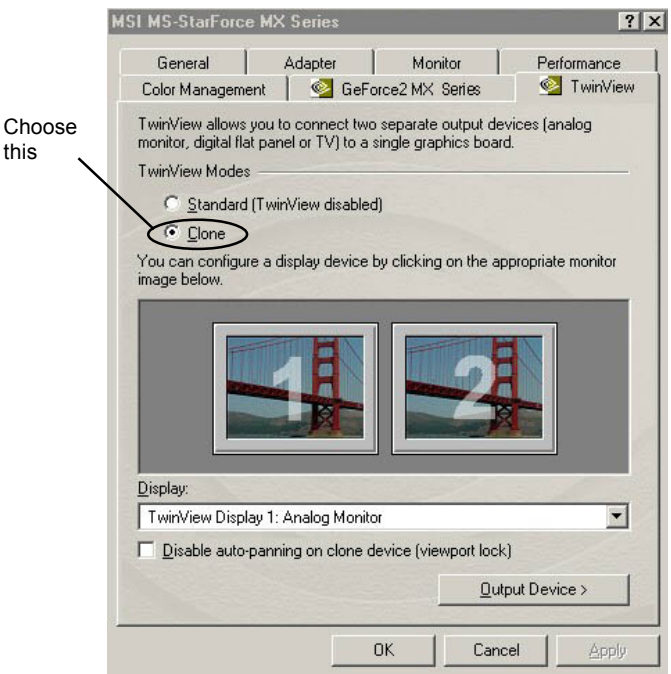
Copying the Desktop (for MX Series only)

When the second video output device (TV or monitor) is connected:

1. Open the **Display Properties** windows.

2. Under the **Settings** tab, click the “Advanced” button, and then choose the **TwinView** tab.

3. Choose the “Clone” radio button, and click “Apply” button to enable the function, or “OK” to accept and exit the setup screen.

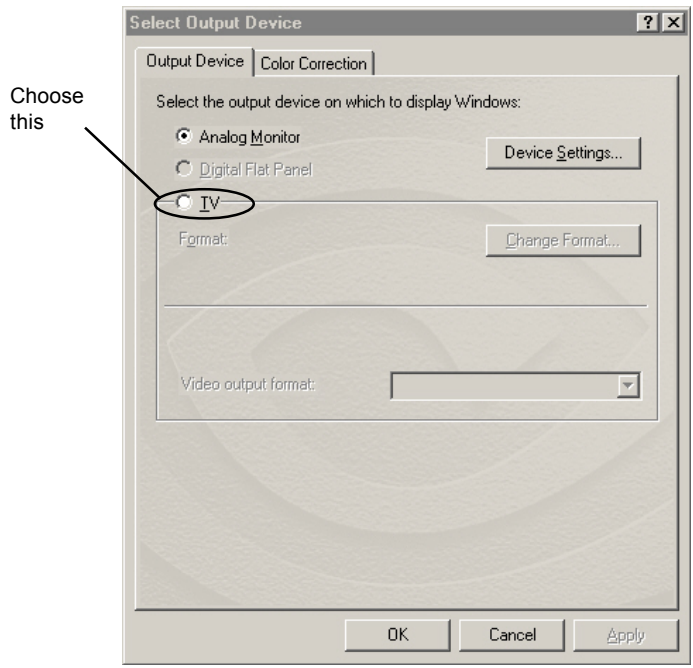


TV Mode Support: NTSC, NTSC-EIA (Japan), and PAL

The default setting for TV-out function is PAL (for Europe region). If you want to use this function in different area, please adjust the proper settings (e.g. NTSC for Taiwan and USA region). Otherwise, the display in TV may be abnormal.

1. Click the “Output Device” button (*see the figure in page 3-14*), and choose the “Output Device” item in the pop-up box.

2. Under the **Output Device** tab, select the “TV” radio button and select a proper output format within the following field.

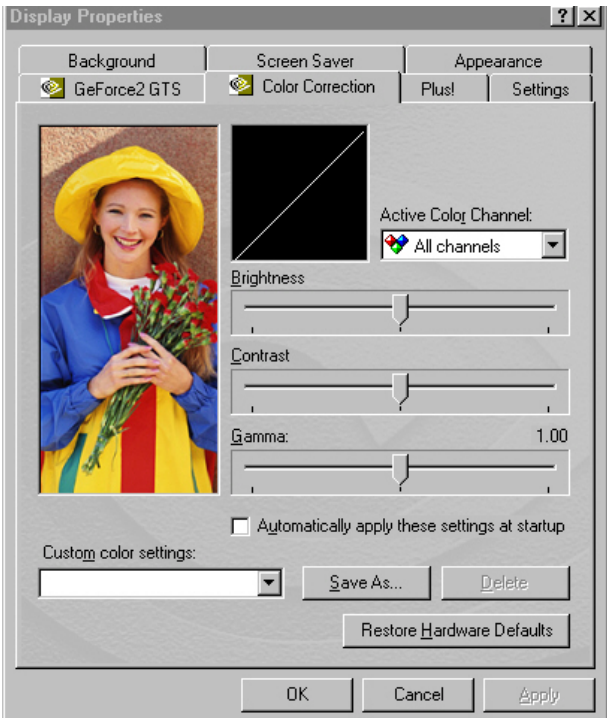


Color Correction

This option allows you to adjust the proper values of ***Digital Vibrance***, ***Brightness***, ***Contrast***, and ***Gamma*** through the software.

1. Click the “Output Device” button (*see the figure in page 3-14*), and choose the “Color Correction” item in the pop-up box.

2. Under the **Color Correction** tab, control the slide bar to the proper value in the relative fields.

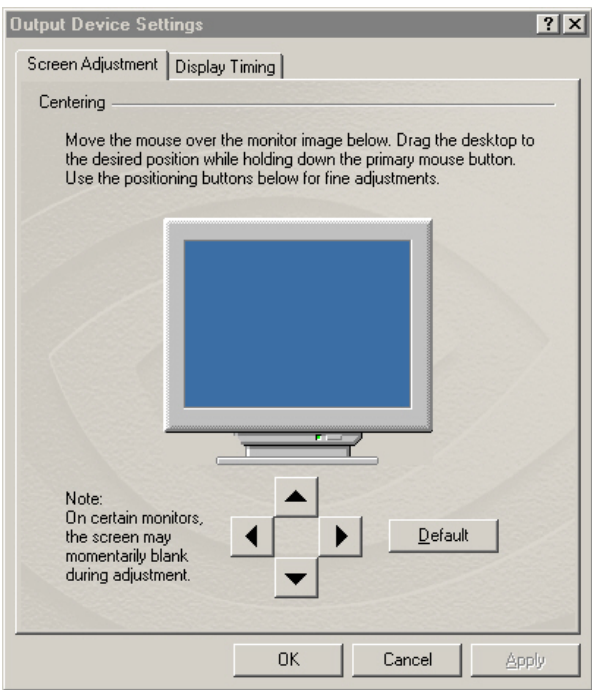


Screen Adjustment

This option allows you to adjust the proper position of display image through the software.

1. Click the “Output Device” button (*see the figure in page 3-14*), and choose the “Screen Adjustment” item in the pop-up box.

2. Click on the ▲ , ◀ , ▼ , ▶ buttons to set the proper position of the image.



4. MSI Live Update Series

MSI™ Live Update Series is a useful utility for you to upgrade your MSI mainboard and VGA card. Using this utility, you can conveniently download and update the BIOS and the drivers automatically on-line, but not have to spend much time in searching the whole website to find the BIOS or drivers you want.

4.1 Installing MSI Live Update Series

To use this feature, you have to install the software program first; you can: ***1)*** from the CD-ROM provided in the package; ***2)*** from the MSI website.

Install from the CD-ROM

1. Insert the CD-ROM provided into the CD-ROM drive, and enter the setup program.
2. Choose the **Utility** tab on the setup screen.
3. Click the "MSI Live Update Series" button. Then, follow the on-screen instructions to complete the installation.

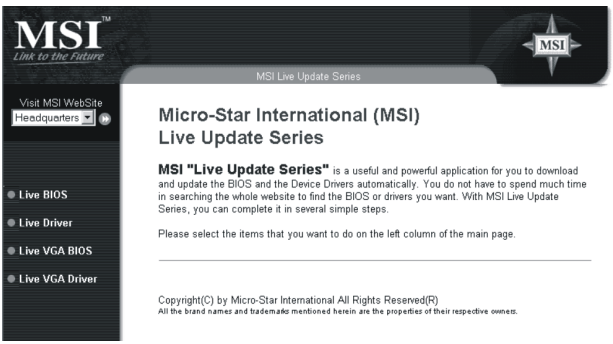
Install from the MSI Website

1. Make connection to the Internet and go to MSI's website at: *www.msi.com.tw*
2. Click the "Live Update Series" button from the top of the homepage to enter the setup page.
3. Choose and click the download/install button

from *FTP 1* or *FTP 2*. Then, follow the on-screen instructions to complete the installation.

4.2 Using MSI Live Update Series

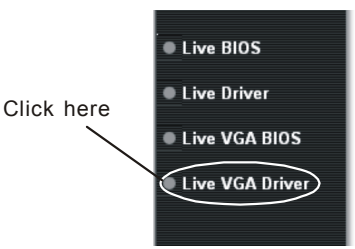
After the installation is completed, you can launch the utility by ***1)*** double-click the "MSI Live Update Series" icon from the desktop; or, ***2)*** go to Start and choose the "MSI Live Update Series" item. The setup screen should appear as below, in which contains four parts: ***Live BIOS***, ***Live Driver***, ***Live VGA BIOS***, and ***Live VGA Driver***.



Tip: *The Live BIOS and Live Driver options are used for MSI mainboard, and the Live VGA BIOS and Live VGA Driver options are used for your MSI VGA card.*

4.3 Live VGA Driver Update

1. To run MSI Live VGA Driver, click the <Live VGA Driver> item on the left column of the main page.

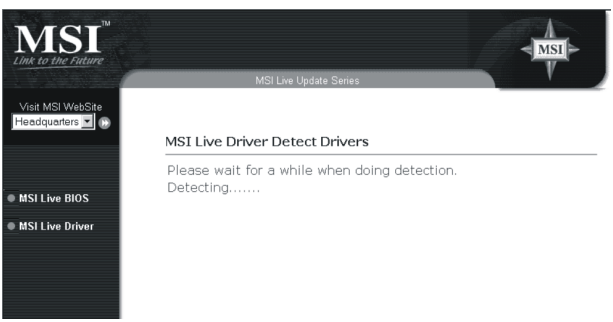


Note: *The model name and driver/BIOS version appear in the instruction are for reference only; the actual result should depend on the card you installed.*

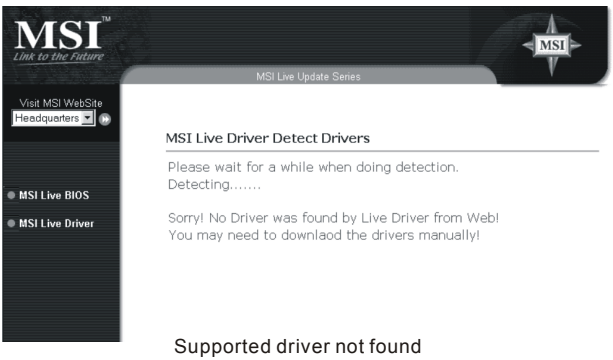
2. This utility will check your platform and VGA card's information first, and shows these information as a list:

3. Click the graph button at the bottom to connect to MSI Live Update Series Server. Then, it will automatically connect to the Internet and compare the version of the driver in the database.

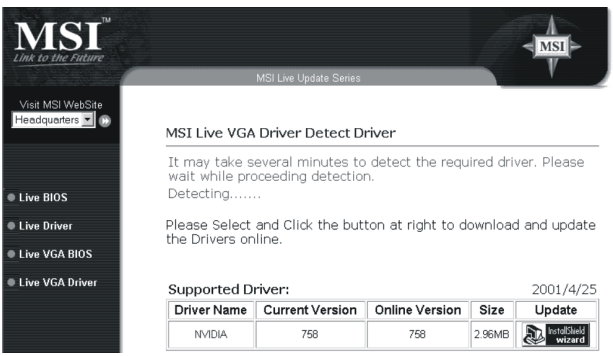
4. It may take several minutes to detect the required drivers. Please wait while proceeding detection.



5. The results are displayed as below:



Supported driver not found

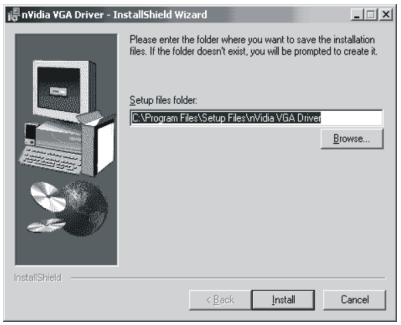


Supported driver found

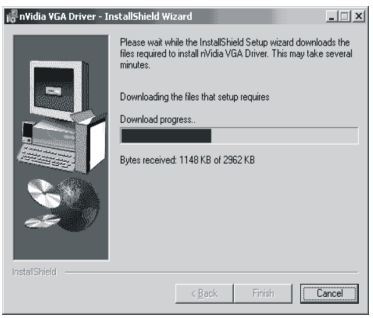
6. Click the download/install button

at the right side of the table to download and update the driver. All actions will proceed automatically.

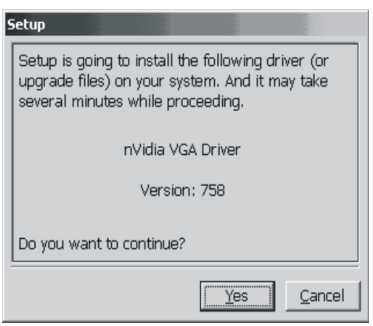
7. Follow the on-screen instructions to complete the update



Select a folder to save the driver file



Downloading

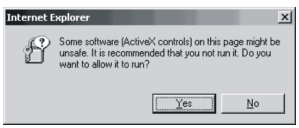


Driver updating

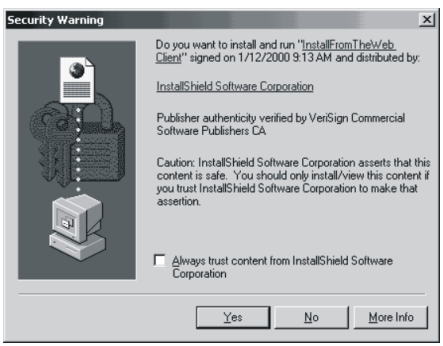
Restar the computer

Note:

1. *Always click <Yes> button when Internet Explorer asks the security question.*

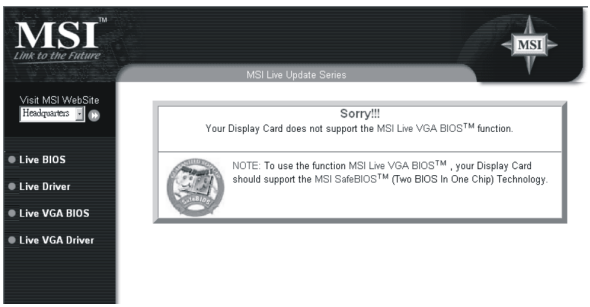


2. *Click <Yes> button when Internet Explorer shows the Security Warning for installing and running the <InstallFromTheWeb Client>.*



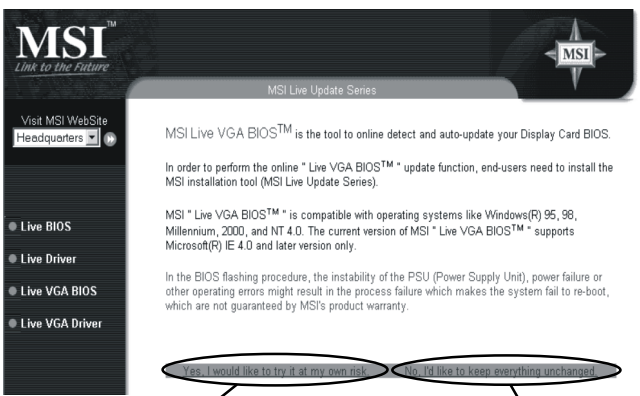
4.4 Live VGA BIOS Update

1. To run MSI Live VGA BIOS, click the <Live VGA BIOS> item on the left column of the main page.
2. This utility will detect your system; if your VGA card does not support the Live VGA BIOS function, the screen as below will appear*:



** For more information on the **MSI SafeBIOS™**, please see page 4-12.*

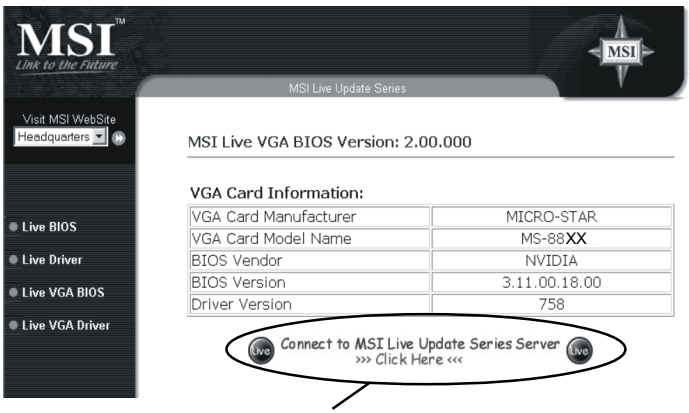
3. If your VGA card supports the function, it will appear the setup page that contains the warning massage about the risk of BIOS update. Select <Yes> to continue or <No> to return to the main page without anything changed.



Select Yes to continue

Select No to keep everything unchanged

4. If you select <Yes> to continue, it will check the information and BIOS version of your VGA card, and shows these data as a list:

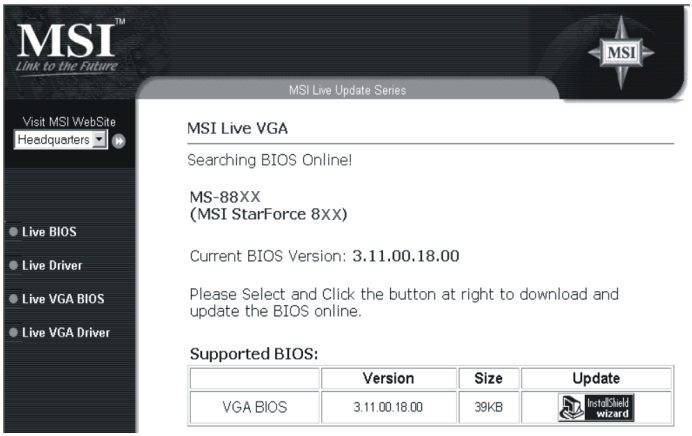


Click here

5. Click the graph button at the bottom to connect to MSI Live Update Series Server.

6. Then, MSI Live VGA BIOS will automatically connect to Internet and search the supported BIOS on the database of MSI. The results will be displayed as below:

Supported BIOS not found

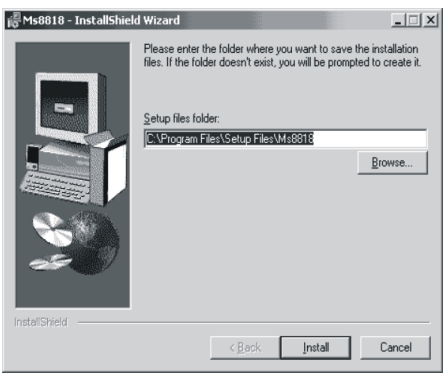


Supported BIOS found

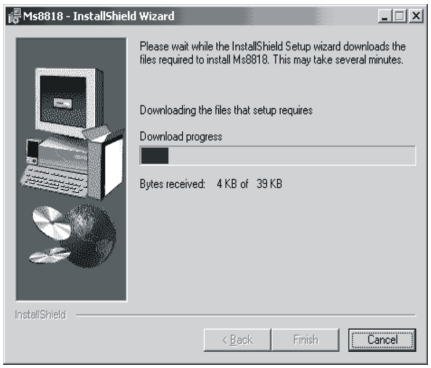
7. If it found one (or several) supported BIOS for your VGA card, click the download/install button InstallShield wizard at the right side of the table to download and start to update the BIOS. All actions will proceed automatically.

Note: *Your monitor may go* ***BLANK*** *during the software EEPROM being erased, please wait for a while.*

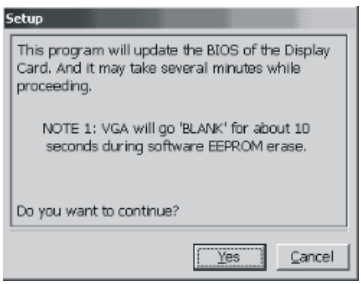
8. Follow the on-screen instructions to complete the update.



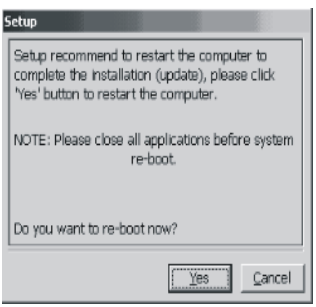
Select a folder to save the BIOS file



Downloading



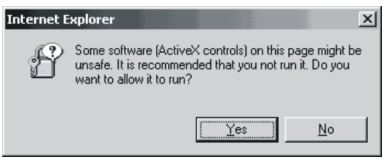
Asking to continue



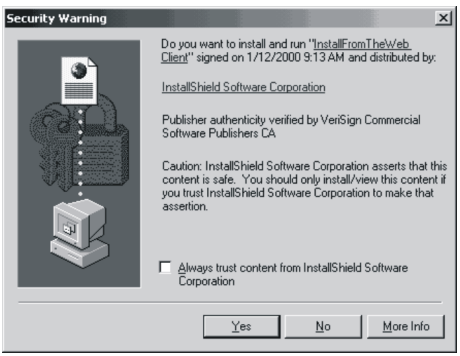
Restart the computer after the BIOS updated

Note:

1. *Always click <Yes> button when Internet Explorer asks the security question.*

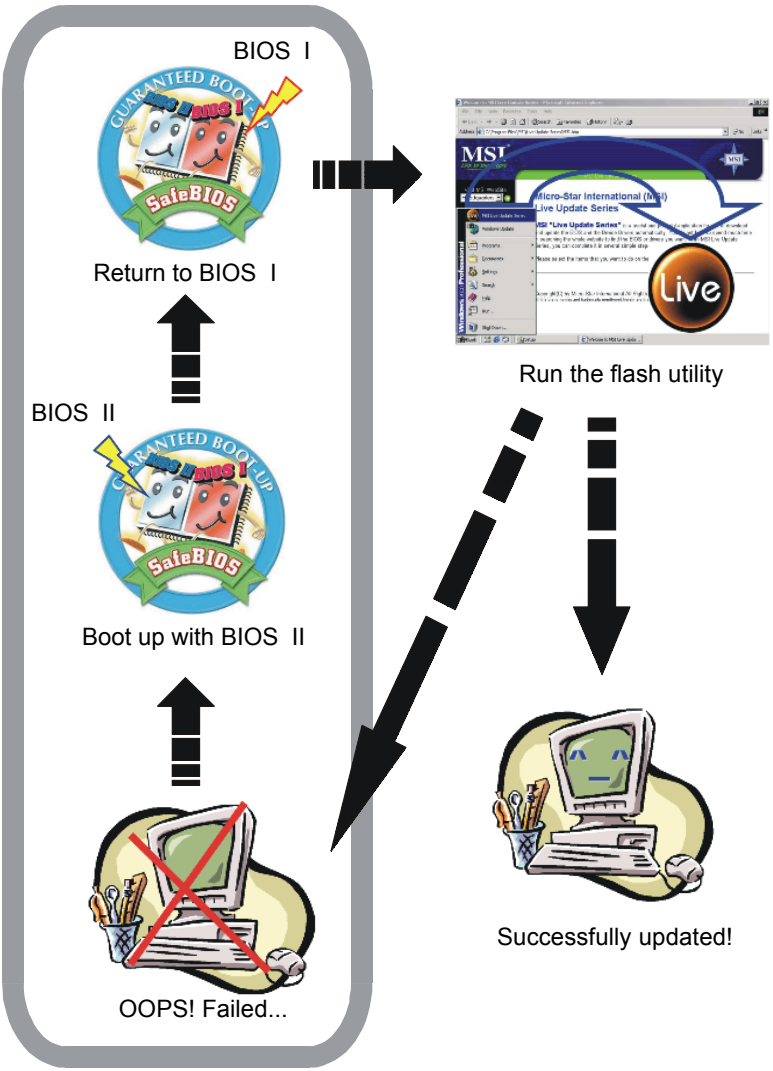


2. *Click <Yes> button when Internet Explorer shows the Security Warning for installing and running the <InstallFromTheWeb Client>.*



4.5 Safe BIOS™

The diagram below describes the procedure in brief:



NEW

Our products are under continual improvement, and there may be the newer version of BIOS to solve the existing problems on displays or installaton. When you use the flash utility* to update the BIOS on the card, it is unavoidably with some danger to your devices because of some unexpected factors (e.g. main power interruption during updating). If, unfortunately, the updating procedure is failed and the VGA card cannot work anymore --- this powerful technology can solve your problems!

Once you are not able to update the BIOS successfully, and have to use this function to save your VGA card, please follow the steps below:

1. Turn off the power and remove the computer case.

2. Locate the jumpler on the VGA card, and set it to enter the BIOS II mode (safe mode) when booting up system the next time.

3. Do not replace the case first and turn on the power.

4. With the BIOS II, you should be able to boot up the system normally. After entering the OS, set the jumper back to enter the BIOS I mode (work mode); now you can restore the original BIOS or you can try to update the BIOS using the flash utility* again.

Warning: *It is very dangerous doing this procedure under such status, please do not touch any other components in the computer. Otherwise, both the components and the user may be in danger of electrical shock or damage.*

5. If the updating is still failed**, repeat the steps 3 to 4; if the updating is successfully, the BIOS data is written to the chip successfully.

6. Replace the case and restart the computer.

*** NOTE:** To update the BIOS, you must only use the special flash utility (*MSI Live Update Series*) provided from MSI, which can fully support the SafeBIOS™ technology. If the third party's utility is used during the updating, it will erase the data in BIOS II.

** If you always encounter problems during updating the BIOS and driver, it may be that the mainboard's chipset driver not installed. Please install the chipset driver from your mainboard vendor first and try again.

5. Troubleshooting

This chapter provides you the general methods to solve the possible problems that might happen on your system. Before you consult our authorized dealer for further service, try these helpful hints to solve your problems in advance.

If you cannot find the effective solutions, or you still need help after this chapter, please contact your local dealer or visit our website for technical support and service.

5.1 General Help

Q: *Where can I find more information about my VGA card?*

Please visit our website at: *http://www.msi.com.tw*

Q: *How do I know my VGA driver's version? How to update it?*

To get the information of your VGA card's driver, simply click

, choose **Settings** --> **Control Panel** --> **Display** to open the **Display Properties** window, in which contains the detail information you want. (Please refer to Chapter 3 Software Installation for more instructions.)

If it is needed to update your VGA card's driver, please download the correct, latest driver for your VGA card from our website. Usually, the driver file is an executable file (.exe), simply double-click on the file and follow the on-screen instructions to complete the updating procedure.

5.2 Display Problem

Q: *My monitor displays nothing after the system boots up.*

Your VGA card may not be installed correctly. Please check the installation procedure as described in *Chapter 2 Hardware Installation*.

Make sure that your monitor are connected to the VGA card properly, and the power is turned on.

Q: *The image is poor quality; the screen image is off-center; or the image's shape become deformed.*

Your VGA card's driver may not be installed correctly. Please re-install the driver and restart the computer (*see instructions in Chapter 3 Software Installation*).

The **Display Properties** in your system may not be set roperly. Click

, choose **Settings** --> **Control Panel** --> **Display** to set the optimized values.

Try to adjust your monitor's control settings (e.g. brightness,contrast, and so on). Please refer to your monitor manual for more information.

Q: *How do I change the resolution settings on my computer?*

Click

, choose **Settings** --> **Control Panel** --> **Display** to open the **Display Properties** window. Under "Settings" tab, move the slider bar to the right or left to set the proper resolution setting, and click on the drop-down menu to select different color setting (16-bit high color is recommended for most applications). When these changes are done, click "OK" to apply the new settings. The screen will go black for awhile and then come back with the new size. You will be asked to confirm the changes, click "Yes" in the new Display Properties dialogue box .

Q: *How do I know if my VGA card is running under AGP 4x mode? If not, how could I use AGP 4x mode?*

Make sure that your mainboard supports AGP 4x mode. Refer to your mainboard documentation for relative information.

Check the BIOS setting for the AGP mode (*if any, please see your mainboard documentation*).

Install the proper driver for your VGA card. If the driver is installed correctly, go to

and choose **Settings** ¡÷ **Control Panel** ¡÷ **Display** to set the values. For example, when you installed the dedicated driver for your MSI VGA card, which is provided in the CD-ROM packaged with your VGA card, you will see the "MSI Information" tab in the **Display Properties** window. Choose it and check the "4x" box in the "AGP Information" field to enable this function (*see instructions in Chapter 3 Software Installation*).

Q: *My monitor displays become abnormal after the system running for minutes (blank screen, color blocks, rolling or overlapping screen image).*

Check the memory clock and core clock under **Display Properties**. If the values are set too high (exceeding the recommended spec.), please try the default values.

Keep your monitor away from magnetic objects, such as speakers without antimagnetic design or your mobile phone. The magnet and electromagnetic wave will influence and damage your monitor.

If the problem happens continuously, please contact your local dealer for further service.

Q: *The DVD video playback is poor quality (skipping frames, color blocks, etc.), why?*

Change the refresh rate, color and resolution settings to proper values.

Enable the DMA mode for your DVD drive. However, not all DVD drives support this function, please see your DVD drive's documentation for more information.

Q: *Some certain DVD video cannot play on my system, why?*

Make sure that the DVD video is inserted into your DVD drive correctly.

The DVD video has region limitation in its specification. For Taiwan region, you should choose the DVD video of Region 3. Please contact the vendor to get a copy of DVD video that is compatible with the region code of your DVD drive.

Q: *My VGA card has a video output connector, but I saw nothing on my TV?*

This function is disabled by default. Please enable it by selecting the "Clone" radio button from the **TwinView** tab under **Display Properties**.

Check the connection between the video device and your computer carefully.

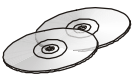
6. 3D Stereo Glasses

The 3D stereo glasses provided by MSI is a Stereo3D™ visualization tool that enables you to view stereoscopic images or movies. You can have more fun wihle playing PC games which support 3D effect. The scenes, characters, objects looked unbelievably lifelike through the 3D stereo glasses. Now, let's enter the virtual world and enjoy the exciting experience with the 3D stereo glasses.

6.1 The 3D Stereo Glasses Package

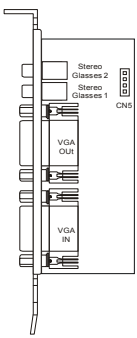
Unpack the package and inspect all the items carefully. If any item contained is damaged or missing, please contact your local dealer as soon as possible. Also, keep the box and packing materials in case you need to ship the unit in the future.

Your stereo glasses package should contain the following items:

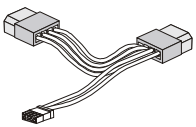


Software Pack CDs

VGA cable



3D Stereo Glasses Adaptor



Power Cord

3D Stereo Glasses

6.2 Installing the 3D Stereo Glasses

To install the 3D stereo glasses in your computer, please follow the steps below and refer to the diagram:

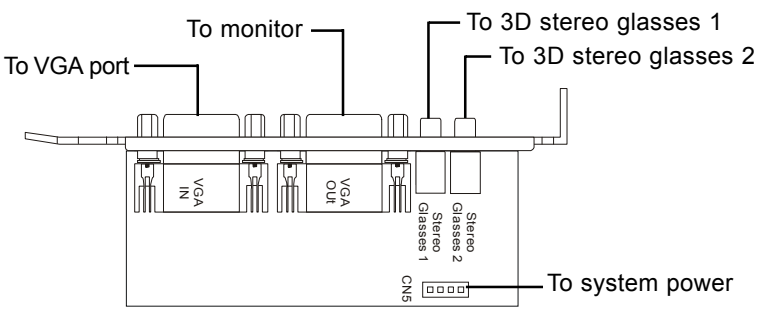
Installing the 3D stereo glasses adaptor

1. Turn the power off and remove the computer case.
2. Place and screw the 3D stereo glasses adaptor to your computer.

Note: *Place the 3D glasses adaptor close enough to the VGA card so that they can be connected by the VGA cable.*

3. Plug the power cord to the adaptor, then connect the other end of the cord to ATX power supply.
4. Connect the VGA cable from the VGA card to the adaptor.
5. Connect the monitor to the adaptor.
6. Plug the cable of your 3D stereo glasses to the adaptor.
7. Replace the case and turn the power on. Now, you are ready to install the software on your computer.

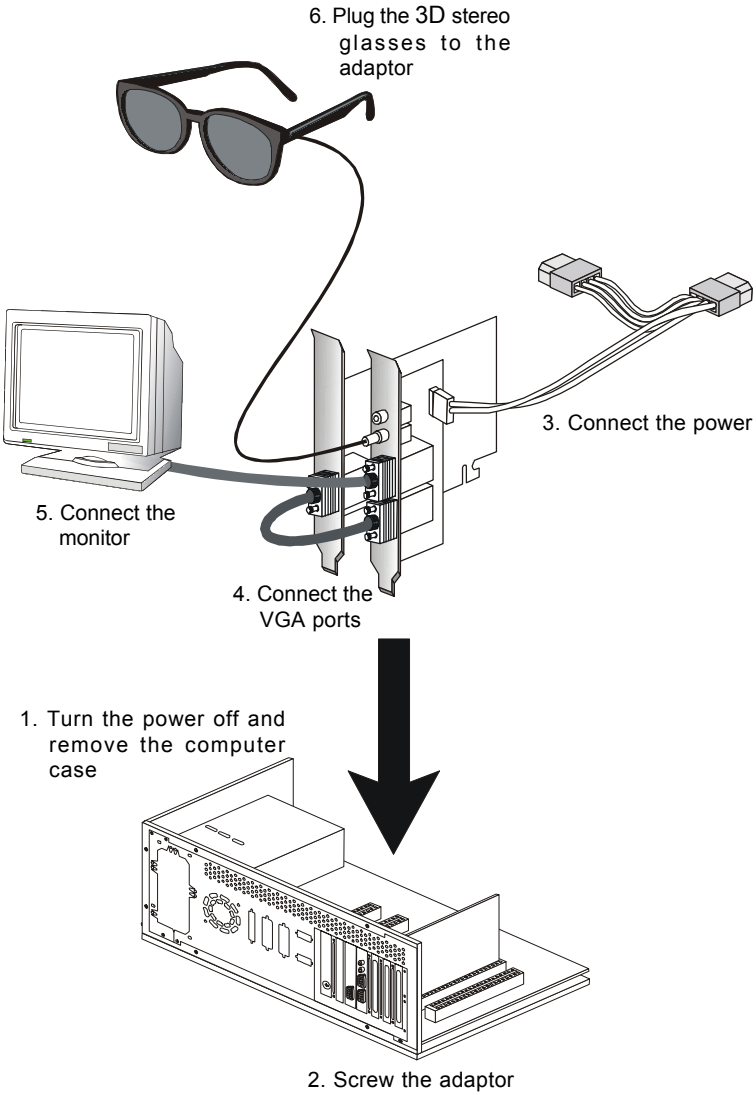
The components on the adaptor



You can refer to the diagram on the next page for easy installing.

The diagram for easy installing

The diagram below can help you to installation the 3D stereo glasses.



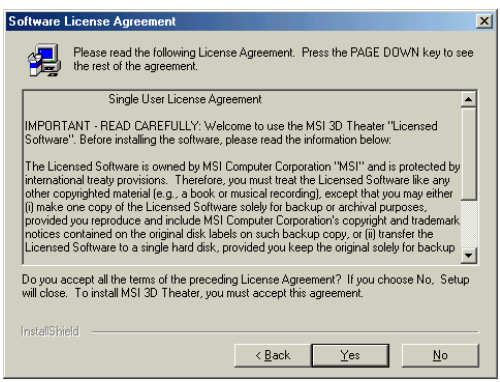
6.3 Installing the 3D Theater™

To have a 3D viewing experience on the PC, a 3D software application is necessary. The product offers a VCD/DVD player "MSI 3D Theater™" for you to view 3D stereoscopic movies and images or create 3D presentation on the monitor. Follow the instructions below to install the software:

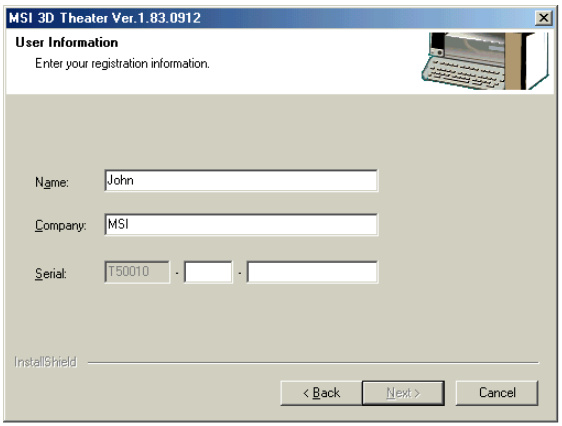
1. Start Windows.

2. Insert the supplied CD disk into the CD-ROM drive. The following screen will automatically appear. Click "Next" to start the installation.

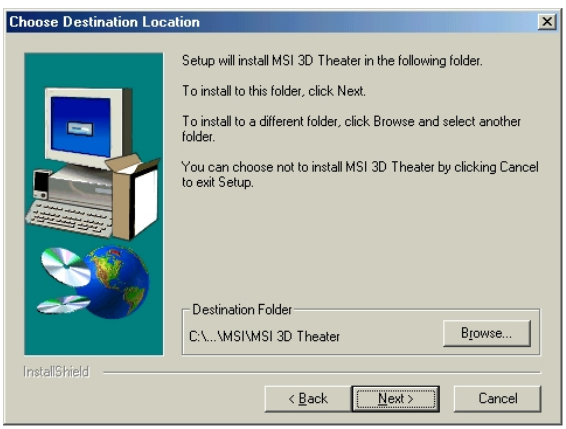
3. Click "Yes" to accept the software license agreement.



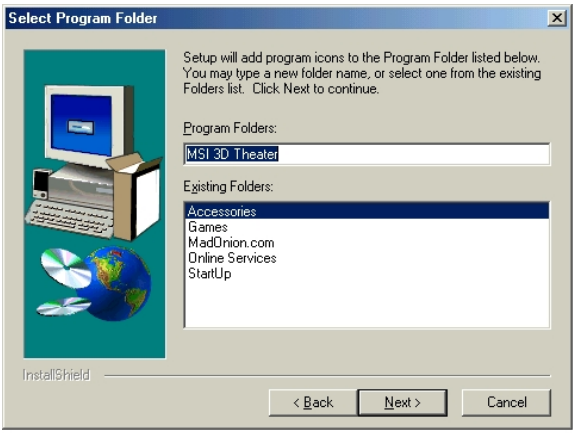
4. Enter your own information including the product's serial number in the fields. Click "Next".



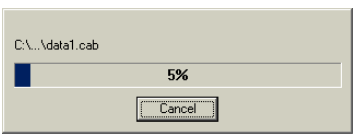
5. Click "Next" to continue.



6. Click "Next".

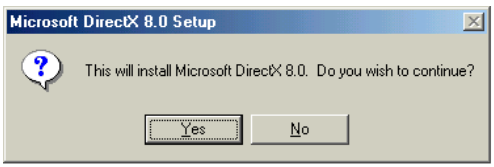


7. The installation program starts to copy files into your system.

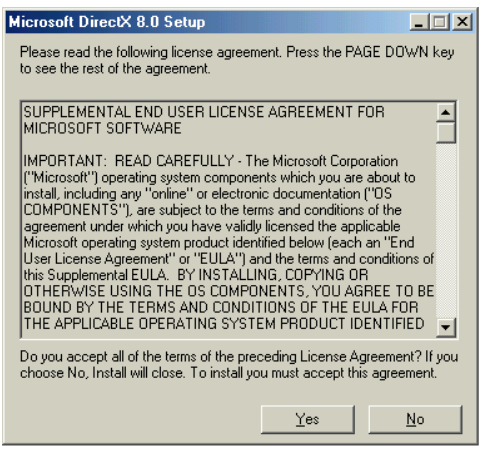


8. Click “Finish” to complete the installation.

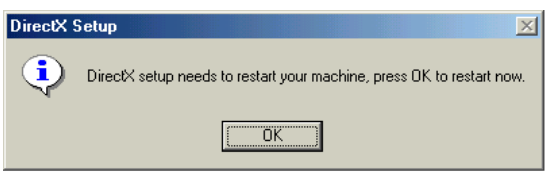
9. The Microsoft DirectX Setup dialog box will appear. Click “No” to skip the step if you have already installed DirectX 8.0 or above before; otherwise, you must click “Yes” to install DirectX 8.0 or the latest version.



10. Click “Yes” to continue.



11. After file-copying and updating process, the following screen appears. Click “OK” to restart the system.



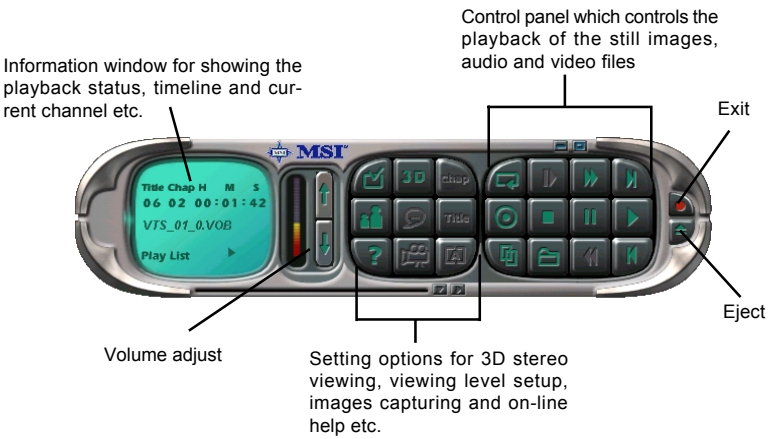
6.4 Using the 3D Theater™

Now you are ready to enjoy 3D stereo presentation with 3D stereo glasses and MSI 3D Theater™ on the PC monitor. To start MSI 3D Theater™, double click the MSI 3D Theater™ icon (as right view) on the desktop screen.

Note: *Before using 3D stereo glasses, the 3D function should be enabled in the VGA driver. Go to* ***Control Panel --> Monitor --> Settings --> Advanced --> Stereo Properites****, make sure that "****Enable****" is checked in Stereo Enable Mode.*

Brief Introduction to MSI 3D Theater™

The MSI 3D Theater™ uses a panel to control the playing of moving and still pictures.



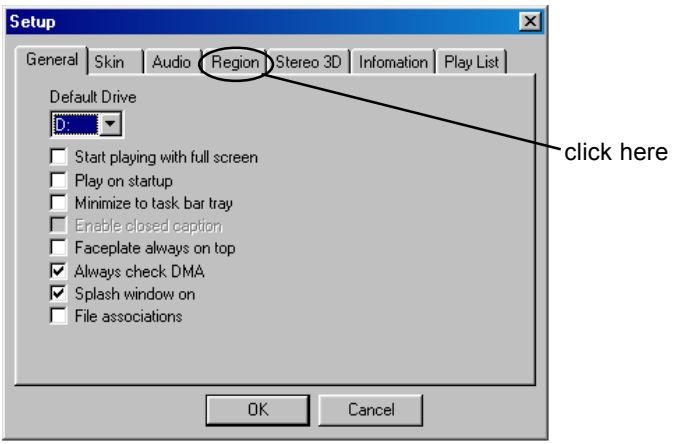
You can control and setup the application not only through the control panel, but through a popup menu as well. Just click the right button of the mouse anywhere on the MSI 3D Theater™, the menu will appear. For more information on the menu, click on (Help) button and refer to *Main Menu* topic.

Viewing 3D Contents

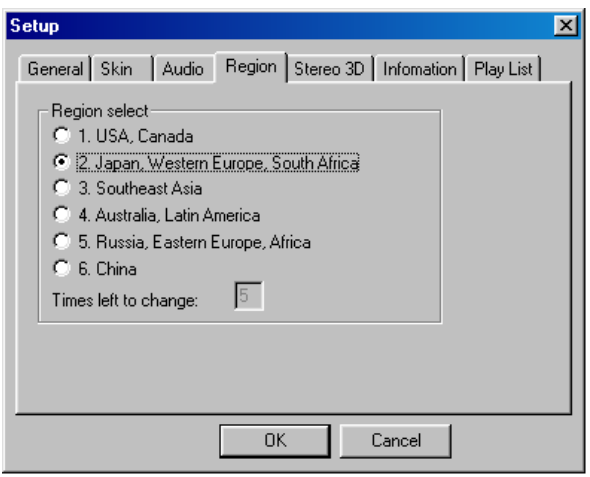
To activate 3D effect, you need to make sure that the 3D function is enabled in MSI 3D Theater™.

1. Click on (Setup) button.

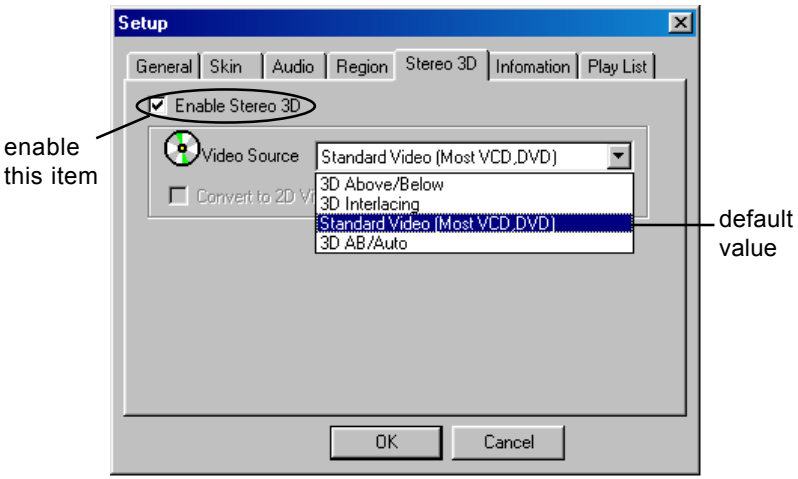
2. The Setup window appears. Click on Region tab.



3. Select the appropriate region for the decoder.



4. Click on Stereo 3D tab. Check “Enable Stereo 3D” and select the appropriate video format from “Video Source”.



If you want to view 3D contents in 2D fashion, check “Convert to 2D Video”. For more information on different video formats, refer to *3D Setup* in the on-line help.

5. Click “OK”.

Playing Single Media File

1. Click on (Open) button.

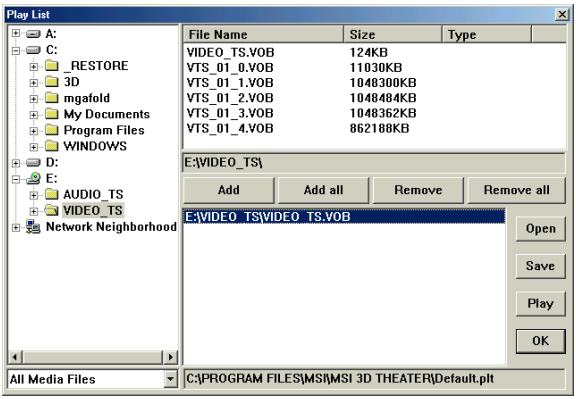
2. The Open dialog box appears. Select the media file you want and click “Open”.

Then the application will start to play the file.

Playing Multiple Media Files

1. Click on (Play List) button.

2. The Play List dialog box appears.



3. Highlight the files you want and click “Add” or click “Add all” to select all files under the same folder.

4. If you need to play these files frequently afterwards, click “Save” to save these files as a play list file. Next time you can just click “Open” to locate the play list file without selecting these files once again.

5. Click “Play” to start playing.

Repeating Playing Single File

1. Click on (Repeat) button.

2. The icon will appear on the information window.

3. The application will repeat playing the current media file.

Repeating Playing Multiple Files

1. Click on (Repeat) button twice.

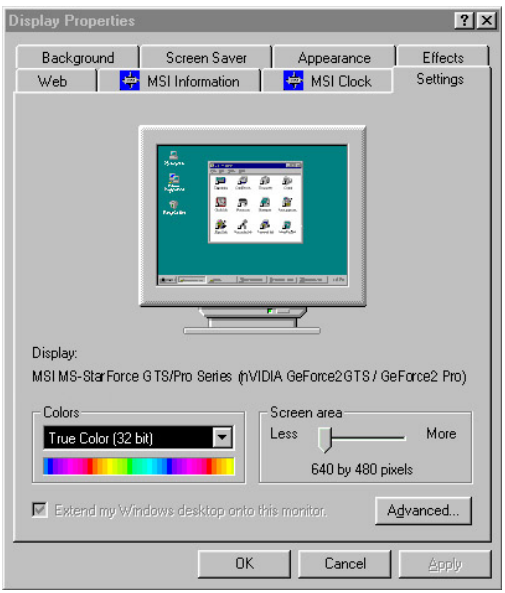
2. The icon will appear on the information window.

3. The application will repeat playing the current selected files or play list.

6.5 Optimizing the 3D Stereo Glasses

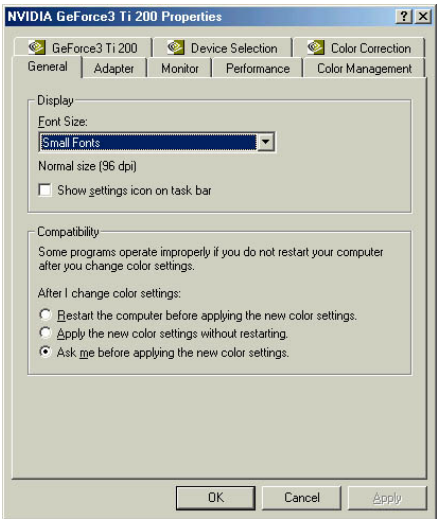
When the monitor refresh rate is too low to match the refresh rate of the 3D stereo glasses, your eyes will feel uncomfortable for the flickering screen. Thus you have to adjust the monitor refresh rate upward. Test each setting to find out the proper refresh rate for the 3D stereo glasses. Rates above 90Hz are preferred, 120Hz is optimal.

To adjust the monitor refresh rate, click Start in the task bar, choose **Settings --> Control Panel**, and double-click the [Display] icon. Also, you may simply right-click on the blank Windows® desktop area and choose the "Properties" item in the pop-up menu. The "Display Properties" window will show on your screen as below:

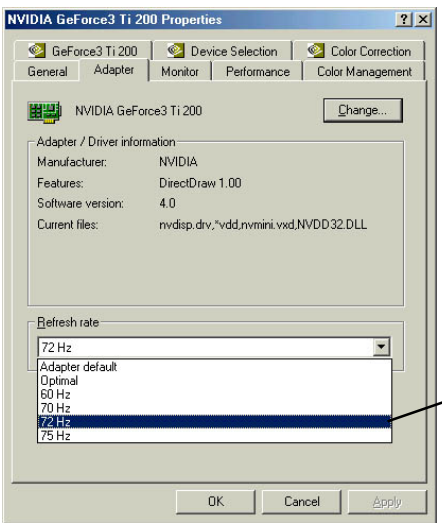


Note: *The figures in this section are for reference only; the actual information on display properties screens may be different on different operating systems.*

1. Click "Advanced" button.



2. Click “Adapter” tab to shift the window as below:



3. Test the refresh rate upward to find out the proper one, then click “OK” button.

6.6 Health Warning

Here we suggest that long periods of using the 3D stereo glasses may be associated with physical discomfort and injury to nerves, tendons, and muscles.

If you experience symptoms such as persistent or recurring discomfort, pain, throbbing, aching, tingling, numbness, burning sensation, or stiffness, DO NOT IGNORE THESE WARNING SIGNS. PROMPTLY SEE A QUALIFIED HEALTH PROFESSIONAL, even if symptoms occur when you are not working at your computer. Symptoms such as these can be associated with painful and sometimes permanently disabling injuries or disorders of the nerves, muscles, tendons, or other parts of the body. These musculoskeletal disorders (MSDs) include carpal tunnel syndrome, tendonitis, tenosynovitis, and other conditions.

TO REDUCE THE RISK OF INJURY, FOLLOW THESE PRECAUTIONS:

- Take frequent short breaks. Get up and walk around several times every hour especially when playing games.
- Vary your tasks throughout the day. Do something different with your eyes or arms from time to time.
- Keep your shoulders relaxed with your elbows at your side. Position your keyboard and mouse so you do not have to reach to use them.
- Adjust your monitor to acquire a comfortable view toward your eyes.
- Blink as possible as you could to refresh your eyes.

- If the recommendations above do not solve your symptoms, please ask ophthalmologist for help.