BDL5545ET

http://www.publicsignagesolutions.philips.com

User Manual (English)

PHILIPS

SAFETY INSTRUCTIONS

WARNINGS AND PRECAUTIONS

KNOW THESE SAFETY SYMBOLS

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol indicates high voltage is present inside. It is dangerous to make any kind of contact with any inside part of this product.

This symbol alerts you that important literature concerning operation and maintenance has been included with this product.

Note to CATV system installer: This reminder is provided to call CATV system installer's attention to Article 820-40 of the National Electrical Code (Section 54 of Canadian Electrical Code, Part I), that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building as close to the point of cable entry as practical.

Caution: FCC/CSA regulations state that any unauthorized changes or modifications to this equipment may void the user's authority to operate it.

Caution: To prevent electric shock, match the wide blade of plug to the wide slot, and fully insert the plug.

Important: One Federal Court has held that unauthorized recording of copyrighted TV programs is an infringement of U.S. copyright laws. Certain Canadian programs may also be copyrighted and any unauthorized recording in whole or in part may be in violation of these rights.

TO PREVENT DAMAGE WHICH MAY RESULT IN FIRE OR ELECTRIC SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

The Socket-outlet should be installed near the apparatus and be easily accessible.

Read and follow these instructions when connecting and using your display:

- **Unplug the display if you are not going to use it for an extensive period of time.**
- **Unplug the display if you need to clean it with a slightly damp cloth. The screen many be wiped with a dry cloth when the power is off. However, never use alcohol, solvents or ammonia-based liquids.**
- **Consult a service technician if the display does not operate normally when you have followed the instructions in this manual.**
- **The casing cover should be opened only by qualified service personnel.**
- **Keep the display out of direct sunlight and away from stoves or any other heat source.**
- **Remove any object that could fall into the vents or prevent proper cooling of the display's electronics.**
- **Do not block the ventilation holes on the cabinet.**
- **Keep the display dry. To avoid electric shock, do not expose it to rain or excessive moisture.**
- **If turning off the display by detaching power cable or DC power cord, wait for 6 seconds before attach the power cable or DC power cord for normal operation.**
- **To avoid the risk of shock or permanent damage to the set do not expose the display to rain or excessive moisture.**
- **When positioning the display, make sure the power plug and outlet are easily accessible.**
- **IMPORTANT: Always activate a screen saver program during your application. If a still, high contrast image remains on the screen for an extended period of time, it may leave an 'after-image' or 'ghost image' on the front of the screen. This is a well-known phenomenon that is caused by the shortcomings inherent in the LCD technology. In most cases the afterimage will disappear gradually over a period of time after the power has been switched off. Be aware that after-image cannot be repaired and is not covered under warranty.**

REGULATORY INFORMATION

CE DECLARATION OF CONFORMITY

MMD declare under our responsibility that the product is in conformity with the following standards
• EN60950-1:2006+A11:2009 (Safety requirement of Information Technology Equipment)
• EN55022:2006+A1:2007 (Radio Disturbance requirement of Information Technology Equipment)
• EN55024:1998+A1:2001+A2:2003 (Immunity requirement of Information Technology Equipment)
• EN61000-3-2:2006 (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)
• 2005/32/EC (EuP, Energy-using Product Directive) EC No. 642/2009 Implementing
• 93/68/EEC (Amendment of EMC and Low Voltage Directive) and is produced by a manufacturing organization on ISO9000 level.

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 when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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.

FC 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.

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.

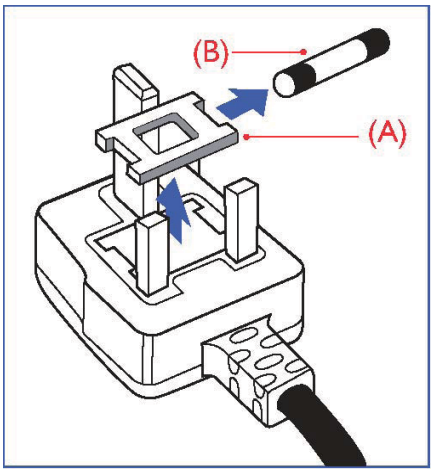
Pozostałe instrukcje bezpieczeństwa

- Nie należy używać wtyczek adapterowych lub usuwać kołka 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 dopasowującego lub bezzakłóceniowego 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 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 grzejników i źródeł ciepła. Ponadto, nie należy blokować otworów wentylacyjnych. Należy unikać kładzenia luźnych papierów pod komputer oraz umieszczania komputera w ciasnym miejscu bez możliwości cyrkulacji powietrza wokół niego.

ELECTRIC, MAGNETIC AND ELECTRONMAGNETIC FIELDS ("EMF")

1. MMD manufactures and sells many products targeted at consumers, which, like any electronic apparatus, in general have the ability to emit and receive electromagnetic signals.
2. One of MMDs' leading Business Principles is to take all necessary health and safety measures for our products, to comply with all applicable legal requirements and to stay well within the EMF standards applicable at the time of producing the products.
3. MMD is committed to develop, produce and market products that cause no adverse health effects.
4. MMD confirms that if its products are handled properly for their intended use, they are safe to use according to scientific evidence available today.
5. MMD plays an active role in the development of international EMF and safety standards, enabling MMD to anticipate further developments in standardization for early integration in its products.

INFORMATION FOR UK ONLY



WARNING - THIS APPLIANCE MUST BE EARTHED.
Important:

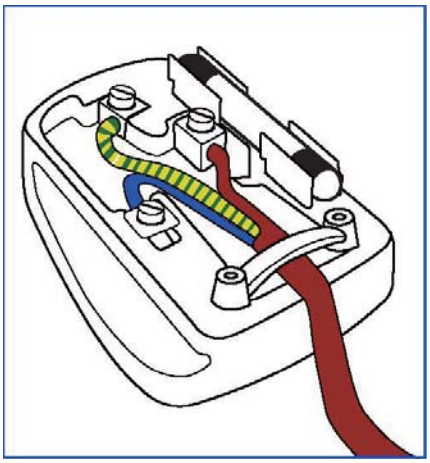
This apparatus is supplied with an approved moulded 13A plug. To change a fuse in this type of plug proceed as follows:

1. Remove fuse cover and fuse.
2. Fit new fuse which should be a BS 1362 5A,A.S.T.A. or BSI approved type.
3. Refit the fuse cover.

If the fitted plug is not suitable for your socket outlets, it should be cut off and an appropriate 3-pin plug fitted in its place.

If the mains plug contains a fuse, this should have a value of 5A. If a plug without a fuse is used, the fuse at the distribution board should not be greater than 5A.

Note: The severed plug must be destroyed to avoid a possible shock hazard should it be inserted into a 13A socket elsewhere.



How to connect a plug

The wires in the mains lead are coloured in accordance with the following code:
BLUE - “NEUTRAL” (“N”)
BROWN - “LIVE” (“L”)
GREEN & YELLOW - “EARTH” (“E”)

1. The GREEN AND YELLOW wire must be connected to the terminal in the plug which is marked with the letter “E” or by the Earth symbol or coloured GREEN or GREEN AND YELLOW.
2. The BLUE wire must be connected to the terminal which is marked with the letter “N” or coloured BLACK.
3. The BROWN wire must be connected to the terminal which marked with the letter “L” or coloured RED.

Before replacing the plug cover, make certain that the cord grip is clamped over the sheath of the lead - not simply over the three wires.

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 TILGÆNGELIGE.

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.

END-OF-LIFE DISPOSAL
Your new **display** contains materials that can be recycled and reused. Specialized companies can recycle your product to increase the amount of reusable materials and to minimize the amount to be disposed of.

Please find out about the local regulations on how to dispose of your old **display** from your local Philips dealer.

(For customers in Canada and U.S.A.)
This product may contain lead and/or mercury. Dispose of in accordance to local-state and federal regulations. For additional information on recycling contact www.eia.org (Consumer Education Initiative)

WASTE ELECTRICAL AND ELECTRONIE EQUIPMENT-WEEE
Attention users in European Union private households

This marking on the product or on its packaging illustrates that, under European Directive 2002/96/EG 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.

Attention users in United States:

Like all LCD products, this set contains a lamp with Mercury. Please dispose of according to all Local, State and Federal Laws. For disposal or recycling information, contact: www.mygreenelectronics.com or www.eiae.org.

END OF LIFE DIRECTIVES-RECYCLING
Your new TV/Monitor contains several materials that can be recycled for new uses.
Like all LCD products, this set contains a lamp with Mercury, please dispose of according to all Local, State and Federal laws.

As an ENERGY STAR Partner, MMD has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

TABLE OF CONTENTS

1. UNPACKING AND INSTALLATION 9
1.1. UNPACKING 9
1.2. PACKAGE CONTENTS 9
1.3. INSTALLATION NOTES 9
1.4. PORTRAIT MOUNTING 10
1.5. INSTALLING AND REMOVING STAND 11
1.5.1 How to install stand 11
1.5.2 How to remove the stand 11
1.5.3 Prevent display from falling 12

2. PARTS AND FUNCTIONS 13
2.1. FRONT VIEW 13
2.2. REAR VIEW 13
2.3. INPUT/OUTPUT TERMINALS 15
2.4. REMOTE CONTROL 17
2.4.1. GENERAL FUNCTIONS 17
2.4.2. INSERTING THE BATTERIES IN THE REMOTE CONTROL 19
2.4.3. OPERATING RANGE OF THE REMOTE CONTROL 19

3. CONNECTIONS TO EXTERNAL EQUIPMENT 20
3.1. USING THE CABLE RETAINER 20
3.2. USING THE SWITCH COVER 20
3.3. CONNECTING EXTERNAL EQUIPMENT (DVD/VCR/VCD) 21
3.3.1. USING COMPONENT VIDEO INPUT 21
3.3.2. USING HDMI INPUT 21
3.3.3 USING DisplayPort INPUT 22
3.4. CONNECTING A PC 22
3.4.1. USING VGA INPUT 22
3.4.2. USING DVI INPUT 23
3.4.3. USING HDMI INPUT 23
3.4.4. USING DISPLAY PORT INPUT 24
3.4.5. USING TOUCH Output 24
3.5. EXTERNAL AUDIO CONNECTION 26
3.5.1. CONNECTING EXTERNAL SPEAKERS 26
3.5.2. CONNECTING EXTERNAL AUDIO DEVICE 26
3.6. CONNECTING an OPS Module 27

4. OSD MENU 28
4.1. NAVIGATING THE OSD MENU 28
4.1.1. NAVIGATING THE OSD MENU USING THE REMOTE CONTROL 28
4.1.2. NAVIGATING THE OSD MENU USING THE DISPLAY'S CONTROL BUTTONS 29
4.2. OSD Menu Overview 30
4.2.1. PICTURE MENU 30
4.2.2. SCREEN MENU 33
4.2.3. AUDIO MENU 35
4.2.4. PIP MENU 37
4.2.5. CONFIGURATION 1 MENU 39
4.2.6. CONFIGURATION 2 MENU 42
4.2.7. ADVANCED OPTION MENU 43
4.2.8. SOFTWARE UPDATE MENU 48

5. INPUT MODE 49

6. PIXEL DEFECT POLICY 51
6.1. PIXELS AND SUB-PIXELS 51
6.2. TYPES OF PIXEL DEFECTS + DOT DEFINITION 51
6.3. BRIGHT DOT DEFECTS 52
6.4. DARK DOT DEFECTS 52
6.5. PROXIMITY OF PIXEL DEFECTS 52
6.6. PIXEL DEFECT TOLERANCES 52

7. CLEANING AND TROUBLESHOOTING 54
7.1. CLEANING 54
7.2. TROUBLESHOOTING 55

8. TECHNICAL SPECIFICATIONS 56

1. UNPACKING AND INSTALLATION

1.1. UNPACKING

- This product is packed in a carton, together with the standard accessories.
- Any other optional accessories will be packed separately.
- The weight of the product differs - depending on the type. Due to the size and weight it is recommended to move it by 2 people.
- After opening the carton, ensure that the contents are complete and in good condition.

1.2. PACKAGE CONTENTS

Please verify that you received the following items :

1. LCD monitor
2. Remote control with batteries
3. CD-ROM
4. Quick Start Guide
5. Logo guider
6. BNC-to-RCA adapter (x3)
7. Clamper
8. Screws for clamper (M4x8) x2
9. Power cords
10. VGA cable (1.8m)
11. Main switch cover
12. Screws for main switch cover (M3x6) x 2
13. USB cable

- Please make sure that for all other regions, apply a power cord that conforms to the AC voltage of the power socket and has been approved by and complies with the safety regulations of the particular country.
- You might like to save the package box and packing material for shipping the monitor.
- DVI box and table stands are prepared as options.

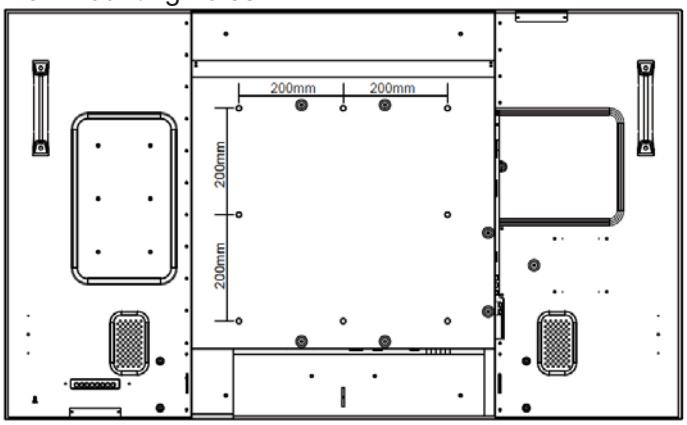
1.3. INSTALLATION NOTES

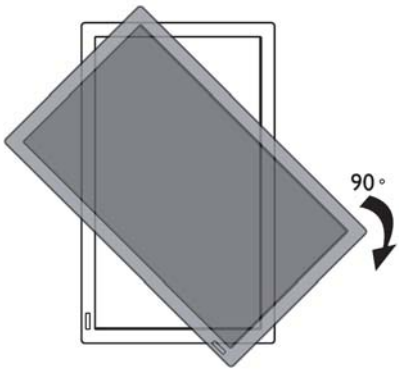
- Due to the high power consumption, always use the plug exclusively designed for this product. If an extended line is required, please consult your service agent.
- The product should be installed on a flat surface to avoid tipping. A suitable distance between the back of the product and the wall should be maintained for proper ventilation. Avoid installing the product in the kitchen, bathroom or any other places with high humidity so as not to shorten the service life of the electronic components.
- The product can normally operate only under 2500m altitude.

In installations at altitudes above 2500 m, some abnormalities may be experienced.

1.4. PORTRAIT MOUNTING

Wall mounting holes





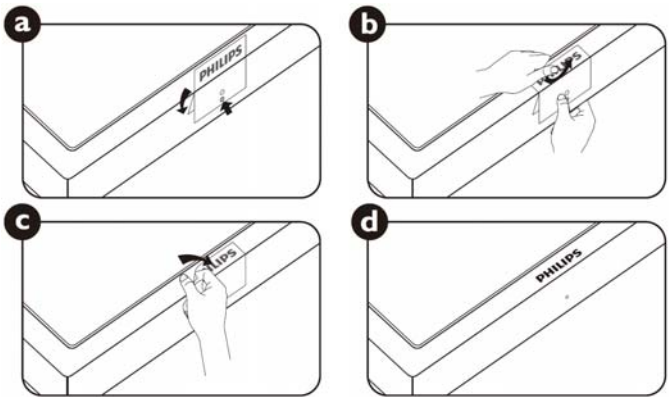
Notes:

- *Metric 8 (12mm) screws are needed for wall mounting (not included).*
- *The mounting interface should comply with the UL1678 standard in North America. The mounting means should strong enough to bear the weight of the monitor (approx. 54.3 kg without stand).*

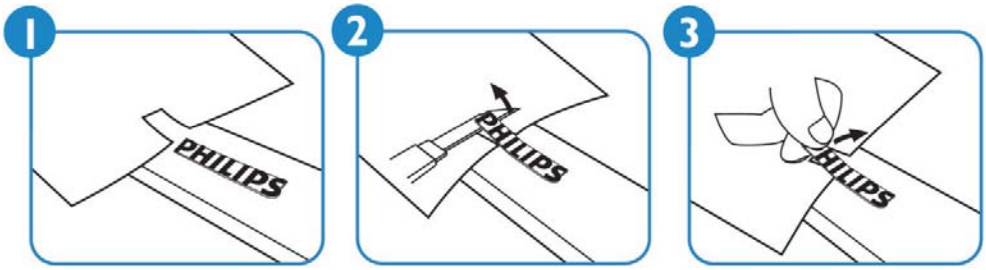
Note: The remote control sensor should be on the lower side when rotating your monitor.

How to use the Logo Guider for Portrait Mode

a. Adjust the logo guider to align the hole with the hole on the short front bezel
b. Peel off the protective paper from the back side of the logo.
c. Make sure that the logo is aligned with the short front bezel. Press the logo to the short front bezel firmly and repeatedly.
d. Remove the film



How to remove the logo



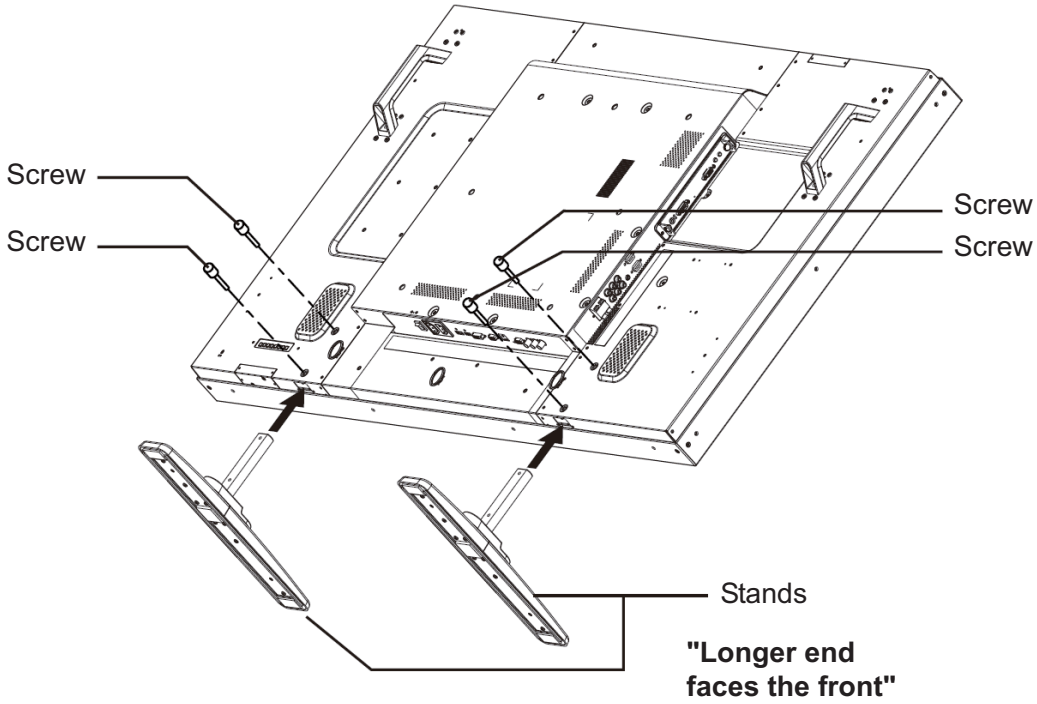
Note: When installing the monitor on the wall, please consult a professional technician for proper installing. The manufacturer accepts no liability for installations not performed by a professional technician.

1.5. INSTALLING AND REMOVING STAND

1.5.1 How to install stand

1. Turn off the Display.
2. After inserting the stand in the guide block, tighten the screws on both sides of the monitor.

NOTE:
The long end of the stand should face the front while installing.



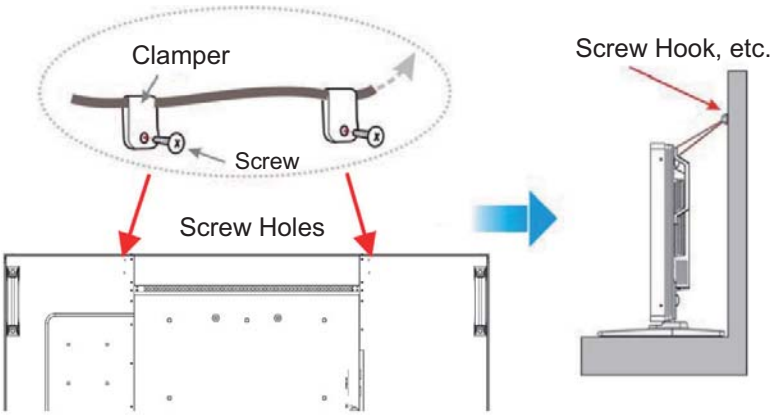
1.5.2 How to remove the stand

1. Spread a protective sheet on a flat surface.
2. Place the display face-down on a protective sheet.
3. Remove screws using a screwdriver and place them in a safe place for reuse.

1.5.3 Prevent display from falling

To prevent the display from tipping in the event of an earthquake or other such natural event, please follow these steps.

As shown in the figure below, secure the display to a solid wall or pillar using a cord which is strong enough to bear the weight of the monitor (BDL5545ET: approx. 55.8 kg). Screw hooks (ring type) are recommended.

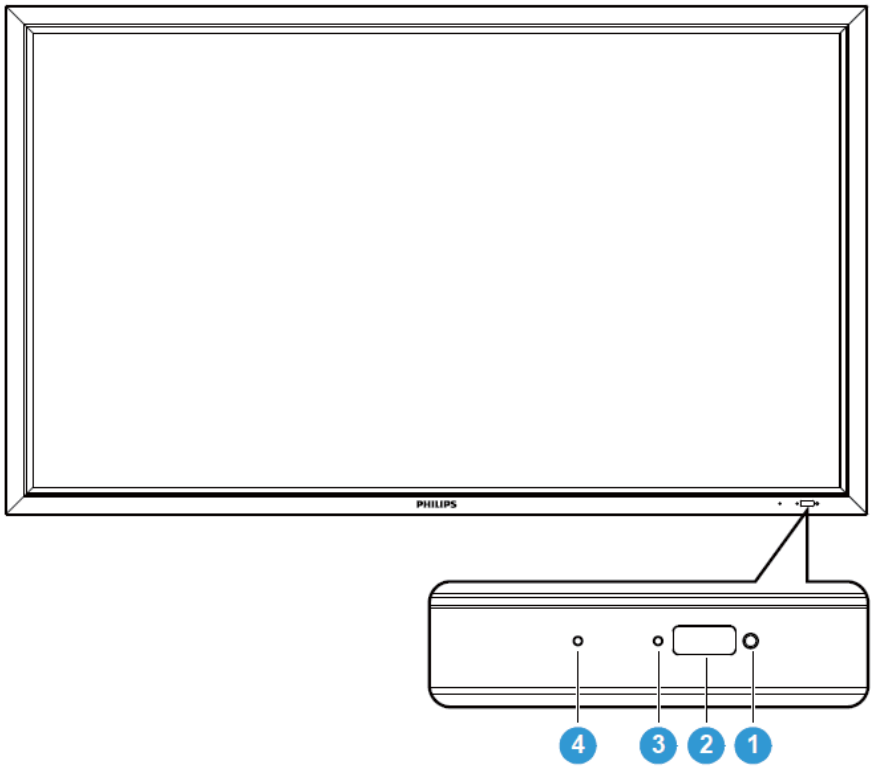


Caution:

- Although the above method is recommended, it is not guaranteed that the display will not tilt over.
- Before moving the display, remove the cord first.

2. PARTS AND FUNCTIONS

2.1. FRONT VIEW



1. Ambient light sensor

- Detects the ambient lighting condition around the display and the image brightness will automatically adjust when “LIGHT SENSOR” is set to “ON” in the OSD menu.

2. Remote control sensor

- Receives command signals from the remote control unit.

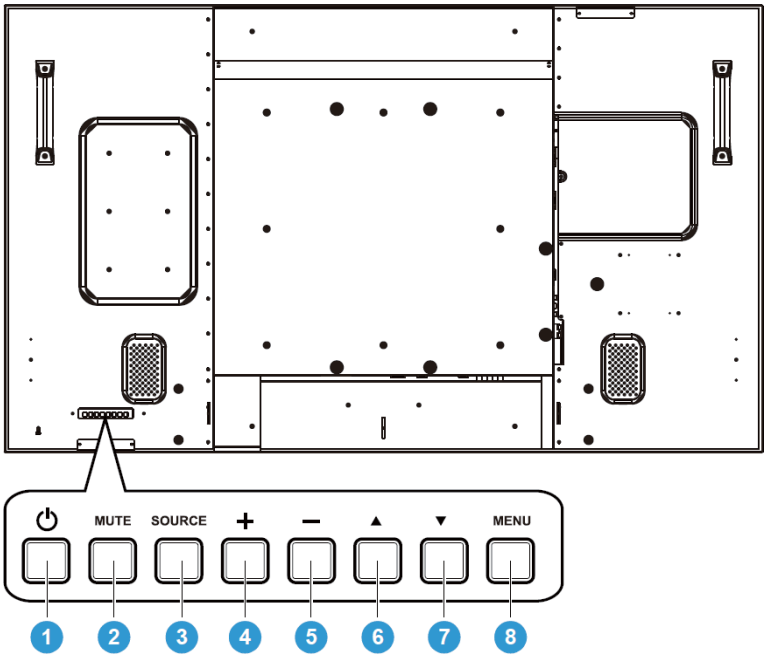
3. LCD power status indicator

- Indicates the operating status of the display:
  - Lights green when the display is turned on
  - Lights red when the display is in standby mode
  - Lights amber when the display enters DPMS mode
  - When SCHEDULE is enabled, the light blinks green and red
  - If the indicator blinks red that a failure has been detected
  - Off when the main power of the display is turned off

4. OPS power status indicator

- Indicates the operating status of the OPS (Open Pluggable Specification) module
  - Lights green when the OPS is turned on
  - Off when the main power of the OPS is turned off

2.2. REAR VIEW



1. **POWER button (⏻)**
   To switch the power on or put the **display** to standby.

2. **MUTE button**
   To switch the audio mute ON/OFF.

3. **SOURCE button**
   Use this button to select the input source.
   When the On Screen Display menu is active, this is also used as the **SET** button.

4. **PLUS (+) button**
   To increase the adjustment while OSD menu is on, or to increase the audio output level while the OSD menu is off.

5. **MINUS (-) button**
   To decrease the adjustment while OSD menu is on, or to decrease the audio output level while the OSD menu is off.

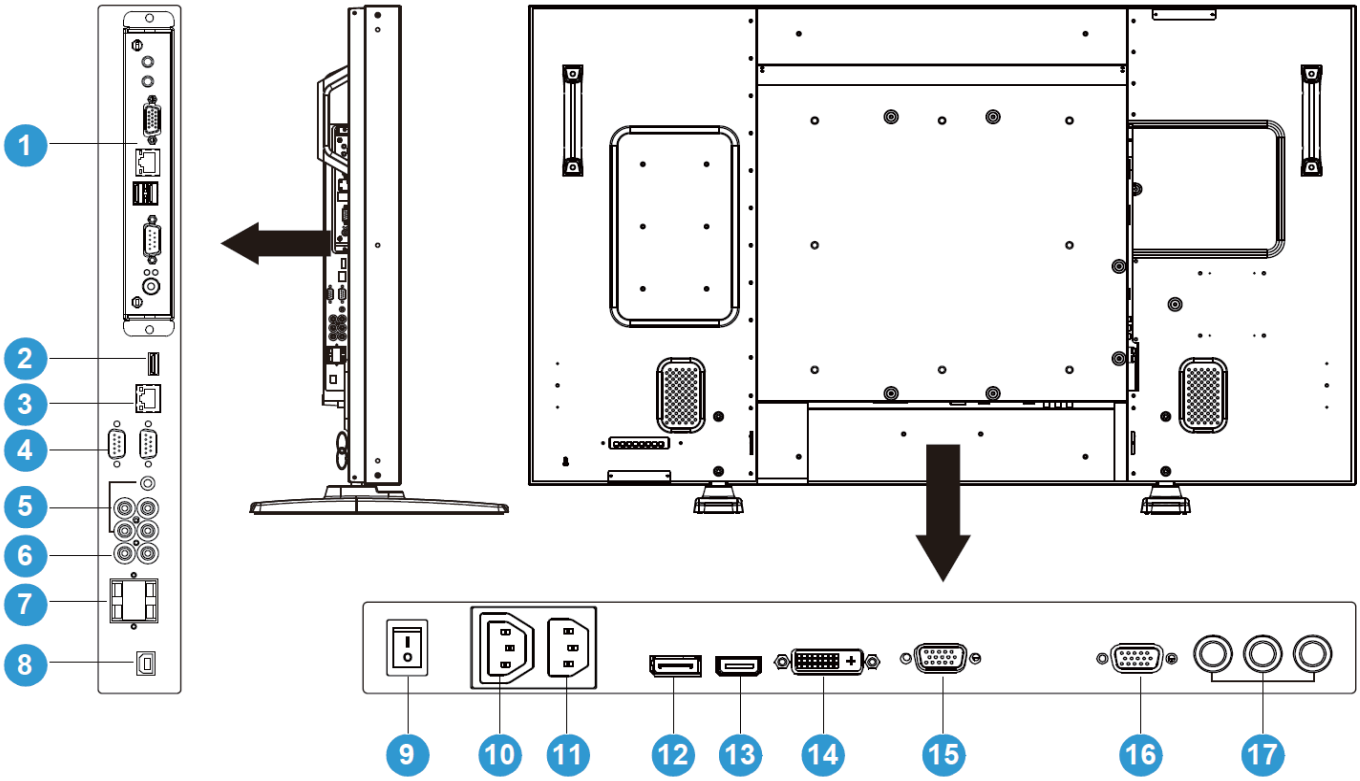
6. **UP (▲) button**
   To move the highlight bar up to adjust the selected item while OSD menu is on.

7. **DOWN (▼) button**
   To move the highlight bar down to adjust the selected item while OSD menu is on.

8. **MENU button**
   Activates the OSD Menu. Once OSD is activated, pressing this button will return to the previous menu.

Note: Keyboard Control Lock Mode This function completely disables the access to all Keyboard Control functions. To enable the keyboard control lock, press both of "▲" and "▼" buttons and hold down continuously for around 3 seconds. To recover back to the user mode, press both of "▲" and "▼" and hold continuously for three 3 seconds.

2.3. INPUT/OUTPUT TERMINALS



1. **OPS SLOT**
   Slot for installing the optional OPS module.

2. **USB**
   For technical support (i.e. firmware upgrades) only.

3. **RJ-45**
   LAN control function to configure your display remotely via an internet browser. For instructions on how to control the display via the LAN port, please refer to the Application Notes on the CD ROM enclosed with your display.

4. **RS232C (OUT/IN)**
   RS232C network connection input/output for the use of loop through function.

5. **AUDIO IN (AUDIO1/AUDIO2/ AUDIO3)**
   Connects to the audio output of a computer or an AV device.

6. **AUDIO OUT R/L**
   Outputs the audio signal from the **AUDIO IN** (**AUDIO1**/**AUDIO2**/**AUDIO3**) or **HDMI** jack.

7. **SPEAKERS R/L**
   Outputs the audio signal from the **AUDIO IN** (**AUDIO1**/**AUDIO2**/**AUDIO3**) or **HDMI** jack to external speakers.

8. **USB Touch Connector**
   Outputs the touch signal to the external host computer

9. Main power switch
Press to switch the main power on/off.

10. AC OUT
Connects to the AC IN socket of ~~another BDL5545ET monitor or~~ an external media device.
(Rating : 100~240Vac, 50-60Hz, 3A Max.)

11. AC IN
Connects the supplied power cord to the wall outlet.

12. DISPLAY PORT
Connects to the DisplayPort output of a PC or an AV device.

13. VIDEO IN (HDMI)
Connects to the HDMI output of an AV device or connect to the DVI-D output of a PC. (Using a DVI-HDMI cable)

14. VIDEO IN (DVI-D)
Connects to the DVI-D output of a PC or connect to the HDMI output of an AV device (Using a DVI-HDMI cable).

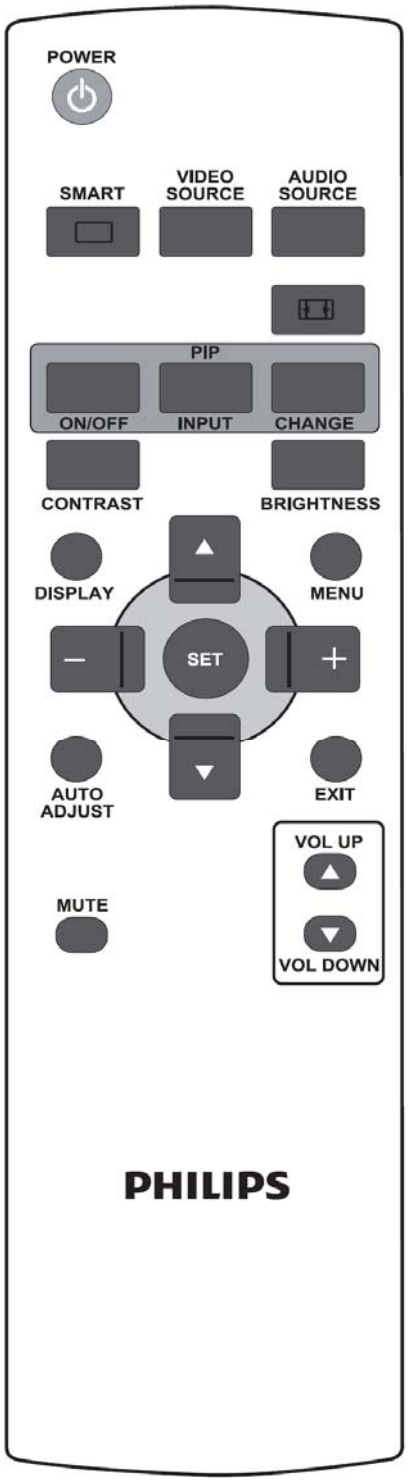
15. VGA IN
Connects to the VGA output of a computer.

16. VGA OUT
Outputs the VGA signal from the **VGA IN** jack.

17. VIDEO IN (COMPONENT)
Component video input (Component) for connecting to the component output of an AV device.

2.4. REMOTE CONTROL

2.4.1. GENERAL FUNCTIONS



POWER

POWER button

Press to switch on the display from standby mode. Press again to turn it off to standby mode.

This button also acts as the OPS power button when OPS is installed. If OPS is the default video source, OPS will turn on and off at the same time as the display.
Note: if OPS is not the default video source, its power status will not be changed when display is turned off.

SMART

SMART button

To select smart picture mode from:
- **Standard**: for images (factory setting)
- **Highbright**: for moving images such as Video
- **sRGB**: for text based images
- **Cinema**: for movies

PC mode: Standard, Highbright and sRGB.
Video mode: Standard, Highbright and Cinema.

VIDEO SOURCE

VIDEO SOURCE button

To activate the video source selection menu. Press repeatedly to select the video input source from **DP, DVI-D**, **VGA**, **HDMI** and **Component**.

AUDIO SOURCE

AUDIO SOURCE button

To activate the audio source selection menu. Press repeatedly to select the audio input source from **HDMI**, **AUDIO1**, **AUDIO2**, and **AUDIO3**.

Picture format button

To switch screen aspect ratio between
PC signal: **Full**, **Normal**, **Custom**, **Real** and **21:9**
Video signal: **Full**, **Normal**, **Dynamic**, **Custom**, **Real** and **21:9**

PIP (Picture In Picture) buttons

ON/OFF **ON/OFF** button: To turn PIP mode ON/OFF.

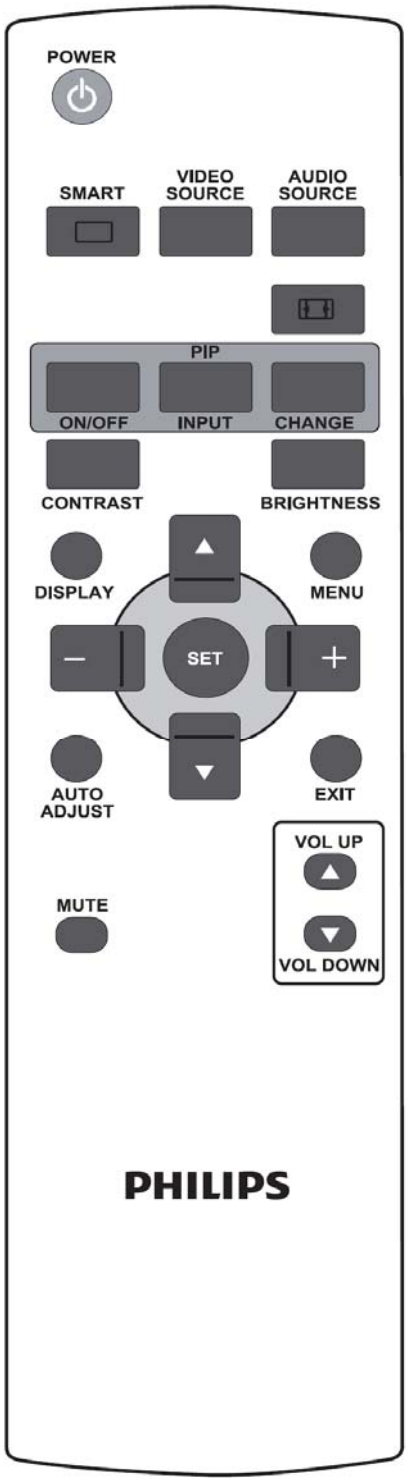
INPUT **INPUT** button: To select the input signal for the sub-picture.

CHANGE **CHANGE** button: To exchange between the main picture and sub picture.

CONTRAST

CONTRAST button

Press to open the **Contrast** OSD selection, and then press the **PLUS** or **MINUS** button to adjust the value.



BRIGHTNESS button

Press to open the **Brightness** OSD selection, and then press the **PLUS** or **MINUS** button to adjust the value.

DISPLAY button

To turn on/off the information OSD displayed on the upper right corner of the screen.

MENU button

To turn the OSD menu on/off.

UP button

- To move the highlight bar up to adjust the selected item when OSD menu is on.
- To move the sub-picture up in “PIP” mode.

DOWN button

- To move the highlight bar down to adjust the selected item when OSD menu is on.
- To move the sub-picture down in “PIP” mode.

PLUS button

- To move the highlight bar right to the 1st or 2nd submenu when OSD menu is on.
- To increase the adjustment within the OSD menu.
- To move the sub-picture right in “PIP” mode.

MINUS button

- To move the highlight bar left to the 1st submenu or main menu when OSD menu is on.
- To decrease the adjustment within the OSD menu.
- To move the sub-picture left in “PIP” mode.

SET button

To activate the setting inside the OSD menu.

AUTO ADJUST button

Note: For VGA input only.

To execute the **AUTO ADJUST** function.

EXIT button

To turn to the previous OSD menu.

MUTE button

To turn the mute function on/off.

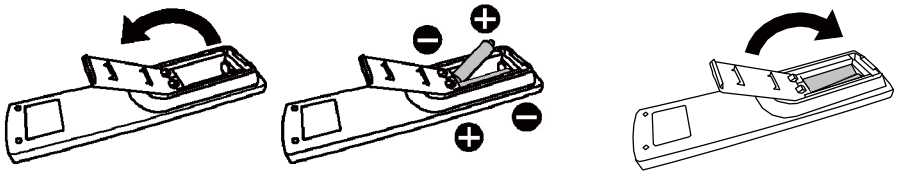
VOL UP button

To increase the audio output level.

VOL DOWN button

To decrease the audio output level.

2.4.2. INSERTING THE BATTERIES IN THE REMOTE CONTROL

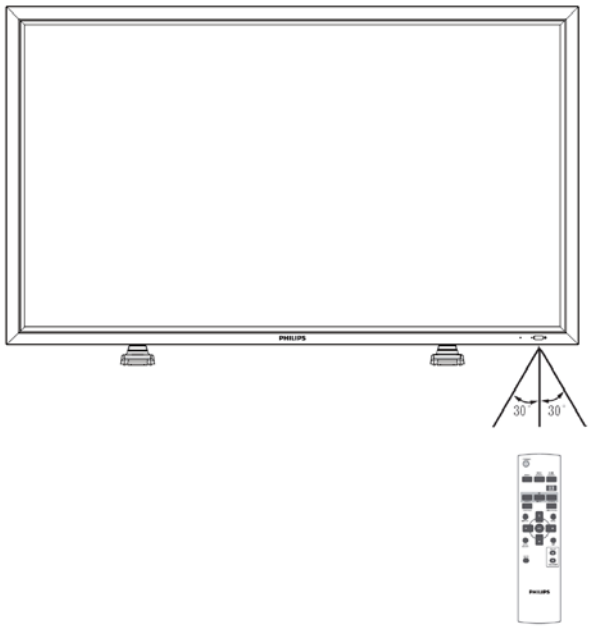


The remote control is powered by 1.5V AAA batteries. To install or replace batteries:
1. Press and slide to open the cover.
2. Insert two AAA size 1.5V batteries ensuring that the “+” and “-” ends of the batteries are correctly aligned.
3. Replace the cover.

Caution:
Incorrect use of batteries can result in leaks or bursting. Be careful especially about the following points.
- Place “AAA” batteries matching the + and - signs on each battery to the + and - signs of the battery compartment.
- Do not mix battery types.
- Do not combine new batteries with used ones. It causes shorter battery life or leakage.
- Remove dead batteries immediately to prevent battery liquid from leaking into the battery compartment. Don't touch exposed battery acid, as it can cause damage to your skin.

Note:
If you do not intend to use the Remote Control for a long period, remove the batteries.

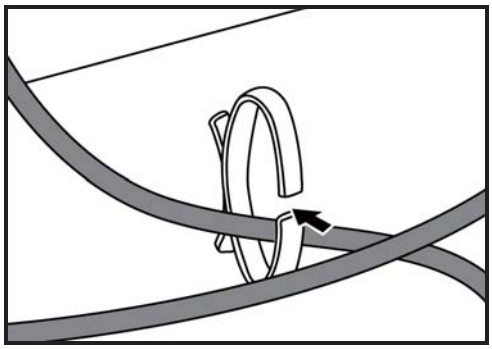
2.4.3. OPERATING RANGE OF THE REMOTE CONTROL
Point the top of the remote control toward the monitor's remote control sensor when pressing a button on the RC unit.
Use the remote control within a distance of about 10m/33ft from the monitor's remote control sensor and within a horizontal and vertical angle of 30 degrees.



Note: The remote control may not function properly when the remote control sensor on the monitor is under direct sunlight or strong illumination, or when there is an obstacle in the path of the signal transmission. The effective range declines with the increase of distance and angle

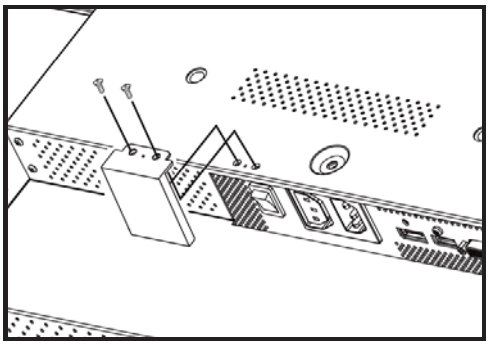
3. CONNECTIONS TO EXTERNAL EQUIPMENT

3.1. USING THE CABLE RETAINER



3.2. USING THE SWITCH COVER

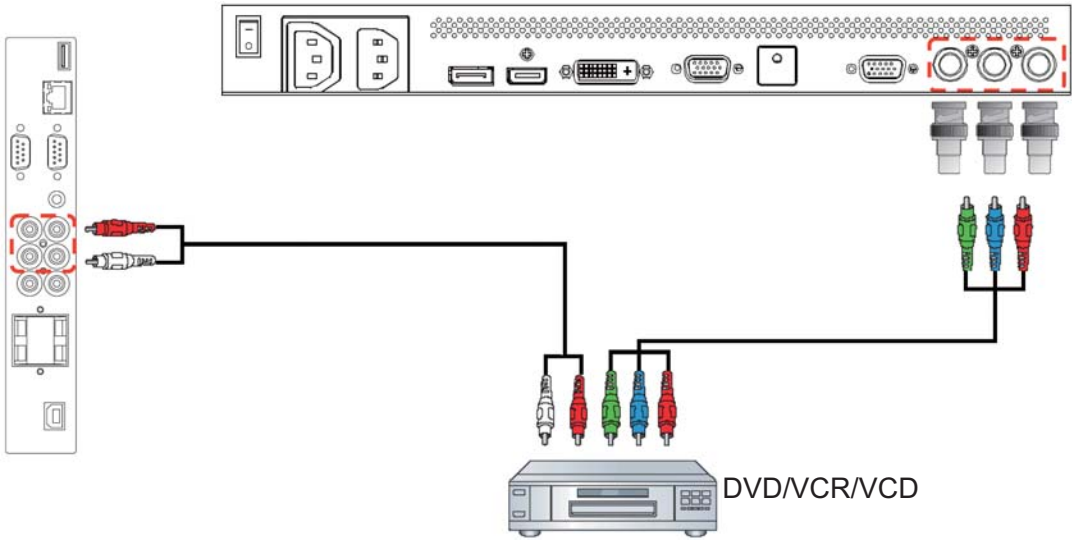
You can use the switch cover to prevent the display from being turned on or off accidentally.



3.3. CONNECTING EXTERNAL EQUIPMENT (DVD/VCR/VCD)

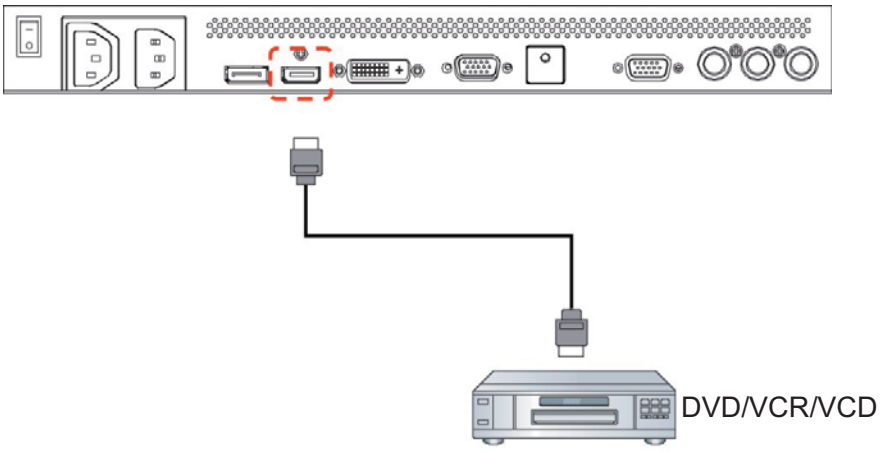
3.3.1. USING COMPONENT VIDEO INPUT

1. Connect the green-colored (labeled as "Y") jack of your device to the green-colored "Y" jack of the display.
2. Connect the blue-colored (labeled as "Pb") jack of your device to the blue-colored "Pb" jack of the display.
3. Connect the red-colored (labeled as "Pr") jack of your device to the red-colored "Pr" jack of the display.
4. Connect the red (R) and white (L) audio jacks of your device to the AUDIO IN (AUDIO2 or AUDIO3) jacks of the display.



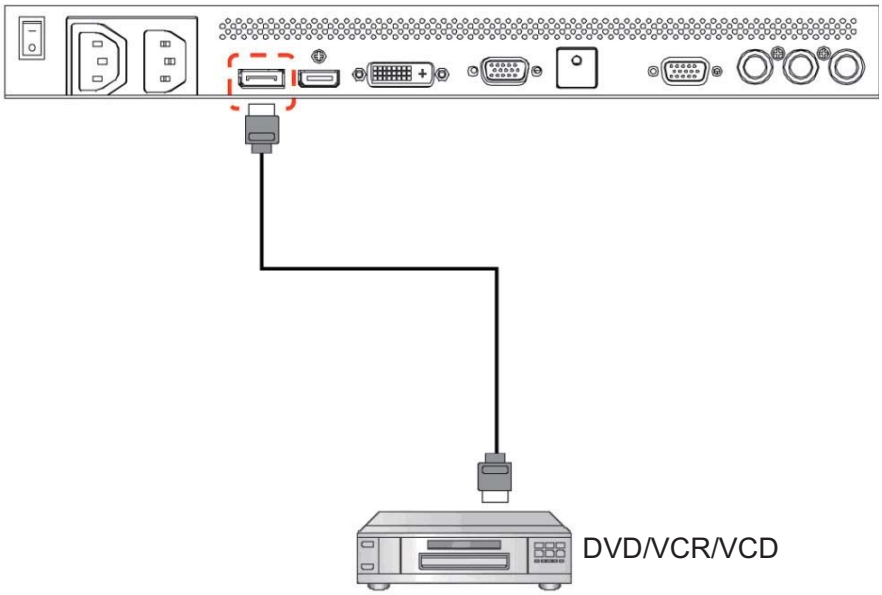
3.3.2. USING HDMI INPUT

Connect the HDMI connector of your external device to the HDMI input of the display.



3.3.3 USING DisplayPort INPUT

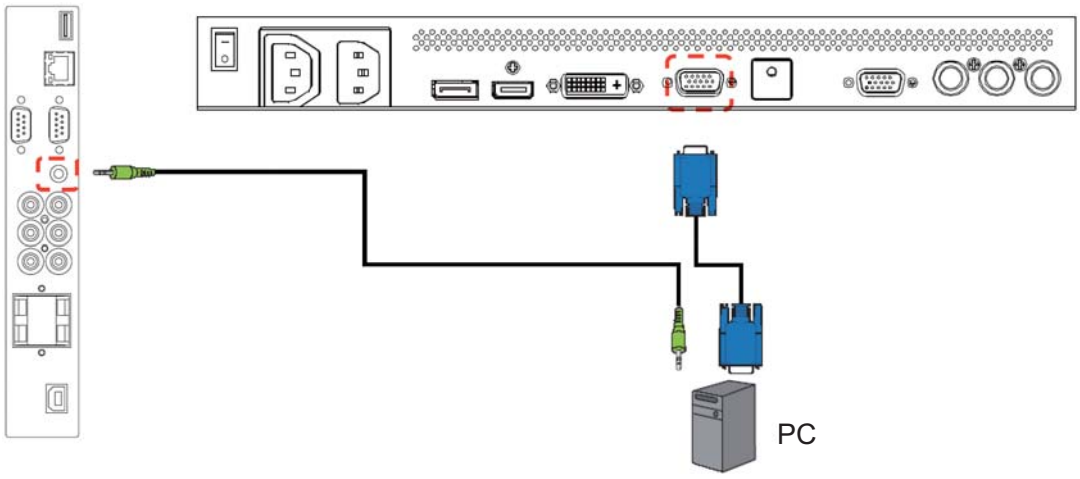
Connect the DisplayPort connector of your external device to the DisplayPort input of the display.



3.4. CONNECTING A PC

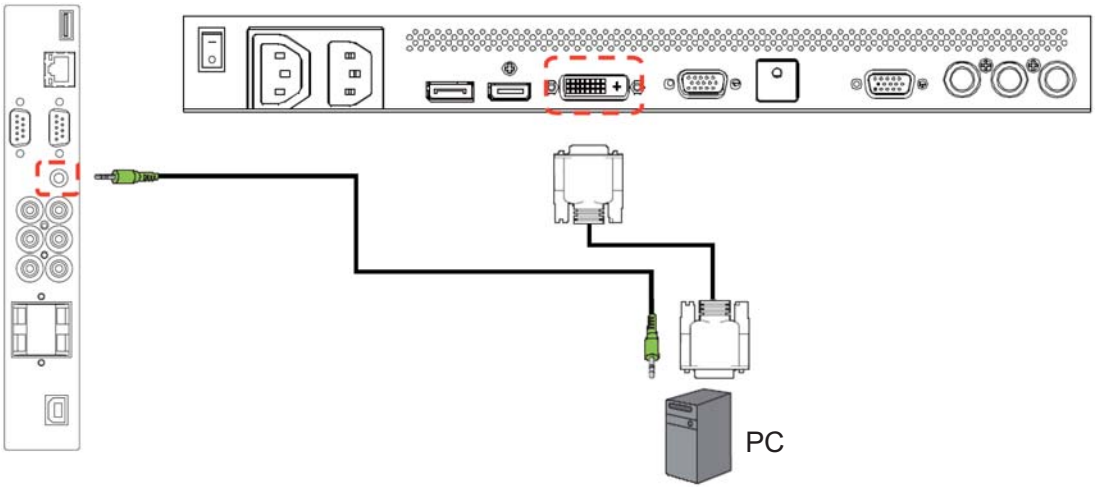
3.4.1. USING VGA INPUT

1. Connect the 15-pin VGA connector of your PC to the VGA IN connector of the display.
2. Connect the audio cable to the AUDIO IN (AUDIO1) input of the display.



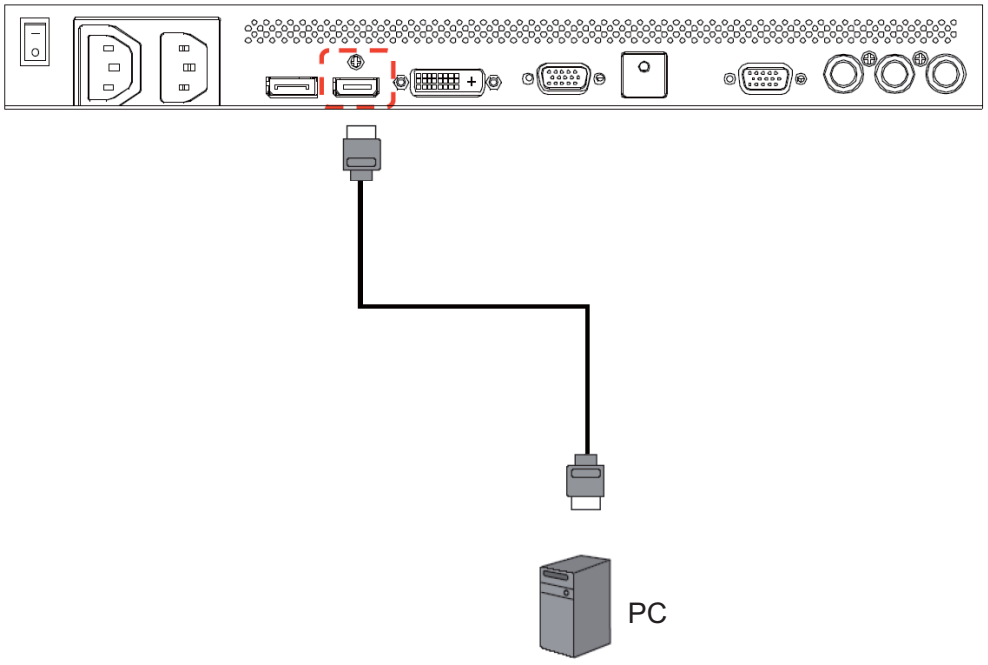
3.4.2. USING DVI INPUT

1. Connect the DVI-D connector of your PC to the DVI-D connector of the display.
2. Connect the audio cable to the AUDIO IN (AUDIO1) input of the display.



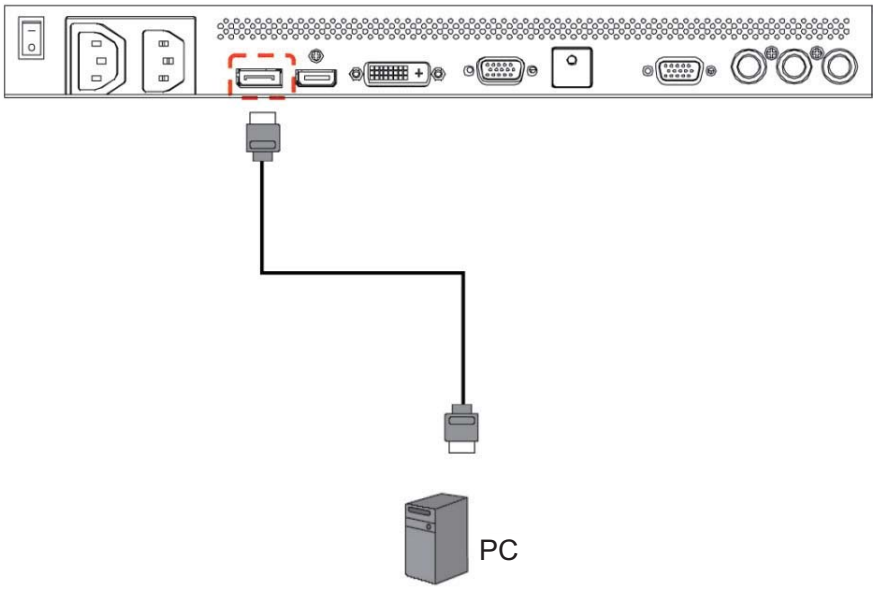
3.4.3. USING HDMI INPUT

Connect the HDMI connector of your PC to the HDMI connector of the display.



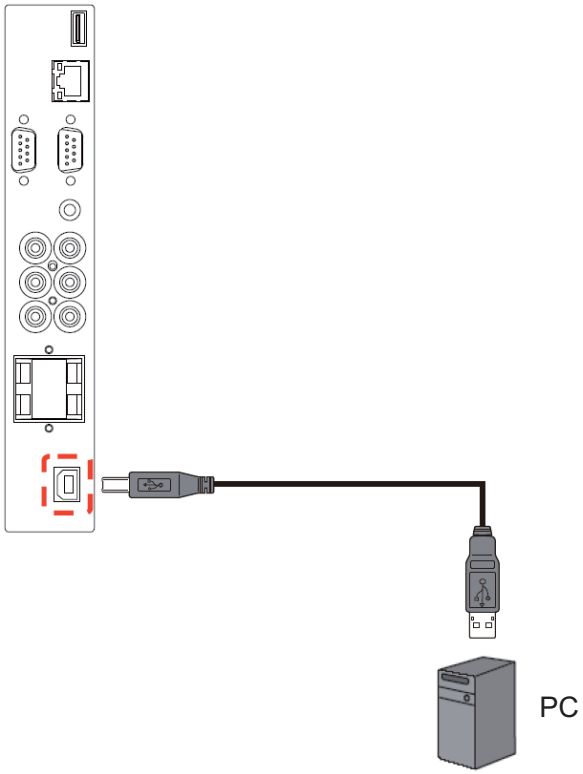
3.4.4. USING DISPLAY PORT INPUT

Connect the DisplayPort connector of your PC to the DisplayPort connector of the display.



3.4.5. USING TOUCH Output

Connect the USB connector of your PC to the USB touch connector of the display.



Key touch features
Touch method: Any IR opaque object, including finger, gloved hand, brush or stylus
Touch activation force: None. No physical pressure is required to activate the touch function
Number of touches: The touch screen can resolve up to two simultaneous touches
Touch screen orientation: Landscape only. Do not mount in portrait mode.
Touch accuracy: +/-3.0mm over 95% of the touchable area
Operating altitude: 2,500M max.
Storage altitude: 4,572m max.
Operating systems supported by Plug-and-Play:

- Windows 7 (64 bit & 32 bit)
- Vista (64 bit & 32bit)
- XP (64 bit & 32 bit)
- Mac OSX v10.4 and above
- Linux 2.6x and above

Supported modes of Operation by the Operating System:

	Win 7 [5]	Win 7 [4]	Vista	XP	Mac OSX	Linux
Default Mouse [1]	V	V	V	V	V	V
Digitizer [2]	V	V	V	X	X	X
Win 7 Gestures [3]	V	X	X	X	X	X

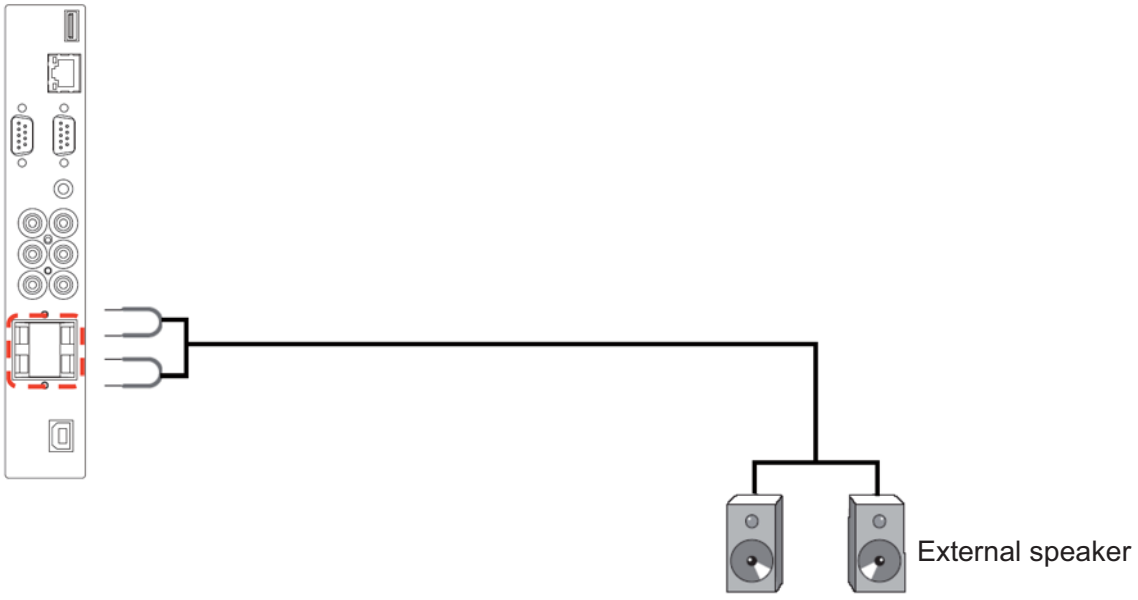
1. Default mouse (click, drag, double-click and right-click)
2. Touch digitizer (click, drag/selection, double-click, right-click, flick and visual feedback)
3. Digitizer with Windows 7 multi-touch gestures
4. Windows 7 – Starter and Home Basic version
5. Windows 7 – Home Premium, Professional, Enterprise and Ultimate versions

3.5. EXTERNAL AUDIO CONNECTION

3.5.1. CONNECTING EXTERNAL SPEAKERS

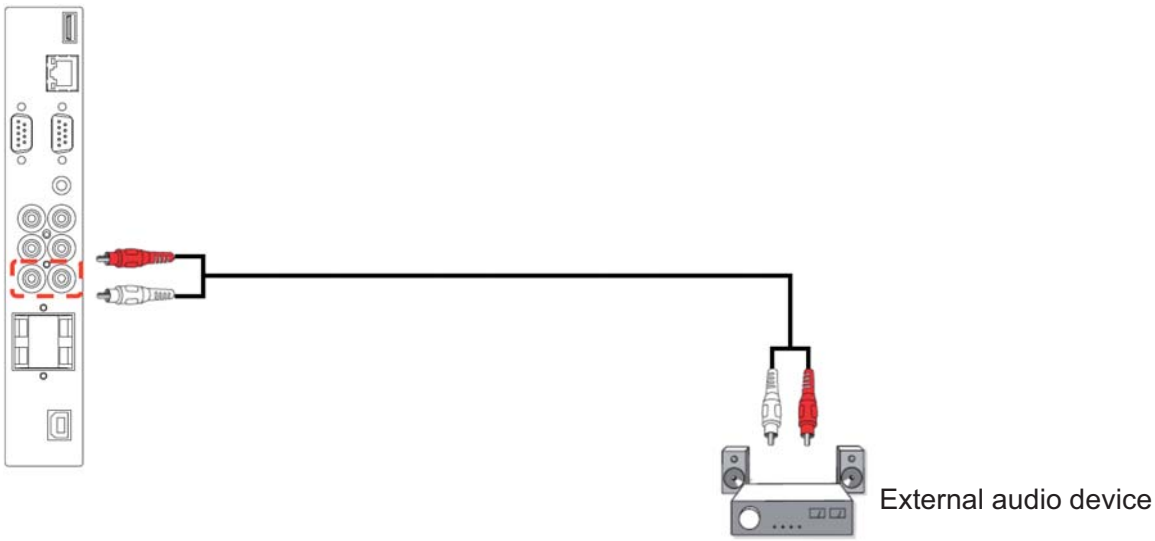
1. Connect the speaker wires to the external speaker (SPEAKERS) output of the display.
2. Turn on the display.

Note: Before connecting the speaker wires to the display*, turn off your display first.*



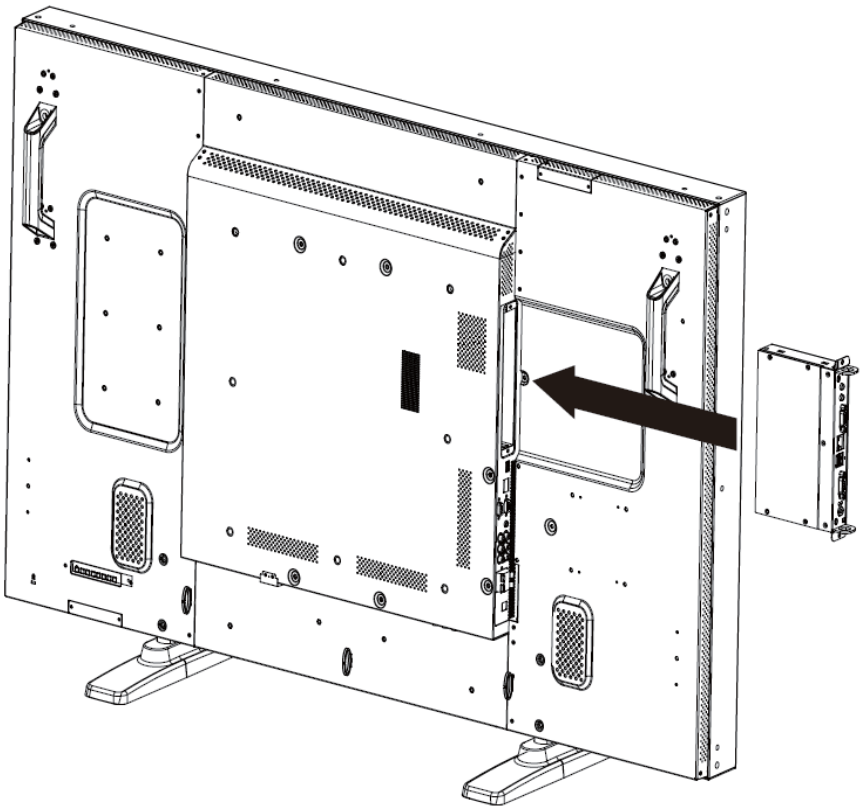
3.5.2. CONNECTING EXTERNAL AUDIO DEVICE

Connect the red (R) and white (L) audio jacks of the external audio device to the AUDIO OUT R/L jacks of the display.



3.6. CONNECTING an OPS Module

The Open Pluggable Specification (OPS) concept is an industry standard designed to enable easier integration of hardware, i.e. a media player in to a digital signage display. It essentially addresses market fragmentation and simplifies device installation, usage, maintenance and upgrades. To install an OPS Module, simply slide the media player in to the slot at the rear of the display, and fasten with the screws.

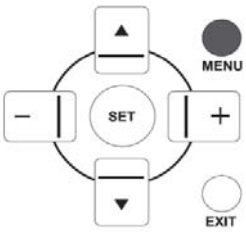


4. OSD MENU

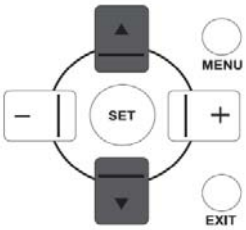
An overall view of the On-Screen Display (OSD) structure is shown below. You can use it as a reference for further adjustment of your display.

4.1. NAVIGATING THE OSD MENU

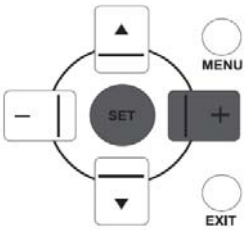
4.1.1. NAVIGATING THE OSD MENU USING THE REMOTE CONTROL



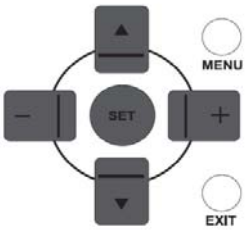
1. Press the **MENU** button on the remote control to display the OSD menu.



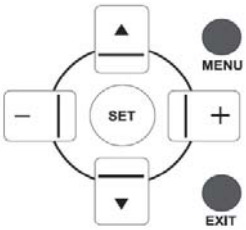
2. Press the **UP**/**DOWN** button to choose the item you want to adjust.



3. Press the **PLUS**/**SET** button to enter the submenu.

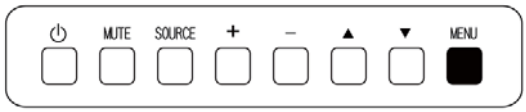


4. In the submenu, press the **UP**/**DOWN** button to toggle between items, or press **PLUS**/**MINUS** button to adjust settings. If there is a submenu, press the **SET/PLUS** button to enter the submenu.

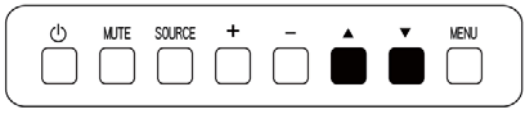


5. Press the **EXIT** button on the remote control to return to the previous menu, or press the **MENU** button to exit the OSD menu.

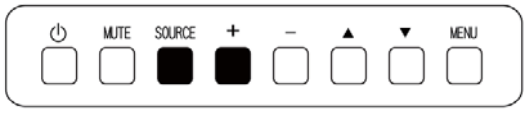
4.1.2. NAVIGATING THE OSD MENU USING THE DISPLAY'S CONTROL BUTTONS



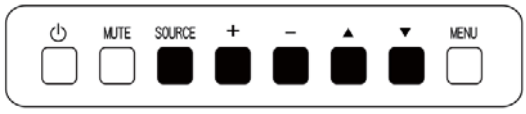
1. Press the **MENU** button to display the OSD menu.



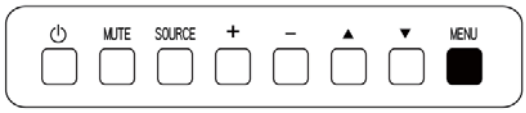
2. Press the ▲/▼ button to move the cursor to the item you want to adjust.



3. Press the **SOURCE** or **PLUS** button to enter the submenu.



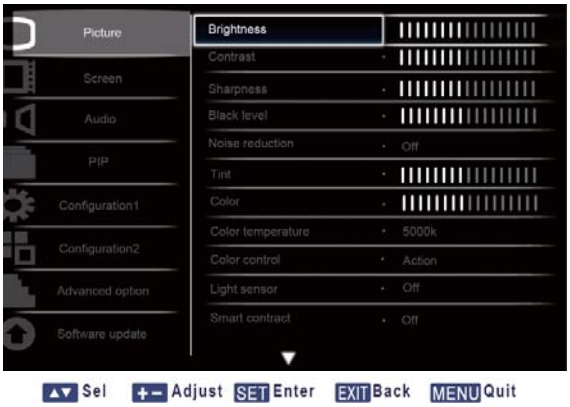
4. In the submenu, press the ▲/▼ button to toggle between items, or press **PLUS/MINUS** button to adjust settings. If there is a submenu, press the **SOURCE** or **PLUS** button to enter the submenu.



5. Press the **MENU** button to return to the previous menu, or press the **MENU** button several times to exit the OSD menu.

4.2. OSD Menu Overview

4.2.1. PICTURE MENU



Brightness
Adjust the overall image brightness by changing the intensity of the LCD panel's backlight.
Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to adjust.

Contrast
Adjust to sharpen the picture quality. The black portions of the picture become richer and the white become brighter.
Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to adjust.

Sharpness
Adjust to improve detail.
Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to adjust.

Black level
Adjust to change the image brightness.
Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to adjust.

Noise reduction
Adjust to remove the noise in the image - thereby enhancing the detail of your images. Select a suitable noise reduction level.
Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to toggle between

- **Off**
- **Low**
- **Middle**
- **High**

Tint

Note: For HDMI-Video timing, DVI-D(HD timing), DP(HD timing) and Component inputs only.

Adjust to change the color tint of the image.

Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to adjust.

Press the **PLUS** button and the tone color turns slightly green. Press the **MINUS** button and the tone color turns slightly purple.

Color

Note: For HDMI-Video timing, DVI-D(HD timing), DP(HD timing) and Component inputs only.

Adjust to increase or decrease the intensity of colors in the image.

Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to adjust.

Press the **PLUS** button to increase color intensity, or press the **MINUS** button to decrease color intensity.

Color temperature

Select a color temperature for the image. A lower color temperature will have a reddish tint, whilst a higher color temperature gives off a more bluish tint.

Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to toggle between

- **5000K**
- **6500K**
- **7500K**
- **9300K**
- **10000K**
- **Native**
- **User**

Color control

Note: This function is only available when Color temperature is set to User.

With this function you can adjust the color tones of the image precisely by changing the R (Red), G (Green) and B (Blue) settings independently.

Press the **SET/PLUS** button to open the submenu. Press the **UP**/**DOWN** button to select **User-R**, **User-G** or **User-B**, and press the **PLUS**/**MINUS** button to adjust.

Light sensor

Choose to enable or disable the ambient light sensor. Once enabled, the image brightness will be adjusted automatically when ambient lighting condition changes.

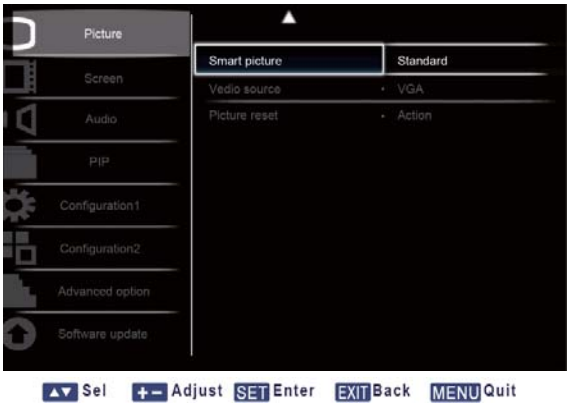
Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to make selection.

Smart contrast

Note: Light sensor and Smart contrast cannot be on at the same time.

When turned on, this function helps enhance image contrast when displaying dark scenes.

Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to make selection.



Smart picture

The following smart picture modes are available for

PC mode: **Standard**, **Highbright** and **sRGB**.

Video mode: **Standard**, **Highbright** and **Cinema**.

Video source

Select a video input source.

Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to toggle between

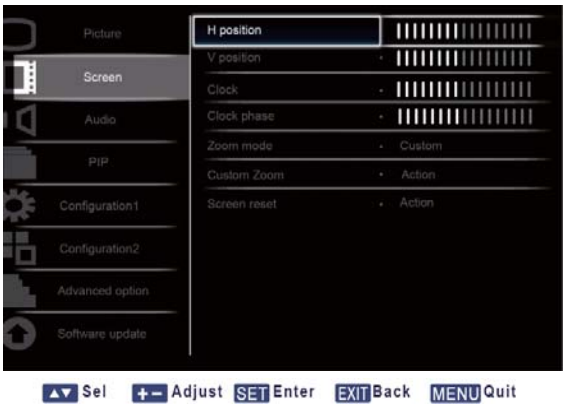
- **Display Port**
- **DVI-D**
- **Card OPS**
- **VGA**
- **HDMI**
- **Component**

Picture reset

Reset all settings in the **Picture** menu.

Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to make selection. Select **Reset** and press the **SET** button to restore settings to factory preset values. Press the **EXIT** button or select **Cancel** and press the **SET** button to cancel and then return to the previous menu.

4.2.2. SCREEN MENU



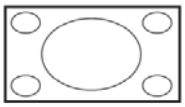
H position
Adjust the horizontal placement of the picture.
Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to adjust.
Press the **PLUS** button to move the image to the right, or press the **MINUS** button to move the image to the left.

V position
Adjust the vertical placement of the picture.
Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to adjust.
Press the **PLUS** button to move the image up, or press the **MINUS** button to move the image down.

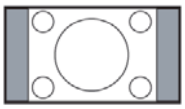
Clock
Note: For the VGA input only.
Adjust the width of the image.
Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to adjust.
Press the **PLUS** button to expand the width of the image, or press the **MINUS** button to shrink the width of the image.

Clock phase
Note: For VGA input only.
Adjust to improve the focus, clarity and stability of the image.
Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to adjust.

Zoom mode
The pictures you receive may be transmitted in 16:9 format (widescreen) or 4:3 format (conventional screen). 16:9 pictures sometimes have a black band at the top and bottom of the screen (letterbox format).
This function allows you to optimize the picture display on screen. The following zoom modes are available for
PC mode: **Full**, **Normal**, **Custom**, **Real** and **21:9**.
Video mode: **Full**, **Normal**, **Dynamic, Custom**, **Real** and **21:9**.

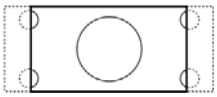


- **Full** - This mode restores the correct proportions of pictures transmitted in 16:9 using the full screen display.



- **Normal** - The picture is reproduced in 4:3 format and a black band is displayed on either side of the picture.

- **Dynamic** - Fill the entire screen by stretching 4:3 pictures non-proportionally.
- **Custom** - Choose to apply the custom zoom settings in the **Custom Zoom** submenu.
- **Real** - This mode displays the image pixel-by-pixel on screen without scaling the original image size.

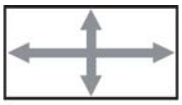


- **21:9** - The picture is enlarged to 16:9 format. This mode is recommended when displaying pictures that have black bands at the top and bottom (letterbox format).

Custom zoom

Note: This item is only available when the Zoom mode setting is set to Custom.

You can use this function to further customize the zoom settings to suit the image you want to display. Press the **SET/PLUS** button to open the submenu. Use the **UP**/**DOWN** button to toggle between the following items, and use the **PLUS**/**MINUS** button to adjust.

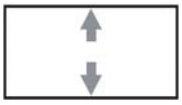


- **Zoom** - Expands the horizontal and vertical sizes of the image simultaneously.

- **H zoom** - Expands the horizontal size of the image only.

- **V zoom** - Expands the vertical size of the image only.

- **H position** - Moves the horizontal position of the image left or right.



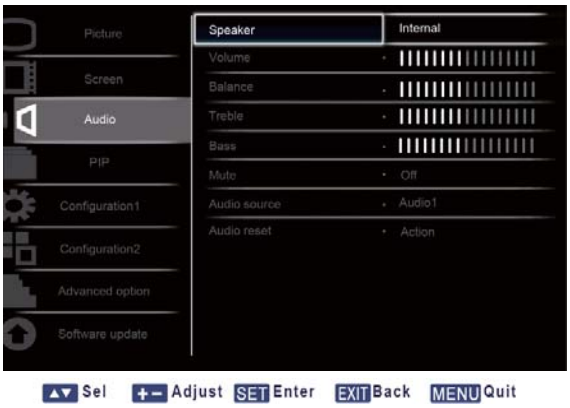
- **V position** - Moves the vertical position of the image up or down.

Screen reset

Reset all settings in the **Screen** menu.

Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to make selection. Select **Reset** and press the **SET** button to restore settings to factory preset values. Press the **EXIT** button or select **Cancel** and press the **SET** button to cancel and then return to the previous menu.

4.2.3. AUDIO MENU



Speaker

Set the display to play audio using the built-in (internal) speaker or external speakers.

Use the **UP**/**DOWN** button to toggle between

• **Internal** • **External**

Volume

Adjust to increase or decrease the audio output level.

Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to adjust.

Balance

Adjust to emphasize audio output balance more on the left or right.

Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to adjust.

Treble

Adjust to increase or decrease higher-pitched sounds.

Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to adjust.

Bass

Adjust to increase or decrease lower-pitched sounds.

Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to adjust.

Mute

To turn the mute function on/off.

Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to make selection.

Audio source

Select the audio input source according to the audio signal source connected to the audio input and HDMI sockets on the monitor.

Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to toggle between

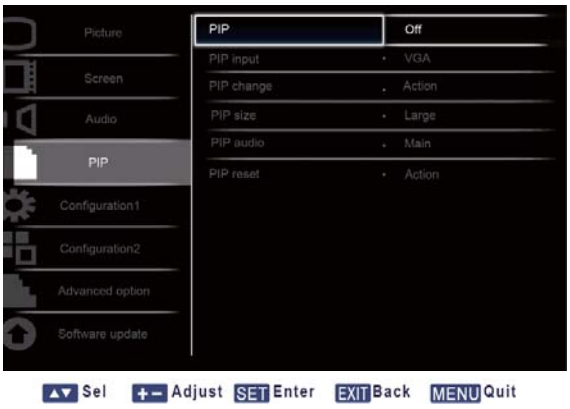
- **HDMI**
- **AUDIO1**
- **AUDIO2**
- **AUDIO3**

Audio reset

Reset all settings in the **AUDIO** menu.

Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to make selection. Select **Reset** and press the **SET** button to restore settings to factory preset values. Press the **EXIT** button or select **Cancel** and press the **SET** button to cancel and then return to the previous menu.

4.2.4. PIP MENU



PIP

Turn PIP (Picture-in-Picture) mode On/Off.

Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to toggle between

- **On**
- **Off**

PIP input

Select the input signal for the sub-picture.

Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to make selection.

PIP change

Enlarges the smaller picture to become the main picture, and vice versa.

Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to make selection.

PIP size

Select the size of the sub picture in the PIP (Picture-in-Picture) mode.

Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to toggle between

- **Small**
- **Medium**
- **Large**

PIP audio

Select the audio source in the PIP (Picture-in-Picture) mode.

Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to toggle between

- **MAIN** - Select audio from the main picture
- **Sub** - Select audio from the sub picture.

PIP reset

Reset all settings in the **PIP** menu.

Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to make selection. Select **Reset** and press the **SET** button to restore settings to factory preset values. Press the **EXIT** button or select **Cancel** and press the **SET** button to cancel and then return to the previous menu.

Notes:

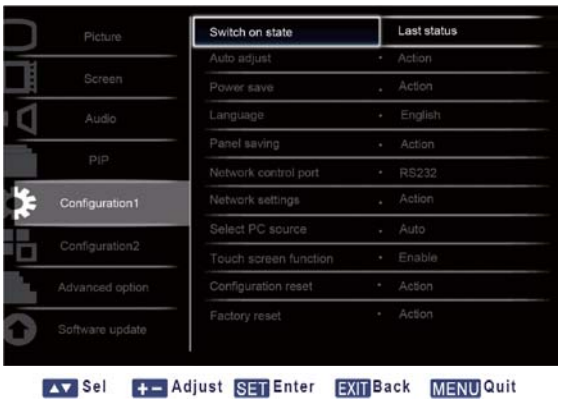
- *The PIP function is only available under certain signal source combinations as shown in the table below.*

		Main picture signal source					
		DP	HDMI	DVI-D	Card OPS	VGA	Component
Sub picture signal source	DP	×	○	○	○	×	×
	HDMI	○	×	×	×	○	○
	DVI-D	○	×	×	×	○	○
	Card OPS	○	×	×	×	○	○
	VGA	×	○	○	○	×	×
	Component	×	○	○	○	×	×

(○: PIP function available, ×: PIP function unavailable)

- *The availability of the PIP function will also depend on the resolution of the input signal being used.*

4.2.5. CONFIGURATION 1 MENU



Switch on state

Set the display to turn on or remain off when the power cord is connected to a wall outlet. Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to toggle between

- **Power off** - Select to power off the display.
- **Forced on** - Select to power on the display.
- **Last status** – Select to turn the display on or off depending on the last power status (i.e no change to the status).

Auto adjust

Note: For VGA input only.

Use this function to automatically optimize the display of VGA input image.

Press the **SET/PLUS** button to open the submenu, and then press the **SET** button to adjust.

Power save

Set the display to reduce the power automatically.

Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to toggle between

- **PC** - Select **ON** to let the display enter DPMS (Display Power Management Signaling) mode when no signal can be detected from the DisplayPort, HDMI, DVI-D, and VGA inputs after three successive cycles. Use the **PLUS**/**MINUS** button to make selection.
- **VIDEO** - Select **ON** to let the display enter power saving mode when no signal is detected from the Component input after three successive cycles. Use the **PLUS**/**MINUS** button to make selection.

Language

Select the language for the OSD menu.

Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to toggle between

- **English**
- **Deutsch**
- **Русский**
- **中文**
- **Polski**
- **Français**
- **Italiano**
- **Español**
- **Türkçe**

Panel saving

Choose to enable the panel saving functions to reduce the risk of the "image persistence". Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to toggle between

- **COOLING FAN** - Select **On** and the cooling fan is activated all the time. Select **AUTO** and the cooling fan will turn on/off according to the temperature of monitor.
  Note: The conditions of the cooling fan are low/mid/high speed at 50/58/63 °C respectively. The display will automatically shut down if a preset critical temperature (82 °C) is reached.
- **Brightness** - Select **On** and the brightness of the image will be reduced to an appropriate level, and the **Brightness** setting in the **Picture** menu will become unavailable. Use the **PLUS**/**MINUS** button to make selection.
- **Pixel Shift** - Select the time interval for the monitor to slightly expand the image size and shift the position of pixels in four directions (up, down, left, and right). Use the **PLUS**/**MINUS** button to make selection (**Off, AUTO, 10-900** seconds from current time).

IMPORTANT: It is not recommended to keep a single static image displayed on your unit for long periods of time. This can cause image sticking, or ghost images, which will decrease the quality of your images. In some instances, ghost image damage can be permanent. Ghost imaging is also not covered by warranty, so to avoid such issues, we strongly recommend one of the following actions:

- Change the picture periodically
- Enable **Pixel shift** (See Pixel shift under Section 4.2.5.CONFIGURATION 1 MENU)
- Use a screen saver with changing image

Network control port

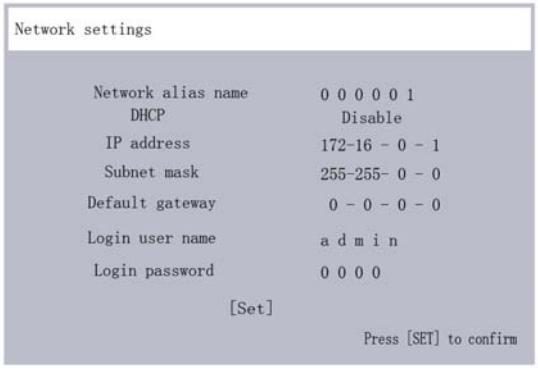
Choose to enable or disable the function of the control port.

Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to make selection.

Network settings

To assign IP, Subnet Mask and Default gateway for the display. Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to toggle between

- **Network alias name** – Enter the alias name for the network. Acceptable input characters are: 0 ~ 9, A ~ Z, space.
- **DHCP** - Choose to enable or disable the **DHCP** function. If enabled, the display will be assigned **IP address**, **Subnet mask** and **Default gateway** automatically. If disabled, you will be prompted to enter the following value manually. Finally, press SET to store and save the chosen values.
- **IP address**
- **Subnet mask**
- **Default gateway**
- **Login user name**
- **Login password**



Select PC source
Press the SET/PLUS button to open the submenu, and then press the UP/DOWN button to toggle between OPS, External, and Auto.

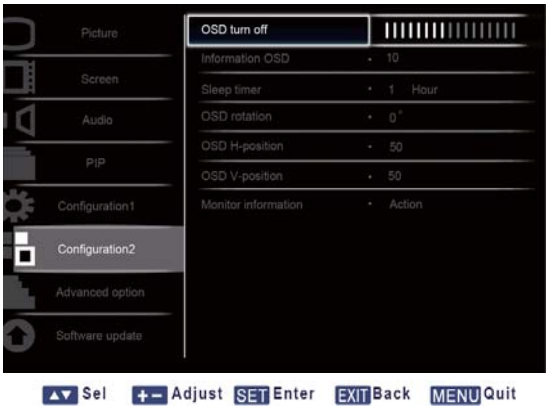
Touch screen function
Press the SET/PLUS button to open the submenu, and then press the UP/DOWN button to toggle between Enable and Disable.

NOTE: The functions listed below will be changed or grayed out when the Touch screen function is enabled.
(1) Zoom mode - Grayed out and set to Full
(2) Custom zoom - Grayed out
(3) PIP – Only Off and PIP are selectable. All other items will be grayed out
(4) Scan mode = Grayed out and set to Underscan except for Component input
(5) Tiling = Grayed out and set to Disable
Pixel shift = Grayed out and set to center

Configuration reset
Reset all settings in the **Configuration 1** menu.
Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to make selection. Select **Reset** and press the **SET** button to restore settings to factory preset values. Press the **EXIT** button or select **Cancel** and press the **SET** button to cancel and then return to the previous menu.

Factory reset
Reset all settings in the **Picture**, **Screen**, **Audio**, **PIP**, **Configuration 1**, **Configuration 2**, and **Advanced option** menus. Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to make selection. Select **Reset** and press the **SET** button to restore settings to factory preset values. Press the **EXIT** button or select **Cancel** and press the **SET** button to cancel and then return to the previous menu.

4.2.6. CONFIGURATION 2 MENU



OSD turn off
Set the period of time the OSD menu stays on the screen. (from **5** to **120** seconds)
Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to adjust.

Information OSD
Set the period of time the information OSD displayed on the upper right corner of the screen. (from **1** to **60** seconds). The information OSD will display whenever the input signal is changed.
Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to adjust. The information OSD will remain on the screen when **Off** is selected.

Sleep timer
Set the display to turn itself to standby mode after the amount of time you specify. (**Off,1-24** hours from current time)
Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to adjust.
Note: When the Sleep timer is activated, Schedule settings will be disabled.

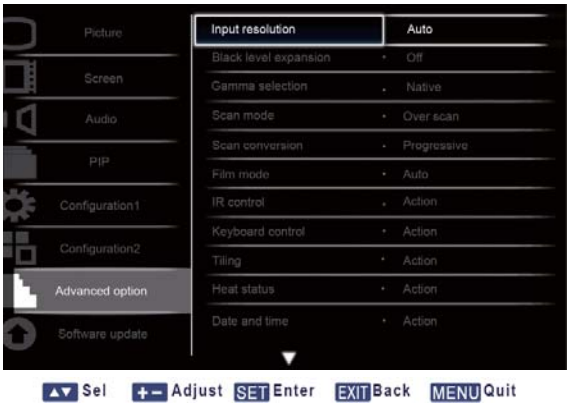
OSD rotation
Adjust the orientation of the OSD menu.
Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to adjust between 0, 90, 180, and 270 degrees.

OSD H-position
Adjust the horizontal position of the OSD menu.
Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to adjust.

OSD V-position
Adjust the vertical position of the OSD menu.
Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to adjust.

Display information
Displays the information about your display, including model number, serial number, operating hours and software version.
Press the **SET/PLUS** button to view the information. Press the **EXIT** button to return to the previous menu.

4.2.7. ADVANCED OPTION MENU



Input resolution

Note: For VGA input only.

Set the resolution of the VGA input. This is only required when the display is unable to detect the VGA input resolution correctly.

Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to toggle between

- **1024x768, 1280x768, 1360x768 and 1366x768**
- **640x480, 720x480 and 852x480**
- **800x600, 1064x600 and 720x576**
- **1400x1050 and 1680x1050**
- **720x400 and 640x400**
- **1440x900 and 1600x900**

Auto: Determines the resolution automatically.

The setting you select becomes effective after you have powered off your display, and then powered it back on.

Black level expansion

Note: For Video mode inputs only.

This feature offers deeper blacks for an even better image quality. Select a suitable black level expansion setting to reveal more details in the dark parts of an image.

Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to toggle between

- **Off**
- **Low**
- **Medium**
- **High**

Gamma selection

Gamma is what controls the overall brightness of an image. Images which are not corrected properly can appear too white or too dark, so controlling the gamma properly can have a huge influence on the overall picture quality of your display.

Select a display gamma value to best suit the image and optimize image brightness and contrast.

Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to togglebetween

- **Native**
- **2.2**
- **2.4**
- **S gamma**

Scan mode

Note: For HDMI-Video timing, DVI-D(HD timing), DP(HD timing) and Component inputs only.

Change the display area of the image.

Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to toggle between

- **Overscan** - Display about 95% of the original size of the image. The rest of the areas surrounding the image will be cut off.
- **Underscan** - Display the image in its original size.

Scan conversion

Choose to enable or disable the IP (Interlace to Progressive) conversion function.

Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to toggle between

- **Progressive** - Enable the IP conversion function (recommended). Once enabled, the interlace input signal will be converted to progressive format for better display quality.
- **Interlace**: Disable the IP function. This mode is suitable for displaying motion pictures, but it increases the chance of image retention.

Film mode

Choose to turn on or off the film mode frame conversion function.

Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to toggle between

- **Auto** - Enable the film mode frame conversion function for movies and motion pictures. The display converts a 24 frames-per-second (24 fps) input signal format to DVD video signal format. Once this function is enabled, it is recommended that you set the **Scan conversion** function to **Progressive**.
- **Off** - Disable the film mode frame conversion function. This mode is suitable for TV broadcasting and VCR signals.

IR control

Select the operation mode of the remote control when multiple BDL5545ET displays are connected via an RS232C connection.

Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to toggle between

- **Normal** - All displays can be operated normally by the remote control.
- **Primary** - Designate this display as the primary display for remote control operation. Only this display can be operated by the remote control.
- **Secondary** - Designate this display as the secondary display. This display can not be operated by the remote control, and will only receive the control signal from the primary display via the RS232C connection.
- **Lock** - Lock the remote control function of this display. To unlock, press and hold the **DISPLAY** button on the remote control for 5 seconds.

Keyboard control

Choose to enable or disable the function of the keyboard (control buttons) on the display.

Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to toggle between

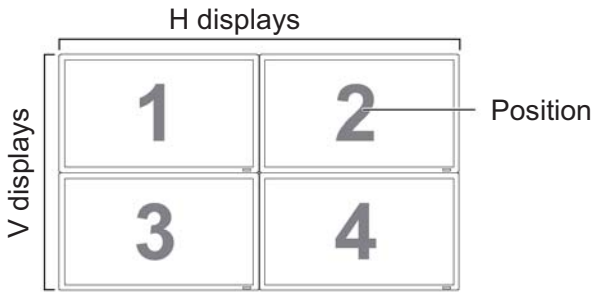
- **Lock** - Disable the keyboard.
- **Unlock** - Enable the keyboard.

Tiling

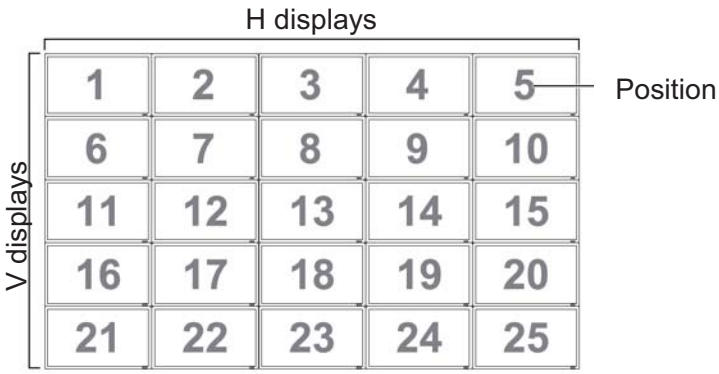
With this function you can create a single large screen matrix (display wall) that consists of up to 25 BDL5545ET displays (5 displays each on the vertical and horizontal sides). This requires you to connect each BDL5545ET display in a daisy-chain configuration.

Example:

2 x 2 screen matrix (4 monitors)
H displays = 2
V displays = 2

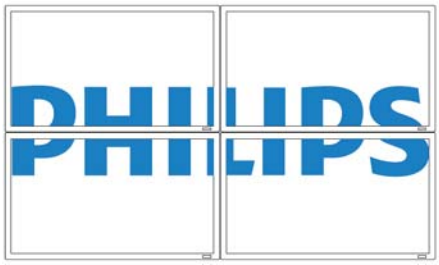


5 x 5 screen matrix (25 monitors)
H displays = 5
V displays = 5

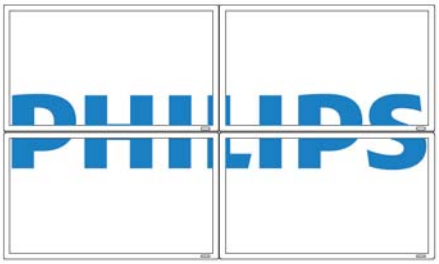


- **H monitors** - Select the number of displays on the horizontal side.
- **V monitors** - Select the number of displays on the vertical side.
- **Position** - Select the position of this display yin the screen matrix.
- **Frame comp.** - Choose to turn on or off the frame compensation function. If turned on, the display will adjust the image to compensate for the width of the display bezels in order to accurately display the image.

Frame comp. - OFF



Frame comp. - ON



- **Enable**: Choose to enable or disable the **Tiling** function. If enabled, the display will apply the settings in **H monitors**, **V monitors**, **Position**, and **Frame comp**.

Note: The Tiling function will be disabled when the ON/OFF button for PIP is pressed.

- **Switch on delay** – Select switch on delay time for each display yin a large matrix or video wall to prevent AC inrush current. Use the PLUS/MINUS buttons to make selection (Off, Auto, 1-50 seconds from switch on).

Note: Touch function for BDL5545ET is set to ON by default. When touch is ON, tiling will be disabled automatically because the touch only works for single monitor. When touch is OFF, tiling will be enabled again and the user can set tiling up to 5x5 based on the application.

Heat status

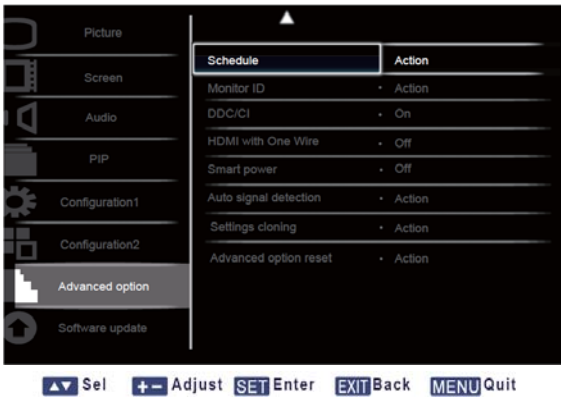
This function allows you to check the thermal status of the display at any time. The accuracy of the temperature indicated is ±5 degrees.

Press the **SET/PLUS** button to view the heat status. Press the **EXIT** button to return to the previous menu.

Date and time

Adjust current date and time for the display's internal clock.

Press the **PLUS** button to open the submenu. Press the **UP**/**DOWN** button to toggle between the **Year**, **Month**, **Day**, **Hour**, **Minute**, and **Daylight saving** settings. Press the **PLUS**/**MINUS** button to adjust all settings except **Daylight saving time**. Press the **SET** button to open the **Daylight saving** submenu. Press **PLUS**/**MINUS** button to make a selection and then press **UP**/**DOWN** button to adjust.

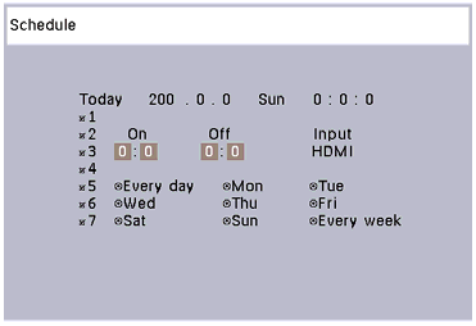


Schedule

Note: We recommend that you set up the current date and time before using this function.

The Schedule function allows you to program up to seven different scheduled time intervals for the display. You can select the time the display turns on and turns off, the days in a week the display is activated, and which input source the display will use for each scheduled activation period.

1. Press the **SET/PLUS** button to open the submenu.



2. Press the **UP**/**DOWN** button to select a schedule item (item 1 through item 7), and then press the **PLUS** button.
3. With the **ON** item highlighted, press the **UP**/**DOWN** button to set the hour when the display will be turned on, then press the **PLUS** button to move to the minute slot to set the minute. If you do not want to use a power on time, select "__" for the hour slot and minute slot.

4. Press the **PLUS** button to highlight the **OFF** item. Press the **UP**/**DOWN** button to set the hour when the display will be turned off, then press the **PLUS** button to move to the minute slot to set the minute. If you do not want to use a power off time, select "__" for the hour slot and minute slot.
5. Press the **PLUS** button to highlight the **Input** item, and then press the **UP**/**DOWN** button to select an input source. If no input source is selected, the input source will remain the same as the last selected input.
6. Press the **PLUS** button to select what days in a week this schedule item will be take effect, and then press the **SET** button.
7. If you want to set up more schedule items, press the **EXIT** button and then repeat the steps above. A check mark in the box next to the number of the schedule item indicates that the selected schedule is in effect.

Notes:
- *The selection of Every day within a schedule item takes priority over other schedules that are set up to operate weekly.*
- *When schedule items overlap, scheduled power on time has priority over scheduled power off time.*
- *If there are two schedule items programmed for the same time, then the highest numbered schedule has priority.*

Monitor ID
Set the ID number for controlling the display via the RS232C connection. Each display must have an unique ID number when multiple BDL5545ET displays are connected.
Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to select a monitor ID.

DDC/CI
Choose to turn **On** or **Off** the DDC/CI communication function. Select On for normal use.
Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to make selection.

HDMI with One Wire
This function gives you the ability to control your display through the HDMI connector using CEC(Consumer Electronics Control) commands.
Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to make selection.

Smart power
Set the display to reduce the power consumption automatically.
Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to toggle between
- **Off**
- **Medium**
- **High**

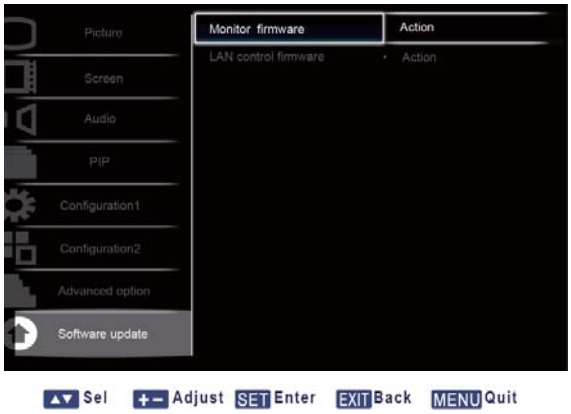
Auto signal detection
Choose to let the display detect and select available signal sources automatically.
Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** to make selection.
- **ON** - Set the display to select the image automatically once a signal is connected.
- **OFF** - Once a signal is connected, it can only be selected manually.

Settings cloning
To store OSD setting of one display into the USB drive and clone the setting to another display.
Press the **SET/PLUS** button to open the submenu, and then press the **UP**/**DOWN** button to toggle between

- **Monitor to USB** - When select **YES,** the OSD setting will be uploaded to USB device.
- **USB to monitor** - When select **YES,** the OSD setting will be downloaded from USB device to the display to change the OSD setting for this display.

Advanced option reset
Reset all settings in the **Advanced option** menu.
Press the **SET/PLUS** button to open the submenu, and then press the **PLUS**/**MINUS** button to make selection. Select **Reset** and press the **SET** button to restore settings to factory preset values. Press the **EXIT** button or select **Cancel** and press the **SET** button to cancel and then return to the previous menu.

4.2.8. SOFTWARE UPDATE MENU



Display firmware
Note: This is an advanced function which should be carried out by qualified technicians only. Improper firmware update could cause damage to the display. Format your USB disk in FAT16 or FAT32 and delete all irrelevant files stored on it.
Use this function to update display firmware through the USB connector. Save the display firmware you wish to update in the USB drive, formatted in FAT16 or FAT32. 2 files should be stored in the USB drive, one with file name “ISP_SPI.HEX” and the other “D7DAXXXX.HEX, where “XXXX” refers to version information. Insert the USB drive to the display’s USB connector. The display will show the detected firmware version on the screen. Press the SET button to initiate firmware update. The process will take up to 6 minutes to finish. Do not turn off power while firmware update is in progress.

LAN control firmware
Note: This is an advanced function which should be carried out by qualified technicians only. Improper firmware update could cause damage to the display. Format your USB disk in FAT16 or FAT32 and delete all irrelevant files in it.
Use this function to update LAN control firmware through the USB connector. Put LAN control firmware you wish to update in the USB drive which is formatted in FAT16 or FAT32. One file should be stored in the USB drive with file name “D7DLXXXX.HEX, where “XXXX” refers to version information. Insert the USB drive to the display’s USB connector. The display will show the detected firmware version on the screen. Press the SET button to initiate firmware update. The process will take about one minute to finish. Do not turn off power while firmware update is in progress.

5. INPUT MODE

VGA Resolution

Standard Resolution	Active Resolution		Refresh Rate	Pixel Rate	Aspect Ratio	Stand for Mode
	H Pixels	V Lines				
VGA	640	480	60 Hz	25.175 MHz	4:3	Video Graphic Array
		480	72 Hz	31.5 MHz		
		480	75 Hz	31.5 MHz		
WVGA	720	400	70 Hz	28.322 MHz	16:9	Wide Video Graphic Array
SVGA	800	600	60 Hz	40 MHz	4:3	Super VGA
		600	75 Hz	49.5 MHz		
XGA	1024	768	60 Hz	65 MHz	4:3	Extended Graphic Array
		768	75 Hz	78.75 MHz		
WXGA	1280	768	60 Hz	79.5 MHz	5:3	Wide XGA
WXGA	1280	800	60 Hz	83.5 MHz	16:10	Wide XGA
SXGA	1280	960	60 Hz	108 MHz	4:3	Super XGA
SXGA	1280	1024	60 Hz	108 MHz	5:4	Super XGA
WXGA	1360	768	60 Hz	85.5 MHz	16:9	Wide XGA
WXGA	1366	768	60 Hz	85.5 MHz	16:9	Wide XGA
UXGA	1600	1200	60 Hz	162 MHz	4:3	Ultra XGA
HD1080	1920	1080	60 Hz	148.5 MHz	16:9	HD1080

SDTV Resolution

Standard Resolution	Active Resolution		Refresh Rate	Pixel Rate	Aspect Ratio	Stand for Mode
	H Pixels	V Lines				
480i	720	480	29.97 Hz	13.5 MHz	4:3	Modified NTSC Standard
480p			59.94 Hz	27 MHz		
576i	720	576	25 Hz	13.5 MHz	4:3	Modified PAL Standard
576p			50 Hz	27 MHz		

HDTV Resolution

Standard Resolution	Active Resolution		Refresh Rate	Pixel Rate	Aspect Ratio	Stand for Mode
	H Pixels	V Lines				
720p	1280	720	50 Hz	74.25 MHz	16:9	Normally DVB Mode
			60 Hz			
1080i	1920	1080	25 Hz	74.25 MHz	16:9	Normally ATSC Mode
			30 Hz			
1080p	1920	1080	50 Hz	148.5 MHz	16:9	Normally ATSC Mode
			60 Hz			

- The PC text quality is optimum in HD 1080 mode (1920 x 1080, 60Hz).
- Your PC display screen might appear different depending on the manufacture (and your particular version of Windows).
  Check your PC instruction book for information about connecting your PC to a display.
- If a vertical and horizontal frequency-select mode exists, select 60Hz (vertical) and 31.5KHz (horizontal). In some cases, abnormal signals (such as stripes) might appear on the screen when the PC power is turned off (or if the PC is disconnected). If so, press the **INPUT** button to enter the video mode. Also, make sure that the PC is connected.

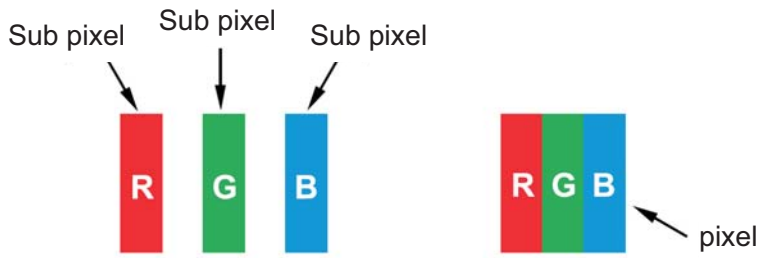
- When horizontal synchronous signals seem irregular in RGB mode, check PC power saving mode or cable connections.
- The display settings table complies to the IBM/VESA standards, and based on the analog input.
- The DVI support mode is regarded as same to the PC support mode.
- The best timing for the vertical frequency to each mode is 60Hz.

6. 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 PDP / TFT panels used in Plasma- & LCD- displays are sometimes unavoidable. No manufacturer can guarantee that all panels will be free from pixel defects, but Philips guarantees that any Plasma- & LCD- displays with an unacceptable number of defects will be repaired during the warranty period in line with your local guarantee conditions.
This notice explains the different types of pixel defects and defines the acceptable defect level for the BDL5545ET LCD screen. In order to qualify for repair under warranty, the number of pixel defects must exceed a certain level which is given in the reference table. If the LCD screen is within specification a warranty exchange / claim back will be refused. Additionally, because some types or combinations of pixel defects are more noticeable than others, Philips sets even higher quality standards for those.

6.1. PIXELS AND SUB-PIXELS

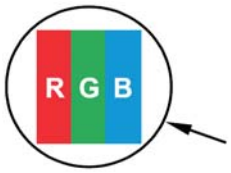
A pixel, or picture element, is composed of three sub-pixels in the primary colors of red, green and blue. Many pixels together form an image. When all sub-pixels of a pixel are lit, the three colored sub-pixels together appear as a single white pixel. When all are dark, the three colored sub-pixels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



6.2. TYPES OF PIXEL DEFECTS + DOT DEFINITION

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

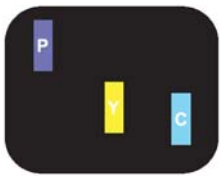
Dot definition = What is a defective "Dot"? :
One or more defective, adjacent sub-pixel are defined as one "dot". The no. of defective sub-pixels are not relevant to define a defective dot. This means that a defective dot can consist of one, two or three defective sub-pixels which can be dark or lit.



One dot = One Pixel; consists of three sub-pixels of Red; Green and Blue

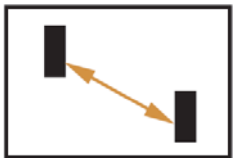
6.3. BRIGHT DOT DEFECTS

Bright dot defects appear as pixels or sub-pixels that are always lit or "on". These are the examples 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 dot)

6.4. DARK DOT DEFECTS

Black dot defects appear as pixels or sub-pixels that are always dark or "off". These are the examples of black dot defects:

		
One dark dot	Two adjacent dark dots = 1 pair of dark dots	Two dark dots, specifications defines the minimum distance between dark dots

6.5. PROXIMITY OF PIXEL DEFECTS

Because pixel and sub-pixels defects of the same type that are nearby one another may be more noticeable, Philips also specifies tolerances for the proximity of pixel defects. In the table below you can find specifications about:

- Allowed amount of adjacent dark dots = (adjacent dark dots =1 pair of dark dots)
- Minimum distance between dark dots
- Total no. of all defective dots

6.6. PIXEL DEFECT TOLERANCES

In order to qualify for repair due to pixel defects during the warranty period, a PDP / TFT panel in a Philips LCD-display must have pixel or sub-pixel defects exceeding the tolerances listed in the following table.

BRIGHT DOT EFFECT	**ACCEPTABLE LEVEL**
MODEL	BDL5545ET
1 lit sub pixel	0
BLACK DOT EFFECT	**ACCEPTABLE LEVEL**
1 dark sub pixel	9
TOTAL DOT DEFECTS OF ALL TYPES	**9**

*Note: * 1 or 2 adjacent sub pixel defects = 1 dot defect*

MURA

Dark spots or patches may occasionally appear on some liquid crystal display (LCD) panels. This is known within the industry as Mura, which is a Japanese term for "unevenness." It is used to describe an irregular pattern or area in which uneven screen uniformity appears under certain conditions. Mura is a result of the deterioration of the liquid crystal alignment layer and is most commonly caused by long-term operation under high ambient temperatures. It is an industry- wide phenomenon and Mura is not repairable. It is also not covered by our warranty terms. Mura has been around since the introduction of LCD technology and with screens getting bigger and in operation 24/7, many displays are running in low light conditions. This all adds to the possibility of Mura affecting displays.

HOW TO SPOT MURA

There are many symptoms of Mura and also multiple causes. Several of these are listed below:

- Impurities or foreign particles in the crystal matrix
- Uneven distribution of LCD matrix during manufacturing
- Non-uniform luminance distribution of the backlight
- Panel assembly induced stress
- Flaws within the LCD cells
- Thermal induced stress - high temperature operation over long periods of time

HOW TO AVOID MURA

Although we can not guarantee the complete eradication of Mura every time, in general the appearance of Mura can be minimized by these methods:

- Lower the backlight brightness
- Use a screen saver
- Reduce the ambient temperature around the unit

7. CLEANING AND TROUBLESHOOTING

7.1. CLEANING

Cautions When Using the Display

- Do not bring your hands, face or objects close to the ventilation holes of the display. Top of display is usually very hot due to the high temperature of exhaust air being released through the ventilation holes. Burns or personal injuries may occur if any body parts are brought too close. Placing any object near the top of the display could also result in heat related damages to the object as well as the display itself.
- Be sure to disconnect all cables before moving the display. Moving the display with its cables attached may damage the cables and thus case fire or electric shock danger.
- Disconnect the power plug from the wall outlet as a safety precaution before carrying out any type of cleaning or maintenance procedure.

Front Panel Cleaning Instructions

- The front of the display has been specially treated. Wipe the surface gently using only a cleaning cloth or a soft, lint-free cloth.
- If the surface becomes dirty, soak a soft, lint-free cloth in a mild detergent solution. Wring the cloth to remove excess liquid. Wipe the surface of the display to remove dirt. Then use a dry cloth of the same type to dry.
- Do not scratch or hit the surface of the panel with fingers or hard objects of any kind.
- Do not use volatile substances such as insert sprays, solvents and thinners.

Cabinet Cleaning Instructions

- If the cabinet becomes dirty, wipe the cabinet with a soft, dry cloth.
- If the cabinet is extremely dirty, soak a lint-free cloth in a mild detergent solution. Wring the cloth to remove as much moisture as possible. Wipe the cabinet. Use another dry cloth to wipe over until the surface is dry.
- Do not allow any water or detergent to come into contact with the surface of the display. If water or moisture gets inside the unit, operating problems, electrical and shock hazards may result.
- Do not scratch or hit the cabinet with fingers or hard objects of any kind.
- Do not use volatile substances such as insert sprays, solvents and thinners on the cabinet.
- Do not place anything made from rubber or PVC near the cabinet for any extended periods of time.

7.2. TROUBLESHOOTING

Symptom	Possible Cause	Remedy
No picture is displayed	1. The power cord is disconnected. 2. The main power switch on the back of the monitor is not switched on. 3. The selected input has no connection. 4. The display is in standby mode.	1. Plug in the power cord. 2. Make sure the power switch is switched on. 3. Connect a signal connection to the display.
Interference displayed on the display or audible noise is heard	Caused by surrounding electrical appliances or fluorescent lights.	Move the display to another location to see is the interference is reduced.
Color is abnormal	The signal cable is not connected properly.	Make sure that the signal cable is attached firmly to the back of the display.
Picture is distorted with abnormal patterns	1. The signal cable is not connected properly. 2. The input signal is beyond the capabilities of the display.	1. Make sure that the signal cable is attached firmly. 2. Check the video signal source to see if it is beyond the range of the display. Please verify its specifications with this display's specification section.
Display image doesn't fill up the full size of the screen	The zoom mode is not correctly set.	Use the **Zoom mode** or **Custom zoom** function in the **Screen** menu to fine tune display geometry and time frequency parameter.
Can hear sound, but no picture	Improperly connected source signal cable.	Make sure that both video inputs and sound inputs are correctly connected.
Can see picture but no sound is heard	1. Improperly connected source signal cable. 2. Volume is turned all the way down. 3. **MUTE** is turned on. 4. No external speaker connected.	1. Make sure that both video inputs and sound inputs are correctly connected. 2. Use **VOL UP**/**VOL DOWN** button to hear sound. 3. Switch **MUTE** off by using the **MUTE** button. 4. Connect external speakers and adjust the volume to a suitable level.
Some picture elements do not light up	Some pixels of the display may not turn on.	This display is manufactured using an extremely high level of precision technology: however, sometimes some pixels of the display may not display. This is not a malfunction.
After-Images can still be seen on the displayafter having been powered off. (Examples of still pictures include logos, video games, computer images, and images displayed in 4:3 normal mode)	A still picture is displayed for an over extended period of time	Do not allow a still image to be displayed for an extended period of time as this can cause a permanent after-image to remain on the monitor.

8. TECHNICAL SPECIFICATIONS

Display

Item	Specifications
Screen Size (Active Area)	54.6” LCD (138.7cm)
Aspect ratio	16:9
Number of pixels	1920 (H) x 1080 (V)
Pixel pitch	0.630 (H) x 0.630 (V) [mm]
Displayable colors	1.06B colors
Brightness (typical)	440 cd/㎡
Dynamic contrast ratio	15000:1
Contrast ratio (typical)	5000:1
Viewing angle	178 degrees

In/Out Terminals

Item		Specifications
Speaker Output	Internal Speaker	7W (L) + 7W (R) [RMS]/8Ω 1 Way 1 Speaker System 82 dB/W/M/160 Hz ~ 13 KHz
Audio Output	RCA Jack x 1	0.5V [rms] (Normal)/ 2 Channel (L+R)
Audio Input	RCA Jack x 2	0.5V [rms] (Normal)/ 2 Channel (LR)
RS232C	D-Sub Jack x 2 (9 pin)	TXD + RXD (1:1)
USB(for service)	USB Jack (Type A)	USB 2.0 Up Stream
USB(for touch)	USB Jack (Type B)	USB 2.0 Down Stream
RJ-45	RJ-45 Jack x 1 (8 pin)	10/100 Lan Port
DisplayPort Input	DisplayPort Jack x 1(20 pin)	Digital RGB (Video) Max 720p, 1080P, 1920 x 1080/60 Hz
HDMI Input	HDMI Jack x 1 (Type A) (18 pin)	Digital RGB: TMDS (Video + Audio) MAX: Video - 720p, 1080p, 1920 x 1080/60 Hz (WUXGA) Audio - 48 KHz/ 2 Channel (L+R) Supports LPCM only
DVI-D Input	DVI-D jack	Digital RGB: TMDS (Video)
VGA Input	D-Sub Jack x 1 (15 pin)	Analog RGB: 0.7V [p-p] (75Ω), H/CS/V: TTL (2.2kΩ), SOG: 1V [p-p] (75Ω) MAX: 720p, 1080p, 1920 x 1080/60 Hz (WUXGA)
VGA Output	D-Sub Jack x 1 (15 pin)	Analog RGB: 0.7V [p-p] (75Ω), H/CS/V: TTL (2.2kΩ), SOG: 1V [p-p] (75Ω) MAX: 720p, 1080p, 1920 x 1080/60 Hz (WUXGA)
Component Input	RCA Jack x 1	Y: 1V [p-p] (75Ω), Pb: 0.7V [p-p] (75Ω), Pr: 0.7V [p-p] (75Ω) MAX: 480i, 576i, 480p, 576p, 720p, 1080i, 1080p

General

Item	Specifications
Power Supply	100-240V~, 50-60Hz
Power Consumption (Max)	350W
Power Consumption (Standby & Off)	<0.5W (Remote control off)
Dimension [W x H x D mm] With Stand Without Stand	 1299 x 815.7 x 405 mm 1299 x 769.8 x 143.7 mm
Weight With Stand Gross Without Stand Gross	 55.8 Kg 65.2 Kg 54.3 Kg 63.7 Kg

Environmental Condition

Item		Specifications
Temperature	Operational Storage	0 ~ 40°C -20 ~ 60°C
Humidity	Operational Storage	20 ~ 80% RH (No condensation) 5 ~ 95% RH (No condensation)
Pressure	Operational Storage / Shipment	795 ~ 1013 hPa (Altitude: 0 ~ 4,500 m) 300 ~ 1013 hPa (Altitude: 0 ~ 9,000 m)

Internal Speaker

Item	Specifications
Type	1 Way 1 Speaker
Input	7 W (RMS)
Impedance	8Ω
Output Sound Pressure	82 dB/W/M
Frequency Response	160 Hz ~ 13 KHz

Your BDL5545ET supports HDMI CEC (Consumer Electronics Control) protocol through the One Wire function. This gives you the ability to control your display through the HDMI connector using CEC commands. The command manual for this function is available separately.

NOTE:

- Philips does not guarantee 100% interoperability with all HDMI CEC devices.

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