PHILIPS

Brilliance

328P6

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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 display. Take time to read this user's manual before you use your display. It contains important information and notes regarding the operation of your display.

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 display.

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.
- Excessive usage of monitor can cause eye discomfort, it's better to take shorter breaks more often at your workstation than longer breaks and less often; for example a 5-10 minute break after 50-60-minute continuous screen use is likely to be better than a 15-minute break every two hours. Try to keep your eyes from eye strain while using the screen for a constant period of time by :

- Looking at something varying distances after a long period focusing on the screen.
- Conscious Blinking often while you work.
- Gently closing and rolling your eyes to relax.
- Reposition your screen to appropriate height and angle according to your height.
- Adjusting the brightness and contrast to appropriate level.
- Adjusting the environment lighting similar to that of your screen brightness, avoid the fluorescent lighting, and surfaces that don't reflect too much light.
- Seeing a doctor if your symptoms.

- Maintenance
- To protect your display from possible damage, do not put excessive pressure on the LCD panel. When moving your display, grasp the frame to lift; do not lift the display by placing your hand or fingers on the LCD panel.
- Unplug the display if you are not going to use it for an extensive period of time.
- Unplug the display 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 display.
- To avoid the risk of shock or permanent damage to the set, do not expose the display to dust, rain, water, or excessive moisture environment.
- If your display gets wet, wipe it with dry cloth as soon as possible.
- If foreign substance or water gets in your display, 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 display in locations exposed to heat, direct sunlight or extreme cold.
- In order to maintain the best performance of your display and use it for a longer lifetime, please use the display 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 display unattended. Always activate a periodic screen refresh application if your display 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 display in a car/ trunk under direct sun light.

Note

Consult a service technician if the display 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 display 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 display 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.

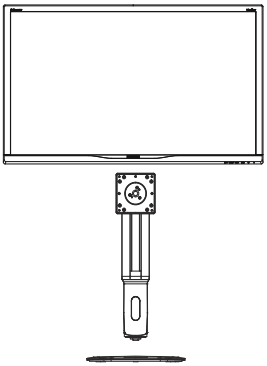
To learn more about our recycling program please visit

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

2. Setting up the display

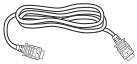
2.1 Installation

1 Package contents



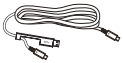
* CD

Power Cord

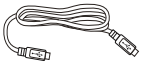


* HDMI

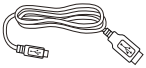
* DP



*USB C-C/A



*USB C-C

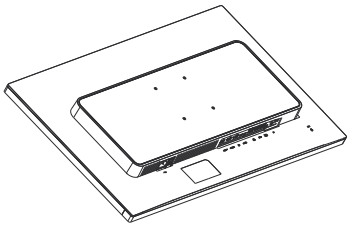


*USB C-A

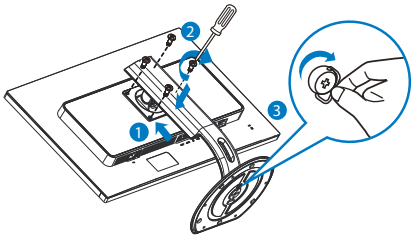
*Different according to region.

2 Install the base

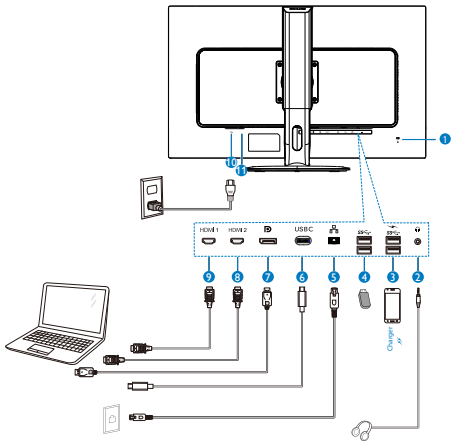
1. Place the display face down on a smooth surface. Pay attention not to scratch or damage the screen.

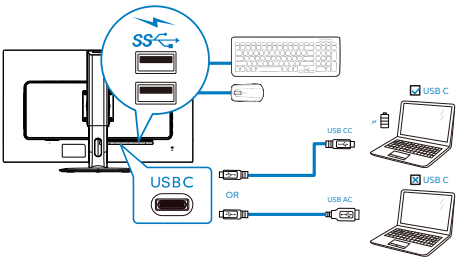


2. Hold the neck with both hands.
   (1) Gently attach the neck to the VESA mount area until the latch locks the neck.
   (2) Use a screwdriver to tighten the assembly screws, and secure the neck to the display tightly.
   (3) Use your fingers to tighten the screw located at the bottom of the base, and secure the base to the stand tightly.



3 Connecting to your PC





1. Kensington anti-theft lock
2. Earphone jack
3. USB fast charger
4. USB downtream
5. RJ-45 input
6. USB Type C input/Upstream
7. Display port input
8. HDMI2 input
9. HDMI1 input
10. AC power input
11. Power Switch

Connect to PC

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

4 USB C driver installation for RJ45

Before using the USB C docking display, please ensure to install the USB C driver.

You can find the “LAN Drivers” from CD disk if bundled or directly download using the link below:

https://www.realtek.com/zh-tw/component/zoo/category/network-interface-controllers-10-100-1000m-gigabit-ethernet-usb-3-0-software

Please follow the steps for the installation:

1. Install the LAN driver that matches your system.
2. Double click driver to install, and follow Window’s instructions to proceed with installation.
3. It will show “success” when the installation is finished.
4. You must reboot your computer after the installation has completed.
5. Now you will be able to see “Realtek USB Ethernet Network Adapter” from your program installed list.
6. We recommend to periodically visit the above web link to check for the availability of the most updated driver.

Note

Please contact Philips service hotline for Mac address clone tool as necessary.

5 USB hub

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

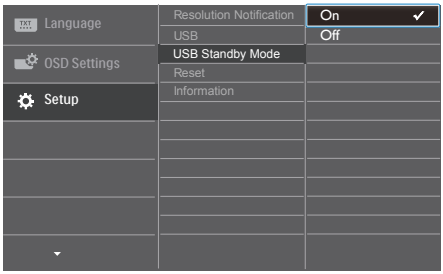
Connected USB devices will not work in this state.

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.

6 USB charging

This display has USB ports capable of standard power output including some with USB Charging function (identifiable with power icon). 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.

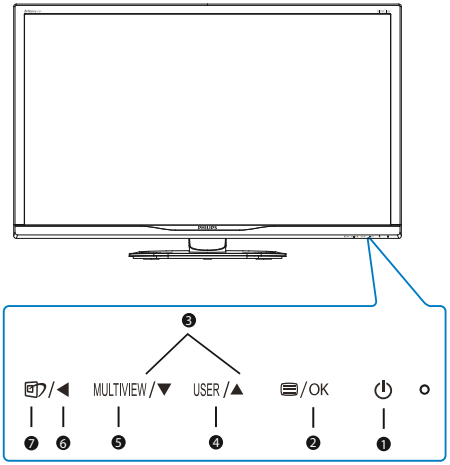


Note

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

2.2 Operating the display

1 Description of the control buttons

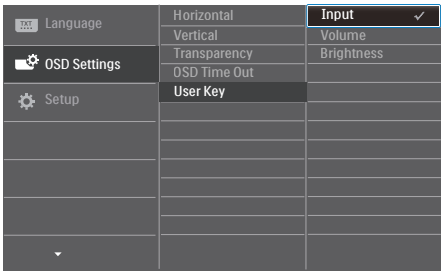


1	⏻	Switch display's power ON or OFF.
2	/OK	Access the OSD menu. Confirm the OSD adjustment.
3	▲▼	Adjust the OSD menu.
4	USER	User preference key. Customize your own preference function from OSD to become the "user key".
5	MULTIVIEW	PIP/PBP/Off/Swap.
6	◀	Return to previous OSD level.
7		SmartImage hot key. There are multiple modes to select: EasyRead, Office, Photo, Movie, Game, Economy, LowBlue Mode, SmartUniformity, Off.

2 Customize your own "USER" key

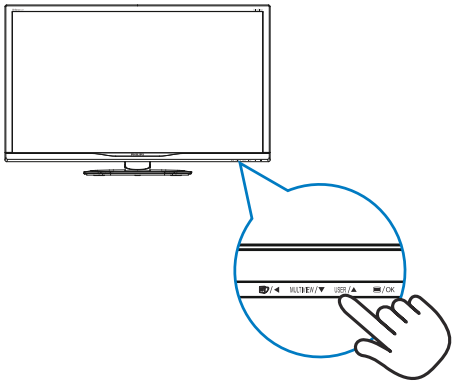
This hot key allows you to setup your favorite function key.

1. Press ☰ button on the front bezel 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**], then press OK button.
4. Press ▲ or ▼ button to select your preferred function: [**Input**], [**Volume**], or [**Brightness**].
5. Press OK button to confirm your selection.

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



3 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

In the OSD shown above, you can press ▼▲ buttons at the front bezel of the display to move the cursor, and press OK button to confirm the choice or change.

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.

Main menu	Sub menu	
LowBlue Mode	On	1, 2, 3, 4
	Off	
Input	1 HDMI 2.0	
	2 HDMI 2.0	
	DisplayPort	
	USB C	
Picture	HDR	Normal ,VESA HDR 600 ,Off
	Picture Format	Wide screen, 4:3, 1:1
	Brightness	0~100
	Contrast	0~100
	Sharpness	0~100
	SmartResponse	Off, Fast, Faster, Fastest
	SmartContrast	On, Off
	Gamma	1.8, 2.0, 2.2, 2.4, 2.6
	Pixel Orbiting	On, Off
	Over Scan	On, Off
PIP/PBP	PIP / PBP Mode	Off, PIP, PBP
	PIP/ PBP Input	1 HDMI 2.0 ,2 HDMI 2.0 ,DisplayPort , USB C
	PIP Size	Small, Middle, Large
	PIP Position	Top-Right, Top-Left, Bottom-Right, Bottom-Left
	Swap	
Audio	Volume	0~100
	Mute	On, Off
Color	Color Temperature	Native, 5000K, 6500K, 7500K, 8200K, 9300K, 11500K
	sRGB	
	User Define	Red: 0~100
		Green: 0~100
		Blue: 0~100
Language	English, Deutsch, Español, Ελληνική, Français, Italiano, Maryar, Nederlands, Português, Português do Brasil, Polski, Русский, Svenska, Suomi, Türkçe, Čeština, Українська, 简体中文, 繁體中文, 日本語, 한국어	
OSD Settings	Horizontal	0~100
	Vertical	0~100
	Transparency	Off, 1, 2, 3, 4
	OSD Time Out	5s, 10s, 20s, 30s, 60s
	User Key	Input, Volume, Brightness
Setup	Resolution Notification	On, Off
	USB	USB 3.0, USB 2.0
	USB Standby Mode	On, Off
	Reset	Yes, No
	Information	

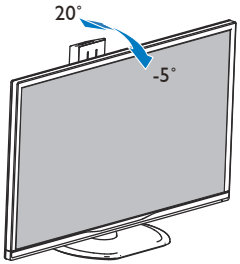
4 Resolution notification

This display is designed for optimal performance at its native resolution, 3840 x 2160 @ 60 Hz. When the display is powered on at a different resolution, an alert is displayed on screen: Use 3840 x 2160 @ 60 Hz for best results.

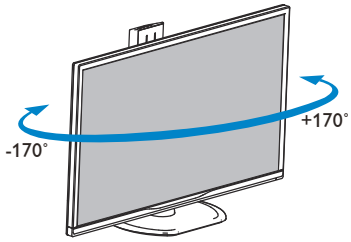
Display of the native resolution alert can be switched off from Setup in the OSD (On Screen Display) menu.

5 Physical Function

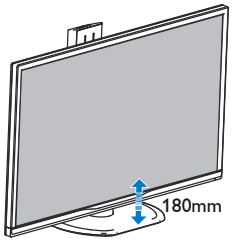
Tilt



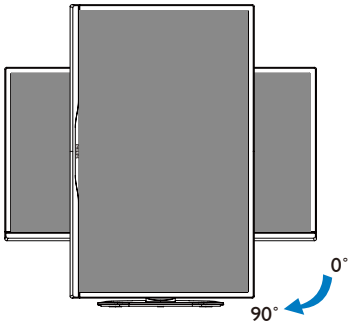
Swivel



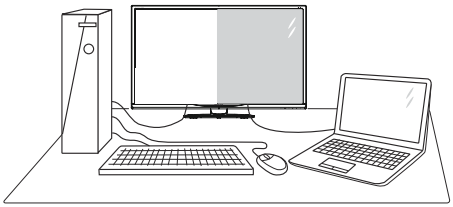
Height adjustment



Pivot



2.3 MultiView



1 What is it?

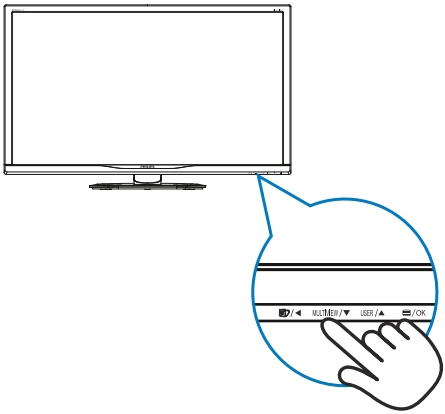
Multiview enables active dual connect and view so that you can work with multiple devices like PC and Notebook side-by-side simultaneously, making complex multi-tasking work a breeze.

2 Why do I need it?

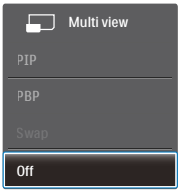
With the ultra high resolution Philips MultiView display, you can experience a world of connectivity in a comfortable way in the office or at home. With this display, you can conveniently enjoy multiple content sources at one screen. For example: You may want to keep an eye on the live news video feed 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. Press the hotkey MULTIVIEW directly on the front bezel.



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

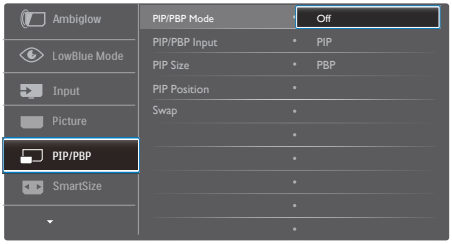


2. Press OK button to confirm your selection and then exit automatically.

4 How to enable MultiView by OSD menu?

Besides pressing the hotkey MULTIVIEW directly on the front bezel, the Multi-View function can also be selected in OSD menu.

1. Press ☰ button on the front bezel to enter OSD Menu Screen.



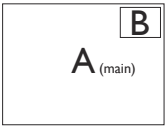
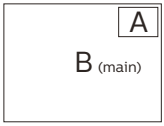
- Press ▲ or ▼ button to select main menu [**PIP / PBP**], then press OK button.
- Press ▲ or ▼ button to select [**PIP / PBP Mode**], then press OK button.
- Press ▲ or ▼ button to select [**PIP**] or [**PBP**].
- Now you can move backward to set the [**PIP / PBP Input**], [**PIP Size**], [**PIP Position**] or [**Swap**].

2. Press OK button to confirm your selection.

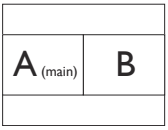
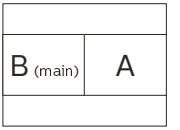
5 MultiView in OSD menu

- **PIP / PBP Mode**: There are two modes for MultiView: [**PIP**] and [**PBP**].

[**PIP**]: Picture in Picture

Open up a sub-window of another signal source.	
When the sub source is not detected:	

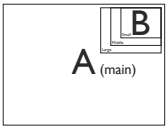
[**PBP**]: Picture by Picture

Open up a sub-window side-by-side of another signal source.	
When the sub source is not detected:	

Note

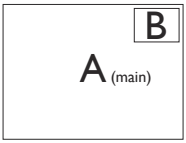
The black strip shows on the top and the bottom of the screen for the correct aspect ratio when in the PBP mode.

- **PIP / PBP Input**: There are four different video input to choose as the sub display source: [**1 HDMI 2.0**], [**2 HDMI 2.0**], [**DisplayPort**] and [**USB C**].
- **PIP Size**: When PIP is activated, there are three sub-window sizes to choose: [**Small**], [**Middle**], [**Large**].

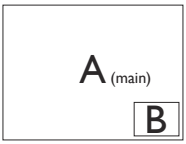


- **PIP Position**: When PIP is activated, there are two sub-window positions to choose.

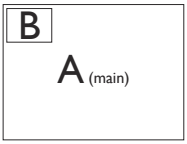
Top-Right



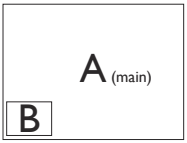
Bottom-Right



Top-Left

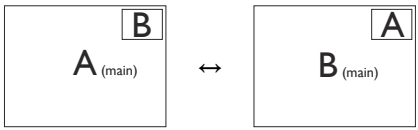


Bottom-Left

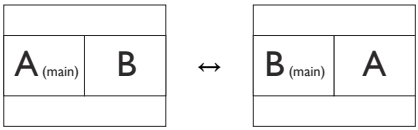


Swap: The main picture source and the sub picture source swapped on the display.

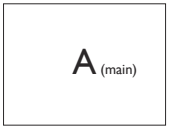
Swap A and B source in [**PIP**] mode:



Swap A and B source in [**PBP**] mode:



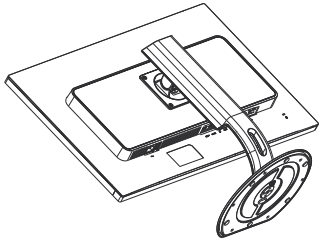
- **Off:** Stop MultiView function.



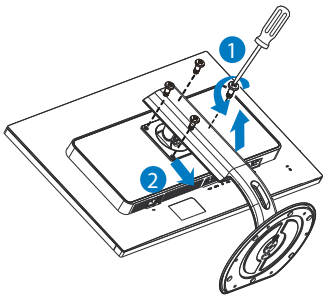
2.4 Remove the Base Assembly for VESA Mounting

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.

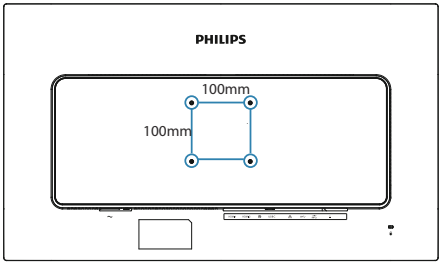


2. Loosen the assembly screws, then detach the neck from the display.



Note

This display accepts a 100mm x 100mm 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.

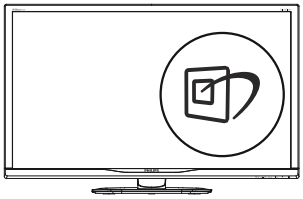
2 Why do I need it?

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?

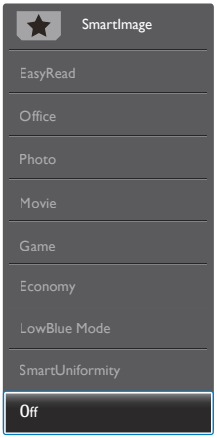
SmartImage is an exclusive, leading edge Philips technology that analyzes the content displayed on your screen. Based on a scenario you select, SmartImage dynamically enhances the contrast, color saturation and sharpness of images to enhance the contents being displayed - all in real time with the press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

4 How to enable SmartImage?



1. Press to launch the SmartImage on screen display.
2. Keep pressing ▼▲ to toggle 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 multiple modes to select: EasyRead, Office, Photo, Movie, Game, Economy, LowBlue Mode, SmartUniformity and Off.



- **EasyRead:** Helps improve reading of text based application like PDF ebooks. By using a special algorithm which increases the contrast and boundary sharpness of text content, the display is optimized for a stress-free reading by adjusting the brightness, contrast and color temperature of the monitor.
- **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.
- **LowBlue Mode:** LowBlue Mode for easy on-the-eyes productivity Studies have shown that just as ultra-violet rays can cause eye damage, shortwave length blue light rays from LED displays can cause eye damage and affect vision over time. Developed for wellbeing, Philips LowBlue Mode setting uses a smart software technology to reduce harmful shortwave blue light.
- **SmartUniformity:** Fluctuations in brightness and color 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.

Note

Philips LowBlue mode, mode 2 compliance with TUV Low Blue Light certification, you can have this mode by simply press the hotkey , then press ▲to select LowBlue Mode, see above SmartImage selection steps.

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. HDR

HDR Settings in Windows10 system.

Steps

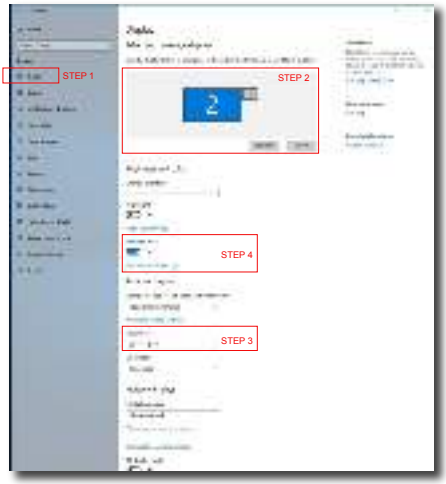
1. Right click on the desk top, enter to Display settings.
2. Select the display/monitor.
3. Adjust resolution to 3840 x 2160
4. Turn the “HDR and WCG” to on mode.
5. Adjust Brightness for SDR content.

Note

Windows10 edition is required; always upgrade to the most updated version.

Below linkage is for the further more information from mircrosoft official website.

https://support.microsoft.com/en-au/help/4040263/windows-10-hdr-advanced-color-settings



5. Technical Specifications

Picture/Display	
Display Panel Type	VA
Backlight	W-LED system
Panel Size	31.5" W (80 cm)
Aspect Ratio	16:9
Pixel Pitch	0.181 x 0.181 mm
Contrast ratio (typical)	3000:1
Optimum Resolution	HDMI/DisplayPort/USB type-C: 3840 x 2160 @ 60Hz
Viewing Angle	178° (H) / 178° (V) @ C/R > 10 (Typ.)
Picture Enhancement	SmartImage
Display Colors	1.07G (10 bits)
Vertical Refresh Rate	23-80 Hz
Horizontal Frequency	30-160KHz
sRGB	YES
Color Gamut	YES
HDR	PC HDR600 certified (DP/HDMI)
SmartUniformity	95%-103%
Delta E (typ.)	< 2 for 6500K
LowBlue Mode	YES
EasyRead	YES
Connectivity	
Signal Input	DisplayPort 1.4 x 1, HDMI 2.0 x 2, USB type-C x 1 (DP Alt mode, Power delivery, data)
USB	Upstream: USB-C, Downstream: USB3.0x4 (including 1 charging)
USB C-Power Delivery	USB C(up to 65W) (5V/3A, 7V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/3.25A)
RJ-45	YES
Input Signal	Separate Sync
Audio In/Out	Headphone out
Convenience	
Built-in speaker	3 W x 2
Multi View	PIP/PBP mode, 2×devices
User Convenience	/◀ MULTIVIEW/▼ USER/▲ /OK

OSD Languages	English, German, Spanish, Greek, French, Italian, Hungarian, Dutch, Portuguese, Brasil Portuguese, Polish, Russian, Swedish, Finnish, Turkish, Czech, Ukranian, Simplified Chinese, Traditional Chinese, Japanese, Korean
Other Convenience	VESA mount(100×100mm), Kensington Lock
Plug & Play Compatibility	DDC/CI, Mac OS X, sRGB, Windows 10/8.1/8/7
Stand	
Tilt	-5 / +20 degree
Swivel	-170 / +170 degree
Height adjustment	180mm
Pivot	90 degree

Power			
Consumption	AC Input Voltage at 100VAC , 50Hz	AC Input Voltage at 115VAC , 60Hz	AC Input Voltage at 230VAC, 50Hz
Normal Operation	84.30W (typ.)	84.40W (typ.)	84.50W (typ.)
Sleep (Standby)	<0.5W(typ.)	<0.5W (typ.)	<0.5W(typ.)
Off	<0.5W(typ.)	<0.5W(typ.)	<0.5W(typ.)
Off (AC switch)	0W(typ.)	0W(typ.)	0W(typ.)
Heat Dissipation*	AC Input Voltage at 100VAC , 50Hz	AC Input Voltage at 115VAC , 60Hz	AC Input Voltage at 230VAC , 50Hz
Normal Operation	287.71 BTU/hr (typ.)	288.05 BTU/hr (typ.)	288.40 BTU/hr (typ.)
Sleep (Standby)	<1.71 BTU/ hr(typ.)	<1.71 BTU/ hr(typ.)	<1.71 BTU/ hr(typ.)
Off	<1.71 BTU/ hr(typ.)	<1.71 BTU/ hr(typ.)	<1.71 BTU/ hr(typ.)
Off (AC switch)	0 BTU/hr(typ.)	0 BTU/hr(typ.)	0 BTU/hr(typ.)
On Mode(ECO mode)	34.6W (typ.)		
Power LED indicator	On mode: White, Standby/Sleep mode: White (blinking)		
Power Supply	Built-in, 100-240V AC, 50-60Hz		

Dimensions	
Product with stand (WxHxD)	742 x 657 x 270 mm
Product without stand (WxHxD)	742 x 438 x 63 mm
Product with packaging (WxHxD)	970 x 526 x 224 mm
Weight	
Product with stand	9.36 kg
Product without stand	6.40 kg

Product with packaging	13.26 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 and energy	
ROHS	YES
Packaging	100% recyclable
Specific Substances	100% PVC BFR free housing
Cabinet	
Color	Black
Finish	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. Power delivery function will base on laptop's capability.

5.1 Resolution & Preset Modes

1 Maximum Resolution

3840 x 2160 @ 60 Hz (digital input)

2 Recommended Resolution

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
74.56	1920 x 1200	59.89
66.64	2560 x 1080	59.98
88.79	2560 x 1440	59.95
67.50	2560 x 1440	30.00
133.32	2560 x 1440	60.00
133.29	1920 x 2160 PBP mode	59.99
133.312	3840 x 2160	59.99

Note

Please notice that your display works best at native resolution of 3840 x 2160 @ 60Hz. For best display quality, please follow this resolution recommendation.

6. 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	84.4W (typ.) 228W (max.)	White
Sleep (Standby)	OFF	No	No	<0.5W (typ.)	White (blink)
Switch Off	OFF	-	-	<0.5W (typ.)	OFF

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

- Native resolution: 3840 x 2160
- Contrast: 50%
- Brightness: 100%
- Color temperature: 6500k with full white pattern
- Audio and USB Inactive (Off)

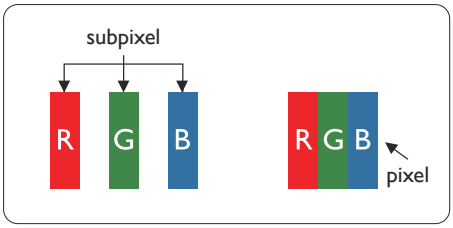
Note

This data is subject to change without notice.

7. Customer care and warranty

7.1 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

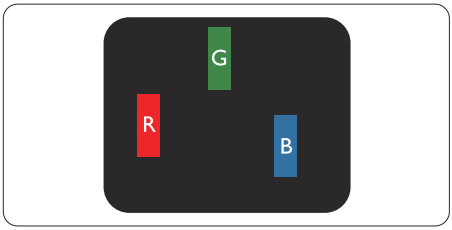
A pixel, or picture element, is composed of three sub pixels in the primary colors of red, green and blue. Many pixels together form an image. When all sub pixels of a pixel are lit, the three colored sub pixels together appear as a single white pixel. When all are dark, the three colored sub pixels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

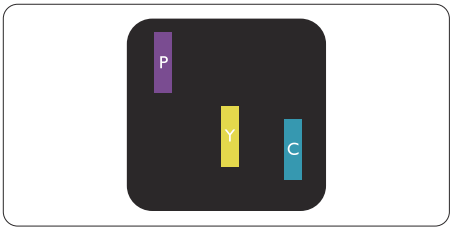
Pixel and sub pixel defects appear on the screen in different ways. There are two categories of pixel defects and several types of sub pixel defects within each category.

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.

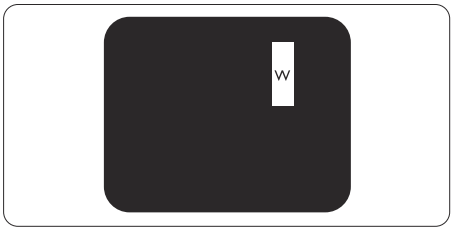


One lit red, green or blue sub pixel.



Two adjacent lit sub pixels:

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



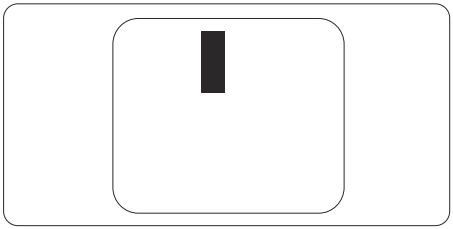
Three adjacent lit sub pixels (one white pixel).

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.

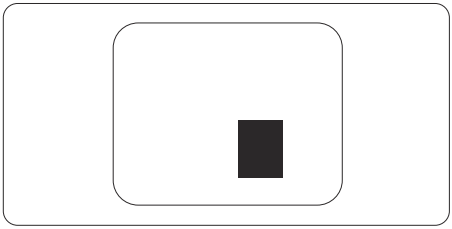
Black Dot Defects

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	10
2 adjacent lit subpixels	2
3 adjacent lit subpixels (one white pixel)	1
Distance between two bright dot defects*	>10mm
Total bright dot defects of all types	10

BLACK DOT DEFECTS	ACCEPTABLE LEVEL
1 dark subpixel	15 or fewer
2 adjacent dark subpixels	5 or fewer
3 adjacent dark subpixels	2
4 adjacent dark subpixels	1
Distance between two black dot defects*	>10mm
Total black dot defects of all types	15 or fewer

TOTAL DOT DEFECTS	ACCEPTABLE LEVEL
Total bright or black dot defects of all types	15 or fewer

Note

1 or 2 adjacent sub pixel defects = 1 dot defect

7.2 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 Warranty Period please refer to Warranty Statement in Important Information Manual" as below on item Customer care and Warranty.
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

Please refer to important information manual for regional service hotline, which is available on the Philips website support page.

8. Troubleshooting & FAQs

8.1 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

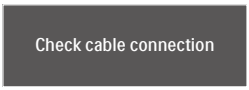
No Picture (Power LED not lit)

- 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 front of the display 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 "Burn-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.

The "power on" light is too strong and is disturbing

- You can adjust “power on” light using the power LED Setup in OSD main Controls.

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

*Functionality different according to display.

8.2 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 'Setup' > '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 "Down Arrow" to select the option "Color" then press "OK" to enter color setting, there are three settings as below.
  1. Color Temperature: Native, 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 "Burn-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

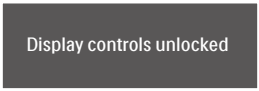
Failure to activate a screen saver, or a periodic screen refresh application may result in severe “burn-in” or “after-image” or “ghost image” symptoms that will not disappear and cannot be repaired. The damage mentioned above is not covered under your warranty.

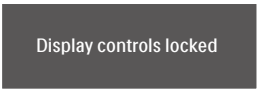
Q12: Why is my Display not showing sharp text, and is displaying jagged characters?

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.: Please press ☰/OK for 10 seconds to unlock/lock the hot key, by doing so, your display pops out “Attention” to show the unlock/lock status as shown below illustrators.





Q14: Where can I find Important Information manual mentioned in EDFU?

Ans.: Important Information manual can be download on the Philips website support page.

8.3 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: 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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