PHILIPS

Business Monitor

2000 Series



24B2N2200G
24B2N2200GW

EN

User manual

Register your product and get support at www.philips.com/welcome

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1. Important

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

The Philips guarantee applies provided that the product is handled for its intended use, by its operating instructions, and accompanied by the presentation of the original invoice or cash receipt that indicates the date of purchase, dealer's name and model, and production number of the product.

1.1 Safety precautions and maintenance

Warnings

The use of controls, adjustments, or procedures other than those specified in this document may result in exposure to shock, electrical hazards, and/or mechanical hazards.

Read and follow these instructions when connecting and using your monitor.

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

Operation

- Please keep the monitor out of direct sunlight. Lengthy exposure to this type of environment may result in discoloration and damage to the monitor.
- Keep the display away from oil. Oil may damage the plastic cover of the display and void the warranty.
- Remove any object that could fall into ventilation holes or prevent proper cooling of the monitor's electronics.
- Do not block the ventilation holes in 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 before returning to normal operation.
- Please use the approved power cord provided by Philips all the times. If your power cord is missing, please contact your local service center. (Please refer to the Service contact information located in the Important information manual.)
- Operate under the specified power supply. Use of 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.
- To avoid potential damage, like the panel peeling from the bezel, ensure that the monitor does not tilt downward by more than -5 degrees. If the -5 degree downward tilt angle maximum is exceeded, the monitor

damage will not be covered under warranty.

- Do not knock or drop the monitor during operation and/or transportation.
- Excessive usage of the monitor can cause eye discomfort. It's recommended 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. Prevent eye strain while using the screen for a constant period by :
  - Looking at something varying distances after a long period of focusing on the screen.
  - Conscious Blinking while you work.
  - Gently closing and rolling your eyes to relax.
  - Reposition your screen to the appropriate height and angle.
  - Adjust the brightness and contrast to an appropriate level.
  - Adjust the environment lighting similar to that of your screen brightness. Avoid fluorescent lighting and surfaces that don't reflect too much light.
  - Seeing a doctor if your symptoms worsen.

Maintenance

- To protect your monitor from possible damage, do not put excessive pressure on the LCD panel. When moving your monitor, grasp the frame to lift; do not lift the monitor by placing your hand or fingers on the LCD panel.
- Oil-based cleaning solutions may damage the plastic parts and void the warranty.
- Unplug the monitor if you are not going to use it for an extensive period.
- Unplug the monitor if you need to clean it with a slightly damp cloth. The screen may be wiped with a dry cloth when the power is off. However, never use organic solvents, such as alcohol or ammonia-based liquids.
- To avoid the risk of shock or permanent damage to the set, do not expose the monitor to dust, rain, water, or excessive moisture.
- If your monitor gets wet, wipe it with a dry cloth as soon as possible.
- If a foreign substance or water gets in your monitor, please turn the power off immediately and disconnect the power cord. Then, if damaged, send it to the maintenance center.
- Do not store or use the monitor in locations exposed to heat, direct sunlight, or extreme cold.
- To maintain the best performance of your monitor and use it for a longer lifetime, please use the monitor in a location that falls within the following temperature and humidity ranges:
  - Temperature: 0°C~40°C 32°F~104°F
  - Humidity: 20%~80% RH

Important information for Burn-in/ Ghost image

- Always activate a moving screen saver program when you leave your monitor unattended. Always activate a periodic screen refresh application if your monitor will display unchanging static content.

Uninterrupted display of still or static images over an extended period may cause “burn-in”, also known as “after-imaging” or “ghost imaging”, on your screen.

- “Burn-in”, “after-imaging”, or “ghost imaging” is a well-known phenomenon in LCD panel technology. In most cases, the “burn-in”, “after-imaging” or “ghost imaging” will disappear gradually over some time after the power has been switched off.

Warning

It is highly recommended that you always turn on the Screen Saver and Pixel Orbiting function from On Screen Display (OSD) menu in order to best protect the screen.

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 your local service center. (You can refer to the service contact information listed in the important information manual.)
- For transportation information, please refer to “Technical Specifications”.
- Do not leave your monitor in a car under direct sunlight.

Note

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

1.2 Notational Descriptions

The following subsections describe the 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, and/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 the 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 mechanism.

1.3 Disposal of product and packing material

Waste Electrical and Electronic Equipment-WEEE



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

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

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

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

Taking back/Recycling Information for Customers

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

From the planning, design, and production stages, Philips emphasizes the importance 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) following all Environmental Laws and taking back programs 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 monitor

2.1 Installation

1 Package contents











Power



*HDMI



*DP



*VGA

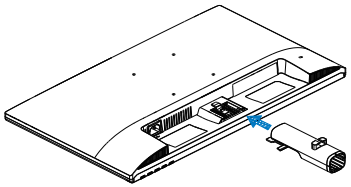


*Audio cable

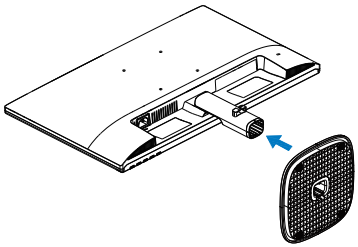
*Different according to region

2 Install the base

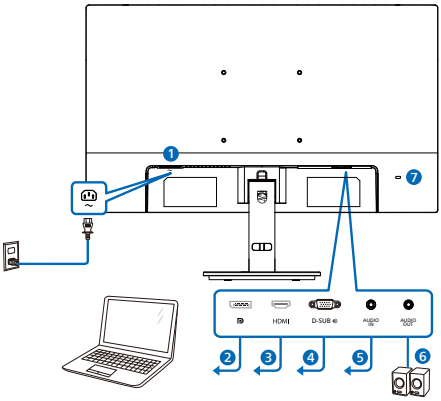
1. Place the monitor face down on soft and smooth surface taking care to avoid scratching or damaging the screen. Attach/Slide the base column with the monitor until it clicks into position.



2. Hold the monitor base stand with both hands and firmly insert the base stand into the base column.



3 Connecting to your PC



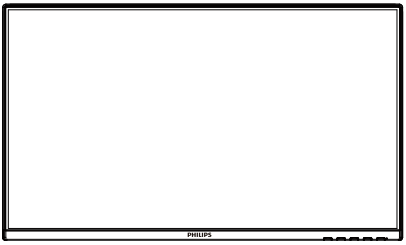
1. AC power input
2. DisplayPort
3. HDMI input
4. VGA input
5. AUDIO IN
6. AUDIO OUT
7. Kensington anti-theft lock

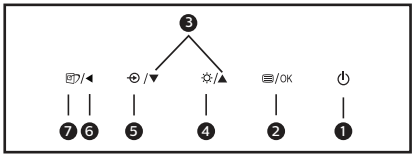
Connect to PC

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.

2.2 Operating the monitor

1 Description of the control buttons



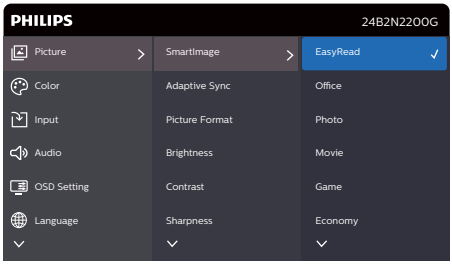


1	⏻	Switch monitor's power ON and OFF.
2	/OK	Access the OSD menu. Confirm the OSD adjustment.
3	▲ ▼	Adjust the OSD menu.
4	☼	Adjust the brightness level.
5	⊖	Change the signal input source.
6	◄	Return to previous OSD level.
7		SmartImage. There are multiple selections: EasyRead, Office, Photo, Movie, Game, Economy, D-Mode, Off.

2 Description of the On Screen Display

What is On-Screen Display (OSD)?

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

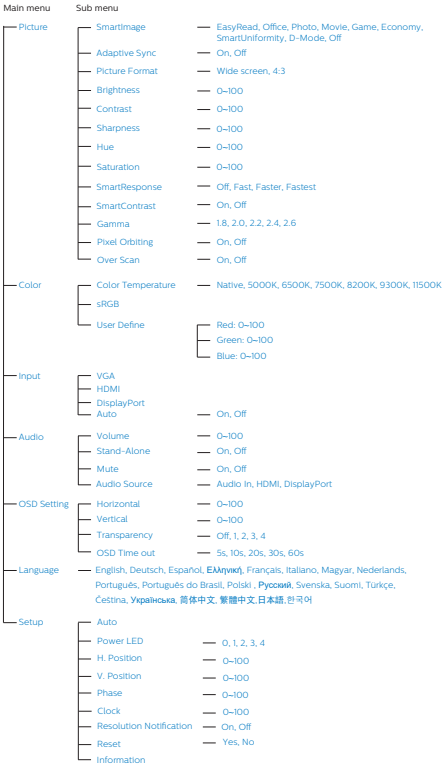


Basic and simple instruction on the control keys

In the OSD shown above, you can press ▼▲ buttons at the front bezel of the monitor 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.



3 Resolution notification

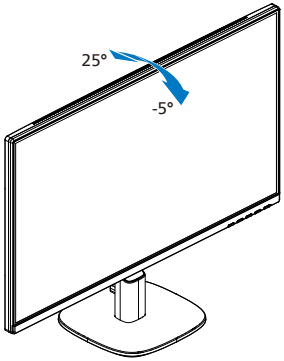
This monitor is designed for optimal performance at its native resolution:1920 x 1080.

When the monitor is powered on at a different resolution, an alert is displayed on the screen as follows: Use 1920 x 1080 for best results.

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

4 Physical Function

Tilt



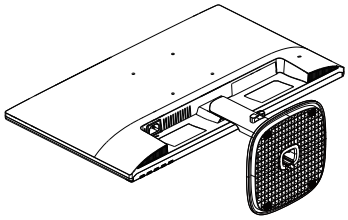
Warning

- To avoid potential screen damage, such as panel peeling, ensure that the monitor does not tilt downward by more than -5 degrees.
- Do not press the screen while adjusting the angle of the monitor. Grasp only the bezel.

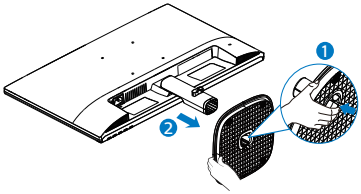
2.3 Remove the Base Assembly for VESA Mounting

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

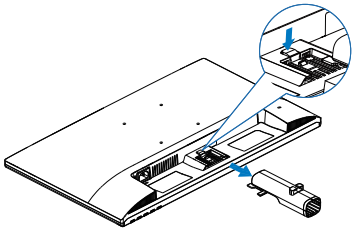
1. Place the monitor face down on a smooth surface. Pay attention not to scratch or damage the screen.



2. Press the release button to detach the base stand away from the base column.



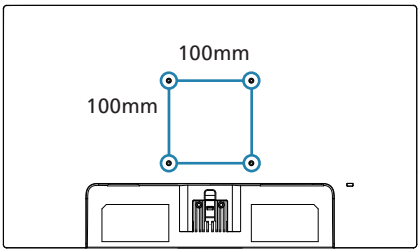
3. Press the release button to detach the base column.

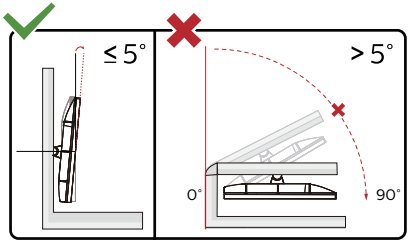


Note

This monitor accepts a 100mm x 100mm VESA-Compliant mounting interface. VESA Mounting Screw M4. Always contact manufacturer for wall-mount installation.

The size of the wall-mounted threaded post of this monitor is 7.8 millimeters, and the depth of the wall-mounting hole, including the back cover, is 10 millimeters.





* Display design may differ from those illustrated.

Warning

- To avoid potential screen damage, such as panel peeling, ensure that the monitor does not tilt downward by more than -5 degrees.
- Do not press the screen while adjusting the angle of the monitor. Grasp only the bezel.

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 monitor performance.

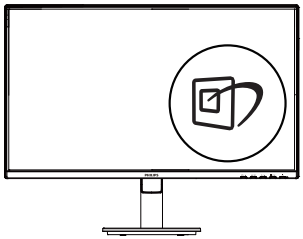
2 Why do I need it?

You want a monitor 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 monitor viewing experience.

3 How does it work?

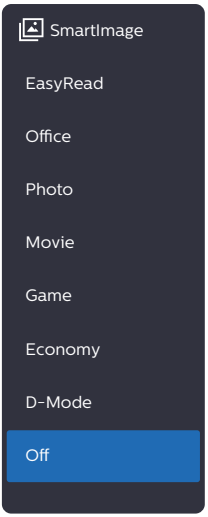
SmartImage is an exclusive, leading edge Philips technology that analyzes the content displayed on your screen. Based on a scenario you select, SmartImage dynamically enhances the contrast, color saturation and sharpness of images to enhance the contents being displayed - all in real time with the press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

4 How to enable SmartImage?



1. Press to launch the SmartImage on screen display.
2. Keep pressing ▼▲ to toggle among EasyRead, Office, Photo, Movie, Game, Economy, D-Mode, 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 selections: EasyRead, Office, Photo, Movie, Game, Economy, D-Mode, 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.
- D-Mode: Optimized grayscale mapping based on the DICOM Part 14 GSDF curve enhances subtle tonal differences and improves detail visibility in darker areas, delivering consistent and reliable visual performance across devices.
- **Off:** No optimization by SmartImage.

3.2 SmartContrast

1 What is it?

Unique technology that dynamically analyzes displayed content and automatically optimizes a Monitor'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 monitor's power consumption, you save on energy costs and extend the lifetime of your monitor.

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. Designs to prevent computer vision syndrome (CVS)

Philips monitor is designed to prevent eye strain caused by prolonged computer use.

Follow below instructions and use Philips monitor to efficiently reduce fatigue and maximum working productivity.

1. Appropriate environment lighting:
    - Adjusting the environment lighting similar to that of your screen brightness, avoid the fluorescent lighting, and surfaces that don't reflect too much light.
    - Adjusting the brightness and contrast to appropriate level.
2. Good working habits:
    - 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.
    - Looking at something varying distances after a long period focusing on the screen.
    - Gently closing and rolling your eyes to relax.
    - Conscious blinking often while working.
    - Gently stretch your neck, and slowly tilt your head forward, backward, side for pain relief.
3. Ideal working posture
    - Reposition your screen to appropriate height and angle according to your height.
4. Choose Philips monitor for easy-on-eyes.
    - Anti-glare screen: Anti-glare screen efficiently reduces annoying and distracting reflections that caused eye fatigue.
    - Flicker-free technology designs to regulate brightness and reduce flicker for more comfortable viewing.
    - EasyRead mode for a paper-like reading experience, giving a more comfortable viewing experience while dealing with long documents on the screen.

5. Adaptive Sync



Adaptive Sync

PC gaming has long had an imperfect experience because GPUs and monitors update at different rates. Sometimes a GPU can render many new pictures during a single update of the monitor and the monitor will show pieces of each picture as a single image. This is called “tearing.” Gamers can fix tearing with a feature called “v-sync,” but the image can become jerky as the GPU waits on the monitor to call for an update before delivering new pictures.

The responsiveness of mouse input and overall frames per second is reduced with v-sync, too. AMD Adaptive Sync technology eliminates all of these problems by letting the GPU update the monitor the moment a new picture is ready. Therefore, this feature leaves gamers with unbelievably smooth, responsive, tearing-free gaming.

Followed by the graphic card that are compatible.

- Operating system
  - Windows 11/10
- Graphic Card: R9 290/300 Series & R7 260 Series
  - AMD Radeon R9 300 Series
  - AMD Radeon R9 Fury X
  - AMD Radeon R9 360
  - AMD Radeon R7 360
  - AMD Radeon R9 295X2
  - AMD Radeon R9 290X
  - AMD Radeon R9 290
  - AMD Radeon R9 285
  - AMD Radeon R7 260X
  - AMD Radeon R7 260
- Processor A-Series Desktop and Mobility APUs
  - AMD A10-7890K
  - AMD A10-7870K
  - AMD A10-7850K
  - AMD A10-7800
  - AMD A10-7700K
  - AMD A8-7670K
  - AMD A8-7650K
  - AMD A8-7600
  - AMD A6-7400K
  - AMD RX 6500 XT
  - AMD RX 6600 XT
  - AMD RX 6700 XT
  - AMD RX 6750 XT
  - AMD RX 6800
  - AMD RX 6800 XT
  - AMD RX 6900 XT

6. Technical Specifications

Picture/Display	
Monitor Panel Type	IPS Technology
Backlight	W-LED
Panel Size	23.8" W (60.5 cm)
Aspect Ratio	16:9
Pixel Pitch	0.2745 (H) mm x 0.2745 (V) mm
Contrast Ratio(typ.)	1500:1
Native Resolution	1920 x 1080 @ 60 Hz
Maximum Resolution	1920 x 1080 @ 75 Hz (VGA) 1920 x 1080 @ 144 Hz (HDMI/DP)
Viewing Angle	178° (H) / 178° (V) @ C/R ≥ 10 (typ.)
Display Colors	16.7M (6bit + A-FRC)
Picture Enhancement	SmartImage
Vertical Refresh Rate	48 Hz - 75 Hz (VGA) 48 Hz - 144 Hz (HDMI/DP)
Horizontal Frequency	30 kHz - 85 kHz (VGA) 30 kHz - 170 kHz (HDMI/DP)
Flicker Free	YES
sRGB	YES
SoftBlue technology	YES[1]
EasyRead	YES
Connectivity	
Signal Input source	DisplayPort, HDMI, VGA
Connectors	1x DisplayPort 1.4 (HDCP 1.4) 1x HDMI 1.4 (HDCP 1.4) 1x VGA 1x Audio in 1x Audio out
Sync input	Separate Sync, Sync on Green
Convenience	
User Convenience	/◀ /▼ /▲ /OK
Built-in speaker	2 W x 2
OSD Languages	English, German, Spanish, Greek, French, Italian, Hungarian, Dutch, Portuguese, Brazil Portuguese, Polish, Russian, Swedish, Finnish, Turkish, Czech, Ukranian, Simplified Chinese, Traditional Chinese, Japanese, Korean
Other Convenience	VESA mount (100 x 100 mm), Kensington Lock
Plug & Play Compatibility	DDC/CI, sRGB, Windows 11/10, Mac OS X
Stand	
Tilt	-5 / +25 degree

Power			
Consumption	AC Input Voltage at 100VAC , 50Hz	AC Input Voltage at 115VAC , 50Hz	AC Input Voltage at 230VAC, 50Hz
Normal Operation	17.8 W (typ.)	17.5 W (typ.)	17.5 W (typ.)
Sleep (Standby mode)	0.3 W (typ.)	0.3 W (typ.)	0.3 W (typ.)
Off mode	0.3 W (typ.)	0.3 W (typ.)	0.3 W (typ.)
Heat Dissipation*	AC Input Voltage at 100VAC , 50Hz	AC Input Voltage at 115VAC , 50Hz	AC Input Voltage at 230VAC , 50Hz
Normal Operation	60.75 BTU/hr (typ.)	59.73 BTU/hr (typ.)	59.73 BTU/hr (typ.)
Sleep (Standby mode)	1.02 BTU/hr (typ.)	1.02 BTU/hr (typ.)	1.02 BTU/hr (typ.)
Off mode	1.02 BTU/hr (typ.)	1.02 BTU/hr (typ.)	1.02 BTU/hr (typ.)
On Mode (ECO mode)	8.5 W (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)	544 x 426 x 181 mm
Product without stand (WxHxD)	544 x 321 x 48 mm
Product with packaging (WxHxD)	650 x 420 x 124 mm
Weight	
Product with stand	2.88 kg
Product without stand	2.60 kg
Product with packaging	5.04 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	24B2N2200G (Black) 24B2N2200GW (White)
Finish	Texture

[1] This monitor features SoftBlue technology. This integrated feature offers increased visual comfort and protection against adverse health effects caused by prolonged exposure to blue light. With the low blue-light panel, the ratio of display emission light in the range from 415-455 nm to the display emission of 400-500nm shall be less than 50%. This monitor provides optimal visual comfort, minimizes eye strain, and supports sustained focus. Not to mention, SoftBlue LED technology is tested and TÜV Rheinland Low Blue Light (Hardware Solution) certified for its effectiveness in reducing blue light emissions.

Note

1. This data is subject to change without notice. Go to www.philips.com/support to download the latest version of leaflet.

6.1 Resolution & Preset Modes

H. freq (kHz)	Resolution	V. freq (Hz)
31.47	720x400	70.09
31.47	640x480	59.94
35.00	640x480	66.67
37.86	640x480	72.81
37.50	640x480	75.00
35.16	800x600	56.25
37.88	800x600	60.32
48.08	800x600	72.19
46.88	800x600	75.00
49.73	832x624	74.55
48.36	1024x768	60.00
56.48	1024x768	70.07
60.02	1024x768	75.03
45.00	1280x720	60.00
63.98	1280x1024	60.02
79.98	1280x1024	75.03
55.94	1440x900	59.89
65.29	1680x1050	59.95
67.50	1920x1080	60.00
83.93	1920x1080	75.00
110.00	1920x1080	100.00 (HDMI/DP)
137.28	1920x1080	120.00 (HDMI/DP)
162.00	1920x1080	144.00 (HDMI/DP)

Note

Please notice that your display works best at native resolution of 1920 x 1080. For best display quality,please follow this resolution recommendation.

7. Power Management

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

Power Management Definition					
VESA Mode	Video	H-sync	V-sync	Power Used	LED Color
Active	ON	Yes	Yes	17.5 W (typ.) 37.6 W (max.)	White
Sleep/ Standby mode	OFF	No	No	0.3 W (typ.)	White (blink)
Off mode	OFF	-	-	0.3 W (typ.)	OFF

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

- Native resolution: 1920 x 1080
- Contrast: 50%
- Brightness: 80%
- Color temperature: 6500k with full white pattern

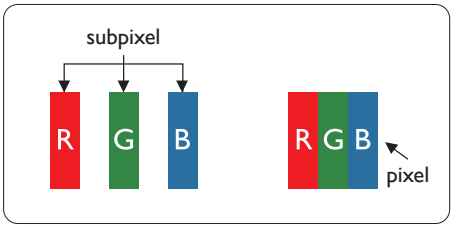
Note

This data is subject to change without notice.

8. Customer care and warranty

8.1 Philips' Flat Panel Monitors Pixel Defect Policy

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



Pixels and Sub pixels

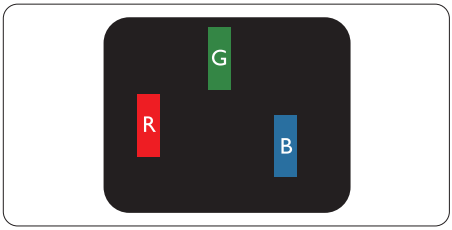
A pixel, or picture element, is composed of three sub pixels in the primary colors of red, green and blue. Many pixels together form an image. When all sub pixels of a pixel are lit, the three colored sub pixels together appear as a single white pixel. When all are dark, the three colored sub pixels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

Types of Pixel Defects

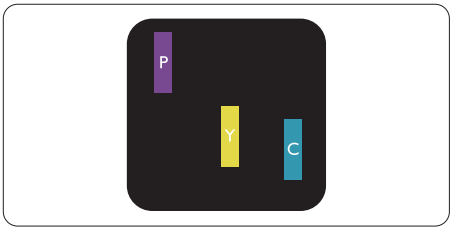
Pixel and sub pixel defects appear on the screen in different ways. There are two categories of pixel defects and several types of sub pixel defects within each category.

Bright Dot Defects

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

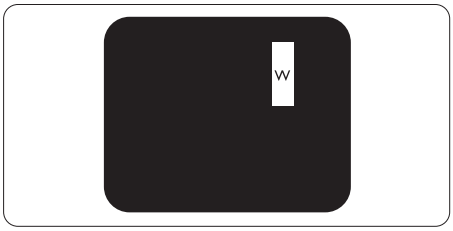


One lit red, green or blue sub pixel.



Two adjacent lit sub pixels:

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

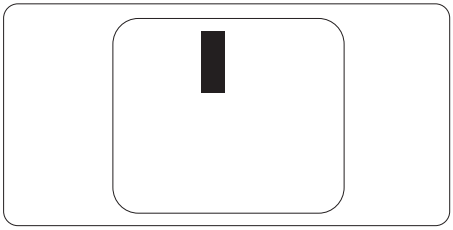


Three adjacent lit sub pixels (one white pixel).

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.

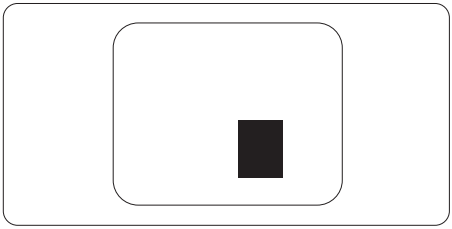
Black Dot Defects

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

BRIGHT DOT DEFECTS	ACCEPTABLE LEVEL
1 lit subpixel	2
2 adjacent lit subpixels	1
3 adjacent lit subpixels (one white pixel)	0
Distance between two bright dot defects*	>15mm
Total bright dot defects of all types	2

BLACK DOT DEFECTS	ACCEPTABLE LEVEL
1 dark subpixel	3 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	3 or fewer

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

Note

1 or 2 adjacent sub pixel defects = 1 dot defect

8.2 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.

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.

9. Troubleshooting & FAQs

9.1 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

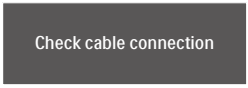
No Picture (Power LED not lit)

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

No Picture (Power LED is White)

- Make sure the computer is turned on.
- Make sure the signal cable is properly connected to your computer.
- Make sure the monitor 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 monitor cable is properly connected to your computer. (Also refer to the Quick Start Guide).
- Check to see if the monitor 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 monitor 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 monitor unattended.
- Always activate a periodic screen refresh application if your LCD monitor 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-imaging” or “ghost imaging” 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 monitor’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.

9.2 General FAQs

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

Ans.: Recommended resolution for this monitor: 1920 x 1080.

- Unplug all cables, then connect your PC to the monitor 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 1920 x 1080 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 1920 x 1080.
- Shut down your computer, disconnect your old monitor and reconnect your Philips LCD monitor.
- Turn on your monitor and then turn on your PC.

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

Ans.: Recommended refresh rate in LCD monitors 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? How do I install the drivers (.inf and .icm)?

Ans.: These are the driver files for your monitor. Your computer may ask you for monitor drivers (.inf and .icm files) when you first install your monitor. Follow the instructions in your user manual, monitor drivers (.inf and .icm files) will be installed automatically.

Q4: How do I adjust the resolution?

Ans.: Your video card/graphic driver and monitor 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 monitor adjustments via OSD?

Ans.: Simply press ☰/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 monitor, 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 monitor?

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 settings are 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, monitors, 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 Kelvin 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 monitor to any PC, workstation or Mac?

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

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

Ans.: Yes, the monitors are Plug-and-Play compatible with Windows 11/10, 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 "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 monitor unattended.
Always activate a periodic screen refresh application if your LCD monitor will display unchanging static content.

Warning

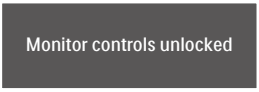
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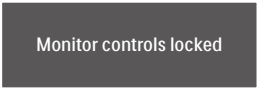
Q12: Why is my Display not showing sharp text, and is displaying jagged characters?

Ans.: Your LCD monitor works best at its native resolution of 1920 x 1080. For best display, please use this resolution.

Q13: How to unlock/lock my hot key?

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





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

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



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