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LCD Monitor

150E6



- Safety Precautions and Maintenance
- FAQs
- Troubleshooting
- Regulatory Information
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Safety and Troubleshooting Information

Safety precautions and maintenance



WARNING: Use of controls, adjustments or procedures other than those specified in this documentation may result in exposure to shock, electrical hazards and/or mechanical hazards.

Read and follow these instructions when connecting and using your computer monitor:

Operation:

- Keep the monitor out of direct sunlight and away from stoves or any other heat source.
- Remove any object that could fall into ventilation holes or prevent proper cooling of the monitor's electronics.
- Do not block the ventilation holes on the cabinet.
- When positioning the monitor, make sure the power plug and outlet are easily accessible.
- If turning off the monitor by detaching the power cable or DC power cord, wait for 6 seconds before attaching the power cable or DC power cord for normal operation.
- Please use approved power cord provided by Philips all the time. If your power cord is missing, please contact with your local service center. (Please refer to Customer Care Consumer Information Center)
- Do not subject the LCD monitor to severe vibration or high impact conditions during operation.
- Do not knock or drop the monitor during operation or transportation.

Maintenance:

- To protect your display from possible damage, do not put excessive pressure on the LCD panel. When moving your monitor, grasp the frame to lift; do not lift the monitor by placing your hand or fingers on the LCD panel.
- Unplug the monitor if you are not going to use it for an extensive period of time.
- Unplug the monitor if you need to clean it with a slightly damp cloth. The screen may be wiped with a dry cloth when the power is off. However, never use organic solvent, such as, alcohol, or ammonia-based liquids to clean your monitor.
- To avoid the risk of shock or permanent damage to the set, do not expose the monitor to dust, rain, water, or excessive moisture environment.
- If your monitor gets wet, wipe it with dry cloth as soon as possible.
- If foreign substance or water gets in your monitor, please turn the power off immediately and disconnect the power cord. Then, remove the foreign substance or water, and send it to the maintenance center.
- Do not store or use the LCD monitor in locations exposed to heat, direct sunlight or extreme cold.
- In order to maintain the best performance of your monitor and use it for a longer lifetime, please use the monitor in a location that falls within the following temperature and humidity ranges.
 - Temperature: 5-40°C 41-104°F

- Humidity: 20-80% RH

Service:

- The casing cover should be opened only by qualified service personnel.
- If there is any need for any document for repair or integration, please contact with your local service center. (please refer to the chapter of "Consumer Information Center")
- For transportation information, please refer to "Physical Specifications".
- Do not leave your monitor in a car/trunk under direct sun light.



Consult a service technician if the monitor does not operate normally, or you are not sure what procedure to take when the operating instructions given in this manual have been followed.

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- [Notational Descriptions](#)

About This Manual

About This Guide

This electronic user's guide is intended for anyone who uses the Philips LCD Monitor. It describes the LCD monitor's features, setup, operation and other important information. Its contents are identical to the information in our printed version.

It includes the following sections:

- [Safety and Troubleshooting Information](#) provides tips and solutions for common problems as well as other related information you may need.
- About This Electronic User's Manual gives an overview of information included, along with notation icon descriptions and other documentation for your reference.
- [Product Information](#) gives an overview of the monitor's features as well as the technical specifications for this monitor.
- [Installing Your Monitor](#) describes the initial setup process and gives an overview of how to use the monitor.
- [On-Screen Display](#) provides information on adjusting the settings on your monitor.
- [Customer Care and Warranty](#) contains a list of worldwide Philips Consumer Information Centers along with help desk phone numbers and information on the warranty applicable to your product.
- [Glossary](#) defines technical terms.
- [Download and Print Option](#) transfers this entire manual to your hard drive for easy reference.

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Notational Descriptions

The following subsections describe notational conventions used in this document.

Notes, Cautions and Warnings

Throughout this guide, blocks of text may be accompanied by an icon and printed in bold or italic type. These blocks contain notes, cautions or warnings. They are used as follows:



NOTE: This icon indicates important information and tips that help you make better use of your computer system.



CAUTION: This icon indicates information that tells you how to avoid either potential damage to hardware or loss of data.



WARNING: This icon indicates the potential for bodily harm and tells you how to avoid the problem.

Some warnings may appear in alternate formats and may not be accompanied by an icon. In such cases, the specific presentation of the warning is mandated by the relevant regulatory authority.

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- Product Features
- Technical Specifications
- Resolution & Preset Modes
- Philips Pixel Defect Policy
- Automatic Power Saving
- Physical Specification
- Pin Assignment
- Product Views
- Physical Function

Product Information

Product Features

150E6

- **Best Total Cost of Ownership solution**
 - Power consumption below the industry average
 - Environmentally responsible Energy Star partner
 - Kensington anti-theft lock secures monitor against theft
- **Great Convenience**
 - Embedded power supply eliminates external power adaptors
 - Plug and play for easy and friendly installation
- **Outstanding front of screen performance**
 - XGA 1024x768 resolution for sharper display

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Technical Specifications*

LCD PANEL

• Type	TFT LCD
• Screen size	15" visual
• Pixel Pitch	0.297 x 0.297mm (15.0")
• LCD Panel type	1024 x 768 pixels R.G.B. vertical stripe Anti-glare polarizer hardne
• Effective viewing area	304.1 x 228.1mm (15.0")
• Display Colors	16.7M colors

SCANNING

• Vertical refresh rate	56Hz-76Hz
• Horizontal frequency	30kHz-61kHz

VIDEO

• Video dot rate	80 MHz
• Input impedance	
- Video	75 ohm
- Sync	2K ohm
• Input signal levels	700m Vpp
• Sync input signal	Separate sync Composite sync Sync on Green
• Sync polarities	Positive and negative
• Input Frequency	XGA Hsync 48- 61 kHz, Vsync 60 - 76 Hz (N.I.) SVGA Hsync 35- 50 kHz, Vsync 56 - 75 Hz (N.I.) VGA Hsync 31- 38 kHz, Vsync 60 - 76 Hz (N.I.)
• Video interface	Analog (D-Sub)

OPTICAL CHARACTERISTICS

• Contrast ratio	500:1 (typ.)
• Brightness	250 cd/m ² (typ.)
• Peak contrast angle	6 o'clock
• White Chromacity	x: 0.283 y: 0.297 (at 9300° K) x: 0.313 y: 0.329 (at 6500° K)
• Viewing Angle (C/R >5)	Upper ≥75° (typ.) Lower ≥50° (typ.) Left ≥75 ° (typ.) Right ≥75 ° (typ.)
• Response time	≤ 25 ms (typ.)

** This data is subject to change without notice.*

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Resolution & Preset Modes

- Maximum 1024 x 768 at 75Hz
- Recommended 1024 x 768 at 60Hz

14 user definable modes

12 factory preset modes:

H. freq (kHz)	Resolution	V. freq (Hz)
31.469	640*350	70.086
31.469	720*400	70.087
31.469	640*480	59.940
35.000	640*480	67.000
37.861	640*480	72.809
35.156	800*600	56.250
37.879	800*600	60.317
48.077	800*600	72.188
46.875	800*600	75.000
48.363	1024*768	60.004
56.476	1024*768	70.069
60.023	1024*768	75.029

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Automatic Power Saving

If you have VESA DPMS compliance display card or software installed in your PC, the monitor can automatically reduce its power consumption when not in use. If an input from a keyboard, mouse or other input device is detected, the monitor will 'wake up' automatically. The following table shows the power consumption and signaling of this automatic power saving feature:

Power Management Definition

VESA Mode	Video	H-sync	V-sync	Power Used	LED color
ON	Active	Yes	Yes	< 23W (typ.)	Green
OFF	Blanked	No	No	< 2W	Amber

This monitor is ENERGY STAR® compliant. As an ENERGY STAR® Partner, PHILIPS has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

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Physical Specifications

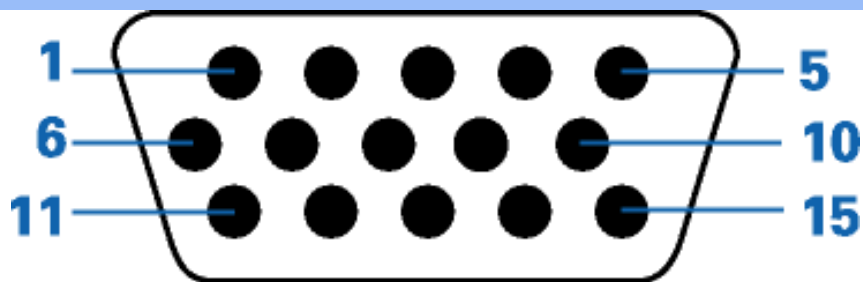
• Dimension (WxHxD) *	346 x 332 x 170 mm (incl. Pedestal)
• Weight *	3.8 kg
• Tilt (Forward / Backward)	- 5° / 25°
• Power supply	100 — 240 VAC, 50/60 Hz
• Power consumption	23 W (typ.)
• Temperature (operating)	5° C to 40° C
• Relative humidity	20% to 80%
• System MTBF	50K hrs (CCFL 30Khrs)
• Cabinet color	150E6FB: Black

* This data is subject to change without notice.

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Pin Assignment

The 15-pin D-sub connector (male) of the signal cable:



Pin No.	Assignment		Pin No.	Assignment
1	Red video input		9	DDC +5V
2	Green video input		10	Logic ground
3	Blue video input		11	Identical output - connected to pin 10
4	Identical output - connected to pin 10		12	Serial data line (SDA)
5	Cable detect		13	H. Sync / H+V
6	Red video ground		14	V. Sync
7	Green video ground		15	Data clock line (SCL)
8	Blue video ground			

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Product Views

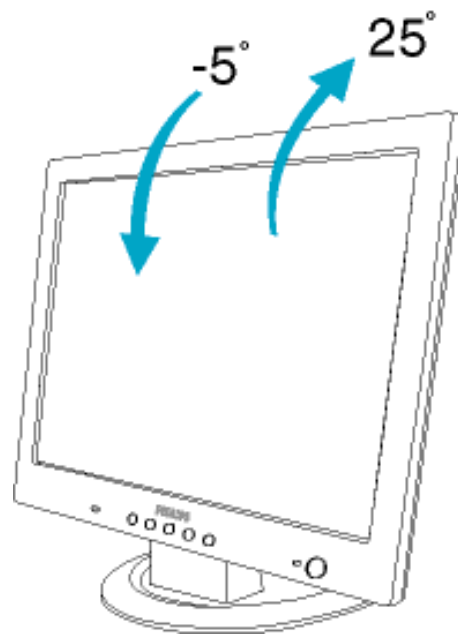
Follow the links to see various views of the monitor and its components.

[Front View Product Description](#)

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Physical Function

Tilt

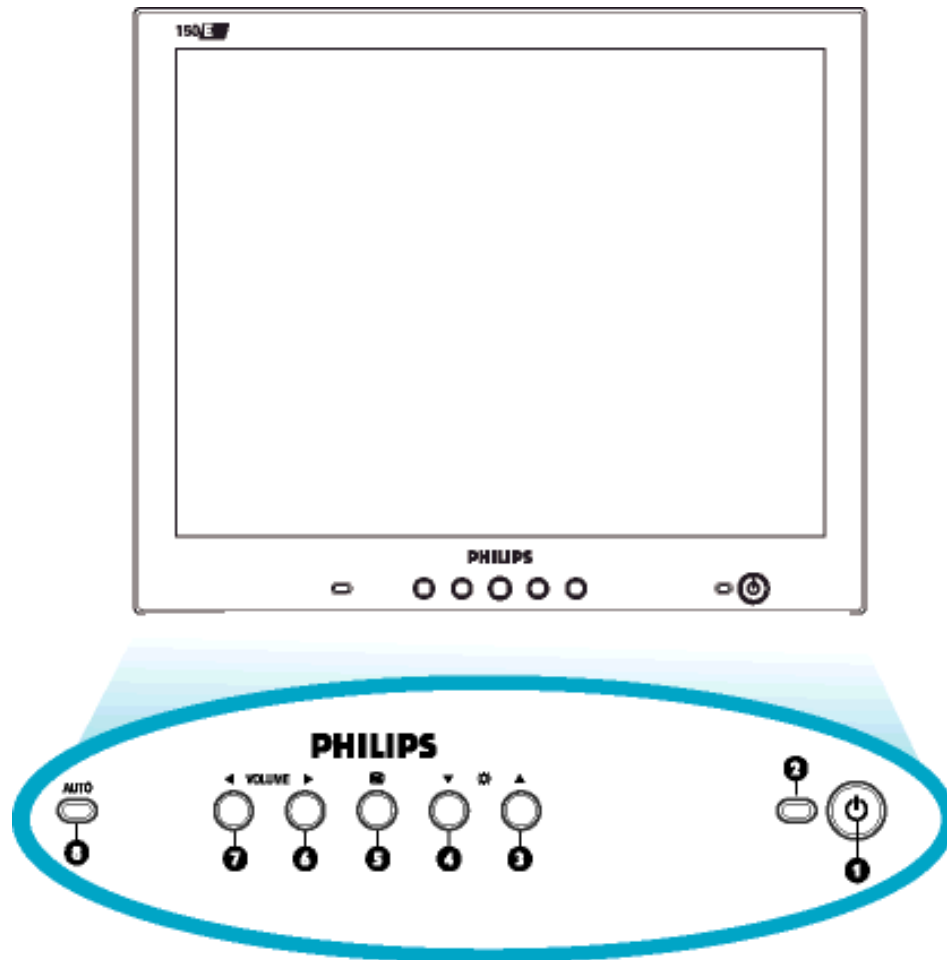


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Installing Your LCD Monitor

- Front View
- Product Description
- Connecting to Your PC
- The Base
- Getting Started
- Optimizing Performance

Front View Product Description



UP and DOWN buttons are used when adjusting the OSD of your monitor



LEFT and RIGHT buttons, like the UP and DOWN buttons, are also used in adjusting the OSD of your monitor.



BRIGHTNESS hotkey. When the UP and DOWN arrow buttons are pressed, the adjustment controls for the BRIGHTNESS will show up.



OK button which when pressed will take you to the OSD controls



POWER button switches your monitor on



Automatically adjust the horizontal position, vertical position, phase and clock setting.

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Optimizing Performance

- For best performance, ensure that your display settings are set at 1024x768@60Hz (for 14"/15") or 1280x1024, 60Hz (for 17"/18").



Note: You can check the current display settings by pressing the 'OK' button once. Go into the Product Information. The current display mode is shown on the item called **RESOLUTION**.

- You can also install the [Flat Panel Adjust \(FP Adjust\) program](#), a program for getting the best performance out of your monitor. This included on this CD. Step-by-step instructions are provided to guide you through the installation process. Click on the link to know more about this program.

More about



[FP_setup04.exe](#)

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- Description of the On-Screen Display
- The OSD Tree




On-Screen Display

Description of the On Screen Display

What is the On-Screen Display?

This is a feature in all Philips LCD monitors. It allows an end user to adjust screen performance of the monitors directly through an on-screen instruction window. The user interface provides user-friendliness and ease-of-use when the user is operating the monitor.

Basic and simple instruction on the control keys.

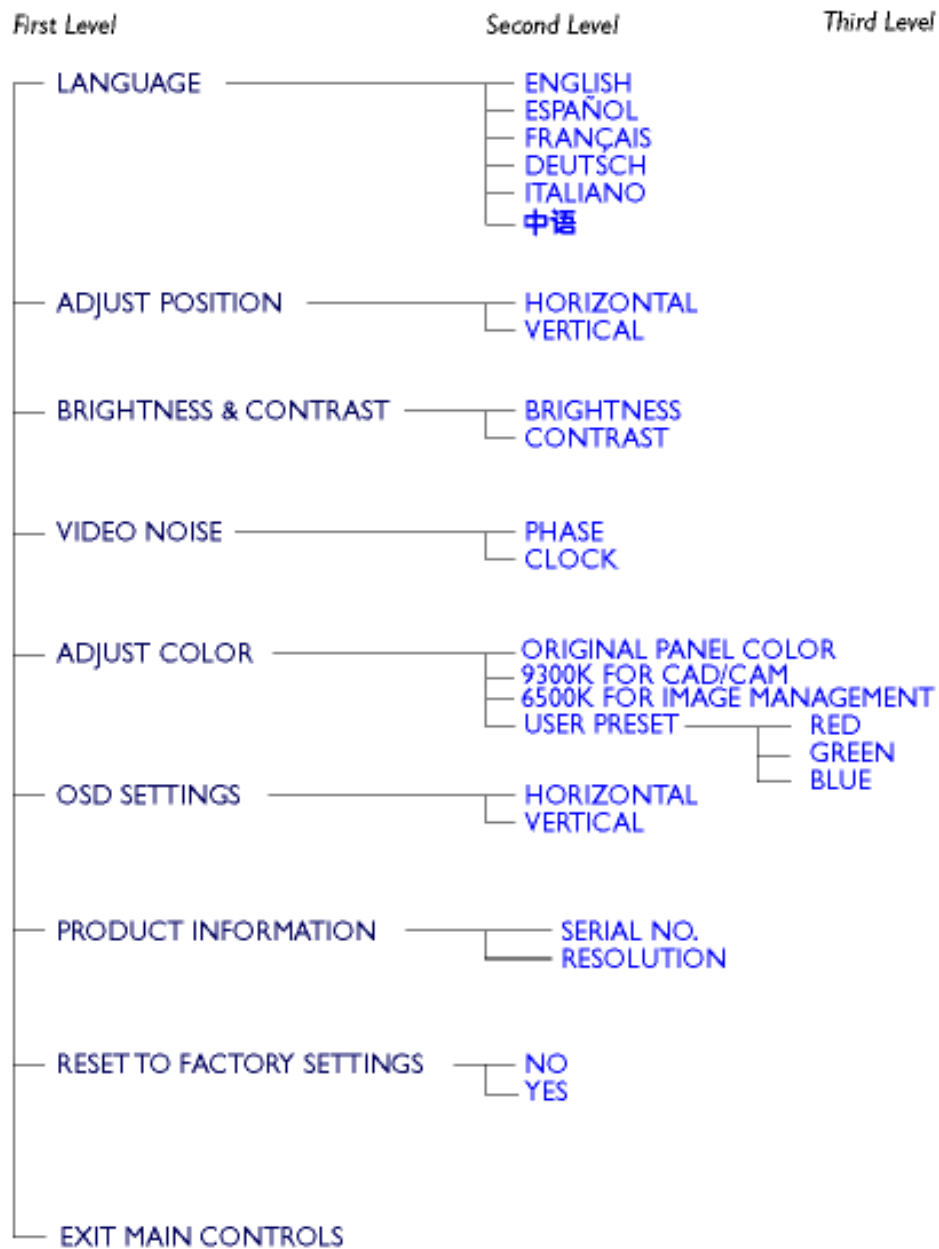
When you press the  button on the front control of your monitor, the On-Screen Display (OSD) Main Controls window will pop up and you can then start making adjustments to your monitor's various features. Use the  or the  keys to make your adjustments.



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The OSD Tree

Below is an overall view of the structure of the On-Screen Display. You can use this as a reference when you want to work your way around the different adjustments later on.



* Specifications are subject to change without prior notice.

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Customer Care & Warranty

PLEASE SELECT YOUR COUNTRY/AREA TO REVIEW DETAILS OF YOUR WARRANTY COVERAGE

NORTH AMERICA: [Canada](#) • [USA](#)

PACIFIC: [Australia](#) • [New Zealand](#)

ASIA: [Bangladesh](#) • [China](#) • [Hong Kong](#) • [India](#) • [Indonesia](#) • [Japan](#) • [Korea](#) • [Malaysia](#) • [Pakistan](#) • [Philippines](#) • [Singapore](#) • [Taiwan](#) • [Thailand](#)

AFRICA: [Morocco](#) • [South Africa](#)

MIDDLE EAST: [Dubai](#) • [Egypt](#)

Glossary

A B **C** **D** **E** F G H I J K **L** M N O P Q R S T **U** **V** W X Y Z

C

Color temperature

A way of describing the color of a radiating source in terms of the temperature (in degrees Kelvin) of a black body radiating with the same dominant frequency as the source.

Most Philips monitors offer the possibility of setting the color temperature to any desired value.

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D

D-SUB

Your monitor comes with a D-Sub cable.

Digital Visual Interface (DVI)

The Digital Visual Interface (DVI) specification provides a high-speed digital connection for visual data types that is display technology independent. The interface is primarily focused at providing a connection between a computer and its display device. The DVI specification meets the needs of all segments of the PC industry (workstation, desktop, laptop, etc.) and will enable these different segments to unite around one monitor interface specification.

The DVI interface enables:

1. Content to remain in the lossless digital domain from creation to consumption.
2. Display technology independence.
3. Plug and play through hot plug detection, EDID and DDC2B.
4. Digital and Analog support in a single connector.

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E

Energy Star Computers Programme

An energy conservation programme launched by the US Environmental Protection Agency (EPA) with the primary aim of promoting the manufacture and marketing of energy-efficient office automation equipment. Companies joining this programme must be willing to commit themselves to manufacturing one or more products capable of going into a low -power state (< 30 W) either after a period of inactivity or after a predetermined time selected by the user.

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L

LCD Liquid Crystal Display

An alphanumeric display using the unique properties of liquid crystal to form characters. The latest flat-panel displays comprise a matrix of hundreds or thousands of individual LCD cells that generate text and colorful graphics on a screen. They consume little power though they do require external lighting to make them legible to the user.

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U

USB or Universal Serial Bus

[A smart plug for PC peripherals.](#) USB automatically determines resources (like driver software and bus bandwidth) required by peripherals. USB makes necessary resources available without user intervention.

- USB eliminates "case angst" -- the fear of removing the computer case to install add-on peripherals. And USB also eliminates adjustment of complicated IRQ settings when installing new peripherals.
- USB does away with "port gridlock." Without USB, PCs are normally limited to one printer, two Com port devices (usually a mouse and modem), one Enhanced Parallel Port add-on (scanner or video camera, for example) and a joystick. More and more peripherals for multimedia computers arrive on the market every day. With USB, up to 127 devices can run simultaneously on a computer.
- USB permits "hot plug-in." There's no need to shut down, plug in, reboot and run set-up to install peripherals. And no need to go through the reverse process to unplug a device.

In short, USB transforms today's "Plug-and-Pray" into true Plug-and-Play!

Hub

A Universal Serial Bus device that provides additional connections to the Universal Serial Bus.

Hubs are a key element in the plug-and-play architecture of USB. The Figure shows a typical hub. Hubs serve to simplify USB connectivity from the user's perspective and provide robustness at low cost and complexity.

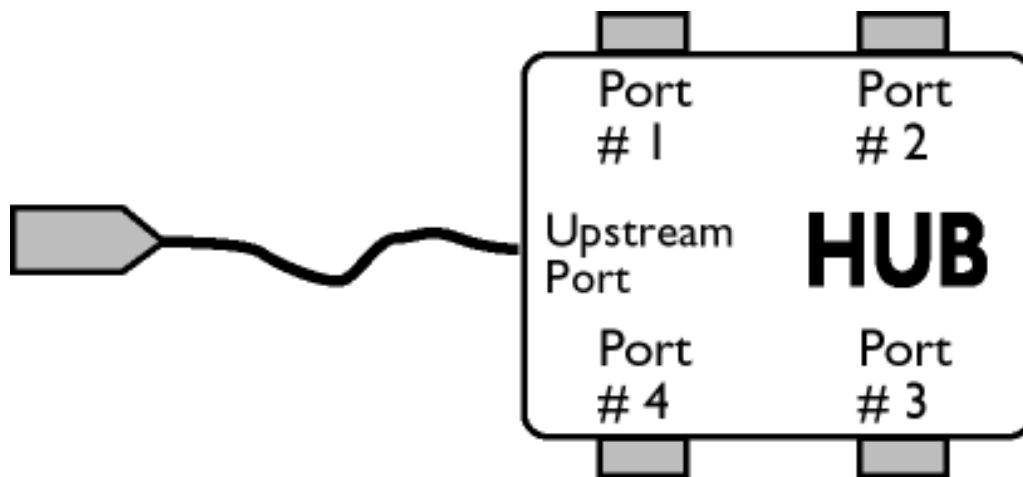
Hubs are wiring concentrators and enable the multiple attachment characteristics of USB. Attachment points are referred to as ports. Each hub converts a single attachment point into multiple attachment points. The architecture supports concatenation of multiple hubs.

The upstream port of a hub connects the hub towards the host. Each of the other downstream ports of a hub allows connection to another hub or function. Hubs can detect, attach and detach at each downstream port and enable the distribution of power to downstream devices. Each downstream port can be individually enabled and configured at either full or low speed. The hub isolates low speed ports from full speed signaling.

A hub consists of two portions: the Hub Controller and Hub Repeater. The repeater is a protocol-controlled switch between the upstream port and downstream ports. It also has hardware support for reset and suspend/resume signaling. The controller provides the interface registers to allow communication to/from the host. Hub specific status and control commands permit the host to configure a hub and to monitor and control its ports.

Device

A logical or physical entity that performs a function. The actual entity described depends on the context of the reference. At the lowest level, device may refer to a single hardware component, as in a memory device. At a higher level, it may refer to a collection of hardware components that perform a particular function, such as a Universal Serial Bus interface device. At an even higher level, device may refer to the function performed by an entity attached to the Universal Serial Bus; for example, a data/FAX modem device. Devices may be physical, electrical, addressable, and logical.



Downstream

The direction of data flow from the host or away from the host. A downstream port is the port on a hub electrically farthest from the host that generates downstream data traffic from the hub. Downstream ports receive upstream data traffic.

Upstream

The direction of data flow towards the host. An upstream port is the port on a device electrically closest to the host that generates upstream data traffic from the hub. Upstream ports receive downstream data traffic.

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V

Vertical refresh rate

Expressed in Hz, it is the number of frames (complete pictures) written to the screen every second.

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- Installing your LCD monitor driver
- Download and Printing Instructions
- Installing FPadjust Program

Download and Print

Installing Your LCD monitor driver

System requirements:

- PC running Windows 95, Windows® 98, Windows® 2000 , Windows® Me, Windows® XP or later
- Find your driver ".inf/.icm/.cat" at : lcd\pc\drivers

Read the "Readme.txt" file before installing.

This page provides an option to read the manual in .pdf format. PDF files can be downloaded into your hard disk, then viewed and printed with Acrobat Reader or through your browser.

If you do not have Adobe® Acrobat Reader installed, click on the link to install the application.
[Adobe® Acrobat Reader for PC](#) / [Adobe® Acrobat Reader for Mac](#).

Download instructions:

To download the file:

1. Click-and-hold your mouse over the icon below. (Windows® 95/98/2000/Me/XP users right-click)

Download



150E6FB.pdf

2. From the menu that appears, choose 'Save Link As...', 'Save Target As...' or 'Download Link to Disk'.
3. Choose where you would like to save the file; click 'Save' (if prompted to save as either 'text' or 'source', choose 'source').

Printing instructions:

To print the manual:

1. With the manual file open, follow your printer's instructions and print the pages you need.

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Installing FPadjust Program

The FP Adjust program generates alignment patterns which will help you adjust monitor settings such as CONTRAST, BRIGHTNESS, HORIZONTAL & VERTICAL POSITION, PHASE and CLOCK.

System requirements:

- PC running Windows® 95, Windows® 98, Windows® 2000, Windows® Me, Windows® XP or later

To install [FPadjust Program](#):

- Click on the link or icon to install FPadjustment Program.
or
- Click-and-hold your mouse over the icon. (Win95/98/2000/Me/XP users right-click)

Download



[FP_setup04.exe](#)

- From the menu that appears, choose 'Save Link As...', 'Save Target As...' or 'Download Link to Disk'.
- Choose where you would like to save the file; click 'Save' (if prompted to save as either 'text' or 'source', choose 'source').
- Exit your browser and install the FPadjust Program.

Read the "FP_Readme04.txt" file before installing.

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- General FAQs

- Screen Adjustments
- Compatibility with Other Peripherals
- LCD Panel Technology
- Ergonomics, Ecology and Safety Standards
- Troubleshooting

- Regulatory Information
- Other Related Information

FAQs (Frequently Asked Questions)

General FAQs

Q: When I install my monitor what should I do if the screen shows 'Cannot display this video mode'?

A: Recommended video mode for Philips 14"/15": 1024x768 @60Hz for Philips 17"/18" 1280x1024@60Hz.

1. Unplug all cables, then connect your PC to the monitor you used previously which displayed correctly.
 2. In the Windows Start Menu, select Settings/Control Panel. In the Control Panel Window, select the Display icon. Inside the Display Control Panel, select the 'Settings' tab. Under the settings tab, in a box labelled 'desktop area', move the slide bar to 1024x768 pixels (14"/15") / 1280x1024 pixels (17"/18").
 3. Open 'Advanced Properties' and set the Refresh Rate to 60Hz, then click OK.
 4. Restart your computer and repeat step 2 and 3 to verify that your PC is set at 1024x768@60Hz (14"/15") / 1280x1024@60Hz (17"/18").
 5. Shut down your computer, disconnect your old monitor and reconnect your Philips LCD monitor.
 6. Turn on your monitor and then turn on your PC
-

Q: What should I do when screen shows: THIS IS 85HZ OVERSCAN, CHANGE COMPUTER DISPLAY INPUT TO 1024 x 768 @60HZ or THIS IS 85HZ OVERDRIVE, CHANGE COMPUTER DISPLAY INPUT TO 1280 x 1024 @60HZ?

A: It means the signal input from your PC is 85Hz -- outside the range that the monitor can display. New Generation LCD intelligent monitor capabilities temporarily override the overscan, providing you with 10 minutes to reset timing to recommended settings.

Here's how:

Go to your Windows Start menu. Select *Settings*, then *Control Panel*. Select *Display*. Move to *Settings* and click on the *Advanced* button. Under *Adaptor*, change the refresh rate to 56~75.

You have 10 minutes to complete the operation; if you do not complete within 10 minutes, power off and re-power on monitor to enter changes.

Q: What does 'refresh rate' mean in connection with an LCD monitor?

A: The refresh rate is of much less relevance for LCD monitors. LCD monitors display a stable, flicker-free image at 60Hz. There is no visible difference between 85Hz and 60Hz.

Q: What are the .inf and .icm files on the set-up disk & CD-ROM? How do I install the drivers (.inf and .icm)?

A: These are the driver files for your monitor. Follow the instructions in your user manual to install the drivers. Your computer may ask you for monitor drivers (.inf and lcm files) or a driver disk when you first install your monitor. Follow the instructions to insert the driver disk (either floppy or CD-ROM) included in this package. Monitor drivers (.inf and lcm files) will be installed automatically.

Q: How do I adjust the resolution?

A: Your video card/graphic driver and monitor together determine the available resolutions. You can select the desired resolution under Windows 95/98 with the 'Display properties/Settings' control panel.

Q: What if I get lost when I am making monitor adjustments?

A: Simply press the OSD button, then select 'Reset' to recall all of the original factory settings.

Q: What is the Auto function?

A: The *AUTO adjustment* key restores the optimal screen position, phase and clock settings at the press of a single button – without the need to navigate through OSD menus and control keys.

Q: My Monitor has no power (Power LED does not light up). What should I do?

A: Make sure the AC power cord is connected to the Monitor.

Q: Will the LCD monitor accept an Interlace signal?

A: No. If an Interlace signal is used, the screen displays both odd and even horizontal scanning lines at the same time, thus distorting the picture.

Q: What does the Refresh Rate mean for LCD?

A: Unlike CRT display technology, in which the speed at which the electron beam is swept from the top to the bottom of the screen determines flicker, an active matrix display uses an active element (TFT) to control each individual pixel and the refresh rate is therefore not really applicable to LCD technology.

Q: Will the LCD screen be resistant to scratches?

A: A protective coating is applied to the surface of the LCD, which is durable to a certain extent (approximately up to the hardness of a 2H pencil). In general, it is recommended that the panel surface is not subjected to any excessive shocks or scratches. An optional protective cover with greater scratch resistance is also available.

Q: How should I clean the LCD surface?

A: For normal cleaning, use a clean, soft cloth. For extensive cleaning, please use isopropyl alcohol. Do not use other solvents such as ethyl alcohol, ethanol, acetone, hexane, etc.

Q: Can the Philips LCD Monitor be mounted on the wall or used as a touch panel?

A: Yes, Philips LCD monitors have this optional feature. The standard VESA mount holes on the back cover allow the user to mount the Philips monitor on any VESA standard ARM or accessories. Touch panels are being developed for future applications. Check with your Philips sales representative for more information.

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Screen Adjustments

Q: What is the FPadjust program on the set-up disk and CD-ROM?

A: The FPadjust program generates alignment patterns that help you adjust monitor settings such as Contrast, Brightness, Horizontal Position, Vertical Position, Phase, and Clock for optimal performance.

Q: When I install my monitor, how do I get the best performance from the monitor?

A:

1. For best performance, make sure your display settings are set at 1024x768@60Hz for 14"/15", 1280x1024@60Hz for 17"/18". Note: You can check the current display settings by pressing the OSD OK button once.
The current display mode is shown in the product information in the OSD main controls.
 2. To install the Flat Panel Adjust (FPadjust) program located on the monitor setup CD-ROM, open the CD-ROM and double click the FP_setup04.exe icon. This will install FP Adjust automatically and place a shortcut on your desktop.
 3. Run FPadjust by double clicking the shortcut. Follow the instructions step by step to optimize image performance with your system's video controller.
-

Q: How do LCDs compare with CRTs in terms of radiation?

A: Because LCDs do not use an electron gun they do not generate the same amount of radiation at the screen surface.

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Compatibility with other Peripherals

Q: Can I connect my LCD monitor to any PC, workstation or Mac?

A: Yes, all Philips LCD monitors are fully compatible with standard PCs, Macs and workstations. You may need a cable adapter to connect the monitor to your Mac system. Please contact your dealer/retailer for more information.

Q: Are Philips LCD monitors Plug-and-Play?

A: Yes, the monitors are Plug-and-Play compatible with Windows® 95, 98, 2000, ME, XP and the PC98/99 platforms.

Q: What is USB (Universal Serial Bus)?

A: Think of USB as a smart plug for PC peripherals. USB automatically determines resources (like driver software and bus bandwidth) required by peripherals. USB makes necessary resources available without user intervention. There are three main benefits of USB. USB eliminates 'case angst,' the fear of removing the computer case to install circuit board cards -- that often require adjustment of complicated IRQ settings -- for add-on peripherals. USB does away with 'port gridlock.' Without USB, PCs are normally limited to one printer, two Com port devices (usually a mouse and modem), one Enhanced Parallel Port add-on (scanner or video camera, for example), and a joystick. More and more peripherals for multimedia computers come on the market every day.

With USB, up to 127 devices can run simultaneously on one computer. USB permits 'hot plug-in.' No need to shut down, plug in, reboot and run set up to install peripherals. No need to go through the reverse process to unplug a device. Bottom line: USB transforms today's 'Plug-and-Pray' into true Plug-and-Play!

Q: What is a USB hub ?

A: A USB hub provides additional connections to the Universal Serial Bus. A hub's upstream port connects a hub to the host, usually a PC. Multiple downstream ports in a hub allows connection to another hub or device, such as a USB keyboard, camera or printer.

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LCD Panel Technology**Q: What is a Liquid Crystal Display?**

A: A Liquid Crystal Display (LCD) is an optical device that is commonly used to display ASCII characters and images on digital items such as watches, calculators, portable game consoles, etc. LCD is the technology used for displays in notebooks and other small computers. Like light-emitting diode and gas-plasma technologies, LCD allows displays to be much thinner than cathode ray tube (CRT) technology. LCD consumes much less power than LED and gas-display displays because it works on the principle of blocking light rather than emitting it.

Q: How are LCDs made?

A: LCDs are created from two glass plates separated from each other at a distance of a few microns. The plates are filled with liquid crystal and then sealed together. The top plate is coloured with an RGB pattern to make the colour filter. Polarizers are then glued to both

plates. This combination is sometimes called 'glass' or 'cell.' The LCD cell is assembled into a 'module' by adding the backlight, driver electronics and frame.

Q: What is polarization ?

A: Polarization is basically directing light to shine in one direction. Light is electromagnetic waves. Electric and magnetic fields oscillate in a direction perpendicular to the propagation of the light beam. The direction of these fields is called the 'polarization direction'. Normal or non-polarized light has fields in several directions; polarized light has a field in only one direction.

Q: What differentiates passive matrix LCDs from active matrix LCDs?

A: An LCD is made with either a passive matrix or an active matrix display grid. An active matrix has a transistor located at each pixel intersection, requiring less current to control the luminance of a pixel. For this reason, the current in an active matrix display can be switched on and off more frequently, improving the screen refresh time (your mouse pointer will appear to move more smoothly across the screen, for example). The passive matrix LCD has a grid of conductors with pixels located at each intersection in the grid.

Q: How does a TFT LCD Panel work?

A: On each column and row of the TFT LCD panel a data source drive and a gate drive are attached, respectively. The TFT drain of each cell is connected to the electrode. The molecular arrangement of liquid crystal elements differs according to whether it is impressed with voltage or not. It varies the direction of polarized light and the amount of light by letting it through different arrays of liquid crystal elements. When two polarized filters are arranged vertically on a polarized light pole, the light that passes through the upper polarized panel is turned 90 degrees along with the spiral structure of the liquid crystal molecules and goes through the polarized filter at the bottom. When impressed with voltage, liquid crystal molecules are arranged vertically from the original spiral structure and the direction of the light is not turned through 90 degrees. In this case, light that comes through the top polarized panel may not go through the polarized panel at the bottom.

Q: What are the advantages of TFT LCD compared with CRT?

A: In a CRT monitor, a gun shoots electrons and general light by colliding polarized electrons on fluorescent glass. Therefore, CRT monitors basically operate with an analog RGB signal. A TFT LCD monitor is a device that displays an input image by operating a liquid crystal panel. The TFT has a fundamentally different structure than a CRT: Each cell has an active matrix structure and independent active elements. A TFT LCD has two glass panels and the space between them is filled in with liquid crystal. When each cell is connected with electrodes and impressed with voltage, the molecular structure of the liquid crystal is altered and controls the amount of inlet lighting to display images. A TFT LCD has several advantages over a CRT, since it can be very thin and no flickering occurs because it

does not use the scanning method.

Q: Why is vertical frequency of 60Hz optimal for an LCD monitor?

A: Unlike a CDT monitor, the TFT LCD panel has a fixed resolution. For example, an XGA monitor has 1024x3 (R, G, B) x 768 pixels and a higher resolution may not be available without additional software processing. The panel is designed to optimize the display for a 65MHz dot clock, one of the standards for XGA displays. Since the vertical/horizontal frequency for this dot clock is 60Hz/48kHz, the optimum frequency for this monitor is 60Hz.

Q: What kind of wide-angle technology is available? How does it work?

A: The TFT LCD panel is an element that controls/displays the inlet of a backlight using the dual-refraction of a liquid crystal. Using the property that the projection of inlet light refracts toward the major axis of the liquid element, it controls the direction of inlet light and displays it. Since the refraction ratio of inlet light on liquid crystal varies with the inlet angle of the light, the viewing angle of a TFT is much narrower than that of a CDT. Usually, the viewing angle refers to the point where the contrast ration is 10. Many ways to widen the viewing angle are currently being developed and the most common approach is to use a wide viewing angle film, which widens the viewing angle by varying the refraction ratio. IPS (In Plane Switching) or MVA (Multi Vertical Aligned) is also used to give a wider viewing angle.

Q: Why is there no flicker on an LCD Monitor?

A: Technically speaking, LCDs do flicker, but the cause of the phenomenon is different from that of CRT monitor -- and it has no impact of the ease of viewing. Flickering in an LCD monitor relates to usually undetectable luminance caused by the difference between positive and negative voltage. On the other hand, CRT flickering that can irritate the human eye occurs when the on/off action of the fluorescent object becomes visible. Since the reaction speed of liquid crystal in an LCD panel is much slower, this troublesome form of flickering is not present in an LCD display.

Q: Why is an LCD monitor virtually free of Electro Magnetic Interference?

A: Unlike a CRT, an LCD monitor does not have key parts that generate Electro Magnetic Interference, especially magnetic fields. Also, since an LCD display utilizes relatively low power, its power supply is extremely quiet.

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Ergonomics, Ecology and Safety Standards

Q: What is the CE mark?

A: The CE (Conformité Européenne) mark is required to be displayed on all regulated products offered for sale on the European market. This 'CE' mark means that a product complies with the relevant European Directive. A European Directive is a European 'Law' that relates to health, safety, environment and consumer protection, much the same as the U. S. National Electrical Code and UL Standards.

More information is provided in the [Regulatory Information](#) section.

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Troubleshooting

- Safety and Troubleshooting
- FAQs

- Common Problems
- Imaging Problems
- Regulatory Information
- Other Related Information

This page deals with problems that can be corrected by the user. If the problem still persists after you have tried these solutions, contact your nearest Philips dealer.

Common Problems

Having this problem

No Picture
(Power LED not lit)

Check these items

- Make sure the Power cable is plugged to the wall and the back of the monitor.
- Firstly, ensure that the power button in front of the monitor is in the OFF position, then press it to ON position again.

No Picture
(Power LED is amber or yellow)

- Make sure the computer is turned on.
- Make sure the signal cable is properly connected to your computer.
- Check to see if the monitor cable has bent pins.
- The Energy Saving feature may be activated

Screen says



- Make sure the monitor cable is properly connected to your computer. (Also refer to the Quick Set-Up Guide).
- Check to see if the monitor cable has bent pins.
- Make sure the computer is turned on.



AUTO button not working properly

- The Auto Function is designed for use on standard Macintosh or IBM-compatible PCs running Microsoft Windows.
- It may not work properly if you are using non-standard PC or video card.

Imaging Problems

Display position is incorrect

- Press the Auto button.
- Adjust the image position using the Adjust Position of OSD.

Image vibrates on the screen	<ul style="list-style-type: none"> Check that the signal cable is properly connected to the graphics board or PC.
Vertical flicker appears 	<ul style="list-style-type: none"> Press the Auto button. Eliminate the vertical bars using the OSD.
Horizontal flicker appears 	<ul style="list-style-type: none"> Press the Auto button. Eliminate the horizontal bars using the OSD.
The screen is too bright or too dark	<ul style="list-style-type: none"> Adjust the contrast and brightness in OSD Main Controls. (The backlight of the LCD monitor has a fixed life span. When the screen becomes dark or begins to flicker, please contact your dealer.
An after-image appears	<ul style="list-style-type: none"> If an image remains on the screen for an extended period of time, it may be imprinted in the screen and leave an after-image. This usually disappears after a few hours
An after-image remains after the power has been turned off.	<ul style="list-style-type: none"> This is characteristic of liquid crystal and is not caused by a malfunction or deterioration of the liquid crystal. The after-image will disappear after a given amount of time
Green, red, blue, dark and white dots remain	<ul style="list-style-type: none"> The remaining dots are normal characteristic of the liquid crystal used in today's technology.

For further assistance, refer to the [Consumer Information Centers](#) list and contact your local Philips distributor.

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- Recycling Information for Customers
- Energy Star Declaration
- Philips End-of-Life Disposal Information for UK only
- Troubleshooting Other Related Information
- Frequently Asked Questions (FAQs)

Regulatory Information

Recycling Information for Customers

Philips establishes technically and economically viable objectives to optimize the environmental performance of the organization's product, service and activities.

From the planning, design and production stages, Philips emphasizes the important of making products that can easily be recycled. At Philips, end-of-life management primarily entails participation in national take-back initiatives and recycling programs whenever possible, preferably in cooperation with competitors.

There is currently a system of recycling up and running in the European countries, such as The Netherlands, Belgium, Norway, Sweden and Denmark.

In U.S.A., Philips Consumer Electronics North America has contributed funds for the Electronic Industries Alliance (EIA) Electronics Recycling Project and state recycling initiatives for end-of-life electronics products from household sources. In addition, the Northeast Recycling Council (NERC) - a multi-state non-profit organization focused on promoting recycling market development - plans to implement a recycling program.

In Asia Pacific, Taiwan, the products can be taken back by Environment Protection Administration (EPA) to follow the IT product recycling management process, detail can be found in web site www.epa.gov.tw

For help and service, please contact [Consumers Information Center](#) or [F1rst Choice Contact Information Center](#) in each country or the following team of Environmental specialist can help.

Mr. Job Chiu - Environment manager
Philips Electronics Industries (Taiwan) Ltd, Monitor Business Unit
E-mail: job.chiu@philips.com
Tel: +886 (0) 3 454 9839

Mr. Maarten ten Houten - Senior Environmental Consultant
Philips Consumer Electronics
E-mail: marten.ten.houten@philips.com
Tel: +31 (0) 40 27 33402

Mr. Delmer F. Teglas
Philips Consumer Electronics North America
E-mail: butch.teglas@philips.com
Tel: +1 865 521 4322

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Energy Star Declaration

PHILIPS 150E6FB

This monitor is equipped with a function for saving energy which supports the VESA Display Power Management Signaling (DPMS) standard. This means that the monitor must be connected to a computer which supports VESA DPMS to fulfill the requirements in the NUTEK specification 803299/94. Time settings are adjusted from the system unit by software.

NUTEK	VESA State	LED Indicator	Power Consumption
Normal operation	ON	Green	< 23 W (typ.)
Power Saving Alternative 2 One step	OFF	Amber	< 2 W



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



We recommend you switch off the monitor when it is not in use for quite a long time.

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End-of-Life Disposal

Your new monitor contains materials that can be recycled and reused. Specialized companies can recycle your product to increase the amount of reusable materials and to minimize the amount to be disposed of.

Please find out about the local regulations on how to dispose of your old monitor from your local Philips dealer.

(For customers in Canada and U.S.A.)

This product may contain lead and/or mercury. Dispose of in accordance to local-state and federal regulations.

For additional information on recycling contact www.eia.org (Consumer Education Initiative)

Information for UK only

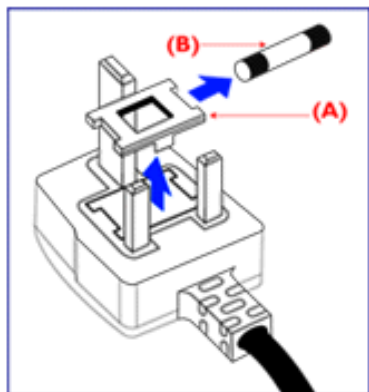
WARNING - THIS APPLIANCE MUST BE EARTHED.

Important:

This apparatus is supplied with an approved moulded 13A plug. To change a fuse in this type of plug proceed as follows:

1. Remove fuse cover and fuse.
2. Fit new fuse which should be a BS 1362 5A, A.S.T.A. or BSI approved type.
3. Refit the fuse cover.

If the fitted plug is not suitable for your socket outlets, it should be cut off and an appropriate 3-pin plug fitted in its place.



If the mains plug contains a fuse, this should have a value of 5A. If a plug without a fuse is used, the fuse at the distribution board should not be greater than 5A.

Note: The severed plug must be destroyed to avoid a possible shock hazard should it be inserted into a 13A socket elsewhere.

How to connect a plug

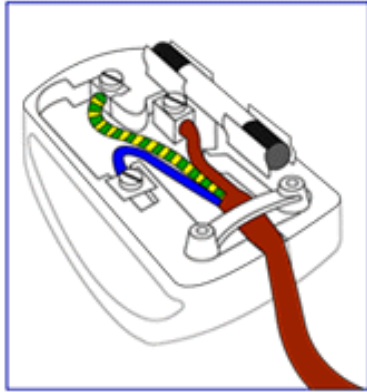
The wires in the mains lead are coloured in accordance with the following code:


BLUE - "NEUTRAL" ("N")

BROWN - "LIVE" ("L")

GREEN & YELLOW - "EARTH" ("E")

1. The GREEN AND YELLOW wire must be connected to the terminal in the plug which is



marked with the letter "E" or by the Earth symbol  or coloured GREEN or GREEN AND YELLOW.

2. The BLUE wire must be connected to the terminal which is marked with the letter "N" or coloured BLACK.

3. The BROWN wire must be connected to the terminal which marked with the letter "L" or coloured RED.

Before replacing the plug cover, make certain that the cord grip is clamped over the sheath of the lead - not simply over the three wires.

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- Safety and Troubleshooting
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- Troubleshooting
- Regulatory Information
- Information for Users in the U.S
- Information for Users Outside the U.S

Other Related Information

Information for Users in the U. S.

For units set at 115 V :

Use a UL Listed Cord Set consisting of a minimum 18 AWG, Type SVT or SJT three conductor cord a maximum of 15-feet long and a parallel blade, grounding type attachment plug rated 15 A, 125 V.

For units set at 230 V:

Use a UL Listed Cord Set consisting of a minimum 18 AWG, Type SVT or SJT three conductor cord a maximum of 15-feet long and a tandem blade, grounding type attachment plug rated 15 A, 250 V.

Information for Users outside the U.S.

For units set at 230 V:

Use a Cord Set consisting of a minimum 18 AWG cord and grounding type attachment plug rated 15 A, 250 V. The Cord Set should have the appropriate safety approvals for the country in which the equipment will be installed and / or be marked HAR.

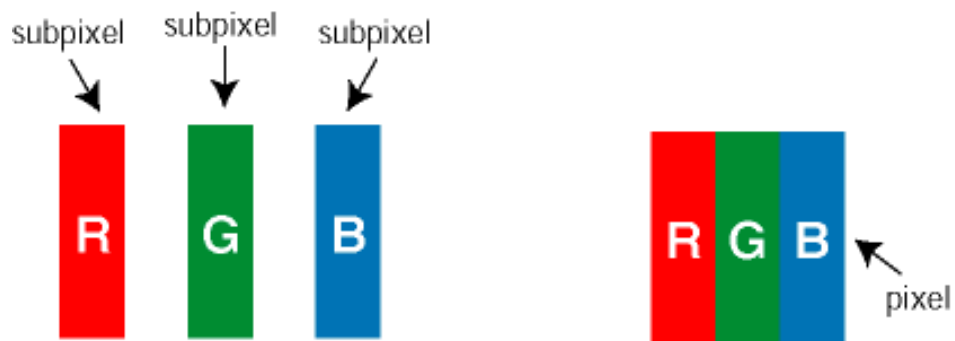
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- Product Features
- Technical Specifications
- Resolution & Preset Modes
- Automatic Power Saving
- Physical Specification
- Pin Assignment
- Product Views

Philips Pixel Defect Policy

Philips' Flat Panel Monitors Pixel Defect Policy

Philips strives to deliver the highest quality products. We use some of the industry's most advanced manufacturing processes and practise stringent quality control. However, pixel or sub pixel defects on the TFT LCD panels used in flat panel monitors are sometimes unavoidable. No manufacturer can guarantee that all panels will be free from pixel defects, but Philips guarantees that any monitor with an unacceptable number of defects will be repaired or replaced under warranty. This notice explains the different types of pixel defects and defines acceptable defect levels for each type. In order to qualify for repair or replacement under warranty, the number of pixel defects on a TFT LCD panel must exceed these acceptable levels. For example, no more than 0.0004% of the sub pixels on a 15" XGA monitor may be defective. Furthermore, Philips sets even higher quality standards for certain types or combinations of pixel defects that are more noticeable than others. This policy is valid worldwide.



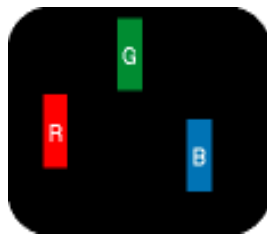
Pixels and Sub pixels

A pixel, or picture element, is composed of three sub pixels in the primary colors of red, green and blue. Many pixels together form an image. When all sub pixels of a pixel are lit, the three colored sub pixels together appear as a single white pixel. When all are dark, the three colored sub pixels together appear as a single black pixel. Other combinations of lit and dark sub pixels appear as single pixels of other colors.

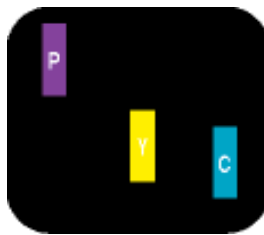
Types of Pixel Defects

Pixel and sub pixel defects appear on the screen in different ways. There are two categories of pixel defects and several types of sub pixel defects within each category.

Bright Dot Defects Bright dot defects appear as pixels or sub pixels that are always lit or 'on'. These are the types of bright dot defects:

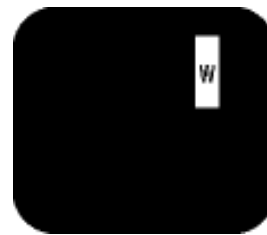


One lit red, green or blue sub pixel



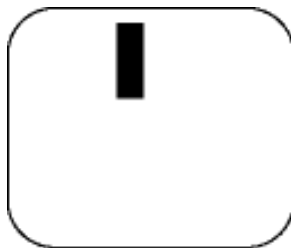
Two adjacent lit sub pixels:

- Red + Blue = Purple
- Red + Green = Yellow
- Green + Blue = Cyan (Light Blue)

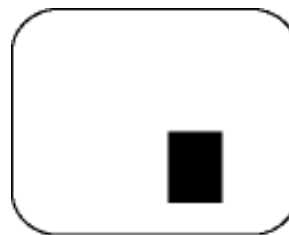


Three adjacent lit sub pixels (one white pixel)

Black Dot Defects Black dot defects appear as pixels or sub pixels that are always dark or 'off'. These are the types of black dot defects:



One dark sub pixel



Two or three adjacent dark sub pixels

Proximity of Pixel Defects

Because pixel and sub pixels defects of the same type that are near to one another may be more noticeable, Philips also specifies tolerances for the proximity of pixel defects.

Pixel Defect Tolerances

In order to qualify for repair or replacement due to pixel defects during the warranty period, a TFT LCD panel in a Philips flat panel monitor must have pixel or sub pixel defects exceeding the tolerances listed in the following tables.

BRIGHT DOT DEFECTS	ACCEPTABLE LEVEL
<i>MODEL</i>	150E6
1 lit sub pixel	8 or fewer
2 adjacent lit sub pixels	3 or fewer
3 adjacent lit sub pixels (one white pixel)	1 or fewer

Distance between two bright dot defects*	15 mm or more
Bright dot defects within 20 mm circle	3 or fewer
Total bright dot defects of all types	8 or fewer

BLACK DOT DEFECTS	ACCEPTABLE LEVEL
<i>MODEL</i>	150E6
1 dark sub pixel	8 or fewer
2 adjacent dark sub pixels	3 or fewer
3 adjacent dark sub pixels	1 or fewer
Distance between two black dot defects*	15 mm or more
Black dot defects within 20 mm circle*	3 or fewer
Total black dot defects of all types	8 or fewer

TOTAL DOT DEFECTS	ACCEPTABLE LEVEL
<i>MODEL</i>	150E6
Total bright or black dot defects of all types	10 or fewer

* Note: 1 or 2 adjacent sub pixel defects = 1 dot defect




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- The base

Connecting to Your PC

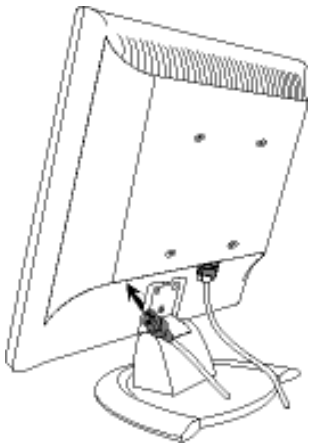
Accessory Pack

Unpack all the parts.

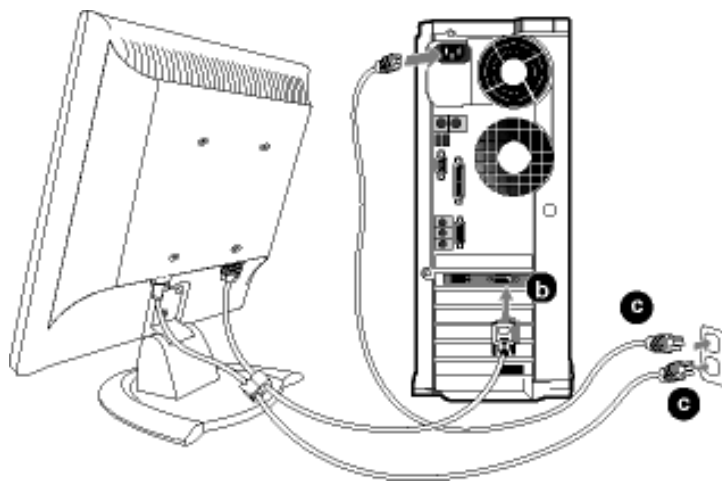
Item	Description
	1) Power Cable (socket may differ for different countries)
	2) VGA Signal Cable
	3) E-DFU package with Quick Setup Guide and CD-ROM.

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Connecting to Your PC



- 1)** Plug the power cord into monitor firmly.



2) Connect to PC

- (a) Connect the monitor signal cable to the VGA card on the back of your computer.
- (b) Plug the power cord of your computer and your monitor into a nearby outlet.
- (c) Turn on your computer and monitor. If the monitor displays an image, installation is complete.

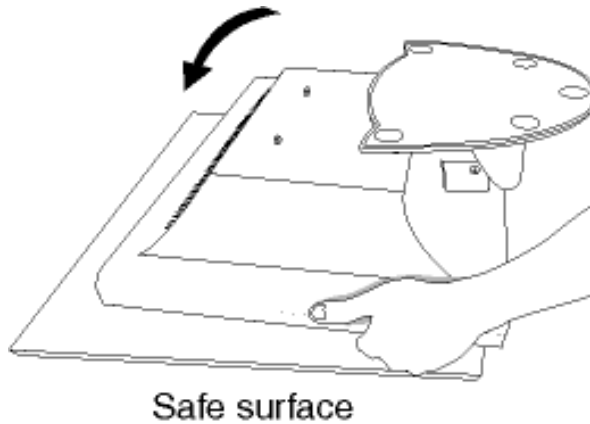
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The Base

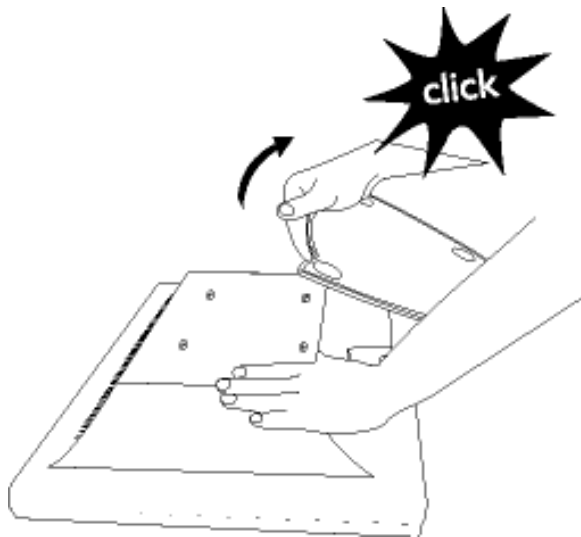
- Front View
- Product Description
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- **Unfold the Base**
- **Fold the Base**
- Remove the Base

Unfold and Fold the Base

Unfold the Base

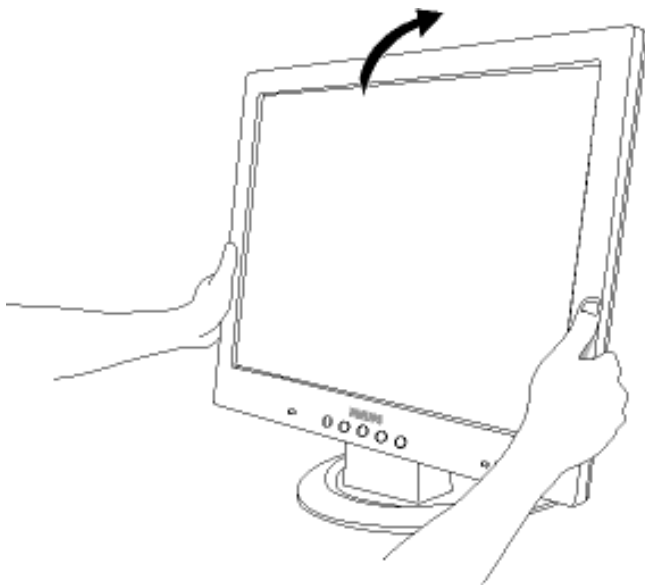


1) Put monitor face down on the safe surface



2) Pull up the base

Fold the Base

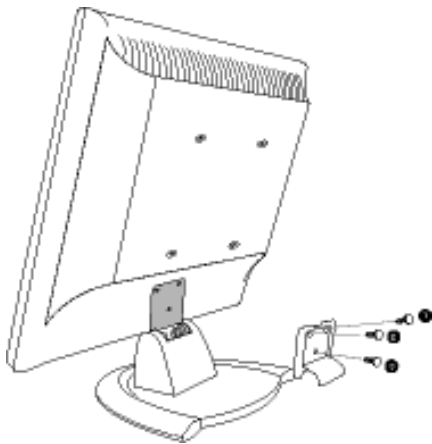


1) Push down the head of monitor

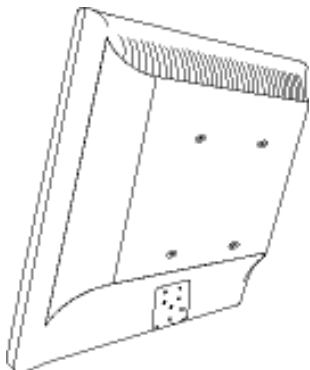
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Remove the Base

Condition:



1) Remove the three screws and then remove the stand from the LCD monitor.



Note: This monitor accepts a 100mmx100mm VESA-Compliant mounting interface.

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Your LCD Monitor :

- Front View Product Description
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Getting Started

Getting Started

Use the information file (.inf) for Windows® 95/98/2000/Me/XP or later

The built-in VESA DDC2B feature in Philips Monitors supports Plug & Play requirements for Windows® 95/98/2000/Me/XP. This information file (.inf) should be installed in order that your Philips monitor can be enabled from the 'Monitor' dialog box in Windows® 95/98/2000/Me/XP and the Plug & Play application can be activated. The installation procedure based on Windows® '95 OEM Release 2 , 98 , Me, XP and 2000 is specified as follows.

For Windows® 95

1. Start Windows® '95
2. Click on the 'Start' button, point to 'Settings', and then click on 'Control Panel'.
3. Double click on the 'Display' Icon.
4. Select the 'Settings' tab then click on 'Advanced...'
5. Select the 'Monitor' button, point to 'Change...' then click on 'Have Disk...'
6. Click on the 'Browse...' button, select the appropriate drive F: (CD-ROM Drive) then click on the 'OK' button.
7. Click on the 'OK' button then select your monitor model and click on 'OK'.
8. Click on the 'Close' button.

For Windows® 98

1. Start Windows® 98
2. Click on the 'Start' button, point to 'Settings', and then click on 'Control Panel'.
3. Double click on the 'Display' Icon.
4. Select the 'Settings' tab then click on 'Advanced...'
5. Select the 'Monitor' button, point to 'Change...' then click on 'Next'
6. Select 'Display a list of all the drivers in a specific location, so you can choose the driver you want.' then click on 'Next' and then click on 'Have Disk...'
7. Click on the 'Browse...' button, select the appropriate drive F: (CD-ROM Drive) then click on the 'OK' button.
8. Click on the 'OK' button then select your monitor model and click on the 'Next' button.
9. Click on the 'Finish' button then the 'Close' button.

For Windows® Me

1. Start Windows® Me
2. Click on the 'Start' button, point to 'Settings', and then click on 'Control Panel'.
3. Double click on the 'Display' Icon.
4. Select the 'Settings' tab then click on 'Advanced...'
5. Select the 'Monitor' button, then click on 'Change...' button.

6. Select 'Specify the location of the driver(Advanced)' and click on the 'Next' button.
7. Select 'Display a list of all the drivers in a specific location, so you can choose the driver you want', then click on 'Next' and then click on 'Have Disk...'.
 8. Click on the 'Browse...' button, select the appropriate drive F: (CD-ROM Drive) then click on the 'OK' button.
 9. Click on the 'OK' button, select your monitor model and click on the 'Next' button.
 10. Click on 'Finish' button then the 'Close' button.

For Windows® 2000

1. Start Windows® 2000
 2. Click on the 'Start' button, point to 'Settings', and then click on 'Control Panel'.
 3. Double click on the 'Display' Icon.
 4. Select the 'Settings' tab then click on 'Advanced...'.
 5. Select 'Monitor'
 - If the 'Properties' button is inactive, it means your monitor is properly configured. Please stop installation.
 - If the 'Properties' button is active. Click on 'Properties' button. Please follow the steps given below.
 6. Click on 'Driver' and then click on 'Update Driver...' then click on the 'Next' button.
 7. Select 'Display a list of the known drivers for this device so that I can choose a specific driver', then click on 'Next' and then click on 'Have disk...'.
 8. Click on the 'Browse...' button then select the appropriate drive F: (CD-ROM Drive).
 9. Click on the 'Open' button, then click on the 'OK' button.
 10. Select your monitor model and click on the 'Next' button.
 11. Click on the 'Finish' button then the 'Close' button.
- If you can see the 'Digital Signature Not Found' window, click on the 'Yes' button.

For Windows® XP

1. Start Windows® XP
2. Click on the 'Start' button and then click on 'Control Panel'.
3. Select and click on the category 'Printers and Other Hardware'
4. Click on the 'Display' Item.
5. Select the 'Settings' tab then click on the 'Advanced' button.
6. Select 'Monitor' tab
 - If the 'Properties' button is inactive, it means your monitor is properly configured. Please stop installation.
 - If the 'Properties' button is active, click on 'Properties' button.
 Please follow the steps below.
7. Click on the 'Driver' tab and then click on 'Update Driver...' button.
8. Select the 'Install from a list or specific location [advanced]' radio button and then click on the 'Next' button.
9. Select the 'Don't Search. I will choose the driver to install' radio button. Then click on the 'Next' button.
10. Click on the 'Have disk...' button, then click on the 'Browse...' button and then select the appropriate drive F: (CD-ROM Drive).
11. Click on the 'Open' button, then click the 'OK' button.
12. Select your monitor model and click on the 'Next' button.
 - If you can see the 'has not passed Windows® Logo testing to verify its compatibility with Windows® XP' message, please click on the 'Continue Anyway' button.
13. Click on the 'Finish' button then the 'Close' button.
14. Click on the 'OK' button and then the 'OK' button again to close the Display_Properties

dialog box.

If your Windows® 95/98/2000/Me/XP version is different or you need more detailed installation information, please refer to Windows® 95/98/2000/Me/XP user's manual.

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Your Philips F1rst Choice Warranty(Canada/USA)

Thank you for purchasing this Philips monitor.



All Philips monitors are designed and manufactured to high standards and deliver high-quality performance, ease of use and ease of installation. Should you encounter any difficulties while installing or using this product, please contact Philips directly to benefit from your Philips F1rst Choice Warranty. This three-year service warranty entitles you to a swap model on-site within 48 hours of your call being received within the first year of purchase. If you have any problems with your monitor within the second or third year of purchase, we will repair it after it has been sent to the service provider at your expense and returned to you within five working days, free of charge.

LIMITED WARRANTY (Computer Monitor)

Click here to access the [Warranty Registration Card](#).

Three Years Free Labor / Three Years Free Service on Parts / One Year Exchange*

**Product will be exchanged with a new or renewed to original specifications unit within two business days for the first year. This product must be shipped in at your expense for service during years two and three.*

WHO IS COVERED?

You must have proof of purchase to receive warranty service. A sales receipt or other document showing that you purchased the product is considered proof of purchase. Attach it to this owner's manual and keep both nearby.

WHAT IS COVERED?

Warranty coverage begins the day you buy your product. *For three years thereafter*, all parts will be repaired or replaced, and labor is free. *After three years from the day of purchase*, you pay for the replacement or repair of all parts, and for all labor charges.

All parts, including repaired and replaced parts, are covered only for the original warranty period. When the warranty on the original product expires, the warranty on all replaced and repaired products and parts also expires.

WHAT IS EXCLUDED?

Your warranty does not cover:

- labor charges for installation or setup of the product, adjustment of customer controls on the product, and installation or repair of antenna systems outside of the product.
- product repair and/or part replacement because of misuse, accident, unauthorized repair or other cause not within the control of Philips Consumer Electronics.
- reception problems caused by signal conditions or cable or antenna systems outside the unit.
- a product that requires modification or adaptation to enable it to operate in any country other than the country for which it was designed, manufactured, approved and/or authorized, or repair of products damaged by these modifications.
- incidental or consequential damages resulting from the product. (Some states do not allow the exclusion of incidental or consequential damages, so the above exclusion may not apply to you. This includes, but is not limited to, prerecorded material, whether copyrighted or not copyrighted.)
- a product used for commercial or institutional purposes.
- the model or production number on the product has been altered, deleted, removed or made illegible.

Where IS SERVICE AVAILABLE?

Warranty service is available in all countries where the product is officially distributed by Philips Consumer Electronics. In countries where Philips Consumer Electronics does not distribute the product, the local Philips service organization will attempt to provide service (although there may be a delay if the appropriate spare parts and technical manual(s) are not readily available).

Where CAN I GET MORE INFORMATION?

For more information, contact the Philips Customer Care Center by calling [\(877\) 835-1838 \(U.S.A. customers only\)](tel:8778351838) or [\(919\) 573-7855](tel:9195737855).

Before Requesting Service...

Please check your owner's manual before requesting service. Adjustments of the controls discussed there may save you a service call.

TO GET WARRANTY SERVICE IN U.S.A., PUERTO RICO OR U.S. VIRGIN ISLANDS...

Contact the Philips Customer Care Center phone number listed below for product assistance and procedures for servicing:

[*Philips Customer Care Center*](#)

(877) 835-1838 or (919) 573-7855

(In U.S.A., Puerto Rico and U.S. Virgin Islands, all implied warranties, including implied warranties of merchantability and fitness for a particular purpose, are limited in duration to the duration of this express warranty. But, because some states do not allow limitations on how long an implied warranty may last, this limitation may not apply to you.)

TO GET WARRANTY SERVICE IN CANADA...

Please contact Philips at:

(800) 479-6696

Three years free parts and three years free labor will be provided at Philips Canada depot or any one of its authorized service centers.

(In Canada, this warranty is given in lieu of all other warranties. No other warranties are expressed or implied, including any implied warranties of merchantability or fitness for a particular purpose. Philips is not liable under any circumstances for any direct, indirect, special, incidental or consequential damages, howsoever incurred, even if notified of the possibility of such damages.)

REMEMBER... Please record the model and serial numbers found on the product below.

MODEL # _____

SERIAL # _____

This warranty gives you specific legal rights. You may have other rights which vary from state/province to state/province.

Before contacting Philips, please prepare the following details so we can solve your problem quickly.

- Philips type number
- Philips serial number
- Purchase date (copy of purchase may be required)
- PC environment Processor:
 - 286/386/486/Pentium Pro/Internal memory
 - Operating system (Windows, DOS, OS/2, MAC)
 - Fax/Modem/Internet program?

- Other cards installed
Having the following information available will also help speed up the process:
- Your proof of purchase indicating: date of purchase, dealer name, model and product serial number.
- The full address to which the swap model should be delivered.

Just a phone call away

Philips' customer help desks are located worldwide. Within the U.S. you can contact Philips customer care Monday-Friday from 8:00 AM-9:00 PM Eastern Time (ET) and on Saturdays from 10:00 AM-5:00 PM ET hrs by using one of the contact phone numbers.

For more information on this and more great Philips products visit our website at:

Website: <http://www.philips.com>

Your International Guarantee

Dear Customer,

Thank you for purchasing this Philips product which has been designed and manufactured to the highest quality standards.

If, unfortunately, something should go wrong with this product Philips guarantees free of charge labor and replacement parts irrespective of the country where it is repaired during a period of 12 months from date of purchase. This international Philips guarantee complements the existing national guarantee obligations to you of dealers and Philips in the country of purchase and does not affect your statutory rights as a customer.

The Philips guarantee applies provided the product is handled properly for its intended use, in accordance with its operating instructions and upon presentation of the original invoice or cash receipt, indicating the date of purchase, dealer's name and model and production number of the product.

The Philips guarantee may not apply if:

- the documents have been altered in any way or made illegible;
- the model or production number on the product has been altered, deleted, removed or made illegible;
- repairs or product modifications and alterations have been executed by unauthorized service organizations or persons;
- damage is caused by accidents including but not limited to lightning, water or fire, misuse or neglect.

Please note that the product is not defective under this guarantee in the case where modifications become necessary in order for the product to comply with local or national technical standards which apply in countries for which the product was not originally designed and/or manufactured. Therefore always check whether a product can be used in a specific country.

In case your Philips product is not working correctly or is defective, please contact your Philips dealer. In the event you require service whilst in another country a dealer address can be given to you by the Philips Consumer Help Desk in that country, the telephone and fax number of which can be found in the relevant part of this booklet.

In order to avoid unnecessary inconvenience, we advise you to read the operating instructions carefully before contacting your dealer. If you have questions which your dealer cannot answer or any related question please contact the [Philips Consumer Information Centers](#) or via:

Website: <http://www.philips.com>

Consumer Information Centers

Antilles • Argentina • Australia • Bangladesh • Brasil • Canada • Chile • China • Colombia • Belarus • Bulgaria • Croatia • Czech Republic • Estonia • Dubai • Hong Kong • Hungary • India • Indonesia • Korea • Latvia • Lithuania • Malaysia • Mexico • Morocco • New Zealand • Pakistan • Paraguay • Peru • Philippines • Poland • Romania • Russia • Serbia & Montenegro • Singapore • Slovakia • Slovenia • South Africa • Taiwan • Thailand • Turkey • Ukraine • Uruguay • Venezuela

Eastern Europe

BELARUS

Technical Center of JV IBA
M. Bogdanovich str. 155
BY - 220040 Minsk
Tel: +375 17 217 33 86

BULGARIA

LAN Service
140, Mimi Balkanska Str.
Office center Translog
1540 Sofia, Bulgaria
Tel: +359 2 960 2360
www.lan-service.bg

CZECH REPUBLIC

Xpectrum
Lužná 591/4
CZ - 160 00 Praha 6 Tel: 800 100 697
Email: info@xpectrum.cz
www.xpectrum.cz

CROATIA

Renoprom d.o.o.
Mlinska 5, Strmec
HR - 41430 Samobor
Tel: +385 1 333 0974

ESTONIA

FUJITSU SERVICES OU
Akadeemia tee 21G
EE-12618 Tallinn
Tel: +372 6519900
www.ee.invia.fujitsu.com

HUNGARY

Serware Szerviz
Vizimolnár u. 2-4
HU - 1031 Budapest
Tel: +36 1 2426331
Email: inbox@serware.hu
www.serware.hu

LATVIA

ServiceNet LV
Jelgavas iela 36
LV - 1055 Riga,
Tel: +371 7460399
Email: serviss@servicenet.lv

LITHUANIA

ServiceNet LT
Gaiziunu G. 3
LT - 3009 KAUNAS
Tel: +370 7400088
Email: servisas@servicenet.lt
www.servicenet.lt

ROMANIA

Blue Ridge Int'l Computers SRL
115, Mihai Eminescu St., Sector 2
RO - 020074 Bucharest
Tel: +40 21 2101969

SERBIA & MONTENEGRO

Tehnicom Service d.o.o.
Bulevar Vojvode Misica 37B
YU - 11000 Belgrade
Tel: +381 11 3060 886

SLOVAKIA

Datalan Servisne Stredisko
Puchovska 8
SK - 831 06 Bratislava
Tel: +421 2 49207155
Email: servis@datalan.sk

SLOVENIA

PC HAND
Brezovce 10
SI - 1236 Trzin
Tel: +386 1 530 08 24
Email: servis@pchand.si

POLAND

Zolter
ul.Zytnia 1
PL - 05-500 Piaseczno
Tel: +48 22 7501766
Email: servmonitor@zolter.com.pl
www.zolter.com.pl

RUSSIA

Tel: +7 095 961-1111
Tel: 8-800-200-0880
Website: www.philips.ru

TURKEY

Türk Philips Ticaret A.S.
Yukari Dudullu Org.San.Bolgesi
2.Cadde No:22
34776-Umraniye/Istanbul
Tel: (0800)-261 33 02

UKRAINE

Comel
Shevchenko street 32
UA - 49030 Dnepropetrovsk
Tel: +380 562320045
www.csp-comel.com

Latin America

ANTILLES

Philips Antillana N.V.
Kaminda A.J.E. Kusters 4
Zeelandia, P.O. box 3523-3051
Willemstad, Curacao
Phone: (09)-4612799
Fax : (09)-4612772

ARGENTINA

Philips Antillana N.V.
Vedia 3892 Capital Federal
CP: 1430 Buenos Aires
Phone/Fax: (011)-4544 2047

BRASIL

Philips da Amazônia Ind. Elet. Ltda.
Rua Verbo Divino, 1400-São Paulo-SP
CEP-04719-002
Phones: 11 21210203 -São Paulo & 0800-701-0203-Other Regions without São Paulo City

CHILE

Philips Chilena S.A.
Avenida Santa Maria 0760
P.O. box 2687 Santiago de Chile
Phone: (02)-730 2000
Fax : (02)-777 6730

COLOMBIA

Industrias Philips de Colombia
S.A.-Division de Servicio
CARRERA 15 Nr. 104-33
Bogota, Colombia
Phone:(01)-8000 111001 (toll free)
Fax : (01)-619-4300/619-4104

MEXICO

Consumer Information Centre
Norte 45 No.669
Col. Industrial Vallejo
C.P.02300, -Mexico, D.F.
Phone: (05)-3687788 / 9180050462
Fax : (05)-7284272

PARAGUAY

Av. Rca. Argentina 1780 c/Alfredo Seiferheld
P.O. Box 605
Phone: (595 21) 664 333
Fax: (595 21) 664 336
Customer Desk:
Phone: 009 800 54 1 0004

PERU

Philips Peruana S.A.
Customer Desk
Comandante Espinar 719
Casilla 1841
Limab18
Phone: (01)-2136200
Fax : (01)-2136276

URUGUAY

Rambla O'Higgins 5303 Montevideo
Uruguay
Phone: (598) 619 66 66
Fax: (598) 619 77 77
Customer Desk:
Phone: 0004054176

VENEZUELA

Industrias Venezolanas Philips S.A.
Apartado Postal 1167
Caracas 1010-A
Phone: (02) 2377575
Fax : (02) 2376420

Canada

CANADA

Philips Electronics Ltd.
281 Hillmount Road
Markham, Ontario L6C 2S3
Phone: (800) 479-6696

Pacific

AUSTRALIA

Philips Consumer Electronics
Consumer Care Center
Level 1, 65 Epping Rd
North Ryde NSW 2113
Phone: 1300 363 391
Fax : +61 2 9947 0063

NEW ZEALAND

Philips New Zealand Ltd.
Consumer Help Desk
2 Wagener Place, Mt.Albert
P.O. box 1041
Auckland
Phone: 0800 477 999 (toll free)
Fax : 0800 288 588

Asia

BANGLADESH

Philips Service Centre
100 Kazi Nazrul Islam
Avenue Kawran Bazar C/A
Dhaka-1215
Phone: (02)-812909
Fax : (02)-813062

CHINA

SHANGHAI
Rm 1007, Hongyun Building, No. 501 Wuning road,
200063 Shanghai P.R. China
Phone: 4008 800 008
Fax: 21-52710058

HONG KONG

Philips Electronics Hong Kong Limited
Consumer Service
Unit A, 10/F. Park Sun Building
103-107 Wo Yi Hop Road
Kwai Chung, N.T.
Hong Kong
Phone: (852)26199663
Fax: (852)24815847

INDIA

Phone: 91-20-712 2048 ext: 2765
Fax: 91-20-712 1558

BOMBAY
Philips India
Customer Relation Centre
Bandbox House
254-D Dr. A Besant Road, Worli
Bombay 400 025

CALCUTTA
Customer Relation Centre
7 justice Chandra Madhab Road
Calcutta 700 020

MADRAS
Customer Relation Centre
3, Haddows Road
Madras 600 006

NEW DELHI
Customer Relation Centre
68, Shivaji Marg
New Dehli 110 015

INDONESIA

Philips Group of Companies in Indonesia
Consumer Information Centre
Jl.Buncit Raya Kav. 99-100
12510 Jakarta
Phone: (021)-7940040 ext: 2100
Fax : (021)-794 7511 / 794 7539

KOREA

Philips Korea Ltd.
Philips House
C.P.O. box 3680
260-199, Itaewon-Dong.
Yongsan-Ku, Seoul 140-202
Phone: 080 600 6600 (toll free)
Fax : (02) 709 1210

MALAYSIA

After Market Solutions Sdn Bhd,
Philips Authorised Service Center,
Lot 6, Jalan 225, Section 51A,
46100 Petaling Jaya,
Selangor Darul Ehsan,
Malaysia.
Phone: (603)-7954 9691/7956 3695
Fax: (603)-7954 8504
Customer Careline: 1800-880-180

PAKISTAN

Philips Consumer Service
Mubarak manzil,
39, Garden Road, Saddar,
Karachi-74400
Tel: (9221) 2737411-16
Fax: (9221) 2721167
E-mail: care@philips.com
Website: www.philips.com.pk

PHILIPPINES

PHILIPS ELECTRONICS & LIGHTING, INC.
Consumer Electronics
48F PBCOM tower
6795 Ayala Avenue cor VA Rufino St.
Salcedo Village
1227 Makati City, PHILS
Phone: (02)-888 0572, Domestic Toll Free: 1-800-10-PHILIPS or 1-800-10-744 5477
Fax: (02)-888 0571

SINGAPORE

Accord Customer Care Solutions Ltd
Authorized Philips Service Center
Consumer Service
620A Lorong 1 Toa Rayoh
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Tel: +65 6882 3999
Fax: +65 6250 8037

TAIWAN

Philips Taiwan Ltd.
Consumer Information Centre
13F, No. 3-1 Yuan Qu St., Nan Gang Dist.,
Taipei 115, Taiwan
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THAILAND

Philips Electronics (Thailand) Ltd.
26-28th floor, Thai Summit Tower
1768 New Petchburi Road
Khwaeng Bangkapi, Khet Huaykhwang
Bangkok 10320 Thailand
Tel: (66)2-6528652
E-mail: cic Thai@philips.com

Africa

MOROCCO

Philips Electronique Maroc
304, BD Mohamed V
Casablanca
Phone: (02)-302992
Fax : (02)-303446

SOUTH AFRICA

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Fax: +27 (0) 11 471 5123
E-mail: phonecare.za@philips.com

Middle East

DUBAI

Philips Middle East B.V.
Consumer Information Centre
P.O.Box 7785
DUBAI
Phone: (04)-335 3666
Fax : (04)-335 3999

F1rst Choice Contact Information

Country	Telephone number	Tariff
Austria	0820 901115	€ 0.20
Belgium	070 253 010	€ 0.17
Cyprus	800 92256	Free of Charge
Denmark	3525 8761	Local call tariff
Finland	09 2290 1908	Local call tariff
France	08 9165 0006	€ 0.23
Germany	0180 5 007 532	€ 0.12
Greece	00800 3122 1223	Local call tariff
Ireland	01 601 1161	Local call tariff
Italy	199 404 042	€ 0.25
Luxembourg	26 84 30 00	Local call tariff
The Netherlands	0900 0400 063	€ 0.20
Norway	2270 8250	Local call tariff
Portugal	2 1359 1440	Local call tariff
Spain	902 888 785	€ 0.15
Sweden	08 632 0016	Local call tariff
Switzerland	02 2310 2116	Local call tariff
United Kingdom	0207 949 0069	Local call tariff