

HP Pavilion  
M40, M50, and M70  
Multimedia  
Displays

*User's Guide*

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Hewlett-Packard Company  
Home Products Division  
P.O. Box 4010  
Cupertino, CA 95015-4010

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## **1 Introduction**

### *HP Pavilion Multimedia Displays*

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# 1 Introduction

The HP Pavilion M40, M50, and M70 Multimedia Displays (Models D5269A, D5258A, and D5259A) are high-resolution, multi-scan color monitors designed for use with HP Pavilion and other computers. Each display includes a built-in microphone and mounts for the speakers supplied with HP Pavilion computers. The displays comply with EPA ENERGY STAR standards and include automatic power-management features.

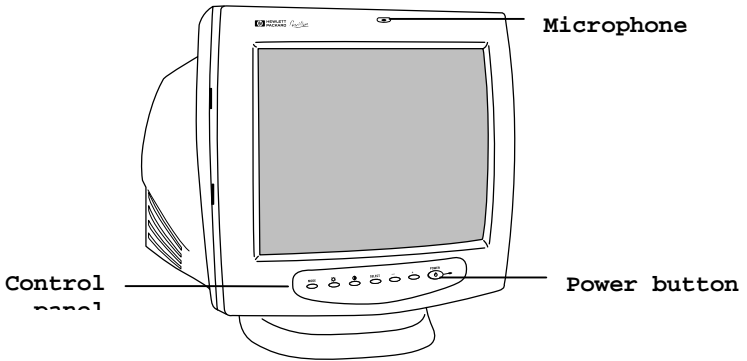
Other features include

- Non-glare picture tube to reduce the reflection of ambient light (except U.S. M40 models).
- On-screen adjustment of display settings.
- Compliance with Swedish MPR II guidelines for reduced electromagnetic emissions (except U.S. M40 models).
- Support for high refresh rates to reduce screen flicker and eyestrain.
- Built-in tilt and swivel base.

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### For Your Safety

For your safety and the protection of your display, follow these precautions:

- Always connect the display to a grounded, three-prong power outlet. Use only the factory-supplied power cord.

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#### *WARNING*

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**To completely disconnect power from the display, you must remove the power cable from the power socket.**

- To prevent electrical shock, do not remove the back cover of the display. The cover should be removed only by qualified service personnel.
- Position the display so the power cord is accessible.
- Do not place objects on top of the display that could fall into the vents or block airflow.

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- To avoid the risk of damage to the display and electrical shock to yourself, do not expose the display to rain or moisture.
- Adjust only those controls whose operations are covered in this manual. Improperly adjusting other controls may result in damage and could require repair by a service technician.

If any of the following conditions occur, unplug the display and contact a qualified service technician:

- The power cord or plug is frayed or damaged.
- You have spilled liquid into the display.
- The display has been exposed to rain or water.
- The display does not operate correctly when the operating instructions are followed.
- The display has been dropped or the cabinet has been damaged.
- The performance of the display changes abruptly.



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## 2 Installation

Follow the instructions in this chapter to install your HP Pavilion M40, M50, or M70 Multimedia Display.

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**NOTE**

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Before installing the display, refer to your computer and video adapter documentation. You may need to make changes to accommodate the display.

### Unpacking the Display

When you unpack the display, make sure that you have the following items:

- The display with its attached video cable and pedestal mount
- A power cord

### Locating the Display

Place the display on a flat, sturdy surface. If you plan to use the display with a desktop PC, you can place it on top of the computer. (If you're not using an HP Pavilion computer, check the documentation for the maximum weight the computer's case can hold.)

Choose an area that is free from excessive heat, moisture, and sunlight. Avoid possible sources of electromagnetic interference, such as transformers, motors, fluorescent lighting, and other computer displays.

### **Connecting the Power and Video Cables**

Before connecting any cables, make sure to read the safety instructions at the beginning of the manual. The computer and display must be turned off.

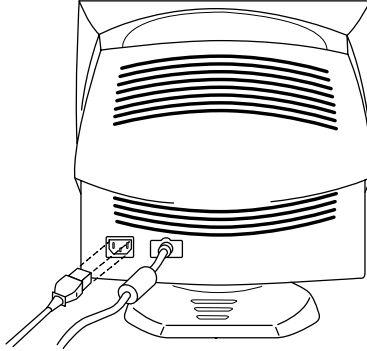
## 2 Installation

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*To connect the power and video cables*

1. Connect the power cord to the back of the display.

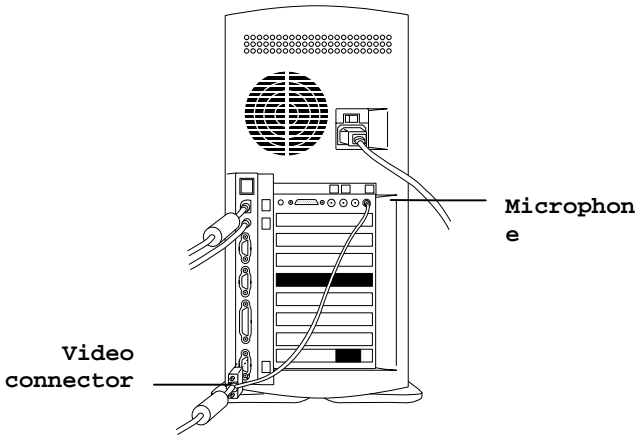


2. Plug the power cord into a power outlet.
3. Connect the orange plug on the video cable to the video port of your computer. If you have an HP Pavilion computer, this port is marked in orange. (The illustration below is for reference only. Check your computer manual for the video port location.)

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4. Plug the yellow microphone connector into the sound input port of your computer. On HP Pavilion computers, the port is marked in yellow.

### Connecting the Speakers

The display is designed for use with the HP/Polk Audio speakers supplied with HP Pavilion computers.

*To connect the speakers*

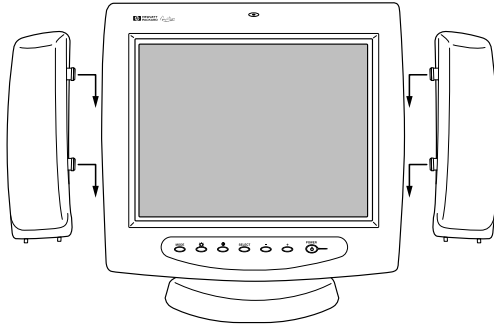
1. Extend the cables attached to the two speakers.
2. Identify the left and right speakers. You can tell which side a speaker fits onto by observing its curvature and mounting pegs. The side of the speaker with mounting pegs fits flush against the side of the display.
3. Fit the pegs of the right speaker into the corresponding holes on the

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right side of the display, then push down until the speaker is secure.

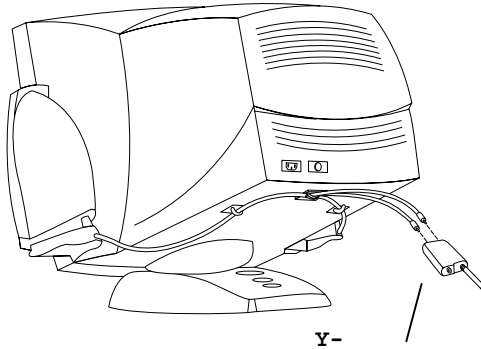


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4. Clip the speaker wires to the underside of the monitor as shown in the illustration.



5. Plug the two speaker wire connectors into the Y-connector.
6. Plug the single connector on the end of the Y-connector's cable to the sound-out port on your computer. (Check in the computer's documentation for the location of the port.)

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## 3 Using the Display

This chapter contains information about using your HP Pavilion M40, M50, or M70 Multimedia Display.

### Turning the Display On and Off

You use the power button on the front panel to turn the display on and off. When the display is on, the light near the power button is illuminated. The light is green when the display and computer are active and amber when the display is in one of its reduced power modes.

The display's power management features reduce power consumption to low levels when your computer has been inactive for a specified period of time. See "Minimizing Energy Use" later in this chapter for more information.

Because of the display's power management features, you don't normally need to turn off the display when it's not in use. When turned off, the display uses the same amount of power that it uses in sleep mode (less than eight watts).

If your computer doesn't support DPMS power management, you can reduce power consumption by turning off the monitor when it won't be used for an extended

### 3 Using the Display

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period. You can turn the display off even if you leave the computer running.

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**WARNING**

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**To completely disconnect power from the display, you must remove the power cable from the power socket.**

*To turn the display on or off*

- Press the power button on the front of the display.

#### **Degaussing the Display**

Each time you turn on the display, it is automatically *degaussed*. Degaussing removes magnetism that causes unwanted color variations. Degauss the display any time you notice unusual color variations. If you leave the display continuously turned on or frequently change its position, you should degauss about once a week.

To degauss the M40 or M50 display, turn it off for about 30 minutes. When you turn the display on again, there will be a short humming sound and a momentary instability in the image.

There are two degaussing options for the M70 display. You can either turn off the display as described for the M40 and M50, or use the degauss option in the OSD main window. See "Using the OSD Main Window" in Chapter 4 for instructions.



## Setting the Screen Resolution

The *screen resolution* determines the amount of information shown in the display. Screen resolution refers to the number of the dots or *pixels* used to make up an image. A low screen resolution means that the display uses a relatively small number of relatively large dots. A higher resolution means that more dots of a smaller size make up the image. With higher screen resolutions, icons, windows, and text are smaller on the screen, but more information can be displayed.

The screen resolution is set on the computer. The display supports many common screen resolutions, as shown in "M40 Video Modes," "M50 Video Modes," and "M70 Video Modes" in Chapter 5. Check the documentation supplied with your computer and video adapter to find out which resolutions they support.

## Minimizing Eyestrain

To minimize eyestrain and avoid screen flicker, use the highest possible *image refresh rate* or *vertical frequency* supported by your computer at the current screen resolution. (The image refresh rate is the number of times per second that the image is refreshed.) The tables in "M40 Video Modes," "M50 Video Modes," and "M70

Video Modes" in Chapter 5 show the image refresh rates supported by the displays at different screen resolutions.

#### **Minimizing Energy Use**

All HP Pavilion computers and many other computers support *VESA display power management*. Power-management features reduce the display's power consumption after a period of keyboard inactivity.

The display supports three different power-saving modes—standby, suspend, and sleep—which reduce consumption to less than eight watts. See "DPMS Power-Management Features" in Chapter 5 for a description of the characteristics of each mode.

When the display is in one of its power saving modes, the screen is blanked out and the front panel power indicator is amber. Pressing a key on the keyboard or moving the mouse restores the image. Consult your computer's documentation for information about setting the power-saving modes.

## Care and Cleaning

To maximize screen life and prevent damage to the picture tube, HP recommends that you

- Use the display power-management system (if available on your computer) or a screen saver program.
- Turn off the display or reduce its brightness and contrast to minimum levels when you won't be using the display for an extended period. This is particularly important if you don't use a power-management system or screen saver.
- Avoid setting contrast and brightness to maximum levels or using the Gaming preset mode for prolonged periods.

### Cleaning the Screen

The screen of the display has a high-quality optical coating that reduces glare and static buildup. To prevent damage to this coating, use only regular household glass cleaner to clean the screen.

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**CAUTION**

**Don't use cleaning solutions containing fluoride, acids, or alkalis. Never use hard or abrasive cleaning products to clean the screen.**

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*To clean the screen*

1. Turn off and unplug the display.

### **3 Using the Display**

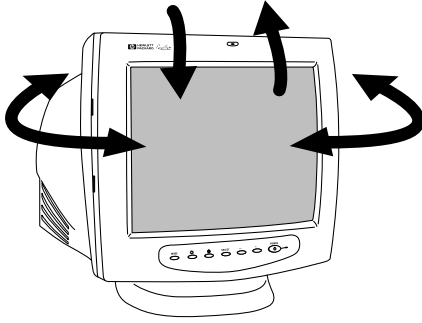
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2. Spray a soft cotton cloth with glass cleaner and gently wipe the screen.
3. Dry the screen with a soft cotton cloth.
4. Plug in the display and turn it on.

## Adjusting the Viewing Angle

The display's pedestal mounting enables you to adjust the viewing angle. You can tilt and turn the display to find the most comfortable viewing position.



### **3 Using the Display**

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## 4 Changing Display Settings

You use the OSD (On-Screen Display) features of the Pavilion displays to change their settings. The buttons on the front panel control on-screen icons and windows.

### Using the Front Panel

You use the six buttons on the front of the display to control OSD functions.

#### MODE



The Mode button allows you to choose from the display's custom preset modes. See the next section, "Setting the Custom Preset Mode," for instructions.



The brightness button opens and closes the brightness adjustment window.



The contrast button opens and closes the contrast adjustment window.

#### SELECT



The Select button opens the OSD main window if no other OSD windows are displayed. In the OSD main window, the Select button opens the adjustment window for the selected icon.



The minus button decreases a setting if an adjustment window is open. In the OSD main window, the button moves backward through the icons.



The plus button increases a setting if an adjustment window is open. In the OSD main window, the button moves forward through the icons.

### **Setting the Custom Preset Modes**

Your display is configured for excellent performance right out of the box. If you want to optimize the display's settings for a particular activity, however, you can use custom preset modes.

Custom preset modes enable you to quickly change contrast and color settings to match those commonly used for various activities and viewing conditions. The three preset modes are Productivity, Photos/Graphics, and Gaming.

The display also includes a Personal Setup mode, whose contrast, brightness, and color settings you can define. (See the next section, "Changing Mode Settings," for information about defining the Personal Setup mode and temporarily changing settings for the other modes.)



## 4 Changing Display Settings

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You choose the mode in the Mode window, which displays the following icons:



Productivity mode is designed for best results in office environments and with applications like word processors and spreadsheets.



Photos/Graphics mode has the same settings used by graphics professionals in photographic and pre-press applications and environments.



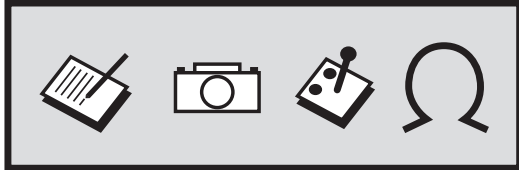
Gaming mode offers higher contrast and the same color settings found in TV and arcade games. It is also appropriate for viewing full-motion video. HP recommends that Gaming mode not be used for productivity applications.



Personal Setup mode enables you to define and save colors and settings for your own purposes.

To set the display mode

1. Press the Mode button to display the Mode window.



2. To immediately change to the next mode, press the Mode button again. (Alternatively, press the + or - button to move through the icons.)
3. When the display mode you want is highlighted, press the Select button to close the Mode window. (Alternatively, wait five seconds for the window to close automatically.)

### **Changing Mode Settings**

The custom preset modes were designed for quick access to common settings. You can't permanently change these settings, but you can make *temporary* adjustments to the contrast, and color to meet a particular need. These changes are lost if you change to another mode or turn off the display.

For example, if you change the contrast level while working in Gaming mode, switch to Productivity mode, then return to Gaming mode, the original factory default contrast level will be in effect.

If you turn off the display, it will be in Personal Setup mode when you turn it back on. Any changes previously made to Productivity, Photos/Graphics, or Gaming modes are lost.

The display's power-saving features don't affect temporary changes to custom preset modes. If you leave the computer inactive long enough to trigger its power-management system, or if you turn off the computer, the temporary changes will still be in effect when the display returns from its power-saving state.

If you want to define and save settings, use Personal Setup mode. Personal Setup initially has the same settings as Productivity mode. When you're working in Personal Setup mode, however, adjustments to brightness, contrast, and color are automatically saved and remain in effect until you change them.

In addition, Personal Setup enables you to individually control the red, green, and blue video content in the image. See "Setting Red, Green, and Blue Values," later in this chapter, for instructions.

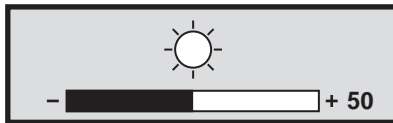
## Adjusting the Brightness and Contrast

You can change the display's brightness or contrast quickly by pressing the brightness or contrast button on the front panel. (You can also adjust the brightness and contrast through the OSD main window as described in the next section, "Using the OSD Main Window.") Brightness adjusts the black level, while contrast adjusts the difference between the dark and light parts of the image.

Adjust the brightness level so that black items on the screen appear black. Then adjust the contrast for the most comfortable viewing.

*To adjust the brightness or contrast*

1. Press the brightness or contrast button on the front panel to open the brightness or contrast adjustment window.



2. Press the + or - button to increase or decrease the setting from its current position.
3. When the brightness or contrast is at the desired level, press the brightness or contrast button again to close the adjustment window.

(Alternatively, wait five seconds for the window to close automatically.)

### **Using the OSD Main Window**

The OSD main window enables you to make changes to a variety of display settings. You open the window by pressing the Select button when no other OSD windows are displayed on the screen.

In the OSD main window, you select icons for the settings you want to change:



Select the brightness icon to adjust the black level in the image.



Select the contrast icon to adjust the level of difference between light and dark areas of the image.



Select the horizontal size icon to adjust the horizontal size of the image.



Select the horizontal position icon to adjust the horizontal position of the image.



Select the vertical size icon to adjust the vertical size of the image.



Select the vertical position icon to adjust the vertical position of the image.



Select the pincushion icon to adjust any tapering or bowing of the sides of the image.



Select the trapezoid icon to adjust distortion where the top of the image is larger or smaller than the bottom of the image.



Select the color temperature icon to adjust the color temperature or white balance of the image. See the next section, "Choosing the Color Temperature," for instructions.



(M70 display only) Select the degauss icon to degauss the display and restore image quality.



(M70 display only) Select the rotation icon to adjust the angle of the image.



(M70 display only) Select the pin balance icon to balance any bowing in the sides of the image.



(M70 display only) Select the parallelogram icon to square the image.



Select the factory reset icon to return size and position settings to their original factory values. (If you're using a nonstandard screen resolution, this feature returns the display to the geometric settings in effect when the resolution was first applied. See Chapter 5 for lists of standard resolutions for each display.)



Select the exit icon to close the OSD main window and save any changes you have made.

In most cases, when you select an icon, an adjustment window appears below the OSD main window. The adjustment window contains a control bar that you shorten or lengthen with the + or - key. A number next to the control bar shows the percentage of the current setting relative to its maximum value.

## 4 Changing Display Settings

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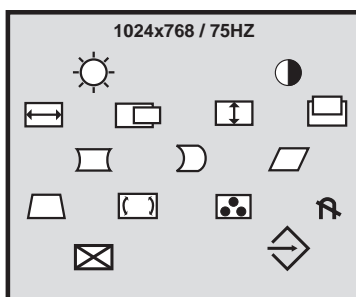
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There are some exceptions to this pattern, however:

- Selecting the color temperature icon opens a window where you can make additional choices. See the next section, "Choosing the Color Temperature," for instructions.
- The degauss, factory reset, and exit options don't have adjustment windows. They take effect immediately after you select them.

*To use the OSD main window*

1. When no other OSD windows are displayed on the screen, press the Select button on the front of the display to open the OSD main window.

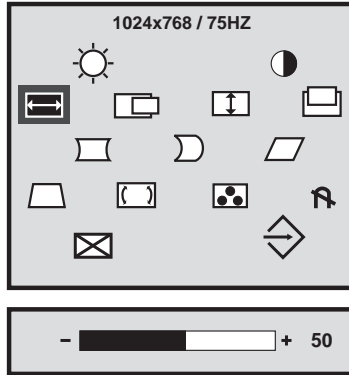


2. Press the + or - button to move among the icons in the window.
3. When the icon for the function you want is highlighted, press the Select button.

If you selected the degauss, factory reset, or exit option, it takes effect immediately.



If you selected another option, an adjustment window appears for the option you selected.



4. Press the + or - button to change the current setting.
5. Press the Select button to save your changes and close the adjustment window.
6. To close the OSD main window, select the Exit icon or wait five seconds for the window to close automatically.



#### **Choosing the Color Temperature**

The default color settings in Productivity, Photos/Graphics, and Gaming modes are optimized for best results in those environments, but you can change the color temperature temporarily when necessary. (If you need to save color settings for a particular application, use Personal Setup mode.)

## 4 Changing Display Settings

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In Productivity and Gaming Modes, you can choose between two settings: 9300K and 6500K. In Photos/Graphics mode, you can also choose a third setting—5000K. This setting is represented by the camera icon.



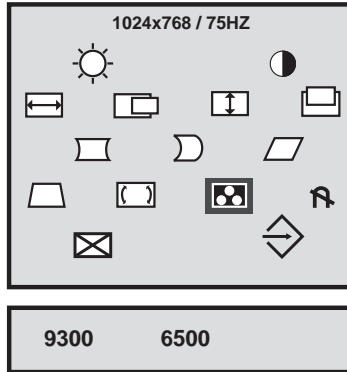
In Personal Setup mode, you can choose colors to suit the color of the ambient lighting in your environment. 9300K is often used for office environments or fluorescent lighting. 6500K is often used for incandescent lighting.

You can also choose to individually adjust the red, green, and blue (RGB) values that make up the screen image. See the next section, "Setting Red, Green, and Blue Values," for instructions.

*To choose the color temperature*

1. In the OSD main window, press the + or - button to move to the color temperature icon.
2. Press the Select button to open the color adjustment window.





3. Press the + or - button to move to the color temperature option you want.
4. Press the Select button to select the color temperature and close the adjustment window.

### **Setting Red, Green, and Blue Values**

You may need to make very precise adjustments to the screen color. For example, under unique ambient lighting conditions, you may need to adjust the screen color so that it more closely matches the output of your printer. You can make these adjustments in Personal Setup mode by individually setting red, green, and blue (RGB) values.

Make sure to let the display warm up fully before trying to match colors precisely. It takes the display about 30 minutes to warm up completely after being turned on or recovering from a power-saving state.

## 4 Changing Display Settings

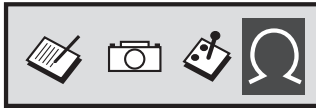
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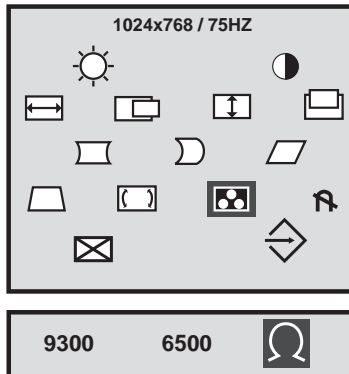
If you have difficulty getting an exact color match, reset each color to its middle value (50%), then readjust to find the color setting you want.


*To set RGB values*

1. Press the Mode button, and press the + or - button to select the Personal Setup mode.



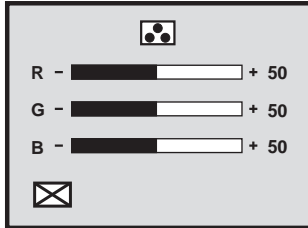
2. Press the Select button to activate the Personal Setup mode.
3. Press the Select button again to open the OSD main window.
4. In the OSD main window, press the + or - button to move to the color temperature icon. 
5. Press the Select button to open the color adjustment window.




6. In the color adjustment window, use the + button to 

move to the Personal Setup icon.

7. Press the Select button to open the RGB adjustment window. The Exit icon is highlighted by default.



8. If you want to accept the current RGB values, press the + or - button to close the window.
9. To make changes to color values, press the Select button to move to the red adjustment bar, then press the + or - button to adjust the value.
10. Press the Select button to move to the green adjustment bar, then press the + or - button to adjust it.
11. Press the Select button to move to the blue adjustment bar, then press the + or - button to adjust it.
12. Press the Select button to move to the exit icon, then  press the + or - button to close the adjustment window.  
(Alternatively, wait five seconds for the window to close automatically.)

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## 5 Technical Information

This chapter contains technical information about the M40, M50, and M70 displays.

These displays are compatible with IBM PC, PC/XT, PC/AT, PS/2, and other PC-compatible computers. They are also compatible with VESA power-management standards. (See "DPMS Power-Management Features" at the end of this chapter.)

### M40 Display Information

Picture tube	14 in (35.6 cm), 90° deflection, non-glare, black matrix, light transmission 57% phosphor P22 medium short, 0.28 mm dot pitch
Maximum viewable area	270 mm (H) x 200 mm (V) 10.6 in (H) x 7.8 in (V)
Line (horizontal) frequency	30-49 kHz
Raster (vertical) frequency	50-100 Hz
Power source	100-240 VAC, 50/60

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	Hz
Maximum power consumption	74 W
Dot rate	65 MHz
Pedestal	Tilt: -5° forward, 12° backward Swivel: 90° left or right

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Dimensions (W x H x D)	372 x 401 x 395 mm 14.9 x 16.0 x 15.8 in
Net weight	11 kg (24.3 lb)
Operating Conditions	5° to 35°C (41° to 95°F )
Temperature	95°F )
Humidity	20% to 80%
Storage Conditions	-25° to 55°C (-13° to 131°F )
Temperature	to 131°F )
Humidity	20% to 80%, non- condensing

#### M40 Video Modes

The display supports the following industry-standard combinations of screen resolution and refresh rates. Other combinations are possible, but may require adjustments to the image size and position. (See "Using the OSD Main Window" in Chapter 4 for information about making these adjustments.)

Resolution (dots x lines)	Vertical Frequency
640 x 480	60 Hz
640 x 480	75 Hz
640 x 480	85 Hz
720 x 400	70 Hz
800 x 600	60 Hz
800 x 600	75 Hz



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1024 x 768	60 Hz
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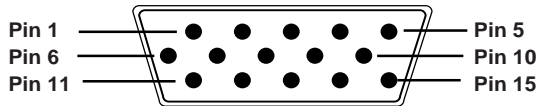
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#### CAUTION

Setting the screen resolution/refresh rate combination higher than 1024 x 768 at 60 Hz can damage the display.

#### M40 Pin Assignments

The following figure illustrates the 15-pin D-sub male video connector used by the M40 monitor. The table shows the pin assignments.



Pin Number	Assignment
1	Red video input
2	Green video input
3	Blue video input
4	Ground
5	DDC return
6	Red video return
7	Green video return
8	Blue video return
9	No connect
10	Sync return
11	Ground
12	DDC data (SDA)
13	Horizontal sync
14	Vertical sync
15	DDC data clock (SCL)

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#### NOTE

Because of a policy of continuous product improvement, pin assignments

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## 5 Technical Information

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are subject to change without notice.

## 5 Technical Information

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#### **M50 Display Information**

Picture tube	15 in (38.1 cm), 90° deflection, non-glare, black matrix, light transmission 57% phosphor P22 medium short, 0.28 mm dot pitch
Maximum viewable area	280 mm (H) x 210 mm (V) 11 in (H) x 8.25 in (V)
Line (horizontal) frequency	30-54 kHz
Raster (vertical) frequency	50-100 Hz
Power source	100-240 VAC, 50/60 Hz
Maximum power consumption	90 W
Dot rate	65 MHz
Pedestal	Tilt: -5° forward, 12° backward Swivel: 90° left or right
Dimensions (W x H x D)	372 x 401 x 395 mm 14.9 x 16.0 x 15.8 in

## 5 Technical Information

### HP Pavilion Multimedia Displays

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Net weight	13 kg (28.6 lb)
Operating Conditions	5° to 35°C (41° to 95°F )
Temperature	95°F )
Humidity	20% to 80%
Storage Conditions	-25° to 55°C (-13° to 131°F )
Temperature	to 131°F )
Humidity	20% to 80%, non-condensing

#### M50 Video Modes

The display supports the following industry-standard combinations of screen resolution and refresh rates. Other combinations are possible, but may require adjustments to the image size and position. (See "Using the OSD Main Window" in Chapter 4 for information about making these adjustments.)

Resolution (dots x lines)	Vertical Frequency
640 x 480	60 Hz
640 x 480	75 Hz
640 x 480	85 Hz
720 x 400	70 Hz
800 x 600	60 Hz
800 x 600	75 Hz
800 x 600	85 Hz
1024 x 768	60 Hz

**5 Technical Information**  
*HP Pavilion Multimedia Displays*

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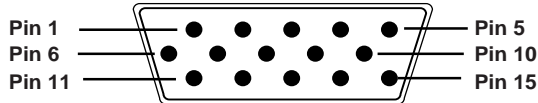
*CAUTION*

**Setting the screen resolution/refresh rate combination higher than 1024 x 768 at 60 Hz can damage the display.**

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### M50 Pin Assignments

The following figure illustrates the 15-pin D-sub male video connector used by the M50 monitor. The table shows the pin assignments.



Pin Number	Assignment
1	Red video input
2	Green video input
3	Blue video input
4	Ground
5	DDC return
6	Red video return
7	Green video return
8	Blue video return
9	No connect
10	Sync return
11	Ground
12	DDC data (SDA)
13	Horizontal sync
14	Vertical sync
15	DDC data clock (SCL)

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**NOTE**

Because of a policy of continuous product improvement, pin assignments are subject to change without notice.

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**M70 Display Information**

Picture tube	17 in (43.1 cm), 90° deflection, non-glare, light transmission 52% phosphor P22 medium short, 0.28 mm dot pitch
Maximum viewable area	320 mm (H) x 240 mm (V) 12.8 in (H) x 9.6 in (V)
Line (horizontal) frequency	30-70 kHz
Raster (vertical) frequency	50-120 Hz
Power source	100-240 VAC, 50-60 Hz
Maximum power consumption	130 W (maximum)
Dot rate	110 MHz
Pedestal	Tilt: -5° forward, 17° backward Swivel: -45° left or right
Dimensions (W x H x D)	408 x 416 x 450 mm 16.3 x 16.6 x 18.0 in

## 5 Technical Information

### HP Pavilion Multimedia Displays

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Net weight	19 kg (41.9 lb)
Operating Conditions	5° to 35°C (41° to 95°F )
Temperature	5° to 35°C (41° to 95°F )
Humidity	20% to 80%, non-condensing
Storage Conditions	-25° to 60°C (-13° to 140°F )
Temperature	-25° to 60°C (-13° to 140°F )
Humidity	20% to 80%, non-condensing

#### M70 Video Modes

The M70 display supports the following industry-standard combinations of screen resolution and refresh rates. Other combinations are possible, but may require adjustments to the image size and position. (See "Using the OSD Main Window" in Chapter 4 for information about making these adjustments.)

Resolution (dots x lines)	Vertical Frequency
640 x 480	60 Hz
720 x 400	70 Hz
800 x 600	75 Hz
800 x 600	85 Hz
1024 x 768	60 Hz
1024 x 768	75 Hz
1024 x 768	85 Hz
1280 x 1024	60 Hz



**5 Technical Information**  
*HP Pavilion Multimedia Displays*

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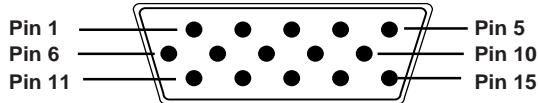
*CAUTION*

**Setting the screen resolution/refresh rate combination higher than 1280 x 1024 at 60 Hz can damage the display.**

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### M70 Pin Assignments

The following figure illustrates the 15-pin D-sub male video connector used by the M70 display. The table shows the pin assignments.



Pin Number	Assignment
1	Red video input
2	Green video input
3	Blue video input
4	Ground
5	No connect
6	Red video return
7	Green video return
8	Blue video return
9	No connect
10	Ground
11	Ground
12	SDA data
13	Horizontal sync
14	Vertical sync
15	DDC data clock (SCL)

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**NOTE**

Because of a policy of continuous product improvement, pin assignments are subject to change without notice.

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## DPMS Power-Management Features

The HP Pavilion M40, M50, and M70 displays can recognize power-management signals from VESA DPMS video adapters, such as those in HP Pavilion and many other computers. When the display receives an appropriate signal, it reduces its power but remains ready for quick use. The power light on the front panel turns amber when the display is in a power-saving mode.

VESA DPMS video adapters reduce display power consumption by setting the horizontal and/or vertical synchronization signals to inactive. The display will recover quickly when the synchronization signals are reapplied.

Standby and Suspend modes offer low power consumption with rapid recovery, while Sleep mode offers the lowest power consumption and a somewhat slower recovery.

The following table shows the characteristics of the normal operating mode and the three power-saving modes.

VESA DPMS Power Management						
				POWER USED		
Mode	Video	Hor. sync	Vert. sync	M40	M50	M70

## 5 Technical Information

### *HP Pavilion Multimedia Displays*

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			.			
On	Active	Yes	Yes	74W	90W	130W
Standby	Blank	No	Yes	<15W	<15W	<30W
Suspended	Blank	Yes	No	<15W	<15W	<30W
Sleep	Blank	No	No	<8W	<8W	<8W

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## 6 Regulatory Information

### 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. If not installed and used in accordance with the instructions, it 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.
- Move the computer away from the radio or television.
- Plug the computer into a different electrical outlet, so that the computer and the radio or

## 6 Regulatory Information

### *HP Pavilion Multimedia Displays*

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television are on separate electrical circuits.

- Make sure that all your peripheral devices are also FCC Class B certified.
- Consult your computer dealer, Hewlett-Packard, or an experienced radio/TV technician for help.

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#### *WARNING*

**Hewlett Packard's system verification tests were conducted with HP-supported peripheral devices and HP shielded cables, such as those you received with your system. Cables used with this display must be properly shielded to comply with FCC requirements.**

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Changes or modifications not expressly approved by Hewlett-Packard could void the user's authority to operate the equipment.

### **X-Ray Radiation Notice**

When operating, this product emits X-rays; however, it is well shielded and meets the safety and health requirements of various countries, such as the Radiation Act of Germany and the Radiation Control for Health and Safety Act of the United States.

Radiation emitted by this product is less than 0.1 mR/hr (1 $\mu$ Sv/hr) at a distance of 10 centimeters from the surface of the cathode-ray tube. The x-ray radiation primarily depends on the characteristics of the cathode ray tube and its associated low-voltage and high-voltage circuitry. Internal

## 6 Regulatory Information

### *HP Pavilion Multimedia Displays*

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controls have been adjusted to ensure safe operation. Only qualified personnel should perform any internal adjustments, as specified in the service manual for this product.

Replace the cathode-ray tube with an identical CRT only.

### **General Notice**

The HP Pavilion M40 (except North American models), M50, and M70 Multimedia Displays have been tested according to MPR 1990:8 for emission properties and meet the guidelines as given by MPR 1990:10 (2.01 - 2.04).

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*NOTE*

This display is a Class 1 LED product.

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*NOTE*

As an ENERGY STAR Partner, Hewlett-Packard has determined that this product meets the ENERGY STAR guidelines for energy efficiency. The ENERGY STAR name is a U.S. Registered Mark of the U.S. Environmental Protection Agency.

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**DECLARATION OF CONFORMITY**  
according to ISO/IEC Guide 22 and EN 45014



## 6 Regulatory Information

### HP Pavilion Multimedia Displays

**Manufacturer's Name:** Hewlett-Packard Company

**Manufacturer's Address:** 10500 Ridgeview Ct.  
Cupertino, CA 95015  
USA

**Declares, that the products**

**Product Names:** HP Pavilion M40, M50, and M70 Multimedia Displays

**Model Numbers:** D5269A, D5258A, D5259A

**Conform to the following Product Specifications:**

**Safety:** IEC 950:1991 + A1, A2, A3 / EN 60950:1992 + A1, A2, A3

**Ergonomics:** ZH1/618  
ISO 9241-3  
MPR II: 1990 (except M40 in North America)

**EMC:** CISPR 22:1993 / EN 55022:1994 - Class B <sup>1)</sup>  
EN 50082-1:1992 - Generic Immunity  
IEC 801-2:1991/ prEN 55024-2:1992 - 4 kV CD, 8

kV AD IEC 801-3:1984/ prEN 55024-3:1991 - 3 V/m  
IEC 801-4:1988/ prEN 55024-4:1992 - 0.5 kV

Signal Lines, 1 kV Power Lines

FCC Title 47 CFR, Part 15 Class B<sup>2)</sup> / ICES-003,

Issue 2 AS / NZS 3548:1992 / CISPR 22:1993 Class B <sup>1)</sup>

**Supplementary Information:**

The products herewith comply with the requirements of the following Directives and carry the CE marking accordingly:

- the EMC Directive 89/336/EEC (including 93/68/EEC)
- the Low Voltage Directive 73/23/EEC (including 93/68/EEC)

- 1) The Products were tested in a typical configuration with a Hewlett-Packard Personal Computer and peripherals.
- 2) These Devices comply with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) the devices may not cause harmful interference, and (2) the devices must accept any interference received, including interference that may cause undesired operation.

*Robert B. Smith* (Signature)  
15 June 1997

Robert B. Smith/Quality

Manager

**For Regulatory Compliance Information ONLY, contact:**

**Australian Contact:** Product Regulations Manager, Hewlett-Packard Australia Ltd., 31-41 Joseph Street, Blackburn, Victoria 3130, Australia

## 6 Regulatory Information

### *HP Pavilion Multimedia Displays*

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**European Contact:** Your local Hewlett-Packard Sales and Service Office or Hewlett-Packard GmbH, Department HQ-TRE Standards Europe, Herrenberger Straße 130, D-71034 Böblingen  
(FAX: + 49-7031-14-3143)

**USA Contact:** Product Regulations Manager, Hewlett-Packard, HPD, 10500 Ridgeview Ct.,  
Cupertino, CA 95015-4010 (Phone: 408-343-5000)

**6 Regulatory Information**  
*HP Pavilion Multimedia Displays*

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