PHILIPS

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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 display 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 display.
- Remove any object that could fall into ventilation holes or prevent proper cooling of the display's electronics.
- Do not block the ventilation holes on the cabinet.
- When positioning the display, make sure the power plug and outlet are easily accessible.
- If turning off the display 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 at all times. If your power cord is missing, please contact your local service center. (Please refer to Customer Care Consumer Information Center)
- Do not subject the display to severe vibration or high impact conditions during operation.
- Do not knock or drop the display during operation or transportation.

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 “burned 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 the chapter of “Consumer Information Center”)
- 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.

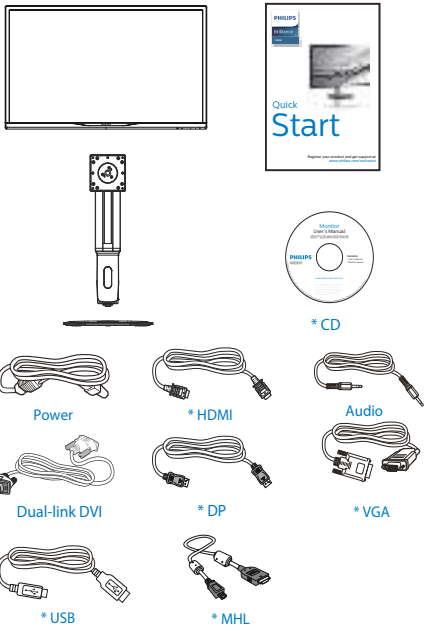
To learn more about our recycling program please visit

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

2. Setting up the display

2.1 Installation

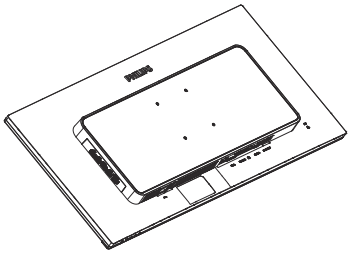
1 Package contents



*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.

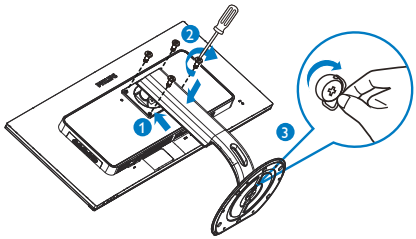


2. Hold the neck with both hands.

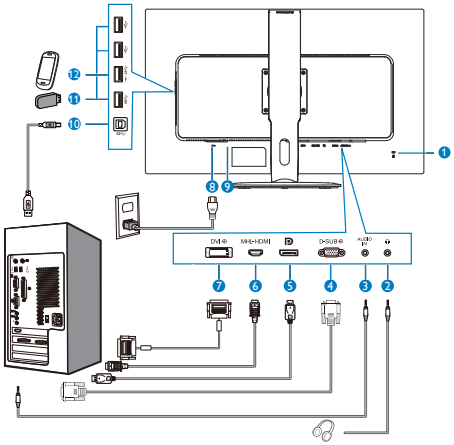
   (1) Gently attach the neck to the VESA mount area until the latch locks the neck.

   (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



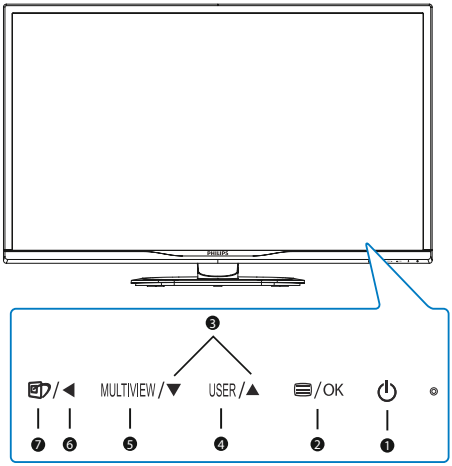
1. Kensington anti-theft lock
2. Earphone jack
3. Audio input
4. VGA input
5. Display port input
6. MHL-HDMI input
7. DVI input
8. AC power input
9. Power Switch
10. USB upstream
11. USB downtream
12. USB fast charger

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.

2.2 Operating the display

1 Description of the control buttons

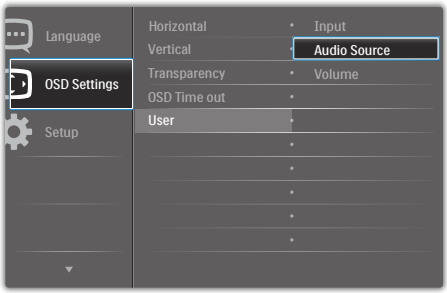


❶	⏻	Switch display's power ON or OFF.
❷	/OK	Access the OSD menu. Confirm the OSD adjustment.
❸	▲ ▼	Adjust the OSD menu.
❹	USER	User preference key. Customize your own preference function from OSD to become the "user key".
❺	MULTIVIEW	PIP/PBP/Swap/Off
❻	◀	Return to previous OSD level.
❼		SmartImage hot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

2 Customize your own "USER" key

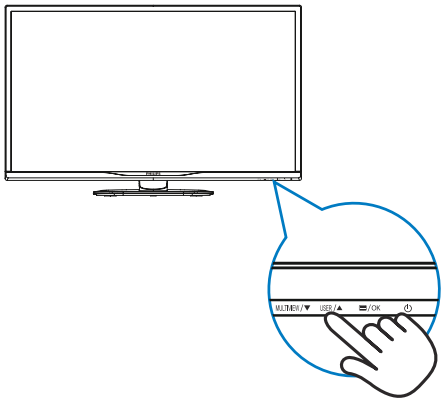
This hot key allows you to setup your favorite function key.

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



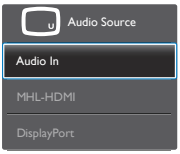
2. Press ▲ or ▼ button to select main menu [**OSD Settings**], then press OK button.
3. Press ▲ or ▼ button to select [**User**], then press OK button.
4. Press ▲ or ▼ button to select your preferred function: [**Input**], [**Audio Source**], or [**Volume**].
5. Press OK button to confirm your selection.

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



For example, if you selected [**Audio**

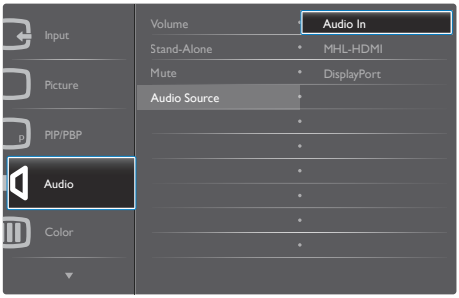
Source] as the hotkey, press the USER button on the front bezel, the [**Audio Source**] menu appears.



3 Independent audio playback, regardless of video input

Your Philips display can play the audio source independently, 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 [**MHL-HDMI**], or [**DisplayPort**].

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



2. Press ▲ or ▼ button to select main menu [**Audio**], then press OK button.
3. Press ▲ or ▼ button to select [**Audio Source**], then press OK button.
4. Press ▲ or ▼ button to select your preferred audio source: [**Audio In**], [**MHL-HDMI**], or [**DisplayPort**].
5. Press OK button to confirm your selection.

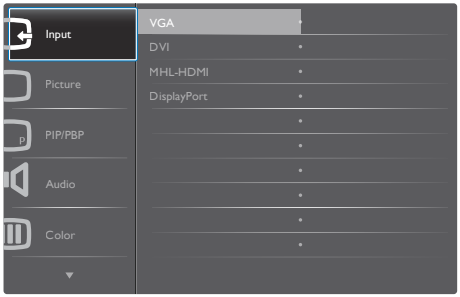
Note

- 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 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	
Input	VGA	
	DVI	
	MHL-HDMI	
	DisplayPort	
Picture	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	VGA,DVI, MHL-HDMI, DisplayPort
	PIP Size	Small, Middle, Large
	PIP Position	Top-Right, Top-Left, Bottom-Right, Bottom-Left
	Swap	
Audio	Volume	0~100
	Stand-Alone	On, Off
	Mute	On, Off
	Audio Source	Audio in, MHL-HDMI, DisplayPort
Color	Color Temperature	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	Input, Audio Source, Volume
Setup	Auto	
	H. Position	0~100
	V. Position	0~100
	Phase	0~100
	Clock	0~100
	Resolution Notification	On, Off
	DisplayPort	1.1, 1.2
	Reset	Yes, No
	Information	

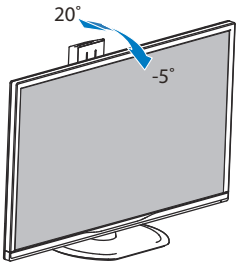
5 Resolution notification

This display is designed for optimal performance at its native resolution, 2560 x 1440 @ 60 Hz. When the display is powered on at a different resolution, an alert is displayed on screen: Use 2560 x 1440 @ 60 Hz for best results.

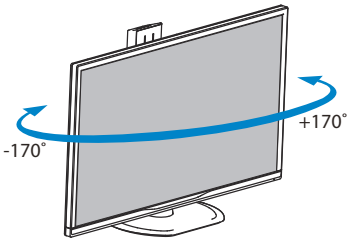
Display of the native resolution alert can be switched off from Setup in the OSD (On Screen Display) menu.

6 Physical Function

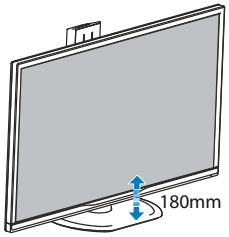
Tilt



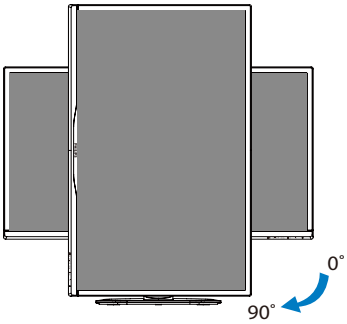
Swivel



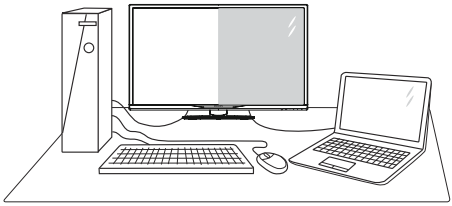
Height adjustment



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.

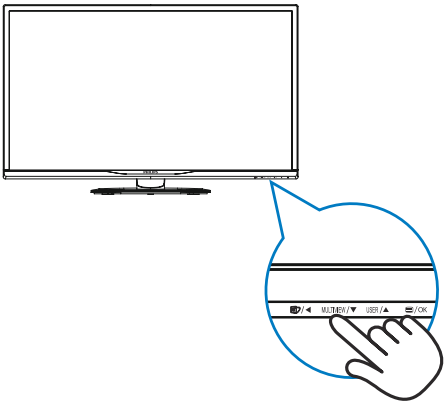
2 Why do I need it?

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.

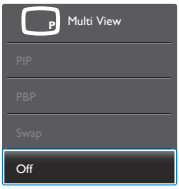
3 How to enable MultiView by hotkey?

1. Press the hotkey MULTIVIEW directly on

the front bezel.



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

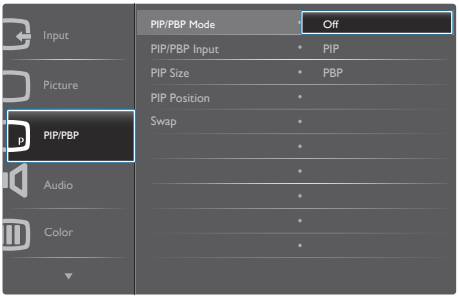


3. Press OK button to confirm your selection and then exit automatically.

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.



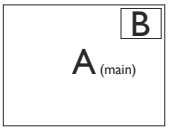
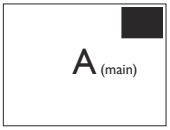
- Press ▲ or ▼ button to select main menu [**PIP / PBP**], then press OK button.
- Press ▲ or ▼ button to select [**PIP / PBP Mode**], then press OK button.
- Press ▲ or ▼ button to select [**PIP**] or [**PBP**].
- Now you can move backward to set the [**PIP / PBP Input**], [**PIP Size**], [**PIP Position**].,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

2. Press OK button to confirm your selection.

5 MultiView in OSD menu

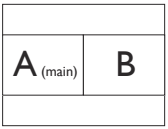
- PIP / PBP Mode: There are two modes for MultiView: **[PIP]** and **[PBP].**

[PIP]: Picture in Picture

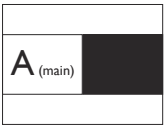
Open up a sub-window of another signal source.	
When the sub source is not detected:	

[PBP]: Picture by Picture

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



When the sub source is not detected:



Note

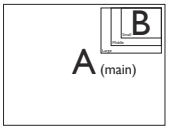
The black strip shows on the top and the bottom of the screen for the correct aspect ratio when in the PBP mode.

- **PIP / PBP Input:** There are four different video input to choose as the sub display source: **[VGA], [DVI], [MHL-HDMI],** and **[DisplayPort].**

Please refer below table for compatibility of main/sub input source.

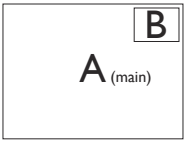
MultiView		SUB SOURCE POSSIBILITY (xl)			
	Inputs	VGA	DP	DVI	MHL-HDMI
MAIN SOURCE (xl)	VGA		•	•	•
	DP	•		•	•
	DVI	•	•		•
	MHL-HDMI	•	•	•	

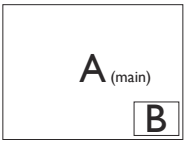
- **PIP Size:** When PIP is activated, there are three sub-window sizes to choose: **[Small], [Middle], [Large].**



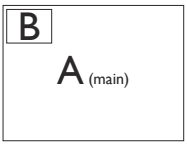
- **PIP Position**: When PIP is activated, there are two sub-window positions to choose.

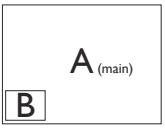
Top-Right Bottom-Right





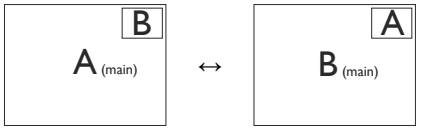
Top-Left Bottom-Left



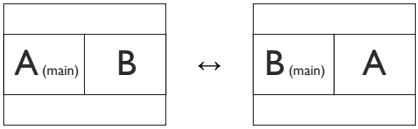


Swap: The main picture source and the sub picture source swapped on the display.

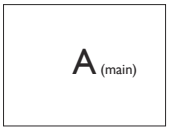
Swap A and B source in **[PIP]** mode:



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



- **Off:** Stop MultiView function.



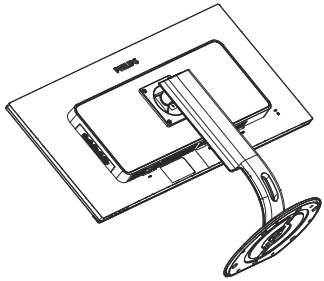
Note

When you do the SWAP function, the video and its audio source will swap at the same time. (Refer to page 8 “Independent audio playback, regardless of video input” for more detail.)

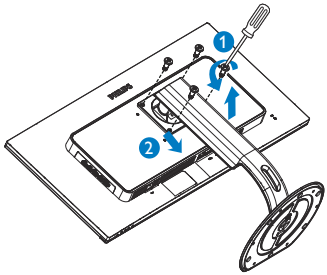
2.4 Remove the Base Assembly for VESA Mounting

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.

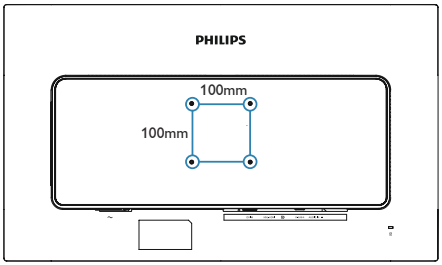


2. Loosen the assembly screws, then detach the neck from the display.



Note

This display accepts a 100mm x 100mm VESA-Compliant mounting interface.



2.5 MHL (Mobile High-Definition Link) introduction

1 What is it?

Mobile High Definition Link (MHL) is a mobile audio/video interface for directly connecting mobile phones and other portable devices to high-definition displays.

An optional MHL cable allows you to simply connect your MHL capable mobile device to this large Philips MHL display, and watch your HD videos come to life with full digital sound. Now not only you can enjoy your mobile games, photos, movies, or other apps on its big screen, you can simultaneously charge your mobile device so you never run out of power half way.

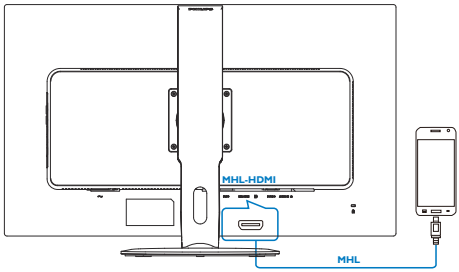
2 How do I use the MHL function?

To use the MHL function, you need an MHL-Certified mobile device. To find a list of MHL-certified devices, visit the official MHL website (http://www.mhlconsortium.org)

You also need a optional MHL certified special cable in order to use this function.

3 How does it work? (how do I connect?)

Connect the Optional MHL cable to the mini USB port on the mobile device side, and the [MHL-HDMI] marked port on the display side. You are now ready to view the images on your big screen display and operate all function on you the mobile device such as internet surfing, game playing, photo browsing...etc. if your display has speaker function, then you will be able to hear accompanying sound too. When the MHL cable is disconnected or the mobile device is turned off, the MHL function will be automatically disabled.



Note

- The port marked [MHL-HDMI] is the only port on the display that supports the MHL function when the MHL cable is used. Note that the MHL certified cable is different than a standard HDMI cable.
- A mobile device with MHL certification must be purchased separately
- You may have to manually switch the display to MHL-HDMI mode in order to activate the display, if you have other devices already working and connected to available inputs
- Standby/Off energy saving of ErP is not applicable for the MHL charging functionality
- This Philips display is MHL certified. However, in case your MHL device does not connect or work correctly, check with your MHL device FAQ or vendor directly for direction. The policy of your device manufacturer may require you to purchase their brand specific MHL cable or adapter in order to work with other brand MHL devices. Note that this is not a fault of this Philips display.

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.

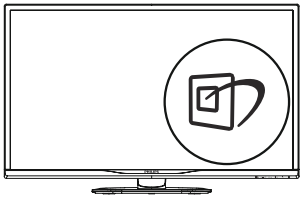
2 Why do I need it?

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?

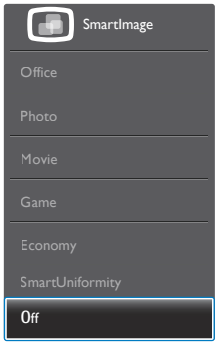
SmartImage is an exclusive, leading edge Philips technology that analyzes the content displayed on your screen. Based on a scenario you select, SmartImage dynamically enhances the contrast, color saturation and sharpness of images to enhance the contents being displayed - all in real time with the press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

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 technology
Backlight	LED
Panel Size	31.5" W (80.1 cm)
Aspect Ratio	16:9
Pixel Pitch	0.2727 x 0.2727 mm
SmartContrast	50,000,000:1
Response Time	8ms (GtG)
SmartResponse	5ms (GtG)
Optimum Resolution	VGA: 1920 x 1080 @ 60Hz DVI-Dual Link: 2560 x 1440 @ 60Hz HDMI: 2560 x 1440 @ 60Hz DisplayPort: 2560 x 1440 @ 60Hz MHL: 1920 x 1080 @ 60Hz
Viewing Angle	178° (H) / 178° (V) @ C/R > 10 (Typ)
Picture Enhancement	SmartImage
Display Colors	1.07B (8bits + FRC)
Vertical Refresh Rate	56-76Hz (VGA/DVI/HDMI/DISPLAYPORT) 23-76Hz (MHL)
Horizontal Frequency	30-99KHz (VGA/DVIHDMI/DISPLAYPORT/MHL)
sRGB	YES
Brightness uniformity	93% - 105%
Delta E (typ.)	2 for 6500K
Connectivity	
Signal Input	DVI-Dual Link(Digital), VGA(Analog), DisplayPort, MHL-HDMI
USB	USB3.0x2 (1 for USB fast charger)/USB2.0x2
Input Signal	Separate Sync, Sync on Green
Audio In/Out	PC audio-in,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, sRGB, Windows 10/8.1/8/7/Mac OSX

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	61.90W (typ.)	62.00W (typ.)	62.10W (typ.)
Sleep (Standby)	<0.5W(typ.)	<0.5W (typ.)	<0.5W(typ.)
Off	<0.3W(typ.)	<0.3W(typ.)	<0.3W(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	211.26 BTU/hr (typ.)	211.6 BTU/hr (typ.)	211.95 BTU/hr (typ.)
Sleep (Standby)	<1.71 BTU/ hr(typ.)	<1.71 BTU/ hr(typ.)	<1.71 BTU/ hr(typ.)
Off	<1.02 BTU/ hr(typ.)	<1.02 BTU/ hr(typ.)	<1.02 BTU/ hr(typ.)
Off (AC switch)	0 BTU/hr(typ.)	0 BTU/hr(typ.)	0 BTU/hr(typ.)
On Mode(ECO mode)	34.9W (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 without packaging (WxHxD)	970 x 526 x 224 mm		
Weight			
Product with stand	9.50 kg		
Product without stand	6.90 kg		
Product with packaging	13.41 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
EPEAT	YES (Refer to note 1 for more details)
Packaging	100% recyclable
Specific Substances	100% PVC BFR free housing
EnergyStar	YES
Compliance and standards	
Regulatory Approvals	CE Mark, FCC Class B, SEMKO, cETLus, CU-EAC, PSB, WEEE, CCC, CECP, GS, ISO9241-307, EPA
Cabinet	
Color	Black
Finish	Texture

Note

1. EPEAT Gold or Silver is valid only where Philips registers the product. Please visit www.epeat.net for registration status in your country.
2. This data is subject to change without notice. Go to www.philips.com/support to download the latest version of leaflet.
3. Smart response time is the optimum value from either GtG or GtG (BW) tests.

4.1 Resolution & Preset Modes

1 Maximum Resolution
1920 x 1080 @ 60 Hz (analog input)
2560 x 1440 @ 60 Hz (digital input)

2 Recommended Resolution
2560 x 1440 @ 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
75.00	1600 x 1200	60.00
65.29	1680 x 1050	59.95
67.50	1920 x 1080	60.00
74.04	1920 x 1080	59.95
88.79	2560 x 1440	59.95
89.45	1280 x 1440 PBP mode	59.91

Note

- Please notice that your display works best at native resolution of 2560 x 1440 @ 60Hz. For best display quality, please follow this resolution recommendation.
  MHL 2.0: 1920X1080@60Hz
- While using DVI, a Dual-link DVI cable is required for maximum resolution 2560 x 1440.
- The highest supporting screen resolution on HDMI is 2560 x 1440, but it always depends on your capability of graphics card and BluRay/video players.

4.2 Crystalclear

This latest Philips display delivers Crystalclear, 2560x1440 images. Utilizing high performance panels with high density pixel count, 178/178 wide viewing angles, enabled by high bandwidth sources like Displayport, HDMI, or Dual link DVI, this new display will make your images and graphics come alive. Whether you are demanding professional requiring extremely detailed information for CAD-CAM solutions, using 3D graphic applications or a financial wizard working on huge spreadsheets, this Philips display will give you Crystalclear images.

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	62.00W (typ.) 95.00W (max.)	White
Sleep (Standby)	OFF	No	No	<0.5W (typ.)	White (blink)
Off	OFF	-	-	0.3W (typ.) 0.39W (max.)	OFF
Switch Off	OFF	-	-	0W (AC Switch)	OFF

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

- Native resolution: 2560 x 1440
- Contrast: 50%
- Brightness: 100%
- Color temperature: 6500k with full white pattern
- Audio and USB Inactive (Off)

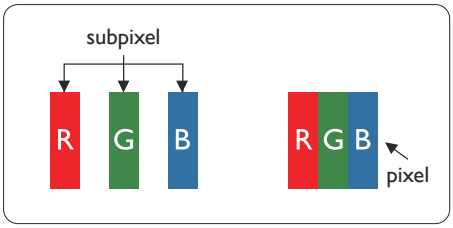
Note

This data is subject to change without notice.

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

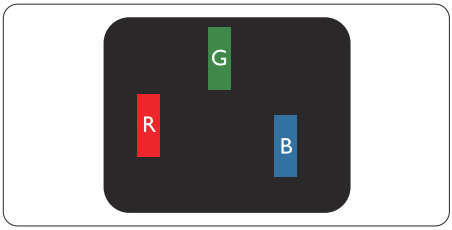
A pixel, or picture element, is composed of three sub pixels in the primary colors of red, green and blue. Many pixels together form an image. When all sub pixels of a pixel are lit, the three colored sub pixels together appear as a single white pixel. When all are dark, the three colored sub pixels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

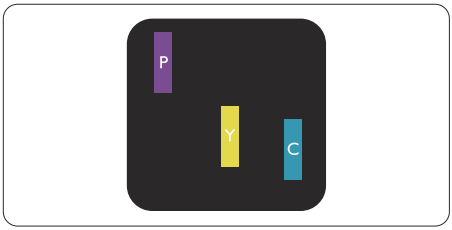
Pixel and sub pixel defects appear on the screen in different ways. There are two categories of pixel defects and several types of sub pixel defects within each category.

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.

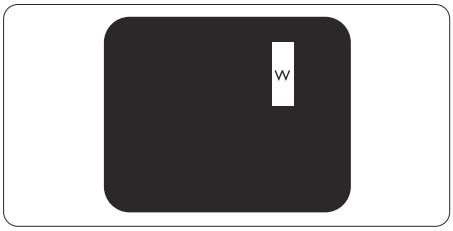


One lit red, green or blue sub pixel.



Two adjacent lit sub pixels:

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



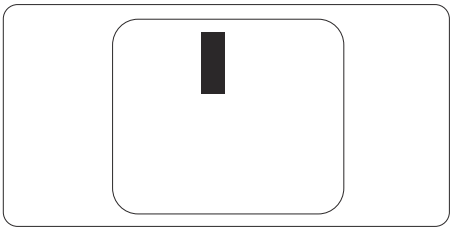
Three adjacent lit sub pixels (one white pixel).

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.

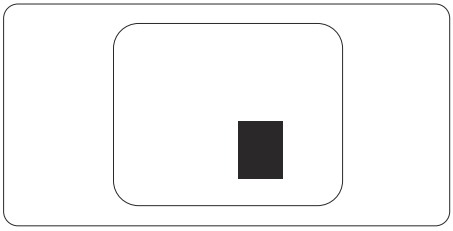
Black Dot Defects

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	3
2 adjacent lit subpixels	1
3 adjacent lit subpixels (one white pixel)	0
Distance between two bright dot defects*	>15mm

BRIGHT DOT DEFECTS	ACCEPTABLE LEVEL
Total bright dot defects of all types	3

BLACK DOT DEFECTS	ACCEPTABLE LEVEL
1 dark subpixel	5 or fewer
2 adjacent dark subpixels	2 or fewer
3 adjacent dark subpixels	0
Distance between two black dot defects*	>15mm
Total black dot defects of all types	5 or fewer

TOTAL DOT DEFECTS	ACCEPTABLE LEVEL
Total bright or black dot defects of all types	5 or fewer

Note

1. 1 or 2 adjacent sub pixel defects = 1 dot defect
2. This display is ISO9241-307 compliant(ISO9241-307: Ergonomic requirement , analysis and compliance test methods for electronic visual displays)
3. ISO9241-307 is the successor of formerly known ISO13406 standard, which is withdrawn by the International Organisation for Standardisation (ISO) per: 2008-11-13.

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

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

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

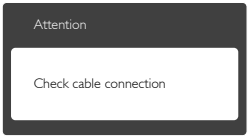
No Picture (Power LED not lit)

- 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 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 "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.

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 Consumer Information Centers list 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: 2560 x 1440 @ 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 2560 x 1440 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 2560 x 1440 @ 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 user manual? How do I install the drivers (.inf and .icm)?

Ans.: These are the driver files for your display. Follow the instructions in your user manual to install the drivers. Your computer may ask you for display drivers (.inf and .icm files) or a driver disk when you first install your display.

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 "Down Arrow" 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/Mac OSX

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 "atter-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

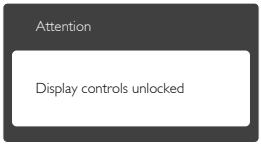
Failure to activate a screen saver, or a periodic screen refresh application may result in severe “burn-in” or “after-image” or “ghost image” symptoms that will not disappear and cannot be repaired. The damage mentioned above is not covered under your warranty.

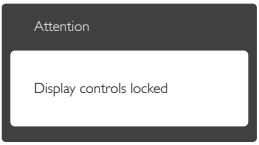
Q12: Why is my Display not showing sharp text, and is displaying jagged characters?

Ans.: Your LCD display works best at its native resolution of 2560 x 1440 @ 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.





7.3 Multiview FAQs

Q1: Why I cannot activate PIP or PBP when the sources are DVI and HDMI?

Ans.: Please refer to below table for the main source and its supporting sub source.

MultiView		SUB SOURCE POSSIBILITY (xl)			
	Inputs	VGA	DP	DVI	MHL-HDMI
MAIN SOURCE (xl)	VGA		•	•	•
	DP	•		•	•
	DVI	•	•		•
	MHL-HDMI	•	•	•	

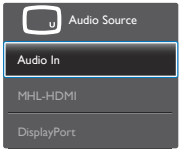
Q2: Can I enlarge the PIP sub window ?

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.

Q3: 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.



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