Product Information

Product Features

190P6

- **Outstanding front of screen performance**
  - LightFrame™ DR maximizes your on-screen experience
  - Perfect Panel™guarantees dot defect-free display
  - SXGA 1280 x 1024 resolution for sharper display
  - 8-ms response time for outstanding displays of fast moving images
  - Dual input accepts both analog VGA and digital DVI signals
- **Maximum comfort for maximum productivity**
  - Screen pivot, better ergonomics and cable management
  - Four-port, high-speed USB 2.0 hub for easy connections
  - SmartBright automatically adjusts brightness with ambient conditions
  - Built-in speakers for audio without desktop clutter
  - Stand-alone audio for efficient net conferencing
- **Best total cost of ownership solution**
  - SmartManage provides LAN-based asset management capabilities
  - Lead-free display safeguards our environment

RETURN TO TOP OF THE PAGE

Lead-free Product

Philips eliminated toxic substances like lead from its displays. Lead-free display helps protect your health and promotes environmentally sound recovery and disposal of waste from electrical and electronic equipment.Philips complies with the European Community stringent RoHS Directive mandating restrictions on hazardous substances in electrical and electronic equipment. With Philips, you can be confident that your display device does not harm the environment.

Technical Specifications*

LCD PANEL	
• Type	TFT LCD
• Screen size	19" / 48.26 cm diagonal
• Pixel Pitch	0.294 x 0.294 mm
• LCD Panel type	1280 x 1024 pixels R.G.B. vertical stripe Anti-glare polarizer, hard coated

• Effective viewing area	376.32 x 301.06 mm
• Display Colors	16.2 M colors
SCANNING	
Vertical refresh rate	56 Hz-76 Hz
Horizontal Frequency	30k Hz-83 kHz
VIDEO	
• Video dot rate	140 MHz
• Input impedance	
- Video	75 ohm
- Sync	2.2K ohm
• Input signal levels	0.7 Vpp
• Sync input signal	Separate sync Composite sync Sync on green
• Sync polarities	Positive and negative
• Video interface	Dual input: D-Sub (analog) and DVI-D (digital) are available and user selectable
• USB connectivity solution	USB Hub for versatile peripheral connections.
Audio	
• Loudspeaker	4W Stereo Audio (2W/channel RMSx2, 300 Hz-13 kHz, 16 ohm, PMPO 32 Watts)
• Headphone connector	3.5mm mini jack
• Input signal connector	3.5mm mini jack
Optical characteristics	
• Contrast ratio	600:1 (typ.)
• Brightness	250 cd/m^2 (typ.)
• Peak contrast angle	6 o'clock
• White Chromaticity	x: 0.283 y: 0.297 (at 9300°K) x: 0.313 y: 0.329 (at 6500°K) x: 0.313 y: 0.329 (at sRGB)
• Viewing Angle (C/R>5)	Upper ≥80° (typ.) Lower ≥80° (typ.) Left ≥80° (typ.) Right ≥80° (typ.)
• Response time	≤ 8 ms (typ.)

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

RETURN TO TOP OF THE PAGE

LightFrame™ Digital Reality (LightFrame™ DR) for Windows

Introduction

Philips LightFrame™ DR feature enriches your photo and video experience with preset modes ideal for your favorite applications: Internet, TV/video viewing, photos and gaming. The LightFrame™ DR engine optimizes brightness, sharpness, contrast, color, JPG noise for photos and skin tone for videos.

Installation

First things first: Philips LightFrame™ DR only works with latest Philips LCD Monitor which is sepcially built to use this software. That is LightFrame™ DR can only work on 170X5,190X5 or 170P6/190P6 or later version LCD monitor. Earlier Philips monitors or other manufacturers' monitors will not work with this picture enhancement software. You can identify compatible Philips monitors by the LightFrame logo on the front of the monitor.

LightFrame™ DR works with true Windows-based programs and DOS-based programs that operate in a Windows environment. It does not work with DOS-based programs operating only in a DOS environment.

To control the LightFrame™ DR feature in your monitor, you'll want install the LightFrame™ DR application found on this CD-ROM.

To install LightFrame™ DR, place the CD in your CD-ROM drive.

When the CD menu appears on your screen,
1) select preferred language
2) select model number (17P6 or 190P6)
3) click on *Install LightFrame™ Digital Reality*.

Follow the on-screen prompts to properly install the program. The software checks to see if you have a compatible monitor. You must agree to the license terms in order to install the software.

After installation, the LightFrame™ DR shortcut icon automatically appears at your desktop, click it to load the control bar on screen.

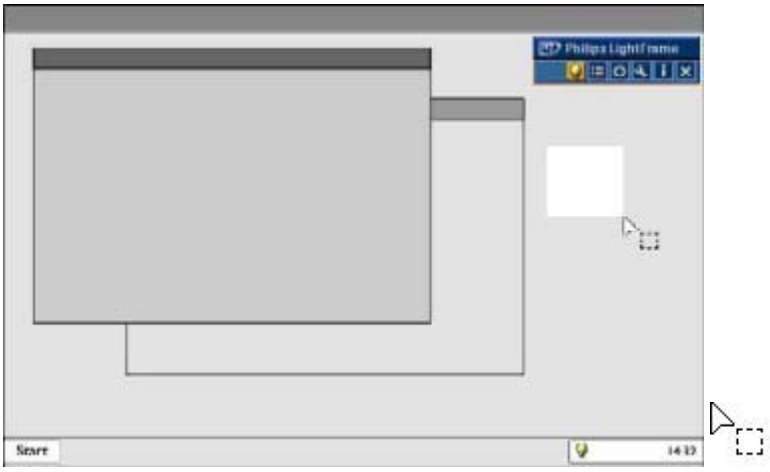
Use Tips

1. Cursor with a yellow light bulb versus a blue light bulb

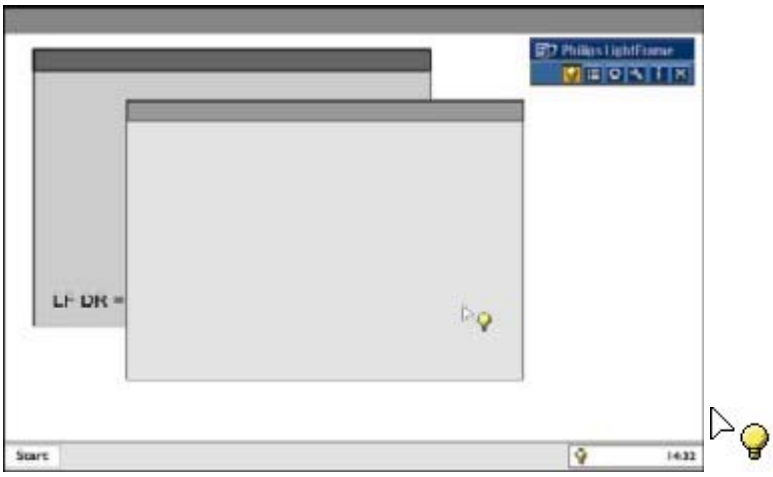
Your mouse pointer takes the shape of a light bulb to indicate that LightFrame™ DR is ready to activate or deactivate a target window that contains photos, videos or other content that can be enhanced. A yellow light bulb means that you are moving over a window where LightFrame™ DR can be activated. Click on the window to activate enhancement. A blue light bulb appears when moving over an activated window. Click on the window to de-activate LightFrame™ DR.

Cursor examples

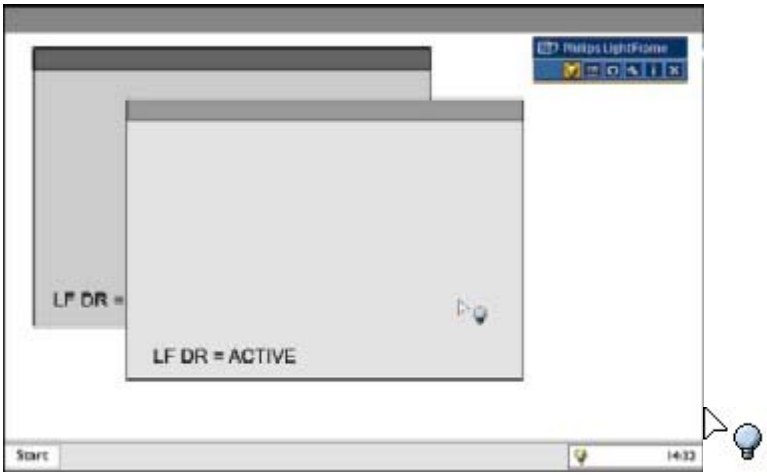
Here is a list of LightFrame™ DR cursors.



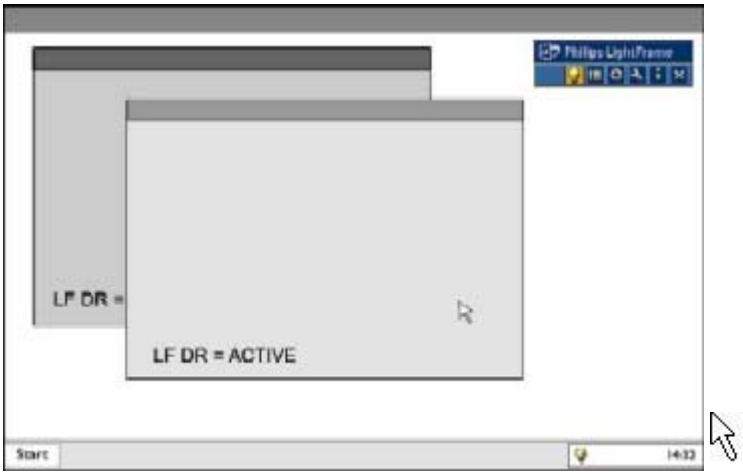
This is the default cursor displayed when you move over a non-LightFrame™ DR enhanced window or area. Clicking and dragging this cursor over a window or area activates LightFrame™ DR enhancement.



Your cursor becomes a yellow light bulb when it passes over a **non-active** window to indicate that LightFrame™ DR can be activated in the selected window. Click to activate LightFrame™ DR in the selected window. To activate LightFrame™ DR simultaneously in a total of up to eight windows, click on the selected windows one-by-one while pressing the *Shift* key.



Your cursor becomes a blue light bulb when it passes over an **active** LightFrame™ DR window. Click to deactivate LightFrame™ DR in the selected window.



The normal cursor is restored after you click on a target without pressing the shift key or after you drag a rectangle.

2. LightFrame™ DR control bar

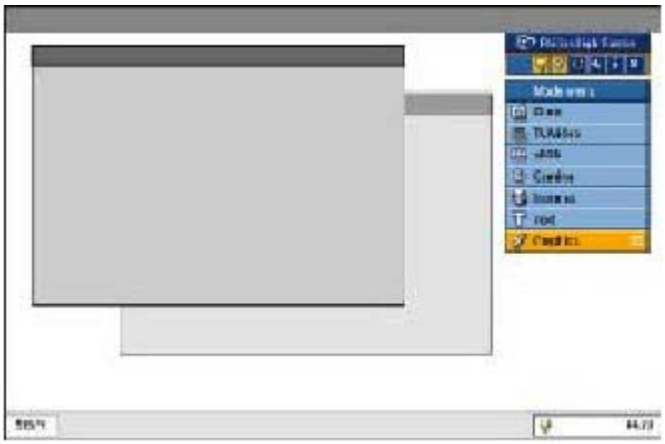
The LightFrame™ DR control bar appears at the top of screen after any LightFrame™ DR function is activated.
The control bar is another upgrade that helps you run all LightFrame™ Digital Reality's neat, new features. The illustration below describes the tasks each button performs.

To drag the control bar to any preferred area of your screen, left click the LightFrame™ DR logo. (See examples below) This area is not a button.

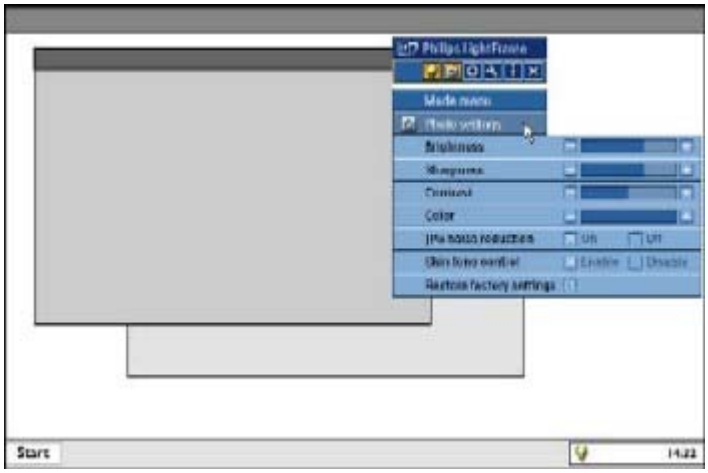
	Activate or deactivate LightFrame™ DR icon	Turns LightFrame™ DR on and off. When LightFrame™ DR is active in selected window, the icon changes from blue to yellow.
	Activate or deactivate the mode menu icon	The default mode menu icon appears when no mode is selected. When you select the photo, Internet or other mode, the icon for the selected m appears.
	Deactivate all LightFrame™ DR windows icon	Deactivates all LightFrame™ DR windows. This function is only visible when LightFrame™ DR windows are active.
	Properties icon	Provides access to the Properties menu, which includes these options: LightFrame™ DR auto start: Yes/no Position: LightFrame™ DR Always on top Warning messages: On/off Target selection: Automatic/manual Monitor selection: Chose among two monitors connected to the same P Place LightFrame™ DR icon in the taskbar: Yes/no
	Info mode icon	Activates and deactivates the Info mode, which provides information abo toolbar and menu items as well as access to Help files.
	Exit icon	Click to exit the LightFrame™ DR control bar

3. Optimizing LightFrame™ DR settings
Here's how to optimize LightFrame™ DR settings to your personal preferences:

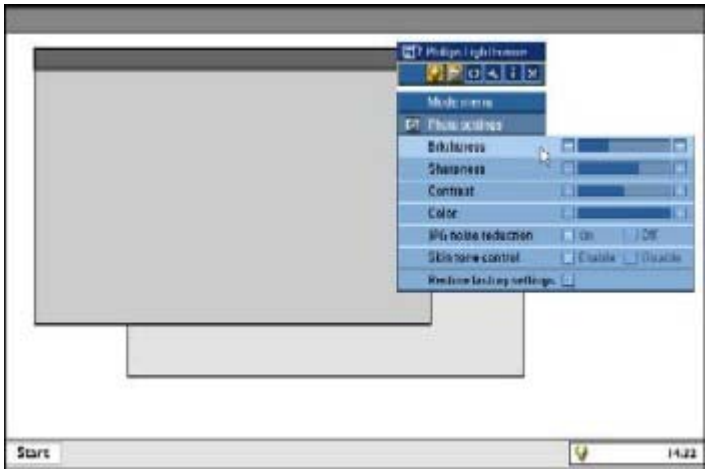
1. Select your desired mode from the mode Menu. Click to open the mode.

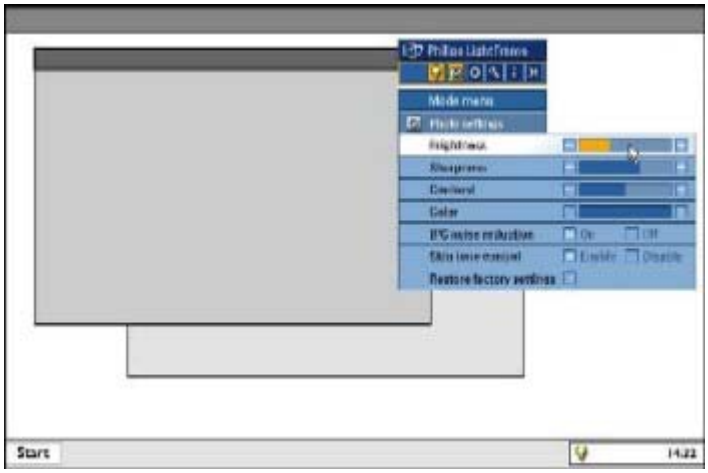


2. The settings menu



3. Change settings by pulling the color bar or pressing the plus (+) or minus (-) button to move incrementally to the desired levels.





When you're finished, click on the Mode icon to exit the menu.

4. LightFrame™ Hot Key

The LightFrame™ Hot Key is located at front of LightFrame™ DR monitor. The blue LED is on when LightFrame™ is activated and off when the feature is deactivated. A touch on the Hot Key quickly provides full screen enhancement in your choice of the Internet, Photo or Video-TV mode.

When you touch the front button, a small OSD window opens on your screen directly above the button location.
Use this screen to select the best full screen mode for the application you're working with. Press continuously on the Hot Key to scroll through the available options.

1) When you touch the LightFrame™ Hot Key, an OSD window opens. Touch the button continually to scroll among the available Internet, Photo and Video-TV modes. As a mode becomes available for selection, its color changes from blue to yellow. Once you reach the desired mode, remove your finger from the Hot Key. After three seconds, the mode you have selected will be confirmed and the OSD window will automatically close.

2) Touch the LightFrame™ DR Hot Key for three seconds to enter the LightFrame™ demo mode. To exit the demonstration mode, press the hot key again.

5. Language
While English is the default language of LightFrame™ DR, Dutch, French, German, Italian, Portuguese, Spanish, Simplified Chinese, Traditional Chinese and Korean are supported. LightFrame™ DR will detect the language of computer system OS and select the language automatically.

Notes
Philips LightFrame™ DR only works with monitors specially built to use this software. If LightFrame™ DR detects that your monitor is not LightFrame™ DR-compatible, a message appears on the monitor screen. If you see this message, you can abort or continue the installation; however, if you continue the installation, LightFrame™ DR will probably not work on the monitor.

How to use LightFrame™ DR

After installation, LightFrame™ DR shortcut icon appears on your screen whenever the computer is started.

To learn more about using LightFrame™ Digital Reality, please refer to the help information, which is available after installation.

Compatibility
This version of LightFrame™ DR is compatible with:
Windows® XP
Windows® 2000 Professional Edition with Service Pack 2

How to download your upgraded LF DR Installation file

Visit http://www.philips.com/support

RETURN TO TOP OF THE PAGE

USB Connectivity Solution

The USB (Universal Serial Bus) is a universal interface for peripherals to hot-swap with PCs. A four-port USB 2.0 hub located on a monitor converting a monitor into an USB host not only provides additional connectivity for USB peripherals, but also provides managed power to attached peripherals. It is a convenient and easy-to-use high-speed interface for data transfer between your PC and up to four USB peripherals.

RETURN TO TOP OF THE PAGE

SmartBright

Ambient light is the general background light all around us that softens contrasts between brightly lighted task areas and the surrounding portions of the room. In most rooms, ambient light changes constantly, but changes in lighting can adversely effect display quality. Philips SmartBright automatically adjusts display brightness settings to correspond with ambient light conditions, delivering just the right level of brightness for optimal front-of-screen performance, maximum productivity and minimal fatigue.

How to switch the setting

1.Choose the Smart Bright via More Setting in OSD menu.

2.Select the "On" "Off" setting.(default: Off)

Note:

Do not block the *sensor* when using this function.

RETURN TO TOP OF THE PAGE

Resolution & Preset Modes

- Maximum 1280 x 1024 at 75 Hz
- Recommended 1280 x 1024 at 60 Hz

50 user definable modes

15 factory preset modes:

H. freq (kHz)	Resolution	V. freq (Hz)
31.5	640*350	70
31.5	720*400	70
31.5	640*480	60
35.0	640*480	67
37.5	640*480	75
35.2	800*600	56
37.9	800*600	60
46.9	800*600	75
49.7	832*624	75
48.4	1024*768	60
60.0	1024*768	75
69.0	1152*870	75
71.8	1152*900	76
63.9	1280*1024	60
80.0	1280*1024	75

RETURN TO TOP OF THE PAGE

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

Active	ON	Yes	Yes	< 42.5 W (typ.) (without USB) < 52.5 W (typ.) (With USB)	Green
Sleep	OFF	No	No	< 1 W	Amber
Switch Off	OFF	-	-	< 1W	Off

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.

RETURN TO TOP OF THE PAGE

Physical Specifications

• Dimension (WxHxD) *	425 x 419 x 235 mm
• Weight	7.3 kg
• Tilt / Swivel	-5° ~ 25° / + - 65°
• Height adjustment rang	130 mm
• Power supply	100 — 240 VAC, 60 - 50 Hz
• Power consumption	42.5W (typ. without USB) / 52.5 W (typ. with USB)
• Temperature	5° C to 40° C (operating) -20° C to 60° C (storage)
• Relative humidity	20% to 80%
• System MTBF	50K hours (excluding CCFL 40K hours)
• Cabinet color	190P6EG: Light Gray 190P6EB: Black 190P6ES: Silver

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

** Resolution 1280x1024, standard size, brightness max., contrast 50%, 6500° K, full white pattern, without audio/USB.*

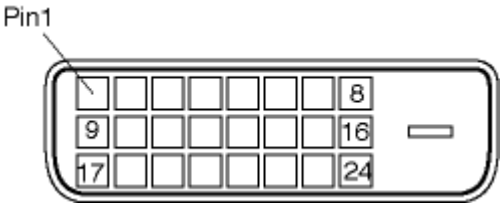
RETURN TO TOP OF THE PAGE

Pin Assignment

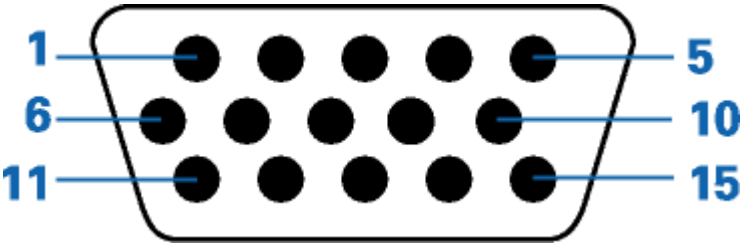
The digital only connector contains 24 signal contacts organized in three rows of eight contacts. Signal pin assignments are listed in the following table:

Pin No.	Signal Assignment		Pin No.	Signal Assignment		Pin No.	Signal Assignment

1	T.M.D.S. Data2-	9	T.M.D.S. Data1-	17	T.M.D.S. Data0-
2	T.M.D.S. Data2+	10	T.M.D.S. Data1+	18	T.M.D.S. Data0+
3	T.M.D.S. Data2/4 Shield	11	T.M.D.S. Data1/3 Shield	19	T.M.D.S. Data0/5 Shield
4	No connect	12	No connect	20	No connect
5	No connect	13	No connect	21	No connect
6	DDC Clock	14	+5V Power	22	T.M.D.S. Clock Shield
7	DDC Data	15	Ground (for +5V)	23	T.M.D.S. Clock+
8	No connect	16	Hot Plug Detect	24	T.M.D.S. Clock-



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/SOG	10	Logic ground
3	Blue video input	11	Ground
4	GND	12	Serial data line (SDA)
5	GND-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		

RETURN TO TOP OF THE PAGE

Product Views

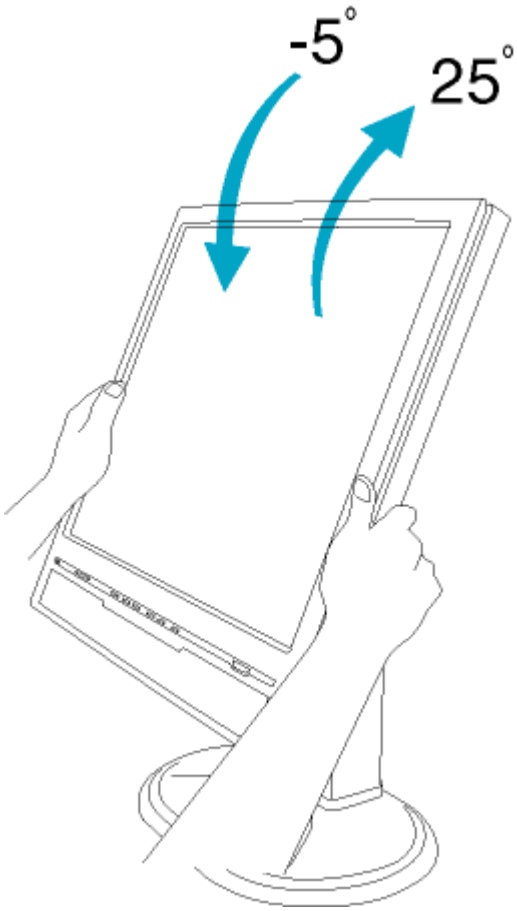
Follow the links to see various views of the monitor and its components.

Front View Product Description

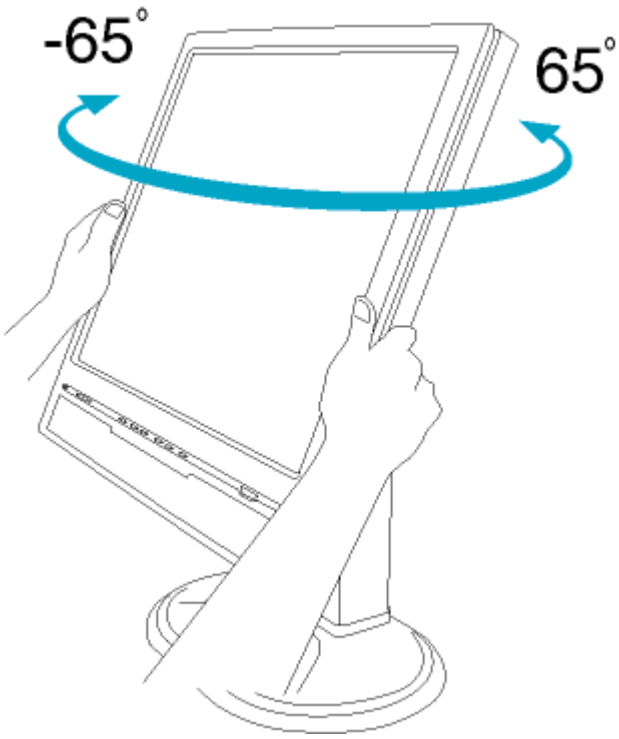
RETURN TO TOP OF THE PAGE

Physical Function

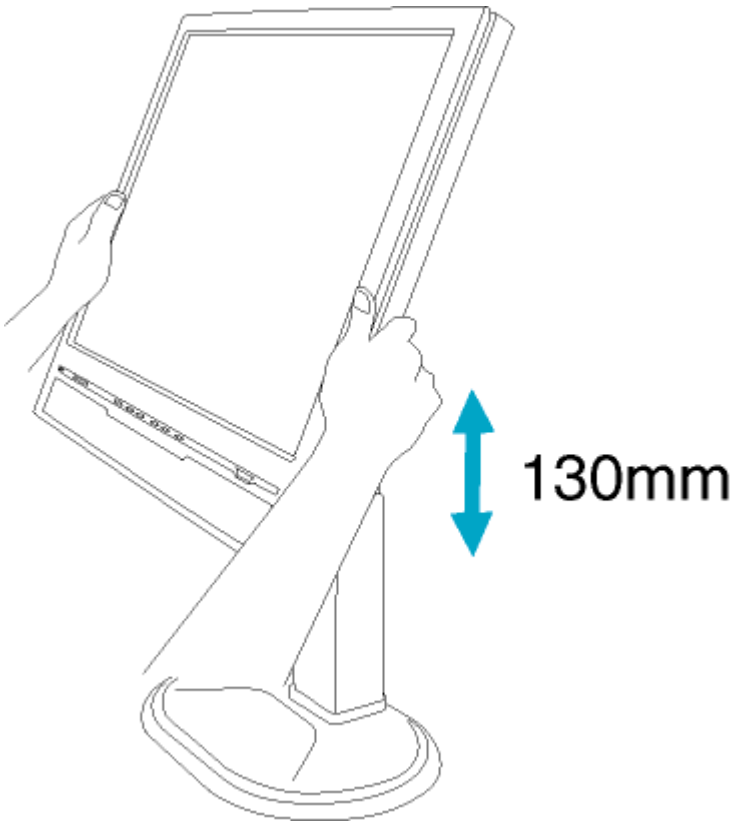
1) Tilt



2) Swivel



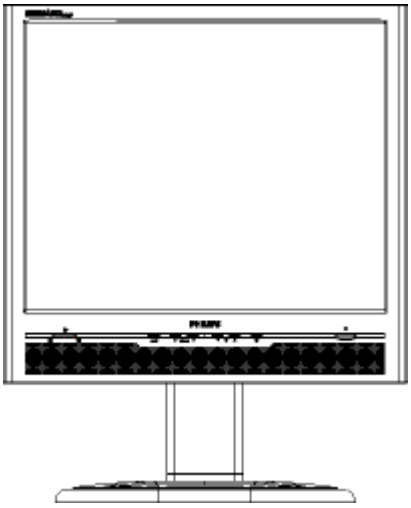
3) Height adjustment



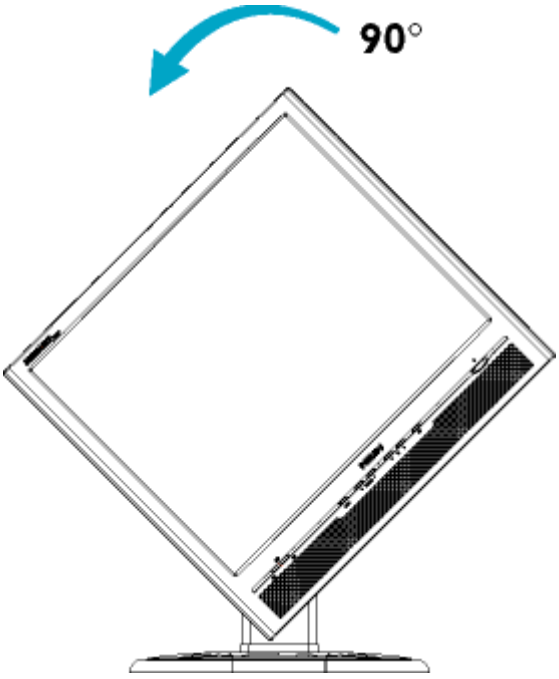
RETURN TO TOP OF THE PAGE

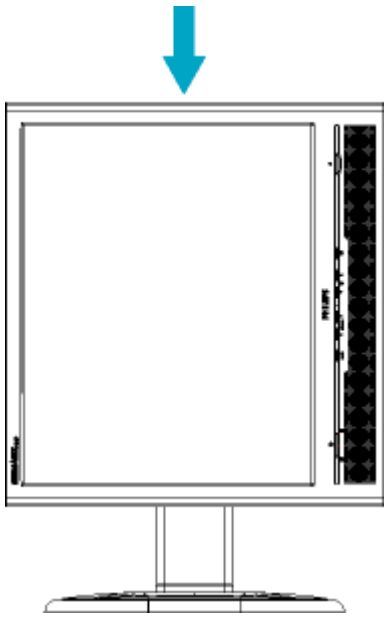
4) Portrait display

Turn monitor from landscape view to portrait view.



Rotate the monitor body 90 degrees counter clockwise.

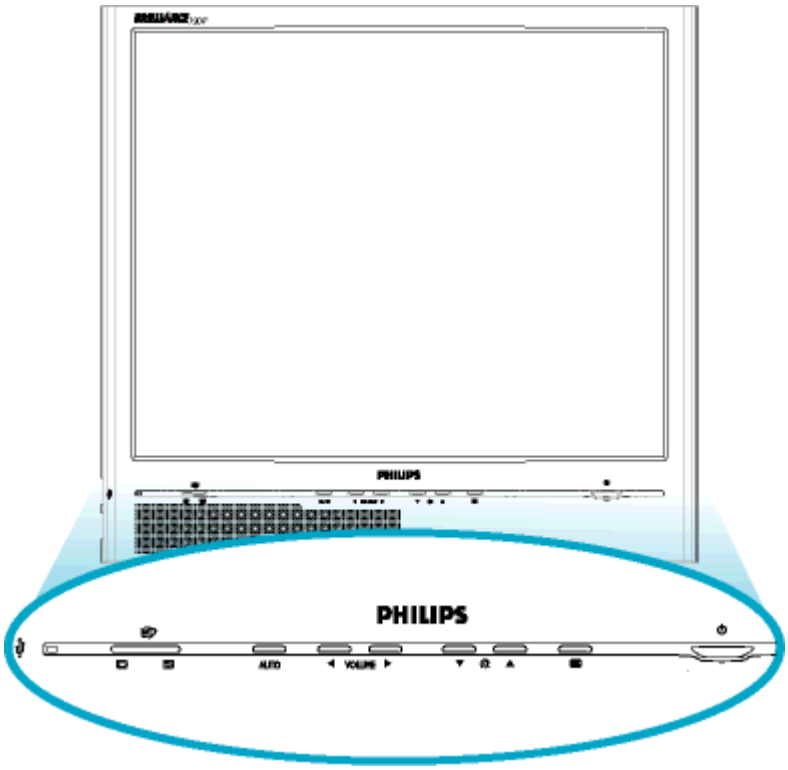




RETURN TO TOP OF THE PAGE

Installing Your LCD Monitor

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.
VOLUME	VOLUME hotkey. When the LEFT and RIGHT arrow buttons are pressed, the adjustment controls for VOLUME will show up.
OK	OK button which when pressed will take you to the OSD controls.
⏻	POWER button switches your monitor on.
AUTO	Automatically adjust the horizontal position, vertical position, phase and clock setting.
	LightFrame™ hotkey for mode-switching between full-screen mode and multi-window mode.
	USB Hub for versatile peripheral connections.

RETURN TO TOP OF THE PAGE

Optimizing Performance

- For best performance, ensure that your display settings are set at 1280x1024, 60Hz.

Note:** **You can check the current display settings by pressing the 'OK' button once. The current display mode is shown in OSD main controls 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 is included on this CD. Step-by-step instructions are provided to guide you through the installtion process. Click on the link to know more about this program.

  More about  FP_setup04.exe

RETURN TO TOP OF THE PAGE

Federal Communications Commission (FCC) Notice (U.S. Only)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Use only RF shielded cable that was supplied with the monitor when connecting this monitor to a computer device.

To prevent damage which may result in fire or shock hazard, do not expose this appliance to rain or excessive moisture.

THIS CLASS B DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE-CAUSING EQUIPMENT REGULATIONS.

RETURN TO TOP OF THE PAGE

Commission Federale de la Communication (FCC Declaration)

Cet équipement a été testé et déclaré conforme auxlimites des appareils numériques de class B,aux termes de l'article 15 Des règles de la FCC. Ces limites sont conçues de façon à fourir une protection raisonnable contre les interférences nuisibles dans le cadre d'une installation résidentielle. CET appareil produit, utilise et peut émettre des hyperfréquences qui, si l'appareil n'est pas installé et utilisé selon les consignes données, peuvent causer des interférences nuisibles aux communications radio. Cependant, rien ne peut garantir l'absence d'interférences dans le cadre d'une installation particulière. Si cet appareil est la cause d'interférences nuisibles pour la réception des signaux de radio ou de télévision, ce qui peut être décelé en fermant l'équipement, puis en le remettant en fonction, l'utilisateur pourrait essayer de corriger la situation en prenant les mesures suivantes:

- Réorienter ou déplacer l'antenne de réception.
- Augmenter la distance entre l'équipement et le récepteur.
- Brancher l'équipement sur un autre circuit que celui utilisé par le récepteur.
- Demander l'aide du marchand ou d'un technicien chevronné en radio/télévision.

Toutes modifications n'ayant pas reçu l'approbation des services compétents en matière de conformité est susceptible d'interdire à l'utilisateur l'usage du présent équipement.

N'utiliser que des câbles RF armés pour les connections avec des ordinateurs ou périphériques.

CET APPAREIL NUMERIQUE DE LA CLASSE B RESPECTE TOUTES LES EXIGENCES DU REGLEMENT SUR LE MATERIEL BROUILLEUR DU CANADA.

RETURN TO TOP OF THE PAGE