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# 1. Important

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

The Philips guarantee applies provided the product is handled properly for its intended use, in accordance with its operating instructions and upon presentation of the original invoice or cash receipt, indicating the date of purchase, dealer's name and model and production number of the product.

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## 1.1 Safety precautions and maintenance

### Warnings

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

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

### Operation

- Please Keep the monitor out of direct sunlight, very strong bright lights and away from any other heat source. Lengthy exposure to this type of environment may result in discoloration and damage to the monitor.
- Remove any object that could fall into ventilation holes or prevent proper cooling of the monitor's electronics.
- Do not block the ventilation holes on the cabinet.
- When positioning the monitor, make sure the power plug and outlet are easily accessible.
- If turning off the monitor by detaching the power cable or DC power cord, wait for 6 seconds before attaching the power cable or DC power cord for normal operation.

- Please use approved power cord provided by Philips all the time. If your power cord is missing, please contact with your local service center. (Please refer to Customer Care Consumer Information Center)
- Do not subject the monitor to severe vibration or high impact conditions during operation.
- Do not knock or drop the monitor during operation or transportation.

### Maintenance

- To protect your monitor from possible damage, do not put excessive pressure on the LCD panel. When moving your monitor, grasp the frame to lift; do not lift the monitor by placing your hand or fingers on the LCD panel.
- Unplug the monitor if you are not going to use it for an extensive period of time.
- Unplug the monitor if you need to clean it with a slightly damp cloth. The screen may be wiped with a dry cloth when the power is off. However, never use organic solvent, such as, alcohol, or ammonia-based liquids to clean your monitor.
- To avoid the risk of shock or permanent damage to the set, do not expose the monitor to dust, rain, water, or excessive moisture environment.
- If your monitor gets wet, wipe it with dry cloth as soon as possible.
- If foreign substance or water gets in your monitor, please turn the power off immediately and disconnect the power cord. Then, remove the foreign substance or water, and send it to the maintenance center.
- Do not store or use the monitor in locations exposed to heat, direct sunlight or extreme cold.
- In order to maintain the best performance of your monitor and use it for a longer lifetime, please use the monitor in a location that falls within the following temperature and humidity ranges.

## 1. Important

- Temperature: 0-40°C 32-95°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 "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 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 monitor in a car/trunk under direct sun light.

#### Note

Consult a service technician if the monitor does not operate normally, or you are not sure

what procedure to take when the operating instructions given in this manual have been followed.

---

## 1.2 Notational Descriptions

The following subsections describe notational conventions used in this document.

### Notes, Cautions and Warnings

Throughout this guide, blocks of text may be accompanied by an icon and printed in bold or italic type. These blocks contain notes, cautions or warnings. They are used as follows:

#### Note

This icon indicates important information and tips that help you make better use of your computer system.

#### Caution

This icon indicates information that tells you how to avoid either potential damage to hardware or loss of data.

#### Warning

This icon indicates the potential for bodily harm and tells you how to avoid the problem.

Some warnings may appear in alternate formats and may not be accompanied by an icon. In such cases, the specific presentation of the warning is mandated by the relevant regulatory authority.

## 1.3 Disposal of product and packing material

### Waste Electrical and Electronic Equipment- WEEE



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

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

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

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

### Taking back/Recycling Information for Customers

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

From the planning, design and production stages, Philips emphasizes the 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) 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.

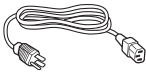
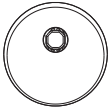
To learn more about our recycling program please visit

<http://www.philips.com/sites/philipsglobal/about/sustainability/ourenvironment/productrecyclingservices.page>

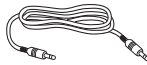
## 2. Setting up the monitor

### 2.1 Installation

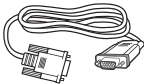
#### 1 Package contents



Power cable



Audio cable (optional)



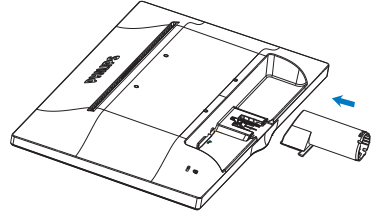
VGA (optional)



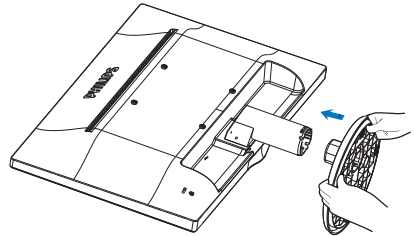
DVI (optional)

#### 2 Install base stand

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



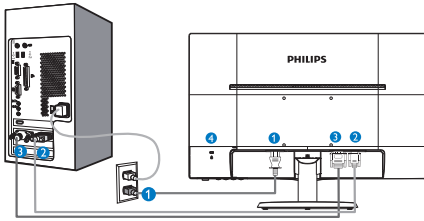
3. Hold the monitor base stand with both hands and firmly insert the base stand into the base column.



## 2. Setting up the monitor

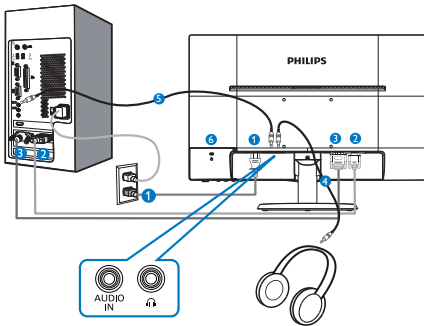
### 3 Connecting to your PC

#### 233V5LSB, 233V5LSB2



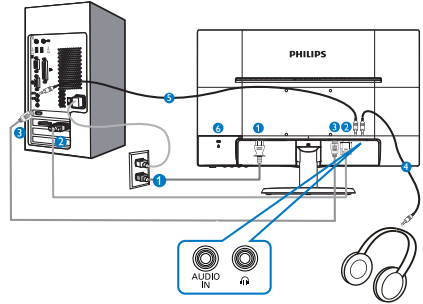
- 1 AC power input
- 2 VGA input
- 3 DVI-D input (available for selected models)
- 4 Kensington anti-theft lock

#### 233V5LAB



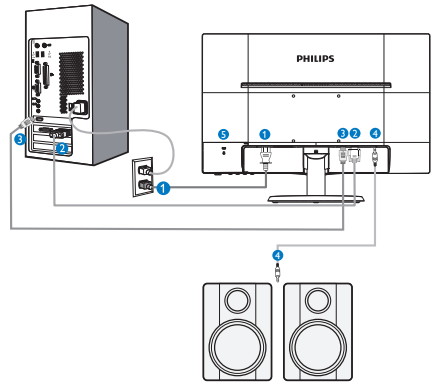
- 1 AC power input
- 2 VGA input
- 3 DVI-D input
- 4 Earphone output
- 5 Audio input
- 6 Kensington anti-theft lock

#### 233V5LHAB, 233V5LHAW



- 1 AC power input
- 2 VGA input
- 3 HDMI input
- 4 Earphone output
- 5 Audio input
- 6 Kensington anti-theft lock

#### 233V5LSHB2



- 1 AC power input
- 2 VGA input
- 3 HDMI input
- 4 HDMI audio out
- 5 Kensington anti-theft lock

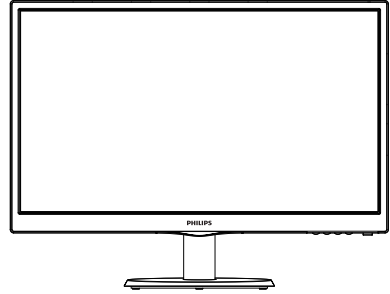
## 2. Setting up the monitor

### Connect to PC

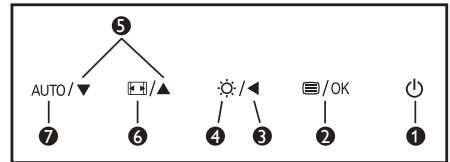
1. Connect the power cord to the back of the monitor firmly.
2. Turn off your computer and unplug its power cable.
3. Connect the monitor signal cable to the video connector on the back of your computer.
4. Plug the power cord of your computer and your monitor into a nearby outlet.
5. Turn on your computer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

## 2.2 Operating the monitor

### 1 Front view product description



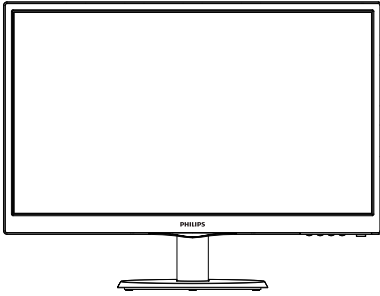
### 233V5LSB, 233V5LSB2, 233V5LHSB2



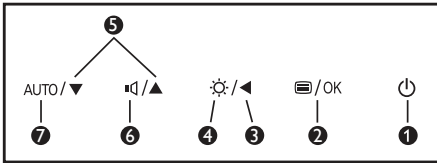
|   |      |   |
|---|------|---|
| 1 |      | Switch monitor's power ON and OFF.                  |
| 2 |      | Access the OSD menu.<br>Confirm the OSD adjustment. |
| 3 |      | Return to previous OSD level.                       |
| 4 |      | Adjust the brightness level.                        |
| 5 |      | Adjust the OSD menu.                                |
| 6 |      | Change display format.                              |
| 7 | AUTO | Automatically adjust the monitor.                   |



## 2. Setting up the monitor



233V5LAB, 233V5LHAB, 233V5LHAW



|   |      |   |
|---|------|---|
| 1 |      | Switch monitor's power ON and OFF.                  |
| 2 |      | Access the OSD menu.<br>Confirm the OSD adjustment. |
| 3 |      | Return to previous OSD level.                       |
| 4 |      | Adjust the brightness level.                        |
| 5 |      | Adjust the OSD menu.                                |
| 6 |      | Adjust the speaker volume.                          |
| 7 | AUTO | Automatically adjust the monitor.                   |

## 2 Description of the On Screen Display

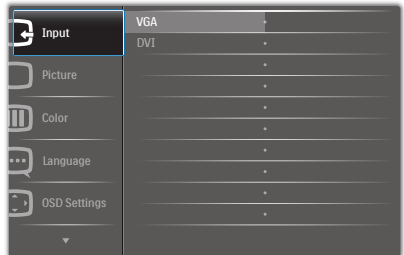
### What is On-Screen Display (OSD)?

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:

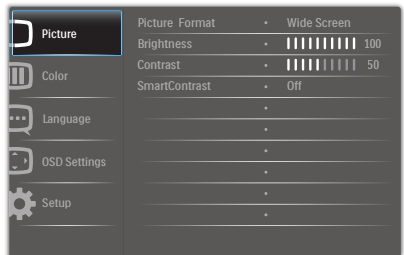
233V5LAB:



233V5LSB, 233V5LSB2:

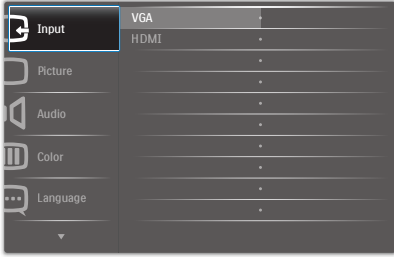


233V5LSB (for Analog only model):



## 2. Setting up the monitor

233V5LHAB, 233V5LHAW, 233V5LHSB2:

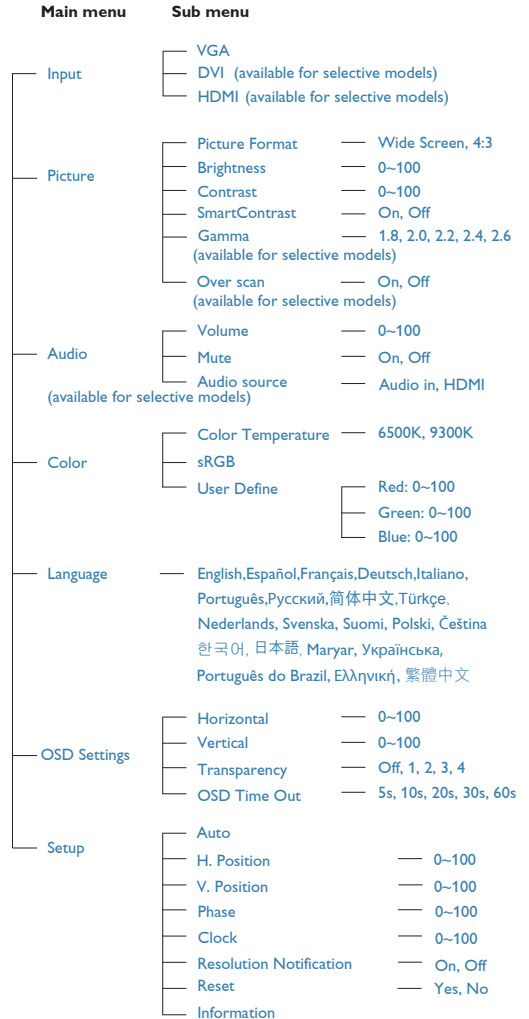


### Basic and simple instruction on the control keys

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.



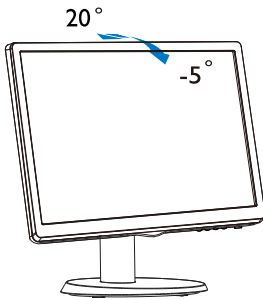
### 3 Resolution notification

This monitor is designed for optimal performance at its native resolution, 1920 × 1080 @ 60 Hz. When the monitor is powered on at a different resolution, an alert is displayed on screen: Use 1920 × 1080 @ 60 Hz 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

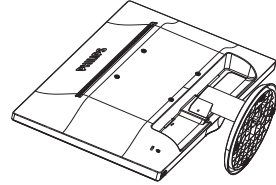


## 2.3 Remove Base Stand and Base

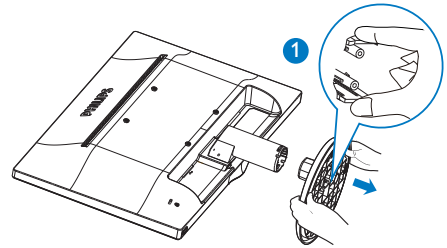
### 1 Remove the Base Stand

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

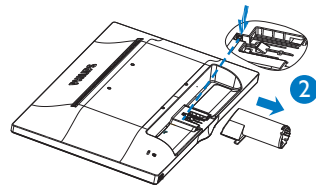
1. Place the monitor face down on a smooth surface, taking care to avoid scratching or damaging the screen.



2. Press the locking clips to detach the base stand away from the base column.



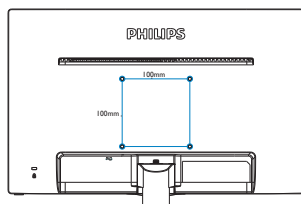
3. Press the release button to detach the base column.



## 2. Setting up the monitor

### Note

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



### Caution

For use only with UL Listed Wall Mount Bracket with minimum weight/load 3.5Kg

## 3. Image Optimization

### 3.1 SmartContrast

#### 1 What is it?

A unique technology that dynamically analyzes displayed content and automatically optimizes an LCD 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.

### 3.2 Philips SmartControl Lite

The new SmartControl Lite software by Philips allows you to control your monitor via an easy to use on-screen graphic interface. Complicated adjustments are a thing of the past as this user friendly software guides you through fine-tuning resolution, Color calibration, Clock/Phase adjustments, RGB White point adjustment, etc.

Equipped with latest technology in core algorithm for fast processing and response, this Windows 7 compliant eye catching animated

Icon based software is ready to enhance your experience with Philips monitors!

#### 1 Installation

- Follow the instruction and complete the installation.
- You can launch after installation is completed.
- If you want to launch later, you can either click the shortcut on desktop or toolbar:



#### First launch -Wizard

- The first time after installation of SmartControl Lite, it will automatically go to Wizard for first time launch.
- The wizard will guide you through adjusting your monitor performance step by step.
- You can go to Plug-in menu to launch wizard later on as well.
- You can adjust more options without wizard by Standard pane.

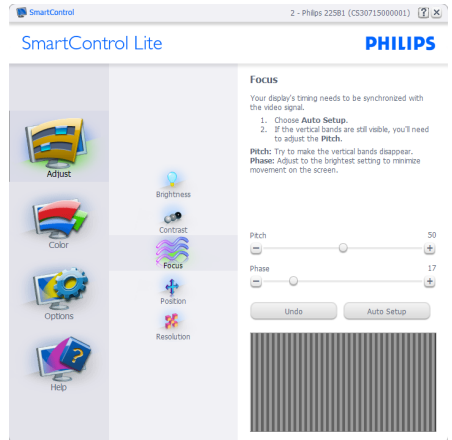
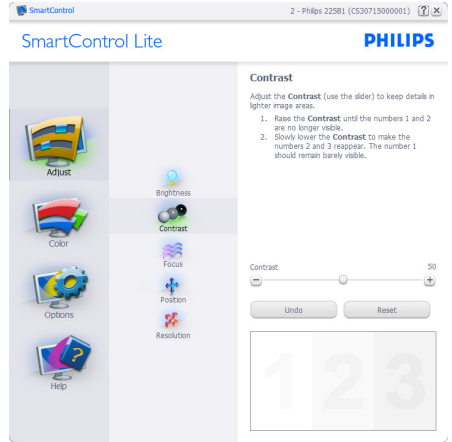
### 3. Image Optimization



#### 2 Start with Standard pane:

##### Adjust menu:

- Adjust Menu allow you to adjust Brightness, Contrast, Focus, Position and Resolution.
- You can follow the instruction and do the adjustment.
- Cancel prompts user if you want to cancel installation.



### 3. Image Optimization



#### Color menu:

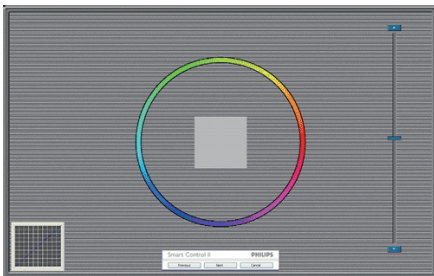
- Color Menu allow you to adjust RGB, Black Level, White Point, and Color Calibration.
- You can follow the instruction and do the adjustment.
- Refer to below table for sub-menu item base on your input.
- Example for Color Calibration:



### 3. Image Optimization

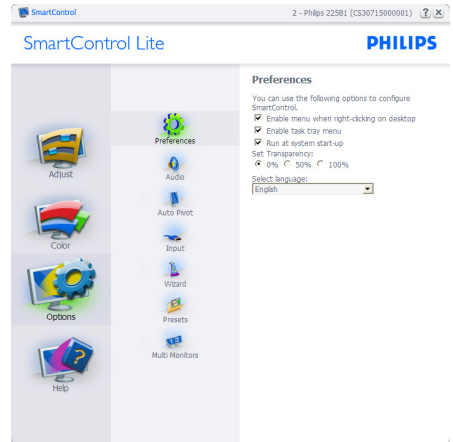
1. "Show Me" starts color calibration tutorial.
2. Start - starts the 6-step color calibration sequence.
3. Quick View loads the before/after images.
4. To return to Color home pane, click the **Cancel** button.
5. Enable color calibration - by default is on. If unchecked, does not allow for color calibration to happen, dimes out start and quick view buttons.
6. Must have patent info in calibration screen.

#### First color Calibration Screen:



- Previous button is disabled until the second color screen.
- Next goes to the succeeding target (6-targets).
- Final next goes File>Presets pane.
- Cancel closes the UI and returns to the plug in page.

**Options>Preferences** - Will only be active when selecting Preferences from the drop-down Options menu. On a non-supported display capable of DDC/CI, only the Help and Options tabs are available.



- Displays current preference settings.
- A checked box enables the feature. The check box is a toggle.
- Enable Context Menu on desktop is checked (On) by default. Enable Context menu displays SmartControl Lite selections for Select Preset and Tune Display in the desktop right-click context menu. Disabled removes SmartControl Lite from the right click context menu.
- Enable Task Tray icon is checked (On) by default. Enable context menu shows the task tray menu for SmartControl Lite. A right click on the task tray icon displays the menu options for Help, Technical Support, Check for Upgrade, About, and Exit. When Enable task tray menu is disabled, the task tray icon will only display EXIT.
- Run at Startup is checked (On) by default. When disabled, SmartControl Lite will not launch at start or be in the task tray. The only way to launch SmartControl Lite is either from the desktop short cut or from the program file. Any preset set to run



### 3. Image Optimization

at startup will not load when this box is unchecked (Disabled).

- Enable transparency mode (Windows 7, Vista, XP). Default is 0% Opaque.

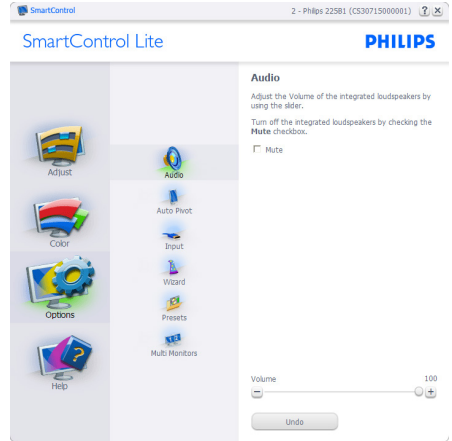
**Options>Input** - Will only be active when selecting Input from the drop-down Options menu. On a non-supported display capable of DDC/CI, only the Help and Options tabs are available. All other SmartControl Lite tabs are not available.



- Display the Source instruction pane and current input source setting.
- On single input displays, this pane will not be visible.

**Options>Audio** - Will only be active when selecting Audio from the drop-down Options menu.

On a non-supported display capable of DDC/CI, only the Help and Options tabs are available.

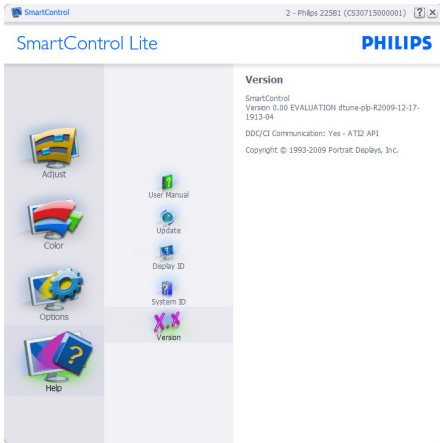


**Help>User Manual** - Will only be active when selecting User Manual from the drop-down Help menu. On a non-supported display capable of DDC/CI, only the Help and Options tabs are available.



**Help>Version** - Will only be active when selecting Version from the drop-down Help menu. On a non-supported display capable of DDC/CI, only the Help and Options tabs are available.

### 3. Image Optimization



#### Context Sensitive menu

The Context Sensitive menu is Enabled by default. If Enable Context Menu has been checked in the Options>Preferences pane, then the menu will be visible.

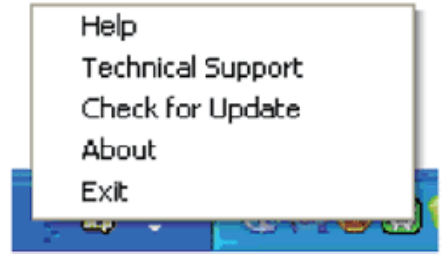


#### The Context Menu has three entries:

- SmartControl Lite - When selected the About Screen is displayed.
- Select Preset - Provides a hierarchical menu of saved presets for immediate use. A check mark shows the currently selected preset. Factory Preset can also be called from the drop down menu.
- Tune Display - Opens the SmartControl Lite control panel.

#### Task Tray Menu Enabled

The task tray menu can be displayed by right-clicking on the SmartControl Lite icon from the task tray. Left Click will launch the application.



#### The task tray has five entries:

- Help - Access to User Manual file: Open User Manual file using the default browser window.
- Technical Support - displays the tech support page.
- Check for Update - takes the user to PDI Landing and checks the user's version against the most current available.
- About - Displays detailed reference information: product version, release information, and product name.
- Exit - Close SmartControl Lite.

To run SmartControl Lite again either select SmartControl Lite from Program menu, double-click the desktop PC icon or restart the system.



#### Task Tray Menu Disabled









When the Task Tray is disabled in the preference folder, only the EXIT selection is available.

To completely remove SmartControl Lite from the task tray, disable Run at Startup in Options>Preferences.

#### **Note**

All the illustrations in this section are for reference only. SmartControl software version might be changed without notification. Please always check official Portrait website [www.portrait.com/dtune/ph/enu/index](http://www.portrait.com/dtune/ph/enu/index) to download the latest version of SmartControl software.

## 4. Technical Specifications

| Picture/Display           |   |
|---------------------------|---|
| Monitor Panel Type        | TFT-LCD   |
| Backlight                 | LED   |
| Panel Size                | 23" W (58.4cm)  |
| Aspect Ratio              | 16:9  |
| Pixel Pitch               | 0.265x 0.265 mm   |
| Brightness                | 250 cd/m <sup>2</sup> ;200 cd/m <sup>2</sup> (233V5LSB2, 233V5LHSB2)  |
| SmartContrast             | 10,000,000:1  |
| Contrast Ratio (typ.)     | 1000:1; 600:1(233V5LSB2, 233V5LHSB2)  |
| Response Time (typ.)      | 5ms   |
| Optimum Resolution        | 1920 x 1080 @ 60Hz  |
| Viewing Angle             | 170° (H) / 160° (V) @ C/R > 10<br>90° (H) / 50° (V) @ C/R > 10(233V5LSB2, 233V5LHSB2)   |
| Display Colors            | 16.7M   |
| Vertical Refresh Rate     | 56Hz - 76Hz   |
| Horizontal Frequency      | 30kHz - 83kHz   |
| sRGB                      | YES   |
| Connectivity              |   |
| Signal Input              | 233V5LSB, 233V5LSB2, 233V5LAB:VGA(Analog),<br>DVI(Digital,HDCP)(available for selected models)<br>233V5LHAB, 233V5LHAW, 233V5LHSB2:VGA(Analog),<br>HDMI(Digital,HDCP)   |
| Audio In/Out              | 233V5LAB, 233V5LHAB, 233V5LHAW: PC audio-in, Earphone<br>out<br>233V5LHSB2: HDMI audio out  |
| Input Signal              | Separate Sync, Sync on Green  |
| Convenience               |   |
| User Convenience          | 233V5LSB, 233V5LSB2, 233V5LHSB2:<br>AUTO/▼  /▲  /◀  /OK <br>233V5LAB, 233V5LHAB, 233V5LHAW:<br>AUTO/▼  /▲  /◀  /OK  |
| OSD Languages             | English, French, German, Spanish, Italian, Russian,<br>Simplified Chinese, Portuguese, Turkish, Dutch, Swedish, Finnish,<br>Polish, Czech, Korean, Japanese, Hungarian, Ukraine, Brazil<br>Portuguese, Greek, Traditional Chinese   |
| Other Convenience         | Kensington Lock   |
| Plug & Play Compatibility | DDC/CI, sRGB, Windows 7/Windows 8/Vista/XP, Mac OSX,<br>Linux   |
| VESA mount                | 100x100 mm  |
| Stand                     |   |
| Tilt                      | -5 / +20  |

**233V5LAB:**

| Power               |  |
|---------------------|--|
| On Mode             | 21.31 W (typ.), 26.15 W (max.)                       |
| Sleep (Standby)     | 0.5W   |
| Off                 | 0.5W   |
| Power LED indicator | On mode: White, Standby/Sleep mode: White (blinking) |
| Power Supply        | Built-in, 100-240VAC, 50-60Hz                        |

**233V5LSB:**

| Power               |  |
|---------------------|--|
| On Mode             | 21.55 W (typ.), 22.22 W (max.)<br>or 21.55 W (typ.), 24.23W (max.) (for Analog only model) |
| Sleep (Standby)     | 0.5W   |
| Off                 | 0.5W   |
| Power LED indicator | On mode: White, Standby/Sleep mode: White (blinking)                                       |
| Power Supply        | Built-in, 100-240VAC, 50-60Hz  |

**233V5LSB2:**

| Power               |  |
|---------------------|--|
| On Mode             | 20.23 W (typ.), 21.57 W (max.)                       |
| Sleep (Standby)     | 0.5W   |
| Off                 | 0.5W   |
| Power LED indicator | On mode: White, Standby/Sleep mode: White (blinking) |
| Power Supply        | Built-in, 100-240VAC, 50-60Hz                        |

**233V5LHSB2:**

| Power               |  |
|---------------------|--|
| On Mode             | 18.77 W (typ.), 20.7 W (max.)                        |
| Sleep (Standby)     | 0.5W   |
| Off                 | 0.3W   |
| Power LED indicator | On mode: White, Standby/Sleep mode: White (blinking) |
| Power Supply        | Built-in, 100-240VAC, 50-60Hz                        |

**233V5LHAB, 233V5LHAW:**

| Power               |  |
|---------------------|--|
| On Mode             | 21.02 W (typ.), 28.51 W (max.)                       |
| Sleep (Standby)     | 0.5W   |
| Off                 | 0.3W   |
| Power LED indicator | On mode: White, Standby/Sleep mode: White (blinking) |
| Power Supply        | Built-in, 100-240VAC, 50-60Hz                        |

| Dimension                     |                    |
|-------------------------------|--------------------|
| Product with stand (WxHxD)    | 547 × 416 × 219 mm |
| Product without stand (WxHxD) | 547 × 340 × 53 mm  |

#### 4. Technical Specifications

| Weight                            |   |
|-----------------------------------|---|
| Product with stand                | 3.5kg   |
| Product without stand             | 3.13kg  |
| Product with packaging            | 4.985kg   |
| Operating Condition               |   |
| Temperature range (operation)     | 0°C to 40 °C  |
| Temperature range (Non-operation) | -20°C to 60°C   |
| Relative humidity                 | 20% to 80%  |
| MTBF                              | 30,000hrs   |
| Environmental                     |   |
| ROHS                              | YES   |
| EPEAT                             | Silver ( <a href="http://www.epeat.net">www.epeat.net</a> )                                       |
| Packaging                         | 100% recyclable   |
| Energy Star                       | YES   |
| Compliance and standards          |   |
| Regulatory Approvals              | CE Mark, FCC Class B, CU, SEMKO, BSMI, ETL, ISO9241-307, TCO Certified, SASO, EPA, CB, PSB, KUCAS |
| Cabinet                           |   |
| Color                             | 233V5LHAW:White<br>233V5LAB, 233V5LSB, 233V5LSB2, 233V5LHSB2,<br>233V5LHAB:Black                  |
| Finish                            | Texture   |

#### Note

1. EPEAT Gold or Silver is valid only where Philips registers the product. Please visit [www.epeat.net](http://www.epeat.net) for registration status in your country.
2. This data is subject to change without notice. Go to [www.philips.com/support](http://www.philips.com/support) to download the latest version of leaflet.

## 4.1 Resolution & Preset Modes

### 1 Maximum Resolution

1920 × 1080 @ 60 Hz (analog input)

1920 × 1080 @ 60 Hz (digital input)

### 2 Recommended Resolution

1920 × 1080 @ 60 Hz (digital input)

| H. freq (kHz) | Resolution  | V. freq (Hz) |
|---------------|-------------|--------------|
| 31.47         | 720 × 400   | 70.09        |
| 31.47         | 640 × 480   | 59.94        |
| 35.00         | 640 × 480   | 66.67        |
| 37.86         | 640 × 480   | 72.81        |
| 37.50         | 640 × 480   | 75.00        |
| 37.88         | 800 × 600   | 60.32        |
| 46.88         | 800 × 600   | 75.00        |
| 48.36         | 1024 × 768  | 60.00        |
| 60.02         | 1024 × 768  | 75.03        |
| 44.77         | 1280 × 720  | 59.86        |
| 63.89         | 1280 × 1024 | 60.02        |
| 79.98         | 1280 × 1024 | 75.03        |
| 55.94         | 1440 × 900  | 59.89        |
| 70.64         | 1440 × 900  | 74.98        |
| 65.29         | 1680 × 1050 | 59.95        |
| 67.50         | 1920 × 1080 | 60.00        |

### Note

Please notice that your display works best at native resolution of 1920 × 1080 @ 60Hz. For best display quality, please follow this resolution recommendation.

## 5. 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:

### 233V5LAB:

| Power Management Definition |       |        |        |                                 |               |
|-----------------------------|-------|--------|--------|---------------------------------|---------------|
| VESA Mode                   | Video | H-sync | V-sync | Power Used                      | LED Color     |
| Active                      | ON    | Yes    | Yes    | 21.31 W (typ.)<br>26.15 W(max.) | White         |
| Sleep (Standby)             | OFF   | No     | No     | 0.5W (typ.)                     | White (blink) |
| Switch Off                  | OFF   | -      | -      | 0.5W (typ.)                     | OFF           |

### 233V5LSB:

| Power Management Definition |       |        |        |  |               |
|-----------------------------|-------|--------|--------|--|---------------|
| VESA Mode                   | Video | H-sync | V-sync | Power Used   | LED Color     |
| Active                      | ON    | Yes    | Yes    | 21.55 W (typ.)<br>22.22 W(max.)<br>or 21.55 W (typ.)<br>24.23 W(max.)<br>(for Analog only model) | White         |
| Sleep (Standby)             | OFF   | No     | No     | 0.5W (typ.)  | White (blink) |
| Switch Off                  | OFF   | -      | -      | 0.5W (typ.)  | OFF           |

### 233V5LHAB, 233V5LHAW:

| Power Management Definition |       |        |        |                                 |               |
|-----------------------------|-------|--------|--------|---------------------------------|---------------|
| VESA Mode                   | Video | H-sync | V-sync | Power Used                      | LED Color     |
| Active                      | ON    | Yes    | Yes    | 21.02 W (typ.)<br>28.51 W(max.) | White         |
| Sleep (Standby)             | OFF   | No     | No     | 0.5W (typ.)                     | White (blink) |
| Switch Off                  | OFF   | -      | -      | 0.3W (typ.)                     | OFF           |

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

- Native resolution: 1920 x 1080
- Contrast: 50%
- Brightness: 250 nits
- Color temperature: 6500k with full white pattern

### 233V5LSB2:

| Power Management Definition |       |        |        |                                |               |
|-----------------------------|-------|--------|--------|--------------------------------|---------------|
| VESA Mode                   | Video | H-sync | V-sync | Power Used                     | LED Color     |
| Active                      | ON    | Yes    | Yes    | 20.23 W (typ.)<br>21.57W(max.) | White         |
| Sleep (Standby)             | OFF   | No     | No     | 0.5W (typ.)                    | White (blink) |
| Switch Off                  | OFF   | -      | -      | 0.5W (typ.)                    | OFF           |

### 233V5LHSB2:

| Power Management Definition |       |        |        |                                |               |
|-----------------------------|-------|--------|--------|--------------------------------|---------------|
| VESA Mode                   | Video | H-sync | V-sync | Power Used                     | LED Color     |
| Active                      | ON    | Yes    | Yes    | 18.77 W (typ.)<br>20.7 W(max.) | White         |
| Sleep (Standby)             | OFF   | No     | No     | 0.5W (typ.)                    | White (blink) |
| Switch Off                  | OFF   | -      | -      | 0.3W (typ.)                    | OFF           |

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

- Native resolution: 1920 x 1080
- Contrast: 50%
- Brightness: 200 nits
- Color temperature: 6500k with full white pattern

### Note

This data is subject to change without notice.



## 6. Regulatory Information

### Lead-free Product



Lead free display promotes environmentally sound recovery and disposal of waste from electrical and electronic equipment. Toxic substances like Lead has been eliminated and compliance with European community's stringent RoHs directive mandating restrictions on hazardous substances in electrical and electronic equipment have been adhered to in order to make Philips monitors safe to use throughout its life cycle.

### Congratulations!

This product is designed for both you and the planet!



TCO Development works for sustainable IT - manufacture, use and recycling of IT products reflecting environmental, social and economic responsibility.

TCO Certified is a third party verified program, where every product model is tested by an accredited impartial test laboratory. TCO Certified represents one of the toughest certifications for ICT products worldwide.

### Some of the Usability features of TCO Certified Displays:

- Visual Ergonomics for image quality is tested to ensure top performance and reduce sight and strain problems. Important parameters are Resolution, Luminance, Contrast, Reflection and Colour characteristics
- Products are tested according to rigorous safety standards at impartial laboratories
- Electric and magnetic fields emissions as low as normal household background levels
- Workload ergonomics to ensure a good physical environment

### Some of the Environmental features of TCO Certified Displays:

- Production facilities have an Environmental Management System (EMAS or ISO 14001)
- Low energy consumption to minimize climate impact
- Restrictions on Chlorinated and Brominated flame retardants, plasticizers, plastics and heavy metals such as cadmium, mercury and lead (RoHS compliance)
- Both product and product packaging is prepared for recycling
- The brand owner offers take-back options

### Corporate Social Responsibility

- The brand owner demonstrates the product is manufactured under working practices that promote good labour relations and working conditions.

The Criteria Document can be downloaded from our web site. The criteria included in this label have been developed by TCO Development in co-operation with scientists, experts, users as well as manufacturers all over the world. Since the end of the 1980s TCO has been involved in influencing the development of IT equipment in a more user and environmentally friendly direction. Our ICT product labeling system began in 1992 and is now requested by users and ICT-manufacturers all over the world.

For displays with glossy bezels, the user should consider the placement of the display as the bezel may cause disturbing reflections from surrounding light and bright surfaces.

For more information, please visit: [www.tcodevelopment.com](http://www.tcodevelopment.com)



Technology for you and the planet

(Only for selective models)

## EPEAT

([www.epeat.net](http://www.epeat.net))



The EPEAT (Electronic Product Environmental Assessment Tool) program evaluates computer

desktops, laptops, and monitors based on 51 environmental criteria developed through an extensive stakeholder consensus process supported by US EPA.

EPEAT system helps purchasers in the public and private sectors evaluate, compare and select desktop computers, notebooks and monitors based on their environmental attributes. EPEAT also provides a clear and consistent set of performance criteria for the design of products, and provides an opportunity for manufacturers to secure market recognition for efforts to reduce the environmental impact of its products.

### Benefits of EPEAT

Reduce use of primary materials  
Reduce use of toxic materials

Avoid the disposal of hazardous waste EPEAT'S requirement that all registered products meet ENERGY STAR's energy efficiency specifications, means that these products will consume less energy throughout their life.

## CE Declaration of Conformity

This product is in conformity with the following standards

- EN60950-1:2006+A11:2009+A1:2010+A12:2011 (Safety requirement of Information Technology Equipment).
- EN55022:2010 (Radio Disturbance requirement of Information Technology Equipment).
- EN55024:2010 (Immunity requirement of Information Technology Equipment).
- EN61000-3-2:2006 +A1:2009+A2:2009 (Limits for Harmonic Current Emission).
- EN61000-3-3:2008 (Limitation of Voltage Fluctuation and Flicker) following provisions of directives applicable.
- 2006/95/EC (Low Voltage Directive).
- 2004/108/EC (EMC Directive).
- 2009/125/EC (ErP Directive, EC No. 1275/2008 Implementing Directive for Standby and Off mode power consumption) and is produced by a manufacturing organization on ISO9000 level.

The product also comply with the following standards

- ISO9241-307:2008 (Ergonomic requirement, Analysis and compliance test methods for electronic visual displays).
- GS EK1-2000:2011 (GS mark requirement).
- prEN50279:1998 (Low Frequency Electric and Magnetic fields for Visual Display).
- MPR-II (MPR:1990:8/1990:10 Low Frequency Electric and Magnetic fields).
- TCO CERTIFIED (Requirement for Environment Labeling of Ergonomics, Energy, Ecology and Emission, TCO: Swedish Confederation of Professional Employees) for TCO versions.

## Energy Star Declaration

(www.energystar.gov)



As an ENERGY STAR® Partner, we have determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

### Note

We recommend you switch off the monitor when it is not in use for a long time.

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

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

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

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

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

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

## FCC Declaration of Conformity

Declaration of Conformity for Products Marked with FCC Logo,

### United States Only



This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

## Commission Federale de la Communication (FCC Declaration)

⚠ Cet équipement a été testé et déclaré conforme aux limites des appareils numériques de class B, aux termes de l'article 15 Des règles de la FCC. Ces limites sont conçues de façon à fournir une protection raisonnable contre les interférences nuisibles dans le cadre d'une installation résidentielle.

CET appareil produit, utilise et peut émettre des hyperfréquences qui, si l'appareil n'est pas installé et utilisé selon les consignes données, peuvent causer des interférences nuisibles aux communications radio.

Cependant, rien ne peut garantir l'absence d'interférences dans le cadre d'une installation particulière. Si cet appareil est la cause d'interférences nuisibles pour la réception des signaux de radio ou de télévision, ce qui peut être décelé en fermant l'équipement, puis en le remettant en fonction, l'utilisateur pourrait essayer de corriger la situation en prenant les mesures suivantes:

- Réorienter ou déplacer l'antenne de réception.
  - Augmenter la distance entre l'équipement et le récepteur.
  - Brancher l'équipement sur un autre circuit que celui utilisé par le récepteur.
  - Demander l'aide du marchand ou d'un technicien chevronné en radio/télévision.
- ! Toutes modifications n'ayant pas reçu l'approbation des services compétents en matière de conformité est susceptible d'interdire à l'utilisateur l'usage du présent équipement.

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

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

## EN 55022 Compliance (Czech Republic Only)

This device belongs to category B devices as specified in EN 55022, unless it is specifically stated that it is a Class A device on the identification label. The following applies to devices in Class A of EN 55022 (radius of protection up to 30 meters). The user of the device is obliged to take all steps necessary to remove sources of interference to telecommunication or other devices.

Pokud není na typovém štítku pořítaže uvedeno, že spadá do třídy A podle EN 55022, spadá automaticky do třídy B podle EN 55022. Pro zařízení zařazená do třídy A (chranné pásmo 30m) podle EN 55022 platí následující. Dojde-li k rušení telekomunikačních nebo jiných zařízení je uživatel povinen provést taková opatření, aby rušení odstránil.

## Polish Center for Testing and Certification Notice

The equipment should draw power from a socket with an attached protection circuit (a three-prong socket). All equipment that works together (computer; monitor; printer; and so on) should have the same power supply source.

The phasing conductor of the room's electrical installation should have a reserve short-circuit protection device in the form of a fuse with a nominal value no larger than 16 amperes (A).

To completely switch off the equipment, the power supply cable must be removed from the power supply socket, which should be located near the equipment and easily accessible.

A protection mark "B" confirms that the equipment is in compliance with the protection usage requirements of standards PN-93/T-42107 and PN-89/E-06251.

## Wymagania Polskiego Centrum Badań i Certyfikacji

Urządzenie powinno być zasilane z gniazda z przyłączonym obwodem ochronnym (gniazdo z kółkiem). Współpracujące ze sobą urządzenia (komputer, monitor, drukarka) powinny być zasilane z tego samego źródła.

Instalacja elektryczna pomieszczenia powinna zawierać w przewodzie fazowym rezerwową ochronę przed zwarciami, w postaci bezpiecznika o wartości znamionowej nie większej niż 16A (amperów).

W celu całkowitego wyłączenia urządzenia z sieci zasilania, należy wyjąć wtyczkę kabla zasilającego z gniazda, które powinno znajdować się w pobliżu urządzenia i być łatwo dostępne.

Znak bezpieczeństwa "B" potwierdza zgodność urządzenia z wymaganiami bezpieczeństwa użytkowania zawartymi w PN-93/T-42107 i PN-89/E-06251.

## Pozostałe instrukcje bezpieczeństwa

- Nie należy używać wtyczek adapterowych lub usuwać kółka obwodu ochronnego z wtyczki. Jeżeli konieczne jest użycie przedłużacza to należy użyć przedłużacza 3-żyłowego z prawidłowo połączonym przewodem ochronnym.
- System komputerowy należy zabezpieczyć przed nagłymi, chwilowymi wzrostami lub spadkami napięcia, używając eliminatora przepięć, urządzenia doposażającego lub bezzakłócenowego źródła zasilania.
- Należy upewnić się, aby nic nie leżało na kablach systemu komputerowego, oraz aby kable nie były umieszczone w miejscu, gdzie można byłoby na nie nakładywać lub pociąkać się o nie.
- Nie należy rozłączać napojów ani innych płynów na system komputerowy.
- Nie należy wpychać żadnych przedmiotów do otworów systemu komputerowego, gdyż może to spowodować pożar lub porażenie prądem, poprzez zwarcie elementów wewnętrznych.
- System komputerowy powinien znajdować się z dala od grzejników i źródeł ciepła. Ponadto, nie należy blokować otworów wentylacyjnych. Należy unikać kładzenia luznych papierów pod komputer oraz umieszczania komputera w ciasnym miejscu bez możliwości cyrkulacji powietrza wokół niego.

### North Europe (Nordic Countries) Information

Placering/Ventilation

**VARNING:**

FÖRSÄKRA DIG OM ATT HUVUDBRYTARE OCH UTTAG ÄR LÄTÅTKOMLIGA, NÄR DU STÄLLER DIN UTRUSTNING PÅPLATS.

Placering/Ventilation

**ADVARSEL:**

SØRG VED PLACERINGEN FOR, AT NETLEDNINGENS STIK OG STIKKONTAKT ER NEMT TILGÆENGLIGE.

Paikka/Ilmankierto

**VAROITUS:**

SIIJOITA LAITE SITEN, ETTÄ VERKKOJOHTO VOIDAAN TARVITTAESSA HELPOSTI IRROTTAA PISTORASIESTA.

Plassering/Ventilasjon

**ADVARSEL:**

NÅR DETTE UTSTYRET PLASSERES, MÅ DU PASSE PÅ AT KONTAKTENE FOR STØMTILFØRSEL ER LETTE Å NÅ.

### BSMI Notice (Taiwan Only)

符合乙類資訊產品之標準

### Ergonomie Hinweis (nur Deutschland)

Der von uns gelieferte Farbmonitor entspricht den in der "Verordnung über den Schutz vor Schäden durch Röntgenstrahlen" festgelegten Vorschriften.

Auf der Rückwand des Gerätes befindet sich ein Aufkleber, der auf die Unbedenklichkeit der Inbetriebnahme hinweist, da die Vorschriften über die Bauart von Störstrahlern nach Anlage III  $\square$  5 Abs. 4 der Röntgenverordnung erfüllt sind.

Damit Ihr Monitor immer den in der Zulassung geforderten Werten entspricht, ist darauf zu achten, daß

1. Reparaturen nur durch Fachpersonal durchgeführt werden.
2. nur original-Ersatzteile verwendet werden.
3. bei Ersatz der Bildröhre nur eine bauartgleiche eingebaut wird.

Aus ergonomischen Gründen wird empfohlen, die Grundfarben Blau und Rot nicht auf dunklem Untergrund zu verwenden (schlechte Lesbarkeit und erhöhte Augenbelastung bei zu geringem Zeichenkontrast wären die Folge). Der arbeitsplatzbezogene Schalldruckpegel nach DIN 45 635 beträgt 70dB (A) oder weniger.

**⚠ ACHTUNG: BEIM AUFSTELLEN DIESES GERÄTES DARAUFG ACHTEN, DAß NETZSTECKER UND NETZKABELANSCHLUß LEICHT ZUGÄNGLICH SIND.**

### China RoHS

The People's Republic of China released a regulation called "Management Methods for Controlling Pollution by Electronic Information Products" or commonly referred to as China RoHS. All products including CRT and Monitor which are produced and sold for China market have to meet China RoHS request.

中国大陆RoHS

根据中国大陆《电子信息产品污染控制管理办法》(也称为中国大陆RoHS), 以下部分列出了本产品中可能包含的有毒有害物质或元素的名称和含量

本表适用之产品

显示器(液晶及CRT)

有毒有害物质或元素

| 部件名称     | 有毒有害物质或元素 |        |        |            |            |              |
|----------|-----------|--------|--------|------------|------------|--------------|
|          | 铅 (Pb)    | 汞 (Hg) | 镉 (Cd) | 六价铬 (Cr6+) | 多溴联苯 (PBB) | 多溴二苯醚 (PBDE) |
| 外壳       | ○         | ○      | ○      | ○          | ○          | ○            |
| CRT显示屏   | ×         | ○      | ○      | ○          | ○          | ○            |
| 液晶显示屏/灯管 | ×         | ○      | ○      | ○          | ○          | ○            |
| 电路板组件*   | ×         | ○      | ○      | ○          | ○          | ○            |
| 电源适配器    | ×         | ○      | ○      | ○          | ○          | ○            |
| 电源线/连接线  | ×         | ○      | ○      | ○          | ○          | ○            |

\*: 电路板组件包括印刷电路板及其构成的零部件, 如电阻、电容、集成电路、连接器等  
 ○: 表示该有害物质在该部件所有均质材料中的含量均在《电子信息产品中有毒有害物质限量要求标准》规定的限量要求以下  
 ×: 表示该有害物质至少在该部件的某一均质材料中的含量超出《电子信息产品中有毒有害物质限量要求标准》规定的限量要求; 但是上表中打“×”的部件, 符合欧盟RoHS法规要求(属于豁免的部分)

### 10 环保使用期限

此标识指期限(十年),电子信息产品中含有的有毒有害物质或在正常使用的条件下不会发生外泄或突变, 电子信息产品用户使用该电子信息产品不会对环境造成严重污染或对其人身、财产造成严重损害的期限。

### 中国能源效率标识

根据中国大陆《能源效率标识管理办法》, 本显示器符合以下要求:

|            |               |
|------------|---------------|
| 能源效率(cd/W) | > 1.05        |
| 关闭状态能耗 (W) | < 0.5         |
| 能效等级       | 1级            |
| 能效标准       | GB 21520-2008 |

详细有关信息请查阅中国能效标识网: <http://www.energylabel.gov.cn/>

### 《废弃电器电子产品回收处理管理条例》提示性说明

为了更好地关爱及保护地球, 当用户不再需要此产品或产品寿命终止时, 请遵守国家废弃电器电子产品回收处理相关法律法规, 将其交给当地具有国家认可的回收处理资质的厂商进行回收处理。

### EU Energy Label



The European Energy Label informs you on the energy efficiency class of this product. The greener the energy efficiency class of this product is the lower the energy it consumes.

On the label, you can find the energy efficiency class, the average power consumption of this product in use and the average energy consumption for 1 year:

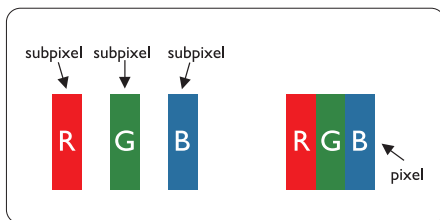
### Note

The EU Energy Label will be ONLY applied on the models bundling with HDMI and TV tuners.

## 7. Customer care and warranty

### 7.1 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

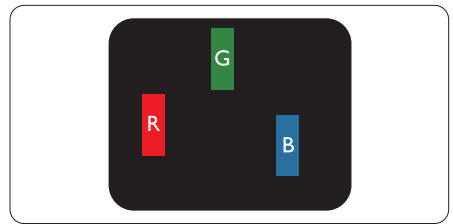
black pixel. Other combinations of lit and dark sub pixels appear as single pixels of other colors.

#### Types of Pixel Defects

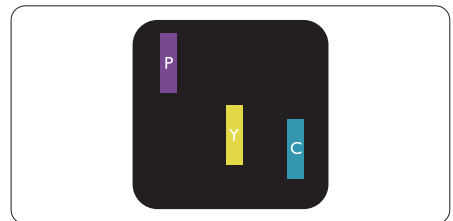
Pixel and sub pixel defects appear on the screen in different ways. There are two categories of pixel defects and several types of sub pixel defects within each category.

#### 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)



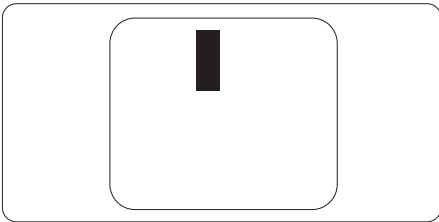
Three adjacent lit sub pixels (one white pixel).

**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.

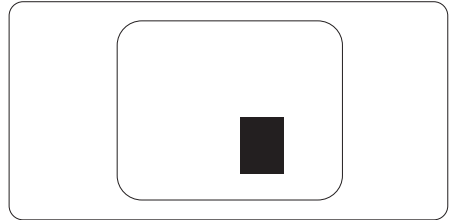
**Black Dot Defects**

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



## 7.2 Customer Care & Warranty

For warranty coverage information and additional support requirement valid for your region, please visit [www.philips.com/support](http://www.philips.com/support) website for details. You may also contact your local Philips Customer Care Center number listed below.

### Contact Information for WESTERN EUROPE region:

| Country        | CSP         | Hotline Number      | Price             | Opening Hours          |
|----------------|-------------|---------------------|-------------------|------------------------|
| Austria        | RTS         | +43 0810 000206     | € 0.07            | Mon to Fri : 9am - 6pm |
| Belgium        | Ecare       | +32 078 250851      | € 0.06            | Mon to Fri : 9am - 6pm |
| Cyprus         | Alman       | 800 92 256          | Free of charge    | Mon to Fri : 9am - 6pm |
| Denmark        | Infocare    | +45 3525 8761       | Local call tariff | Mon to Fri : 9am - 6pm |
| Finland        | Infocare    | +358 09 2290 1908   | Local call tariff | Mon to Fri : 9am - 6pm |
| France         | Mainteq     | +33 082161 1658     | € 0.09            | Mon to Fri : 9am - 6pm |
| Germany        | RTS         | +49 01803 386 853   | € 0.09            | Mon to Fri : 9am - 6pm |
| Greece         | Alman       | +30 00800 3122 1223 | Free of charge    | Mon to Fri : 9am - 6pm |
| Ireland        | Celestica   | +353 01 601 1161    | Local call tariff | Mon to Fri : 8am - 5pm |
| Italy          | Anovo Italy | +39 840 320 041     | € 0.08            | Mon to Fri : 9am - 6pm |
| Luxembourg     | Ecare       | +352 26 84 30 00    | Local call tariff | Mon to Fri : 9am - 6pm |
| Netherlands    | Ecare       | +31 0900 0400 063   | € 0.10            | Mon to Fri : 9am - 6pm |
| Norway         | Infocare    | +47 2270 8250       | Local call tariff | Mon to Fri : 9am - 6pm |
| Poland         | MSI         | +48 0223491505      | Local call tariff | Mon to Fri : 9am - 6pm |
| Portugal       | Mainteq     | 800 780 902         | Free of charge    | Mon to Fri : 8am - 5pm |
| Spain          | Mainteq     | +34 902 888 785     | € 0.10            | Mon to Fri : 9am - 6pm |
| Sweden         | Infocare    | +46 08 632 0016     | Local call tariff | Mon to Fri : 9am - 6pm |
| Switzerland    | ANOVO CH    | +41 02 2310 2116    | Local call tariff | Mon to Fri : 9am - 6pm |
| United Kingdom | Celestica   | +44 0207 949 0069   | Local call tariff | Mon to Fri : 8am - 5pm |

### Contact Information for China:

| Country | Call center  | Consumer care number |
|---------|--------------|----------------------|
| China   | PCCW Limited | 4008 800 008         |

### Contact Information for NORTH AMERICA :

| Country | Call center  | Consumer care number |
|---------|--------------|----------------------|
| U.S.A.  | EPI-e-center | (877) 835-1838       |
| Canada  | EPI-e-center | (800)479-6696        |

7. Customer care and warranty

Contact Information for CENTRAL AND EASTERN EUROPE region:

| Country                 | Call center | CSP                    | Consumer care number   |
|-------------------------|-------------|------------------------|--|
| Belarus                 | NA          | IBA                    | +375 17 217 3386<br>+375 17 217 3389                           |
| Bulgaria                | NA          | LAN Service            | +359 2 960 2360  |
| Croatia                 | NA          | MR Service Ltd         | +385 (01) 640 1111   |
| Czech Rep.              | NA          | Asupport               | 420 272 188 300  |
| Estonia                 | NA          | FUJITSU                | +372 6519900(General)<br>+372 6519972(workshop)                |
| Georgia                 | NA          | Esabi                  | +995 322 91 34 71  |
| Hungary                 | NA          | Profi Service          | +36 1 814 8080(General)<br>+36 1814 8565(For AOC&Philips only) |
| Kazakhstan              | NA          | Classic Service I.l.c. | +7 727 3097515   |
| Latvia                  | NA          | ServiceNet LV          | +371 67460399<br>+371 27260399                                 |
| Lithuania               | NA          | UAB Servicenet         | +370 37 400160(general)<br>+370 7400088 (for Philips)          |
| Macedonia               | NA          | AMC                    | +389 2 3125097   |
| Moldova                 | NA          | Comel                  | +37322224035   |
| Romania                 | NA          | Skin                   | +40 21 2101969   |
| Russia                  | NA          | CPS                    | +7 (495) 645 6746  |
| Serbia&Montenegro       | NA          | Kim Tec d.o.o.         | +381 11 20 70 684  |
| Slovakia                | NA          | Datalan Service        | +421 2 49207155  |
| Slovenia                | NA          | PC H.and               | +386 1 530 08 24   |
| the republic of Belarus | NA          | ServiceBy              | + 375 17 284 0203  |
| Turkey                  | NA          | Tecpro                 | +90 212 444 4 832  |
| Ukraine                 | NA          | Topaz                  | +38044 525 64 95   |
| Ukraine                 | NA          | Comel                  | +380 5627444225  |

Contact Information for LATIN AMERICA region:

| Country   | Call center | Consumer care number |
|-----------|-------------|----------------------|
| Brazil    | Vermont     | 0800-7254101         |
| Argentina |             | 0800 3330 856        |

7. Customer care and warranty

Contact Information for APMEA region:

| Country  | ASP  | Consumer care number   | Opening hours  |
|--|--|--|--|
| Australia  | AGOS NETWORK PTY LTD   | 1300 360 386   | Mon.~Fri. 9:00am-5:30pm  |
| New Zealand  | Visual Group Ltd.  | 0800 657447  | Mon.~Fri. 8:30am-5:30pm  |
| Hong Kong<br>Macau   | Company: Smart Pixels<br>Technology Ltd.                                   | Hong Kong:<br>Tel: +852 2619 9639<br>Macau:Tel: (853)-0800-987   | Mon.~Fri. 9:00am-6:00pm<br>Sat. 9:00am-1:00pm                          |
| India  | REDINGTON INDIA LTD  | Tel: 1 800 425 6396<br>SMS: PHILIPS to 56677   | Mon.~Fri. 9:00am-5:30pm  |
| Indonesia  | PT. CORMIC SERVISINDO<br>PERKASA   | +62-21-4080-9086 (Customer<br>Hotline)<br>+62-8888-01-9086 (Customer<br>Hotline)                         | Mon.~Thu. 08:30-12:00;<br>13:00-17:30<br>Fri. 08:30-11:30; 13:00-17:30 |
| Korea  | Alphascan Displays, Inc  | 1661-5003  | Mon.~Fri. 9:00am-5:30pm<br>Sat. 9:00am-1:00pm                          |
| Malaysia   | R-Logic Sdn Bhd  | +603 5102 3336   | Mon.~Fri. 8:15am-5:00pm<br>Sat. 8:30am-12:30am                         |
| Pakistan   | TVONICS Pakistan   | +92-213-6030100  | Sun.~Thu. 10:00am-6:00pm   |
| Singapore  | Philips Electronics Singapore<br>Pte Ltd (Philips Consumer Care<br>Center) | (65) 6882 3966   | Mon.~Fri. 9:00am-6:00pm<br>Sat. 9:00am-1:00pm                          |
| Taiwan   | FETEC.CO   | 0800-231-099   | Mon.~Fri. 09:00 - 18:00  |
| Thailand   | Axis Computer System Co.,<br>Ltd.  | (662) 934-5498   | Mon.~Fri. 8:30am~05:30pm   |
| South Africa   | Computer Repair Technologies   | 011 262 3586   | Mon.~Fri. 8:00am~05:00pm   |
| Israel   | Eastronics LTD   | 1-800-567000   | Sun.~Thu. 08:00-18:00  |
| Vietnam  | FPT Service Informatic<br>Company Ltd. - Ho Chi Minh<br>City Branch        | +84 8 38248007 Ho Chi Minh<br>City<br>+84 5113.562666 Danang City<br>+84 5113.562666 Can tho<br>Province | Mon.~Fri. 8:00-12:00, 13:30-<br>17:30,Sat. 8:00-12:00                  |
| Philippines  | EA Global Supply Chain<br>Solutions ,Inc.                                  | (02) 655-7777; 6359456   | Mon.~Fri. 8:30am~5:30pm  |
| Armenia<br>Azerbaijan<br>Georgia<br>Kyrgyzstan<br>Tajikistan | Firebird service centre  | +97 14 8837911   | Sun.~Thu. 09:00 - 18:00  |
| Uzbekistan   | Soniko Plus Private Enterprise<br>Ltd                                      | +99871 2784650   | Mon.~Fri. 09:00 - 18:00  |
| Turkmenistan   | Technostar Service Centre  | +(99312) 460733, 460957  | Mon.~Fri. 09:00 - 18:00  |
| Japan  | フィリップスモニター・サ<br>ポートセンター  | 0120-060-530   | Mon.~Fri. 10:00 - 17:00  |

## 8. Troubleshooting & FAQs

### 8.1 Troubleshooting

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

#### 1 Common Problems

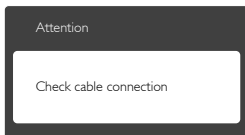
##### No Picture (Power LED not lit)

- Make sure the power cord is plugged into the power outlet and into the back of the 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 securedly 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.

## 8. Troubleshooting & FAQs

- 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 monitor unattended.
- Always activate a periodic screen refresh application if your LCD monitor will display unchanging static content.
- Severe "burn-in" or "after-image" or "ghost image" symptoms 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 Consumer Information Centers list and contact Philips customer service representative.

---

## 8.2 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 @ 60 Hz.

- 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 @ 60 Hz.
- 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 on the CD-ROM? How do I install the drivers (.inf and .icm)?

**Ans.:** These are the driver files for your monitor. Follow the instructions in your user manual to install the drivers. Your computer may ask you for monitor

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

**Q4: How do I adjust the resolution?**

**Ans.:** Your video card/graphic driver and 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 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 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 two settings are 6500K and 9300K. With settings in the 6500K range the panel appears

"warm, with a red-white color tone", while a 9300K 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 7/Windows 8/Vista/XP/NT, Mac OSX, Linux

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

**Ans.:** Uninterrupted display of still or static images over an extended period may cause "burn in", also known as "after-imaging" or "ghost imaging", on your screen. "Burn-in", "after-imaging", or "ghost imaging" is a well-known phenomenon in LCD panel technology. In most cases, the "burned in" or "after-imaging" or "ghost

imaging" will disappear gradually over a period of time after the power has been switched off.

Always activate a moving screen saver program when you leave your monitor unattended.

Always activate a periodic screen refresh application if your LCD monitor will display unchanging static content.


### Warning

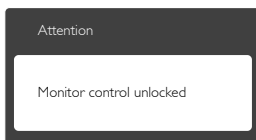
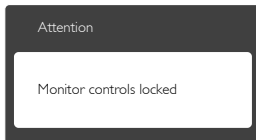
Failure to activate a screen saver, or a periodic screen refresh application may result in severe "burn-in" or "after-image" or "ghost image" symptoms that will not disappear and cannot be repaired. The damage mentioned above is not covered under your warranty.

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

**Ans.:** Your LCD monitor works best at its native resolution of 1920 x 1080 @ 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 monitor pops out "Attention" to show the unlock/lock status as shown below illustrators.





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Version: M5233V2L