
ALL-IN-WONDER™ 128

Installation and Setup

User's Guide

Version 1.0

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**PRELIMINARY
FEB 22**



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CHAPTER 1

Getting Started

Welcome to the convergence of your PC, TV and video! This new technology changes the way you view TV, graphics, and video on your PC.

The ALL-IN-WONDER 128 is a powerful TV, 2D, & 3D graphics and video accelerator. Its features will take your PC's graphics and video capabilities to the next level.

This guide provides all the information you need to install your ALL-IN-WONDER 128.



IN THIS CHAPTER...

- **Using this Guide** on page 6
- **What is ALL-IN-WONDER 128?** on page 7
- **System Requirements** on page 8
- **Other Sources of Information** on page 9

Using this Guide

The organization of this guide is as follows:



Installing the Hardware and Software on page 11 contains step-by-step instructions to help you place your card in your computer.



Installing ATI's Enhanced Windows® 95 / Windows® 98 Software on page 16 describes how to install display driver and ATI Multimedia Center software.



Using Your ALL-IN-WONDER 128 on page 25 explains how you can take advantage of the advanced new features of the ALL-IN-WONDER 128.



For Windows® 98 Users... on page 35 describes Windows® 98 features available with your ALL-IN-WONDER 128.



Tips and Tricks on page 39 presents some exciting new ways to use your card—video email, stop-motion animation, and more.



Reference on page 43 provides troubleshooting tips and specifications for your card.



User Guide: The **ATI Multimedia Center User's Guide** that came with your card explains how to use the special features that the ATI Multimedia Center provides.

What is ALL-IN-WONDER 128?

The ALL-IN-WONDER 128 delivers high-performance 3D and 2D graphics. You can play games, watch TV or videos, listen to audio CDs, explore the Internet, and work in Windows® 95 or Windows® 98 as never before.

ALL-IN-WONDER 128's advanced 3D acceleration gives you detailed color graphics and 3D features like multi-texturing, alpha blending, and fog effects.

ALL-IN-WONDER 128 also provides powerful 2D graphics features through the Display Properties pages:

Settings	Customize your desktop settings such as desktop size, screen resolution and color depth, and store various desktop preferences for easy recall later.
Panning	Set hotkeys to control panning of the desktop within a Virtual Desktop.
Adjustment	Adjust the position and size of your screen, as well as manipulate the screen refresh rate, frequencies and synchronization.
Color Correction	Correct color tone differences between real color values and the way your monitor displays them, and store various color correction preferences for easy recall later.

For comprehensive online information on the above features, just right-click on your desktop, click **Properties**, select the tab you want help for, then click the **Help** button.

ATI's RAGE 128 accelerator chips provide advanced 3D support and accelerated 2D graphics. Games and software applications that support the RAGE 128 — including Direct3D applications — run with fluid motion and in brilliant color.

ALL-IN-WONDER 128 is a part of ATI's legendary family of graphics accelerators. Your existing 2D games and applications will snap to life with 128-bit acceleration and faster, more vibrant colors.



You can use ALL-IN-WONDER 128 to connect your computer to a television. This feature is ideal for playing games, giving presentations, watching movies, and browsing the Internet. (For more information, see [Using Your ALL-IN-WONDER 128](#) on page 25.)

ALL-IN-WONDER 128 also turns your PC into an intelligent TV with the following features:

- Zoom-in
- Scheduled Viewing
- Channel Scanning
- Video capture
- Closed Captioning with “Hot Words” and “Look Back” features
- Program transcript recording
- TV magazine
- Instant Replay
- Digital VCR with real-time video compression
- dbx[®] stereo audio TV (Because Europe uses different stereo TV standards, ALL-IN-WONDER 128 TV audio is monaural-only in Europe.)

System Requirements

Computer system	Pentium [®] /Pentium Pro [®] , Pentium II [®] , or compatible systems with PCI Local Bus or AGP bus
Expansion Slot	32-bit PCI Local Bus (AGP slot for AGP variants)
Operating System	Windows [®] 95, Windows [®] 98, Windows [®] NT 4.0
Monitor	VGA, supporting minimum 640x480 resolution. <i>A Plug-and-Play monitor that supports VESA's Display Channel specifications (DDC1 or DDC2b) is required to take advantage of the DDC1/DDC2b features.</i>

Other Sources of Information

If you need additional help or require information that is not included in this guide, see the following sources:

Readme File



This file contains the latest information about your ALL-IN-WONDER 128 card.

To view the Readme file in DOS

- 1** Insert the *ATI Installation CD-ROM* into your CD-ROM drive.
- 2** In an MS-DOS window, type **D:** (or substitute your CD-ROM drive letter).
- 3** Type **README**.

Online Help



If you require additional information, you can refer to the online help available under Windows[®] 95 or Windows[®] 98 for more information about using ATI's enhanced drivers.



For information on ALL-IN-WONDER 128's graphics features, double-click the ATI icon in the lower-right corner of your screen.

Online manual



Your ALL-IN-WONDER 128 comes with an online manual that describes the extensive features of your card.

To open the online manual

- 1** Insert the ATI INSTALLATION CD-ROM into your CD-ROM drive.
If Windows runs the ATI INSTALLATION CD-ROM automatically, proceed to step 5.
- 2** In the Windows[®] 95 / 98 taskbar, click **Start**.
- 3** Click **Run...**
- 4** Type the following: **D:\ATISSETUP**
(or substitute your CD-ROM drive letter.)
- 5** Click the Online Manual icon.

ATI Multimedia Center Guide

The *ATI Multimedia Center User's Guide* that came with your card explains how to use the special features that the ATI Multimedia Center provides.

CHAPTER 2

Installing the Hardware and Software

Installing your card consists of three, easy steps.

- **Placing the card in your computer**
- **Installing ATI's enhanced display drivers**
- **Attaching input and output cables and optional TV, VCR, camcorder, etc.**

This chapter explains how to place your card in your computer, how to install the software, and how to connect the input and output cables.



IN THIS CHAPTER...

- **Preparing Your Computer** on page 12
- **Installing the Hardware** on page 12
- **Installing Enhanced Drivers and the ATI Multimedia Center for Windows® 95 / Windows® 98** on page 16
- **Input and Output Adapters** on page 19
- **Windows® 95 / Windows® 98 Volume Control** on page 22



Turn off the power to your system, and discharge your body's static electric charge by touching a grounded surface — for example, the metal surface of the power supply — before performing any hardware procedure.

The manufacturer assumes no liability for any damage, caused directly or indirectly, by improper installation of any components by unauthorized service personnel. If you do not feel comfortable performing the installation, consult a qualified computer technician.

Damage to system components, the accelerator card, and injury to yourself may result if power is applied during installation.

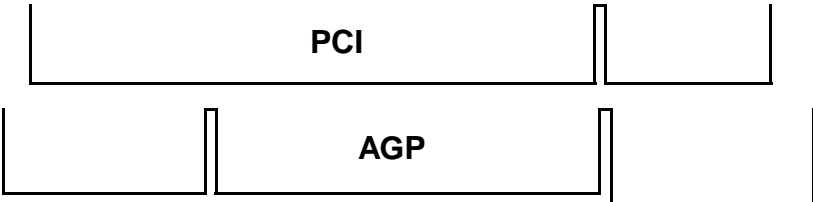
Preparing Your Computer

If you are using an operating system other than Windows® 95 or Windows® 98, you may need to do the following before installing your card:

If your current system configuration uses special drivers that are not 640x480 VGA, you may encounter conflicts with the card. We recommend that you first reconfigure your operating system to use a **VGA** driver supplied with your operating system before installing the card. For more information about changing your operating system configuration, see your operating system documentation.

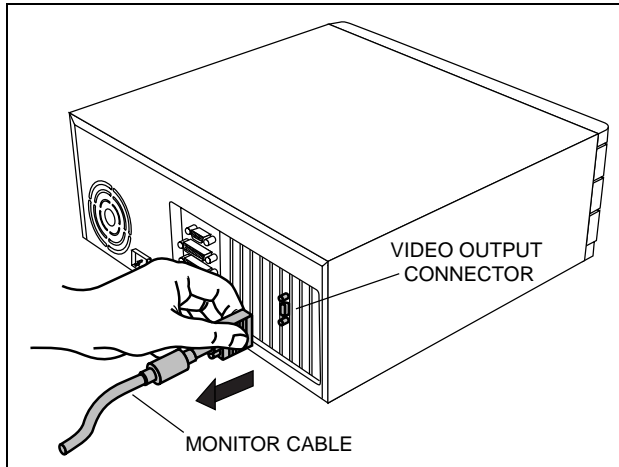
Installing the Hardware

Now that you have prepared your computer, you are ready to install your card. If you are not sure whether your ALL-IN-WONDER 128 is PCI or AGP, compare the bottom edge of your card with the following illustration:



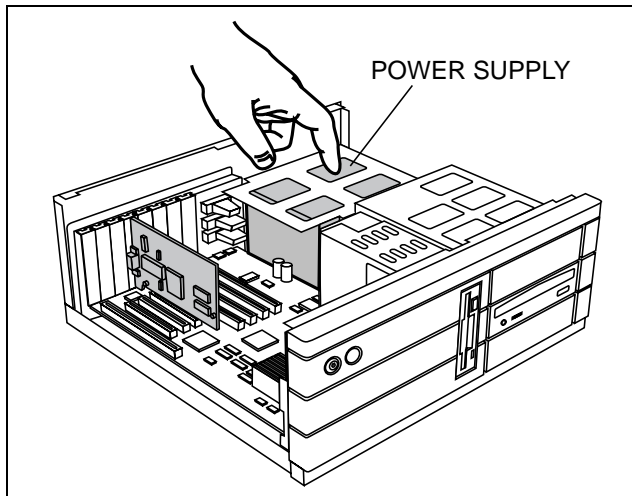
To install your card

- 1** Power-off the computer and monitor, then disconnect the monitor cable from the back of your computer.



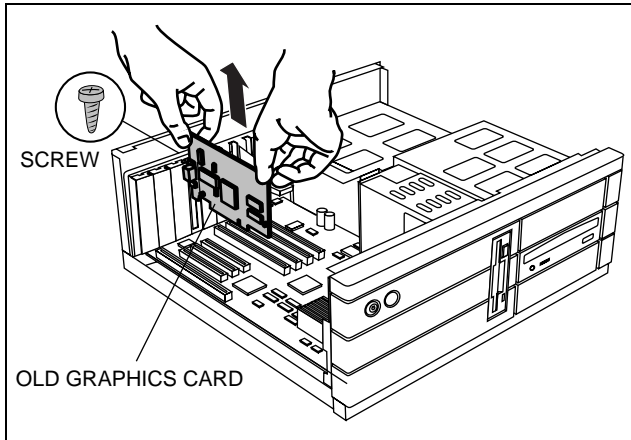
- 2** Remove the computer cover. If necessary, consult your computer system manual about removing the cover.

Remember to discharge your body's static electricity by touching the metal surface of the computer chassis.



- 3** If you intend to run multiple displays with Windows® 98 (see *Multiple Display Support in Windows® 98* on page 36), proceed to step 4. **Otherwise, remove any existing graphics card** from your computer.

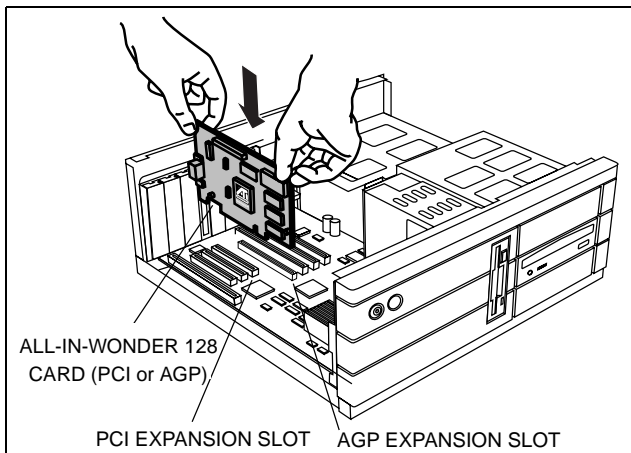
If the old graphics card sticks, rock it gently from end to end. Remember to save the screw.



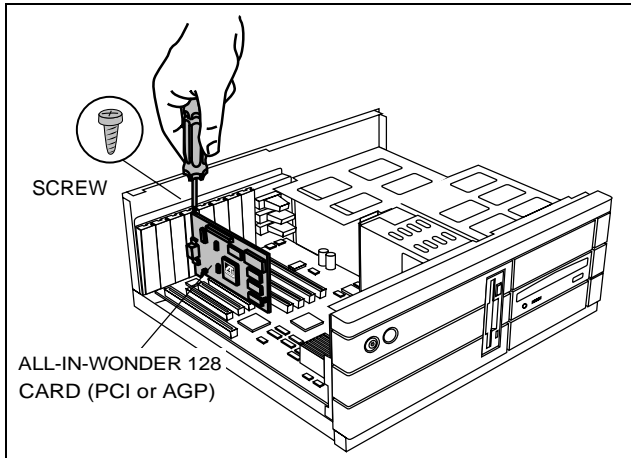
Or, if your computer has any **on-board graphics capability**, you may need to **disable** it on the motherboard. For more information, see your computer documentation.

- 4** If necessary, remove the metal cover from the empty expansion slot that you select (PCI cards use a PCI slot; AGP cards use an AGP slot), then **align your new card with an empty expansion slot, and press it in firmly until fully seated.**

Grasp the new card by the top edge and carefully seat it firmly into the correct slot (PCI or AGP). Ensure that the metal contacts are completely pushed into the slot.

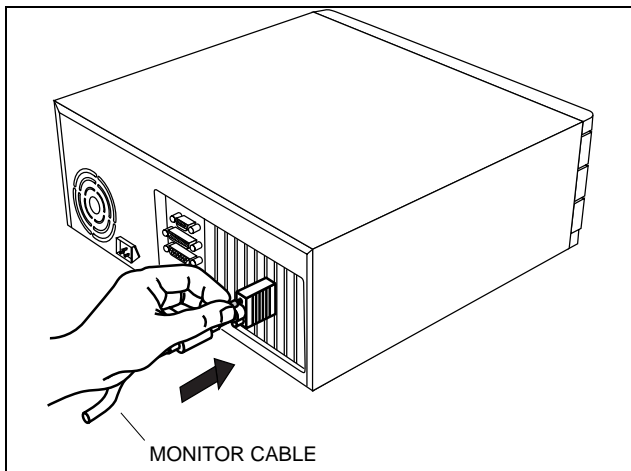


- 5** Replace the screw to fasten the card in place, and replace the computer cover.



- 6** Plug the monitor cable into your card (if you are running multiple displays under Windows® 98, connect their cables to the appropriate connectors), then **turn on the computer and monitor(s)**.

Make sure your monitor cable is securely fastened.



Installing ATI's Enhanced Windows[®] 95 / Windows[®] 98 Software

NOTE

Close all open applications before installing your ATI software.

The ALL-IN-WONDER 128 is designed to function fully under Windows[®] 95 and Windows[®] 98. When running under other operating systems, it operates as a graphics card only.

Your computer uses programs called **graphics drivers** to display information on the screen. ATI's enhanced drivers give you enhanced speed, resolution, color depth, graphic utilities, and 3D features.

In addition, the ATI Multimedia Center program completes the functionality of ALL-IN-WONDER 128.

Installing Enhanced Drivers and the ATI Multimedia Center for Windows[®] 95 / Windows[®] 98

You need to install ATI's enhanced driver for Windows[®] 95 or Windows[®] 98 to take advantage of your card's higher performance, resolutions, and special features.

**WINDOWS[®]
95**

If you are running Windows[®] 95, when you first boot your computer with your ALL-IN-WONDER 128 card installed, your system may prompt you to launch a wizard to install the "Standard PCI Graphics Adapter (VGA)". Click **CANCEL**.

**WINDOWS[®]
98**

If you are running Windows[®] 98, after you have installed your ALL-IN-WONDER 128 card and rebooted your computer, your system will prompt you to insert the Windows[®] 98 CD. **This is not necessary.**

- 1** Click **OK** to move to the next instruction.
You will be prompted to locate the Windows[®] 98 CD.
- 2** Click **CANCEL**.
You will now be notified that drivers have not been installed for your new hardware.
- 3** Click **OK**.

Always use the driver provided on the ATI Installation CD-ROM, or an applicable driver update.

Note

Always use the latest version of the ATI Installation CD-ROM to install ATI display drivers and multimedia software. The last three digits of the CD part number represent the version — a higher number indicates a later version.

All ATI Installation CD-ROMs include a complete set of display drivers and multimedia software.

Use the *same* ATI Installation CD-ROM to install the ATI enhanced display driver and the ATI Multimedia Center.



The RAGE 128 display drivers on your ATI Installation CD-ROM are the latest and fastest available, but at ATI, we are constantly improving our products, so check the ATI web site at <http://www.atitech.ca> under **Tech.Support/Driver Updates** for newer, faster software.

To install the ATI RAGE family enhanced drivers and the ATI Multimedia Center for Windows[®] 95 or Windows[®] 98



From CD:

- 1** Insert ATI's Installation CD-ROM into your CD-ROM drive.
If Windows[®] 95 / Windows[®] 98 runs the ATI INSTALLATION CD-ROM automatically, proceed to step 6.
- 2** In the Windows taskbar, click **Start**.
- 3** Click **Run...**
- 4** Type the following:
D:\ATISSETUP (If **D** is not your CD-ROM drive, substitute the correct drive letter.)
- 5** Click **OK**.
- 6** Click **Easy Install** to begin the installation Wizard.
- 7** Follow the Wizard's on-screen instructions to complete the installation.



*For correct resolution and refresh rate operation, you need to select a **display device**. You may also want to change the **color palette** from 256 colors (the default) to a higher number of colors. For instructions, refer to ATI's on-line help file – simply double-click the ATI icon in the taskbar to access the on-line help.*



Drivers downloaded from the ATI website:

- Double-click the self-extracting executable file to start the installation.

Note that the ATI VIDEO PLAYER is downloaded separately from the display driver. Always use a corresponding ATI VIDEO PLAYER and display driver.

Note Windows will automatically reboot your system after the drivers are installed.

To open the ATI Multimedia Center in Windows® 95 or Windows® 98



From LaunchPad. The LaunchPad provides a convenient way to start all your Multimedia Center features—just click the one you want. LaunchPad opens automatically when you start your computer, or if you prefer, you can right-click LaunchPad, and uncheck **Load on Startup** in the drop-down menu.

From Windows® taskbar.

- 1** In the Windows taskbar, click **Start**.
- 2** Point at **Programs** ▶.
- 3** Point at **ATI Multimedia** ▶.
- 4** Click **TV, Video Editor, CD Audio, DVD, or Video-CD**.

For information on the ATI Multimedia Center, see the online help.

Input and Output Adapters

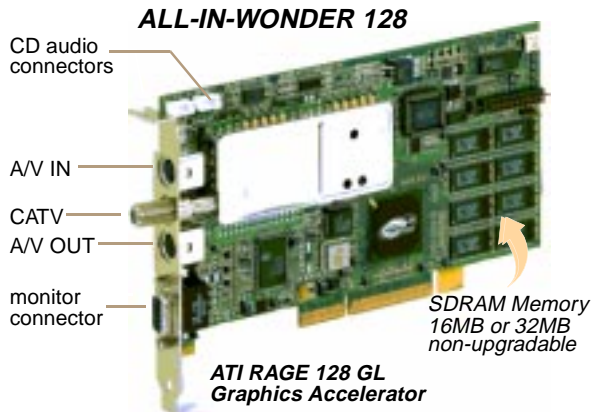
NOTE

To hear audio from the television, you must make a connection between ALL-IN-WONDER 128 and your sound card: see [page 21](#).

Your ALL-IN-WONDER 128 card uses input and output adapters that let you connect audio and video devices to the card. You can use these adapters to:

- Connect a VCR, laserdisc player, or camcorder, and watch movies on your PC.
- Connect your camcorder and capture video for use in presentations, Web pages, or use third-party videoconferencing software.
- Connect your big-screen TV, and share the PC experience with a group of people, or play games on your big-screen TV.
- Attach a VCR to the video output and record presentations, games, internet, etc.

For information on the CD audio connectors see [page 47](#)

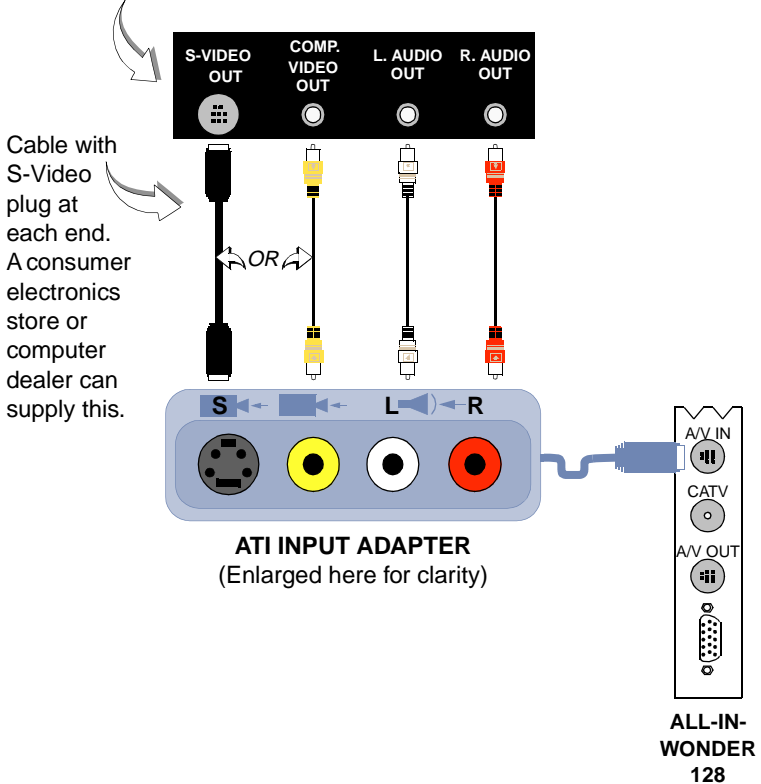


To watch movies on your PC or capture video from your VCR, camcorder, or laserdisc player

Use the ATI input adapter to connect a VCR, camcorder, or laserdisc player to your ALL-IN-WONDER 128, as shown.



The audio and video **output** connectors on your VCR, camcorder, or laserdisc player will be similar to these. Use COMPOSITE VIDEO OUT or S-VIDEO OUT. S-Video will provide better results.

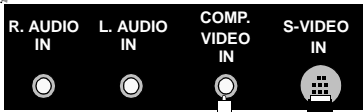


To display your PC output on TV and record your PC output on videotape

Use the 3-headed adapter to connect a TV, camcorder, or VCR to your ALL-IN-WONDER 128, as shown.

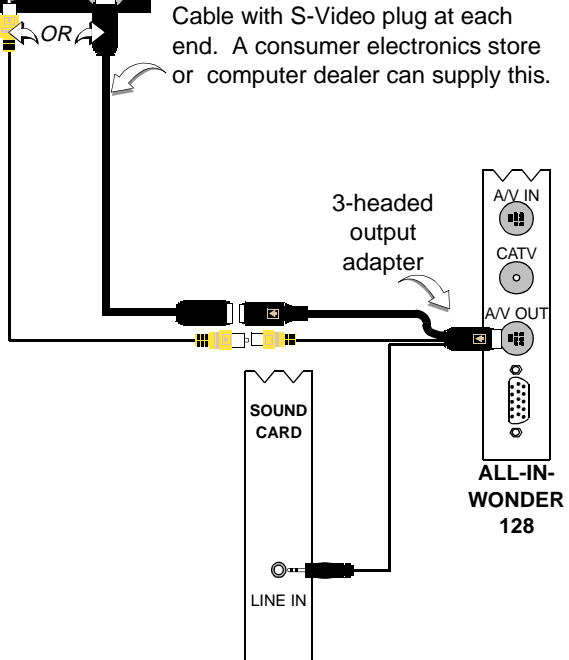


The audio and video **input** connectors on your TV, camcorder, or VCR will be similar to these. Use COMPOSITE VIDEO IN **or** S-VIDEO IN. S-Video will provide better results.




Cable with S-Video plug at each end. A consumer electronics store or computer dealer can supply this.

Cable with RCA plug at each end. A consumer electronics store or computer dealer can supply this



Windows[®] 95 / Windows[®] 98 Volume Control

For correct audio performance, your sound card's line input must be active. To display the Line Input setting in the Windows 95[®] / Windows[®] 98 Volume Control panel:


- 1 Right-click the speaker icon  in the Taskbar (usually in the lower-right corner of your screen).
 - 2 Click **Open Volume Controls**.
 - 3 If the Line-In volume slider is not visible, click **Options**, then click **Properties**.
 - 4 Click the **Line-In** volume control checkbox, then click **OK**.
- If the **Mute** checkbox is checked, click it to cancel muting.

If the speaker icon is not in your Taskbar, do the following:

- In the Windows taskbar, click **Start**, point to **Settings**, then click **Control Panel**.
- Double-click **Multimedia**.
- In the **Audio** tab, check **Show volume control on Taskbar**.

To select the sound card connector for TV audio input

The sound card connector determines which mixer slider is controlled by the ATI Multimedia Center's volume slider.

- 1  Click the Setup button in the TV Player control panel, then click the **Display** tab.
- 2 Click the **Initialization** button, then click the **Next** button twice to open the TV Sound Initialization Wizard.
- 3 Click the audio input that matches the connection between your ATI card and your sound card. If you are not sure how it is connected, click each source (CD Audio, Line-In, etc.), and listen for the sound.

TV reception tips



- In the TV Tuner tab, ensure that you click the **correct setting for cable or antenna**.
- For the best indoor antenna reception, use an **amplified** model, and move it as **far away from your monitor** as possible.

CHAPTER 3

Using Your ALL-IN-WONDER 128

For comprehensive information on your ALL-IN-WONDER 128's multimedia features, please see the *Using Your ATI Multimedia Center* User's Guide that came with your card.



IN THIS CHAPTER...

- *Attaching a TV to Your ALL-IN-WONDER 128 Card* on page 26
- **Using TV Out** on page 27
- **Connecting your PC to a television or a VCR** on page 28
- **Using SCART Connectors for European Televisions** on page 30

Attaching a TV to Your ALL-IN-WONDER 128 Card

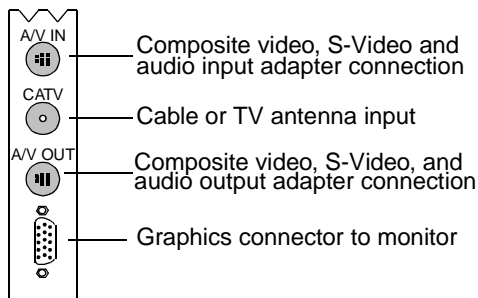
Using your ALL-IN-WONDER 128 card, you can connect a television set as your computer's display. You can use your ALL-IN-WONDER 128 card to do the following:

- View computer output directly on your television in either NTSC or PAL formats (depending upon the country where you purchased your ALL-IN-WONDER 128)
- 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 that is ideal for playing games, giving presentations, watching movies, and browsing the Internet

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 (see diagram below).

ALL-IN-WONDER 128 Connectors



- 4 Connect the supplied output cable adapter to the A/V OUT connector on the ALL-IN-WONDER 128.

5 Using a cable with either S-Video or RCA connectors, attach one end of the cable to the output cable adapter and the other to your television.

6 Turn on your computer and your television.

If there is no display, you may need to enable the television output capability; see Using TV Out.

For detailed cabling diagrams and audio connections, see [Input and Output Adapters](#) on page 19.

Using TV Out

NOTE

You must attach a TV before enabling TV output.

Certain RAGE 128-based graphics card have TV Out capability. Check the Technical Information for your new card to see if TV output connectors are included. If so, just attach your new card to a television, a monitor, or both. You can even attach your graphics card to your VCR and record your computer's display.

Television display is ideal for playing games, giving presentations, watching movies, and browsing the Internet. The following tips will help you get the most out of your TV Out feature.

IMPORTANT INFORMATION for European Customers



Some PC monitors in Europe **cannot** be used simultaneously with television display. When you enable television display in Europe, the refresh rate for the monitor and television is set to 50Hz. Some monitors may not support this refresh rate and could be damaged.

- Please check the documentation supplied with your monitor to see if your monitor supports a refresh rate of 50Hz.

If your monitor does not support 50 Hz (or you are not sure), then turn off your monitor before turning on your computer when using your television as a display.

For information on disabling television display, see [To enable and disable the television display on page 31](#).

Some televisions in Europe may use an SCART connection. If you use SCART, please read Using SCART Connectors for European Televisions on page 30 before attempting to connect your PC to your television.

Connecting your PC to a television or a VCR

To connect your computer to a television or a VCR, attach a connector cable from the television (or VCR) to your card. Most televisions and VCRs have a Composite video input, also referred to as a phono jack or RCA input. A growing number of televisions and VCRs have another type of video input called S-Video or S-VHS. An S-Video connection produces a higher quality display than Composite video.

If your television has cable input only, which is the case on older units, you can connect your graphics card to your television using your VCR or an RF modulator (available in most electronics stores).

To connect your TV Out graphics card to a television or VCR

- 1** Turn off your computer and your television or VCR.
- 2** Ensure your graphics card is installed correctly.
*To use television display, you need the enhanced ATI driver (version 6.0 or greater) installed on your system. For information about placing the card in your computer and installing the enhanced ATI driver, see the **Getting Started...** chapter.*
- 3** Determine if your television or VCR has an S-Video or Composite video connection.
- 4** Looking at the back of your computer, locate your graphics card. Using an S-Video or Composite cable, attach one end of the cable to your graphics card and the other to your television or VCR. (See Figure 1. Connecting your ATI graphics card to a TV or VCR.)
- 5** Turn on your computer and your television or VCR.
- 6** To turn your television display on and off, please see [To enable and disable the television display](#) on page 31.
If there is no display on your television, you may need to switch your television to video display. For more information, see the documentation supplied with your television. If you have a television connected to your VCR, you can use the television as your computer's display. For information about connecting a television to your VCR, see the documentation that came with your VCR.

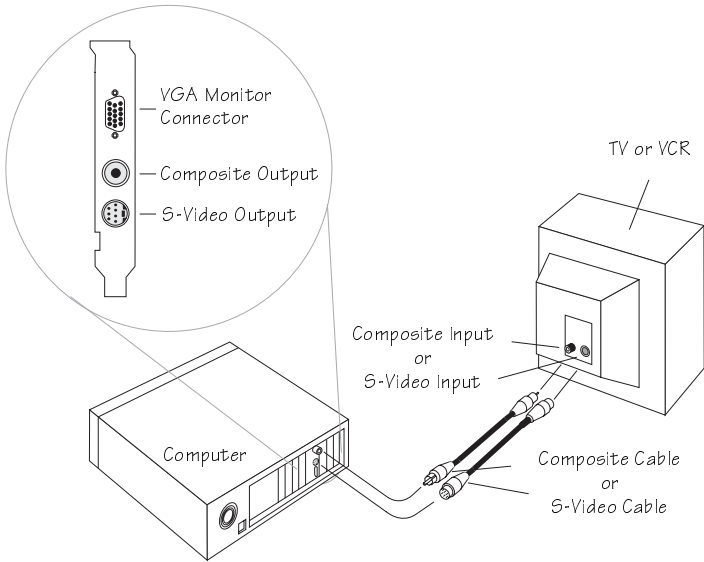


Figure 1. Connecting your ATI graphics card to a TV or VCR

Using SCART Connectors for European Televisions

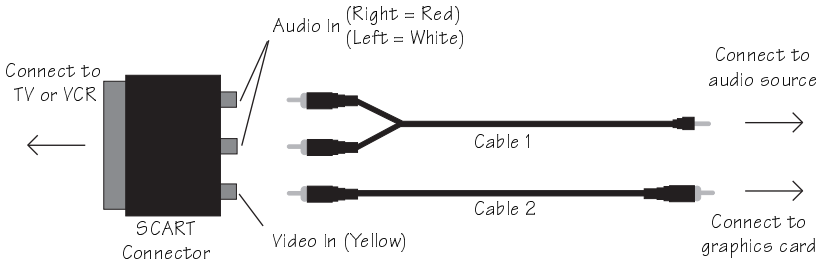


Figure 2. Using an SCART connector with a Composite cable

The SCART connector supports only the Composite video format, which is the most common type. Figure 2 shows how to connect to a SCART connector with a Composite cable.

If your television supports S-Video (also called S-VHS) video input, you should use an S-Video cable (available in most consumer electronics stores) to view your PC on a television. An S-Video connection produces a higher quality display than Composite video.

Using and Adjusting TV Out

To enable and disable the television display

- 1 Start Windows[®].
- 2 Click **Start**.
- 3 Point to **Settings**, then click **Control Panel**.
- 4 Double-click **Display**.
- 5 Click the **ATI Displays** tab.
- 6 Windows[®] 98 users click the **Advanced...** button, then click the **ATI Displays** tab.
- 7 Click the green **enable/disable** button next to the word “TV” to enable/disable television display.
- 8 Click **OK** or **Apply** to save the changes you have made.
*For information about how to use television display and the ATI Displays Properties page, click the **Help** button.*

Starting Windows[®] with Television Display Enabled

The television screen may become scrambled temporarily during the initial Windows[®] logo display. This is only a temporary effect and your television screen will be restored within a few seconds.

During start up, your TV Out graphics card will go through a sequence of mode settings during which your television display will remain blank. This process takes only a few seconds and helps program the television display.

Using a Monitor vs. Using the Television Display

Using your television for your computer's display is ideal for playing games, giving presentations, watching movies, and browsing the Internet. The display on your monitor may change or look squashed. This occurs because the display adjusts to fit the dimensions of your television. To correct the monitor's display, use the controls on the monitor to adjust the display size and position.

Some single-frequency monitors may not work with television display enabled. If you experience problems when television display is enabled, disable television display to restore your monitor's display.

Adjusting the Monitor Display

The size of the display on your monitor may be smaller and not perfectly centered when you have television display enabled. These effects are caused by the changes required to provide a proper display on the television.

Use the controls available on the Adjustments tab on the Monitor Properties page (click the **Monitor** button on the ATI Displays page) to adjust the display on your monitor only. Click the **Television** button to adjust the television display only.

Viewing Text on Television

Due to the different technology used in the manufacturing of televisions and PC monitors, standard PC text may look too small on your television. You can compensate for this by using larger fonts.

To Use Larger Display Fonts

- 1 Start Windows®.
- 2 Click **Start**.
- 3 Point to **Settings**, then click **Control Panel**.
- 4 Double-click **Display**.
- 5 Click the **Settings** tab.

- 6** In the **Font Size** box, select the size you want your displayed fonts to be.
*Windows[®] 98 users click the **Advanced...** button then select your font size.*
- 7** To customize the size of displayed fonts, select **Custom** or **Other**.
- 8** Click the **OK** button, then click the **Close** button. Click the **Yes** button to restart your computer and use your new settings.

Reducing Edge Distortion

When using a television for your PC's display, you may see some edge distortion on the left and right side of your television screen. This effect depends on your television and the PC application you are running. To reduce edge distortion, you can increase the horizontal size.

To Increase the Horizontal Size

- 1** Start Windows[®].
- 2** Click **Start**.
- 3** Point to **Settings**, then click **Control Panel**.
- 4** Double-click **Display**.
- 5** Click the **ATI Displays** tab.
*Windows[®] 98 users click the **Advanced...** button, then click the **ATI Displays** tab.*
- 6** Click the **TV** button.
- 7** Click the **Adjustments** tab.
- 8** Click the plus (+) button under Horizontal Screen to increase the horizontal size of the television display.
- 9** Click **OK** or **Apply** to save the changes you have made.

You can also reduce edge distortion by reducing the brightness.

To change the brightness

- 1 Start Windows[®].
- 2 Click **Start**.
- 3 Point to **Settings**, then click **Control Panel**.
- 4 Double-click **Display**.
- 5 Click the **ATI Displays** tab.
*Windows[®] 98 users click the **Advanced...** button, then click the **ATI Displays** tab.*
- 6 Click the **TV** button.
- 7 Drag the **Brightness slider** to the left to decrease the brightness.
- 8 Click **OK** or **Apply** to save the changes you have made.

Changing Display Configurations

If you move your computer to a place where you are using television display only, make sure that you have the television display feature enabled first; see [To enable and disable the television display](#) on page 31.

If you change your display mode beyond the 800x600 mode, the Virtual Desktop will automatically be enabled. When Virtual Desktop is enabled, your desktop size is larger than your screen size. Your display then becomes a moveable window onto the available workspace. For example, if you change your display mode to the 1024x768 mode, your desktop size changes to 1024x768. Use your mouse to make the window scroll up, down, left, or right to see all areas of the desktop. Change your display back to a mode supported by the television display to turn the Virtual Desktop off.

Using Games and Applications

Some older games and applications may program the graphics card directly to run under a specific display mode. This may cause your television display to turn off automatically or become scrambled (the PC monitor will not be affected). Your television display will be restored once you exit the game or if you restart your system.

CHAPTER 4

For Windows® 98 Users...

Windows® 98 offers many exciting new features for users with an ALL-IN-WONDER 128.



IN THIS CHAPTER...

- **Multiple Display Support in Windows® 98** on page 36
- **NetMeeting™ 2.1** on page 37

Multiple Display Support in Windows® 98



You can use multiple monitors and a single TV at the same time.

Windows® 98 provides support for using more than one display device at a time—you simply install a separate PCI or AGP card for each additional monitor you intend to use. With multiple displays, you can expand your desktop, run different programs on separate displays, even play some newer games with multiple views. Each display can have a different resolution and color depth!

Windows® 98 automatically designates one graphics card as the **primary** graphics card. Each additional graphics card is designated as a **secondary** card. Certain 3D and multimedia features are only available on the **primary** graphics card. If you are installing more than one graphics card, you need to consider the following:

- If you install both a **PCI and an AGP** graphics card in the same system, the **AGP** graphics card will become the **secondary** graphics card.
- If you install **two or more PCI** graphics cards in the same system, the primary graphics card is typically the one installed in the PCI slot with the *lowest* number—this is typically the PCI slot farthest from the computer's ISA slots. Consult your computer system manual for help in selecting a slot.

The latest information on installing ATI's cards and enhanced drivers for Windows® 98 is provided in the Readme file on the ATI Installation CD-ROM.



NOTE

Some motherboards will allow an **AGP** card to act as the **primary** graphics card. A motherboard flash BIOS (for example, ASUS, Intel) may be required to enable this feature. Check your motherboard manufacturer's website for information.

NetMeeting™ 2.1

Windows® 98's NetMeeting 2.1 provides a single interface for multipoint data conferencing and collaboration on virtually any Windows-based application, in addition to high quality videoconferencing over a LAN or the Internet. All you need is a digital camera that supports composite or S-Video out. Plug it into your ALL-IN-WONDER 128's video input port, and you'll be ready to use your computer as an Internet video-phone!

To set up Microsoft NetMeeting on your computer

- 1 In the Windows taskbar, click **Start**.
- 2 Point at **Programs** , then point at **Internet Explorer** , and click **Microsoft NetMeeting**.

The NetMeeting install wizard will guide you through several simple steps, and ask you which capture driver you would like to use. Select the driver labeled **VfW MM 16-bit WDM capture driver**.

NOTE

You must use the Windows 98 or RAGE 128 display drivers with NetMeeting.

CHAPTER 5

Tips and Tricks

This chapter suggests some exciting new ways to use your ALL-IN-WONDER 128. You will need to attach a video camera to your ALL-IN-WONDER 128, following the instructions on page 20.

Many camcorders and digital cameras have composite or S-Video outputs that will provide real-time images on your ALL-IN-WONDER 128. Using the ATI Multimedia Center's Digital VCR feature, you can capture them as still frames and full-motion clips.



IN THIS CHAPTER...

- **Video Email** on page 40
- **Stop-Motion Animation** on page 40
- **Security Camera** on page 41

Video Email

Use your ALL-IN-WONDER 128 to capture a video clip, which you then attach to an email message for your family and friends.

Because video files can be very large, you should use a small capture size – 240x160 or smaller – and the ALL-IN-WONDER 128's video compression features to reduce the file size (see *Capturing video and still images* in the *Using Your ATI Multimedia Center User's Guide*).

- **Indeo 3.2** or **4.1** are popular compression codecs (encoder-decoders) that can dramatically reduce the file size while maintaining good quality. Any Windows 95 / Windows 98 system will play Indeo 3.2.
- If you use the **ATI VCR 1.0** or **2.0** codec to compress your video on-the-fly, you must ensure that the receiving computer can play these files back.

Stop-Motion Animation

Using the TV Player's **sequence capture** feature, you can take a series of still shots and save them as an .AVI movie. You can use this feature to easily produce a "claymation" or other work-in-progress type of movie. See *To record a sequence of frames (stop-motion)* in the *Using Your Multimedia Center User's Guide*.

Security Camera

Your ALL-IN-WONDER 128 provides an ideal way to capture video for an extremely long period of time—no more worries about your security camera running out of tape! Simply set your ALL-IN-WONDER 128 to a lower video capture frame rate, and capture many high quality still images automatically, for days at a time. See *Capturing video and still images* and *Digital VCR settings* in the *Using Your ATI Multimedia Center User's Guide*)

suggested settings

Codec	ATI VCR 2.0
Size	320x240
Frame rate	1 frame per second

Streaming video

An improved security camera would stream the real-time video feed from your ALL-IN-WONDER 128 to the internet. RealNetworks.com provides software to perform this.

CHAPTER 6

Reference

This chapter contains troubleshooting tips and specifications for your ALL-IN-WONDER 128.



IN THIS CHAPTER...

- **Running Diagnostics** on page 44
- **Troubleshooting Tips** on page 45
- **ATI Multimedia Channel (AMC)** on page 48
- **ALL-IN-WONDER 128 Video Mode Table (16MB Memory)** on page 50
- **ALL-IN-WONDER 128 Video Mode Table (32MB Memory)** on page 52
- **Compliance Information** on page 54

Running Diagnostics

Diagnostics programs allow you to test the hardware on your new Rage™ 128-based accelerator card. Both Windows® and MS-DOS® diagnostics are included on your ATI Installation CD-ROM. Running the diagnostics programs will allow you to view and test all the installed graphics modes on your card. Follow the procedures below to run diagnostics.

To run the diagnostics in Windows® 95 or 98

- 1** Make sure to close all open programs on your computer.
- 2** Click **Start**.
- 3** Select **Settings** and choose **Control Panel**.
- 4** Double-click the **System** icon to open the **System Properties** dialog.
- 5** Click the **Device Manager** tab.
- 6** Click the plus sign (+) next to **Display Adapters**.
- 7** Double-click the name of your ATI graphics accelerator card to open the **Properties** dialog.
- 8** Click the **Diagnostics** tab.
- 9** Follow the instructions in the window to run diagnostic tests or to get detailed information on your ATI graphics accelerator card.

Status information includes Installed Modes, Current Mode, and Configuration details such as ROM version, ASIC type, video memory, and BIOS version.

To run the diagnostics in MS-DOS®

NOTE
You cannot run the diagnostics program inside a Windows MS-DOS box

- 1** Insert the ATI Installation CD-ROM into your CD-ROM drive.
- 2** Type **D:**.
*If **D** is not your CD-ROM drive, substitute **D** with the correct drive letter.*
- 3** Type **CD UTILITY**.
- 4** Type **RAGEDIAG**.
- 5** Select **Diagnostics**.
- 6** Type in the number of times you would like to run the tests.

Troubleshooting Tips

The following troubleshooting tips may help you if you experience problems. Contact your dealer for more advanced troubleshooting information.

Basic troubleshooting tips

- Check that the **card is seated properly** in its expansion slot. If the problem still exists, try a different PCI expansion slot.
- Ensure that the **monitor cable is securely fastened** to the card.
- Make sure that the **monitor and computer are plugged in and receiving power**.
- For Windows® 95 / Windows® 98, **disable any built-in graphics capabilities** on your mother board. For more information, see your computer documentation.
- Make sure that you selected the **appropriate monitor** when you installed your enhanced driver.
- If you use an indoor antenna, you will get the best results with an **amplified** model. Place it as **far away from the PC monitor** as possible, to avoid interference.
- Make sure that your **audio card's line input is active** (see *Windows® 95 / Windows® 98 Volume Control* on page 22).

Windows® 95 / Windows® 98 troubleshooting tips

For Windows® 95 / Windows® 98 troubleshooting tips, right-click the ATI icon in the taskbar, and select **Troubleshooting**.

If you have problems during start-up, start your computer in Safe Mode.

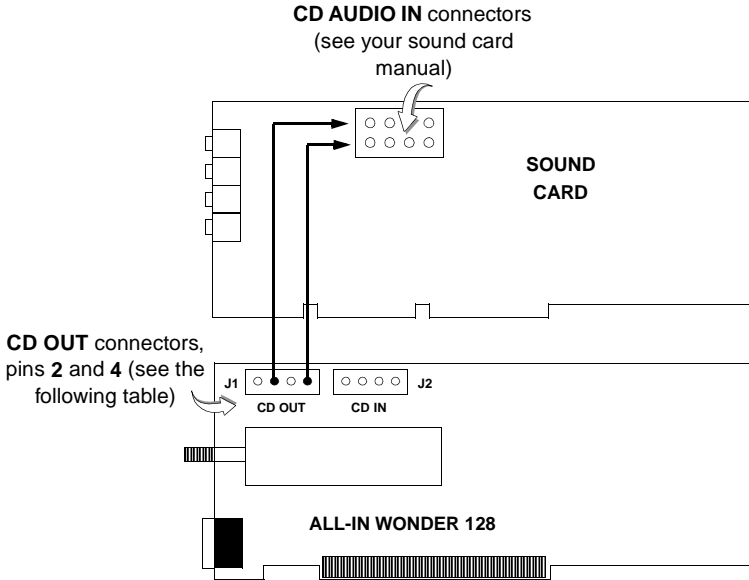
To load Windows® 95 / Windows® 98 in Safe Mode

- 1** Turn on your computer.
- 2** In Windows® 95, press the **F8** key when Starting Windows 95 appears on the screen.
In Windows® 98, press and hold the **CTRL** key until the Windows 98 Startup Menu appears, then **select the number for Safe Mode**, and press **Enter**.
- 3** Select **Safe Mode**.
 - Disable any programs that launch automatically when you start Windows® 95 / Windows® 98.
 - Check that you have the correct monitor and display driver selected in the Display Properties. For more information, click Help in the Start menu.
 - Check for the existence of memory managers and ensure they are configured properly.
 - Refer to additional information in the Windows® 95 / Windows® 98 README file located in the root directory on the ATI Installation CD-ROM.

If you don't hear audio, make sure that your audio card's line input is active (see [Windows® 95 / Windows® 98 Volume Control on page 22](#)).

CD Audio Connectors

The following illustration shows the CD audio connectors on your ALL-IN-WONDER 128 card.



This table lists the pin assignments for the CD audio connectors on your ALL-IN-WONDER 128 card.

ALL-IN-WONDER 128	SIGNAL	PIN
J2	CD IN	Pin 1 - GND
J2	CD IN	Pin 2 - LEFT IN
J2	CD IN	Pin 3 - GND
J2	CD IN	Pin 4 - RIGHT IN
J1	CD OUT	Pin 1 - GND
J1	CD OUT	Pin 2 - LEFT OUT
J1	CD OUT	Pin 3 - GND
J1	CD OUT	Pin 4 - RIGHT OUT

To Remove the ATI Multimedia Center

- 1 In the Windows taskbar, click **Start**.
- 2 Point to **Settings** ▾.
- 3 Click **Control Panel**.
- 4 Double-click **Add/Remove Programs**.
- 5 Select **ATI Multimedia Center** from the list.
- 6 Click **Add/Remove...**
- 7 Click **OK**.

ATI Multimedia Channel (AMC)

While the AMC provides VGA Feature Connector (VFC) compatibility, it also provides enhanced features for new multimedia devices including serial control and provision for audio.



For more information on ATI's AMC products, visit our website at www.atitech.ca.



The AMC connector shares the same footprint with the VFC but it adds pins for supporting additional multimedia modes. Great caution should be taken when connecting a ribbon cable to the AMC/VFC connector. Some of the pins carry power and any improper use can result in damage both to the graphics card and the upgrade board.

Japanese Users ...

Please note that Secondary Audio Program (SAP) stereo support is not available in Japan.

Specifications

System Requirements — Pentium II or compatible systems with Accelerated Graphics Port (AGP) expansion slot. Software requires CD-ROM drive.

Operating Environment	Windows® 95, Windows® 98, or Windows® NT.
Memory Configuration	16MB or 32MB, non-upgradable synchronous RAM.
Sync Signals	Separate horizontal and vertical sync at TTL levels.
Video BIOS	AGP 1.0 compliant (AGP 2X compliant).
Video Output Connector	CRT monitor — 15-pin D shell (Female), IBM standard.
AMC Connector	2x20 pin header. Shares the same footprint with the 2x13 pin VGA Feature Connector, VGA Out only, VESA standard.
TV Output Connectors	<ul style="list-style-type: none"> • Available under Windows® 95, Windows® 98, or Windows® NT • NTSC output (PAL versions available) • Composite, S-Video connectors
Video Interrupt <i>(Reserved for future use)</i>	PCI — system auto-configurable, jumper-settable (default is OFF).
Power	<ul style="list-style-type: none"> • +5V ±5%, @ 0.4A typical. • +3.3V ±5%, @ 1.4A typical • +12V ±5%, @ 0.3A typical
Ambient Temperature	<p>Operating — 50° to 122° F (10° to 50° C).</p> <p>Storage — 32° to 162° F (0° to 70° C).</p>
Relative Humidity	<p>Operating — 5% to 90% non-condensing.</p> <p>Storage — 0% to 95%</p>
MTBF	250,000 hours.
EMC Certification	FCC Class B

ALL-IN-WONDER 128 Video Mode Table (16MB Memory)

ALL-IN-WONDER 128 Video Mode Table (16MB Memory)							
Display Screen Resolution	Refresh Rate (Hz)	Hor. Scan (kHz)	Pixel Clock (MHz)	Colors (Bits Per Pixel)			
				8	16	24	*32
*32 - 24bpp color data is processed using a 32bpp data format.							
640x480	60	31.5	25.2	•	•	•	•
640x480	72	37.9	31.5	•	•	•	•
640x480	75	37.5	31.5	•	•	•	•
640x480	85	43.3	36.0	•	•	•	•
640x480	90	48.0	37.8	•	•	•	•
640x480	100	50.9	43.1	•	•	•	•
640x480	120	61.8	52.4	•	•	•	•
640x480	160	84.3	72.8	•	•	•	•
640x480	200	108.0	95.0	•	•	•	•
800x600	48	26.4	29.3	•	•	•	•
800x600	56	35.1	36.0	•	•	•	•
800x600	60	37.9	39.9	•	•	•	•
800x600	70	43.7	45.5	•	•	•	•
800x600	72	48.1	50.0	•	•	•	•
800x600	75	46.9	49.5	•	•	•	•
800x600	85	53.7	56.3	•	•	•	•
800x600	90	56.8	60.0	•	•	•	•
800x600	100	63.6	68.1	•	•	•	•
800x600	120	77.1	83.9	•	•	•	•
800x600	160	105.4	116.4	•	•	•	•
800x600	180	120.0	132.5	•	•	•	•
800x600	200	135.0	149.0	•	•	•	•
1024x768	43	35.5	44.9	•	•	•	•
1024x768	60	48.4	65.0	•	•	•	•
1024x768	70	56.5	75.0	•	•	•	•
1024x768	72	57.6	78.4	•	•	•	•
1024x768	75	60.0	78.8	•	•	•	•
1024x768	85	68.7	94.5	•	•	•	•
1024x768	90	72.8	100.1	•	•	•	•
1024x768	100	81.4	113.3	•	•	•	•
1024x768	120	98.7	139.0	•	•	•	•
1024x768	140	116.6	164.2	•	•	•	•
1024x768	150	125.7	176.9	•	•	•	•
1024x768	160	134.8	192.0	•	•	•	•
1024x768	180	153.5	218.6	•	•	•	•
1152x864	43	38.0	56.0	•	•	•	•
1152x864	47	41.7	62.1	•	•	•	•
1152x864	60	53.7	81.6	•	•	•	•
1152x864	70	63.0	96.7	•	•	•	•
1152x864	75	67.5	108.0	•	•	•	•

ALL-IN-WONDER 128 Video Mode Table (16MB Memory)							
Display Screen Resolution	Refresh Rate (Hz)	Hor. Scan (kHz)	Pixel Clock (MHz)	Colors (Bits Per Pixel)			
				32 MB			
				8	16	24	*32
1152x864	80	72.4	112.3	•	•	•	•
1152x864	85	77.0	119.6	•	•	•	•
1152x864	100	91.5	143.4	•	•	•	•
1152x864	120	111.1	176.0	•	•	•	•
1152x864	150	141.4	226.3	•	•	•	•
1152x864	160	151.6	242.6	•	•	•	•
1280x1024	43	45.1	75.1	•	•	•	•
1280x1024	47	49.4	83.0	•	•	•	•
1280x1024	60	64.0	108.0	•	•	•	•
1280x1024	70	74.6	128.9	•	•	•	•
1280x1024	74	79.0	138.5	•	•	•	•
1280x1024	75	80.0	135.0	•	•	•	•
1280x1024	85	91.1	157.5	•	•	•	•
1280x1024	90	97.0	169.2	•	•	•	•
1280x1024	100	108.5	190.9	•	•	•	•
1280x1024	120	131.6	233.7	•	•	•	•
1280x1024	125	137.6	244.4	•	•	•	•
1600x1200	52	64.2	137.7	•	•	•	•
1600x1200	58	71.9	155.4	•	•	•	•
1600x1200	60	75.0	162.0	•	•	•	•
1600x1200	66	82.2	178.9	•	•	•	•
1600x1200	72	90.0	195.9	•	•	•	•
1600x1200	75	93.8	202.5	•	•	•	•
1600x1200	76	95.2	208.7	•	•	•	•
1600x1200	85	106.3	229.5	•	•	•	•
1800x1440	60	89.4	219.5	•	•	•	•
1800x1440	65	97.1	238.5	•	•	•	•
1800x1440	70	104.9	249.9	•	•	•	•
1920x1080	60	67.0	172.7	•	•	•	•
1920x1080	70	78.6	205.1	•	•	•	•
1920x1080	75	84.6	220.6	•	•	•	•
1920x1080	80	90.4	237.4	•	•	•	•
1920x1200	60	74.5	193.1	•	•	•	•
1920x1200	72	90.0	222.2	•	•	•	•
1920x1200	75	93.9	231.4	•	•	•	•
1920x1200	76	95.2	245.0	•	•	•	•
1920x1440	60	89.4	234.5	•	•	•	•

*32 - 24bpp color data is processed using a 32bpp data format.

ALL-IN-WONDER 128 Video Mode Table (32MB Memory)

ALL-IN-WONDER 128 Video Mode Table (32MB Memory)							
Display Screen Resolution	Refresh Rate (Hz)	Hor. Scan (kHz)	Pixel Clock (MHz)	Colors (Bits Per Pixel)			
				8	16	24	*32
*32 - 24bpp color data is processed using a 32bpp data format.							
640x480	60	31.5	25.2	•	•	•	•
640x480	72	37.9	31.5	•	•	•	•
640x480	75	37.5	31.5	•	•	•	•
640x480	85	43.3	36.0	•	•	•	•
640x480	90	48.0	37.8	•	•	•	•
640x480	100	50.9	43.1	•	•	•	•
640x480	120	61.8	52.4	•	•	•	•
640x480	160	84.3	72.8	•	•	•	•
640x480	200	108.0	95.0	•	•	•	•
800x600	48	26.4	29.3	•	•	•	•
800x600	56	35.1	36.0	•	•	•	•
800x600	60	37.9	39.9	•	•	•	•
800x600	70	43.7	45.5	•	•	•	•
800x600	72	48.1	50.0	•	•	•	•
800x600	75	46.9	49.5	•	•	•	•
800x600	85	53.7	56.3	•	•	•	•
800x600	90	56.8	60.0	•	•	•	•
800x600	100	63.6	68.1	•	•	•	•
800x600	120	77.1	83.9	•	•	•	•
800x600	160	105.4	116.4	•	•	•	•
800x600	180	120.0	132.5	•	•	•	•
800x600	200	135.0	149.0	•	•	•	•
1024x768	43	35.5	44.9	•	•	•	•
1024x768	60	48.4	65.0	•	•	•	•
1024x768	70	56.5	75.0	•	•	•	•
1024x768	72	57.6	78.4	•	•	•	•
1024x768	75	60.0	78.8	•	•	•	•
1024x768	85	68.7	94.5	•	•	•	•
1024x768	90	72.8	100.1	•	•	•	•
1024x768	100	81.4	113.3	•	•	•	•
1024x768	120	98.7	139.0	•	•	•	•
1024x768	140	116.6	164.2	•	•	•	•
1024x768	150	125.7	176.9	•	•	•	•
1024x768	160	134.8	192.0	•	•	•	•
1024x768	180	153.5	218.6	•	•	•	•
1152x864	43	38.0	56.0	•	•	•	•
1152x864	47	41.7	62.1	•	•	•	•
1152x864	60	53.7	81.6	•	•	•	•

ALL-IN-WONDER 128 Video Mode Table (32MB Memory)							
Display Screen Resolution	Refresh Rate (Hz)	Hor. Scan (kHz)	Pixel Clock (MHz)	Colors (Bits Per Pixel)			
				32 MB			
				8	16	24	*32
1152x864	70	63.0	96.7	•	•	•	•
1152x864	75	67.5	108.0	•	•	•	•
1152x864	80	72.4	112.3	•	•	•	•
1152x864	85	77.0	119.6	•	•	•	•
1152x864	100	91.5	143.4	•	•	•	•
1152x864	120	111.1	176.0	•	•	•	•
1152x864	150	141.4	226.3	•	•	•	•
1152x864	160	151.6	242.6	•	•	•	•
1280x1024	43	45.1	75.1	•	•	•	•
1280x1024	47	49.4	83.0	•	•	•	•
1280x1024	60	64.0	108.0	•	•	•	•
1280x1024	70	74.6	128.9	•	•	•	•
1280x1024	74	79.0	138.5	•	•	•	•
1280x1024	75	80.0	135.0	•	•	•	•
1280x1024	85	91.1	157.5	•	•	•	•
1280x1024	90	97.0	169.2	•	•	•	•
1280x1024	100	108.5	190.9	•	•	•	•
1280x1024	120	131.6	233.7	•	•	•	•
1280x1024	125	137.6	244.4	•	•	•	•
1600x1200	52	64.2	137.7	•	•	•	•
1600x1200	58	71.9	155.4	•	•	•	•
1600x1200	60	75.0	162.0	•	•	•	•
1600x1200	66	82.2	178.9	•	•	•	•
1600x1200	72	90.0	195.9	•	•	•	•
1600x1200	75	93.8	202.5	•	•	•	•
1600x1200	76	95.2	208.7	•	•	•	•
1600x1200	85	106.3	229.5	•	•	•	•
1800x1440	60	89.4	219.5	•	•	•	•
1800x1440	65	97.1	238.5	•	•	•	•
1800x1440	70	104.9	249.9	•	•	•	•
1920x1080	60	67.0	172.7	•	•	•	•
1920x1080	70	78.6	205.1	•	•	•	•
1920x1080	75	84.6	220.6	•	•	•	•
1920x1080	80	90.4	237.4	•	•	•	•
1920x1200	60	74.5	193.1	•	•	•	•
1920x1200	72	90.0	222.2	•	•	•	•
1920x1200	75	93.9	231.4	•	•	•	•
1920x1200	76	95.2	245.0	•	•	•	•
1920x1440	60	89.4	234.5	•	•	•	•

*32 - 24bpp color data is processed using a 32bpp data format.

Compliance Information

FCC Compliance Information

ALL-IN-WONDER 128 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:

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

- The use of shielded cables for connection of the monitor to the graphics card is required to ensure 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.

Industry Canada Compliance Statement

ICES-003 This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la Classe B Respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

CE Compliance Information

EMC Directive 89/336/EEC and Amendment 92/31/EEC, Class B Digital Device

EN 50081-1, Generic Emissions Standard for Residential, Commercial and Light Industrial Products

(EN 55022/CISPR 22, Limits and Methods of Measurement of Radio Interference Characteristics Information Technology Equipment)

Warning: This is a Class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

EN 50082-1, Generic Immunity Standard for Residential, Commercial and Light Industrial Products

(IEC 801-2, IEC 801-3, IEC 801-4)

Directive EMC 89/336/CEE et amendement 92/31/CEE, dispositif numérique de Classe B

EN 50081-1, Norme sur les émissions génériques pour les produits domestiques, commerciaux et industriels légers

(EN 55022/CISPR 22, Limites et méthodes de mesure des caractéristiques d'interférences radiophoniques, Matériel des technologies de l'information) *Mise en garde: ceci est un produit de Classe B. Il risque produire des interférences radiophoniques dans un environnement domestique auquel cas l'utilisateur peut se voir demandé de prendre des mesures adéquates.*

EN 50082-1, Norme sur l'immunité générique pour produits domestiques, commerciaux et industriels légers.

(CEI 801-2, CEI 801-3, CEI 801-4)

EMC Richtlinie 89/336/EEC und Änderung 92/31/EEC, Digitale Gerat der Klasse B

EN 50081-1, Allgemeiner Emissions-Standard fur Haushalt- und kommerzielle Produkte sowie Erzeugnisse der Leichtindustrie

(EN 55022/CISPR 22, Beschrankungen und Verfahren der Messung von informationstechnischen Ausrustungen mit Funkstormerkmale)

Warnung: Dies ist ein Erzeugnis der Klasse B. Dieses Erzeugnis kann Funkstorungen im Wohnbereich verursachen; in diesem Fall konnen entsprechende Manahmen seitens des Benutzers erforderlich sein.

EN 50082-1. Allgemeiner Unempfindlichkeits-Standard fur Haushalt- und kommerzielle Produkte sowie Erzeugnisse der Leichtindustrie

(IEC 801-2, IEC 801-3, IEC 801-4)

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