

Apple

AppleColor Monitor 100
User's Manual



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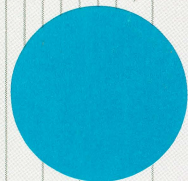
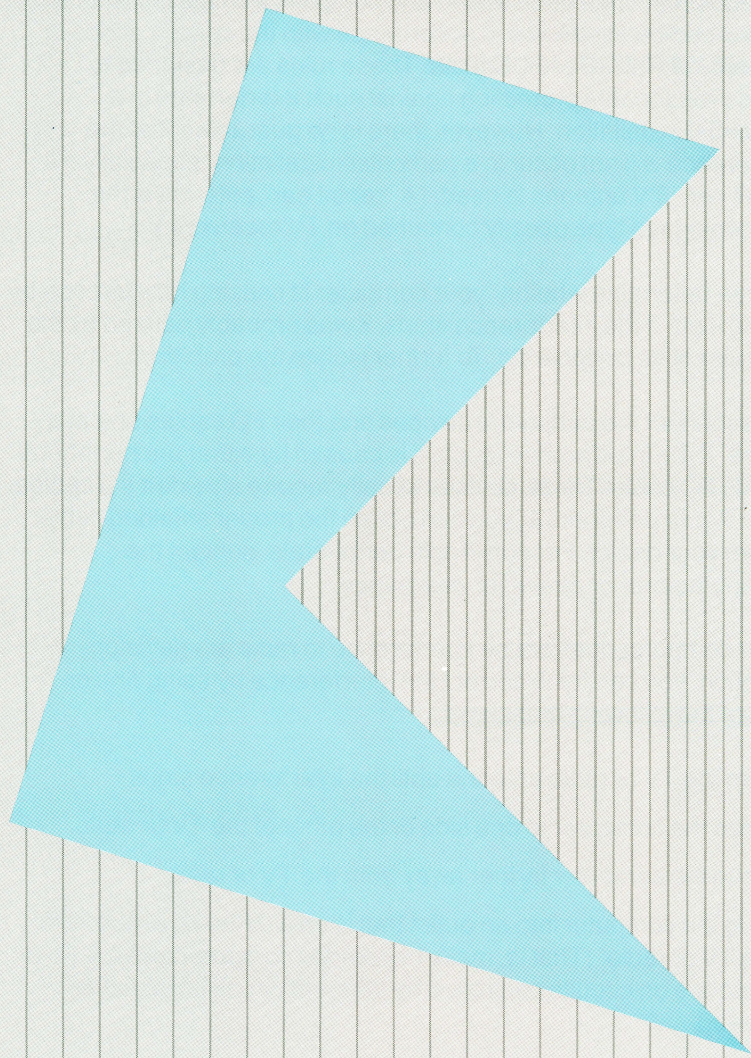
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Warning

This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of FCC Rules. Only peripherals (computer input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this computer. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.

AppleColor Monitor 100

User's Manual



Radio and Television Interference

The equipment described in this manual generates and uses radio frequency energy. If it is not installed and used properly, that is in strict accordance with our instructions, it may cause interference to radio and television reception.

This equipment has been tested and complies with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC rules. These rules are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that the interference will not occur in a particular installation, especially if a “rabbit ear” TV antenna is used. (A “rabbit ear” antenna is the telescoping rod type usually contained on TV receivers.)

You can determine whether your computer is causing interference by turning it off. If the interference stops, it was probably caused by the computer or its peripherals. To further isolate the problem:

- Disconnect the peripheral devices and their I/O cables one at a time. If the interference stops, it is caused by either the peripheral or its I/O cable. These devices usually require shielded I/O cables. For Apple peripherals, you can obtain the proper shielded cable from your dealer. For non-Apple peripherals, contact the manufacturer or dealer for assistance.

If your computer does cause interference to radio or television reception, you can try to correct the interference by using one or more of the following measures:








- Turn the TV or radio antenna until the interference stops.
- Move the computer to one side or the other of the TV or radio.
- Move the computer farther away from the TV or radio.
- Plug the computer into an outlet that is on a different circuit from the TV or radio. (That is, make certain the computer and the TV or radio are on circuits controlled by different circuit breakers or fuses.)
- Consider installing a rooftop TV antenna with coaxial cable lead-in between the antenna and TV.

If necessary, you should consult your dealer or an experienced radio/television technician for additional suggestions. You may find helpful the following booklet, prepared by the Federal Communications Commission:

“How to Identify and Resolve Radio-TV Interference Problems”

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock number 004-000-00345-4.

Table of Contents

	Introduction	1
	Setting Up and Connecting Your AppleColor Monitor 100	2
	Controlling and Adjusting Your AppleColor Monitor 100	4
	4 The On/Off Switch	
	5 The Green Only Switch	
	5 The Contrast Control	
	5 Adjusting Contrast and Brightness	
	5 The Tilting Screen Feature	
	6 Other Controls	
	Care and Handling of Your Monitor	7
	If All Else Fails	8
	Safety Tips and Common Sense	9
	Specifications	10
	10 A. Cathode Ray Tube (320DMB22 V999)	
	10 B. Electrical Characteristics	
	11 C. Picture Quality	
	11 D. Controls	
	11 E. Mechanical and Environmental	

AppleColor Monitor 100

User's Manual

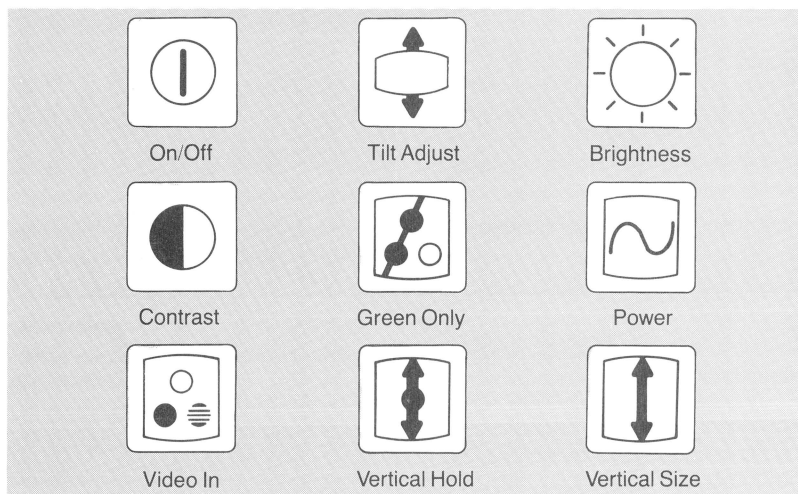
Introduction

Your AppleColor Monitor 100 is part of the growing Apple line of accessories for the Apple II and Apple III computer families. Its state-of-the-art design incorporates the following features for your viewing comfort:

- Tilting screen
- High quality 80-column display with normal or inverse video
- A "GREEN ONLY" switch for systems that output white text
- Nonglare high contrast screen surface
- Accurate reproduction of color graphics

Frequently used controls are easily accessible behind a protective door on the front of the monitor, to the right-hand side as you face it; while those less frequently used are on the back. Internationally recognized symbols, shown in Figure 1, are used to identify the various controls and connections.

Figure 1. International Symbols for Controls and Connections



The monitor fits on top of any Apple IIe or earlier Apple II computer or Apple III computer. You can also set it on any other flat, sturdy surface. If you plan to set it on top of your Apple computer, allow about four inches behind the computer for cables and for easy access to the controls on the rear of the monitor. If you plan to set it on some other flat surface, clear the area first and, again, allow enough space behind the monitor for cables and for access to the rear controls.

Setting Up and Connecting Your AppleColor Monitor 100

This section tells you how to set up and connect the AppleColor Monitor 100 to your Apple computer.

Warning

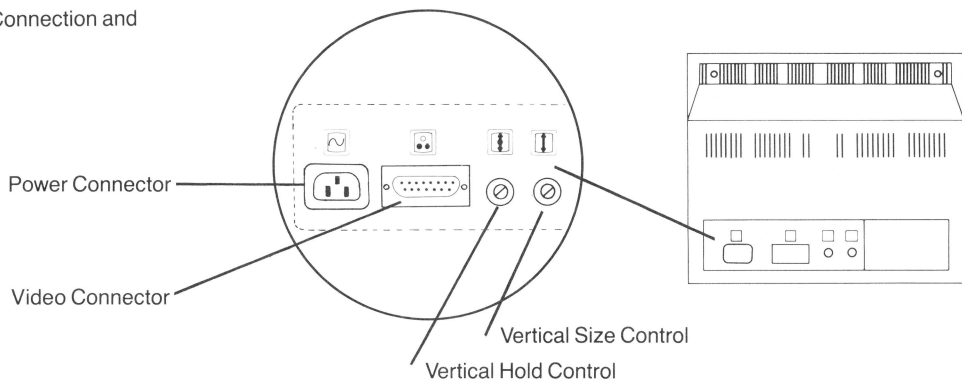
Be sure the computer is turned *off* before plugging any cables into it.

You need only three things to hook up your monitor:

- The AppleColor Monitor 100 itself
- The shielded video cable supplied with the monitor
- The power cord supplied with the monitor

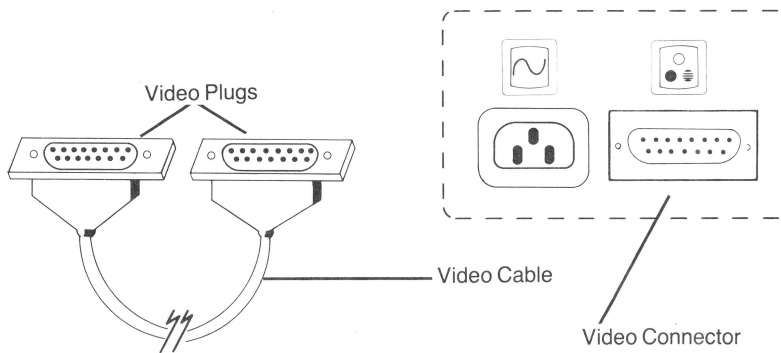
When facing the back of the monitor, you'll see the power cord connector, the video signal connector, and two control knobs as shown in Figure 2.

Figure 2. Points of Connection and Control




The video cable connects the video signal from your Apple computer to the monitor (refer to Figure 3). Plug either end of the video cable firmly into the video connector on the back of the monitor, refer to Figure 3, and fasten the holding screws. If you have any trouble inserting the cable into the connector, don't force it. Make sure that it is the right cable, that the pins are not bent, that you have the long and short edges of the plug matched to the corresponding edges of the connector, and that the pins of the plug are properly aligned with the holes of the connector.

Figure 3. Video Cable, Plugs, and Connector



Plug the other end of the video cable into the RGB video output connector of your computer. The actual location of the video output connector will depend on which computer you are using. Refer to the interconnect sheet for your system.

Now connect the power cable to the power cord connector, marked with the symbol  , refer to Figure 3. Finally, plug the three-pronged end into a three-hole wall socket.

Your AppleColor Monitor 100 is now set up, properly connected and ready for its preliminary adjustments.



Warning

This equipment is intended to be electrically grounded.

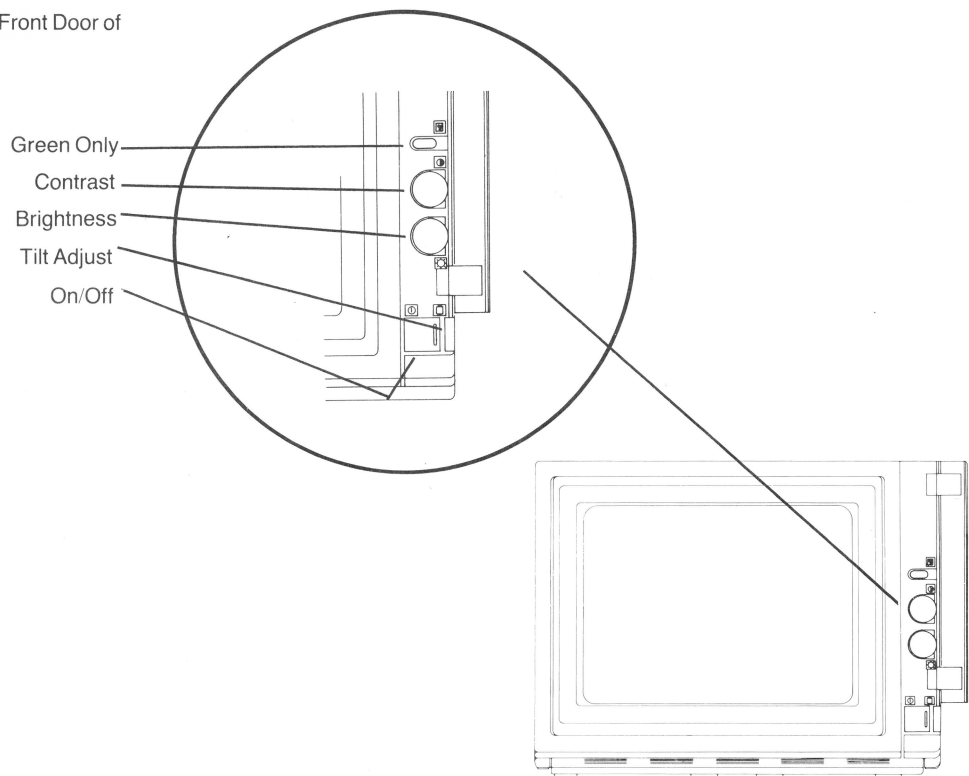
This product is equipped with a three-prong power module. As a safety feature, the plug is designed to fit only into a polarized, grounded three-hole outlet. If you don't have such an outlet, have a licensed electrician install one (and a grounding conductor, if necessary) where you will use the computer. Do not defeat the purpose of the grounding plug.

Controlling and Adjusting Your AppleColor Monitor 100


The design of the monitor makes controlling the display and adjusting the screen easy. The most frequently used controls, shown in Figure 4, are:

- The on/off switch
- The green only switch
- The contrast control
- The brightness control
- The tilt adjust button


Figure 4. Controls Behind Front Door of Monitor




The On/Off Switch

The On/Off Switch is labeled . To turn the monitor on, push the On/Off switch once. The green indicator light built into the switch will go on, and stay lit until the monitor is turned off. To turn the monitor off, push the On/Off switch once again.


The Green Only Switch

The green only switch is labeled . This switch permits your monitor to operate in monochrome mode. Consecutive presses of the green only switch alternates the display mode between full color and monochrome.

The Brightness Control

The brightness control is labeled . Clockwise rotation increases, while counterclockwise rotation decreases, the total amount of illumination given off by the screen.

The Contrast Control

The contrast control is labeled . Clockwise rotation increases, while counterclockwise rotation decreases, the degree of difference between the lightest and darkest sections on the screen.

Adjusting Contrast and Brightness

With the computer and monitor on and text on the screen, turn the contrast control all the way clockwise. Then turn the brightness control clockwise until the background lines on the screen are clearly visible. Now turn the brightness control counterclockwise until the fine lines just disappear. Finally, adjust the contrast control to give a pleasing level of illumination to the text.

If you cannot obtain satisfactory results with the monitor connected to your system as described, refer to “If All Else Fails” section of this manual.

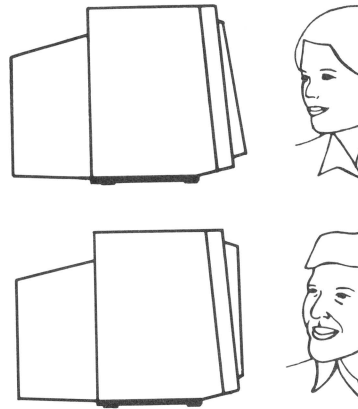
By the Way: If you're a first time Apple user, your computer owner's manual will help you with full instructions on getting your Apple up and running.

The Tilting Screen Feature

The ability to adjust the angle of the screen is another special design feature of your AppleColor Monitor 100. You can select the ideal screen position (perpendicular to your line of vision) depending upon your size and the height of your table, refer to Figure 5.

The tilt adjust button operates the tilt mechanism. When you press the tilt button, the screen moves first in one direction to its limit, and then reverses direction and moves to its limit in the opposite direction. The screen moves back and forth in this fashion until you release the tilt button. Simply position the screen to a comfortable viewing angle and release the tilt button.

Figure 5. Line of Vision and Perpendicularity of Screen



Other Controls

There are two other controls on the back of the monitor which were placed there because they are factory adjusted and will seldom need any adjustment (refer to Figure 6). They are



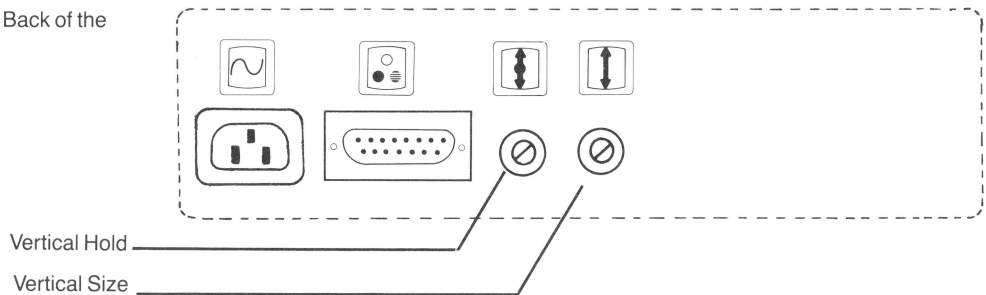
- The vertical hold control, labeled , which controls up/down rolling of the screen display.
- The vertical size control, labeled , which lengthens or shortens the vertical dimension of the screen display.

Figure 6. Controls on the Back of the Monitor



Care and Handling of Your Monitor

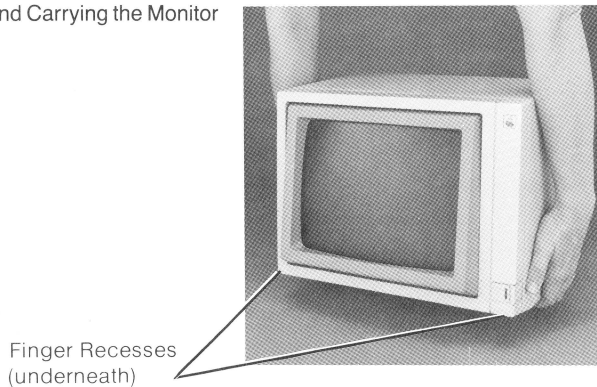
Your new monitor is tough and can take some heavy knocks, but don't abuse it! Please don't place any spillables on the monitor. Liquids can ruin the monitor, and the computer as well.

Warning

The monitor's vents are recessed to help prevent moisture from getting inside. But still, a spill could damage internal circuits.

Before moving your monitor, be sure to unplug the video cable from it, and the power cord from the wall socket. When lifting and carrying the monitor, use the special finger recesses under the monitor sides, as shown in Figure 7.

Figure 7. Lifting and Carrying the Monitor











The screen of the monitor is quite rugged. But still, to avoid scratching the screen, it's a good idea not to lay the monitor face down.

Like TV screens, monitor screens attract dust because of static electricity, and built-up dust makes for uncomfortable viewing. An occasional wipe with a dry, lint-free cloth will keep your monitor's screen clean. Avoid smearing or smudging the screen with your fingers. The oil from your fingers will make dust adhere to the screen.

Your monitor's screen has an etched antiglare surface, which greatly reduces eye fatigue and makes reading easy, even when light reflects from its surface. Whenever you look for any length of time into a light source such as a TV or a computer monitor, you may feel bleary-eyed. Though we have designed the screen to be comfortable for all users, you may still experience eye fatigue. If you feel your eyes tiring, just look away from the screen and focus on objects at varying distances awhile. By exercising your eye muscles in this way, you can avoid or relieve eye strain.

If All Else Fails

From time to time, your monitor may not behave as you expect it to. This chart should help you overcome the most common problems that may occur with your monitor. If you don't find your specific problem here, or if our remedies don't work, please contact your dealer.

Problem	Cause(s)	Remedy
Unusual sounds or smells emanating from the monitor.	Monitor's electronics are overheating	Unplug power and video cords immediately and contact your Apple dealer.
No picture, and On/Off switch is in ON position, but power light is out.	Monitor is not Plugged in.	Insert power cord into the outlet properly.
	Bad connection to wall outlet or dead outlet.	Change outlets or check line fuse or circuit breaker.
No picture, but On/Off switch is down and power light on.	Video cable is not connected properly to the monitor or to the RGB video output of the computer.	Connect video cable properly.
	Contrast control  is turned too far one way or the other.	Turn contrast control  until display appears.
	Brightness control  is turned too far one way or the other.	Turn brightness control  clockwise until display appears.
Display vibrates slightly.	Input signal from the computer needs adjustment.	There may be a problem with the computer. Contact your dealer.
Display rolls up or down.	Vertical hold control  is misadjusted.	Rotate vertical hold control  until display stabilizes.
Characters are either taller or shorter than normal.	Vertical size control  is misadjusted.	Rotate vertical size control  until display is satisfactory.
Apple III Plus display flickers	Computer produces interlaced video output.	Turn off interlaced feature with built-in switch.

Safety Tips and Common Sense

Following these reminders will make life easier for you and your monitor:

1. To avoid electric shock, never touch the inside of the monitor. Only a qualified technician should open the monitor's case. Do not poke anything through the openings in the case. You may get an electric shock or damage the monitor.
2. Do not allow anything to rest or run against the power cord. Keep it away from where people will walk over it or trip on it.
3. If your power cord is frayed or damaged, have your dealer replace it. Don't use your monitor with damaged equipment.
4. Maintain proper clearance behind the monitor and don't drape anything over the back that might obstruct the vents. Be sure that proper air circulation is possible at all times.
5. We suggest you use your monitor, like any other sophisticated electronic equipment, in dry, low humidity areas. Moisture is the bane of delicate electronic circuits. Also, don't operate the monitor in locations where it is exposed to direct sun or other high temperature sources.

Remember, if you don't take proper care of your monitor (if you abuse it, spill liquids on it, or drop foreign objects inside) or if you open it and try to modify it, your warranty will be void.

Specifications

A. Cathode Ray Tube (320DMB22 V999)

1. Size: 12 inch diagonal viewable
2. Deflection angle: 90 degrees
3. Glass area: 74 square inches
4. Implosion protection: Tension band with mounting lugs
5. Phosphor: P22
6. Phosphor dot pitch: 0.38mm maximum
7. Anode voltage: 23.0 KV
8. Display size: 21.6cm (H) x 16cm (V)
9. Faceplate: Contrast enhanced and antireflective surface

B. Electrical Characteristics

1. Power unit: 115VAC + 5%, - 12%, 50/60Hz
2. Power consumption: 70.0W under normal viewing conditions
3. Fusing: Internal fuse protection
4. Video input: 16 color semi-analog input
8 color TTL RGB input
(negative-going TTL level composite
synch switch set at factory)
5. Video bandwidth: 25MHz
6. Horizontal deflection: 15,200Hz to 16,300Hz free running
Hold range: 9.8 μ sec
Linearity within 2% of width
7. Vertical deflection: 47Hz to 63Hz
Hold range: + 0 to - 8Hz
Retrace time: 450 μ sec
Linearity within 2% of height
8. Adjustment size range: Adjustable from 105% to approx. 85%
of full picture size with less than 2%
linearity change

C. Picture Quality

- | | |
|------------------------|--|
| 1. Resolution: | 600TV lines at center
416TV lines at corners |
| 2. Linearity: | Less than 10% for adjacent characters
Less than 20% for any two characters
on the entire display field |
| 3. Display capability: | 80 characters/row, 24 rows minimum |
| 4. Convergence error: | 0.5mm in center working region |

D. Controls

- | | |
|-----------|---|
| 1. Front: | On/Off
Green Only
Contrast
Brightness
Tilt Adjust |
| 2. Back: | Power Cord Connector
Video Signal Input
Connector
Vertical Hold
Vertical Size |

E. Mechanical and Environmental

- | | |
|---------------------------|---|
| 1. External dimensions: | Width: 37.1cm (14.606")
Height: 28.83cm (11.35")
Depth: 28.27cm (14.766") |
| 2. Weight: | Approx. 11.5Kg (25.3lb) |
| 3. Operating temperature: | + 5°C (41°F) through 30°C (86°F) |
| 4. Storage temperature: | - 35°C (- 31°F) through + 60°C
(140°F) |



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AppleColor Monitor 100 User's Manual

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1. How much experience have you had...

...with computers?

- none
- little
- moderate
- extensive

...with Color Monitors?

- none
- little
- moderate
- extensive

2. How do you rate this book...

...as a learning aid?

...as a reference source?

- | | | |
|-------------------------------|-------------------------------|-------------------------------|
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| <input type="checkbox"/> good | <input type="checkbox"/> fair | <input type="checkbox"/> poor |

3. What do you particularly like or dislike about the manual?

4. How can we improve the manual?

5. Have you found any technical inaccuracies?

Name _____ Phone _____

Company/Title _____

Street _____

City/State/Zip _____

AppleColor Monitor 100 Evaluation Report



Please take just a few minutes to complete this form after you've connected your AppleColor Monitor 100 and used it a few times. Your responses will help us to identify any problem areas and make our products work better for you.

1. AppleColor Monitor 100

Serial Number: _____

2. How do you use your AppleColor Monitor 100?

- Business Education
 Home Scientific/Industrial
 Other: _____

3. Does the quality of your AppleColor Monitor 100 meet your expectations?

- Yes No (Please explain)

4. What model computer do you have?

- Apple II Apple IIc
 Apple II+ Apple III
 Apple IIe Other (please specify) _____

5. How well do you think the appearance of your AppleColor Monitor 100 matches your computer?

- Excellent Good Fair Poor

6. Did you have any problems installing and interfacing the AppleColor Monitor 100 to your computer?

- Yes (Please explain) No

7. Is the AppleColor Monitor 100 manual clear, complete, and easy to understand?

- Yes No (Please explain)

8. How useful is the manual as ready-reference?

- _____

9. Are the illustrations appropriate and informative?

- Yes No (Please explain)

10. Did you receive everything listed on the Packing List?

- Yes No (Please specify)

11. Have you had any problems with your AppleColor Monitor 100?

- Yes (Please describe) No

12. How can we improve the AppleColor Monitor 100?

- _____

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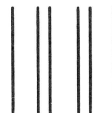
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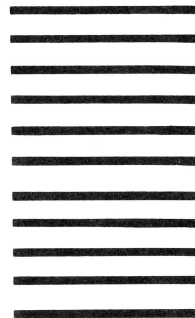
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