PHILIPS

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438P1

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EN User manual 1

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1. Important

This electronic user's guide is intended for anyone who uses the Philips monitor. Take time to read this user manual before you use your monitor. It contains important information and notes regarding operating your monitor.

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.

1.1 Safety precautions and maintenance

⚠ Warnings

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.

Excessive sound pressure from earphones and headphones can cause hearing loss. Adjustment of the equalizer to maximum increases the earphones and headphones output voltage and therefore the sound pressure level.

Operation

- Please Keep the monitor out of direct sunlight, very strong bright lights and away from any other heat source. Lengthy exposure to this type of environment may result in discoloration and damage to the monitor.
- 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 Service contact information listed in Important information manual.)
- Operate under the specified power supply. Be sure to operate the monitor only with the specified power supply. Use of an incorrect voltage will cause malfunction and may cause fire or electric shock.
- Protect the cable. Do not pull or bend the power cable and signal cable. Do not place the monitor or any other heavy objects on the cables, if damaged, the cables may cause fire or electric shock.
- Do not subject the 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 monitor 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 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: 0-40°C 32-104°F
  - Humidity: 20-80% RH

Important information for Burn-in/ Ghost image

- Always activate a moving screen saver program when you leave your monitor unattended. Always activate a periodic screen refresh application if your monitor will display unchanging static content. Uninterrupted display of still or static images over an extended period may cause “burn-in”, also known as “after-imaging” or “ghost imaging”, on your screen.
- “Burn-in”, “after-imaging”, or “ghost imaging” is a well-known phenomenon in LCD panel technology. In most cases, the “burn-in” or “after-imaging” or “ghost imaging” will disappear gradually over a period of time after the power has been switched off.

Warning

Failure to activate a screen saver, or a periodic screen refresh application may result in severe “burn-in” or “after-image” or “ghost image” symptoms that will not disappear and cannot be repaired. The damage mentioned above is not covered under your warranty.

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 Service contact information listed in Important information manual.)
- For transportation information, please refer to “Technical Specifications”.
- Do not leave your monitor in a car/ trunk under direct sun light.

Note

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.

1.2 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.

1.3 Disposal of product and packing material

Waste Electrical and Electronic Equipment-WEEE

This marking on the product or on its packaging illustrates that, under European Directive 2012/19/EU governing used electrical and electronic appliances, this product may not be disposed of with normal household waste. You are responsible for disposal of this equipment through a designated waste electrical and electronic equipment collection. To determine the locations for dropping off such waste electrical and electronic, contact your local government office, the waste disposal organization that serves your household or the store at which you purchased the product.

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.

All redundant packing material has been omitted. We have done our utmost to make the packaging easily separable into mono materials.

Please find out about the local regulations on how to dispose of your old monitor and packing from your sales representative.

Taking back/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, which recycle all materials (products and related packaging material) in accordance with all Environmental Laws and taking back program with the contractor company.

Your display is manufactured with high quality materials and components which can be recycled and reused.

To learn more about our recycling program please visit

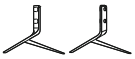
http://www.philips.com/a-w/about/sustainability.html

2. Setting up the Display

2.1 Installation

1 Package contents

* CD



Stand/Base

x 4

Screw
M4 x 14

* Remote Control
Batteries AAA R03 1.5V

Power

* VGA

*USB A-B

* DP

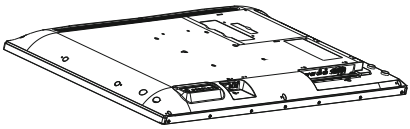
* HDMI

* Audio

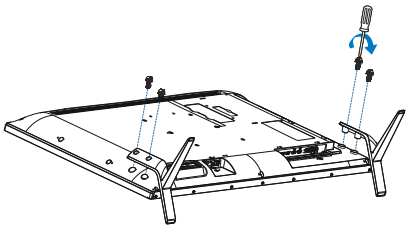
*Different according to region.

2 Install the base

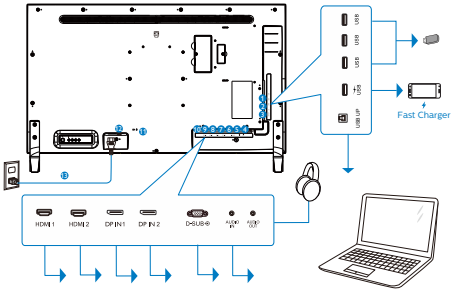
1. In order to well protect this display and avoid scratching or damaging, keep the display face down on soft and smooth surface for the stand installation.



2. Align the screw holes on the stands with the rear of the monitor, then using a screwdriver, tighten up the four screws to secure it in place.

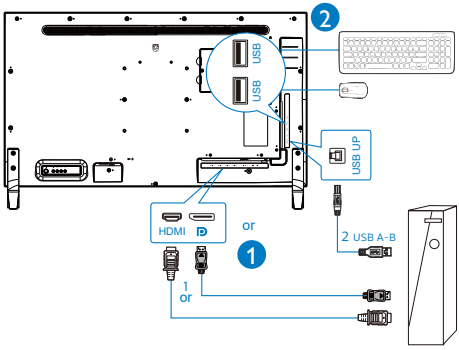


3 Connecting to your PC



1. USB downstream
2. USB downstream/USB fast charger
3. USB upstream
4. Audio Out
5. Audio input
6. VGA input
7. DP IN 2 input
8. DP IN 1 input
9. HDMI 2 input
10. HDMI 1 input
11. Kensington anti-theft lock
12. Power Switch
13. AC Power input

USB Hub



Connect to PC

1. Connect the power cord to the back of the display firmly.
2. Turn off your computer and unplug its power cable.
3. Connect the display signal cable to the video connector on the back of your computer.
4. Plug the power cord of your computer and your display into a nearby outlet.
5. Turn on your computer and display. If the display displays an image, installation is complete.

4 USB hub

To comply with International energy standards, the USB hub/ports of this display are disabled during Sleep and Power Off modes.

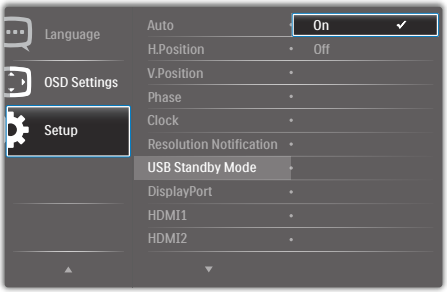
Connected USB devices will not work in this state.

To permanently put the USB function in “ON” state, please go to OSD Menu, then select “USB standby mode”, and switch it to “ON” state. Somehow if your monitor reset to factory setting, ensure to select “USB standby mode” to “ON” state in OSD menu.

5 USB charging

This display has USB ports capable of standard power output including some with USB Charging function (identifiable with power icon USB). You can use these ports to charge your Smart phone or power your external HDD, for example. The display must be powered ON at all times to be able to use this function.

Some select Philips displays may not Power or Charge your device when it enters to “Sleep” mode (White power LED blinking). In that case, please enter to OSD Menu and select “USB Standby Mode”, then, turn the function to “ON” mode (default=OFF). This will then keep the USB power and charging functions active even when the monitor is in sleep mode.



Note

If you Turn OFF your monitor via the power switch at any given time, all the USB ports will power OFF.

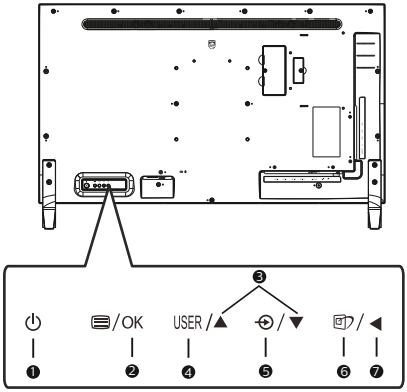
Warning

USB 2.4Ghz wireless devices, such as, wireless mouse, keyboard, and headphones, maybe have interference by USB3.2 or higher version, the high-speed signal devices, which may result in a decreased efficiency of the radio transmission. Should this happen, please try the following methods to help reduce the effects of interference.

- Try to keep USB2.0 receivers away from USB3.2 or higher version of connection port.
- Use a standard USB extension cable or USB hub to increase the space between your wireless receiver and the USB3.2 or higher version of connection port.

2.2 Operating the Display

1 Description of the control buttons

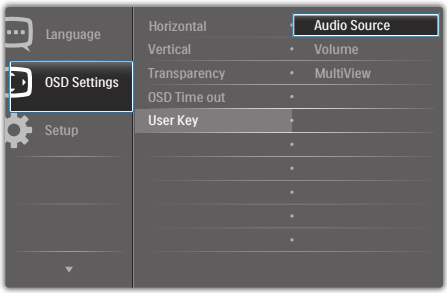


❶	⏻	Switch display's power ON or OFF.
❷	/OK	Access the OSD menu. Confirm the OSD adjustment.
❸	▲▼	Adjust the OSD menu.
❹	USER	User preference key. Customize your own preference function from OSD to become the “user key”.
❺		Change the signal input source.
❻		SmartImage hot key. There are 7 modes to select: Office, Photo, Movie, Game, Economy, SmartUniformity, Off.
❼	◀	Return to previous OSD level.

2 Customize your own “USER” key

This hot key allows you to setup your favorite function key.

1. Press the button to enter OSD menu screen.



2. Press ▲ or ▼ button to select main menu [OSD Settings], then press OK button.
3. Press ▲ or ▼ button to select [**User Key**], then press OK button.
4. Press ▲ or ▼ button to select your preferred function.
5. Press OK button to confirm your selection.

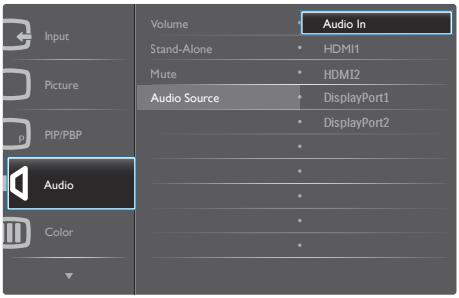
Now you can press the hotkey directly on the rear of the display. Only your pre-selected function will appear for quick access.

For example, if you selected [Audio Source] as the function, press OK, the [Audio Source] menu appears.

3 Independent audio playback, regardless of video input

Your Philips display can play the audio source independently under PIP / PBP mode, regardless of which video input. For example, you can play your MP3 player from the audio source connected to the [Audio In] port of this display, and still watch your video source connected from [HDMI], [DisplayPort].

1. Press the ☰ button to enter OSD menu screen.



2. Press ▲ or ▼ button to select main menu [Audio], then press OK button.
3. Press ▲ or ▼ to select [Audio Source], then press OK button.
4. Press ▲ or ▼ to select your preferred audio source: [Audio In], [HDMI1], [HDMI2], [DisplayPort1], [DisplayPort2].
5. Press OK button to confirm your selection.

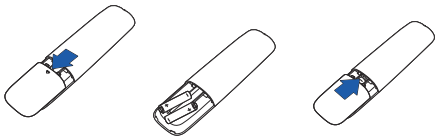
Note

The next time you turn on this display, it will by default select the audio source you previously selected. In case you want to change it, you will have to go through the selection steps again to select your new preferred audio source as the default.

4 The remote control is powered by two 1.5V AAA batteries.

To install or replace batteries:

1. Press and then slide the cover to open it.
2. Align the batteries according to the (+) and (–) indications inside the battery compartment.
3. Replace the cover.

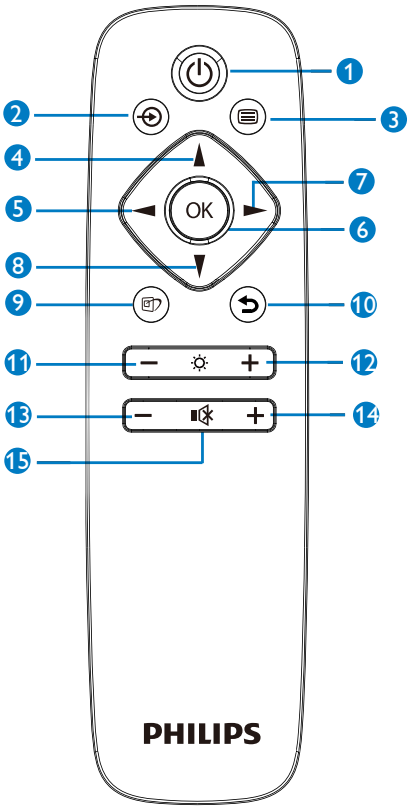


Note

The incorrect use of batteries can result in leaks or bursting. Be sure to follow these instructions:

- Place “AAA” batteries matching the (+) and (–) signs on each battery to the (+) and (–) signs of the battery compartment.
- Do not mix battery types.
- Do not combine new batteries with used ones. It causes shorter life or leakage of batteries.
- Remove the dead batteries immediately to prevent them from liquid leaking in the battery compartment. Don’t touch exposed battery acid, as it can damage your skin.
- If you do not intend to use the remote control for a long period, remove the batteries.

5 Description of the remote control buttons.



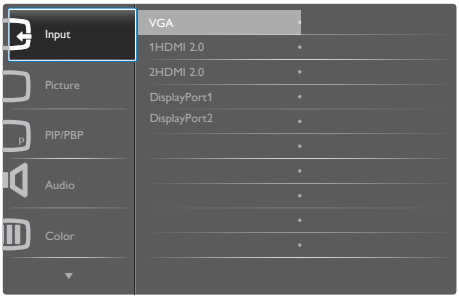
❶	⏻	Press to switch power on and off.
❷	⊕	Change the signal input source.
❸	☰	Access the OSD menu.
❹	▲	Adjust the OSD menu/ Turn up the values.
❺	◄	Return to previous OSD level.
❻	OK	Confirm the OSD adjustment.

❼	►	Access the OSD menu. Confirm the OSD adjustment.
❽	▼	Adjust the OSD menu / Turn down the values.
❾		SmartImage.There are multiple selections: Office, Photo, Movie, Game, Economy, SmartUniformity, Off.
❿	↩	Return to previous OSD level
⓫	−	Turn down the brightness
⓬	+	Turn up the brightness
⓭	−	Turn down the volume
⓮	+	Turn up the volume
⓯		Mute

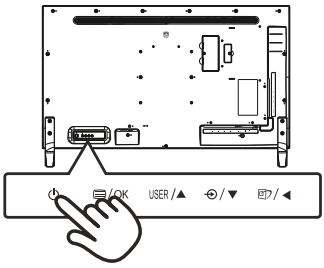
6 Description of the On Screen Display

What is On-Screen Display (OSD)?

On-Screen Display (OSD) is a feature in all Philips LCD displays. It allows an end user to adjust screen performance or select functions of the displays directly through an on-screen instruction window. A user friendly on screen display interface is shown as below:

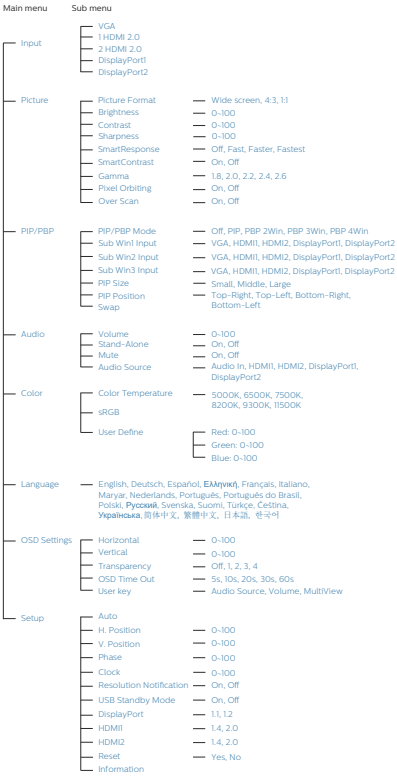


Basic and simple instruction on the control keys



The OSD Menu

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.

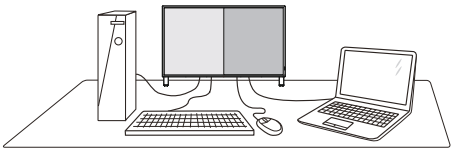


7 Resolution notification

This display is designed for optimal performance at its native resolution, 3840 x 2160. When the display is powered on at a different resolution, an alert is displayed on screen: Use 3840 x 2160 for best results.

Display of the native resolution alert can be switched off from Setup in the OSD (On Screen Display) menu.

2.3 MultiView



1 What is it?

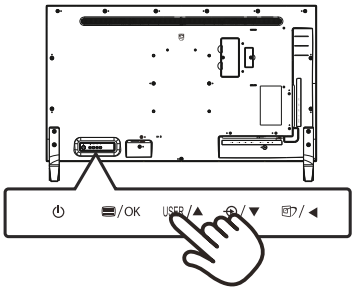
Multiview enables active dual connect and view so that you can work with multiple devices like PC and Notebook side-by-side simultaneously, making complex multi-tasking work a breeze.

2 Why do I need it?

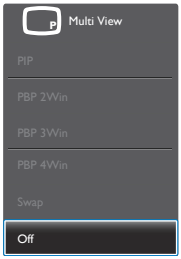
With the ultra high resolution Philips MultiView display, you can experience a world of connectivity in a comfortable way in the office or at home. With this display, you can conveniently enjoy multiple content sources at one screen. For example: You may want to keep an eye on the live news video feed with audio in the small window, while working on your latest blog, or you may want to edit an Excel file from your Ultrabook, while logged into secured company intranet to access files from a desktop.

3 How to enable MultiView by hotkey?

1. Customize your own “USER” key “ as Multiview hot key, press the button on the back cover.



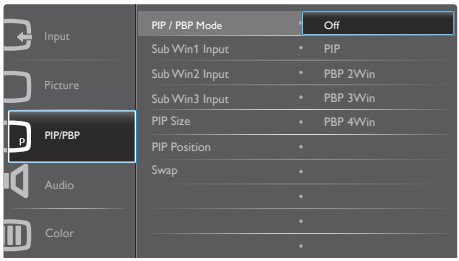
2. The MultiView selection menu appears. Press ▲ or ▼ to select.



3. Press OK button to confirm your selection.

4 How to enable MultiView by OSD menu?

1. Press the ☰ button to enter OSD menu screen.



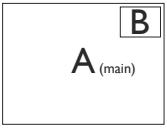
2. Press ▲ or ▼ to select main menu [PIP / PBP], then press OK button.
3. Press ▲ or ▼ to select [PIP / PBP Mode], then press OK button.
4. Press ▲ or ▼ to select [Off], [PIP], [PBP 2Win], [PBP 3Win] or [PBP 4Win], then press OK button.
5. Press OK button to confirm your selection.

5 MultiView in OSD menu

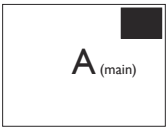
- PIP / PBP Mode: There are five modes for MultiView: [Off], [PIP], [PBP 2Win], [PBP 3Win] and [PBP 4Win].

[PIP]: Picture in Picture

Open up a sub-window side-by-side of other signal source.

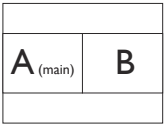


When the sub source is not detected:



[PBP 2Win]: Picture by Picture

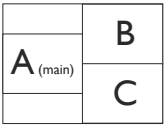
Open up a sub-window side-by-side of other signal sources.



When the sub source is not detected.

[PBP 3Win]: Picture by Picture

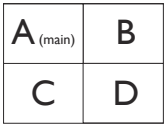
Open up two sub-windows of other sources.



When the sub sources are not detected.

[PBP 4Win]: Picture by Picture

Open up three sub-windows of other signal sources.

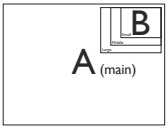


When the sub sources are not detected.

Note

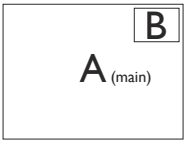
The black strip shows on the top and the bottom of the screen for the correct aspect ratio when in the PBP mode.

- PIP Size: When PIP is activated, there are three sub-window sizes to choose: [Small], [Middle], [Large].

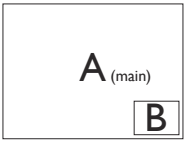


- PIP Position: When PIP is activated, there are four sub-window positions to choose.

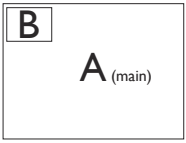
Top-Right



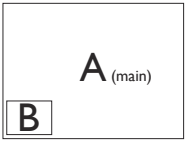
Bottom-Right



Top-Left

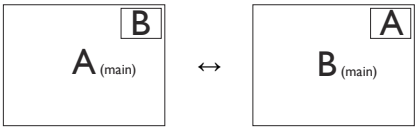


Bottom-Left



- Swap: The main picture source and the sub picture source swapped on the display.

  Swap A and B source in [PIP] mode:



- Off: Stop MultiView function.

MultiView	Inputs	SUB SOURCE POSSIBILITY (xl)				
		VGA	HDMI1	HDMI2	DisplayPort1	DisplayPort2
MAIN SOURCE (xl)	VGA	●	●	●	●	●
	HDMI1	●	●	●	●	●
	HDMI2	●	●	●	●	●
	DisplayPort1	●	●	●	●	●
	DisplayPort2	●	●	●	●	●

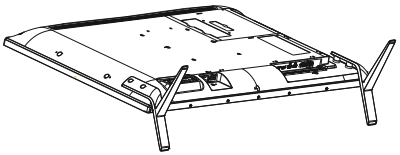
Note

1. When you do the SWAP function, the video and its audio source will swap at the same time.

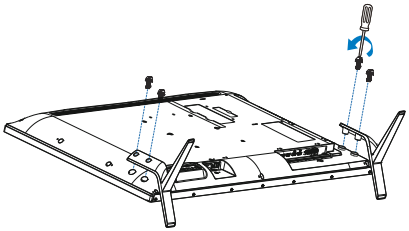
2.4 Remove the Base Assembly for VESA Mounting

Before you start disassembling the display base, please follow the instructions below to avoid any possible damage or injury.

1. Place the display face down on a smooth surface. Pay attention not to scratch or damage the screen.

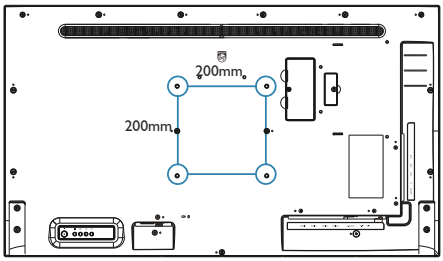


2. Loosen the assembly screws, then detach the bases from the display.



Note

This display accepts a 200mm x 200mm
VESA-Compliant mounting interface.



3. Image Optimization

3.1 SmartImage

1 What is it?

SmartImage provides presets that optimize display for different types of content, dynamically adjusting brightness, contrast, color and sharpness in real time. Whether you're working with text applications, displaying images or watching a video, Philips SmartImage delivers great optimized display performance.

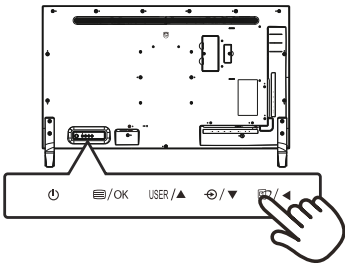
2 Why do I need it?

You want a display that delivers optimized display all your favorite types of content, SmartImage software dynamically adjust brightness, contrast, color and sharpness in real time to enhance your display viewing experience.

3 How does it work?

SmartImage is an exclusive, leading edge Philips technology that analyzes the content displayed on your screen. Based on a scenario you select, SmartImage dynamically enhances the contrast, color saturation and sharpness of images to enhance the contents being displayed - all in real time with the press of a single button.

4 How to enable SmartImage?



1. Press to launch the SmartImage on screen display.
2. Keep pressing ▲ ▼ to switch among Office, Photo, Movie, Game, Economy, SmartUniformity and Off.
3. The SmartImage on screen display will remain on screen for 5 seconds, or you can also press "OK" to make confirmation.

There are seven modes to select: Office, Photo, Movie, Game, Economy, SmartUniformity and Off.

- Office: Enhances text and dampens brightness to increase readability and reduce eye strain. This mode significantly enhances readability and productivity when you're working with spreadsheets, PDF files, scanned articles or other general office applications.
- Photo: This profile combines color saturation, dynamic contrast and sharpness enhancement to display photos and other images with outstanding clarity in vibrant colors - all without artifacts and faded colors.
- Movie: Ramped up luminance, deepened color saturation, dynamic contrast and razor sharpness displays every details in darker areas of your videos without

color washout in brighter areas maintaining a dynamic natural values for the ultimate video display.

- Game: Turn on over drive circuit for best response time, reduce jaggy edges for fast moving objects on screen, enhance contrast ratio for bright and dark scheme, this profile delivers the best gaming experience for gamers.
- Economy: Under this profile, brightness, contrast are adjusted and backlighting finetuned for just right display of everyday office applications and lower power consumption.
- SmartUniformity: Fluctuations in brightness on different parts of a screen are a common phenomenon among LCD displays. Typical uniformity is measured around 75-80%. By enabling Philips SmartUniformity feature, display uniformity is increased to above 95%. This produces more consistent and true images.
- Off: No optimization by SmartImage.

3.2 SmartContrast

1 What is it?

Unique technology that dynamically analyzes displayed content and automatically optimizes a display's contrast ratio for maximum visual clarity and viewing enjoyment, stepping up backlighting for clearer, crisper and brighter images or dimming backlighting for clear display of images on dark backgrounds.

2 Why do I need it?

You want the very best visual clarity and viewing comfort for every type of content. SmartContrast dynamically controls contrast and adjusts backlighting for clear, crisp, bright gaming and video images or displays clear, readable text for office work. By reducing your display's power consumption, you save on energy costs and extend the lifetime of your display.

3 How does it work?

When you activate SmartContrast, it will analyse the content you are displaying in real time to adjust colors and control backlight intensity. This function will dynamically enhance contrast for a great entertainment experience when viewing videos or playing games.

4. Technical Specifications

Picture/Display			
Display Panel Type	IPS LCD		
Backlight	W-LED system		
Panel Size	42.51" (108 cm)		
Aspect Ratio	16:9		
Pixel Pitch	0.2451 x 0.2451 mm		
Contrast ratio(typical)	1200:1		
Optimum Resolution	VGA: 1920 x 1080 @ 60Hz HDMI 2.0: 3840 x 2160 @ 60Hz HDMI 1.4: 3840 x 2160 @ 30Hz DisplayPort: 3840 x 2160 @ 60Hz		
Viewing Angle	178° (H) / 178° (V) @ C/R > 10 (Typ.)		
Picture Enhancement	SmartImage		
Display Colors	1.07G		
Vertical Refresh Rate	23-75Hz		
Horizontal Frequency	30-140KHz		
sRGB	YES		
SmartUniformity	YES		
Delta E	YES		
Flicker-free	YES		
Connectivity			
Signal Input	VGA (Analog), DisplayPort 1.2 x 2 , HDMI 2.0 x 2		
USB	Upstream: USB-B x 1 Downstream: USB3.2 x 4 (with x1 fast charge B.C 1.2)		
Input Signal	Separate Sync, Sync on Green		
Audio In/Out	PC audio-in, Audio out		
Convenience			
User convenience	/◄ /▼ USER /▲ /OK		
Built-in speaker	5 W x 2		
MultiView	PIP (2 x devices), PBP (4 x devices)		
OSD Languages	English, German, Spanish, Greek, French, Italian, Hungarian, Dutch, Portuguese, Brazil Portuguese, Polish, Russian, Swedish, Finnish, Turkish, Czech, Ukranian, Simplified Chinese, Traditional Chinese, Japanese, Korean		
Other Convenience	VESA mount (200 x 200 mm), Kensington Lock		
Plug & Play Compatibility	DDC/CI, sRGB, Windows 10/8.1/8/7, Mac OSX		
Power			
Power Consumption	AC Input Voltage at 100VAC , 50Hz	AC Input Voltage at 115VAC , 60Hz	AC Input Voltage at 230VAC, 50Hz
Normal Operation	100.8 W (typ.)	100.0 W (typ.)	99.0 W (typ.)

Sleep (Standby mode)	0.3 W	0.3 W	0.3 W
Off mode	0.3 W	0.3 W	0.3 W
Off mode(AC switch)	0 W	0 W	0 W
Heat Dissipation*	AC Input Voltage at 100VAC , 50Hz	AC Input Voltage at 115VAC , 60Hz	AC Input Voltage at 230VAC , 50Hz
Normal Operation	344.03 BTU/hr (typ.)	341.30 BTU/hr (typ.)	337.88 BTU/hr (typ.)
Sleep (Standby mode)	1.02 BTU/hr	1.02 BTU/hr	1.02 BTU/hr
Off mode	1.02 BTU/hr	1.02 BTU/hr	1.02 BTU/hr
Off mode(AC switch)	0 BTU/hr	0 BTU/hr	0 BTU/hr
On Mode(ECO mode)	53.3 W (typ.)		
Power LED indicator	On mode: White, Standby/Sleep mode: White (blinking)		
Power Supply	Built-in, 100-240VAC, 50-60Hz		

Dimensions	
Product with stand (WxHxD)	973 x 633 x 259 mm
Product without stand (WxHxD)	973 x 561 x 64 mm
Product with packaging (WxHxD)	1070 x 680 x 186 mm
Weight	
Product with stand	11.78 kg
Product without stand	11.06 kg
Product with packaging	14.738 kg

Operating Condition	
Temperature range (operation)	0°C to 40 °C
Relative humidity (operation)	20% to 80%
Atmospheric pressure (operation)	700 to 1060hPa
Temperature range (Non-operation)	-20°C to 60°C
Relative humidity (Non-operation)	10% to 90%
Atmospheric pressure (Non-operation)	500 to 1060hPa

Environmental	
ROHS	YES
Packaging	100% recyclable
Specific Substances	100% PVC BFR free housing

Cabinet	
Color	Black
Finish	glossy and texture

Note

1. This data is subject to change without notice. Go to www.philips.com/support to download the latest version of leaflet.
2. SmartUniformity and Delta E information sheets are included in the box.

4.1 Resolution & Preset Modes

1 Maximum Resolution
1920 x 1080 @ 60 Hz (analog input)
3840 x 2160 @ 60 Hz (digital input)

2 Recommended Resolution
1920 x 1080 @ 60 Hz (analog input)
3840 x 2160 @ 60 Hz (digital input)

H. freq (kHz)	Resolution	V. freq (Hz)
31.47	720 x 400	70.09
31.47	640 x 480	59.94
35.00	640 x 480	66.67
37.86	640 x 480	72.81
37.50	640 x 480	75.00
37.88	800 x 600	60.32
46.88	800 x 600	75.00
48.36	1024 x 768	60.00
60.02	1024 x 768	75.03
44.77	1280x 720	59.86
63.89	1280 x 1024	60.02
79.98	1280 x 1024	75.03
55.94	1440 x 900	59.89
70.64	1440 x 900	74.98
65.29	1680 x 1050	59.95
67.50	1920 x 1080	60.00
67.50	3840 x 2160	30.00
135.00	3840 x 2160	60.00
133.29	1920 x 2160 PBP mode (2 Win)	59.99

3 Video Timing

Resolution	V. freq (Hz)
640 x 480P	59.94/60Hz 4:3
720 x 576P	50Hz 4:3
720 x 576P	50Hz 16:9
720 x 480P	59.94/60Hz 16:9
720 x 480P	59.94/60Hz 4:3
920 x 1080P	50Hz 16:9
1280 x 720P	50Hz 16:9
1280 x 720P	59.94/60Hz 16:9
1920 x 1080P	59.94/60Hz 16:9
1920 x 1080P	59.94/60Hz 16:9
1920 x 1080I	59.94/60Hz 16:9
1920 x1 080I	50Hz 16:9
3840 x 2160P	60Hz 16:9
3840 x 2160P	50Hz 16:9
3840 x 2160P	30Hz 16:9
3840 x 2160P	25Hz 16:9
3840 x 2160P	24Hz 16:9

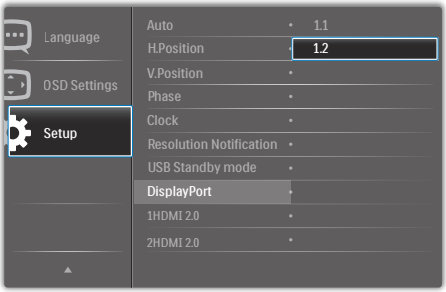
Note

1. For best display quality, please follow this resolution recommendation.
   Recommended resolution
   VGA: 1920 x 1080 @ 60Hz,
   HDMI 1.4: 3840 x 2160 @ 30Hz,
   HDMI 2.0: 3840 x 2160 @ 60Hz,
   DP v1.1: 3840 x 2160 @ 30Hz,
   DP v1.2: 3840 x 2160 @ 60Hz

2. The factory default setting DisplayPort v1.1 supports to the resolution 3840 x 2160 @ 30Hz.

   For optimized resolution 3840 x 2160 @ 60Hz, please enter to OSD menu and change the setting to DisplayPort v1.2, also please make sure your graphic card supports DisplayPort v1.2.

   Setting path: [OSD] / [Setup] / [DisplayPort] / [1.1, 1.2].



5. Power Management

If you have VESA DPM compliance display card or software installed in your PC, the display can automatically reduce its power consumption when not in use. If an input from a keyboard, mouse or other input device is detected, the display 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	100 W (typ.) 179 W (max.)	White
Sleep (Standby mode)	OFF	No	No	0.3 W	White (blink)
Off mode (AC switch)	OFF	-	-	0 W	OFF

The following setup is used to measure power consumption on this display.

- Native resolution: 3840 x 2160
- Contrast: 50%
- Brightness: 70%
- Color temperature: 6500k with full white pattern

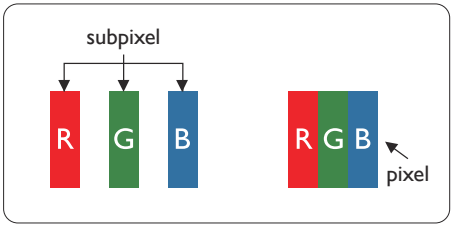
Note

This data is subject to change without notice.

6. Customer care and warranty

6.1 Philips' Flat Panel Displays Pixel Defect Policy

Philips strives to deliver the highest quality products. We use some of the industry's most advanced manufacturing processes and practice stringent quality control. However, pixel or sub pixel defects on the TFT display panels used in flat panel displays are sometimes unavoidable. No manufacturer can guarantee that all panels will be free from pixel defects, but Philips guarantees that any display 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 display panel must exceed these acceptable levels. For example, no more than 0.0004% of the sub pixels on a display 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

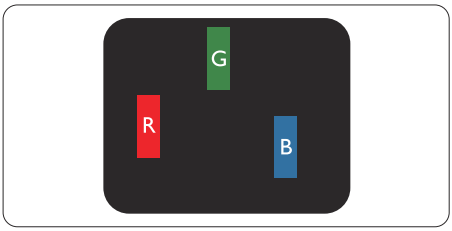
A pixel, or picture element, is composed of three sub pixels in the primary colors of red, green and blue. Many pixels together form an image. When all sub pixels of a pixel are lit, the three colored sub pixels together appear as a single white pixel. When all are dark, the three colored sub pixels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

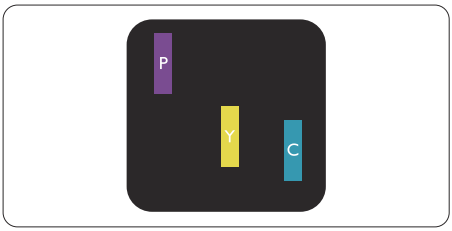
Pixel and sub pixel defects appear on the screen in different ways. There are two categories of pixel defects and several types of sub pixel defects within each category.

Bright Dot Defects

Bright dot defects appear as pixels or sub pixels that are always lit or 'on'. That is, a bright dot is a sub-pixel that stands out on the screen when the display displays a dark pattern. There are the types of bright dot defects.

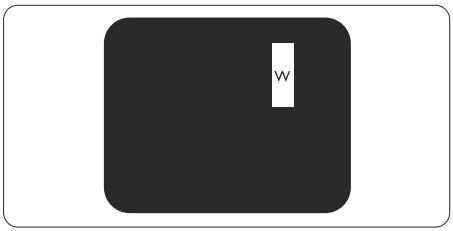


One lit red, green or blue sub pixel.



Two adjacent lit sub pixels:
- Red + Blue = Purple

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



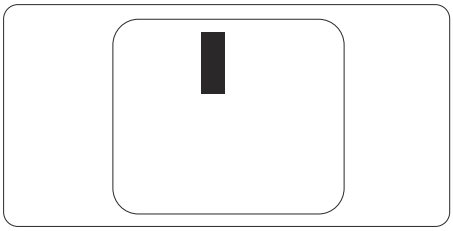
Three adjacent lit sub pixels (one white pixel).

Note

A red or blue bright dot must be more than 50 percent brighter than neighboring dots while a green bright dot is 30 percent brighter than neighboring dots.

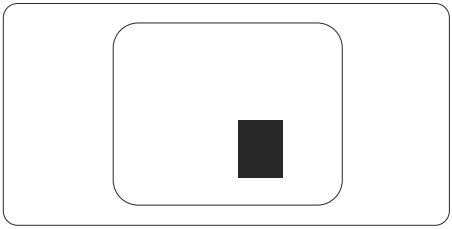
Black Dot Defects

Black dot defects appear as pixels or sub pixels that are always dark or 'off'. That is, a dark dot is a sub-pixel that stands out on the screen when the display displays a light pattern. These are the types of black dot defects.



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 display panel in a Philips flat panel display must have pixel or sub pixel defects exceeding the tolerances listed in the following tables.

BRIGHT DOT DEFECTS	ACCEPTABLE LEVEL
1 lit subpixel	2
2 adjacent lit subpixels	0
3 adjacent lit subpixels (one white pixel)	0
Total bright dot defects of all types	12

BLACK DOT DEFECTS	ACCEPTABLE LEVEL
1 dark subpixel	12 or fewer
2 adjacent dark subpixels	3 or fewer
3 adjacent dark subpixels	2
Distance between two black dot defects*	>=20mm
Total black dot defects of all types	12 or fewer

TOTAL DOT DEFECTS	ACCEPTABLE LEVEL
Total bright or black dot defects of all types	12 or fewer

Note

1. 1 or 2 adjacent sub pixel defects = 1 dot defect

6.2 Customer Care & Warranty

For warranty coverage information and additional support requirements valid for your region, please visit www.philips.com/support website for details or contact your local Philips Customer Care Center.

For extended warranty, if you would like to extend your general warranty period, an Out of Warranty service package is offered via our Certified Service Center.

If you wish to make use of this service, please be sure to purchase the service within 30 calendar days of your original purchase date. During the extended warranty period, the service includes pickup, repair and return service, however the user will be responsible for all costs accrued.

If the Certified Service Partner cannot perform the required repairs under the offered extended warranty package, we will find alternative solutions for you, if possible, up to the extended warranty period you have purchased.

Please contact our Philips Customer Service Representative or local contact center (by Consumer care number) for more details.

Philips Customer Care Center number listed below.

• Local Standard Warranty Period	• Extended Warranty Period	• Total Warranty Period
• Depend on different Regions	• + 1 Year	• Local Standard warranty period +1
	• + 2 Years	• Local Standard warranty period +2
	• + 3 Years	• Local Standard warranty period +3

**Proof of original purchase and extended warranty purchase required.

Note

1. Please refer to important information manual for regional service hotline, which is available on the Philips website support page.
2. Spare parts are available for use in the repair of the product for minimum three-year from your original purchase date or 1 year after the end of production, whichever is longer.

7. Troubleshooting & FAQs

7.1 Troubleshooting

This page deals with problems that can be corrected by a user. If the problem still persists after you have tried these solutions, contact Philips customer service representative.

1 Common Problems

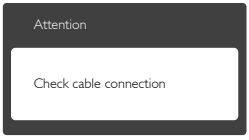
No Picture (Power LED not lit)

- Make sure the power cord is plugged into the power outlet and into the back of the display.
- First, ensure that the power button on the rear of the monitor is in the OFF position, then press it to the ON position.

No Picture (Power LED is White)

- Make sure the computer is turned on.
- Make sure the signal cable is properly connected to your computer.
- Make sure the display cable has no bent pins on the connect side. If yes, repair or replace the cable.
- The Energy Saving feature may be activated

Screen says



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

AUTO button doesn't function

- The auto function is applicable only in VGA-Analog mode. If the result is not satisfactory, you can do manual adjustments via the OSD menu.

Note

The Auto Function is not applicable in DVI-Digital mode as it is not necessary.

Visible signs of smoke or sparks

- Do not perform any troubleshooting steps
- Disconnect the display from mains power source immediately for safety
- Contact with Philips customer service representative immediately.

2 Imaging Problems

Image is not centered

- Adjust the image position using the “Auto” function in OSD Main Controls.
- Adjust the image position using the Phase/Clock of Setup in OSD Main Controls. It is valid only in VGA mode.

Image vibrates on the screen

- Check that the signal cable is properly securely connected to the graphics board or PC.

Vertical flicker appears

- Adjust the image using the “Auto” function in OSD Main Controls.

- Eliminate the vertical bars using the Phase/Clock of Setup in OSD Main Controls. It is valid only in VGA mode.

Horizontal flicker appears

- Adjust the image using the “Auto” function in OSD Main Controls.
- Eliminate the vertical bars using the Phase/Clock of Setup in OSD Main Controls. It is valid only in VGA mode.

Image appears blurred, indistinct or too dark

- Adjust the contrast and brightness on On-Screen Display.

An "after-image", "burn-in" or "ghost image" remains after the power has been turned off.

- Uninterrupted display of still or static images over an extended period may cause "burn in", also known as "after-imaging " or "ghost imaging", on your screen. "Burn-in", "after-imaging", or "ghost imaging" is a well-known phenomenon in LCD panel technology. In most cases, the "burned in" or "after-imaging" or "ghost imaging" will disappear gradually over a period of time after the power has been switched off.
- Always activate a moving screen saver program when you leave your display unattended.
- Always activate a periodic screen refresh application if your LCD display will display unchanging static content.
- Failure to activate a screen saver, or a periodic screen refresh application may result in severe “burn-in” or “after-image” or “ghost image” symptoms that will not disappear and cannot be repaired. The damage mentioned above is not covered under your warranty.

Image appears distorted. Text is fuzzy or blurred.

- Set the PC’s display resolution to the same mode as display’s recommended screen native resolution.

Green, red, blue, dark, and white dots appears on the screen

- The remaining dots are normal characteristic of the liquid crystal used in today’s technology, Please refer the pixel policy for more detail.

For further assistance, refer to the Service contact information listed in Important information manual and contact Philips customer service representative.

7.2 General FAQs

Q1: When I install my display what should I do if the screen shows 'Cannot display this video mode'?

Ans.: Recommended resolution for this display: 3840 x 2160 @ 60 Hz.

- Unplug all cables, then connect your PC to the display that you used previously.
- 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 setting tab, in box

labelled 'desktop area', move the sidebar to 3840 x 2160 pixels.

- Open 'Advanced Properties' and set the Refresh Rate to 60 Hz, then click OK.
- Restart your computer and repeat step 2 and 3 to verify that your PC is set at 3840 x 2160 @ 60 Hz.
- Shut down your computer, disconnect your old display and reconnect your Philips LCD display.
- Turn on your display and then turn on your PC.

Q2: What is the recommended refresh rate for LCD display?

Ans.: Recommended refresh rate in LCD displays is 60 Hz, In case of any disturbance on screen, you can set it up to 75 Hz to see if that removes the disturbance.

Q3: What are the .inf and .icm files on the CD-ROM? How do I install the drivers (.inf and .icm)?

Ans.: 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 .icm files) or a driver disk when you first install your monitor. Follow the instructions to insert the companion CD-ROM included in this package. Monitor drivers (.inf and .icm files) will be installed automatically.

Q4: How do I adjust the resolution?

Ans.: Your video card/graphic driver and display together determine the available resolutions. You can select the desired resolution under Windows® Control Panel with the "display properties".

Q5: What if I get lost when I am making display adjustments via OSD?

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

Q6: Is the LCD screen resistant to scratches?

Ans.: In general it is recommended that the panel surface is not subjected to excessive shocks and is protected from sharp or blunt objects. When handling the display, make sure that there is no pressure or force applied to the panel surface side. This may affect your warranty conditions.

Q7: How should I clean the LCD surface?

Ans.: 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.

Q8: Can I change the color setting of my display?

Ans.: Yes, you can change your color setting through OSD control as the following procedures,

- Press "OK" to show the OSD (On Screen display) menu
- Press "▼" to select the option "Color" then press "OK" to enter color setting, there are three settings as below.
  1. Color Temperature: The six settings are 5000K, 6500K, 7500K, 8200K, 9300K and 11500K. With settings in the 5000K range the panel appears "warm, with a red-white color tone", while a 11500K

temperature yields "cool, bluewhite toning".

2. sRGB: This is a standard setting for ensuring correct exchange of colors between different device (e.g. digital cameras, Displays, printers, scanners, etc).
3. User Define: The user can choose his/her preference color setting by adjusting red, green blue color.

Note

A measurement of the color of light radiated by an object while it is being heated. This measurement is expressed in terms of absolute scale, (degrees Kelvin). Lower Kevin temperatures such as 2004K are red; higher temperatures such as 9300K are blue. Neutral temperature is white, at 6504K.

Q9: Can I connect my LCD display to any PC, workstation or Mac?

Ans.: Yes. All Philips LCD displays are fully compatible with standard PCs, Macs and workstations. You may need a cable adapter to connect the display to your Mac system. Please contact your Philips sales representative for more information.

Q10: Are Philips LCD displays Plug-and- Play?

Ans.: Yes, the displays are Plug-and-Play compatible with Windows 10/8.1/8/7.

Q11: What is Image Sticking, or Image Burn-in, or After Image, or Ghost Image in LCD panels?

Ans.: Uninterrupted display of still or static images over an extended period may cause "burn in", also known as "after-imaging" or "ghost imaging", on your screen. "Burn-in", "after-imaging", or "ghost imaging" is a well-known phenomenon in LCD panel technology. In most cases, the "burned in" or "after-imaging" or "ghost imaging" will disappear gradually over a period of time after the power has been switched off.
Always activate a moving screen saver program when you leave your display unattended.
Always activate a periodic screen refresh application if your LCD display will display unchanging static content.

Warning

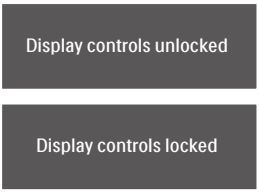
Failure to activate a screen saver, or a periodic screen refresh application may result in severe “burn-in” or “after-image” or “ghost image” symptoms that will not disappear and cannot be repaired. The damage mentioned above is not covered under your warranty.

Q12: Why is my display not showing sharp text, and is displaying jagged characters?

Ans.: Your LCD display works best at its native resolution of 3840 x 2160 @ 60 Hz. For best display, please use this resolution.

Q13: How to unlock/lock my hot key?

Ans.: To lock the OSD, press and hold the ☰/OK button while the monitor is off and then press ⏻ button to turn the monitor on.
To un-lock the OSD, press and hold the ☰/OK button while the monitor is off and then press ⏻ button to turn the monitor on.



7.3 Multiview FAQs

Q1: Can I enlarge the PIP sub window ?

Ans.: Yes, there are 3 sizes to select: [Small], [Middle], [Large]. You can press ☰ to enter OSD menu. Select your preferred [PIP Size] option from the [PIP / PBP] main menu.

Q2: How to listen to Audio, independent of video?

Ans.: Normally the audio source is linked to the main picture source. If you want to change audio-source input (for example: listen to your MP3 player independently regardless of the video source input), you can press ☰ to enter OSD menu. Select your preferred [Audio Source] option from the [Audio] main menu.

Please note that the next time you turn on your display, the display will by default select the audio source you chose last time. In case you want to change it again, you need to go through the above steps to select your new preferred audio source, which then will become the “default” mode.

Q3: Why the sub-windows flickers when I enable PIP/PBP.

Ans: It’s because the sub-windows video source is interlace timing(i-timing), please change sub-window signal source to be progressive timing(P-timing).

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