

Jeronimo 2000 for Macintosh

Multiple Monitor Graphics Card

User Guide



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Additional patents are pending.

The Jeronimo 2000 is Year 2000 compliant.

How to Contact Appian Graphics

If you have questions or need help, contact Appian by phone, fax, or via the Internet. Use the following information to get help fast:

General	425-882-2020
Sales	800-727-7426
Technical Support	800-422-7369 7am – 5pm PST
Fax	425-882-8618
Address	Appian Graphics Corp. 18005 NE 68 th Street Suite A120 Redmond, WA 98052
Email	support@appian.com
Web site	www.appian.com

Information We Will Need

Please have the following information available before you contact Appian:

- The name and serial number of your Appian product
- Information about your computer: please include the model of your monitor(s). Also, be prepared to identify other devices installed in your system.
- A detailed description of the problem

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Chapter 1

Introduction to Jeronimo 2000 for Macintosh

Thank you for purchasing the Appian Jeronimo 2000 multiple monitor graphics card for Macintosh. This guide introduces you to Jeronimo 2000 architecture and performance capabilities, and contains important technical information.

The Jeronimo 2000 is a single-slot, dual monitor graphics solution that features an AGP bus interface, 32 MB of on-board Synchronous Graphics Random Access Memory (SGRAM). With two display channels, the Jeronimo 2000 is designed to support multiple monitor configurations in Macintosh systems.

The Jeronimo 2000 uses two high-performance Permedia3 graphics processors from 3DLabs for dual monitor output. The Permedia3 features a 300MHz RAMDAC and accelerated 2D and 3D graphics. The card interface to the AGP bus capitalizes on the speed of Jeronimo's on-board processors to accommodate even the most demanding graphics applications. The result is fast, high-resolution display. Two standard DB-15 connectors allow direct connection to CRTs and analog flat panels.

Multiple Monitors

The Jeronimo 2000 supports the use of multiple monitors. Using a two-monitor configuration is an efficient and cost-effective way to increase the size of your computer display area, commonly called the desktop. With multiple monitors, you can view a single application's display as a large window stretching across several monitors, or you can display a different application on each monitor.

One Jeronimo 2000 graphics card can accommodate two monitors in various arrays, as illustrated in Figure 1.

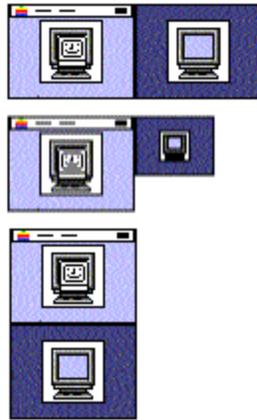


Figure 1. Various Monitor Arrays

Included with Jeronimo 2000

Before using your Jeronimo 2000 for Macintosh hardware, please ensure your package contains the items listed below.

- Jeronimo 2000 AGP graphics card for Macintosh
- Jeronimo 2000 for Macintosh User Guide
- Registration/Warranty Card

Please contact Appian Technical Support if you find any of these items missing or damaged. Fill out and return the registration/warranty card to ensure full support from Appian for your Jeronimo 2000 product.

Be sure to read this entire *Jeronimo 2000 for Macintosh User Guide*. The guide lists important technical information to help you configure the Jeronimo 2000 to meet your display needs.

Chapter 2

Get Started

General System Requirements

- A Macintosh G4 or later with a full-length AGP slot compliant with AGP revision 2.0 or higher
- Mac OS 9 installed
- At least 64MB of installed system memory (RAM), or twice as much RAM as available graphics memory

Prepare for Hardware Installation

To prepare your computer for installation, perform the following steps:

1. Turn off the computer and the power for all external devices (monitor, printer, etc.).

 *NOTE: If you think the computer is in sleep, press the power button on the front of the computer to wake it, then shut down completely.*

2. Disconnect all cables from the rear of your computer, except the power cord.
3. Touch the metal PCI access covers on the back of the computer to discharge any static electricity.
4. Unplug the power cord.
5. Lift the latch on the side of the computer to open the cover. (If necessary, refer to your system's user guide for instructions on opening the computer cover.)

6. Gently lower the side panel until it lies flat.
- ⊗ **WARNING! If you see any lights glowing on the main logic board, the computer has not been shut down. Close the panel and shut down the computer before proceeding.**

Install the Jeronimo 2000

To install your Jeronimo 2000 card, perform the following steps:

1. Remove the port access cover and partner screw using the appropriate tool.
 2. If necessary, remove the existing card that is installed in the computer.
- ⊗ **WARNING! The Jeronimo 2000 is static sensitive. To avoid damage to the card from static electricity, ground yourself and dissipate any static electricity before handling the card.**
3. Hold the Jeronimo 2000 card by its top edge and slide it into the available slot (slot 1). The AGP bus interface should fit into the slot. Make sure that the Jeronimo 2000 card is correctly and firmly seated.
 4. Reinsert the port access screw and tighten to hold the card in place.
 5. Raise the computer side panel and squeeze it until it snaps securely in place.

Jerónimo 2000 Monitor Cabling

When your Jerónimo 2000 hardware installation is complete, please note that the default primary or boot-up display channel will be located on the top connector of the Jerónimo 2000 card seated in the AGP slot. The bottom connector provides a secondary display channel and drives a second monitor.



Figure 2. Jerónimo 2000 Monitor Connectors

Regardless of your monitor configuration, you must attach a standard VGA DB-15 analog cable to the primary connector of the Jerónimo 2000 card to receive display. Attach a second DB-15 monitor cable to the secondary connector to drive an additional monitor.

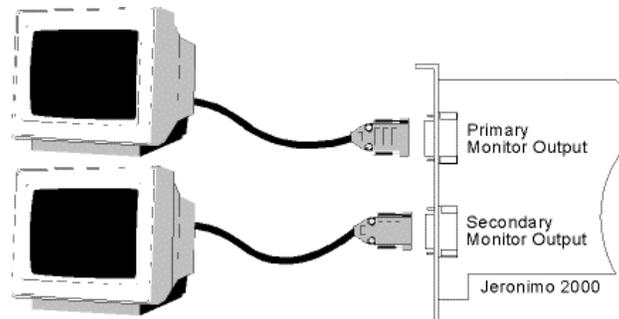


Figure 3. Jerónimo 2000 Monitor Cabling

Chapter 3

Software for the Jeronimo 2000 for Macintosh

This chapter explains how to install the Appian Jeronimo 2000 software for Macintosh.

Plan to install Appian software immediately after installing your Jeronimo 2000 hardware. The Jeronimo 2000 *must be installed* in your computer before you install the software on your hard drive.

The software included with your Jeronimo 2000 for Macintosh is contained on the CD-ROM that ships with your Jeronimo 2000 product. The CD-ROM contains a BIOS flash utility, a Macintosh 2D driver and a conversion utility for J2000 PC cards.

The BIOS flash utility updates the Appian Jeronimo 2000 for Macintosh to the latest version. To enable additional mode support, the BIOS should be updated before installing the Jeronimo 2000 2D driver.

The 2D driver enables multi-monitor functionality and accelerates 2D graphics for the Jeronimo 2000.

The conversion utility for J2000 PC cards allows the PC version of the Jeronimo 2000 graphics card to work in a Macintosh G4 system. For additional information about this utility, consult the readme documentation located on the installation CD-ROM.

Update the Macintosh BIOS

To update the Macintosh BIOS, perform the following steps:

1. Insert the Appian Jeronimo 2000 CD-ROM into the appropriate drive.
2. From the folder icon on your desktop labeled **J2000 Macintosh**, locate the **Firmware Update** folder.
3. Run the BIOS Flash utility by double-clicking the **J2K Flash** icon. A system message will be displayed confirming that the devices have been programmed.

Install the Jeronimo 2000 2D Driver for Macintosh

To install the Jeronimo 2000 2D driver for Macintosh, perform the following steps:

1. Insert the Appian Jeronimo 2000 CD-ROM into the appropriate drive, if necessary.
2. From the folder icon on your desktop labeled **J2000 Macintosh**, locate the **2D Driver for J2000 Mac Cards** folder.
3. Open the folder and drag the file icon **AppianManager INIT** into the **System:Extensions** folder. The files will self-extract and the driver will be installed.
4. Reboot the system.

Chapter 4

Use the Jeronimo 2000 for Macintosh

Now you are ready to use the Jeronimo 2000. Monitors can be controlled from two locations in Mac OS 9. The first location is the Monitors Control Panel, accessible from the **Apple Menu|Control Panels|Monitors** (Figure 4). The second location is the **Control Strip** application, accessible from the desktop (Figure 5).



Figure 4. Apple Menu



Figure 5. Control Strip

Set Monitor Color Depth

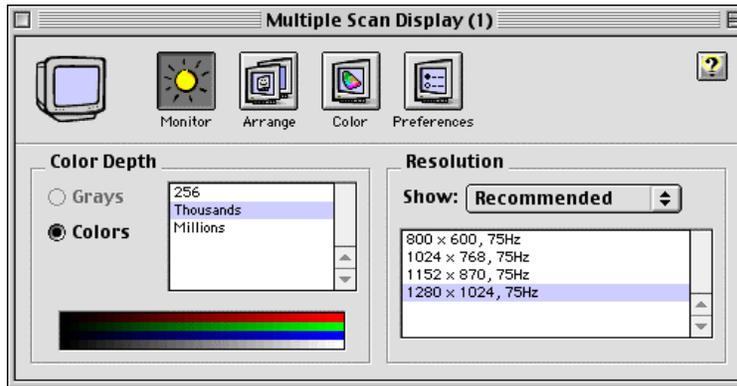


Figure 6. Set Color Depth from the Monitor Dialog Box

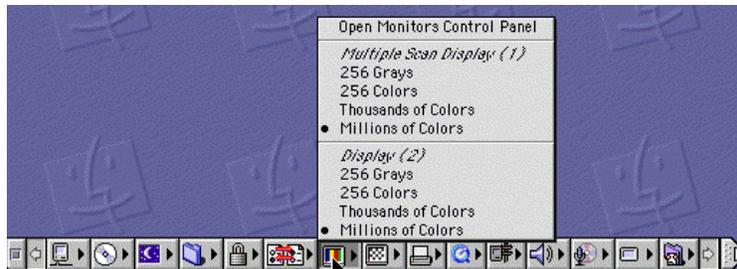


Figure 7. Set Color Depth from the Control Strip

The color depth for your monitors can be selected from the **Monitor** dialog box or from the **Control Strip**, as shown in Figures 6 and 7. Settings take effect on a per-monitor basis.

The **Monitor** dialog box will be displayed on each monitor. Both dialog boxes can be moved to the primary monitor by using the **Apple key-M** hot key combination.

Set Monitor Resolution

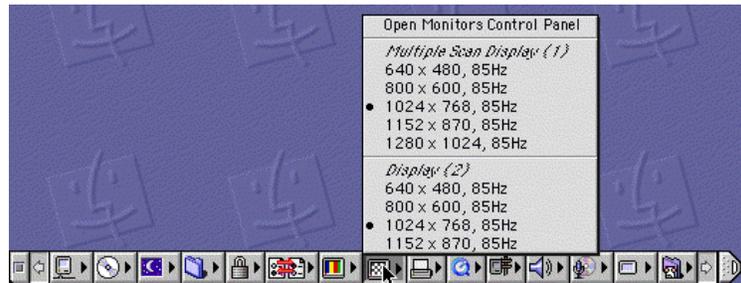


Figure 8. Set Resolution from the Control Strip

The desired resolution for your monitors can be selected from the **Monitor** dialog (Figure 6) or from the **Control Strip**, as shown in Figure 8.

Arrange Monitors

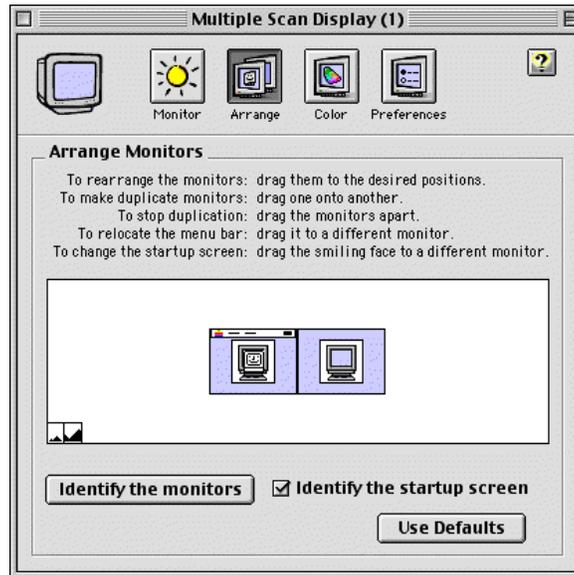


Figure 9. Arrange Dialog Box

Your desktop can be customized by arranging the monitors in various configurations. Drag the monitor illustrations in the **Arrange** dialog box (Figure 9) to new locations to change the array. The up, down, left and right arrow keys can be used to align the monitors after the desired configuration is created.

The **Arrange** dialog box also contains controls to duplicate monitors, relocate the menu bar and change the startup screen.

If you are not sure which monitor is the primary monitor (monitor 1), click the **Identify the monitors** button and the primary and secondary monitors will be identified with a **1** or **2**.

Default settings can be restored by clicking the **Use Defaults** button.

Create a Custom ColorSync Profile

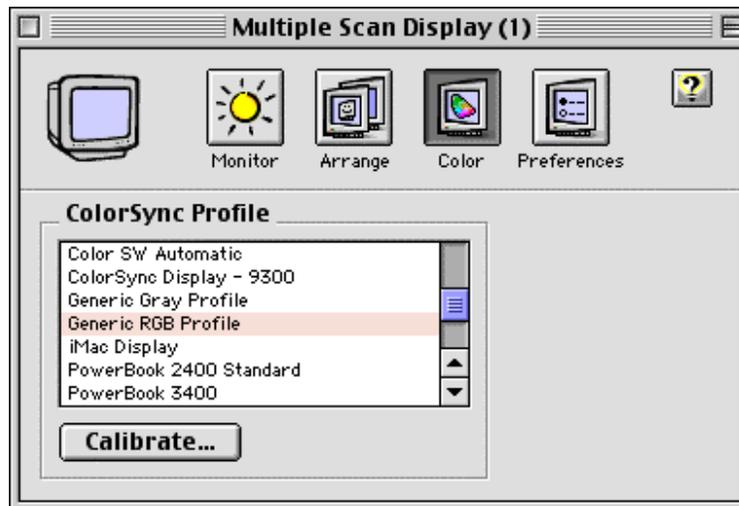


Figure 10. Color Dialog Box

To create a custom ColorSync profile, click the **Calibrate** button in the **Color** dialog box, as shown in Figure 10. The **Monitor Calibration Assistant** (Figure 11) will appear. Use the **Monitor Calibration Assistant** to adjust settings for brightness and contrast, color characteristics and white point.

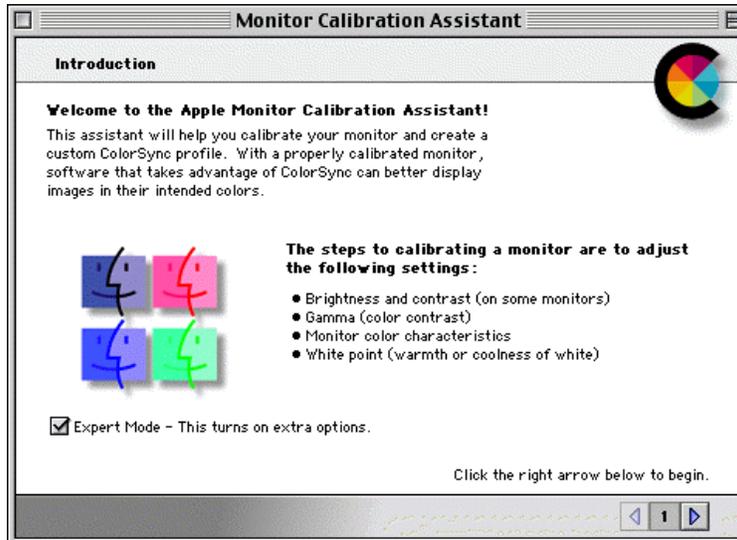


Figure 11. Monitor Calibration Assistant Example

Set Preferences

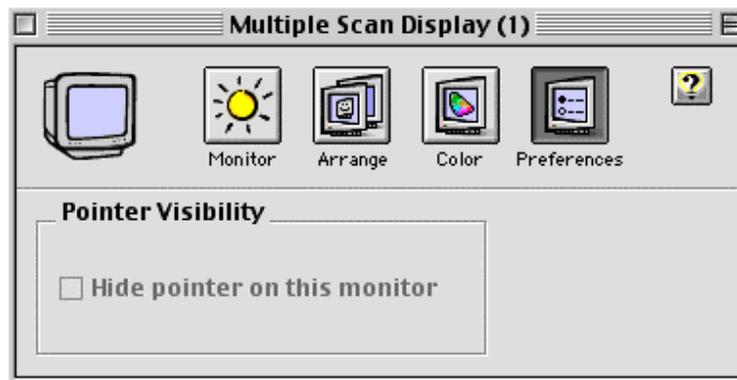


Figure 12. Preferences Dialog Box

The **Preferences** dialog box allows you to hide the pointer on the monitors by checking the **Hide Pointer on this monitor** check box.

Chapter 5

Technical Information

The Jeronimo 2000 for Macintosh is a single-slot, multiple monitor graphics solution for systems with the AGP bus. The Jeronimo 2000 requires a full-length bus slot compliant with AGP revision 2.0 or higher.

Mode Support

Table 1 provides information about the resolutions, refresh rates and color depths supported by the Jeronimo 2000. To display at a specific resolution with the desired refresh rate, both the graphics card and monitor must support your selection. Refer to the documentation that came with your monitor.

Table 1. Supported Resolutions and Refresh Rates

Color bit depth →	32bpp	16bpp	8bpp
Resolution and Aspect Ratio↓	Refresh Rates (Hz)		
1920x1080 (16:9)	60, 75, 85	60, 75, 85	60, 75, 85
1600x1200 (4:3)	60, 75, 85	60, 75, 85	60, 75, 85
1280x1024 (5:4)	60, 75, 85	60, 75, 85	60, 75, 85
1152x870 (4:3)	60, 75, 85	60, 75, 85	60, 75, 85
1024x768 (4:3)	60, 75, 85	60, 75, 85	60, 75, 85
800x600 (4:3)	60, 75, 85	60, 75, 85	60, 75, 85
640x480 (4:3)	60, 75, 85	60, 75, 85	60, 75, 85

⊠ **WARNING! Be sure the refresh rates you select are compatible with your monitor. Incompatible refresh rate selection may result in monitor damage.**

Monitor Cables and Connector Pinouts

Figure 13 and Table 2 indicate pinouts for the standard VGA DB-15 monitor connectors on the Jeronimo 2000. Most analog monitors use this type of connector.

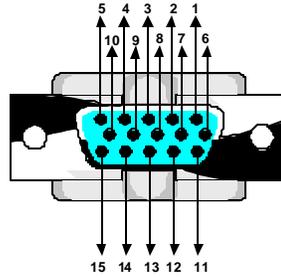


Figure 13. DB-15 connector pinouts

Table 2. DB-15 connector pinouts

Pin	Allocation	Pin	Allocation
1	Red Video	8	Blue return (Ground)
2	Green Video	9	+5V DC (Fused)
3	Blue Video	10	Sync return (Ground)
4	Reserved	11	Reserved
5	Ground	12	SCL (DDC)
6	Red return (Ground)	13	Horizontal Sync
7	Green return (Ground)	14	Vertical Sync
	Continued in next column ↗	15	SDA (DDC)

Functional Specifications

- Two 3Dlabs Permedia3 graphics processors
 - 300MHz RAMDAC
 - 128-bit memory bus per processor
- Appian/3Dlabs B1 AGP bridge chip
 - Fully AGP compliant
 - AGP 1X interface
 - Sideband addressing
- 32MB 110 MHz SGRAM
- DDC support
- ACPI support
- Two standard DB-15 connectors
- Dimensions are 12.3"L x 4.2"H
- Power consumption is 15 watts
- Hardware requires one interrupt. The interrupt assignment is determined and automatically assigned by the system BIOS.

Chapter 6

Troubleshooting

If you have a problem with your Jeronimo 2000 card and don't find the solution in this User Guide, please contact Appian Technical Support at 800-422-7369 or support@appian.com.

You can also visit the technical support section of the Appian web site at www.appian.com for the latest product support information, frequently asked questions and solutions to common installation and usage problems.

Appendix A

Regulatory Information

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the 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 with 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.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications to this device not expressly approved by Appian Graphics may void the user's authority to operate the equipment.



Industry Canada Compliance Statement

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.

EC Compliance Statement

Electromagnetic Compatibility

The manufacturer hereby declares that this device conforms to the following standards in accordance with the European Commission Directive 89/336/EEC:

Emission EN 55022:1994 (Class B)

Immunity EN 61000-4-2 (Level B)




Jeff Dahlin, Responsible Party