Color Monitor

IBM

C170

User's Guide

First Edition (August / 2004)

Note : For important information, refer to the Monitor Safety and Warranty manual that comes with this monitor.

Contents

IBM ®

Safety: Read first

Before installing this product, read the Safety Information.

Avant d'installer ce produit, lisez les consignes de sécurité.

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

Πριν εγκαταστήσετε το προϊόν αυτό, διαβάστε τις πληροφορίες ασφάλειας (safety information).

.לפני שתתקינו מוצר זה, קראו את הוראות הבטיחות

A termék telepítése előtt olvassa el a Biztonsági előírásokat!

Prima di installare questo prodotto, leggere le Informazioni sulla Sicurezza

Antes de instalar este produto, leia as Informações de Segurança.

Läs säkerhetsinformationen innan du installerar den här produkten.

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Les sikkerhetsinformasjonen (Safety Information) før du installerer dette produktet.

Przed zainstalowaniem tego produktu, należy zapoznać się z książką "Informacje dotyczące bezpieczeństwa" (Safety Information).

Пред да се инсталира овој продукт, прочитајте информацијата за безбедност.

Pred inštaláciou tohto zariadenia si prečítaje Bezpečnostné predpisy.

Pred namestitvijo tega proizvoda preberite Varnostne informacije.

Ennen kuin asennat tämän tuotteen, lue turvaohjeet kohdasta Safety Information.

Před instalací tohoto produktu si přečtěte příručku bezpečnostních instrukcí.

在安装本产品之前，请仔细阅读 Safety Information (安全信息)。

安裝本產品之前，請先閱讀「安全資訊」。

مج، يجب قراءة ادت السلامة

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

製品を設置する前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

Antes de instalar este producto lea la información de seguridad.

Antes de instalar este produto, leia as Informações de Segurança.

Перед установкой продукта прочтите инструкции по технике безопасности.

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

Setting up the monitor

Product Description

This monitor requires a computer with a suitable on-board sub-system or Video Adapter card that can support SXGA 1280 x 1024, XGA 1024 x 768, SVGA 800 x 600, or VGA 640 x 480 at 60Hz.

In addition to your monitor, your option package includes the following:
• *User's Guide and Installation Files CD*
• *Monitor Safety and Warranty Information Manual*
• *C170 Color Monitor Quick Setup Guide*
• *Power Cord*
• *C170 Color Monitor*
• *Signal Cable - Attached to Monitor*

Workplace Preparation

i *This section gives advice on what you should consider before you set up your monitor.*

Positioning the Monitor

Choose a suitable place to position the monitor where it is not near fluorescent desk lighting or any equipment that produces magnetic fields that could cause interference. Ensure that the furniture or equipment can support the weight of the monitor. Allow at least 50mm (2 in.) ventilation space around the monitor.

Height

Position the monitor so that the top of the screen is slightly below your eye level when you sit at your workstation.

Orientation

- Choose a position that gives the least reflection from lights and windows, usually at a right angle to any windows.
- Position the monitor directly in front of you so that you do not have to twist your body to use it.
- Tilt the monitor to a comfortable viewing angle.

Working Practices

Rest

Take regular breaks. Vary your posture, stand up and stretch occasionally as prolonged use of computer workstations can be tiring.

Back

Sit back in your chair and use the backrest.

Hands

Adjust the seat height so that your forearms are approximately horizontal and your wrists are straight when using the keyboard. Your upper arms should be relaxed with your elbows near your body.

Use a light touch on the keyboard, keeping your hands and fingers relaxed. Allow a space in front of the keyboard to rest your wrists when not typing. Consider using a wristpad.

Eyesight

Working with monitors, in common with any prolonged close work, can be visually demanding. Look away from the screen periodically and have your eyesight checked regularly.

Screen settings

Set the screen brightness and contrast to a comfortable level. You may have to adjust these settings as the lighting changes during the day. Many application programs let you select color combinations which can help you to view in comfort. See the *User controls* section on page 10 for more information.

Power cord

For safe operation, use the power cord supplied with the unit.

Caring for your Monitor

Be sure to turn off the power before you perform any maintenance on the monitor. Clean your monitor as follows:

- Gently wipe the covers and the screen with a soft cloth.
  Do not use solvents or abrasives.

- Remove finger marks and grease with a damp cloth and mild detergent.

- Never use flammable cleaning materials to clean your IBM monitor or any other electrical apparatus.
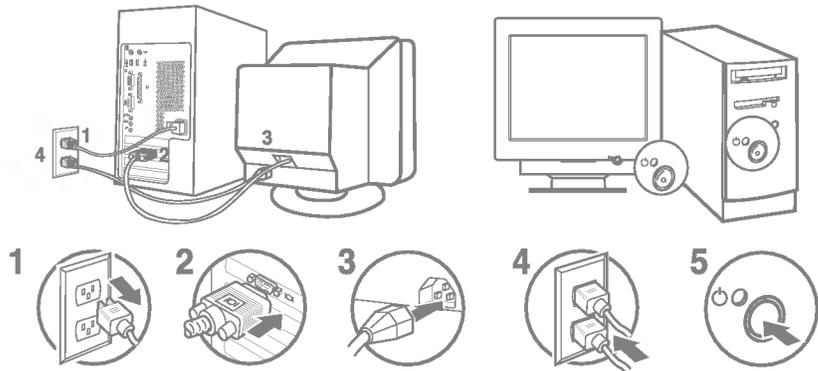
Connecting your Monitor

• Before setting up the monitor, ensure that the power is turned off to the monitor, computer system, and other attached devices.
• Carefully set the monitor face-down with the underside facing you.

Connecting your Tilt/Swivel stand

1. Align the hooks on the tilt/swivel stand with the matching slots in the base of the monitor.
2. Insert the hooks into slots.
3. Slide the tilt/swivel stand toward the front of the monitor until the latches click into the locked position.

Connecting to Computer

1. Turn off your computer and all attached devices. Next, unplug the power cord(s) to your computer and all attached devices.
2. Connect the signal cable.
3. Connect the power cord to the monitor and then plug the power cord into a properly grounded outlet. Next, reconnect the power cord(s) to your computer and all attached devices.

Switching on your Monitor

1. Switch on your computer.

2. Switch on your monitor by pushing and releasing the power switch marked [⏻] at the front of the bezel.
    [To switch off your monitor, push and release the power switch again.]

3. To update or install device drivers, follow the instructions in the **Device Driver Installation** section on page 7.

Device Driver Installation

Installing the device driver in Windows 95 or Windows 98

To install the device driver in Microsoft® Windows® 95 or Windows 98, do the following:

Note:
You must download files from the *User's Guide and Installation Files CD* to use the Plug and Play feature in Windows 95 or Windows 98.

1. Turn off the computer and all attached devices.
2. Ensure that the monitor is connected correctly.
3. Turn on the monitor and then the system unit. Allow your computer to start the Windows 95 or Windows 98 operating system.

   Your computer's Plug and Play code might warn you that your system hardware has changed. This means that it has detected your new monitor for the first time.
4. Open the **Display Properties** window by clicking **Start, Settings, Control Panel** and then double - clicking on the **Display** icon.
5. Click the **Settings** tab.

   • If you are using Windows 95 :

   6 - 1. Click the **Change Display Type** button.
   2. Click the **Change Monitor Type** button.

   • If you are using Windows 98 :

   6 - 1. Click the **Advanced** button.
   2. Click the **Monitor** tab.
   3. Open the **Upgrade Device Driver Wizard** window by clicking on **Change** button and then select the **Next** button.
   4. Click "Display a list of the known drivers for this device so that I can choose a specific driver" and then select the **Next** button.
7. Insert the *User's Guide and Installation Files CD* into the CD drive and click the **Have Disk** button.
8. Click **OK**.
9. Ensure that the CD drive letter is selected, and then select the DRIVERS folder.
10. Select **IBM C170 monitor** and click **OK**. The files will be copied from the CD to your hard disk drive.
11. Close all open windows and remove the CD.
12. Restart the computer.

    The system will automatically select the maximum refresh rate and corresponding Color Matching Profiles.

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Installing the device driver in Windows 2000 or Windows Me

To install the device driver in Microsoft Windows 2000 Professional or Microsoft Windows Millennium Edition (Me), do the following:
Note:
You must download files from the *User's Guide and Installation Files CD* to use the Plug and Play feature in Windows 2000 or Windows Me.

1. Turn off the computer and all attached devices.
2. Ensure that the monitor is connected correctly.
3. Turn on the monitor and then the system unit. Allow your computer to start the Windows 2000 or Windows Me operating system.
4. Open the **Display Properties** window by clicking **Start, Settings, Control Panel** and then double - clicking on the **Display** icon.
5. Click the **Settings** tab.
6. Click the **Advanced** button.
7. Click the **Monitor** tab.
8. Click the **Properties** button.
9. Click the **Driver** tab.
10. Open the **Upgrade Device Driver Wizard** window by clicking on **Update Driver** and then click the **Next** button.
11. Select "Display a list of the known drivers for this device so that I can choose a specific driver" and then click the **Next** button.
12. Insert the Monitor CD into the CD drive and click the **Have Disk** button.
13. Click **OK**.
14. Ensure that the CD drive letter is selected, and then select the DRIVERS folder.
15. Select **IBM C170 monitor** and click **OK**. The files will be copied from the CD to your hard disk drive.
16. Close all open windows and remove the CD.
17. Restart the computer.

    The system will automatically select the maximum refresh rate and corresponding Color Matching Profiles.

Installing the device driver in Windows XP

To install the device driver in Windows XP, do the following:
Note:
You must download files from the *User's Guide and Installation Files CD* to use the Plug and Play feature in Windows XP.

1. Turn off the computer and all attached devices.
2. Ensure that the monitor is connected correctly.
3. Turn on the monitor and then the system unit. Allow your computer to start the Windows XP operating system.
4. Open the **Display Properties** window by clicking **Start, Settings, Control Panel** and then double - clicking on the **Display** icon.
5. Click the **Settings** tab.
6. Click the **Advanced** button.
7. Click the **Monitor** tab.
8. Click the **Properties** button.
9. Click the **Driver** tab.
10. Open the **Hardware Update Wizard** window by clicking on **Update Driver** and then click the **Next** button.
11. Select "Install from a list or Specific location(Advanced)" and then click the **Next** button.
12. Insert the Monitor CD into the CD drive and click the **Have Disk** button.
13. Click **OK**.
14. Ensure that the CD drive letter is selected, and then select the DRIVERS folder.
15. Select **IBM C170 monitor** and click **OK**. The files will be copied from the CD to your hard disk drive.
16. Close all open windows and remove the CD.
17. Restart the computer.

    The system will automatically select the maximum refresh rate and corresponding Color Matching Profiles.

Adjusting Your Monitor

User controls

USER CONTROL FEATURES

Icon	Monitor controls
⏻	Switches the monitors on and off.
↵	Display main OSD menu and selects highlighted menu item.
← and →	Moved the cursor to highlight icons or make adjustments.
⬅	Exits from current OSD menu.

i *The image is already optimized for many display modes, however the user controls can be used to adjust the image to your liking.*

i *The settings are saved after adjustment and when exiting the OSD and will be effective thereafter.*

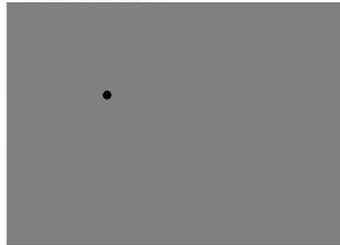| Icon	Direct Access Functions
☼	Bring up Brightness adjustment.
◑	Bring up Contrast adjustment.

On-screen display (OSD) controls

i *The LCD monitor needs time to become thermally stable the first time you turn it on each day. Thus, to achieve more accurate adjustments for parameters, allow the LCD monitor to warm up (be On) for at least 15 minutes before making any screen adjustment.*

The settings adjustable with the user controls are viewed through the On - Screen Display (OSD). Press the enter button [↵] to display the main OSD menu.

Initial appearance of OSD

main menu;

sub menu;   **Adjustment screen;**

OSD functions

OSD Icon		Description	sub-menu(s)	Control and Adjustments	
Image Quality	**Brightness**	Adjusts brightness			
	Contrast	Adjusts contrast			
	Moire	To reduce the degree of moire. The moire adjustments may affect the focus of the screen.	• **Horizontal** • **Vertical** • **Save**		
	Degauss	To manually demagnetize the screen to avoid showing incorrect images or colors.	• **YES** • **NO**		

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OSD Icon		Description	Sub-menu(s)	Controls and Adjustments
Image Position/Size	**Horizontal Position**	Moves the screen left and right .		
	Vertical Position	Moves the screen up and down.		
	Horizontal Size	Adjusts image width		
	Vertical Size	Adjusts image height		
	Rotation	Turns image clockwise or counterclockwise		
Image Shape	**Parallelogram**	To correctly adjust the skew of the image.		
	Trapezoid	To correct geometric distortion.		
	Pincushion	To correct a concave or convex bowing of the image.		
	Pincushion Balance	To correct the balance of both sides bowling.		
	Geometry Reset	To resets image shape to original setting.	• YES • NO	

OSD Icon		Description	Sub-menu(s)	Controls and Adjustments
Color	**1** **Preset Color**	Select from standard white colors.	• 9300K (Blue White) • 6500K (Normal White) • 5000K (Pinkish White)	
	2 **User Color Point**	Adjusts Red, Green and Blue intensity	• Red • Green • Blue • Save	Increases or decreases redness Increases or decreases greenness Increases or decreases blueness
	(R) **Reset Custom Color**	Resets custom color to original value	• YES • NO	
Options	**(i)** **Information**	Display the detailed information of resolution, model name and microcode.		
	Menu Language	The language chosen affects only the language of the OSD. Select one of the Five language to use for the OSD. It has no effect on any software running on the computer.	• **English** • **Français** • **Italiano** • **Deutsch** • **Español**	
	Accessibility	Change button repeat rate and menu time-out setting.	**Button repeat rate** • Default • Slow • Off	- Adjusts respondence speed of button.
			Menu time out	- Adjusts the length of time for which the menu will be on the screen before it disappears.

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OSD Icon		Description	Sub-menu(s)	Controls and Adjustments
Options	**Factory Default**	Reset should return all available functions (apart from language which should not change unless adjusted via the LANGUAGE menu) to their factory presets.	• **YES** • **NO**	
	Menu Position	Changes the position of the OSD on the screen.	• **Horizontal** • **Vertical** • **Save**	
	Video Input Level	Select the monitor input signal level.	• **0.7V** • **1.0V**	
Exit		Exits from current OSD menu.		

Further Information

Display modes

The display mode the monitor uses is controlled by the computer. Therefore, refer to your computer documentation for details on how to change display modes.

If possible, configure your computer for 1024 x 768 addressability at 85Hz vertical refresh rate.

For the display modes listed below, the screen image has been optimized during manufacture.

Factory Set Display Modes

Note : VESA timings are as detailed in the VESA "Display Monitor Timing Specification". Version 1.0, Revision 0.8, Dated 09/17/98.

Addressability	Refresh Rate	Horizontal Frequency
720 x 400	70 Hz	31.5 kHz
640 x 480	60 Hz	31.5 kHz
640 x 480	85 Hz	43.3 kHz
800 x 600	75 Hz	46.9 kHz
800 x 600	85 Hz	53.7 kHz
1024 x 768	75 Hz	60.0 kHz
1024 x 768 †	85 Hz	68.7 kHz
1152 x 864	75 Hz	67.5 kHz
1280 x 1024	75 Hz	80.0 kHz

† Recommended

Power Management

To benefit from power management, the monitor must be used in conjunction with a computer that implements the Video Electronics Standards Association (VESA) Display Power Management Signaling (DPMS) Standard.

The power management feature is invoked when the computer recognizes that you have not used your mouse or keyboard for a user-definable period. There are several states as described in the table below.

As an ENERGY STAR 2000® Partner, **IBM** has determined that this product meets the ENERGY STAR 2000® guidelines for energy efficiency.

For optimal performance switch off your monitor at the end of each working day, or whenever you expect to leave it unused for long periods during the day.

State	Power Indicator	Screen	Restoring Operation	Compliance
On	Steady green	Normal		
Active off	Steady amber	Blank	Press a key or move the mouse.*	ENERGY STAR 2000®

* There may be a slight delay before the picture reappears.

Troubleshooting

If you have a problem setting up or using your monitor, you may be able to solve it yourself. Before calling your retailer or IBM, try the suggested actions that are appropriate to your problem.

Problem	Possible Cause	Suggested Action	Reference
Screen is blank and power indicator is off.	No power to monitor.	• Ensure that the electrical outlet and the monitor are both switched on. • Check that the power cord is firmly plugged into the electrical outlet and the power supply unit. • If the power cord plug has a removable fuse, replace it. • Try another power cord. • Try another electrical outlet. • Check the power connection at the back of the panel.	***Connecting your Monitor*** section on page 5.
Screen is blank and power indicator is steady green.	Brightness and Contrast may be too low.	• Adjust brightness and contrast.	***User controls*** section on page 10.
Screen is blank and power indicator is steady amber.	The monitor is in the Power Management Standby state.	• Press any key on the keyboard or move the mouse to restore operation. • Check the Power Management software on your computer.	***Power Management*** section on page 16.
	Display mode of the computer is outside the range of the monitor	• Reconfigure key on the computer to use a supported display mode.	

Problem	Possible Cause	Suggested Action	Reference
CHECK SIGNAL CABLE message is shown and power indicator is steady green.	The monitor is not receiving a video signal	• Check that the signal cable is firmly connected to the computer. • Check that no pins are bent in the signal cable connector.	*Connecting your monitor* section on page 5.
Image appears to be discolored	The color setting may be incorrect.	• Adjust the Color settings.	*User Controls* section on page 10.

Help and Service Information

If you are unable to correct the problem yourself, you may seek further help as follows:

Call the IBM Support Center
> In the US call 1-800-426-7378
> In Canada(Toronto Only) call 416-383-3344

> In Canada(all other) call 1-800-565-3344

i *If possible, stay by your computer. Your Technical Support Representative may wish to go through the problem with you during the call.*

In other countries contact your dealer, retailer, or other IBM authorized Servicer.

Before calling, please have available as much of the following information as possible:

i *More help, late-breaking news and details of the latest accessories for these products may be found on the worldwide web at:*

http://www.pc.ibm.com/us/ accessories

1. Model and serial number from the label on your monitor.
2. Purchase receipt.
3. Description of problem.
4. Computer type and model.
5. System configuration (hardware fitted, etc.).
6. System BIOS version number.
7. Operating System and version number.
8. Display driver version number.
9. Video Adapter Type.

Specifications

i *Power consumption figures are for the monitor and the power supply combined.*

Diemension	Height: Width: Depth:	430.0 mm (16.93 inch) 414.0 mm (16.30 inch) 420.0 mm (16.54 inch)
Weight	With Stand:	16 kg (35.27 lbs)
Image	Viewable Image Size: Dot Pitch:	16-inch (406.4 mm) 0.25 mm
Power Input	Supply Voltage: Rated Current:	100 - 240V ac 50/60Hz 2.0A
Power Consumption	Normal Operation: Off:	< 70 W < 5 W
Video Input	Input Signal:	Separate, RGB Analog, 0.7Vp-p/75 ohm, positive
Sync Input	Type	Separate
Communications	VESA DDC:	DDC 2B
Supported Display Modes	Standard modes : Horiz. Frequency: Vert. Frequency:	IBM, VESA 30-85 kHz 50-160Hz
Environment	Temperature: 　Operating: 　Storage: 　Shipping: Humidity: 　Operating: 　Storage: 　Shipping:	 10 to 40° C (50 to 95° F) - 20 to 60° C (-4 to 140° F) - 20 to 60° C (-4 to 140° F) 10 to 80% 5 to 95% 5 to 95%

Service Information

ENGLISH

The following parts are for use by IBM service, or IBM authorized dealers, to support the customer warranty. Parts are for service use only.

Model Type 6737

	Description	Video	Color	MTM
31P9652	C170 FRU Monitor	US,CAN,EMEA	TT	6737-K6N /A
31P9653	C170 FRU Monitor	US,CAN,EMEA	SB	6737-66N /A
31P9654	C170 FRU Monitor	LA, ASEAN	TT	6737-K6E /A
31P9655	C170 FRU Monitor	LA, ASEAN	SB	6737-66E /A
31P9656	C170 FRU Monitor	ANZ	TT	6737-K6S /A
31P9657	C170 FRU Monitor	ANZ	SB	6737-66S /A
31P9661	C170 FRU-Tilt/Swivel	WW	SB	
31P9745	C170 FRU-Tilt/Swivel	WW	PW	

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