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If you do not properly set the Graphics Accelerator settings causing the motherboard to malfunction or fail, we cannot guarantee any responsibility.



Siluro GF4 Ti4400/Ti4600 Graphics Accelerator

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Chapter 1. Introduction

1-1. Features

Thank you for purchasing ABIT Siluro GF4 Ti4400/Ti4600 Graphics Card, the most advanced solution for game enthusiasts.

Powered by Most Powerful NVIDIA GeForce4™ Ti4400/Ti4600 GPU, and the new nFiniteFX™ II Engine, Advanced high-speed 128MB DDR Memory, Lightspeed Memory Architecture™ (LMA)II, delivers nearly double gaming performance than previous hi-performance nVidia's GPUs. With NVIDIA latest nView™ technology, it creates maximum flexibility for multi-display option for your gaming experiences.

Combined with other innovations such as ABIT SiluroDVD, 3Deep® Color, the Siluro GF4 Ti4400/Ti4600 cater to all your graphics needs, With High-Definition Video Processor (HDVP) and outstanding TV-Out quality, it enables a wide range of applications and turns your desktop into a fully functionally DVD player and big-screen gaming.

With this ABIT Siluro GF4 Ti4400/Ti4600 Graphics Card, you will not only see but also experience dynamic and realistic 3D worlds.

1-2. Specifications

- Powered by the world's most powerful NVIDIA GeForce4™ Ti4400/Ti4600 GPU working at 275MHz/300MHz respectively with 256-bit Graphics Core
- On board 128 MB DDR SDRAM working on effective memory clock rate 550MHz/650MHz with 8.8GB/sec. or 10.4 GB/sec. memory bandwidth
- nFiniteFX™ II engine enables a virtually infinite number of special effects that deliver the next leap in the realism to 3D graphics
- Dual Vertex Shaders and Advanced Pixel Shaders create realistic 3D effects and custom animation
- Lightspeed Memory Architecture™ II for unsurpassed game play speeds even in the highest resolutions
- Accuvision™ Antialiasing delivers hi-performance visual quality
- nView™ display Architecture provides the ultimate in multiple display flexibility and user control
- 1.12/1.23 trillion operations per second respectively
- AGP 4X with Fast writes
- AGP 2X/4X support and AGP texturing
- Integrated hardware transform engine, light engine
- Complete support for DirectX® 8.1 and OpenGL® 1.3
- High-quality HDTV/DVD playback support
- On board TV-Out supports S-Video/RCA output
- DVI Output for high resolution display on digital monitors
- DVI-I to VGA Adapter supports dual VGA displays simultaneously.

1-3. Multiple Monitors

Your Siluro GF4 Ti Series provide dual display functionality and TV-out from a single video card. This technology changes the way you view your PC, TV, and video graphics.

Just a single application can span to all monitors, or many applications can occupy their own specific monitor. This feature will take your PC's graphics and video capabilities to the next level.

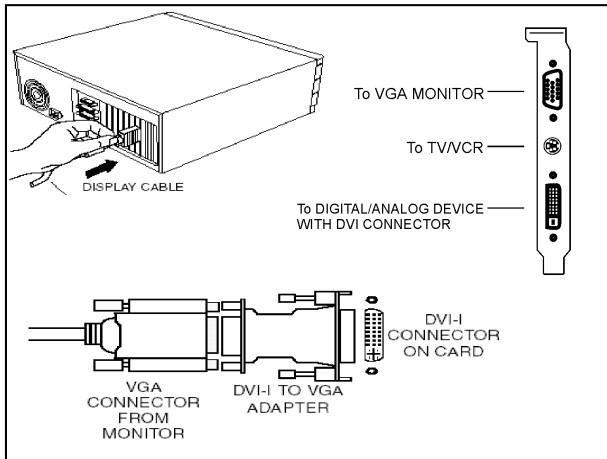
Connecting your Siluro GF4 Ti4400/Ti4600 to your monitors

The Siluro GF4 Ti Series provides supports for one DVI-I monitor or two VGA monitors using the supplied DVI-I to VGA Adapter. A television can also be used to expand your desktop by using the S-Video connector accompanying with the Cable bundled.

Plug the monitor cable into your card (if you are running multiple monitors, connect their cables to the appropriate connectors), then turn on the computer and monitor(s).

To connect a flat panel to the Siluro GF4 Ti Series, use the DVI-I connector as shown on next page. To connect a VGA monitor to the DVI-I connector, plug the supplied DVI-I to VGA Adapter into the DVI-I connector, then plug your monitor cable into the adapter. When you use multiple monitors with your Siluro GF4 Ti Series, one monitor will always be primary. Any additional monitor(s) will be designated as secondary.

Connection by connectors on Siluro GF4 Ti Series



Display Configurations

Display Configuration	Connector(s) Used
CRT monitor	-15-pin VGA Connector -24-pin DVI-I Connector (with DVI-I to VGA Adapter)
DFP monitor	-24-pin DVI-I Connector
TV	-S-Video Connector or Composite
CRT monitor + TV	-15-pin VGA Connector + S-Video Connector or Composite
DFP monitor + TV	-24-pin DVI-I Connector + S-Video Connector or Composite
CRT monitor + DFP connector	-15-pin VGA Connector + 24-pin DVI-I Connector
CRT monitor + CRT monitor	-15-pin VGA Connector + 24-pin DVI-I Connector (with DVI-I to VGA Adapter)

1-4. Display Modes Table

This display mode table is for your reference only. The display mode will differ depending on your specific monitor, and so the resulting display may not be identical to this table.

Resolution	Colors	Vertical Refresh Rate
640 x 480	8/16/32 bits	60Hz to 240Hz
800 x 600	8/16/32 bits	60Hz to 240Hz
1024 x 768	8/16 bits	60Hz to 240Hz
1024 x 768	32 bits	60Hz to 200Hz
1152 x 864	8/16 bits	60Hz to 200Hz
1152 x 864	32 bits	60Hz to 170Hz
1280 x 960	8/16 bits	60Hz to 170Hz
1280 x 960	32 bits	60Hz to 150Hz
1280 x 1024	8/16 bits	60Hz to 170Hz
1280 x 1024	32 bits	60Hz to 150Hz
1600 x 900	8/16 bits	60Hz to 150Hz
1600 x 900	32 bits	60Hz to 120Hz
1600 x 1200	8/16 bits	60Hz to 120Hz
1600 x 1200	32 bits	60Hz to 100Hz
1920 x 1080	8/16 bits	60Hz to 100Hz
1920 x 1080	32 bits	60Hz to 85Hz
1920 x 1200	8/16 bits	60Hz to 100Hz
1920 x 1200	32 bits	60Hz to 85Hz
1920 x 1440	8/16 bits	60Hz to 85Hz
1920 x 1440	32 bits	60Hz to 75Hz
2048 x 1536	8/16 bits	60Hz to 75Hz
2048 x 1536	32 bits	60Hz



Chapter 2. Hardware Setup

2-1. Card Installation

This graphics card can only be installed in a motherboard with AGP slot. Please handle this card with care and make sure to unplug the power supply of your system before installation.

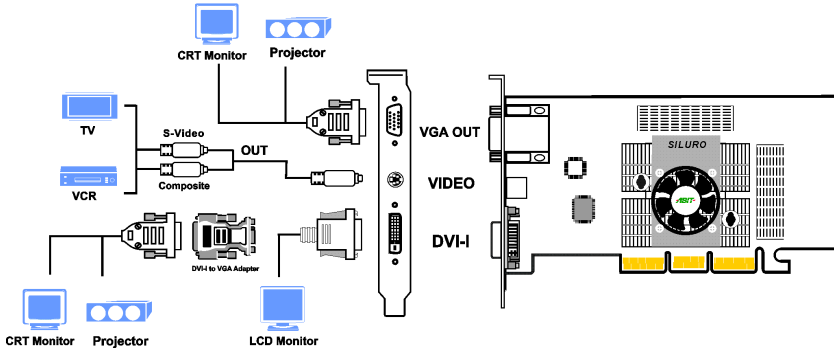
New Systems:

1. Unplug all power cords of your computer.
 2. Remove computer chassis cover.
 3. Locate the AGP slot on your motherboard.
 4. Remove the metal bracket corresponding to the AGP slot. Keep the screw.
 5. Align this card to the AGP slot. Hold the card's edges and insert it into the slot without using excessive force or pressing any components on the card. Make sure it is firmly and completely fixed into the slot.
 6. Secure this card's mounting bracket to the back panel of computer chassis with the screw removed from the metal bracket.
 7. Replace the chassis cover.
 8. Connect PC monitor or other display devices to this card.
 9. You are now ready to install the software drivers and utilities.
-

Systems with Existing VGA Card:

1. Change the display driver to Standard VGA.
 2. Shut down your computer and unplug all power cords.
 3. Replace the existing VGA card with this new card.
 4. Restart your computer.
 5. Install the software drivers.
-

2-2. Siluro GF4 Ti4400/Ti4600 Connection



Package List:

- Siluro GF4 Ti4400/Ti4600 2D/3D Graphics Accelerator
- User's Manual
- Installation CD including Driver, SiluroDVD, 3Deep[®] and True Internet Color[®]
- Mini Din to S-Video and RCA adapter
- S-Video extended cable
- Composite (RCA) cable
- DVI-I to VGA Adapter

Chapter 3. Software Setup

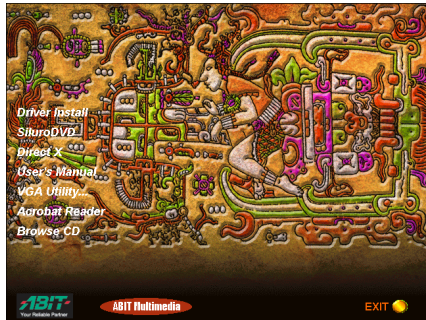
The screen displays in this manual may not exactly reflect the screenshots on your screen. The contents of the Installation CD that came with this card are subject to change at any time without notice. The latest driver for this board is also downloadable from our WEB site at <http://www.abit.com.tw>.

3-1. Windows 98/ME

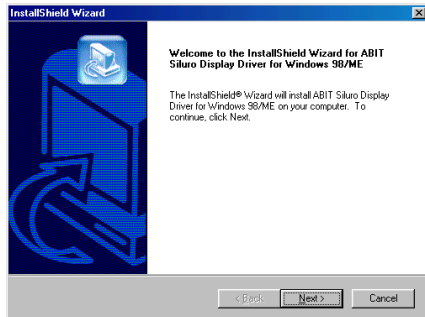
Auto Setup:

1. Start Windows. Insert the Installation CD into CD-ROM drive, it should execute the installation program automatically. If not, double-click the execution file at the main directory of this Installation CD to enter the installation menu.

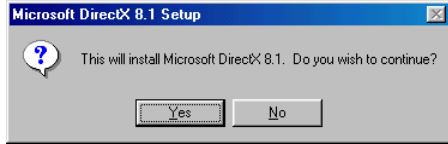
Click “Driver Install”.



2. The welcome screen appears, click “Next>” to start installation.



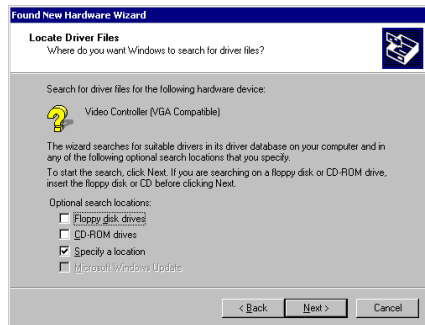
3. Click “**Yes**” if you want to install the DirectX, and then follow the on-screen instruction to complete the setup. Click “**No**” if you don’t want to install the DirectX, and then restart the computer.



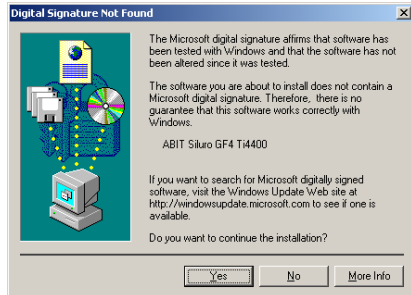
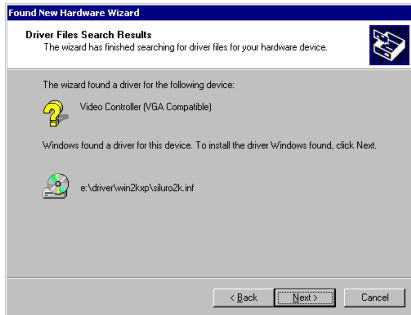
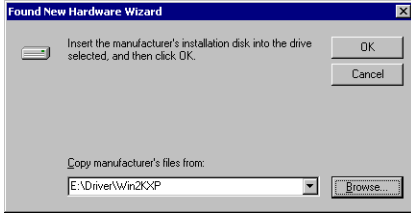
3-2. Windows 2000

Plug and Play Setup:

1. Start Windows. When Windows detects your graphics card, the Found New Hardware Wizard dialog box appears. Click “Next>”.
2. Select “Search for a suitable driver for my device [recommended]”, and then click “Next>”.
3. Select “Specify a location”, and then click “Next>”.



4. Insert the Installation CD into CD-ROM drive. Use the “**Browse...**” button to locate the driver, or type “**E:\Driver\Win2KXP**” to specify the path. E: is the CD-ROM drive. Click “**OK**” to continue.
5. The wizard has found the driver for this device. Click “**Next>**” to continue.
6. Click “**Yes**” to continue.
7. Windows has finished installing the software for this device. Click “**Finish**” to close the wizard.



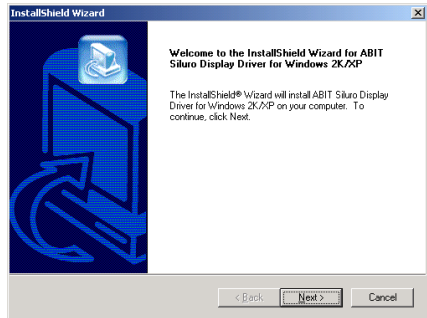
Auto Setup:

1. Start Windows. Insert the Installation CD into CD-ROM drive, it should execute the installation program automatically. If not, double-click the execution file at the main directory of this Installation CD to enter the installation menu.

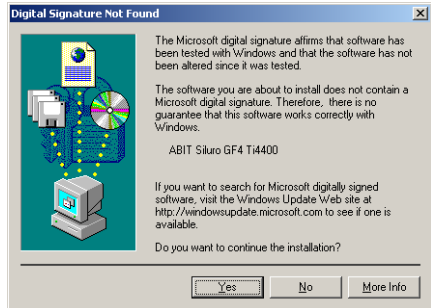
Click “Driver Install”.



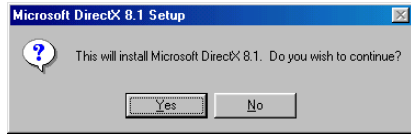
2. The welcome screen appears, click “Next>” to start installation.



3. Click “Yes” to continue.



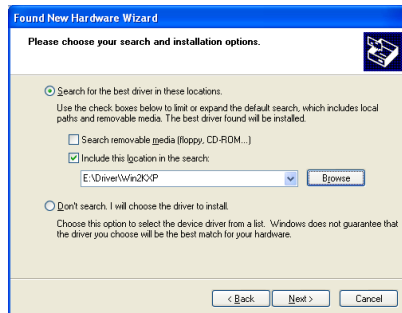
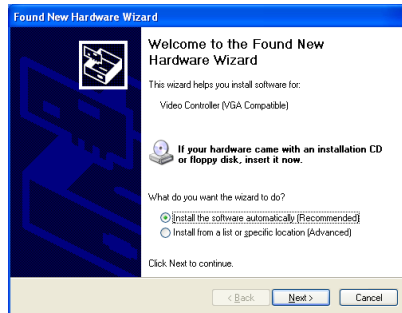
- Click “**Yes**” if you want to install DirectX, and then follow the on-screen instruction to complete the setup. Click “**No**” if you don’t want to install DirectX, and then restart the computer.



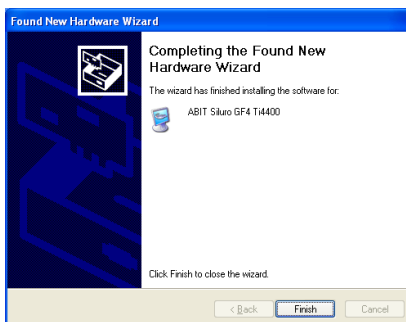
3-3. Windows XP

Plug and Play Setup:

1. Start Windows
2. When Windows detects your Siluro GF4 Ti4400/Ti4600 graphics card, the Found New Hardware Wizard dialog box appears. Click "Next>".
3. Select "Search for the best driver in these locations", use the "Browse" button to locate the driver, or type "E:\Driver\Win2KXP" to specify the path. E is the CD-ROM drive, and then click "Next>".
4. This is warning information. Click "Continue Anyway" to continue.

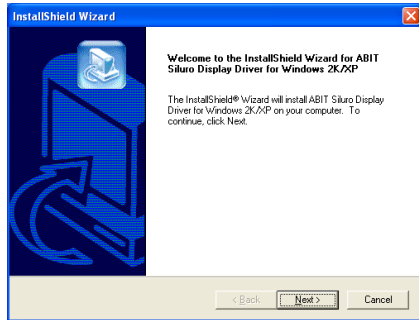


5. Click “**Finish**” to complete the installation.

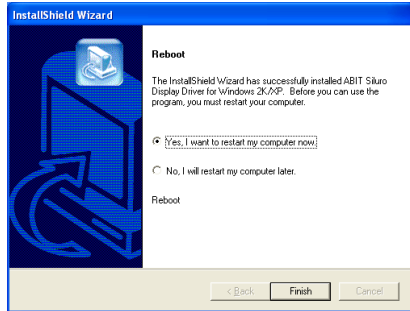


Auto Setup:

1. Start Windows. Insert the Installation CD into CD-ROM drive, it should execute the installation program automatically. If not, execute the execution file at the main directory of this Installation Disk. After it has been executed, the setup screen appears. Click “**Driver Install**” to start the installation.
2. The welcome screen appears, click “**Next>**” to start installation.
3. This is warning information. Click “**Continue Anyway**” to continue.



4. If you want Installation to restart your computer then select **"Yes, I want to restart my computer now."** and click **"Finish"**. If not, Please select **"No, I will restart my computer later."** and then click **"Finish"**. You have to manually restart the computer later for the driver to take effect. We recommend that you restart your computer immediately.



Chapter 4. Utility Setup

4-1. Windows Display Properties

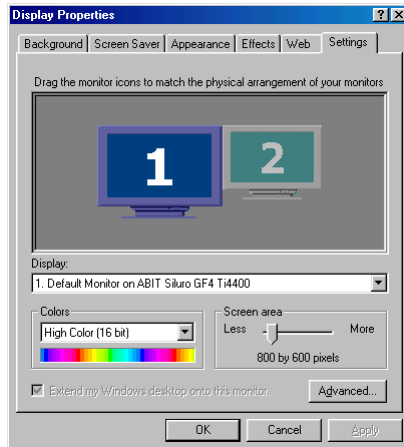
The Windows Display Properties is a control panel that helps you to make adjustments on Adapter, Monitor, Performance, Color Management, Display Position, and nView functions.

To use the Windows Display Properties, right-click the ABIT Display Tray Icon on the taskbar's status area and then click Windows Display Properties to enter, or you may right-click the Windows 98/ME/2000/XP desktop, click "Properties" → "Settings" → "Advanced" to enter.

Settings

This tab displays icons that represent your monitors. If more than one icon is displayed, click each one to see the large number in the corresponding monitor. The settings for that monitor appear in Display, Colors, and Screen Area.

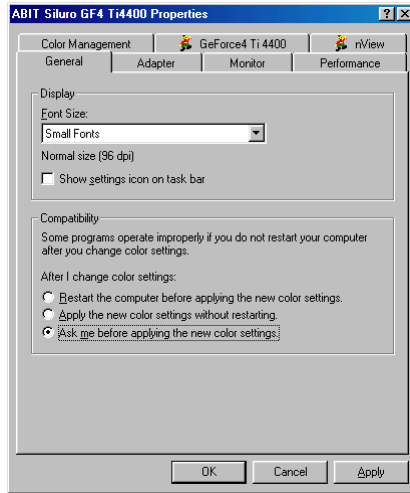
- **Display:** Displays all installed PCI and AGP video adapters. The adapter for your primary monitor is in position 1. To use an additional monitor, click its video adapter, and then click the *Extend my Windows desktop onto this monitor* check box.
- **Colors:** Displays the current color settings for the monitor whose video adapter appears in Display. To use a different color setting, click the arrow, and then click the setting you want.
- **Screen area:** Displays the current screen area settings for the monitor whose video adapter appears in Display. Drag the slider to specify the screen area you want. The higher the number of pixels, the more information you can display on your screen.
- **Extend my Windows desktop onto this monitor:** Selects the monitor whose video adapter appears in Display. This checkbox is available only for video adapters in position 2 and higher.



- **Advanced:** Click this button to open the Properties dialog box for the video adapter that appears in Display.

General

- **Font Size:** Displays the current font size for the selected monitor. To use a different font size, click the arrow, and then click the font size you want.
- **Restart the computer before applying the new color settings:** Specifies that you want your computer to restart automatically when you change system color settings.
- **Apply the new color settings without restarting:** Specifies that you want your computer to apply changes to system color settings without restarting. Some programs might not display colors correctly without being restarted after you make changes.
- **Ask me before applying the new color settings:** Specifies whether Windows should display a prompt to restart every time you change system color settings.

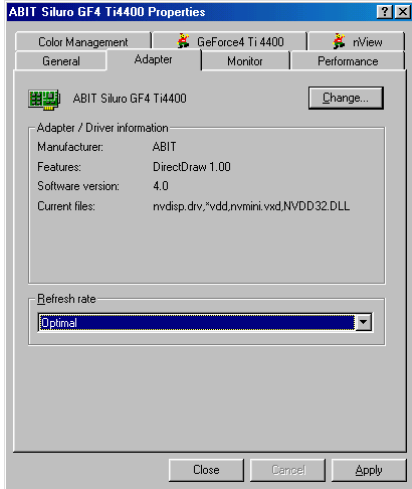


To avoid this problem, close the program, change the color settings, and then open the program again.

Adapter

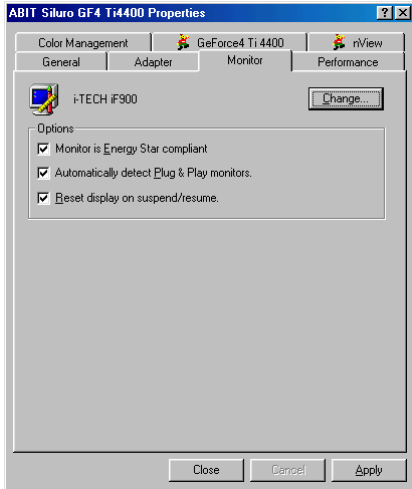
This tab shows what type of display adapter you are currently using. To install the software for a new display adapter, click “Change”.

- **Change:** Click to install the software for a new display adapter.
- **Refresh rate:** Click this to change the refresh rate for your monitor. The available choices depend on the kind of display adapter you have. This setting is initially set to the default rate for your adapter.



Monitor

- **Change:** Click to install the software for a new monitor.
- **Monitor is Energy Star compliant:** Indicates that your monitor can reduce its power usage. For Windows to take advantage of this feature, the monitor must adhere to the VESA Display Power Management Signaling (DPMS) specification or to another method of lowering power consumption (such as the LCD screens on portable computers). If your monitor has an Energy Star emblem, it probably supports DPMS.



Energy Star is a program administered by the U.S. Environmental Protection Agency (EPA) to reduce the amount of power used by personal computers and peripherals. The Energy Star emblem does not represent EPA endorsement of any product or service.

If the information on your screen appears garbled or otherwise irregular when your power management screen saver appears, click to clear this check box.

- **Automatically detect Plug & Play monitors:** Specifies whether Windows should automatically detect whether your monitor is Plug and Play compatible and use the appropriate software for it.

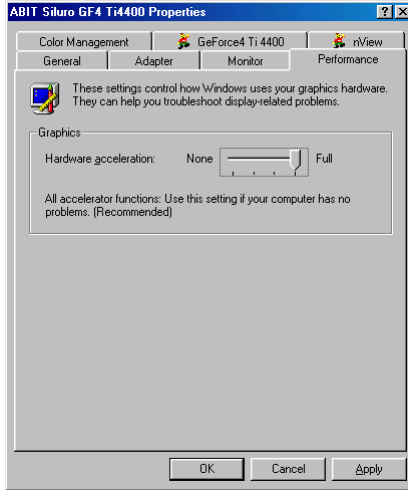
Some display adapters cause the screen to flash while the monitor is being detected. If this happens, you may want to clear this check box.

- **Reset display on suspend/resume:** Specifies whether you want Windows to reset the display after you put your computer in Suspend mode and then resume activity.

Most display adapters cause the screen to flash while the monitor is being reset. You may be able to avoid the flashing by clicking to clear this check box. However, some adapters require the check box to be selected to work properly.

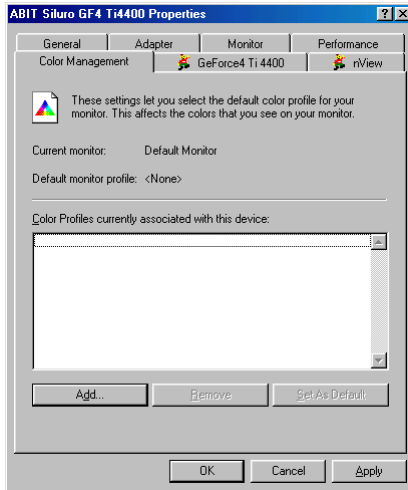
Performance

- **Hardware acceleration:** Specifies the degree of acceleration you want for your graphics hardware. Full acceleration is the fastest and is recommended for most computers. If your computer is having problems and you suspect graphics acceleration to be the cause, use the highest setting at which you do not have problems.



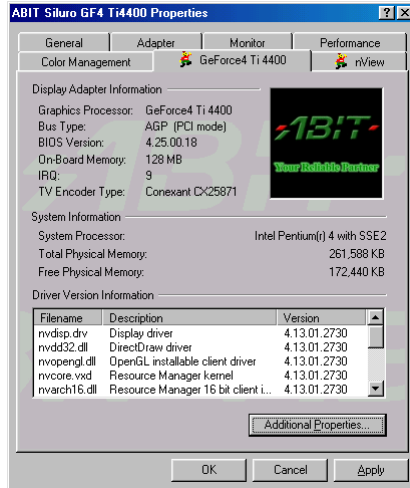
Color Management

This tab lists all the color profiles currently associated with this monitor. Click a profile to make it the active profile. Otherwise, the default profile is the active profile.



GeFoece4 Ti 4400

- **Display Adapter Information:** This information details the hardware aspects of the currently selected graphics adapter.
- **Driver Version Information:** This table is a list of files and associated version information currently in use by your NVIDIA-based graphics adapter.
- **Additional Properties button:** Click to access additional features of your NVIDIA-based graphics adapter.

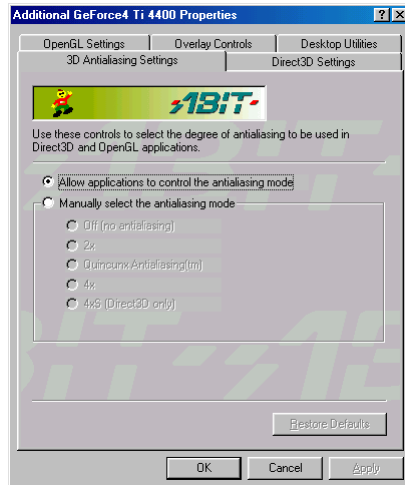


3D Antialiasing Settings:

- **Allow applications to control the antialiasing mode:** This option will automatically enable the optimal antialiasing settings for those 3D applications that support antialiasing.
- **Manually select the antialiasing mode:** This option will allow you to manually select the antialiasing mode to be used when running your 3D applications.

Off (no antialiasing): This option will disable antialiasing in 3D applications. Select this option if you require maximum performance in your applications.

2x: This option will enable antialiasing using the 2x mode. It offers improved image quality and high performance in 3D applications.



Quincunx Antialiasing (tm): This option enables a patented antialiasing technique available in the GeForce GPU family. Quincunx antialiasing offers the quality of the slower, 4x antialiasing mode at nearly the performance of the faster, 2x mode.

4x: This option will enable antialiasing using the 4x mode. It offers the highest possible image quality at the expense of some performance in 3D applications.

4xS (Direct 3D only): This option enables antialiasing using the 4xS mode. It offers higher quality than 4x mode at slightly lower performance in 3D applications. Note this setting affects only Direct3D applications. When running OpenGL applications, OpenGL will use the next capable antialiasing setting (i.e., the option setting found immediately preceding the 6x setting.)

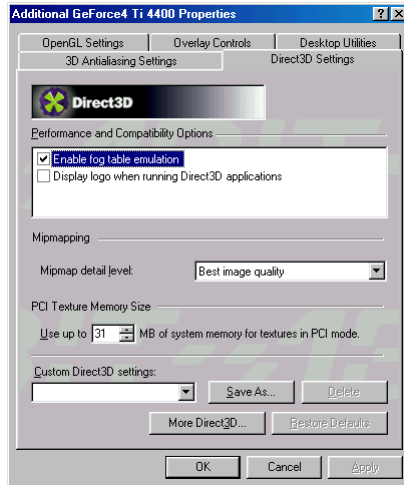
Direct3D Settings:

■ **Enable fog table emulation:**

This option is used to turn fog table emulation on or off. Direct3D specifies that a display adapter capable of D3D hardware acceleration should be able to implement either vertex fog or table fog. Some games do not correctly query the D3D hardware capabilities and expect table fog support. Choosing this option will ensure that such games will run properly on your NVIDIA graphics processor.

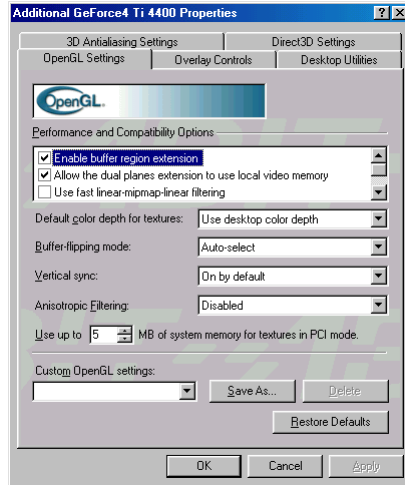
■ **Display logo when running Direct3D application:**

Enables the NVIDIA logo in Direct3D. Enabling this setting will display the NVIDIA logo in the lower corner of the screen while running Direct3D applications.



OpenGL Settings:

- **Enable buffer region extension:** Allows the drivers to use the OpenGL extension `GL_KTX_buffer_region`. This can increase application performance in 3D modeling applications that support this extension.
- **Allow the dual planes extension to use local video memory:** Allows the use of local video memory when the `GL_KTX_buffer_region` extension is enabled. However, if there are less than 8 MB of local video memory available, dual planes extension support will not be enabled. This setting has no effect if the “Enable buffer region extension” option above is disabled.
- **Use fast linear-mipmap-linear filtering:** Allowing fast linear-mipmap-linear filtering will provide increased application performance at the expense of some image quality. In many cases, a loss of image quality may not be noticeable, so you may wish to take advantage of the extra performance gained by enabling this feature.
- **Disable support for enhanced CPU instruction sets:** Select this option to disable driver support for enhanced instructions used by certain CPUs. Some CPUs support additional 3D instructions that complement your NVIDIA graphics processor and improve performance in 3D games or applications. This option allows you to disable support for these additional 3D instructions in the drivers. This can be useful for performance comparisons or for troubleshooting.
- **Force 16 bit Depth Buffer:** This option forces the OpenGL driver to use a 16-bit depth buffer regardless of the pixel format chosen by the application. This improves the performance of depth buffer clears and other operations at the cost of less precision in the depth buffer.
- **Default color depth for texture:** This option determines whether textures of a specific color depth should be used by default in OpenGL applications. Use **desktop color depth** will always use textures of the color depth at which your Windows desktop is currently running. **The Always use 16 bpp and Always use 32 bpp** options will force the use of textures of the specified color depth,



regardless of your desktop settings.

- **Buffer flipping mode:** This option determines the buffer flipping mode for full-screen OpenGL applications. You can select from the block transfer method, the page flip method or auto-select. Auto-select allows the driver to determine the best method based on your hardware configuration.
- **Vertical sync:** This option lets you specify how vertical sync is handled in OpenGL. **Always off** will always disable vertical sync in all OpenGL applications. **Off by default** will keep vertical sync disabled, unless an application specifically requests that it be enabled. **On by default** will keep vertical sync enabled, unless an application specifically requests that it be disabled.
- **Anisotropic Filtering:** This option allows OpenGL to use anisotropic filtering for improved image quality. Note that enabling this feature improves image quality at the cost of performance.
- **Use up to “xx” MB of system memory for textures in PCI mode:** This allows the graphics processor to utilize up to the specified amount of system memory for texture storage (in addition to the memory installed on the display adapter itself). Note: The maximum amount of system memory that can be reserved for texture storage is calculated based on the amount of physical RAM installed in your computer. The more system RAM, the higher the value you will be able to set. This setting applies only to PCI display adapters (or AGP display adapters running in PCI compatibility mode).
- **Custom OpenGL settings:** A list of the custom settings (or “tweaks”) you have saved. Selecting an item from the list will activate the setting. To apply the setting, choose the “OK” or “Apply” button.

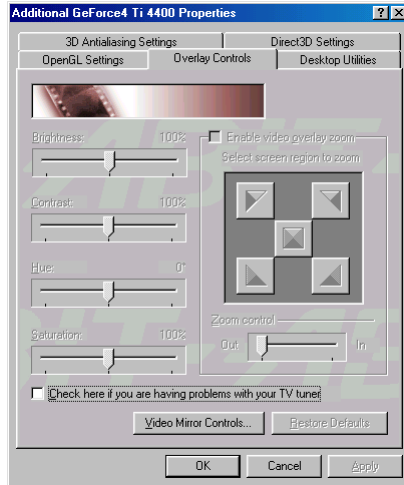
Overlay Controls:

- Brightness, Contrast, Hue, Saturation:** Use these controls to adjust the quality of video or DVD playback on your monitor. You can independently control the brightness, contrast, hue and saturation to achieve optimal image quality when playing back videos or DVD movies on your computer.
- Enable video overlay zoom:** This option enables the zoom controls to allow you to zoom in on a specific area of the video output screen.

Note: (when enabling overlay zoom): Video players that are not able to detect the presence of Video Mirror may not update the zoom factor immediately while displaying a still frame.

- Select screen region to zoom:** Lets you zoom in or out on the selected portion of the video playback screen.
- Zoom control:** Lets you zoom in or out on the selected portion of the video playback screen.
- Check here if you are having problems with your TV tuner:** Activating this option forces the overlay software to use busmastering. It is recommended that you leave this option unchecked unless you experience problems with video playback, such as image corruption or no video image at all.
- Video Mirror Controls:** Clicking this button allows access to advanced video features provided by the nView Clone mode. Note that Clone mode must be currently enabled to access to these features.

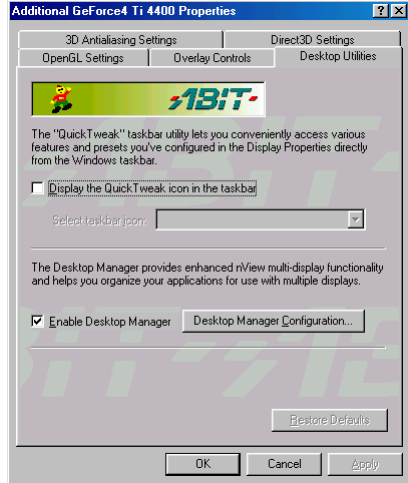
Note: The Overlay Controls is only accessible when playing back video, such as AVI files or DVD movies, on your computer.



Desktop Utilities:

- Display the QuickTweak icon in the taskbar:** This option adds the QuickTweak icon to the Windows taskbar, allowing you to apply any of the custom Direct3D, OpenGL or color settings “on the fly” from a convenient popup menu. The menu also contains items for restoring default settings and accessing the Display Properties dialog.

Note: In *nView Extended Desktop mode*, an extra “Enable Desktop Manager” check box and “Desktop Manager Configuration” button appears on Desktop Utilities dialog.



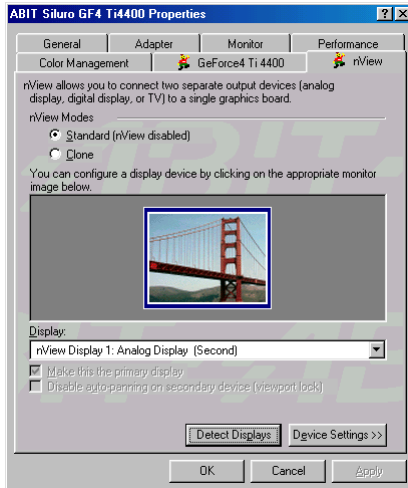
- Enable Desktop Manager:** Allows you to choose the icon used to represent the QuickTweak utility in the Windows taskbar. Select the icon you want displayed from the list. Then choose “OK” or “Apply” to update the icon in the taskbar.
- Desktop Manager Configuration:** Opens the NVIDIA Desktop Manager configuration dialog. The Desktop Manager configuration dialog provides control of all Desktop Manager functions and settings, such as dialog re-centering options, hotkey selections, and application management settings.

nView

This nView tab allows you to connect two separate output devices (analog monitor, digital flat panel or TV) to a single graphics card.

For Windows 98/ME:

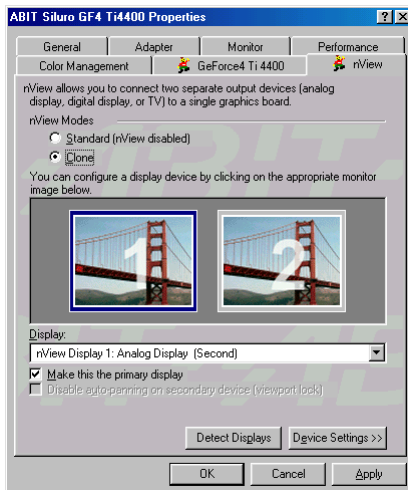
- **nView Standard Mode (nView disabled):** Use this mode if you have only one display device attached to your ABIT graphics adapter.



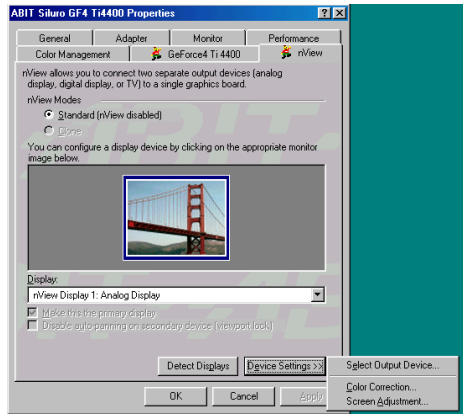
- **nView Clone Mode:** This mode outputs an exact copy of the primary display on the secondary device.

To enable Clone Mode, select Clone Mode and click OK or Apply. Both display monitors now display the same image.

To disable Clone Mode, select Standard Mode and click OK or Apply.



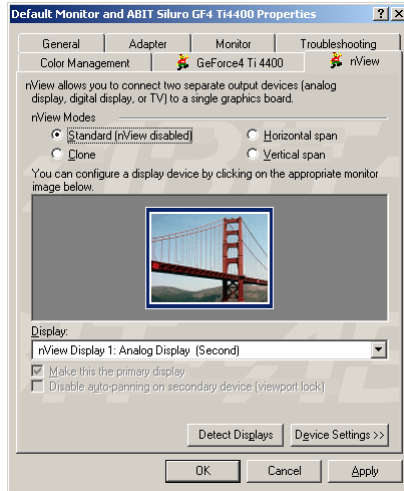
- **Display:** Displays all current nView displays. If more than one device is connected and you have switched to a mode other than Standard, you select which display is the current display. You can also click on the monitor graphic in the control directly above to select it as the current display.
- **Disable auto-panning on clone device (viewport lock):** Turning on this feature will lock the current pan position on the currently selected display. This lets you effectively “freeze” the virtual desktop at a certain position. This is useful for presentations or fine detail work in applications.
- **Force detection of a monitor on the secondary connector:** Check this box if you have a monitor connected to the secondary display connector that is not being detected. This is useful for older monitors or monitors connected with BNC connectors.
- **Device Settings:** Click this button to setup or change settings related to the output device used for the current display.



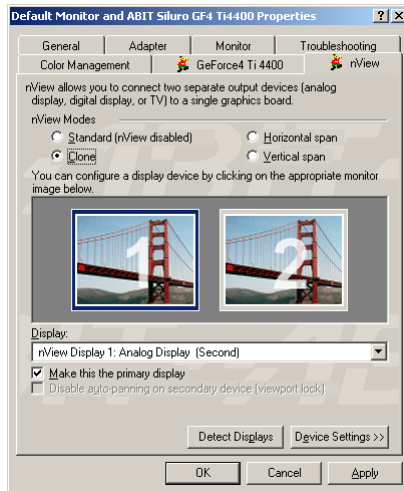
For Windows 2000/XP:

The nView functions in Windows 2000/XP are almost the same as in Windows 98/ME except the Extended Desktop Mode is divided into two separate controls: *Horizontal Span* and *Vertical Span*.

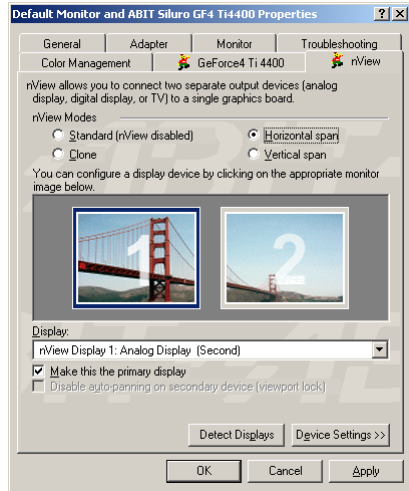
- Standard Mode (nView disabled):** Use this mode if you have only one display device attached to your graphics adapter.



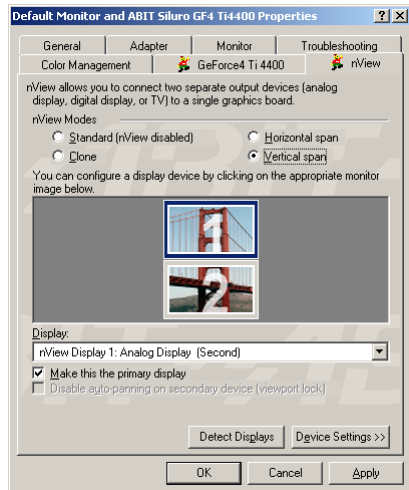
- Clone Mode:** This mode outputs an exact copy of the primary display on the secondary device.



- Horizontal Span:** This mode allows you to extend the Windows desktop across two display devices horizontally. In this mode the two displays combine to form a wide, spanned display surface, which is useful when viewing items that are wider than a single display.



- Vertical Span:** This mode allows you to extend the Windows desktop across two display devices vertically. In this mode the two displays combine to form a tall, spanned display surface, which is useful when viewing items that are taller than a single display.



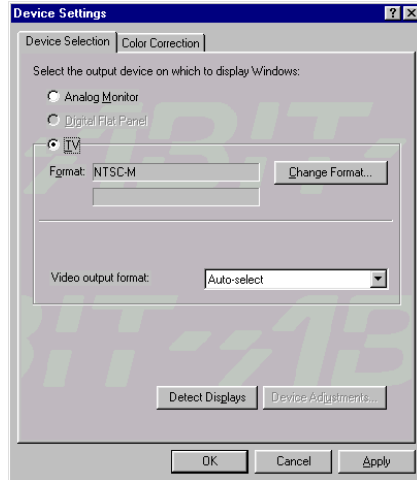
Device Settings

Device Selection:

In the Extended Desktop Mode, the *nView* tab in the *Advanced* tab menu is replaced by two tabs: *Device Selection* and *Color Correction*.

This tab allows you to select the output display device (analog monitor, digital flat panel or TV, depending on which devices your display adapter supports).

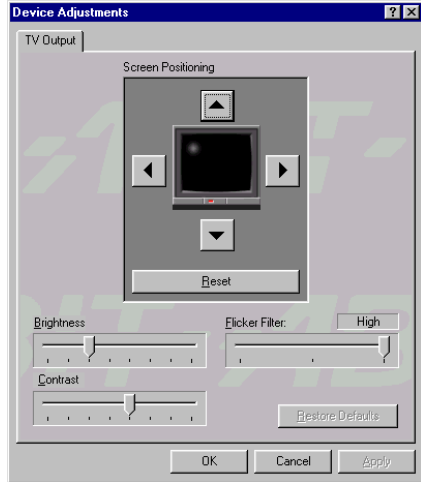
- **Format:** Indicates the current format and country settings used for TV output.
- **Change Format:** Opens a window where you can specify a particular TV output format.
- **Video output format:** Lets you specify the type of output signal sent to the TV. If you have the proper connector cable, S-Video out will generally provide a higher quality output than Composite video out. If you are not sure which type of signal you should specify, choose the Auto-select setting.
- **Device Adjustment:** Opens a window where you can customize the settings for the active display device.



TV Output:

- **Screen Positioning:** Use the arrow buttons to adjust the position of the desktop on the TV.

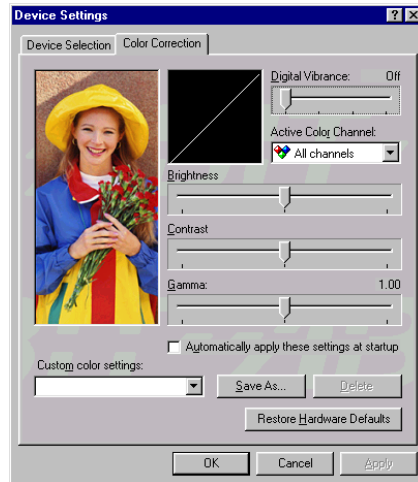
***Note:** If the TV picture becomes scrambled or goes blank due to over-adjustment, simply wait 10 seconds. The picture will automatically return to its default position. Then you can begin your adjustments again. Once you have positioned the desktop where you want it, you must press the "OK" or "Apply" button to save the settings before the 10-second interval has elapsed.*



- **Reset:** Resets the desktop to its default position on the TV for the current resolution.
- **Brightness, Contrast:** Use these controls to adjust the brightness and contrast of the TV image.
- **Flicker Filter:** Use this control to adjust the amount of flicker filter you want applied to the TV signal. It is recommended that you turn off the flicker filter completely for DVD movie playback from a hardware decoder.

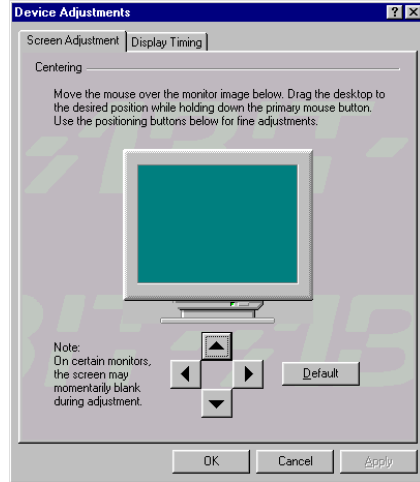
Color Correction:

- **Digital Vibrance:** Digital Vibrance gives you more control over color separation and intensity, resulting in brighter cleaner images in all of your applications.
- **Active Color Channel:** Allows you to select the color channel controlled by the sliders. You can adjust the red, green or blue channels individually or all three channels at once.
- **Brightness, Contrast, Gamma:** The slider controls allow you to adjust the brightness, contrast or gamma values for the selected color channel. The color correction controls help you to compensate for variations in luminance between a source image and its output on a display device. This is useful when working with image processing applications to help provide more accurate color reproduction of images (such as photographs) when they are displayed on your monitor. Also, many 3D-accelerated games may appear too dark to play. Increasing the brightness and/or gamma value equally across all channels will make these games appear brighter, making them more playable.
- **Custom color settings:** A list of the custom color settings you have saved. Selecting an item from the list will activate the setting.



Screen Adjustment:

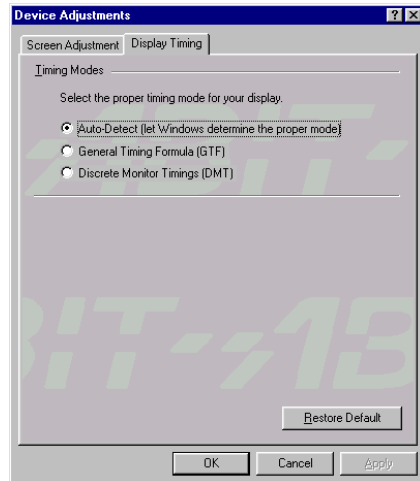
Use the arrow buttons to adjust the position of the desktop on your monitor.



Display Timing:

This tab allows you to select your monitor timing mode:

- **Auto-Detect** allows Windows to receive the proper timing information directly from the monitor itself. This is the default setting. Note that some older monitors may not support this feature.
- **General Timing Formula (GTF)** is a standard used by most newer hardware.
- **Discrete Monitor Timings (DMT)** is an older standard still in use on some hardware. Enable this option if your hardware requires DMT.



4-2. SiluroDVD

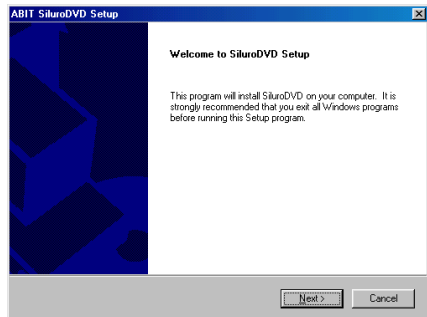
The SiluroDVD is a simple-to-use DVD player combining all the features you would expect to find in a standard consumer DVD player, in addition to some very advanced functionality, such as full VCD 2.0 support, full precision video decoding, a choice of user interfaces, and video display options. You can play DVD titles or Video CDs - SiluroDVD automatically determines the type of disc in the DVD drive and uses the correct playback method.

1. Start Windows. Insert the Installation CD into CD-ROM drive, it should execute the installation program automatically. If not, double-click the execution file at the main directory of this Installation CD to enter the installation menu.

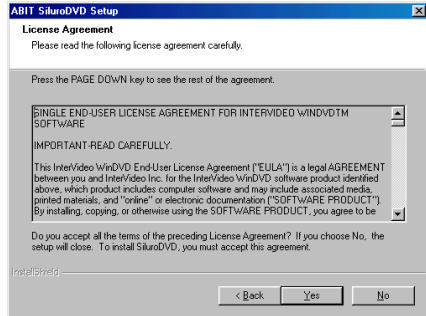
Click “**SiluroDVD**”.



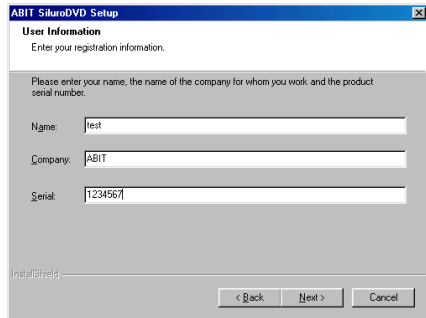
2. The welcome screen appears. Click “**N**ext>” to start installation.



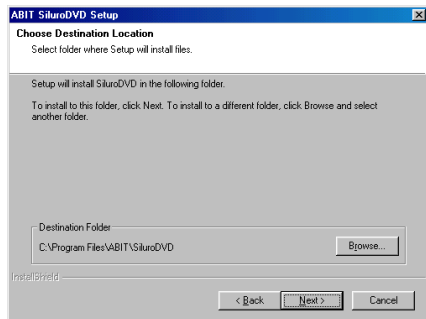
3. Read the license agreement. Click “**Y**es” to continue.



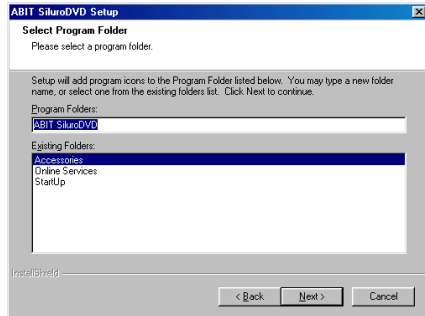
4. Enter your name, the name of the company for whom you work, and the product serial number. Click “**N**ext>” to continue.



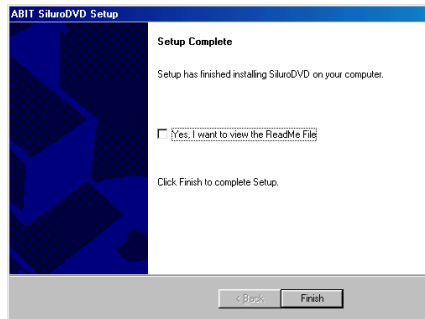
5. Setup will install SiluroDVD in the following folder. To install to this folder, click “**N**ext>”. To install to a different folder, click “**B**rowse...” and select another folder.



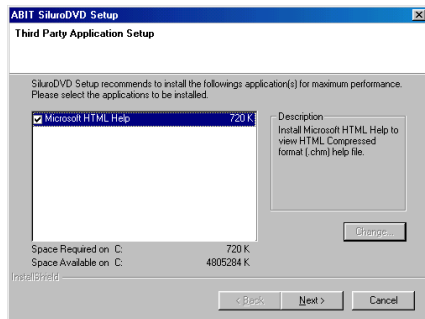
6. Type a new folder name, or select one from the existing folders list. Click “**Next>**” to continue.



7. When the installation has finished installing all the necessary procedures, you can simply click Finish to complete the installation process or check “Yes, I want to view the Readme File” before you click finish to view the readme file after setup completes.



8. Then another screen will popup, asking if you want to install Help files or not. Please proceed with the necessary steps if you want to continue. If you don't want to have Help files installed, simply click Cancel to end the installation process.



4-3. DirectX

For the best gaming capability, we suggest that you install the latest DirectX driver. Some newer games will also ask you to install the DirectX driver before you start them.

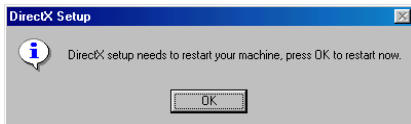
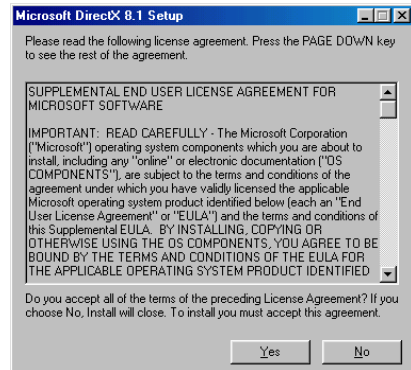
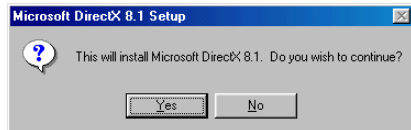
1. Start Windows. Insert the Installation CD into CD-ROM drive, it should execute the installation program automatically. If not, double-click the execution file at the main directory of this Installation CD to enter the installation menu.

Click “DirectX”.

2. Click “Yes” to start installation.

3. Read the following license agreement carefully. Click “Yes” to continue.

4. Click “OK” to complete the installation.



Note: Some games written for older DirectX versions may not work properly under DirectX 8.1. Please make sure your application support DirectX 8.1 before installation. Also note that the DirectX 8.1 cannot be uninstalled in the normal way.

4-4. Graphic Max

We have provided you with a tool for adjusting both the graphic processors working speed and the graphic memory speed. Please be reminded that it may cause damage to both the graphic processor and graphic memory if you use incorrect settings. Please read the following description carefully before running Graphic Max!

Important Warning Message

ABIT does not provide any warranty or support for this utility. The usage of this utility is at your own risk. This risk includes all damages caused by this utility. If you don't accept this warning, don't use this utility.

ABIT does not recommend any over-clocking settings for your hardware. Over-clocking can cause overheating which will damage your chip.

If you are not acquainted with the display card hardware, we strongly recommend that you not to use this utility. Improper settings can cause unrecoverable damages to your graphics chip, your display card, and other components!

Application Notes

This utility is provided for fine-tuning your display card to allow for maximum stability on your system. It is for Windows® 98/ME only.

Select “Start → Programs → ABIT → Graphic Max” to launch Graphic Max.

If you have adjusted the Graphic Max settings and have problems after booting, you can boot into “Windows Safe Mode” and then run “Start → Programs → ABIT → Graphic Max Safe Mode Recovery” to clear previous settings.

1. Start Windows. Insert the Installation CD into CD-ROM drive, it should execute the installation program automatically. If not, double-click the execution file at the main directory of this Installation CD to enter the installation menu.

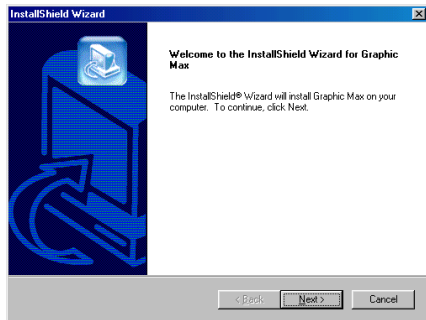
Click “VGA Utility”.



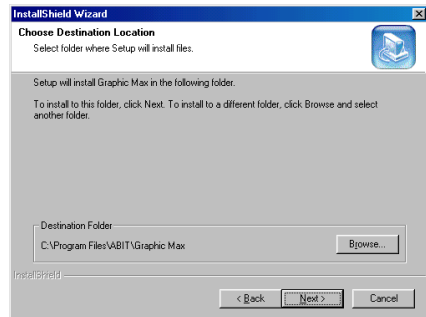
2. Click “Graphic Max”.



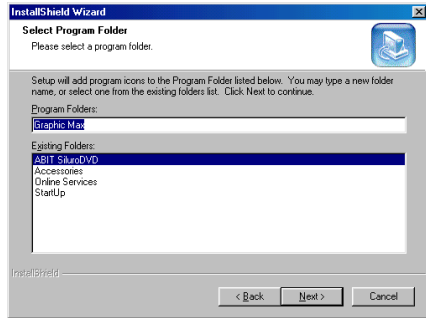
3. The welcome screen appears. Click “Next>” to start installation.



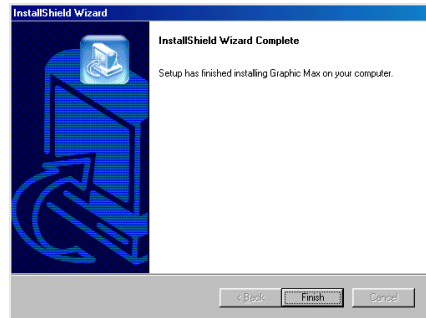
4. Setup will install Graphic Max in the following folder. To install to this folder, click “Next>”. To install to a different folder, click “Browse...” and select another folder.



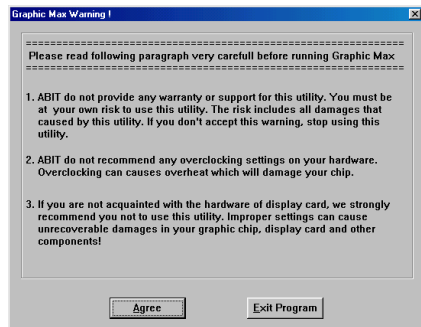
5. Type a new folder name, or select one from the existing folders list. Click “Next>” to continue.



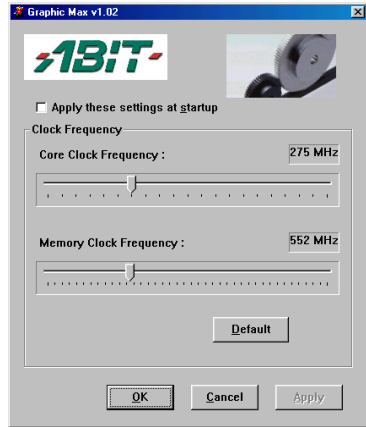
6. Click “Finish” to complete the setup.



7. Select “Start → Programs → ABIT → Graphic Max” to launch Graphic Max.
8. Each time you execute the program, you will see this warning message screen. Read the entire message and then click “Agree” to continue.



9. When the Graphic Max screen appears, you can use the sliders to adjust the “Core Clock Frequency” and the “Memory Clock Frequency”. Please proceed with care.

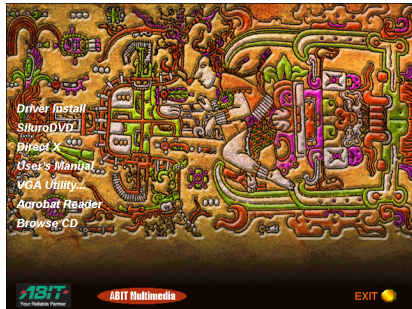


4-5. 3Deep Color

The 3Deep Color is an application to correct lighting, shading and color for all your 2D and 3D games. You get more realistic graphics and better effects, plus a “see first, shoot first” advantage over your online competitors. Finally, you can take your hands off your monitor controls and put them back where they belong -- on the warm trigger of your laser-sighted rocket launcher.

1. Start Windows. Insert the Installation CD into CD-ROM drive, it should execute the installation program automatically. If not, double-click the execution file at the main directory of this Installation CD to enter the installation menu.

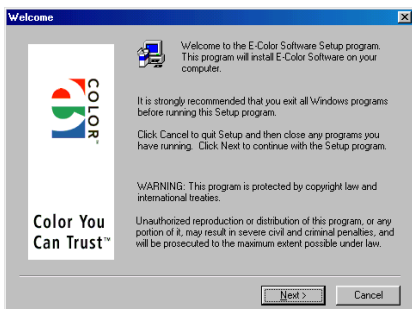
Click “VGA Utility”.



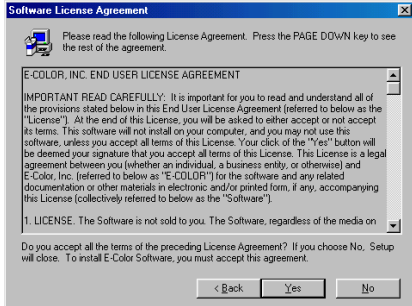
2. Click “3Deep Color”.



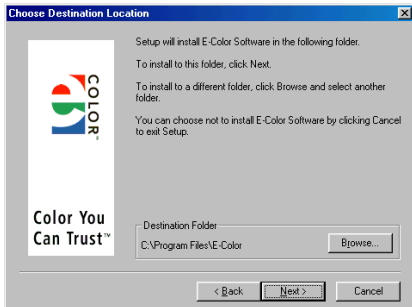
3. The welcome screen appears. Click “Next>” to start installation.



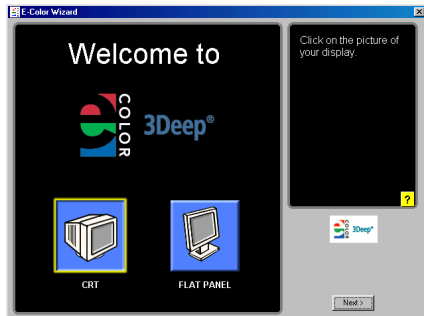
4. Read the license agreement. Click “Yes” to continue.



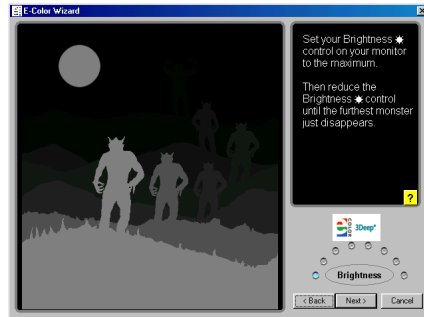
5. Setup will install E-Color Software in the following folder. To install to this folder, click “Next>”. To install to a different folder, click “Browse...”. To install to a different folder, click “Browse...” and select another folder.



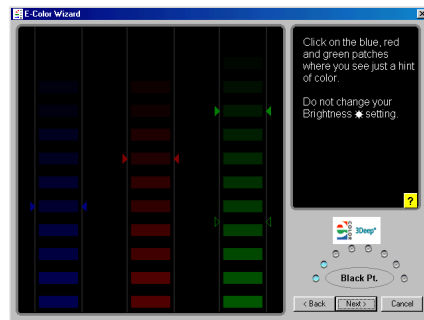
6. The 3Deep Color Wizard appears. Click on the icon of your monitor type from CRT and Flat Panel.



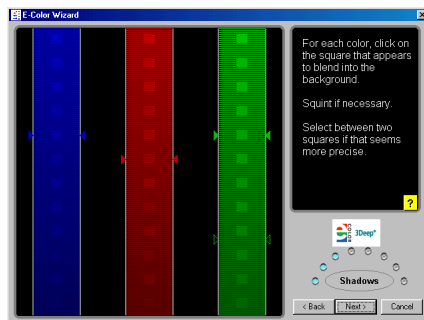
7. Set the brightness control of your monitor to maximum, and then reduce the brightness control until the farthest monster image disappears.



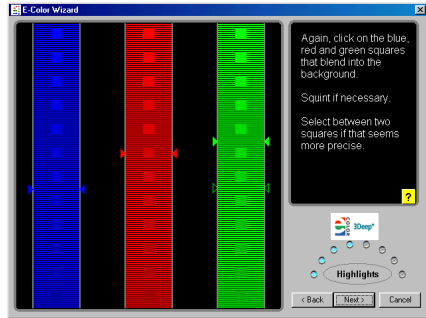
8. Click on the blue, red, and green patches where you see just a hint of color. Do not change the monitor brightness now.



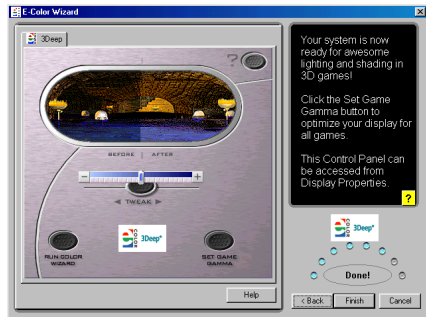
9. Click on the blue, red, and green squares that appear to be blended into the background.



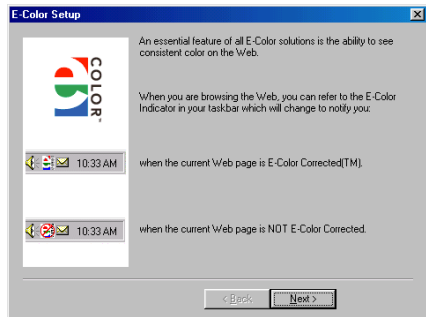
- Click on the blue, red, and green squares that appear to be blended into the background.



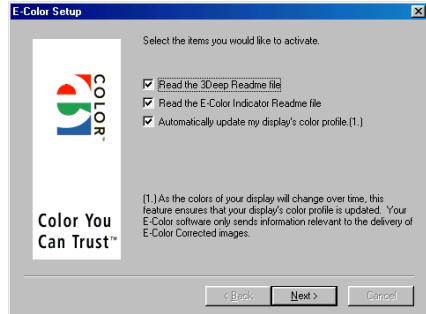
- Click "Finish" to end the 3Deep Color setup.



- This tab explains the meaning of each different icon appears in the taskbar.



13. Select the item you would like to activate. Click “Next”.



4-6. Display Tray Icon

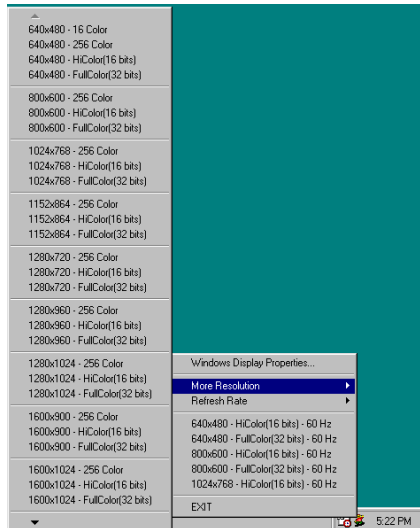
After installation of display drivers, you will find a display tray icon on the taskbar's status area. Clicking this icon opens this Display Tray, showing a menu composed of shortcuts of the graphics board's enhanced and other functions.

Note: Besides clicking this display tray icon to control the display properties, another way to do this is to right-click the Windows desktop area, click **Properties** → **Settings** → **Advanced**, and then click the appropriate tab to change your display settings.

1. Right-click this display tray icon on the taskbar's status area.

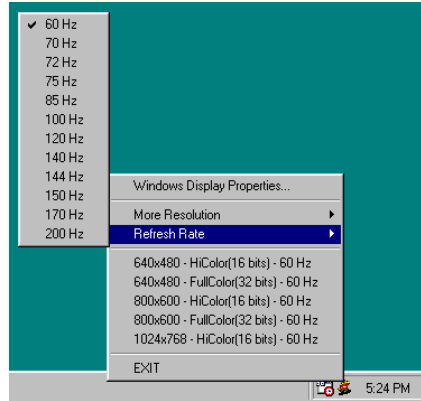


2. A menu pops up. Move the cursor to "More Resolution" item to see the entire resolution table. Here you can directly choose the display resolution you want.



3. If you want to change the refresh rate of display adapter, move cursor to “Refresh Rate”, here you can directly choose the display refresh rate you want.

Note: Make sure your display monitor supports the higher refresh rate you choose; otherwise, your monitor may not display normally. Please refer to your display monitor user’s manual for detailed specifications.



4. Click “Windows Display Properties...” to start setting up your display properties.
5. Choose “Exit” to leave this program.

4-7. BIOS Flashing Utility

You may update the newest Siluro GF4 Ti4400/Ti4600 drivers or BIOS files from your dealer or directly download from our WEB site at <http://www.abit.com.tw>.

***Note:** When you use the flash utility to flash the BIOS, the screen will be blank for about 10 seconds. This is a normal situation, not a malfunction. Do not reboot your computer during this period, or you may cause the flash to fail.*

1. Reboot your computer into DOS environment, or open a Windows® 95/98 window to the DOS prompt.
2. Insert the Installation CD into your CD-ROM drive.
3. Copy CWSDPMI.EXE and NVFLASH.EXE to a new directory from path D:\NVFLASH. (D: refers to the CD-ROM drive letter)
4. Copy the new BIOS binary file to the new directory.
5. Change to the new directory and type the following command:
NVFLASH -F [Filename]. ([Filename] refers to the name of BIOS binary file.)
Then press the “Enter” key. The program will begin flashing your display card BIOS.
6. When the flash is complete (the screen will display images again), you must reboot your computer system to make flash take effect.

The following commands are for the NVIDIA Flash ROM programming utility V4.13, for your reference only.

NVIDIA Flash ROM utility v04.13 Commands List:

Example of use: NVFLASH -s4 -f BIOS.ROM -l

-f<filename> Flash the ROM using <filename>, then do compare and ~CRC32.
 b <filename> Read ROM and save to <filename>.
 k <filename> Read ROM and compare with <filename>.
 x <filename> Transfer TV data from file to EEPROM.
 v <filename> Display file version and ~CRC32 (if no filename, acts on ROM).
 E Erase the ROM. -e Erase the ROM.
 d [bytes] Display 256 the first bytes of the EEPROM (default is 256 bytes)
 c Check for supported EEPROM.
 l Don't light keyboard LEDs.
 p Don't pause if file & chip PCI VenID/DevID mismatch.
 u Don't pause if file & chip PCI subsystem ID mismatch.
 h Reboot the PC after other tasks completed..
 w Write protect ROM (only works on some ROMs).
 r Remove ROM Write protect. (only works on some ROMs).
 a List all NVIDIA display adapters found in the system.
 i <index> Force a specific device index.
 ? Display this screen.
 s <level> Silence level:
 default All beeps.
 #=4 (or 2) No progress beeps.
 #=5 (or 1) No beeps.
 o <level> Override safety check level:
 default unknown EEPROM | NV chip aborts application.
 level=1 unknown EEPROM acceptable for read operations.
 level=2 unknown NV chip acceptable for read/write operations.
 level=3 Combined effect of 1,2 (cannot write to unknown EEPROM).

Appendix A. How to Get Technical Support

(From our website) <http://www.abit.com.tw>

(In North America) <http://www.abit-usa.com>

(In Europe) <http://www.abit.nl>

Thank you for choosing ABIT products. ABIT sells all our products through distributors, resellers and system integrators; we have no direct sales to end-users. Before sending email for tech support please check with your resellers or integrators if you need any services, they are the ones who sold you your system and they should know best as to what can be done, how they serve you is a good reference for future purchases.

We appreciate every customer and would like to provide the best service to you. Providing fast service to our customers is our top priority. However we receive many phone calls and a huge amount of email from all over the world. At the present time it is impossible for us to respond to every single inquiry. Therefore it is quite possible that if you send an email to us that you may not receive a response.

We have done many compatibility tests and reliability tests to make sure our products have the best quality and compatibility. In case you need service or technical support, please understand the constraint we have and **always check with the reseller who sold the product to you first.**

To expedite service, we recommend that you follow the procedures outlined below before contacting us. With your help, we can meet our commitment to provide the best service to the **greatest number of ABIT customers:**

- 1. Check the Manual.** It sounds simple but we have taken a lot of care in making a well-written and thorough manual. It is full of information that doesn't only pertain to motherboards. The CD-ROM included with your board will have the manual as well as drivers. If you don't have either one, go to our Program Download Area of the Website or FTP server.
- 2. Download latest BIOS, software or drivers.** Please go to our Program Download area on our Website to check to see if you have the latest BIOS. They are developed over periods of time to fix bugs or incompatibilities. **Also please make sure you have the latest drivers from your peripheral cards makers!**
- 3. Check the ABIT Technical Terms Guide and FAQ on our Website.** We are trying to expand and make the FAQs more helpful and information rich. Let us know if you have any suggestions. For hot topics check out our HOT FAQ!

4. **Internet Newsgroups.** They are a great source of information and many people there can offer help. ABIT's Internet News group, **alt.comp.periphs.mainboard.abit**, is an ideal forum for the public to exchange information and discuss experiences they have had with ABIT products. Many times you will see that your question has already been asked before. This is a public Internet news group and it is reserved for free discussions. Here is a list of some of the more popular ones:

alt.comp.periphs.mainboard.abit

comp.sys.ibm.pc.hardware.chips

alt.comp.hardware.overclocking

alt.comp.hardware.homebuilt

alt.comp.hardware.pc-homebuilt

5. **Ask your reseller.** Your ABIT authorized distributor should be able to provide the fastest solution to your technical problem. We sell our products through distributors who sell to resellers and stores. Your reseller should be very familiar with your system configuration and should be able to solve your problem much more efficiently than we could. After all, your reseller regards you as an important customer who may purchase more products and who can urge your friends to buy from him or her as well. They integrated and sold the system to you. They should know best what your system configuration is and your problem. They should have reasonable return or refund policies. How they serve you is also a good reference for your next purchase.
6. **Contacting ABIT.** If you feel that you need to contact ABIT directly you can send email to the ABIT technical support department. First, please contact the support team for the branch office closest to you. They will be more familiar with local conditions and problems and will have better insight as to which resellers offer what products and services. Due to the huge number of emails coming in every day and other reasons, such as the time required for problem reproduction, we will not be able to reply to every email. Please understand that we are selling through distribution channels and don't have the resources to serve every end-user. However, we will try to do our best to help every customer. Please also remember that for many of our technical support team English is a second language, you will have a better chance of getting a helpful answer if your question can be understood in the first place. Be sure to use very, simple, concise language that clearly states the problem, avoid rambling or flowery language and always list your system components. Here is the contact information for our branch offices:

In North America and South America please contact:

ABIT Computer (USA) Corporation

46808 Lakeview Blvd.

Fremont, California 94538, U.S.A.

sales@abit-usa.com

technical@abit-usa.com

Tel: 1-510-623-0500

Fax: 1-510-623-1092

In the UK and Ireland:

ABIT Computer Corporation Ltd.

Unit 3, 24-26 Boulton Road

Stevenage, Herts SG1 4QX, UK

abituksales@compuserve.com

abituktech@compuserve.com

Tel: 44-1438-228888

Fax: 44-1438-226333

In Germany and Benelux (Belgium, Netherlands, Luxembourg) countries:

AMOR Computer B.V. (ABIT's European Office)

Van Coehoornstraat 7,

5916 PH Venlo, The Netherlands

sales@abit.nl

technical@abit.nl

Tel: 31-77-3204428

Fax: 31-77-3204420

All other territories not covered above please contact:

Taiwan Head Office

When contacting our headquarters please note we are located in Taiwan and we are 8+ GMT time. In addition, we have holidays that may be different from those in your country.

ABIT Computer Corporation

No. 323, Yang Guang Street,

Neihu 114, Taipei, Taiwan

sales@abit.com.tw

market@abit.com.tw

technical@abit.com.tw

Tel: 886-2-8751-8888

Fax: 886-2-8751-3381


7. **RMA Service.** If your system has been working but it just stopped, but you have not installed any new software or hardware recently, it is likely that you have a defective component. Please contact the reseller from whom you bought the product. You should be able to get RMA service there.
8. **Reporting Compatibility Problems to ABIT.** Because of tremendous number of email messages we receive every day, we are forced to give greater weight to certain types of messages than to others. For this reason, any compatibility problem that is reported to us, giving detailed system configuration information and error symptoms will receive the highest priority. For the other questions, we regret that we may not be able to reply directly. But your questions may be posted to the Internet news group in order that a larger number of users can have the benefit of the information. Please check the news group from time to time.
9. **How to Get Technical Support:** If you encounter any problems and need help from our technical staff, please take the time to fill out the Technical Support Form and send it to your dealer or our technical support mailbox. The mailbox address is: technical@abit.com.tw. We will try to solve your problem as soon as possible. You must provide specific information on your equipment. Also please describe in detail the problems you encountered. It's helpful and enables our technicians to analyze your problems more quickly.

Information on items marked with an asterisk "*" on the Technical Support Form are required.

 **Technical Support Form**

 **Company Name:**

 **Phone Number:**

 **Contact Person:**

 **Fax Number:**

 **E-mail Address:**

VGA Card Product Name	*	VGA Card BIOS Version	*
Motherboard Manufacturer, Model Name and Chipset type	*	VGA Card Software and Driver Version	*
Operating System Type	*	Monitor Manufacturer and Model	*
Hardware name			
	Type	Specifications	
CPU Type and Speed	*		
HDD IDE1			
IDE2			
CD-ROM IDE1			
Drive IDE2			
System Memory Size (SDRAM)	*		
Add-On Card	*		

Problem Description:



Thank you, ABIT Computer Corporation

<http://www.abit.com.tw>