AGP-V264GT3/PAL/NTSC
AGP Graphics Cards

USER'S MANUAL

Hardware & Video Drivers

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FCC & DOC COMPLIANCE

Federal Communications Commission Statement

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING! The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

I. Introduction

The AGP-V264GT3 is a graphics controller that integrate 3D, 2D, video accelerators, palette DAC, and quadruple clock synthesizer into a single chip. The AGP-V264GT3 delivers superior texture mapping performance for 3D games, 3D Web browsing, TV quality video scaling for MPEG playback, industry-leading mach64 2D performance, video expansion capability for video conferencing, and other applications.

Active power management techniques are used to monitor activity levels within theis graphics controller and to perform real-time power reductions, such as dynamic clock control and graphics engine shutdown. Because full-speed operation can be restored without delay, these techniques do not impact performance.

For multimedia video and game function acceleration, the AGP-V264GT3 has color interpolation for full screen, full motion video, and provides fast 30 frames/second animation engine, double buffering, fast host to screen bitblts, virtual sprite, smooth page scrolling and object caching for game functions. PC users with this adapter could enjoy smooth motion video and SEGA/SNES-class games.

For Video playback features, AGP-V264GT3 supports software MPEG decoder. The driver not only provides smooth video playback, but also provides user friendly utilities that allows customizing appearances.

You can use the AGP-V264GT3 to connect your computer to a television (on PAL or NTSC models only). This feature is ideal for playing games, giving presentations, watching movies, and browsing the Internet.

Item Checklist

- ☐ ASUS AGP-V264GT3 (no video in or TV out)
- ☐ ASUS AGP-V264GT3/PAL
- ☐ ASUS AGP-V264GT3/NTSC
- ☑ This User's Manual
- ☑ ASUS Driver & Utility CD

IMPORTANT! External video devices and ASUS Video cards both have NTSC and PAL versions. You must make sure that all your devices and the ASUS Video card are of the same type or else you will not have video capabilities.

Video Features

- Accelerated Graphics Port (AGP)
- ATI RAGE Graphics Accelerator, 64-bit SGRAM memory interface
- Integrated 24-bit RAMDAC (220MHz Output Pixel Clock Interface)
- Max resolution at 1600x1200 high color at 85Hz refresh rate with 4MB
- DDC1 /2B monitor supported
- DPMS (Display Power Management Signaling) for Green PC Power Saving
- Comes with 2MB SGRAM standard and upgradeable to 4MB SGRAM

II. Features

Video Accelerator

- Filtered horizontal and vertical scalers for TV-quality, full-screen and full-motion video playback
- Integrated video line buffers support filtered video scaling
- Color interpolation during scaling for improved high resolution video quality
- Supports AMC for additional video capabilities such as: optional TV tuner card available for video capture, video phone, TV overlay, or TV tuner applications.
- Optional MPEG-1 decoder for hardware video
- Support for 26-pin VESA compatible VGA Feature Connector (VFC) that supports up to 1024x768 resolution.

3D Accelerator

- Complete 3D primitives - Points, Lines, Triangles, lists, strips, and quadrilaterals
- Full screen or windows double buffering for smoother animation
- Dithering support in 16bpp for near 24bpp quality
- 3D Features: Perspectively Correct Texture Mapping, Gouraud Shading, Z-Buffer, Mip Maps, Lit and Video Textures, Dither , Alpha Blending and Interpolation, and Fog Effects.

2D Accelerator

- Hardware acceleration-Rectangle Fill, Line Draw, BitBlt, Polygon Fill, Panning/Scrolling, Bit Masking, Monochrome Expansion, Scissoring, and full ROP .
- Hardware cursor up to 64x64x2
- Acceleration provided in 4/8/16/24/32bpp modes. Packed pixel support (24bpp) enables true color in 1MB configurations
- Game acceleration for Microsoft's Direct Draw - Double Buffering, Virtual Sprites, Transparent Blit, Masked Blit, and Context Chaining

Video In (on PAL or NTSC models only)

- Television quality video in a window and full screen.
- Composite video and S-Video inputs for VCR, video camera, laser-disc player, video game consoles, etc.
- Still image and live video capture with a simple mouse click.
- Live motion video desktop, using your favorite video show as wallpaper.
- Zoom-in to any part of the screen.

TV Out (on PAL or NTSC models only)

- View computer output directly on your television in either NTSC or PAL formats.
- Advanced flicker reduction and artifact suppression circuitry.
- Connect using Composite or S-Video output capabilities.
- Display images on both the TV and PC montior simultaneously.
- Provide a big-screen experience for entertainment PCs which is ideal for playing games, giving presentations, watching movies, and browsing the Internet.

Software

- 2D driver support
- Register compatible with IBM VGA standards
- BIOS compatible with VESA Super VGA
- Full support of Microsoft DCI and DirectDraw
- 3D driver support
- Microsoft Direct 3D including support for Reality Lab and OpenGL
- ATI 3D RAGE DOS and Windows API
- Easy-to-use Windows utilities
- WinSwitch provides on-the-fly switching of resolution and color depth within Windows
- DeskTop supports panning and scrolling across a virtual workspace of up to 1600x1200
- Utility for selecting DPMS power-down time-outs
- Video playback application and codec
- Video codec support for MPEG, Indeo, and Cinepak
- ATI MPEG video player application with VCR-like controls
- Extensive software driver support for major applications and operating systems as follows: Windows 3.1, Windows 95, Windows NT, AutoCAD, Microstation, OS/2, VESA BIOS Extension support.

Operating System Requirements

Windows 95 and Windows 95 OSR2.0/2.1

Both Windows 95 and Windows 95 OSR2.0 support AGP cards, but to use all of the AGP features, you must use Win95 OSR 2.1 or later.

To install Win95 OSR2.1, first install OSR2.0 and then upgrade to OSR2.1 with a USB upgrade. On the April 1997 MSDN Disc-1 “Windows 95, SDKs, and Tools”, OSR2.0 is found in “\OSR2” while the USB upgrade is found in “\OSR2\USBUPP”. To determine the installed version of the operating system, look in the registry at:

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

OSR2.1 has Version “Windows 95” and VersionNumber “4.03.1212” or “4.03.1214”.

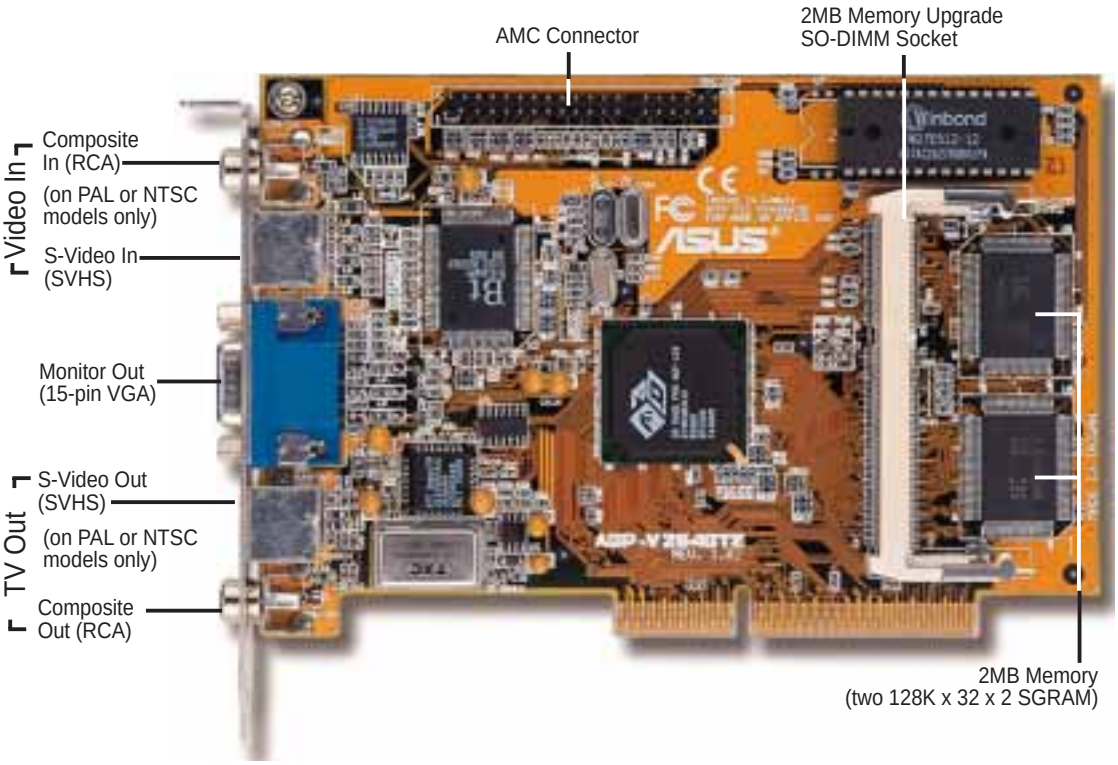
Resolution Table

When discussing color depth, 8 bits per pixel (8bpp) is the same as 256 colors and 16bpp = 65, 536 colors, 24bpp = 16.7 million, and 32bpp = 16.7 million colors. The following is a table for the maximum refresh rates under the specified memory configuration. Determine the resolution and color that is supported by the graphics card's memory. See "Memory Upgrade" on the next page if necessary.

Max. Refresh Rates		VGA Memory	
Resolution	Colors	2MB	4MB
640 x 480 x 8	256	200Hz	200Hz
640 x 480 x 16	65, 536	200Hz	200Hz
640 x 480 x 24	16.7 Million	200Hz	200Hz
640 x 480 x 32	16.7 Million	200Hz	200Hz
800 x 600 x 8	256	200Hz	200Hz
800 x 600 x 16	65, 536	200Hz	200Hz
800 x 600 x 24	16.7 Million	160Hz	160Hz
800 x 600 x 32	16.7 Million	160Hz	160Hz
1024 x 768 x 8	256	150Hz	150Hz
1024 x 768 x 16	65, 536	150Hz	150Hz
1024 x 768 x 24	16.7 Million	-------	140Hz
1024 x 768 x 32	16.7 Million	-------	140Hz
1152 x 864 x 8	256	100Hz	100Hz
1152 x 864 x 16	65, 536	100Hz	100Hz
1152 x 864 x 24	16.7 Million	-------	100Hz
1152 x 864 x 32	16.7 Million	-------	100Hz
1280 x 1024 x 8	256	85Hz	85Hz
1280 x 1024 x 16	65, 536	-------	85Hz
1280 x 1024 x 24	16.7 Million	-------	85Hz
1280 x 1024 x 32	16.7 Million	-------	-----
1600 x 1200 x 8	256	85Hz	85Hz
1600 x 1200 x 16	65, 536	-------	85Hz
1600 x 1200 x 24	65, 536	-------	-------

The ASUS AGP-V264GT3 Graphics Card

NOTE: There are three models available: AGP-V264GT3 (basic), AGP-V264GT3/PAL, and AGP-V264GT3/NTSC. Only the PAL and NTSC models have all the connectors as seen here. The basic model do not have the "Video In" and "TV Out" connectors. The corresponding video/TV utilities will also be included or excluded.



Memory Upgrade

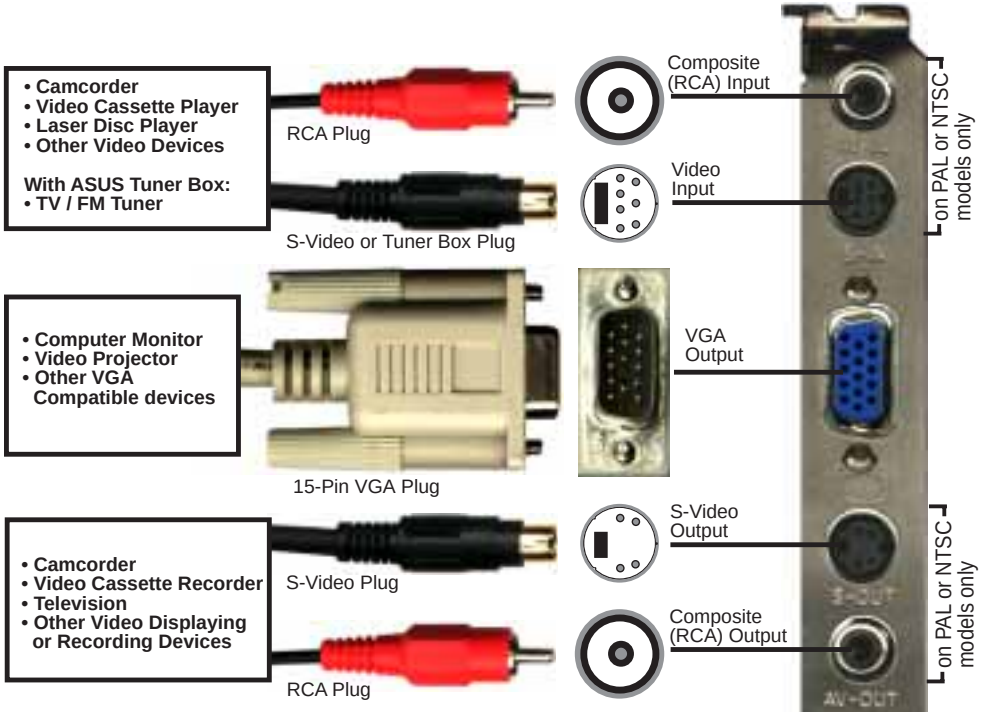
The ASUS AGP-V264GT3 graphics card comes with a 2-MB video memory configuration. A SO-DIMM (Small-Outline, Dual-Inline Memory Module) socket is available to upgrade the video memory to 4MB. Memory size of 3MB is not supported on this product. Specifications may change without notice.

Memory Specifications

- Standard 2MB onboard two 128K x 32 x 2 SGRAM chips
- Upgrade to 4MB by adding two 128K x 32 x 2 SGRAM chips on SO-DIMM
- 10ns or faster (9ns, 8ns, 7ns,...) memory required
- Recommended vendors: EtronTech, NEC, MOSYS

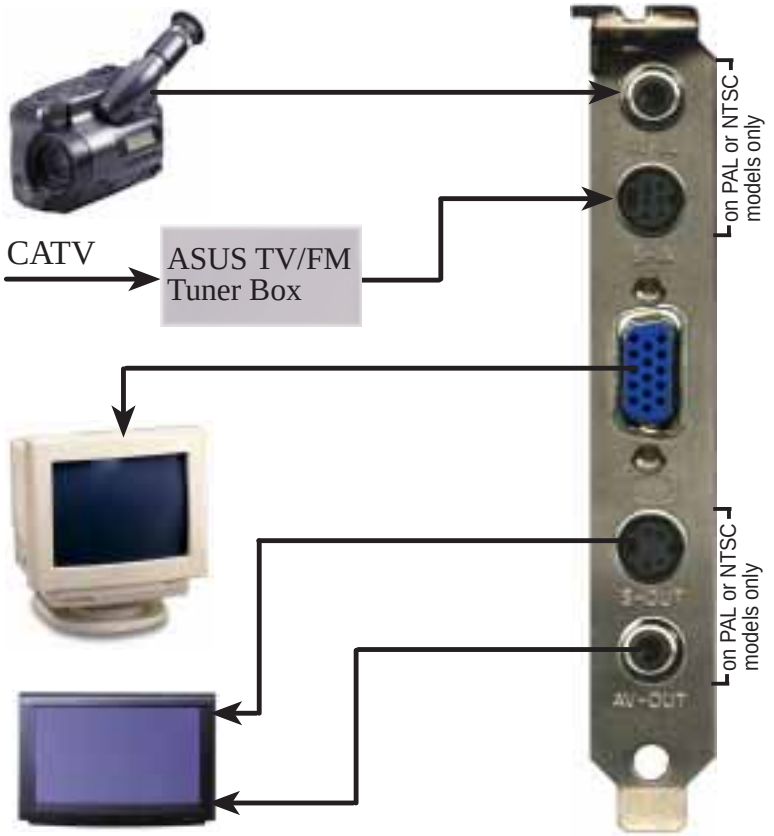
SO-DIMM example

ASUS AGP-V264GT3 Connection Examples



NOTES:

- ASUS Video cards come in either NTSC or PAL standards.
- You may not convert NTSC to PAL or vice versa.
- You must use the same standard for all devices.



III. Hardware Installation

This section tells you how to install the ASUS graphics card in your PC computer. The steps provided below demonstrate how to install the cards in a typical system. Your system may be slightly different.

NOTE: The ASUS AGP-V264GT3 graphics card can only be installed in motherboards with an AGP slot.

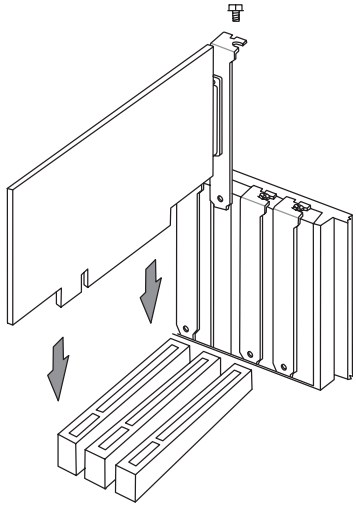
WARNING! Computer boards and components contain very delicate Integrated Circuit (IC) chips. To protect the computer board and other components against damage from static electricity, you must follow some precautions.

1. Make sure that you unplug your power supply when adding or removing expansion cards or other system components. Failure to do so may cause severe damage to both your motherboard and expansion cards.
2. Keep all components such as the host adapter in its antistatic bag until you are ready to install it.
3. Use a grounded wrist strap before handling computer components. If you do not have one, touch both of your hands to a safely grounded object or to a metal object, such as the power supply case. Hold components by the edges and try not to touch the IC chips, leads, or circuitry.
4. Place components on a grounded antistatic pad or on the bag that came with the component whenever the components are separated from the system.

Installation Procedures

New Systems

1. Unplug all electrical cords on your computer.
2. Remove the system unit cover.
3. Locate the AGP bus expansion slot. Make sure this slot is unobstructed.
4. Remove the corresponding expansion slot cover from the computer chassis.
5. Ground yourself to an antistatic mat or other grounded source (see **WARNING!**).
6. Pick up the board (still in its sleeve) by grasping the edge bracket with one hand and then remove the plastic sleeve.
7. Position the card directly over the AGP slot and insert one end of the board in the slot first. Firmly but gently press the bus connector on the bottom of the card down into the slot. Be sure the metal contacts on the bottom of the host adapter are securely seated in the slot.



8. Anchor the board's mounting bracket to the computer chassis using the screw from the slot cover that you set aside previously.
9. Replace the cover on the system unit.
10. Connect your analog monitor's 15-pin VGA connector to the card and fasten the retaining screws (if any).
11. Connect other cables and devices if available -You are now ready to install the software drivers and utilities.

Systems with Existing VGA Card

1. Install the ASUS AGP-V264GT3 display drivers with your current VGA card.
2. Shut down your computer and unplug all electrical cords.
3. Replace the existing VGA card with the ASUS AGP-V264GT3 graphics card.
4. Restart your computer — the AGP-V264GT3 graphics card should be automatically detected and the display drivers automatically updated.

IV. Driver Installation

Video Driver Installation for Windows 95

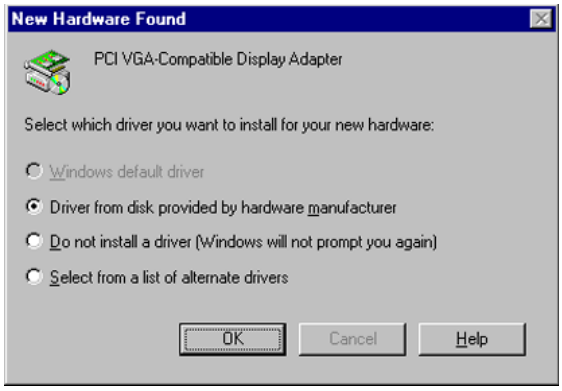
Introduction
After installing the ASUS graphics card, software drivers and utilities must be installed. The following are various driver installation procedures for Windows 95 under specific situations.

Windows Plug and Play in Windows 95: (Auto installing drivers)
IMPORTANT: If an ASUS graphics card (or ATI compatible) was installed at one time, Windows 95 Plug and Play may install ATI's original driver upon entering Windows 95. The old driver may cause your system to hang. If this happens, follow these steps to reset your display driver to its basic defaults:

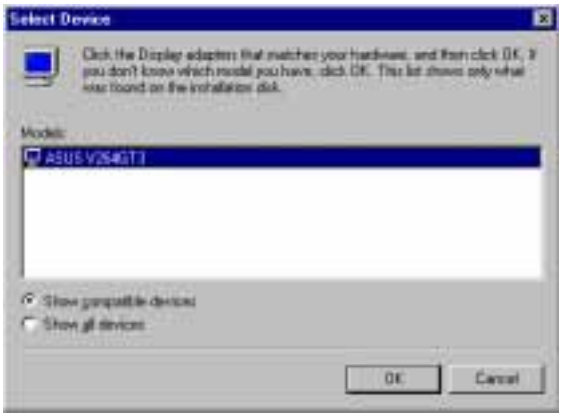
1. Enter Windows 95 in **safe mode** by pressing **F5** repeatedly during bootup
2. **Right click** the mouse on the open desktop (not over any icons)
3. Select **Properties**
4. Click the **Settings** tab - Settings menu appears
5. Click **Change Display Type** - Change Display Type windows appears.
6. Click **Change** button - Select Device windows appears.
7. Click **Show all devices** - Manufacturers and Models appears
8. Click **(Standard display types)** - Standard Display Adapter (VGA) is selected
9. Click **OK** button - Change Display Type windows appears.
10. Click **Apply** button - System Settings Change window appears
11. Click **Yes** button to restart your computer now - restart in normal mode.

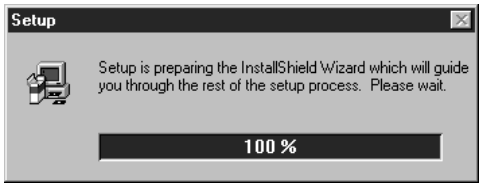
Video Driver Installation for Windows 95

Installing ATI Video drivers in Windows 95: (New Hardware Found)
If installing an ASUS graphics card for the first time, a "New Hardware Found" window will appear upon entering Windows 95:



1. Click **OK** to use the default selection: "Driver from disk provided by hardware manufacturer"
2. Insert ASUS installation CD and click **Browse** button - Open windows appears.
3. Select you CD-ROM drive in the "Drives:" box
4. Select **win95** directory - an ".inf" file shows in "File name:"
5. Click the **OK** button - Install from Disk appears - Click OK button again.
6. Select your device and language then click **OK** button - Copying Files... appears





(This is only an example, your device selections may look different)

7. Click **Yes** button - ATI Desktop Help will appear upon restart, make changes as necessary.

IV. Driver Installation

Video Driver Installation for Windows 95

Installing ATI Video drivers in Windows 95 (Prompted by Windows 95)
If an ASUS graphics card (or ATI compatible) was installed unsuccessfully or modified at one time a “Display” message will appear upon entering Windows 95:

> There is a problem with your display settings. The adapter type is incorrect, or the current settings do not work with your hardware.

1. Click **OK** button to continue - The “Settings” tab of the Display Properties appears.
2. Click **Change Display Type** - Change Display Type windows appears.
3. Click **Change** button - Select Device windows appears.
4. Click **Have Disk** button - “Install From Disk” window appears
5. Insert ASUS instillation CD and Click **Browse** button - Open window appears
6. Select your **CD-ROM** drive in the “Drives:” box
7. Select **\win95** directory - an “.inf” file shows in ”File name:”
8. Click the **OK** button - Install from Disk appears - Click **OK** button again.
9. Select your device and language then click **OK** button - Copying Files... appears
10. Change your monitor type if necessary - Click **Close** button when finished.
11. Adjust the “Desktop area,” “Color palette,” and “Font size” if necessary - Click **Apply** button when finished - System Settings Change windows appears:

> You must restart your computer before the new settings will take effect.
> Do you want to restart your computer now?

12. Click **Yes** button - ATI Desktop Help will appear upon restart, make changes as necessary.

Video Driver Installation for Windows 95

Updating installation in Windows 95: (Using Autorun Screen)

If for some reason you need to reinstall the ATI video drivers or if you skipped the previous procedures, you may use the following steps:

1. Insert the ASUS installation CD (or double click on the CD drive in "My Computer" if CD already inserted)- ASUS Windows 95 Install Shell appears.

2. Click **Install Windows 95 Display Driver** - Display Properties and installation information appears.
3. Select the **Settings** tab and Continue from step 2 above.

IV. Driver Installation

Software MPEG & Video Player for Windows 95

Software MPEG allows the viewing of the following video files identified by their extensions:

- MPEG Format: (*.MPG, *.DAT, *.MPV) Extensions
- AVI Files (*.AVI) Extensions

For Software MPEG support in Windows 95, you must first install DirectVideo Upgrade For Microsoft Windows, then install ATI Video Player.

Installing Microsoft DirectVideo in Windows 95:

1. Reinsert the ASUS installation CD or select the **CD** from My Computer.
2. Click **Install DirectX** - Click
3. Restart Windows when finished.

Installing ATI Video Player in Windows 95:

1. Reinsert the ASUS installation CD or select the **CD** from My Computer.
2. Click **Install Video Player** - ATI Setup: ATI VIDEO PLAYER window appears.
3. Click the **OK** button - Installation complete message will appear
4. Click **Restart Windows** button when finished

The setup program will give you "ATI Multimedia" in your Programs group and start button. The following icons will be available from the "Start" button once the driver has successfully been installed. Click ATI Player to bring up the ATI Player screen.

Display Settings for Windows 95

Changing display settings:
To enter the “Display Properties” at any time, right click your mouse on the desktop and select “Properties” or double click the “Display” icon in the “Control Panel.” Click the appropriate Tab as follows:

Adjustment

Adjustment: Click on the Position or Size arrows to make your screen appear as centered and large as possible.

Panning

Panning: This allows you to assign hotkeys in the "Value" box to move your screen up, down, left, right, in, or out in any application. Click on "Defaults" button to fill in the 'Value" box with default values.

Color

Color: This allows you to adjust the Gamma level for your monitor and color levels for Red, Green, and Blue. You can save your settings by clicking "Save As" button and typing in a file name. This allows you to recall previously saved settings. Click on "Defaults" button to restore all settings to the default.

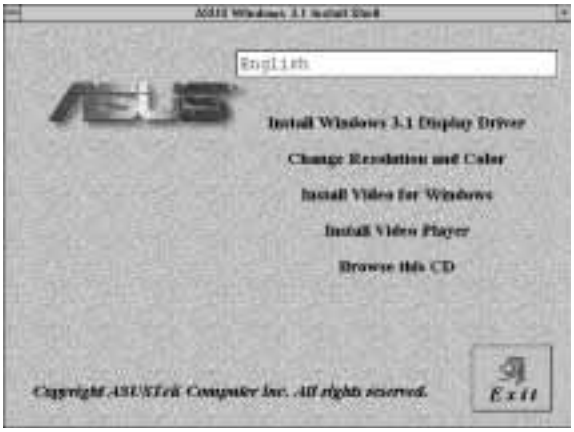
IV. Driver Installation

Video Driver Installation for Windows 3.x

For your convenience, the ATI video drivers for Windows 3.x can be installed in Windows 3.x or in DOS. The autorun ASUS Windows 3.1 Install Shell cannot be automatically run by Window 3.x, so manual execution is necessary.

Installing ATI video drivers in Windows 3.x:

1. Start Windows 3.x
2. Run **File Manager**
3. Insert the ASUS installation CD.
4. Change to your CD drive.
5. Double click **setup.exe** - ASUS Windows 3.1 Install Shell appears



6. Click on **Install Windows 3.1 Display Driver**- Confirm Installation appears
7. Click **Yes** - Copying Files appears - Restart Windows appears
8. Click **Restart now** to complete installation - ATI Desktop group and icon will appear upon restart - Install Shell Message appears:

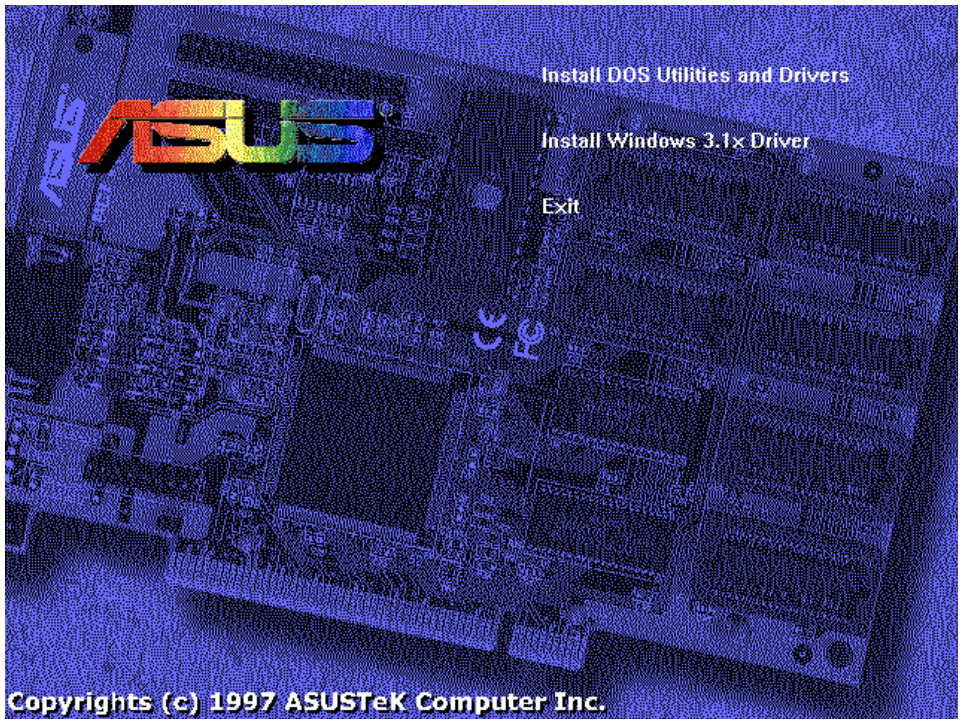
> Now installation process will continue. If you want to install Video for Windows, please keep your ASUS driver CD in CD-ROM drive.

9. Click **OK** - Follow the instructions for Software MPEG & Video Player.

Video Driver Installation for Windows 3.x

Installing ATI video drivers in DOS:

1. Enter DOS mode (Exit Windows, do not use Windows DOS prompt)
2. Change to your CD-ROM drive
3. Type: **SETUP** (assuming your CD-ROM drive is letter D) in DOS mode. ASUS DOS installation shell will appear and present you with a list of install option.



5. Press Enter to confirm path of Windows 3.x or change if necessary.
6. "ASUS driver is successfully installed !!" - **press any key**.
7. "Do you want to launch Windows 3.1 to continue installation now? (Y/N) Note: You must make sure that ASUS ATI VGA card has been plugged in your machine." - Press **Y**.
8. Install Shell Message appears:

> Now installation process will continue. If you want to install Video for Windows, please keep your ASUS driver CD in CD-ROM drive.

9. Click **OK** - Follow the instructions for Software MPEG & Video Player.

Software MPEG & Video Player for Windows 3.x

Software MPEG allows the viewing of the following video files identified by their extensions:

- MPEG Format: (*.MPG, *.DAT, *.MPV) Extensions
- AVI Files (*.AVI) Extensions

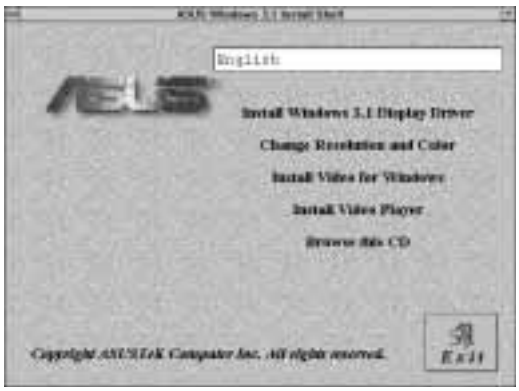
For Software MPEG support in Windows 3.x, you must first install Microsoft's Video for Windows, then install ATI Video Player.

Installing Microsoft Video for Windows in Windows 3.x:

1. Click on **Install Video for Windows** - Video for Windows 1.1 Runtime appears
2. Click **Continue** - Setup appears - Setup Successful appears
3. Click **Restart now** to complete installation

Installing ATI Video Player in Windows 3.x:

1. Run **File Manager**
2. Insert the ASUS installation CD.
3. Change to your CD drive.
4. Double click **setup.exe** - ASUS Windows 3.1 Install Shell appears



5. Click on **Install Video Player** - Memory Requirement appears:

> The ATI Video Player needs at least 600K conventional memory to execute.
>
> If you are not sure or memory is not enough, you can type "**MEMMAKER**" under DOS to optimize your memory configuration.

6. Click **Continue** - ATI Setup: ATI VIDEO PLAYER appears with message
7. Click **OK** to start installation - Installation completed message appears.
8. Click **OK** to complete installation - Restart Windows? appears
9. Click **Restart Windows** button.
10. The Video Player icon will be added to the ATI Desktop menu.

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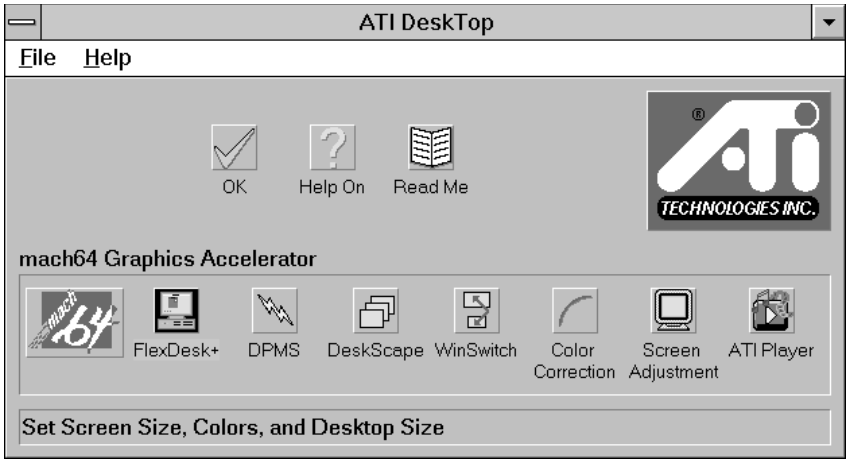
V. Video Software

NOTE: This section shows screens for Windows 3.1x although feature descriptions may be used for both Windows 3.1x and Windows 95.

ATI Desktop Control Panel

An ATI DeskTop is installed automatically when you install the enhanced driver for Windows. Double click on the icon to display the ATI Desktop Control Panel.



The **ATI DeskTop** provides a consistent and integrated control. Depending on what has been installed, your DeskTop may not have the same number of features as shown above.

Each feature icon in the *Mach64* product group shown in this DeskTop is described on the following pages.

ATI Desktop Features

Help On: Click this icon, then click any other icon in the product group to display Help information on the selected item.

Read Me: Click this icon then click the Mach64 logo or feature icon to display the readme file on the item.

ATI Logo: Double click this logo to generate a problem report which includes pertinent data on your system and card configuration to help solve your problem. Have the report ready before contacting your vendor.

Feature Icons: Double click a Feature icon to launch the associated control panel.

FlexDesk+

FlexDesk+ Basic Settings

FlexDesk+ is for configuring the operating modes and parameters of the ASUS 264 Series Card. The availability of options in FlexDesk+ is dependent on the card and its hardware configuration. This control panel allows you to configure Colors (color depth), Screen Size (resolution), Desktop Size (virtual desktop size), Advanced settings and Default parameters (factory settings). A Status Bar at the bottom of the panel displays help information as you make your selection.

FlexDesk+ Provides **dynamic screen information feedback** as you adjust the sliders for "Colors", "Screen Size" and "Desktop Size." Any setting not supported by the card is shown in gray. A slider will always snap to the nearest supported setting for the current slider combination.

The **Sample Color Bar** next to the Sample Monitor dynamically shows a color palette that approximates the Colors setting as you adjust the Colors slider.

NOTE: If your desired resolution is not available, check your monitor configuration setting in the INSTALL program.

Sliders

Colors: Select color depts of 256; 32, 768; 65, 536; or 16.7million colors.

Screen Size: Selects standard screen resolutions of 640x480, 800x600, 1024x768, 1152x864, and 1280x1024.

Desktop Size: Selects virtual desktop sizes of 640x480, 800x600, 1024x768, 1152x864, 1280x1024, and 1600x1200. Desktop size is greater than or equal to Screen size. The virtual desktop provides expanded work space on your screen even if your monitor cannot display that resolution by allowing you to pan past your visible screen.

Buttons

Test: Automatically switches on monitor to display the selected mode without exiting this control panel, for 10 seconds or until the user clicks the End Test, OK, or Cancel button. All other buttons and sliders are inactive at this time. To show dynamic color depth changes in this test, the WinSwitch feature must by enabled before starting the current session of Windows.

Defaults: Returns Screen Size, Colors, and Desktop Size sliders to the default positions. When OK is clicked, these changes will be effective.

Advanced...: Opens the Advanced panel. See FlexDesk+ Advanced Settings.

Help: Displays Help information on FlexDesk+.

OK: Exits the FlexDesk+ control panel and effects all new changes.

Cancel: Discards all changes and exits the FlexDesk+ control panel.

FILE Menu

Open: Opens an existing Setting file.

Save: Saves the current settings to the active Setting file.

Save As: Saves the current settings to an alternate Setting file which you can name.

Exit: Exits the FlexDesk+ control panel.

FEATURES Menu

Defaults: Provides same functionality as the push button.

Advanced...: Provides same functionality as the push button.

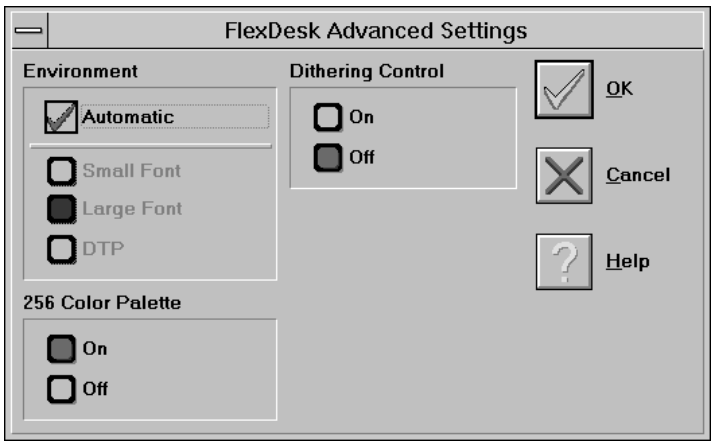
HELP Menu

Help: Provides same functionality as the push button.

Contents: Displays the Help index.

About...: Displays the product version number and information.

FlexDesk+ Advanced Settings



Environment

This parameter specifies logical dots per inch (LDPI). Being logical, i.e., not physical dots, the effect will differ depending on screen size. Automatic Mode chooses the optimal environment setting for the selected screen size. The Small, Large and DTP settings are 96, 120, and 128 LDPI respectively.

256 Color Palette

This selection is only available in 256 color mode. **Windows runs faster when this option is turned off.**

On: Allows the application to define color selection in the palette.

Off: Choose colors from a fixed palette.

Dithering Control

Dithering is meshing two colors to produce the illusion of a third. This selection is only available in 256 color mode with 256 Color Palette on.

On: Provides standard VGA dithering of colors and color selection boxes.

Off: Provides smooth dithering which results in faster performance than VGA dithering.

Buttons

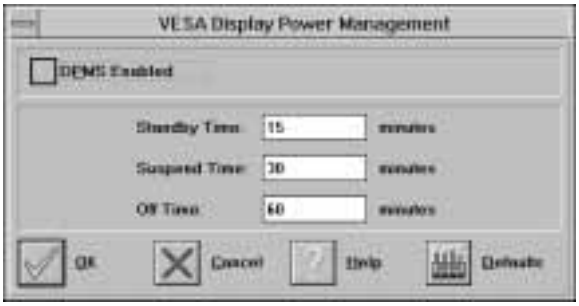
OK: Accepts the advanced settings as shown and returns to the FlexDesk+ main panel.

Cancel: Discards all changes and returns to the FlexDesk+ main panel.

Help: Displays Help information on FlexDesk+.

DPMS (for Windows)

Win3.1 Limitation: In some newer BIOS, DPMS fucntion doesn't work normally.



VESA DPMS-compliant monitors conserve electrical energy by powering down after a period of inactivity. You can use the DPMS panel (in Windows) to configure the auto-shutdown timing sequence for your DPMS-compliant monitor. (The DOS version of DPMS is described in another section.)

WARNING: Monitors that do not support VESA DPMS can be damaged by activation of the DPMS feature.

Do not use screen saver when DPMS is enabled. The screen saver will conflict with the DPMS operation.

Enabline DPMS for Windows:

1. Click the DPMS icon.
2. Highlight the timer boxes one at a time and specify the values.
3. Turn on DPMS Enabled.
4. Click OK.

Timer Settings

Standby Time: Time value is in minutes, after which Standby mode is activated if no user activity is detected. Standby is the first level of power conservation.

Suspend Time: Time value is in minutes, after which Suspend mode is activated if no user activity is detected. The monitor conserves more energy at this level than at Standby.

Off Time
Time value is in minutes, after which Off mode is activated if no service activity is detected. At this level, energy conservation is the highest.

Buttons

DPMS Enable: DPMS feature is enabled if box is checked.

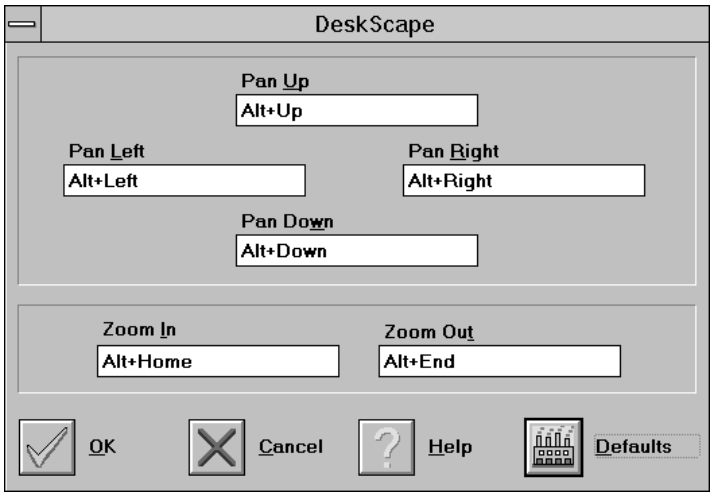
Defaults: Sets DPMS timers to default values.

Help: Displays Help information on DPMS.

OK: Accepts settings as shown and exits.

Cancel: Discards all changes and exits.

DeskScape



NOTE: Press Default to fill in the fields with default keys first.

DeskScape allows more control over your Virtual Desktop using keyboard keys. For a description of Screen and Desktop, Refer to the *Using FlexDesk+* section.

The displayed image on the screen is a "window" showing only a portion of the entire virtual desktop. The non-displayed portion can be brought into view by panning. Four keys are assigned to this function, one for each direction of up, down, left and right. If you are using a mouse, the window may be panned by moving the mouse cursor to any edge of the window as well.

Zoom In will display a larger image but less of the desktop; Zoom Out has the opposite effect. What you can zoom is dependent on the relative settings of Screen Size and Desktop Size.

Use this panel to assign the six hot keys to Panning and Zooming functions. Alphanumeric keys may be assigned in any combination with **<ALT>,<Ctrl> and <Shift>**. We recommend that you assign all the keys in one session.

DeskScape Functions

Pan Up: Moves the "window" upward, with user defined keys, e.g., Alt ↑.

Pan Left: Moves the "window" to the left, with user defined keys, e.g., Alt ←.

Pan Right: Moves the "window" to the right, with user defined keys, e.g., <Alt →.

Pan Down: Moves the "window" downward, with user defined keys, e.g., <Alt ↓.

Zoom In: Makes the screen image larger, with user defined keys, e.g., <Alt>+<Home>. **NOTE:** The entire desktop can be panned.

Zoom Out: Displays more of the virtual desktop, with user defined keys, e.g., <Alt>+<End>

Buttons

Defaults: Assigns default keys to DeskScan.

Help: Displays Help information on DeskScan.

OK: Accepts key assignments as shown and exits.

Cancel: Discards all changes and exits.

WinSwitch

NOTE: Press Default to fill in the fields with default keys first.

By pressing a user-defined set of keyboard keys **WinSwitch** can dynamically change screen attributes (i.e., Colors, Screen Size and Desktop Size) without exiting Windows.

When enabled, WinSwitch is actually operating in 24bpp mode-i.e., all other color depths and resolutions are emulations. As such, graphics performance across various color depths will be practically identical to that of 24bpp (16.7 million colors). Therefore, WinSwitch should be used only when color depth changes are desired. For maximum performance in 256 or 65, 536 color modes, you should disable WinSwitch. **FlexDesk**+ or **DeskScan** can provide the same dynamic screen size or desktop size switching functions.

Configuring the WinSwitch Panel

At the top of the panel is a checkbox labelled WinSwitch Enabled. This switch must be turned on (checked) to enable WinSwitch, which is primarily a dynamic color switching function. Clicking one of the four radio buttons (e.g., key 1) will display the slider positions currently associated with that key.

Procedure:

1. Select a radio button. Define the key combination in the field below it. You must include **<Ctrl>** or **<Alt>**.
2. Adjust any or all of the sliders. Slider functions are identical to those in FlexDesk+.
3. Either enable WinSwitch by checking the WinSwitch Enabled box, or disable WinSwitch by removing the check mark.
4. Click Ok.

Buttons

Key 1: First of four radio buttons labeled key1, key 2, key 3, and key 4. The slider settings shown are associated with the selected radio button.

Defaults: Restores key combination and slider settings to defaults.

Help: Displays Help information on WinSwitch.

OK: Accepts current settings and exits.

Cancel: Discards all changes and exits.

WinSwitch: Switching function is enabled when the box is Checked; disabled when the box is empty.

Key Combination Fields

Key 1 Field: Keyboard key combinations to be used to activate WinSwitch are specified in the four key combination fields, associated with Keys 1-4.

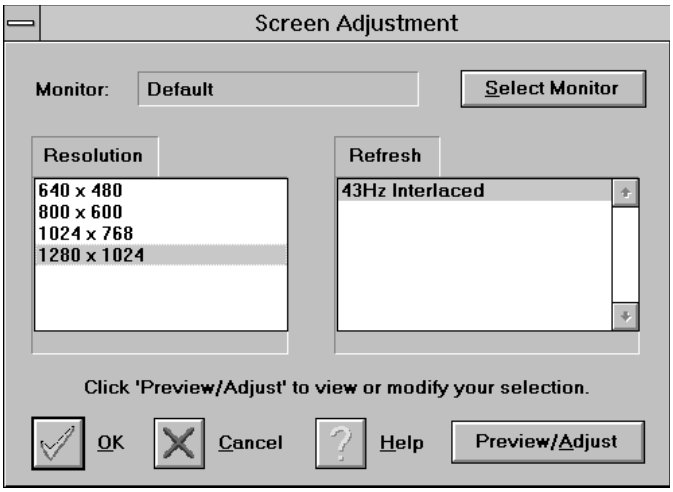
Sliders - These sliders provide the same functions as the FlexDesk+ sliders.

Colors: Selects a color depth from one of the supported Colors.

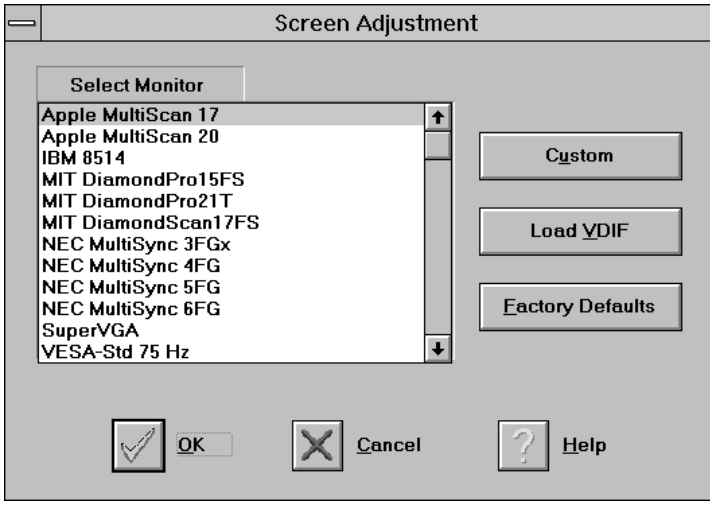
Screen Size: Sets the screen resolution to one of the supported sizes.

Desktop Size: Sets the virtual desktop to one of the supported sizes.

Screen Adjustment



This allows the selection of different resolutions supported by your monitor. Select the proper monitor by pressing the "Select Monitor" button and then choosing from the list of monitors.



If your monitor came with a VDIF file then you may insert it into your floppy drive and press the "Load VDIF" button. The "Custom" button allows you to select the resolution and refresh rates. You may try out different settings that will optimize your display preferences but too high of a refresh rate will push your monitor past its specifications. Use the Preview/Adjust to see the results and allow digital adjustments to the screen. If the image is distorted you may press <Esc> or wait a few seconds to return to the original menu without the change.

The ASUS 264 Series Card supports a VESA power management control specification called **DPMS**-Display Power Management Signaling. Monitors that comply with DPMS can provide energy savings up to 80% compared to non DPMS compliant monitors. This also translates into extended monitor life.

DPMS control functions are provided for DOS and Windows operations. This chapter describes the DOS version, a Terminate-and-Stay-Resident program. TSR means it runs in the background once activated. The Windows version provides control via a Windows type control panel in the ATI DeskTop.

NOTES:

- Monitors that do not support VESA DPMS can be damaged by activation of the DPMS feature. Check your monitor specifications.
- Do not use screen saver when DPMS is enabled. The screen saver will conflict with DPMS operation.

DPMS (for DOS)

When you run DPMS for the first time, without parameters, DPMS will set the Standby, Suspend, and Off timers to default values. If DPMS has been loaded, running it again without parameters will display the current timer values, as follows:

Standby timer:	**15 minutes**
Suspend timer:	**30 minutes**
off timer:	**60 minutes**

If you run DPMS with at least one timer parameter, DPMS will set that value and disable the unspecified timers.

DPMS parameters are to be included in the command separated by spaces, as follows:

DPMS parameter <Enter>

Example: To set the Standby timer to 5 minutes, and disable the Suspend and Off timers: **DPMS STBY 5 <Enter>**

DPMS Parameters

stby x - Places the monitor into Standby mode after x minutes and seconds. For example, x for two minutes and ten seconds is specified as 2:10. Standby is the first level of power conservation. The monitor is instantly ready if activity is detected.

susp x - Places the monitor into Suspend mode after x minutes and seconds. The monitor conserves more energy at this level than at Standby.

off x - Places the monitor into Off mode after x minutes and seconds. The monitor is at the highest level of energy conservation.

nomouse - Does not detect mouse activity.

quiet - Suppresses DPMS messages.

unload - Un-installs DPMS from system memory.

help - Displays help messages.

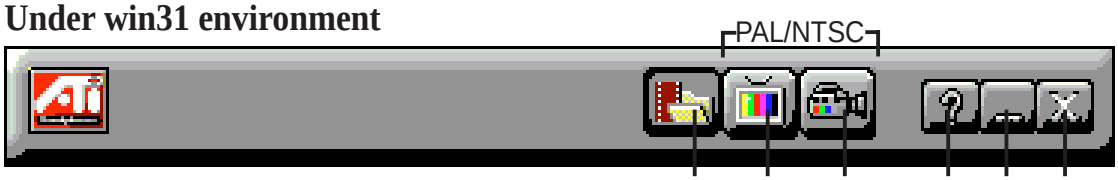
VI. Video Player

Windows Video Player

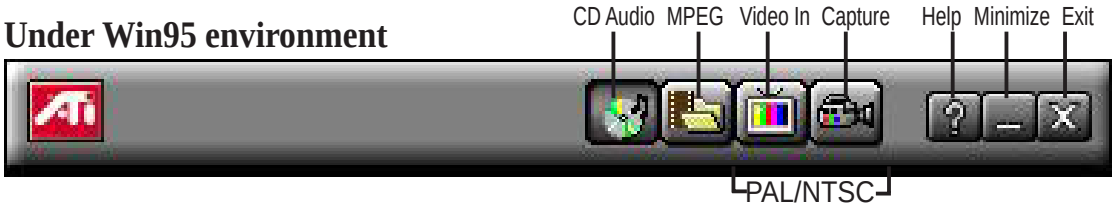
ATI Player and control panel (Win3.1x and Win95)
If VIDEO drivers are installed, for playing video clips, the ATI Player icon will appear in the DeskTop. Double click on this icon to bring up the Video Screen as shown here: (Detailed button definitions are shown when holding the cursor over the individual buttons for a few seconds.)

The Task Control Panel
The Task control panel indicates what mode the player is in and what it's doing. (Your Task control panel may not look exactly like the illustration-only installed or available features will have controls.)

Under win31 environment



Under Win95 environment



CDAudio–Play standard audio CDs (only in Windows 95)

MPEG Playback—Play MPEG and AVI video files

Video In (Tuner button)—Display live video sources (available only on video model)

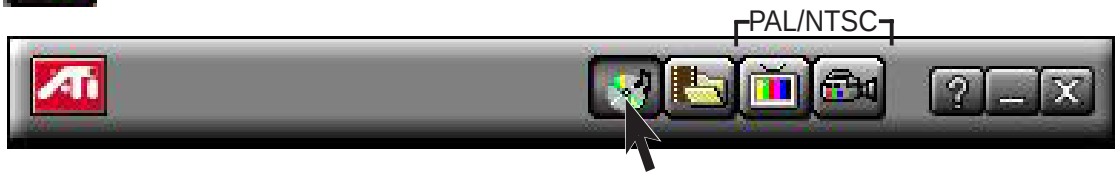
Capture–Capture still images, video sequences, or audio-only (available only on video model)

Features

The question mark on top right of the Video Screen allows inspection into each button on the control panel. Click on the "?" then on a button that you would like to know about.

VI. Video Player

Playing Audio CDs (Only in window 95)



Click the Audio CD button in the Task control panel to switch to Audio CD mode

The Audio CD player has its own control panel for controlling the audio CD playback.

You can use the Audio CD panel to play standard audio CDs. Advanced features such as Random play, Intro play, which plays the first ten seconds of each track, and Loop play are available.

The Audio CD player has its own display.

To play an audio CD

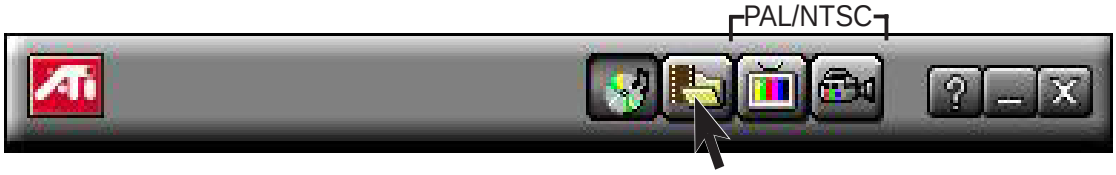
1. Insert the audio CD into your CD-ROM drive.
2. In the Audio CD panel, click the Setup Dialogs button
3. Click the Disc Info tab.
4. From the Available Tracks list, add or remove tracks as desired. The Play List displays your current selections.
5. Click OK.
6. In the Audio CD panel, click the Play button

The Audio CD player uses Windows 95 standard INI file to store disc names, track names, and the play list. You can use the Setup dialog to enter the name of the artist and the disc.

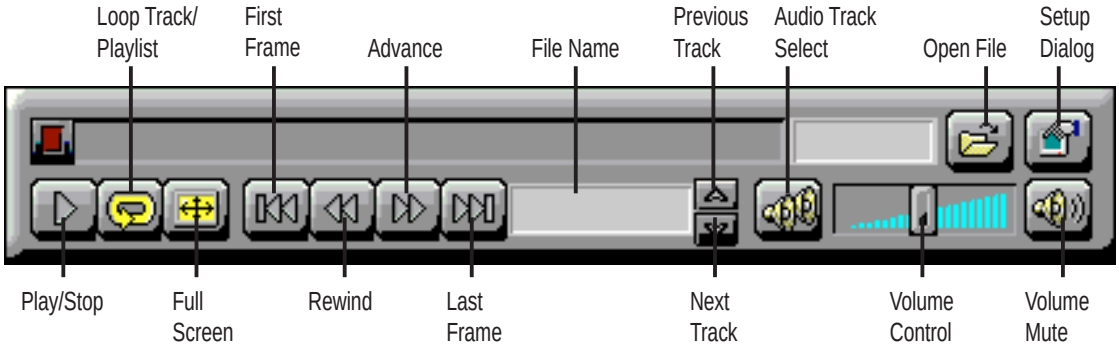
VI. Video Player

Playing Media Files

Click the MPEG Playback button in the Task control panel to switch to playback mode.



The Control panel changes to the Playback panel.
To view/hide the Playback panel in Full Screen mode, press F2.



You can use the Media Playback panel to play the following media files:

- MPEG-1 digital audio and video, including Karaoke?including dual-channel audio, CDi, Games, and reference application titles
- *.AVI video files

To play a file

1. In the Playback panel, click the File Open button
2. Select a file from the list.
3. Click Add, then click OK.
4. Click the Play button
5. The file plays in the Display panel.

Playing Interactive Discs (Video CD 2.0)

When playing Video CD 2.0 discs, the Control panel changes to this interactive panel.

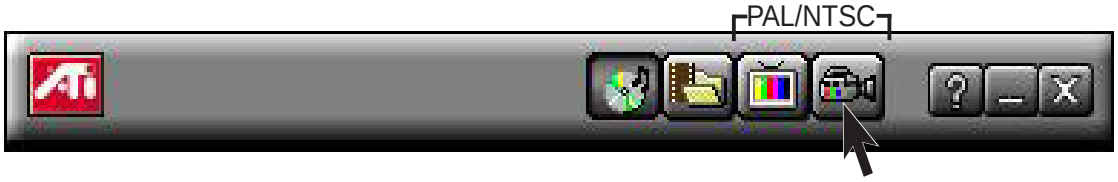
Capturing Audio/Video (PAL/NTSC models)

Still images. You can capture full-color, 24-bit-per-pixel still images from your camcorder , save them on your computer's hard disk, and print them. The images are placed on the clipboard, or you can display them in their own window as "thumbnails"(miniature images).

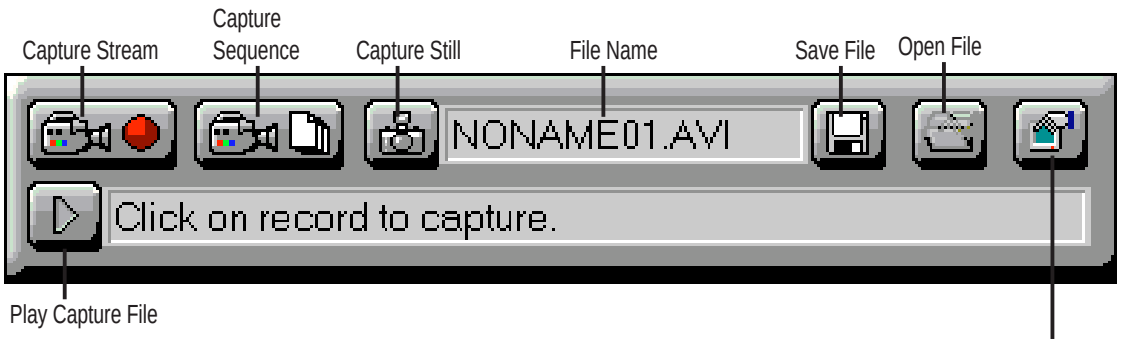
You can save still images as Windows-standard bitmaps (.bmp). It also supports most industry-standard graphics file formats, so you can insert the images into reports, presentations, letters, and other documents, to add impact to training applications and presentations.

Full-motion video. You can capture a stream of full-motion video plus audio from your video source and save it as an .AVI file on your computer's hard disk. You also have the option of capturing only audio

Click the CAPTURE button in the Task control panel to switch to capture mode.



The Control panel changes to the Capture panel.
You can use the Save As... button to compress your captured video and save it in one of several industry-standard formats. See the on-line help for more information on this feature.



You can use the Setup button to specify capture options, file names, display options, and file handling for captured video Captured File.

VI. Video Player

Capturing Still Frames (PAL/NTSC models only)

To capture still frames
Click the camera button to capture the current frame.

To review captured images
Click the image's thumbnail.

- If the selected image has not been saved, the thumbnail has a red border. If it has been saved, the border is green.
- If an unselected image has been saved, its border is grey. If it has not been saved, there is no border.

You can use the buttons at the top of the still capture window to save the captured image, delete it, print it, or make it into a desktop pattern.

If you try to delete an unsaved still frame, you will be prompted to save it before deleting.

Capturing Video

You can capture video in two ways:

- As a stream of video and audio that you save as an .AVI file.
- As a sequence of still frames that you save in an .AVI file.

The quality of the video that you capture depends on the following conditions:

- speed of your system (CPU)
- amount of system memory (RAM)
- performance of your Hard Disk (HDD)
- size of the video capture window

To capture a stream of video and audio
Click the Record Stream button in the Capture panel to record video and audio.

To capture a sequence of frames
A sequence of frames will be recorded when you click the Capture Sequence button in the Capture panel but note that audio is not captured in this mode.

VI. Video Player

Playing Captured Video and Audio (PAL/NTSC models only)

To play captured video and audio

Click the Play button in the Capture panel to play your captured file.

Intelligent Video In

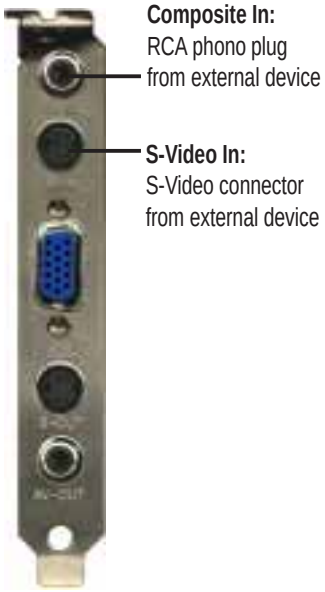
You can watch full-motion video or play games from outside sources on the whole screen or in a window. You can capture still frames and movie clips.

Features

- Television quality video in a window and full screen.
- Composite video and S-Video inputs for VCR, video camera, laser-disc player, video game consoles, etc.
- Still image and live video capture with a simple mouse click.
- Live motion video desktop, using your favorite video show as wallpaper.
- Zoom-in to any part of the screen.

To connect other devices:

1. Turn off your computer and other devices.
2. Determine if your external device has an S-Video or RCA connection.
3. Looking at the back of your computer, locate your graphics card.
4. Using a cable with either S-Video or RCA connectors, attach one end of the cable to your the output of your device to the input.
5. Turn on your computer and your devices.



Using the VIDEO IN

You can use the Video In to:

- Watch a videotape or laser disk movie on your computer.
- Capture, save, and print video images.
- Replace your desktop with live VIDEO display.

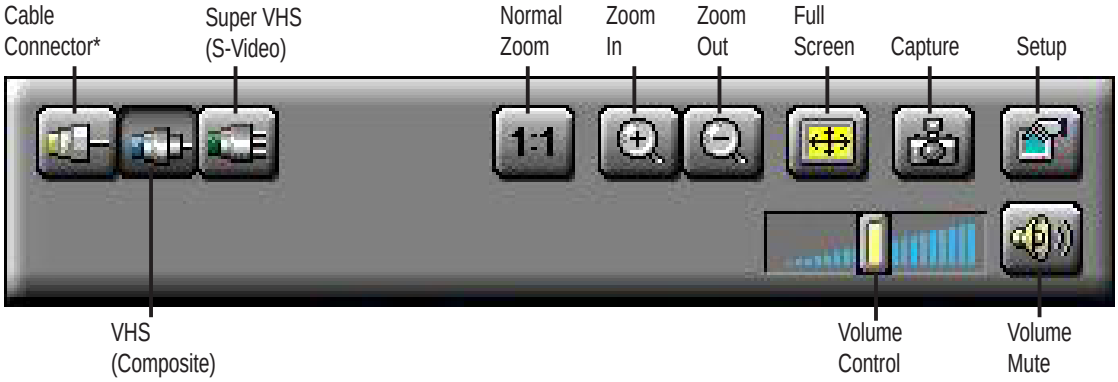
A wide range of video inputs are accepted — from just about any device that has a VIDEO OUT connector: VCR, Video camera, laser disk, and video games.

VI. Video Player

NOTE: The features on this page are available on the PAL/NTSC models only.

Click the TUNER button in the Task control panel to switch to Video In mode.

The Control panel changes to the Video In control panel.



*The Cable Connector is for an optional TV-Tuner available only when using a third-party TV-Tuner card connected to the AMC connector.

Zooming and Unzooming - To select and enlarge a portion of the display

1. Click within the display panel.
2. Hold down the mouse button and draw a rectangle around the area you want to zoom.

To return your display to normal, click the Unzoom button in the Control panel.Select and enlarge a portion of the display by dragging the mouse across the Display Panel

Using ImpacTV (PAL/NTSC models only)

You can use ATI's ImpacTV™ to connect a television for your computer's display.

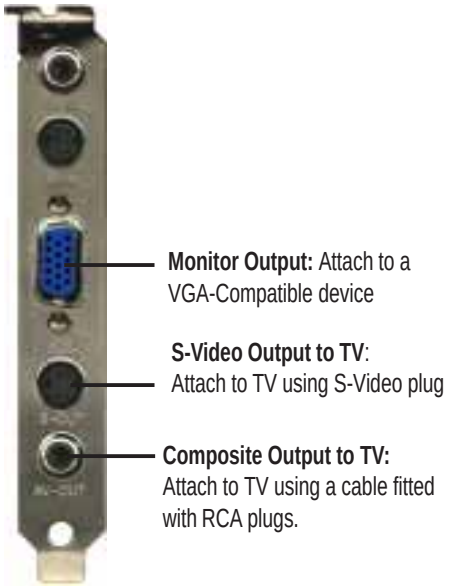
You can use ImpacTV to do the following:

- View computer output directly on your television in either NTSC or PAL formats
- Enhance your system with advanced flicker reduction and artifact suppression circuitry
- Connect using Composite or S-Video output capabilities
- Display images on both the TV and PC monitor simultaneously
- Provide a big-screen experience for entertainment PCs which is ideal for playing games, giving presentations, watching movies, and browsing the Internet

To connect your computer to a television, simply attach a connector cable (S-Video or Composite) from your card to the television. S-Video will produce the best results.

To connect your graphics card to a television

1. Turn off your computer and your television.
2. Determine if your television has an S-Video connection or an RCA video in connection.
3. Looking at the back of your computer, locate your graphics card.
4. Using a cable with either S-Video or RCA connectors, attach one end of the cable to your card and the other to your TV.
5. Turn on your computer and your television.



If there is no display, you may need to enable ImpacTV.

To enable ImpacTV

1. Click Start.
2. Point to Settings.
3. Click Control Panel.
4. Double-click Display.
5. Click on the Settings tab.
6. Check the Television checkbox to enable ImpacTV. (click Help if necessary)

VII. Other Driver Installation

Video Driver Installation for Windows NT 4.0

IMPORTANT!

- Windows NT 3.5x does not support AGP cards.
- Before installing the ASUS display driver in Windows NT 4.0, make sure that you have installed **Windows NT 4.0 Service Pack version 3.0** (available on the Internet at http://www.microsoft.com/isapi/support/bldqpage.idc?Product Page=q_servpk**).** Otherwise, the system will hang and will not be able to start up!
- For all the AGP features to be available you must be using Windows NT 5.0 (available in the future)

Windows Plug and Play in Windows NT 4.0: (Auto installing drivers)

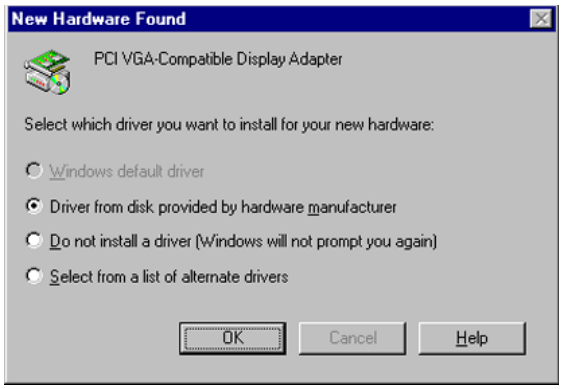
IMPORTANT! If an ASUS Graphics device (or ATI compatible) was installed at one time, Windows NT 4.0 Plug and Play may install ATI's original driver upon entering Windows NT 4.0 . The old driver may cause your system to hang. If this happens, follow these steps to reset your display driver to its basic defaults:

1. Ener Windows NT 4.0 in **safe mode** by pressing **F5** repeatedly during bootup
2. **Right click** the mouse on the open desktop (not over any icons)
3. Select **Properties**
4. Click the **Settings** tab - Settings menu appears
5. Click **Change Display Type** - Change Display Type windows appears.
6. Click **Change** button - Select Device windows appears.
7. Click **Show all devices** - Manufacturers and Models appears
8. Click **(Standard display types)** - Standard Display Adapter (VGA) is selected
9. Click **OK** button - Change Display Type windows appears.
10. Click **Apply** button - System Settings Change window appears
11. Click **Yes** button to restart your computer now - restart in normal mode

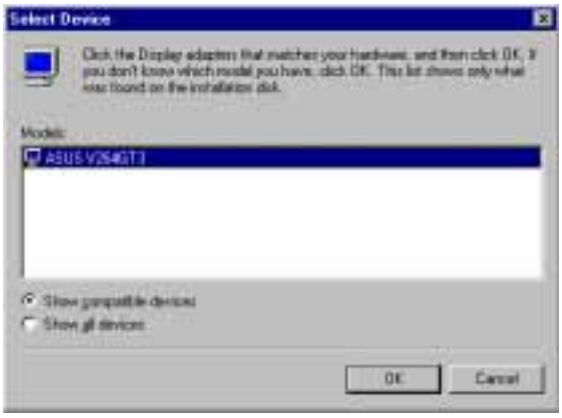
VII. Other Driver Installation

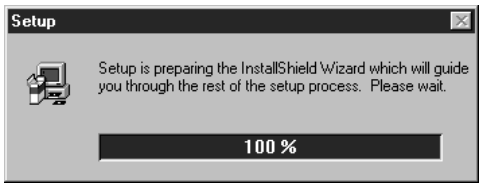
Video Driver Installation for Windows NT 4.0

Installing ATI Video drivers in Windows NT 4.0: (New Hardware Found)
If installing an ASUS Graphics device for the first time, a “New Hardware Found” window will appear upon entering Windows NT 4.0:



1. Click **OK** to use the default selection: “Driver from disk provided by hardware manufacturer”
2. Insert ASUS installation CD and click **Browse** button - Open windows appears.
3. Select you CD-ROM drive in the “Drives:” box
4. Select **\nt40** directory - an “.inf” file shows in ”File name:”
5. Click the **OK** button - Install from Disk appears - Click OK button again.
6. Select your device and language then click **OK** button - Copying Files... appears - message appears to restart your computer.





(This is only an example, your device selections may look different)

7. Click **Yes** button - ATI Desktop Help will appear upon restart, make changes as necessary.

VII. Other Driver Installation

Video Driver Installation for Windows NT 4.0

Installing ATI Video drivers in Windows NT 4.0 (Prompted by Windows NT)

If an ASUS Graphics device (or compatible) was installed at one time a "Display" message will appear upon entering Windows NT 4.0 :

> There is a problem with your display settings. The adapter type is incorrect, or the current settings do not work with your hardware.

1. Click **OK** button to continue - The "Settings" tab of the Display Properties appears.
2. Click **Display Type** - Change Display Type windows appears.
3. Click **Change** button - Select Device windows appears.
4. Click **Have Disk** button - "Install From Disk" window appears
5. Insert ASUS instillation CD and Click **Browse** button - Open window appears
6. Select your **CD-ROM** drive in the "Drives:" box
7. Select **\nt40** directory - an ".inf" file shows in "File name:"
8. Click the **OK** button - Install from Disk appears - Click **OK** button again.
9. Select the appropriate model of your Graphics device - messages appears: "You are about to install a third-party driver..."
10. Click **Yes** - Copying Files... appears - message appears: "The drivers were successfully installed"
11. Click **OK** button
12. Change your monitor type if necessary - Click **Close** button when finished.
13. Adjust the "Desktop area," "Color palette," and "Font size" if necessary - Click **Apply** button when finished - System Settings Change windows appears:

> You must restart your computer before the new settings will take effect. Do you want to restart your computer now?

14. Click **Yes** button - ATI Desktop Help will appear upon restart, make changes as necessary.

Updating installation in Windows NT 4.0: (Using Autorun Screen)

If for some reason you need to reinstall the ATI video drivers or if you skipped the previous procedures, you may use the following steps:

1. Insert the ASUS installation CD (or double click on the CD drive in "My Computer" if CD already inserted)- ASUS Windows NT Install Shell appears.
2. Click **Install Windows NT Display Driver** - Display Properties and installation information appears.
3. Select the **Settings** tab and Continue from step 2 above.

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VII. Other Driver Installation

Video Driver Installation for IBM OS/2

The ATI OS/2 video driver is to be used for the English version of OS/2 only.

Installing ATI video drivers in English OS/2 or OS/2 Warp:

1. Start OS/2
2. Check that OS/2 is using standard VGA driver and other applications are closed.
3. Double-click the **OS/2 System** folder.
4. Double-click the **Command Prompts** folder.
5. Double-click the **OS/2 Full Screen** object.
6. Insert the installation CD (assuming your CD-ROM drive is letter D)
7. Type **D:** <Enter>**, CD OS2** <Enter>**, OS2INST** <Enter>

8. Select **IBM OS/2** - Install OS/2 Driver appears.
9. Select your version of OS/2.
10. Type **C:** (the drive letter of your OS/2 system) <Enter> - copying files appears.
11. Exit the installation program
12. Type **C:** <Enter>, **CD\MACH_OS2** <Enter>, **DSPINSTL**
13. Display Driver Install panel appears - select Primary Display.
14. Click **OK** - Driver selection list appears.
15. Select the latest ATI mach64 enhanced driver version from the list - click **OK**.
16. In the Monitor Configuration Selection Utility, select **Install Using Defaults for Monitor Type**, then click **OK**.
17. When the source directory panel appears, choose **Change** and enter path or use the default location of **C:\MACH_OS2** - Click **SET**
18. Click **INSTALL**.
19. Type **EXIT** to close the OS/2 full screen command prompt.
20. **Shut down** OS/2
21. **Restart** OS/2. It will default to 640x480 in 256 colors. To change screen resolution and/or color depth, see your OS/2 User's Guide.

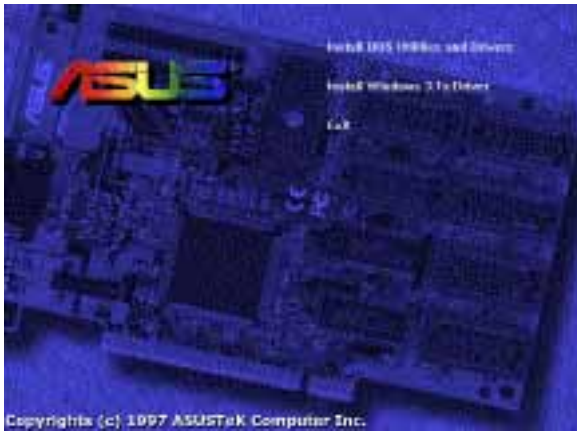
VII. Other Driver Installation

AutoCAD Video Driver Installation

Installing ATI AutoCAD Video Drivers:

1. Enter DOS mode (Exit Windows, do not use Windows DOS prompt)
2. Insert the installation CD (assuming your CD-ROM drive is letter D)

3. Type **SETUP** at the CD-ROM drive letter and the ASUS DOS installation shell will appear and present you with a list of install options.Select Install DOS Utilities and Drivers.



4. Select **Drivers Installation** and press <Enter>
5. Select the Application name **AutoCAD** <Enter>

6. Follow the instructions to complete the installation of the drivers.
7. Press **Enter** when completed and press **ESC** twice and **Y** to exit the installation program.

8. Reboot the computer from DOS - Your Windows 3.x & DOS system ATI drivers should be installed and ready to use.

VII. Other Driver Installation

Microstation Video Driver Installation

Installing ATI Microstation Video Drivers:

1. Enter DOS mode (Exit Windows, do not use Windows DOS prompt)
2. Insert the CD (assuming your CD-ROM drive is letter D)

3. Type **SETUP** at the CD-ROM drive letter and the ASUS DOS installation shell will appear and present you with a list of install options.Select Install DOS Utilities and Drivers.

4. Select **Drivers Installation** and press <Enter>
5. Select the Application name **Microstation** <Enter>

6. Follow the instructions to complete the installation of the drivers.
7. Press **Enter** when completed and press **ESC** twice and **Y** to exit the installation program.

8. Reboot the computer from DOS - Your Windows 3.x & DOS system ATI drivers should be installed and ready to use.

VIII. Driver Installation Options

Select System Information (optional)

The program will check the system for possible conflicts with the card, and display both the card and system configurations in the INFO BOX. In case of a conflict, it will issue a warning and suggest possible corrective actions.

Your ASUS AGP-V264GT3 Card is PCI Plug-and-Play compatible: your system will automatically allocate system resources and resolve possible conflicts between your Plug-and-Play compatible mach64 accelerator card and other expansion cards.

System Information

Quick Setup (optional)

Select Quick Setup to configure the accelerator card to work with your monitor. As you highlight each monitor, the display specifications for that monitor type are listed in the INFO BOX. Proper monitor selection is necessary for correct resolution and refresh rate operation. You have four options to choose a correct Monitor Type.

Selecting Your Monitor Type: Factory Default/Apple.../IBM.../MIT.../NEC.../ VESA-Std.../Generic.../Read VDIF.../Custom...

Select Read VDIF... If you have a VDIF file for your monitor and wish to use its parameters to automatically configure the mach64. Additional VDIF details are provided later in this chapter, in the section: *VDIF Files*

Select Custom... if none of the above applies to you, or you wish to manually configure the settings. Please refer to the information provided later in this chapter in the section: **Custom Configuration**

Notes On Refresh Rates:

- A higher refresh rate reduces screen flicker, and therefore reduces eye strain. Not all refresh rates are supported at all color depths. Refer to the features section for specifications of your ASUS 264 Series Card.
- The resolution used by your software application is independent of the refresh rate. Resolution depends on the installed software driver and selected display mode.

VDIF Files (optional)

VDIF files are VESA Display Information Format files. They contain all the necessary configuration parameters for getting optimal resolution and refresh rate operation from the specified monitor. Consult your monitor manufacturer for availability of VDIF files.

If you have a VDIF file for your monitor, select it. The INSTALL program will read the VDIF file and automatically configure the card to properly work with your monitor.

Procedure:

1. Start the INSTALL program.
2. Select Quick Setup and press <Enter>.
3. Insert into a floppy drive the disk containing the VDIF file.
4. Select READ VDIF... and press <Enter>.
5. Type in the location of the VDIF file (typically A: or B:). INSTALL will read the file and configure the card to support your monitor according to the VDIF specification.

Custom Configuration

If your monitor is not listed in the Monitor Selection Menu, or you are not using DDC or VDIF, you can set up display modes, i.e., resolutions and refresh rates, on the card using the Custom... option. This option is useful even if you had selected a monitor from the list. For example, you can modify the screen centering or refresh rate on one resolution, and not change the other resolutions.

Procedure:

1. Start the INSTALL program.
2. Select Quick Setup and press <Enter>.
3. Select Custom... and press <Enter>.
4. Pick a resolution, then a refresh rate. You will see a box outline.

WARNING! Using the wrong refresh rate may permanently damage your monitor. For more information, please refer to the manual.

NOTE: An incorrect Monitor Type setting may damage your monitor. Review your monitor specifications before making a selection from the Monitor Selection Menu. Do not exceed the monitor specifications. Using a refresh rate (i.e., vertical frequency) that is higher than specified may damage your monitor. The manufacturer will not be liable for any damage caused by incorrect settings. Consult your monitor manual to determine the highest refresh rate for each resolution that your monitor supports. A scrambled screen indicates your monitor is not capable of the selected display mode. In which case, you should immediately press <Esc> to exit.

TIP: If the monitor produces a scrambled display, try a lower refresh rate. If it is already at the lowest refresh rate, set that resolution to Not Supported."

5. Adjust the size and position of the box outline. Press <Enter> to accept.
6. Repeat steps 2 and 3 until you are satisfied with the box outline for all the resolutions. When finished, remember to exit and save the settings.

VIII. Driver Installation Options

Advanced Setup (optional)

If you wish to fine tune its settings for your monitor and system type, select Advanced Setup from the Main Menu. On-screen context sensitive help is displayed as you highlight each Advanced Menu item.

> **WARNING!** The Advanced Configuration option allows you to use certain features that may add additional performance to your card. However these options may not be compatible with your system. If problems appear after an advanced option is changed, returning the card to factory defaults will rectify the situation.

Factory Defaults
The card can be reset to factory defaults by pressing <Shift>+<F7>.

Saving Your Configuration
Once you have finished configuring the necessary parameters described above, save them by pressing <F10>.

Diagnostics

All installed graphics modes in the mach64 accelerator can be viewed and tested, by running the INSTALL program from the DOS prompt, or by running a diagnostics program called M64DIAG.EXE. Do not run it in a windowed or full-screen DOS box. In the INSTALL program, select Test Graphics Adapter from the Diagnostics... option of the Main Menu. The Test Graphics Adapter menu has the following options:

- VGA Tests ...
- Accelerator Tests ...

Any time you suspect there is a problem, especially during installation, run the above tests. The information provided in this appendix will enable you to solve most problems.

A. Troubleshooting

System Lockup

- If you are using a memory manager such as QEMM or 386MAX you need to modify the command line in the CONFIG.SYS file so that the address of the graphics card video BIOS, C000 - C7FF, is excluded. For example, add "EXCLUDE = C000 - C7FF" to the command line.
- Remove all unnecessary boards.
- Disable shadow RAM.
- Ensure that the board is seated correctly and that the card has been installed using the proper utilities.
- Try the card in a different system and reset to factory defaults using the INSTALL program. If the card works in another system, the problem is likely due to incorrect configuration.

Troubleshooting

Because a typical computer system consists of many different parts, difficulties may arise from a combination of items, from software or hardware installation, to monitor compatibility. Listed below are several checks you can make to help determine what the problem is.

Test Patterns OK; Applications Do Not Sync
The wrong monitor type has been selected. Change the settings in the INSTALL program.

Windows Driver Not Installing Properly
Windows must be running in 386 Enhanced Mode. Incompatible memory managers may prevent Windows from starting in enhanced mode. If this occurs, remove the offending driver or memory manager.

Windows NT 4.0 driver cannot pass "Test VGA."
Please bypass "Test VGA" then load ATI drivers after completing installation.

AutoCAD Driver Not Installing Properly
If using a 386, ensure that AutoCAD has been configured for the appropriate ADI driver. The protected mode driver requires extended memory.

Error Codes and Messages
Problems and solutions for some common errors found by the test program are provided for your reference as follows:

Memory aperture test failure or Diagnostics program locks or Reboots during aperture test
If you receive an error message indicating that the memory aperture location is conflicting with your system memory, restart the INSTALL program as follows: INSTALL APMAP <Enter>. Now when you enable Memory Aperture, you must select a location above but not overlapping System Memory (S), BIOS (B) or Reserved (R) locations. Not applicable for ISA cards.

Desired resolution is disabled and displayed in gray
A mode displayed in gray means that the BIOS is told this mode is not available, based on the card configuration. Reinstall using custom monitor selection.

Menu item is disabled and displayed in gray
The test program has determined that the mode or test is not available under the current configuration. Aperture tests are not available if the aperture is disabled, and CRT mode and pixel depth are determined by current installation, DAC type, memory size, and memory type.

Adapter not detected
This message should only occur when a mach64 ASIC is not detected. If this message occurs and a mach64 board is present, it may indicate an I/O conflict, conflicts between the Extended Memory Manager (EMM) and the video ROM. Try removing all other boards from the system and booting from a plain DOS disk. Try excluding the video BIOS address (C0000-C7FFF) from the memory manager. Refer to the documentation furnished with the memory manager software for information.

Any FIFO test error
The effects of a bad command FIFO should be visible. (e.g., the screen does not come up, or it displays garbage.)

Quick memory test error
Run Detailed RAM Test to confirm the error and identify the address of the error.

Detailed memory test error.
Run Detailed RAM Test several times to confirm the error and take notes of any messages and error codes.

DAC LUT test failure.
An error has occurred while testing the DAC LookUp Table. The problem should be visible on the top color bar of any 8bpp mode.

ROM checksum error.
An error has been detected in the ROM.

Draw sequence failure.
An error has occurred in the draw engine. If the error is intermittent, it might indicate a marginal RAM failure. The effects of this failure may not be immediately apparent.

Windows 95 mach64 enhanced display driver

The Windows 95 mach64 enhanced display driver is capable of using monitor timing data contained within Windows 95. This data is selected by configuring a monitor type at Windows 95 installation time or via the "Settings" page of the display properties sheet.

The Windows 95 mach64 enhanced display driver may incorrectly interpret Windows 95 monitor timing data for some older monitors which require interlaced modes. This may cause some options to be disabled. A solution to this problem is to select one of the "(Standard monitor types)" available via the settings page of the display properties sheet.

If you change the selected monitor type via the "Settings" page of the display properties sheet the new timing data may not take effect until after restarting Windows 95. A solution to this problem is to always restart Windows 95 after changing the monitor type.

In Windows 95, display drivers can be installed via the "Add New Hardware" wizard. This is not recommended because when the Windows 95 mach64 enhanced display driver is installed via the "Add New Hardware" wizard the "Settings" page does not get installed into the mach64 display adapter property sheet.

Windows 95 property page problems

While adjusting monitor settings in the Adjustment page of the Display Properties sheet, your monitor could become unreadable. If this occurs, press the ESC key to return to your previous monitor settings.

ATI Video Player Notes

Why can my Video Player not execute in Windows 3.1 ?

The Video Player needs at least 600K DOS CONVENTIONAL MEMORY. You can try to close some programs to acquire more memory to use. If it still happens, return to DOS and run "MEMMAKER" in your DOS directory to modify your memory configuration. Quiting some DOS TSRs (Terminate and Stay Resident) programs also helps.

After installing Xing MPEG Player, my ATI Video Player can not play Video CD even standard MPEG files.

Xing MPEG Player and ATI Video Player can not be installed together. They confilct with each other. The previously installed player will work abnormally. You can re-install ATI Video Player to recover it.

Why can I not use the TV output function in Windows 95?

You need to make sure that your resolution is 800x600 or under and refresh rate equal to or less than 60Hz in NTSC and 50Hz in PAL.

Other Problems & Actions

My monitor is not capable of high resolution or refresh rate.
It depends on the display characteristics of your monitor. Consult your monitor documentation for the proper configuration.

After installing the driver, Windows 95 doesn't prompt me to restart and the driver still doesn't work after I restart my computer.
You may have installed similar drivers before. Try the following steps to install:

1. Right-click **My Computer** on the desktop.
2. Select **Properties.** The **System Properties** dialog box appears.
3. Click the **Device Manager** tab. Be sure that **View devices by type** is selected.
4. Double-click **Display adapters**. If **Display adapters** does not appear, jump to step 8 and continue.
5. The name of your card will be listed in the box. Double-click it.
6. The properties box of your card appears. Click the **Driver** tab.
7. Click **Change Driver...** and follow the installation steps.
8. Click **Other devices**. Your card should be listed.
9. Click the name of your card to bring up the properties box of your card. Select the **Driver** tab.
10. Click **Change Driver...** and follow the installation steps.

After installation and restarting, Windows 95 informs me that the display setting is still incorrect.
There may be a conflict between a previous and the current display drivers. This is caused by the incomplete removal of the previous display driver. Try the following steps to remove it:

1. Right-click **My Computer** on the desktop.
2. Select **Properties**. The **System Properties** dialog box appears.
3. Click the **Device Manager** tab. Be sure that **View devices by type** is selected.
4. Double-click **Display adapters**.
5. You will find two (or more) conflicting adapters.
6. Disable all previous adapters by selecting them and clicking **Remove**.
7. Close Device Manager and restart Windows 95.
8. Your display driver should work correctly this time.

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