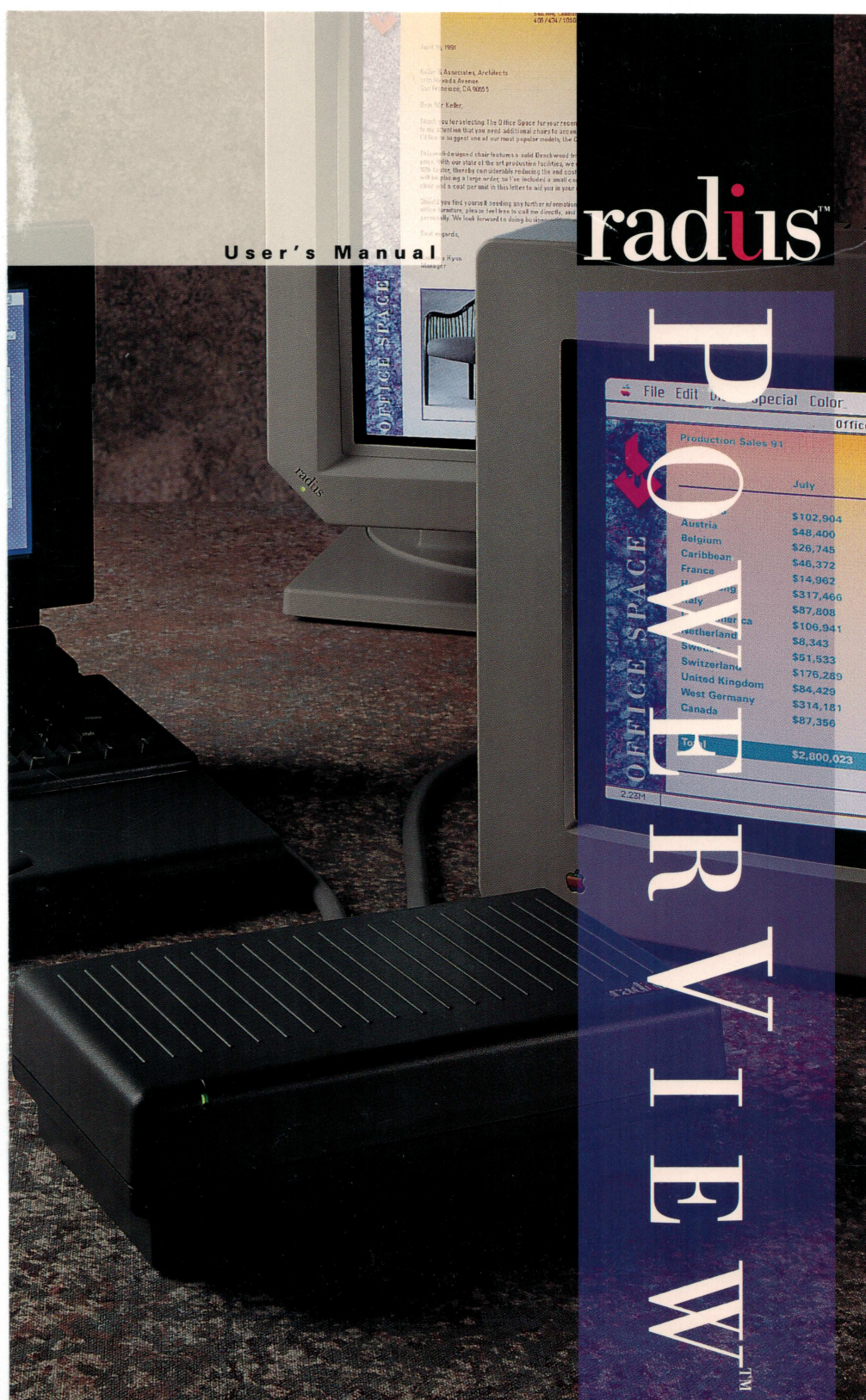
radius™
User's Manual
PowerView™
OFFICE SPACE
File Edit Special Color
Production Sales 91
July
Austria $102,904
Belgium $48,400
Caribbean $26,745
France $46,372
$14,962
$317,466
$87,808
$106,941
$8,343
Switzerland $51,533
United Kingdom $176,289
West Germany $84,429
Canada $314,181
$87,356
$2,800,023
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Radius PowerView™

User's Manual

November 1991

Radius Inc

Table of Contents

Introduction

Congratulations on your purchase of the Radius PowerView™ display interface for the Macintosh PowerBook portable and the Macintosh Classic II computers.

PowerView is a light-weight video interface designed to support external color displays. When attached to a PowerBook model 140 or 170, PowerView provides color and monochrome capability for AppleColor 12-, 13-inch, Portrait, and Full Page Monitors; Radius Full Page, Pivot, and Color Pivot Displays; and VGA-compatible, or multisync displays.

The Radius PowerView offers:

- Display of up to 256 colors on Apple's 12- and 13-inch RGB displays, or on industry standard 640 x 480 VGA-compatible displays
- Capability to do auditorium, large-screen presentations from PowerBook models 140 and 170, and Classic II computers
- Direct connection to the external SCSI port of PowerBook or Macintosh Classic II
- Easily installed by user; no dealer installation is required

Registration Card

You will find a registration card included with your PowerView. Please complete the card and return it to Radius so that we can provide you with the best support possible. No postage is required to mail it within the United States.

About This Manual

This user's manual is divided into five chapters and includes a table of contents and an index. Appendices provide specifications, signal characteristics of the video connectors, and warranty information. The chapter contents are:

Chapter 1 ..... *Unpacking PowerView* explains how to unpack the PowerView display interface and what is needed for its operation.

Chapter 2 ..... *PowerView Setup* explains the connections and indicator, how to set the Small Computer System Interface ID selector switch, and how to position and connect it.

Chapter 3 ..... *Installing RadiusWare* explains how to install the software required to operate PowerView.

Chapter 4 ..... *Configuring PowerView* explains how to work with the software that controls PowerView.

Chapter 5 ..... *Reference* contains a troubleshooting section, technical specifications, as well as customer service and Radius product line information.

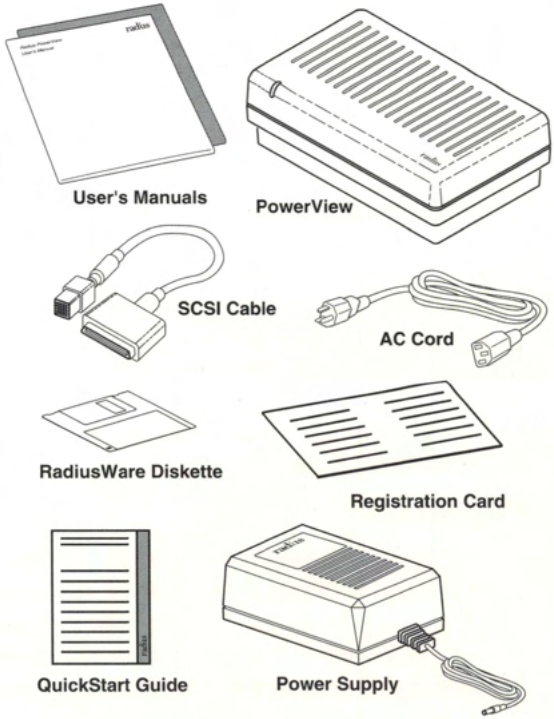
Chapter 1

Unpacking PowerView

This chapter explains unpacking and checking the contents of your PowerView display interface kit.

Unpacking

When you first open your PowerView kit, make sure that you have everything you need to set up your system. Unpack all the parts and match them against the diagram and list below.



PowerView components

Your kit should include:

- User's Manuals
- Radius PowerView
- SCSI cable (Macintosh PowerBook to PowerView)
- AC cord (for Power supply)
- RadiusWare diskette
- Registration card
- QuickStart Guide
- Power supply

If you are missing any of these items, contact your Radius Authorized Reseller. Video cables are usually included with your display.

Macintosh System Requirements

Macintosh system requirements include:

- A PowerBook 140 or 170, or Classic II
- Macintosh System software version 7.0.1 (or later)
- A hard disk drive
- A minimum of 4MB of System RAM

NOTE:
Macintosh system software 7.0.1 uses 1.2MB of RAM, and the use of 256 colors or grays on a Portrait display requires an additional 542KB. With these two requirements increasing memory needs to 1.75KB, Radius recommends installing the next-possible increment (4MB) of RAM to allow memory for applications to operate.

NOTE:
Radius recommends saving your PowerView box and packing materials. Should it be necessary to return your PowerView, all of its components — as listed under *Unpacking* above — must be included. Use only the original packaging for shipment of your equipment. Substitute packaging may not provide adequate handling protection.

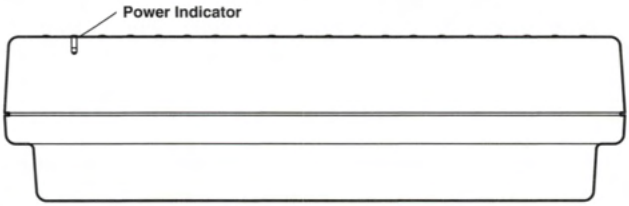
Chapter 2

PowerView Setup

This chapter describes the PowerView's connections and indicator, how to set the Small Computer System Interface (SCSI) identification selector switch, and how to position and connect your PowerView.

Overview of the PowerView

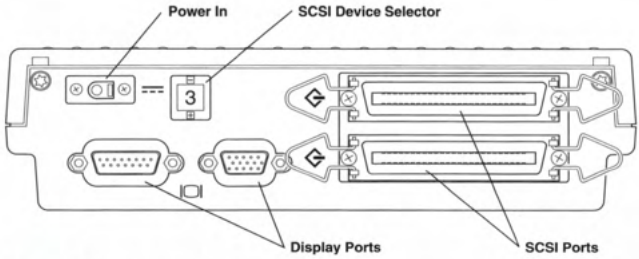
Your PowerView has several connectors and a SCSI-identification selector on the rear, and an indicator on the front. The following diagrams show their locations.



PowerView front view

- **Power Indicator.** This indicator, located on the top front edge, illuminates green when power is applied to the PowerView.

- **Power In.** This rear-panel connection, marked with a DC icon to its right, is for your 5-volt DC power cable. The power supply and its cable are supplied with your PowerView.



PowerView rear view

- **SCSI ID Selector.** These push button switches are used to assign a SCSI device number (an ID number) to the PowerView. Refer to the *Setting the SCSI Identification Number* paragraph below.

- **SCSI Ports.** Either of these two 50-pin connectors may be used to connect the PowerView to a Macintosh. The other SCSI connection may be used to extend a SCSI chain. Both ports are marked with a SCSI icon.

  When PowerView is the *only* device connected to your PowerBook, and the supplied cable is used, a SCSI terminator is not needed. When PowerView is the *last* device on a SCSI chain, however, a Macintosh IIfx-style (black color) terminator should be connected to the last SCSI connector of your chain. The terminator, and any other needed cables, may be purchased from your dealer.

- **Macintosh Display Port.** The Macintosh Display port is for an AppleColor 12-, 13-inch, or Full Page Monitor, or a Radius Full Page, Pivot or Color Pivot display. The DB-15 connection is marked with a display icon. Use the cable supplied with your display.

- **VGA Display Port.** The VGA or Radius Full Page Display port is a HB-15 connector to which a VGA, VGA-compatible, or multisync display can be connected. Use the cable supplied with your display.

Setting the SCSI Identification Number

The Small Computer System Interface (SCSI) port built into your Macintosh is a high-speed, bi-directional parallel port used for interdevice communication. A maximum of six devices (numbered 1 through 6) can be added one after another via the SCSI port. This practice of wiring external devices together in sequence is called *daisy-chaining*. Your PowerView will become an addition to your SCSI chain.

Each SCSI device has a distinct address, usually set with a switch on the device itself. The Macintosh CPU is always preset internally to address 7; its hard drive is set to 0.

Warning: *If you have two SCSI devices with the same number, be sure to change the number of one device. If two devices have the same number, the Macintosh will not recognize either device.*

To select the SCSI identification number,

1. If you have other SCSI devices chained to your Macintosh, determine the device-identifying number assigned to each. Pick an unused number for your PowerView.

PowerView's SCSI device-selection switch

2. Set the SCSI identification number for the PowerView by pressing the button above or below the SCSI number window, depending on whether you want the number to increment or decrement. Continue to press one of the buttons until the number you want appears. Do not use the numbers 0 or 7.

NOTE:
If PowerView is later re-assigned another SCSI number while operating, it will cease working. You also will have to remount PowerView by restarting your Macintosh or by using a SCSI utility, such as SCSIProbe.

Positioning

Your PowerView and its power supply are small, light-weight and portable, and thus may be located just about anywhere. Position your PowerView and its power supply for your particular work area; close to your Macintosh, and close to a grounded AC receptacle. Some precautions, however, must be observed.

Do not expose your PowerView or power supply to heat sources such as direct sunlight or radiators. Excess heat can damage its electronic components and case.

Place your PowerView and power supply away from other equipment if radio frequency interference is suspected. See Appendix B for Regulatory Approvals and additional radio frequency interference information with corrective suggestions.

Keep your PowerView and its power supply in a dry environment. Excess moisture or spilled liquids can damage the circuitry.

Connecting the PowerView

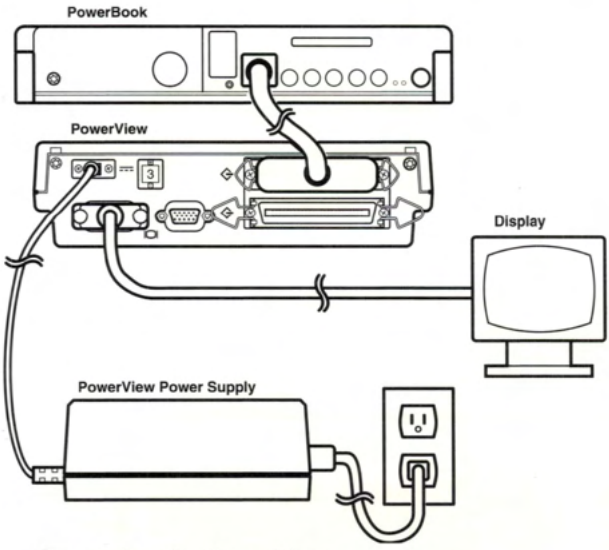
Your PowerView requires three connections; a power connection from its power supply, a SCSI connection from your Macintosh, and connection to your display. Radius supplies the PowerView-to-PowerBook SCSI cable and the power cable. Display cables are usually supplied with the display.

To connect PowerView,

1. Shut down and turn off your Macintosh computer.

2. To connect a PowerBook to the PowerView, insert the large connector of the SCSI cable into one of your PowerView SCSI ports. Insert the smaller, square connector into the PowerBook's SCSI port until it snaps.

To release the PowerBook connector, pull outward on the connector's plastic sleeve.



Connecting the PowerView

NOTE:
If you connect the PowerView to a Macintosh Classic II, you will have to provide a shielded DB-25 SCSI cable (Apple part number M0206, or equivalent).

3. Push the two bail-capture clips of the SCSI connector inward toward the connector until they snap into place. Pulling them outward will release the connector.

4. Using the cable that was supplied with your display, connect your display's video-in port to the appropriate PowerView connector. Refer to the rear view of PowerView above for connector identification.

NOTE:
Do not connect a display to the Macintosh port at the same time a display is connected to the VGA port.

Warning: Do not plug PowerBook's power cable into PowerView or vice versa.

5. Attach the small end of the power cable (from the Radius power supply) to PowerView's Power In port.

6. Plug the female end of the AC line cord into the power supply.

7. Insert the AC line cord of the power supply into a grounded AC outlet.

   The green indicator on the front of the PowerView will now be illuminated.

8. Turn on your display first and then your Macintosh.

This completes the hardware connection of your PowerView Interface system. To finish the installation, you will now have to install software.

Chapter 3

Installing RadiusWare

This chapter explains how to install RadiusWare and PowerView software into your Control Panels Folder of your Macintosh. Complete details pertaining to the use of RadiusWare features may be found in the *Radius Software for the Macintosh User's Manual.*

Important:

You should be using at least Macintosh system software version 7.0.1. PowerView will not operate properly with earlier system software. Additionally, Radius recommends that your computer have at least four megabytes of random access memory.

RadiusWare Installation

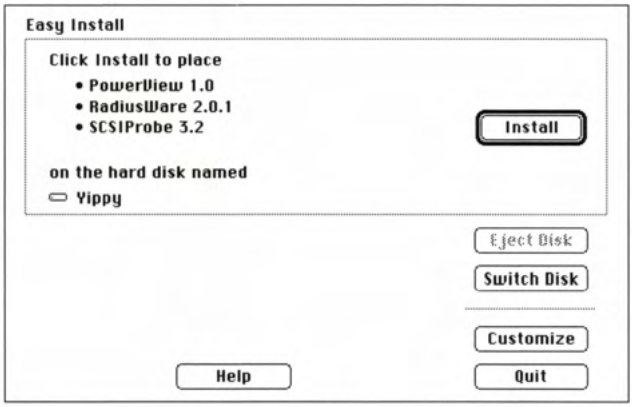
The installation of Radius Ware requires using the Easy Installer and following its instructions.

To install RadiusWare,

1. After ensuring that your RadiusWare diskette is locked, insert the diskette into the drive of your Macintosh.

NOTE:
The Installer can update or install RadiusWare on any hard drive with an active system folder. If your startup hard drive is the only hard drive, once the installer is invoked, it will update your currently selected drive and force you to restart your system. If you install the software on a non-startup drive, the Macintosh will not prompt for a restart.

2. Double click on the Apple Installer icon. The Easy Install window will appear, as shown in the following diagram.



RadiusWare Easy Install window

Using the Switch Disk Button

The name of your startup drive should appear in the middle part of the window, under the section entitled *"... on the hard disk named ...."* If the name of your hard drive startup disk does not appear in this section, click on the Switch Disk button until it does. With several mounted drives connected to your system, you may have to click on the Switch Disk button several times.

1. Click on the Install button or press the Return key. The software files necessary to operate the PowerView will automatically be installed into the Control Panels folder within your System folder on the startup drive you selected.

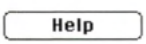
When you successfully installed the software on the startup drive, a Restart button appears. The Continue and Quit buttons will appear if the software is installed on a disk that is not the boot-up disk.

2. Click on the Quit button and restart your Macintosh. The RadiusWare diskette will eject at restart, and the necessary PowerView files will be loaded automatically.

Software installation is now complete. Store the RadiusWare diskette in a safe place in case it is needed for a future installation. Your license agreement allows you to make one copy to serve as a backup.

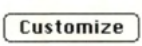
NOTE:
During startup, the PowerView initialization software will disable itself if it cannot find a PowerView. Should this occur, a message will appear under the startup icon notifying you of the fact. The icon will have an "X" through it. Recheck all the connections and the software-installation procedure.

Using the Help Button



When you have launched the Installer application and the Easy Install window is on the screen, a Help button is available. If needed, click on this button to display information about how to use the Installer.

Using the Customize Button



When you have launched the Installer application and the Easy Install window is on the screen, a Customize button is available. This button allows you to specify files that the Installer application will place on your startup drive.

Chapter 4

Configuring PowerView

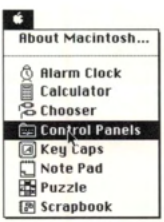
This chapter explains how to use the PowerView's control panel for the external display, how to use the Presentation Mode, and the purpose of the Invert and Blank on Sleep functions. It assumes that you successfully installed the software as described in the previous chapter.

All choices made to the PowerView control panel are stored in non-volatile memory, which means they will remain in effect until changed.

Setting PowerView's Control Features

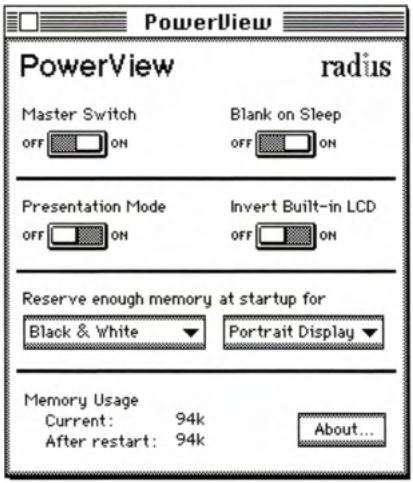
The PowerView control panel has four switches and two drop-shadow, pop-up menus. Their use is explained in the following paragraphs.

To open your PowerView control panel,



1. Choose Control Panels from the Apple menu to open the Control Panels folder.

2. Double click on the PowerView icon to open the PowerView control panel. A panel will appear as shown in the following diagram.



PowerView control panel

Master Switch

The Master switch is used to activate the PowerView. (On a monochrome display, the white portion of the switch indicates the current position; color systems indicate an "on" state with green and "off" with red.) To change the position, click on the switch.

Once the Master switch has been set to the On position, PowerView's features will be active every time your Macintosh is restarted.

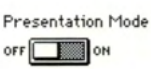
NOTE:
Later, if you do not want your Macintosh to start PowerView, you can disable it by simultaneously holding down the Apple command key and mouse button as you start your Macintosh. This prevents PowerView's INIT from loading into memory.

When the Master Switch is in the Off position, PowerView's features will be disabled and remain inactive whenever you restart your Macintosh.

To set the Control panel switches for the PowerView,

- Click the Master Switch to the On position.

When you change the position of the Master Switch, a diagonal window will appear to the right of the switch advising you to restart your Macintosh. However, before you restart your Macintosh, continue reading and consider setting the remaining switches.



Presentation Mode Switch

The Presentation Mode switch allows you to control the video signals to an external display.

With the Presentation Mode switch set to the On position, the same video output is sent to both displays. This allows you to mirror (duplicate) your PowerView-driven *external* screen on your *internal* Macintosh. Additionally, when the switch is turned on, the menu bar will automatically locate itself to the external display.

With the Presentation Mode switch in the Off position, both screens will operate as one continuous desktop. You must also open the Monitors Control panel and designate the bit depth (colors and grays). Refer to your System 7.0 *Macintosh Reference* manual for information about use of the Monitors Control panel.

1. Open the Monitors Control panel.

2. Drag the menu bar to the preferred display. Set the appropriate number of colors and grays (bit depth) for that display. Close the panel.

3. Click the Presentation Mode switch to the On position.

Following a restart, the contents of the internal and external displays become identical, and the menu bar will appear on both screens. At this point, your internal smaller screen will pan with the movements of your external screen's cursor when its cursor is in the lower portion of the external display.

NOTE:
Radius advises that the Screen Saver function of RadiusWare be turned off. Refer to the *Radius Software for the Macintosh User's Manual.*

Blank on Sleep Switch

The Blank on Sleep feature appears only on the Macintosh PowerBooks, and allows you to control whether the PowerBook's screen goes blank when the PowerBook sleep function engages.

Setting the Blank on Sleep switch to its On position allows your PowerView-driven external screen to go blank when your PowerBook enters its sleep mode, if the Sleep selection is selected from the PowerBook's Special menu.

- Set the Blank on Sleep switch to an appropriate state.

Invert Built-in LCD Switch

The Invert Built-in LCD (liquid-crystal display) switch allows you to invert (reverse) the background and the image video only on your internal screen. Because the PowerBook's LCD has a dark background, its presentation of information may not be as discernable as it might be with a traditional black-on-white presentation.

NOTE:
You can not set the Invert Built-in LCD switch unless you turn on the Presentation Mode switch first. Until then, the Invert Built-in LCD switch icon will be deactivated and appear gray on your PowerView control panel.

- Set the Invert Built-in LCD switch to enhance the display of information on your internal display.

NOTE:
If you are using an application that uses color, Radius suggests that you use colors that convert to an opposite foreground (white or black) color when displayed on the background of a monochrome display. By using the Invert Built-in LCD switch, you can then select the opposite (black or white) background on which to best display your images.

About... Button

The About... button displays information about PowerView software and hardware versions, and the names of the Radius development team members.

Choosing Black & White, Colors, and Bit Depth

For the best on-screen resolution, you'll need to define the memory settings for the color capabilities of the display that you intend to use. You can do this by using the PowerView control panel.

PowerView works in 1, 4, or 8-bit modes. Once you have selected the number of colors and grays (bit depth), sufficient memory will be reserved upon startup of your Macintosh for that mode of operation.

You will also have to set the bit-depth mode for your display using the Monitors Control panel. For detailed instruction, refer to your System 7.0 *Macintosh Reference* manual.

If you have a monochrome display, choose Black & White. If you have a color display, choose either 16 Colors/Grays or 256 Colors/Grays. Remember that the color settings will require more system RAM to be reserved the next time you start your Macintosh. As an example, the maximum use of a Full Page Display at 8 bits will require an additional 542k of RAM.

The amount of memory needed for the displays supported by PowerView is shown in the table below.

Display	**Colors/Grays**	**RAM** (k)
Apple 12 inch	Black & white	94
	16 colors/grays	126
	256 colors/grays	222
Apple 13 inch/VGA	Black & white	94
	16 colors/grays	180
	256 colors/grays	330
Portrait Display	Black & white	94
	16 colors/grays	286
	256 colors/grays	542

Choose your selection by clicking anywhere on the pop-up menu, holding your mouse button down, and dragging down the newly revealed list until your choice is highlighted. Release the mouse button to select.

- Choose the number of colors or shades of gray, or Black & White from the available choices. Your choice will now appear as the main entry in the menu dialog box.

Choosing Your Display

Continue configuring your software so that your Macintosh will correctly operate with your type of display.

1. Select the display type that you have attached to your PowerView.

2. Close the PowerView control panel window.

3. Close the Control Panels window.

4. Restart your Macintosh.

Configuring Multiple Displays

With your PowerView connected to your Macintosh, you will need to indicate the positions of the displays and designate one of the displays as the active one bearing the menu bar. You must indicate the relative position of the displays so that your cursor can freely move from one display to the other. This is done by using the Monitors control panel.

The Monitors control panel is used also to define your display's use of gray values or colors, and the relative position of each display used.

To set your monitor's position and its menu location,

1. Open Monitors control panel. Its icon will appear within the Control Panels folder, which is accessible from the Apple menu.

2. Click on the icon of the display that you want to reposition. (A dark line will appear around the display icon.) Drag the icon to a position that represents the actual physical location (relative to the other display). The display icons will snap together when you release your mouse button.

3. If you have turned on the Presentation mode, drag the menu bar to the preferred display.

Other RadiusWare Features

RadiusWare includes a number of other features that are designed to enhance your productivity. You can access the control of these features by clicking on the RadiusWare icon in the Control Panels folder and choosing page number 1 from the bottom of the open RadiusWare panel. Page 2 and 3 options will be added at a later date.

RadiusWare highlights are described in the *Radius Software for the Macintosh User's Manual,* included with your PowerView.

Chapter 5

Reference

This chapter contains troubleshooting tips, information about Radius Customer Support and Service, and a listing of Radius products.

Troubleshooting

Read the "Read Me" file on the PowerView Installer diskette for the most-current troubleshooting information.

Should you experience a problem with your Radius PowerView, first take a few minutes to try to isolate the difficulty. Performing a few basic steps will help you determine whether there is, in fact, a problem.

If PowerView does not seem to work,

- Make sure that your PowerView is properly connected to your Macintosh, to your display, and its power supply is plugged into an active AC power receptacle. If the green light on the front of the PowerView is not glowing, try another AC power supply cable. Use only a Radius-authorized power cable.

Warning: *Do not plug PowerBook's power cable into PowerView or vice versa.*

- Make sure that you have reserved enough memory in the PowerView control panel for your particular display.

Do you have a green-light power indication on the front of your PowerView, and your display will not work?

- Are you using the correct type of display? Your display must be either an Apple 12-inch monochrome, an AppleColor 12- or 13-inch, an 8-bit RGB, an industry-standard VGA-compatible, a Radius Pivot, Color Pivot, Full Page Display, or a multisync unit.

- Make sure the display is turned on and properly warmed up. About 2 minutes is recommended, make sure that the contrast and brightness controls on your display (if available on your model) are turned up enough. Often the display can be improved by adjusting the display's controls. Other display controls, however, are internal adjustments, which can be optimized for your PowerView by an authorized service center.

- Make sure you have selected your correct display type by using the Options button on the Monitors Control panel.

- Check to see that your display's video cable is securely connected to both your display and the PowerView's SCSI port. Do not over tighten, or force your cable connectors into their ports. Try another video cable (if available). You may have a faulty cable for your display. This can cause various problems such as no color, distortion, lines, screen size, or no display at all. Refer to *Chapter 2 — PowerView Setup* to verify that you used the correct cables and made the connections properly.

Does your PowerView fail to load?

- At times, SCSI devices do not work correctly unless they have different identification numbers, are properly terminated, and are all turned on. Did you use a Macintosh IIfx-type black SCSI terminator on the last device of a two-or-more external device chain? If two devices have the same ID number, they will not be recognized by the computer. Change the duplicate number. Remember not to use 0 or 7.

- If the SCSI identification number is ever changed while your Macintosh is operating, PowerView will not work. You will have to remount PowerView by restarting your Macintosh or by using a SCSI utility, such as SCSIProbe.

  Refer to the paragraph, *Setting the SCSI Identification Number* in Chapter 2.

Does your display's image waver?

- Is there another display close to your display? This can result in *wavering* or *boiling* caused by interference between the two displays. Separate the two displays more.

If the Macintosh starts, begins loading INIT files, and then "freezes" (the Finder never appears),

- The INIT files installed in the system folder of your startup drive may not be compatible with RadiusWare for the PowerView.

- Begin by restarting your Macintosh while holding down the Shift key until the system software completely loads. This disables all INIT files.

- If your Macintosh now loads, remove *all* INIT files from your system folder that are not related to PowerView, and restart your Macintosh.

- If PowerView performs normally at this point, reinstall the other system INIT files, one at a time, and restart the Macintosh each time. This procedure will enable you to determine the particular INIT file that is incompatible with PowerView.

If you are attempting to connect to a projection display and you get no image,

- When connecting to a projection display, the PowerView must be capable of sensing a display to set a resolution. Most popular projectors do not provide a sensing signal. First connect an AppleColor 13-inch or VGA display to PowerView to enable this sensing. Subsequent connection to the projection display will produce an image.

If, after checking all the items mentioned above, your problem persists, contact your Radius Authorized Reseller for assistance.

Radius Customer Support and Service

Radius has created a worldwide authorized reseller network to provide extensive support in both sales and service. If you cannot return to the reseller from whom you purchased your Radius PowerView, and do not know the location of the nearest Radius Authorized Reseller, please contact the Radius Information Center at (800) 227-2795. (The 800 number works only within the United States.) For reseller information, outside the United States, contact the local Radius International Distributor or write to: Radius Inc, International Sales Department, 1710 Fortune Drive, San Jose, CA 95131-1744.

If you are experiencing problems, need answers to technical questions, or need information about product updates, you should contact your Radius Authorized Reseller for assistance. If you have a problem, be sure that you have reviewed the steps outlined in the *Troubleshooting* section of this manual and have completed the following form before contacting your reseller. This will expedite the diagnosis and correction of your problem.

Radius Product(s): PowerView and _____

Serial Number(s) _____

RadiusWare Version _____

Macintosh Configuration _____

System Version _____

Finder Version _____

Other Peripherals _____

Applications (Versions) _____

INIT/CDEV Files Installed _____

If, after consulting with your Radius Authorized Reseller, you need further assistance, contact Radius Customer Support at (408) 434-1012, Monday through Thursday, 6:00 a.m. to 6:00 p.m., and Fridays 6:00 a.m. to 3:00 p.m., Pacific Standard Time. If you find it more convenient to contact Radius by facsimile transmission, the FAX number is (408) 954-1015.

Radius Customer Support can also be contacted by the following on-line information services:

Service	*Address*
AppleLink	RADIUS.TECH
CompuServe	76004,2155

The Family of Radius Products

- Radius PowerView™ Display Interface for Macintosh PowerBook 140 and 170 and Macintosh Classic II computers
- Radius Color Display™ System for the Macintosh NuBus family
- Radius PrecisionColor™ 8, 8X, and 24X video interface for the Macintosh NuBus family
- Radius DirectColor/GX™ video interface for the Macintosh NuBus family
- Radius SVGA MultiView™ video interface for IBM PCs and compatibles
- Radius QuickColor™ Graphics Engine for the Macintosh NuBus family
- Radius Rocket™ Accelerator for the Macintosh NuBus family

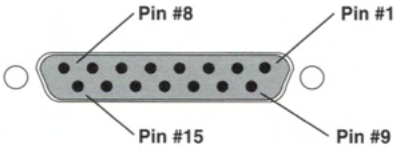
- Radius Accelerator 16™ Systems
- Radius Accelerator 25™ Systems for the Macintosh SE
- Radius Full Page Pivot™ Display Systems for IBM PCs and compatibles. For use with Radius SVGA MultiView interface
- Radius Pivot™ Display Systems for the Macintosh SE/30, LC, and NuBus family. For use with Macintosh built-in video or the Pivot interface
- Radius Color Pivot™ Display Systems for the Macintosh SE/30, LC, and NuBus family. For use with Macintosh built-in video or the Pivot interface
- Radius Two Page Display™ Systems (TPD/19 & TPD/21) for the Macintosh SE, SE/30, and NuBus family. For use with the Two Page Display interface
- Radius PrecisionColor™ Display/20 for the Macintosh and PC
- Radius Gray Scale Display™ Systems for the Macintosh NuBus family
- Radius Two Page Display™ Systems for the PC
- Radius TV™ System for the Macintosh NuBus family
- Radius PrecisionColor™ Calibrator for Radius 8-, 16-, and 24-bit display systems
- Radius ImpressIt™ Software for the Macintosh LC, SE/30, and Macintosh NuBus family

Appendix A: Technical Specifications

System Requirements	PowerBook 140, PowerBook 170, and Classic II System 7.0.1 or higher Four MB System RAM
Power Consumption	10 watts 100-240 VAC (50-60Hz), self configuring
Dimensions	8.63 inches (219 mm) wide 2.23 inches (58 mm) high 4.53 inches (115 mm) deep
Weight	2.5 pounds (1.13 kg)
Regulatory Approvals	Safety: UL, CSA, TUV RFI: FCC-B, Canadian DOC-B, VDE-B

Macintosh Video Port Specifications

The following table lists the video port pin-out specifications for the female Macintosh port.



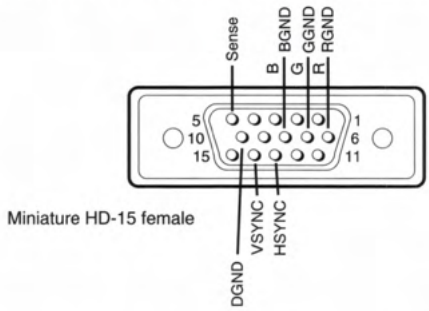
Pin numbers for the PowerView Macintosh video port

Pin	Output signal
1	Red ground
2	Red signal
3	HSync or CSync (depending on display ID)
4	ID 1
5	Green signal
6	Green ground
7	ID 2
8	*no connection*
9	Blue signal
10	ID 3
11	Radius CRT ID
12	VSync
13	Blue ground
14	Digital ground
15	HSync or CSync (depending on display ID)
Chassis	Ground

Warning: *To comply with FCC regulations, a shielded interface cable must be used.*

VGA Video Port Specifications

The following table lists the VGA video port pin-out specifications for the high-density female VGA port.



Pin numbers for the PowerView VGA video port

Pin	Signal	Level	Description
1	Red	RS-343A	Red analog video
2	Green	RS-343A	Green analog video
3	Blue	RS-343A	Blue analog video
4			*no connection*
5	Sense		Monitor sense
6	RGND		Red analog video gnd return
7	GGND		Green analog video gnd return
8	BGND		Blue analog video gnd return
9			*no connection*
10	DGND		Digital ground
11			*no connection*
12			*no connection*
13	/HSYNC	TTL	Negative horizontal sync
14	/VSYNC	TTL	Negative vertical sync
15			*no connection*

Warning: *To comply with FCC regulations, a shielded interface cable must be used.*

Appendix B: Regulatory Approvals

Safety: UL Listed Accessory, CSA Certified, TUV Licensed (Including Ergonomic Requirements per ZH1/618).

RFI: FCC Class B, Canadian DOC Class B, VDE Class B.

FCC 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 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 into 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

Modifications or changes to this product not expressly approved by Radius could void the user's authority to operate the equipment.

To insure compliance to FCC non-interference regulations, peripherals attached to this computer require shielded I/O cables.

Canadian RFI Statement:

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

Le présent appareil nummériquie n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe B prescrites dans le réglement sur lebrouillage radioélectrique édicté par le Ministére des Communications du Canada.

ZZF Self Certification Statement for VDE B:

Bescheiningung des Herstellers/Importeurs
Hiermit wird bescheinigt, daß des PowerView in Übereinstimmung mit den Bestimmungen der Vfg. 1046/1984 funk-entstört ist.

Der Deutschen Bundespost wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestimmungen eingeräumt.

Von Benutzer zusammengestellte Systeme, die dieses Gerät beihalten, müssen den Bestimmungen von Vfg. 1046/1984 entsprechen.

Appendix C: Warranty

Limited Warranty: Radius Hardware

What is covered: All defects and any faulty workmanship in the PowerView interface.

Who is covered: You, as the original purchaser of this Radius product, are covered under this warranty. If you sell or give this product to someone else, that person will also be covered under this warranty.

For how long: One year from the original purchaser's date of purchase.

What we will do: Repair or replace the product, at our option, without charge and return it freight prepaid to an Authorized Radius Reseller.

What we will *not* do: Pay inbound shipping, transportation or insurance charges, or accept responsibility for loss or damage in transit.

What you must do: Return the defective product (including all cables, registration card, software, and manuals), with all transportation and insurance charges prepaid, to an Authorized Radius Reseller within the country of original retail purchase. Please include your name, address, telephone number, a description of the problem and a copy of a bill of sale bearing a Radius serial number as proof of original retail purchase. If you do not know the location of an Authorized Radius Reseller in your area, please contact Radius at the address listed at the end of this appendix.

Other conditions: This warranty does not apply if the Radius serial number has been removed or if the product has been damaged by misuse, accident, modification or unauthorized repair. Radius may use re-manufactured, refurbished, or used parts and modules in making warranty repairs.

Radius hardware is designed to work with computers manufactured by other companies. It may be that certain features of software designed for such computers will not operate when used with our

hardware. Accordingly, Radius does not warrant or represent that all software will function uninterrupted or error-free when used in conjunction with Radius hardware.

THIS WARRANTY IS IN LIEU OF ALL WARRANTIES, WHETHER ORAL OR WRITTEN, EXPRESS OR IMPLIED. ANY IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO SEVEN YEARS FROM THE DATE OF PURCHASE OF THIS PRODUCT. IN NO EVENT WILL RADIUS BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES FOR THE BREACH OF ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING DAMAGE TO PROPERTY AND, TO THE EXTENT PERMITTED BY LAW, DAMAGES FOR PERSONAL INJURY, EVEN IF RADIUS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR IF THIS WARRANTY IS FOUND TO FAIL ITS ESSENTIAL PURPOSE.

Some states do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Warning: *DO NOT REMOVE THE POWERVIEW COVER. THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.*

RadiusCare in the United States

At Radius, we believe that excellent service and support are an important part of the product you receive. With your purchase, we include a free one-year warranty and highly responsive technical support.

To make sure that the package is complete and product-care is continued, we offer RadiusCare as an investment in the future of your products. For pennies a day, you can rest assured that your Radius products will be protected by an excellent service agreement and continued technical support for an addition one or two years.

RadiusCare can be purchased from any participating Radius reseller in the U.S. when you buy your Radius equipment, or during the time the product is in its initial warranty period. There are over 1500 Radius Authorized Resellers waiting to serve you.

For the location of a participating, authorized U.S. Radius Reseller nearest you, call Radius at (408) 434-1012.

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