

# 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 operating your monitor.

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

## 1.1 Safety precautions and maintenance

### Warnings

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

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

### 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.

- Temperature: 0-40°C 32-95°F
- Humidity: 20-80% RH
- IMPORTANT: 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 that will not disappear and cannot be repaired. The damage mentioned above is not covered under your warranty.

### Service

- The casing cover should be opened only by qualified service personnel.
- If there is any need for any document for repair or integration, please contact with your local service center. (please refer to the chapter of "Consumer Information Center")
- For transportation information, please refer to "Technical Specifications".
- Do not leave your 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:

## Solution 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 2002/96/EC governing used electrical and electronic appliances, this product may not be disposed of with normal household waste. You are responsible for disposal of this equipment through a designated waste electrical and electronic equipment collection. To determine the locations for dropping off such waste electrical and electronic, contact your local government office, the waste disposal organization that serves your household or the store at which you purchased the product.

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

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

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

# Taking back/Recycling Information for Customers

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

From the planning, design and production stages, Philips emphasizes the important of making products that can easily be recycled. At Philips, end-of-life management primarily entails participation in national take-back initiatives and recycling programs whenever possible, preferably in cooperation with competitors, which recycle all materials (products and related packaging material) in accordance with all Environmental Laws and taking back program with the contractor company.

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

To learn more about our recycling program please visit

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

### 1.4 Important safety information

### Optimal 3D viewing

For an optimal 3D viewing experience, we recommend that you:

- Sit at a distance that is at least 55cm.
- Watch the monitor away from direct sunlight as it may interfere with the 3D experience.

### 3D health warning

- If you or your family has a history of epilepsy or photosensitive seizures, consult a medical professional before exposing yourself to flashing light sources, rapid image sequences or 3D viewing.
- To avoid discomfort such as dizziness, headache or disorientation, we recommend not watching 3D for extended periods of time. If you experience any discomfort, stop watching 3D and do not immediately engage in any potentially hazardous activity (for example driving a car) until your symptoms have disappeared. If symptoms persist, do not resume watching 3D without consulting a medical professional first.
- Parents should monitor their children during 3D viewing and ensure they do not experience any discomfort as mentioned above. Watching 3D is not recommended for children under six years of age as their visual system is not fully developed yet.
- Do not user the 3D glasses for any purpose other than watching 3D images.

### Care for the glasses

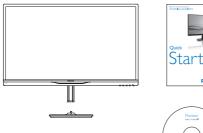
- Do not expose the 3D glasses to direct sunlight, heat, fire or water. This may result in a product malfunction or fire.
- Do not drop, bend or apply force to the lenses of the 3D glasses.
- Use a clean soft cloth (microfiber or cotton flannel) to clean the lenses to avoid scratching them. Never spray cleaner directly on the 3D glasses.

 Do not use cleaning chemicals containing alcohol, solvent, surfactant, or was, benzene, thinner, mosquito repellant or lubricant. Using these chemicals can cause discoloration or cracks.

# 2. Setting up the monitor

## 2.1 Installation

### Package contents





AC/DC Adapter



Audio cable (optional)



VGA (optional)



PHILIPS

HDMI (optional)



### B Note

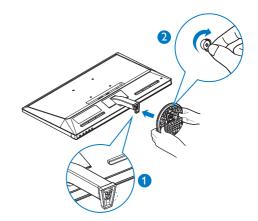
Use only the AC/DC adapter model: Philips ADPC1945

### 2 Install base stand

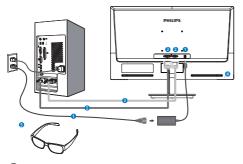
 Place the monitor face down on soft and smooth surface taking care to avoid scratching or damaging the screen.



- 2. Hold the base stand with both hands and firmly insert the base stand into the base column.
  - (1) Gently attach the base to the base column until the latch locks the base.
  - (2) Use your fingers to tighten the screw located at the bottom of the base, and secure the base to the column tightly.



### 3 Connecting to your PC



### AC/DC power input

- **2** VGA input
- 3 DVI-D input
- Kensington anti-theft lock
- **5** 3D glasses

### 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.
- 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.
- Turn on your computer and monitor. If the monitor displays an image, installation is complete.
- 6. Put your "3D glasses" on, and press the 3D hotkey on the front bezel. You are ready to view 3D images.

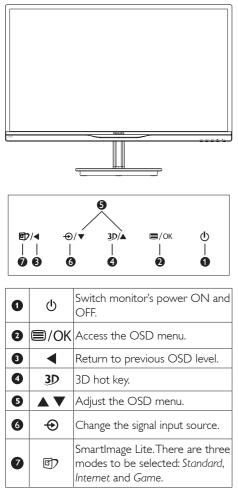
### Note

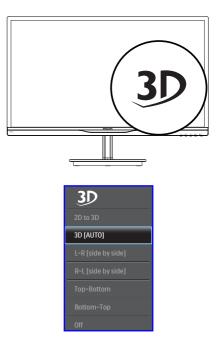
The 3D glasses are designed for 3D viewing only. It is very important that you use the 3D glasses bundled with the monitor.

If you sit outside of the specified 3D viewing angle or distance when viewing 3D images, the 3D images may look overlapped or not shown properly.

## 2.2 Operating the monitor

### Front view product description





- 1. 2D to 3D:You can view 3D image for 2D content if "2D to 3D" function is on.
- 2. 3D [AUTO]: user can select for below two applications:
  - Game console / Blu-ray player / Graphic card: the ones support HDMI 1.4a 3D
  - PC Game: by using TriDef 3D

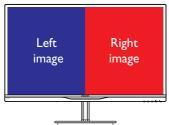
### Note

3D hot key:

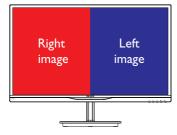
FULL SCREEN is an essential setting when viewing 3D images. FOR AUTO 3D VIEWING, HDMI 1.4a IS REQUIRED. 3D can also be activated by selecting manually as shown below with 3D hot keys in the OSD menu: 2. Setting up the monitor

Video formats as below:

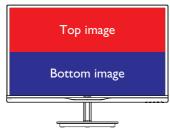
3. L-R(side by side):



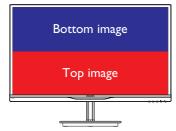
4. R-L(side by side):



5. Top-Bottom:



6. Bottom-Top:



7. Off: 3D function off.

When 3D turn on, 3D mark will show on the screen of the upper right corner for 5 seconds.

VGA (D-sub) for 3D application: please select "Setup → Auto (auto adjustment)" function in OSD menu, to make sure correct operation for 3D function. It will encounter picture flicking if you do not execute "Auto".



### Note

The 3D mark will not be shown on the screen when the 3D function is used for TriDef gaming,

### 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:

<b>3D</b> 3D	2D to 3D	•
	3D [Auto]	•
7. 7	L-R [side by side]	
	R-L [side by side]	•
Picture	Top-Bottom	•
	Bottom-Top	•
	Off	•
Color		•
		•
Language		•
<b>.</b>		

# 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.

#### Main menu Sub menu - 30 - 2D to 3D Depth Separation 3D [Auto] L-R [side by side] R-L [side by side] - Top-Bottom - Bottom-Top – Off - Input VGA - DVI - Picture Format Picture — Wide Screen, 4:3 Brightness - 0~100 Contrast - 0~100 SmartResponse - Off, Fast, Faster, Fastest SmartContrast - On, Off - Gamma ----- 1.8, 2.0, 2.2, 2.4, 2.6 Pixel Orbiting - On, Off - Color Temperature — 5000K, 6500K, 7500K, - Color 8200K, 9300K, 11500K - sRGB Red: 0~100 - User Define - Green: 0~100 - Blue: 0~100 — English, Deutsch, Español, Ελληνικά, Français, Italiano, Language Magyar, Nederlands, Português, Português do Brasil, Polski, Русский, Svenska, Suomi, Türkçe, Čeština, Українська,简体中文,繁體中文,日本語、한국어 OSD Settings Horizontal ---- 0~100 Vertical - 0~100 - Transparency - Off, 1, 2, 3, 4 - OSD Time Out - 5s, 10s, 20s, 30s, 60s Setup - Auto H.Position --- 0~100 V.Position - 0~100 - Phase --- 0~100 Clock - 0~100 – Resolution Notification — On, Off Reset — Yes, No Information

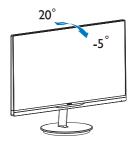
### 3 Resolution notification

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



## 3.1 SmartImage Lite

### 1 What is it?

SmartImage Lite 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 Lite 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 Lite software dynamically adjust brightness, contrast, color and sharpness in real time to enhance your monitor viewing experience.

### 3 How does it work?

SmartImage Lite is an exclusive, leading edge Philips technology that analyzes the content displayed on your screen. Based on a scenario you select, SmartImage Lite 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 Lite?



- Press to launch the SmartImage Lite on screen display;
- 2. Keep pressing 🗹 to toggle between Standard, Internet, Game.

- The SmartImage Lite on screen display will remain on screen for 5 seconds or you can also press OK button to make confirmation.
- 4. When SmartImage Lite is enabled, the sRGB scheme is disabled automatically. To use sRGB you need to disable SmartImage Lite with the button at the front bezel of your monitor.

Except using O key to scroll down, you can also press  $\checkmark$   $\blacktriangle$  buttons to choose and press OK button to confirm selection and close the SmartImage Lite OSD.

There are three modes to be selected: Standard, Internet, Game.

SmartImage <sup>ITTE</sup>		
Standard		
Internet		
Game		

- Standard: 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.
- Internet: 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.
- 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.

### 3.2 SmartContrast

### 1 What is it?

Unique technology that dynamically analyzes displayed content and automatically optimizes a 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.

## 3.3 Philips SmartControl Lite

The new SmartControl Lite software by Phillips 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 finetuning 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 lcon 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.

	www.philips.com/welcome
lequired steps	Monitor driver and software installation
Select Language	System requirements:
Welcome	PC running Windows 7, Vata, XP, 2000, 98.
Meeter door of others institute	► Go to www.philps.com/welcome to download the latest version of monitor driver
Promotion driver and software instantion	
Reportation	Philips SmartControl
	System support and requirementa:
	1. System support Windows 7, Vista, XP.
teference materials	Language support English, German, Spanish, French, Italian, Russian, Portuguese, Simplified Chinese     J. Philips Monitor Plug and Pluy support.
Quick Setup Quide	Go to http://www.portrait.com/dtune/bil/enu/index.html to download the latest version of SmartControl
Find the Menual	<ul> <li>Go to http://www.portrait.com/dsunelphilenuindex.html to download the latest version of bmartControl software.</li> </ul>
Nee Oler Herde	
FAQ & Troubleshoosing	
	Quit Back Next

### 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 adjustment 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.



### **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.





### Color menu:

- Color Menu allow you to adjust RGB, Black Level, White Point, Color Calibration, and SmartImage Lite (Please refer to SmartImage Lite section).
- 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:





- 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.

### SmartImage Lite

Allows user to change setting for better display setting based on content.

When Entertainment is set, SmartContrast and SmartResponse are enabled.



**Options>Preferences** - Will only be active when selecting Preferences from the dropdown 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 Update, 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 at startup will not load when this box is unchecked (Disabled).
- Enable transparency mode (Windows 7, Vista, XP). Default is 0% Opaque.

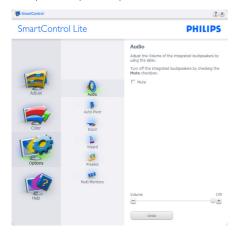
**Options>Input** - Will only be active when selecting Input from the drop-down Options menu. On a non-supported display capable of DDC/Cl, only the Help and Options tabs are available. All other SmartControl Lite tabs are not available.



- 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/ Cl, 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/Cl, 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/Cl, only the Help and Options tabs are available.



### 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.

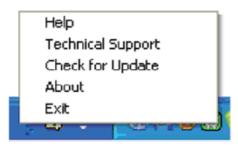


### The Context Menu has four entries:

- 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.
- SmartImage Lite Check current settings, Standard, Internet, Game.

### Task Tray Menu Enabled

The task tray menu can be displayed by rightclicking 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, doubleclick 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.

# View 3D by using TriDef 3D software

## 4.1 PC System requirements

### **Recommended System Requirements**

- Intel<sup>®</sup> Core i5 or AMD Phenom<sup>™</sup> II X4 CPU or better
- 2GB RAM
- NVIDIA<sup>®</sup> GeForce<sup>®</sup> GTS 450 or AMD Radeon<sup>™</sup> HD5750 or better
- 500MB free disk space
- Windows<sup>®</sup> XP (SP3) (32 bit only), Windows<sup>®</sup> Vista (32 bit only), Windows<sup>®</sup> 7 (32 or 64 bit) or Windows<sup>®</sup> 8 (32 or 64 bit)
- DirectX 9.0c compatible sound card
- Internet connection
- DVD-ROM drive
- Network card
- DirectX 9.0c

### Minimum System Requirements

- Intel<sup>®</sup> Core 2 Duo or AMD Athlon<sup>™</sup> 64 X2 Dual-Core CPU or better
- 1GB RAM
- NVIDIA<sup>®</sup> GeForce<sup>®</sup> 8600 GT or ATI X1650 XT
- 500MB free disk space
- Windows<sup>®</sup> XP (SP3) (32 bit only), Windows<sup>®</sup> Vista (32 bit only), Windows<sup>®</sup> 7 (32 or 64 bit) or Windows<sup>®</sup> 8 (32 or 64 bit)
- DirectX 9.0c compatible sound card
- Internet connection
- DVD-ROM drive
- Network card
- DirectX 9.0c

## 4.2 TriDef 3D software Installation Guide

Insert CD of "Monitor user's manual". Click and run it's execution file (TriDef-3D XXX.exe).

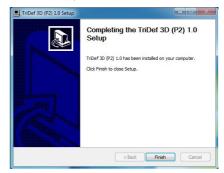
1. Click on "Next".

TriDef 3D (P2) 1.0 Setup	
	Welcome to the TriDef 3D (P2) 1.0 Setup
	Setup will guide you through the installation of TriDef 3D (P2) 1.0.
A	It is recommended that you does all other applications before starting Statu. This will make the possible to update relevant system files without having to reboot your computer. Click Next to continue.
	Next > Cancel

2. Click on "Install".

Choose Install Location	
Select the DDD Application Folder, w	hich will contain all installed DDD applications.
	in the following folder. To instal DDD applications in a ect another folder. Click Install to start the installation.
DDD Application Folder	
DDD Application Folder	Browse
	Browse
C:\Program Files\TriDef 3D	Browse

3. Click on "Finish": the TriDef driver is installed complete.



4. View 3D by using TriDef 3D software

4. There is icon shown on Windows OS desktop.



5. When you enter " Play 3D Games", you can click "Scan" to show all your 3D games in PC.

You can start to play games by clicking "Launch", please wear your 3D glasses and you can start to play.

For 3D game support list, see http://www. tridef.com/ignition/3d-games.html.



6. The hot key combinations for "Play 3D Games" are illustrated below. Please refer to the "TriDef User Guide" to learn more.

Hot key combination		Function
Alt + Shift +	F1	Show List of Hotkeys
Alt + Shift +	-	3D On/Off
Alt + Shift +	[	Decrease scene depth
Alt + Shift +	]	Increase scene depth
Alt + Shift +	,	Decrease percentage in front
Alt + Shift +		Increase percentage in front

Hot key combination	Function
Alt + Shift + =	Focus speed
Alt + Shift + \	Laser sight On/Off
PrtScn (SysReq)	3D screenshot
Alt + Shift + '	Increase image stretch
Alt + Shift + ;	Decrease image stretch
Alt + Shift + L	Increase image overscan
Alt + Shift + K	Decrease image overscan
Alt + Shift + V	Virtual 3D On/Off
Alt + Shift + R	Restore Default Settings

## Note

All the screenshots illustrated above are for reference only.

# 5. Technical Specifications

Picture/Display		
Monitor Panel Type	IPS LCD	
Backlight	LED	
Panel Size	21.5" W (54.6 cm)	
Aspect Ratio	16:9	
Pixel Pitch	0.2479 mm x 0.2479 mm	
Brightness	250 cd/m <sup>2</sup>	
SmartContrast	20,000,000:1	
Contrast Ratio (typ.)	1000:1	
Response Time (typ.)	14ms	
SmartResponse (available for selected models)	5ms in 2D	
Optimum Resolution	1920x1080 @ 60Hz	
Viewing Angle	178° (H) / 178° (V) @ C/R > 10	
3D Viewing Angle	60° @ 3D CT ≦ 10	
Picture Enhancement	SmartImage Lite	
Display Colors	16.7M	
Vertical Refresh Rate	56Hz - 76Hz	
Horizontal Frequency	30kHz - 83kHz	
sRGB	YES	
Connectivity		
Signal Input	VGA(Analog), DVI(Digital,HDCP)	
Input Signal	Separate Sync, Sync on Green	

Convenience					
User Convenience	@⊅/∢	-⊕/▼	<u>3</u> D/▲	⊜/ОК	ወ
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	Kensington Lock				
Plug & Play Compatibility	DDC/Cl, sRGB, Windows 8/7/Vista/XP, Mac OSX, Linux				
Stand					
Tilt	-5° / +20°				

Power	
On Mode	25.86W(typ.), 26.21W(max.)
Sleep (typ.)	0.5W
Off (typ.)	0.3W
Power LED indicator	On mode:White, Standby/Sleep mode:White (blinking)
Power Supply	External, 100-240VAC, 50-60Hz

5. Technical Specifications

Dimension				
Product with stand (WxHxD)	500 x 394 x 213 mm			
Product without stand	500 x 306 x 47 mm			
(WxHxD)	300 X 300 X 47 IIIII			
Weight				
Product with stand	3.14 kg			
Product without stand	2.82 kg			
Product with packaging	4.83 kg			

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 (www.epeat.net)			
Packaging	100% recyclable			
Specific Substances	100% PVC BFR free housing			
Energy Star	YES			
Compliance and standards				
Regulatory Approvals	CE Mark, FCC Class B, CU, SEMKO,TCO Certified, ETL, BSMI, ISO9241-307			
Cabinet				
Color	Black Cherry, or other color options as applicable in your region			
Finish	Glossy			

### B Note

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

# 5.1 Resolution & Preset Modes

## 1 Maximum Resolution

1920×1080@60Hz (analog input) 1920×1080@60Hz (digital input)

### 2 Recommended Resolution

1920×1080@60Hz (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	1024x768	60.00
60.02	1024x768	75.03
63.89	1280x1024	60.02
79.98	1280x1024	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

## Solution Note

Please notice that your display works best at native resolution of 1920x1080@60Hz. For best display quality, please follow this resolution recommendation.

# 6. Power Management

If you have VESA DPM compliance display card or software installed in your PC, the 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	H-sync V-sync Power Used LED Co			
Active	ON	Yes	Yes	25.86 W (typ.) 26.21 W(max.)	White	
Sleep	OFF	No	No	0.5 W (typ.)	White (blink)	
Switch Off	OFF	-	-	0.3 W (typ.)	OFF	

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

- Native resolution: 1920x1080
- Contrast: 50%
- Brightness: 250 nits
- Color temperature: 6500k with full white pattern

### Note

This data is subject to change without notice.

# 7. 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



(Only for selective models)

### EPEAT

(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.

- 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.

#### 7. Regulatory Infomation

### **Energy Star Declaration**

(www.energystar.gov)



As an ENERGY STAR<sup>®</sup> Partner, we have determined that this product meets the ENERGY STAR<sup>®</sup> 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 auxlimites des appareils numériques de class B,aux termes de l'article 15 Des règles de la FCC. Ces limites sont conçues de façon à fourir 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 REGIEMENT SUR LE MATERIEL BROUILLEUR DU CANADA.

### EN 55022 Compliance (Czech Republic Only)

This device belongs to category B devices as described in EN 55022, unless it is specifically stated that it is a Class A device on the specification 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 tele communication or other devices.

Pokud není na typovém štitku počítače uvedeno, že spadá do do třídy A podle EN 55022, spadá automatický do třídy B podle EN 55022. Pro zařízení zařazená do třídy A (chranni pásmo 30m) podle EN 55022. pistí následující. Dojde-li k rušení telekomunikačních nebo jiných zařízení je uživatel povinnen provést taková opatřgní, aby rušení odstranil.

### 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 kołkiem). 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 gniazdka, 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 kolka obwodu ochronnego z wtyczki. Jeżeli konieczne jest użycie przedłużacza to należy użyć przedłużacza 3-żyłowego z prawidlowo połączonym przewodem ochronnym.
- System komputerowy należy zabezpieczyć przed nagłymi, chwilowymi wzrostami lub spad-kami napięcia, używając eliminatora przepięć, urządzenia dopasowującego lub bezzaktóceniowego zódła zasalania.
- Należy upewnić się, aby nie nie leżało na kabłach systemu komputerowego, oraz aby kabłe nie były umieszczone w miejscu, gdzie można byłoby na nie nadeptywać lub potykać się o nie.
- Nie należy rozlewać 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 grzejnik świ żródel ciepla. Ponadno, nie należy błokować otworów wentylacyjnych. Należy uniać kładzenia lużnych pajorów pod komputer oraz unieszczania komputera w ciasnym miejscu bez możliwskie cyrkulacji powi-etrza wokół mego.

#### 7. Regulatory Infomation

### 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 NEMTTILGÆNGELIGE.\_\_\_\_\_

### Paikka/Ilmankierto

### VAROITUS:

sijoita laite siten, että verkkojohto Voidaan tarvittaessa helposti irrottaa pistorasiasta.

### 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 ¤ 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 DARAUF 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	0	0	0	0	0	0
CRT显示屏	×	0	0	0	0	0
液晶显示屏/灯管	×	0	0	0	0	0
电路板组件*	×	0	0	0	0	0
电源适配器	×	0	0	0	0	0
电源线/连接线	×	0	0	0	0	0
2. 由總延貸代長臣司運動將近支其地点建實物,如加圓,也思,先或也將,还接續等 ()表於完有實驗的基礎的有當時所行為這時將中的含量的存 (有了有處不但不得有要的實例因屬要求和意)與定的國量要求以下 大要式或有非常物质容少或認知作的之重。這個就有比的含量最出 (有了有處不品中有有有能能质例最要求保意)與定的國量要求:但是上與中打"×"的部件, 符合型而已必該是要求(當一麼吃的形))						



### 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 毒有害物质或元素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
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:<u>http://www.energylabel.gov.cn/</u>

《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.

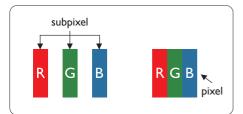
### Note

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

# 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

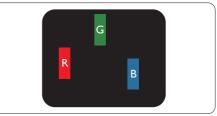
A pixel, or picture element, is composed of three sub pixels in the primary colors of red, green and blue. Many pixels together form an image. When all sub pixels of a pixel are lit, the three colored sub pixels together appear as a single white pixel. When all are dark, the three colored sub pixels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

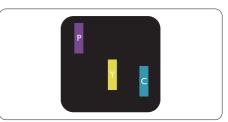
Pixel and sub pixel defects appear on the screen in different ways. There are two categories of pixel defects and several types of sub pixel defects within each category.

## 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.

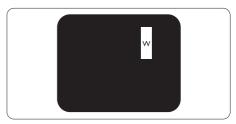


One lit red, green or blue sub pixel.



Two adjacent lit sub pixels:

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



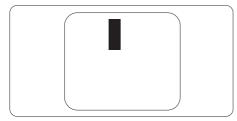
Three adjacent lit sub pixels (one white pixel).

### 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.

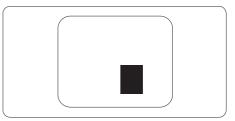
### Black Dot Defects

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	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. 1 or 2 adjacent sub pixel defects = 1 dot defect
- 2. This monitor is ISO9241-307 compliant (ISO9241-307: Ergonomic requirement, analysis and compliance test methods for electronic visual displays)

## 8.2 Customer Care & Warranty

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

Contact Information for	or WESTERN E	EUROPE region:
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Country	ASC	Consumer care number	Price
Germany	Siemens I&S	+49 01803 386 853	€ 0.09
United Kingdom	Invec Scotland	+44 0207 949 0069	Local call tariff
Ireland	Invec Scotland	+353 01 601 1161	Local call tariff
Spain	Eatsa Spain	+34 902 888 785	€ 0.10
Finland	A-novo	+358 09 2290 1908	Local call tariff
France	A-novo	+33 082161 1658	€ 0.09
Greece	Allman Hellas	+30 00800 3122 1223	Free of charge
Italy	A-novo	+39 840 320 041	€ 0.08
Netherlands	E Care	+31 0900 0400 063	€ 0.10
Denmark	A-novo	+45 3525 8761	Local call tariff
Norway	A-novo	+47 2270 8250	Local call tariff
Sweden	A-novo	+46 08 632 0016	Local call tariff
Poland	Zolter	+48 0223491505	Local call tariff
Austria	Siemens I&S	+43 0810 000206	€ 0.07
Belgium	E Care	+32 078 250851	€ 0.06
Luxembourg	E Care	+352 26 84 30 00	Local call tariff
Portugal	Eatsa Spain	+351 2 1359 1440	Local call tariff
Switzerland	A-novo	+41 02 2310 2116	Local call tariff

### Contact Information for CENTRAL AND EASTERN EUROPE region:

Country	Call center	ASC	Consumer care number
Belarus	NA	IBA	+375 17 217 3386
Bulgaria	NA	LAN Service	+359 2 960 2360
Croatia	NA	Renoprom	+385 1 333 0974
Estonia	NA	FUJITSU	+372 6519900
Latvia	NA	"ServiceNet LV" Ltd.	+371 7460399
Lithuania	NA	UAB "Servicenet"	+370 7400088
Romania	NA	Blue Ridge Intl.	+40 21 2101969
Serbia & Montenegro	NA	Kim Tec d.o.o.	+381 11 20 70 684
Slovenia	NA	PC H.and	+386 1 530 08 24
Ukraine	NA	Comel	+380 562320045
NA		Topaz-Service Company	+38 044 245 73 31
Russia	NA	CPS	+7 (495) 645 6746 (for repair)
NUSSIA	NA	CEEE Partners	+7 (495) 645 3010 (for sales)
Slovakia	NA	Datalan Service	+421 2 49207155
Turkey	NA	Techpro	+90 212 444 4 832
Czech Rep.	NA	Asupport	800 100 697
	NA	Serware	+36 1 2426331
Hungary	NA	Profi Service	+36 1 814 8080

### Contact Information for LATIN AMERICA region:

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

### Contact Information for China:

China

Consumer care number : 4008 800 008

### Contact Information for NORTH AMERICA :

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

### Contact Information for APMEA region:

Country	Call center	ASC	Consumer care number	
Australia	NA	AGOS NETWORK PTY LTD	1300 360 386	
New Zealand	NA	Visual Group Ltd.	0800 657447	
Hong Kong / Macau	NA	Smart Pixels Technology Ltd.	Hong Kong:Tel: +852 2619 9639 Macau:Tel: (853)-0800-987	
India	NA	REDINGTON INDIA LTD	Tel: 1 800 425 6396 SMS: PHILIPS to 56677	
Indonesia	NA	PT. Gadingsari elektronika Prima	Tel: 62 21 75909053, 75909056, 7511530	
South Korea	NA	PCS One Korea Ltd.	080-600-6600	
Malaysia	NA	After Market Solutions (CE) Sdn Bhd	603 7953 3370	
Pakistan	NA	Philips Consumer Service	(9221) 2737411-16	
Singapore	NA	Philips Electronics Singapore Pte Ltd (Philips Consumer Care Center)	(65) 6882 3999	
Taiwan	PCCW Teleservices Taiwan	FETEC.CO	0800-231-099	
Thailand	NA	Axis Computer System Co., Ltd.	(662) 934-5498	
South Africa	NA	Sylvara Technologies Pty Ltd	086 0000 888	
United Arab Emirates	NA	AL SHAHD COMPUTER L.L.C	00971 4 2276525	
Israel	NA	Eastronics LTD	1-800-567000	
Vietnam	NA	FPT Service Informatic Company Ltd.	+84 8 38248007 Ho Chi Minh City +84 5113.562666 Danang City +84 5113.562666 Can tho Province	
Philippines	NA	Glee Electronics, Inc.	(02) 633-4533 to 34, (02) 637-6559 to 60	
Sri Lanka	NA	no distributor and/or service provider currently		
Bangladesh	NA	Distributor: Computer Source Ltd (warranty buy-out)	880-2-9141747, 9127592 880-2-8128848 / 52	
Nepal	NA	Distributor: Syakar Co. Ltd (warranty buy-out)	977-1-4222395	
Cambodia	NA	Distributor: Neat Technology Pte Ltd (Singapore) (warranty buy-out)	855-023-999992	

## 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

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- 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

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

# Image appears distorted. Text is fuzzy or blurred.

• Set the PC's display resolution to the same mode as 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.

## 9.2 SmartControl Lite FAQs

- Q1. I change the monitor on a PC to a different one and the SmartControl Lite becomes un-usable, what do I do?
- **Ans.:** Restart your PC and see if SmartControl Lite can work. Otherwise, you will need to remove and re-install SmartControl Lite to ensure proper driver is installed.

### Q2. The SmartControl Lite functions worked well before, but it does not work anymore, what can I do?

- Ans.: If the following actions were executed, the monitor driver may need to be reinstalled.
- Changed video graphic adapter to another one
- Updated video driver
- Activities on OS, such as service pack or patch
- Run Windows Update and updated monitor and/or video driver
- Windows was booted with the monitor power off or disconnected.
- To find out, please right click My Computer and click on Properties->Hardware-> Device Manager.
- If you see "Plug and Play Monitor" shows under Monitor, then you need to re-install. Simply remove SmartControl Lite and re-install it.
- Q3. After installing SmartControl Lite, when clicking on SmartControl Lite tab, nothing shows up after a while or a failure message shows, what happened?

- Ans.: It might be your graphic adaptor is not compatible with the SmartControl Lite. If your graphic adaptor is one of the above mentioned brands, try to download the most updated graphic adaptor driver from corresponding companies' web site. Install the driver. Remove SmartControl Lite, and re-install it once more. If it is still not working, we are sorry that the graphic adaptor is not supported. Please visit Philips website and check if an updated SmartControl Lite driver is available.
- Q4. When I click on Product Information, only partial information is shown, what happened?
- Ans.: It might be your graphic card adaptor driver is not the most updated version which fully supporting DDC/CI interface. Please try to download the most updated graphic adaptor driver from corresponding companies' web site. Install the driver: Remove SmartControl Lite and re-install it once more.



### Q5. I forgot my PIN for Theft Deterrence Function.What can I do?

**Ans.:** Philips Service center has a right to ask for legitimate identification and authorization, in order to establish ownership of the monitor.

Please note that the anti-theft deterrence function is provided as a convenient free option. Managing PIN numbers is the sole responsibility of the individual user or the organization who sets it. In case the PIN number is forgotten, Philips service center can re-set it for you at a nominal charge after verification of ownership. Please note that this activity is not covered by standard warranty terms.

## 9.3 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: 1920x1080@60Hz.
- 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 1920x1080 pixels.
- Open 'Advanced Properties' and set the Refresh Rate to 60Hz, then click OK.
- Restart your computer and repeat step 2 and 3 to verify that your PC is set at 1920x1080@60Hz.
- 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 60Hz, In case of any disturbance on screen, you can set it up to 75Hz 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<sup>®</sup> 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.
  - Color Temperature; 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 Kevin temperatures such as 2004K are red; higher temperatures such as 9300K are blue. Neutral temperature is white, at 6504K.

# Q9: Can I connect my LCD 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 8/7/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 "afterimaging" or "ghost imaging", on your screen. "Burn-in", "after-imaging", or "ghost imaging" is a well-known phenomenon in LCD panel technology. In most cases, the "burned in" or "atter-imaging" or "ghost imaging" will disappear gradually over a period of time after the power has been switched off.

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

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

### **Warning**

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.

# 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 1920x1080@60Hz. For best display, please use this resolution.



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