86BDL3012T
V1.01

PHILIPS

*Signage*Solutions

Safety Instructions

Safety precautions and maintenance

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

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

Operation:

- Keep the display out of direct sunlight and away from stoves or any other heat sources.
- Remove any object that could fall into ventilation holes or prevent proper cooling of the display's electronics.
- Do not block the ventilation holes on the cabinet.
- When positioning the display, make sure the power plug and outlet are easily accessible.
- When turning off the display by detaching the power cord, wait 6 seconds before re-attaching the power cord for normal operation.
- Ensure the use of an approved power cord provided by Philips at all times. If your power cord is missing, please contact your local service center.
- Do not subject the display to severe vibration or high impact conditions during operation.
- Do not knock or drop the display during operation or transportation.
- The eye bolt is for usage in short-time maintenance and installation. We suggest not to use the eye bolt for more than 1 hour. Prolong usage is prohibited. Please keep a clear safety area under the display while using the eye bolt.

Maintenance:

- To protect your display from possible damage, do not put excessive pressure on the LCD panel. When moving your display, grasp the frame to lift; do not lift the display by placing your hand or fingers on the LCD panel.
- Unplug the display if you are not going to use it for an extensive period of time.
- Unplug the display if you need to clean it with a slightly damp cloth. The screen may be wiped with a dry cloth when the power is off. However, never use organic solvent, such as, alcohol, or ammonia-based liquids to clean your display.
- To avoid the risk of shock or permanent damage to the set, do not expose the display to dust, rain, water or an excessively moist environment.
- If your display becomes wet, wipe it with dry cloth as soon as possible.
- If a foreign substance or water gets in your display, turn the power off immediately and disconnect the power cord. Then remove the foreign substance or water, and send the unit to the maintenance center.
- Do not store or use the display in locations exposed to heat, direct sunlight or extreme cold.
- In order to maintain the best performance of your display and ensure a longer lifetime, we strongly recommend using the display in a location that falls within the following temperature and humidity ranges.
    - Temperature: 0-40°C 32-104°F
    - Humidity: 20-80% RH
- LCD panel temperature need to be 25 degrees Celsius at all time for better luminance performance.

IMPORTANT: Always activate a moving screen saver program when you leave your display unattended. Always activate a periodic screen refresh application if the unit will display unchanging static content. Uninterrupted display of still or static images over an extended period may cause "burn in", also known as "after-imaging" or "ghost imaging", on your screen. This is a well-known phenomenon in LCD panel technology. In most cases, the "burned in" or "after-imaging" or "ghost imaging" will disappear gradually over a period of time after the power has been switched off.

WARNING: Severe "burn-in" or "after-image" or "ghost image" symptoms will not disappear and cannot be repaired. This is also not covered under the terms of your warranty.

Service:

- The casing cover should be opened only by qualified service personnel.
- If there is any need for repair or integration, please contact your local service center.
- Do not leave your display under direct sunlight.

If your display does not operate normally, having followed the instructions set out in this document, please contact a technician or your local service center.

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 sources.
- 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.
- When turning off the display by detaching the power cable or DC power cord, wait for 6 seconds before re-attaching 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 image in high contrast 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 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 the after-image symptom cannot be repaired and is not covered under warranty.

EU Declaration of Conformity

This device complies with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to

Electromagnetic Compatibility (2014/30/EU), Low-voltage Directive (2014/35/EU), RoHS directive (2011/65/EU).

This product has been tested and found to comply with the harmonized standards for Information Technology Equipment, these harmonized standards published under Directives of Official Journal of the European Union.

ESD Warnings

When user close to the monitor may cause the equipment discharge and reboot to the display of main menu.

Warning:

This equipment is compliant with Class A of EN55032/CISPR 32. In a residential environment this equipment may cause radio interference.

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

NOTE: This equipment has been tested and found to comply with the limits for a Class A 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 instruction 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 an RF shielded cable that was supplied with the display when connecting this display 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 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.

Envision Peripherals Inc.
490 N McCarthy Blvd, Suite #120
Milpitas, CA 95035
USA

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, display, 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 Electromagnetic Fields ("EMF")

1. We manufacture and sell many products targeted at consumers, which, like any electronic apparatus, in general have the ability to emit and receive electromagnetic signals.
2. One of our 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. We are committed to develop, produce and market products that cause no adverse health effects.
4. We confirm that if its products are handled properly for their intended use, they are safe to use according to scientific evidence available today.
5. We play an active role in the development of international EMF and safety standards, enabling us to anticipate further developments in standardization for early integration in its products.

Information for U.K. only
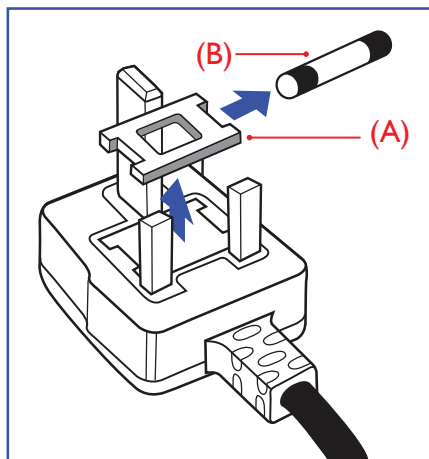
WARNING - THIS APPLIANCE MUST BE EARTHED.

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.
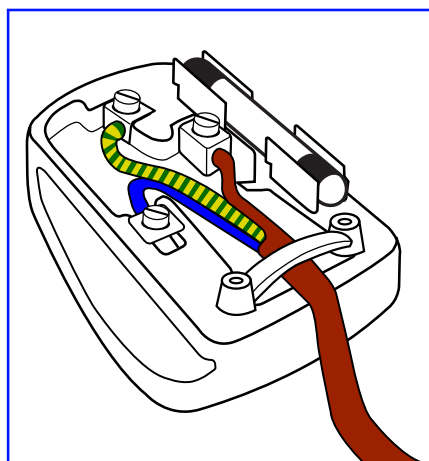
How to connect a plug

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 & 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 & 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.

China RoHS

根据中国大陆《电子电气产品有害物质限制使用标识要求》，以下部分列出了本产品中可能包含的有害物质的名称和含量。

部件名称	有害物质					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
外壳	○	○	○	○	○	○
液晶显示屏	×	○	○	○	○	○
电路板组件*	×	○	○	○	○	○
电源适配器	×	○	○	○	○	○
电源线/连接线	×	○	○	○	○	○
遥控器	×	○	○	○	○	○
本表格依据SJ/T 11364 的规定编制。						
*: 电路板组件包括印刷电路板及其构成的零部件，如电阻、电容、集成电路、连接器等。						
O: 表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572规定的限量要求以下。						
X: 表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572规定的限量要求。						
上表中打"×"的部件,应功能需要,部分有害物质含量超出GB/T 26572规定的限量要求,但符合欧盟RoHS法规要求(属于豁免部分)。						

备注：上表仅做为范例，实际标示时应依照各产品的实际部件及所含有害物质进行标示。

环保使用期限

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

《废弃电器电子产品回收处理管理条例》提示性说明

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

警告
此为A级产品。在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对干扰采取切实可行的措施。

單元	限用物質及其化學符號					
	鉛 (Pb)	汞 (Hg)	鎘 (Cd)	六價鉻 (Cr^{+6})	多溴聯苯 (PBB)	多溴二苯醚 (PBDE)
塑料外框	○	○	○	○	○	○
後殼	○	○	○	○	○	○
液晶面板	－	○	○	○	○	○
電路板組件	－	○	○	○	○	○
底座	○	○	○	○	○	○
電源線	－	○	○	○	○	○
其他線材	－	○	○	○	○	○
遙控器	－	○	○	○	○	○
喇叭（選配）	－	○	○	○	○	○
風扇（選配）	－	○	○	○	○	○

備考1. 〝○〞係指該項限用物質之百分比含量未超出百分比含量基準值。

備考2. 〝－〞係指該項限用物質為排除項目。

警語：使用過度恐傷害視力。

注意事項：

（1）使用30分鐘請休息10分鐘。

（2）未滿2歲幼兒不看螢幕，2歲以上每天看螢幕不要超過1小時。

警告使用者：

此為甲類資訊技術設備，於居住環境中使用時，可能會造成射頻擾動，在此種情況下，使用者會被要求採取某些適當的對策。

Turkey RoHS:

Türkiye Cumhuriyeti: EEE Yönetmeliğine Uygundur

Ukraine RoHS:

Обладнання відповідає вимогам Технічного регламенту щодо обмеження використання деяких небезпечних речовин в електричному та електронному обладнанні, затвердженого постановою Кабінету Міністрів України від 3 грудня 2008 № 1057

End-of-Life Disposal

Your new Public Information 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 Electronic Equipment-WEEE

Attention users in European Union private households

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

Attention users in United States:

Please dispose of according to all Local, State and Federal Laws. For the disposal or recycling information, contact: www.mygreenelectronics.com or www.eiae.org.

End of Life Directives-Recycling

Your new Public Information Display contains several materials that can be recycled for new users.

Please dispose of according to all Local, State, and Federal laws.

Restriction on Hazardous Substances statement (India)

This product complies with the "E-Waste (Management) Rules, 2016" CHAPTER V, rule 16, sub-rule (1) . Whereas New Electrical and Electronic Equipment and their components or consumables or parts or spares do not contain Lead, Mercury, Cadmium, Hexavalent Chromium, polybrominated biphenyls and polybrominated diphenyl ethers beyond a maximum concentration value of 0.1% by weight in homogenous materials for lead, mercury, hexavalent chromium, polybrominated biphenyls and polybrominated diphenyl ethers and of 0.01% by weight in homogenous materials for cadmium. except of exemptions set in Schedule 2 of the Rule.

E-Waste Declaration for India

This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment . The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about E -waste please visit http://www.india.philips.com/about/sustainability/recycling/index.page and to know where you can drop off your waste equipment for recycling in India please contact on below given contact details.

Helpline number: 1800-425-6396 (Monday to Saturday, 9 a.m. to 5:30 pm)

E-mail: india.callcentre@tpv-tech.com

Batteries

For EU: The crossed-out wheeled bin implies that used batteries should not be put to the general household waste! There is a separate collection system for used batteries, to allow proper treatment and recycling in accordance with legislation.

Please contact your local authority for details on the collection and recycling schemes.

For Switzerland: The used battery is to be returned to the selling point.

For other non-EU countries: Please contact your local authority for correct method of disposal of the used battery.

According to EU directive 2006/66/EC, the battery can't be disposed improperly. The battery shall be separated to collect by local service.

Após o uso, as pilhas e/ou baterias deverão ser entregues ao estabelecimento comercial ou rede de assistência técnica autorizada.

Information for EAC	
Month and year of manufacturing	please refer information in Rating label.
Name and location of manufacturer	ООО "Профтехника" Адрес: 3-й Проезд Марьиной рощи, 40/1 офис 1. Москва, 127018, Россия
Importer and information	Наименование организации: ООО "Профтехника" Адрес: 3-й Проезд Марьиной рощи, 40/1 офис 1. Москва, 127018, Россия Контактное лицо: Наталья Астафьева, +7 495 640 20 20 nat@profdisplays.ru

Table Of Contents

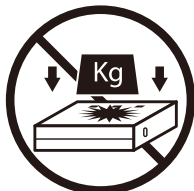# 1. Unpacking and Installation

1.1. Transportation and Unpacking

Notice for transportation

- Always keep the carton in a vertical direction.
  Do NOT place the carton in any other direction.

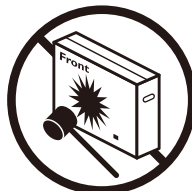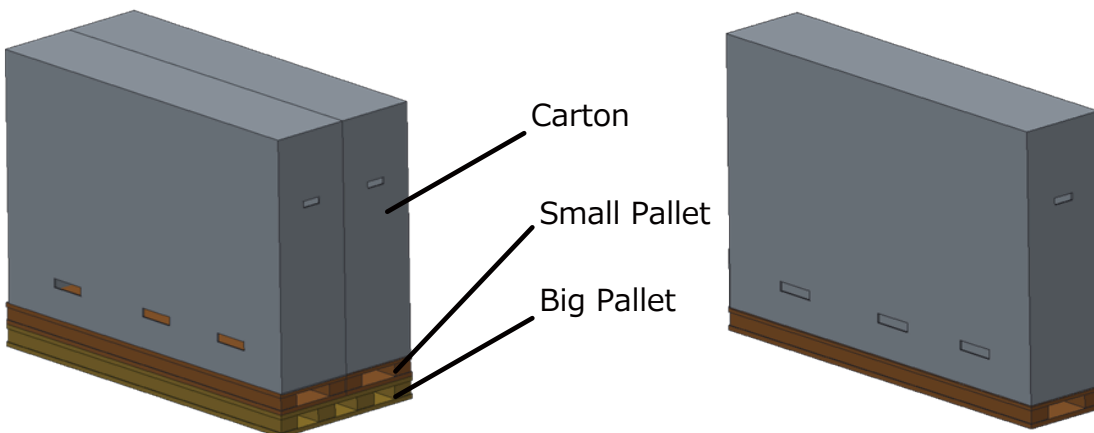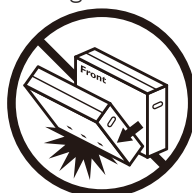- Do NOT place any object on the carton.

- Do NOT apply shock/vibration to the product.

- Move the carton by stacker.

- Do NOT drop the product. Strong impacts may damage the components inside.
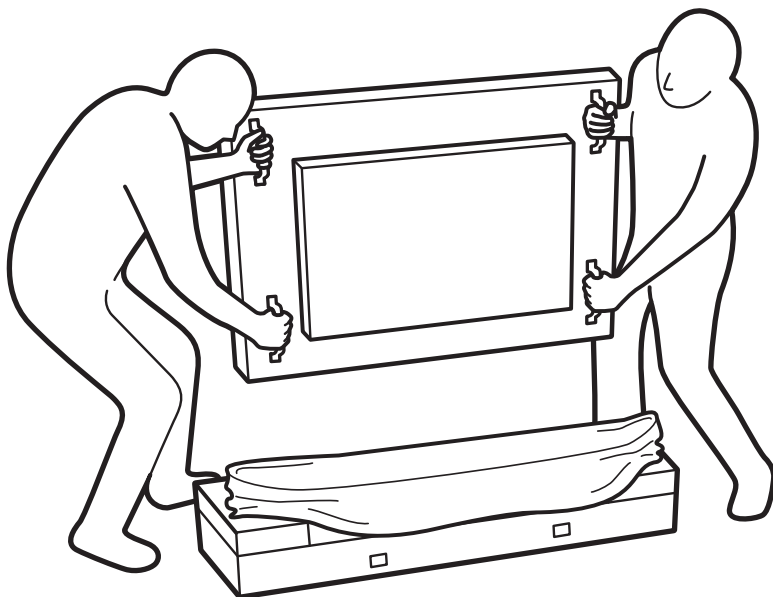
- Move single carton with small pallet by stacker.

Carton

Small Pallet

Big Pallet

Notice for transportation

1. Remove the strap around the carton.
2. Use a blade to cut the tape on the top and open the carton.
3. Take out the cushions carefully.
4. Remove the plastic carton lockers and remove the top carton.
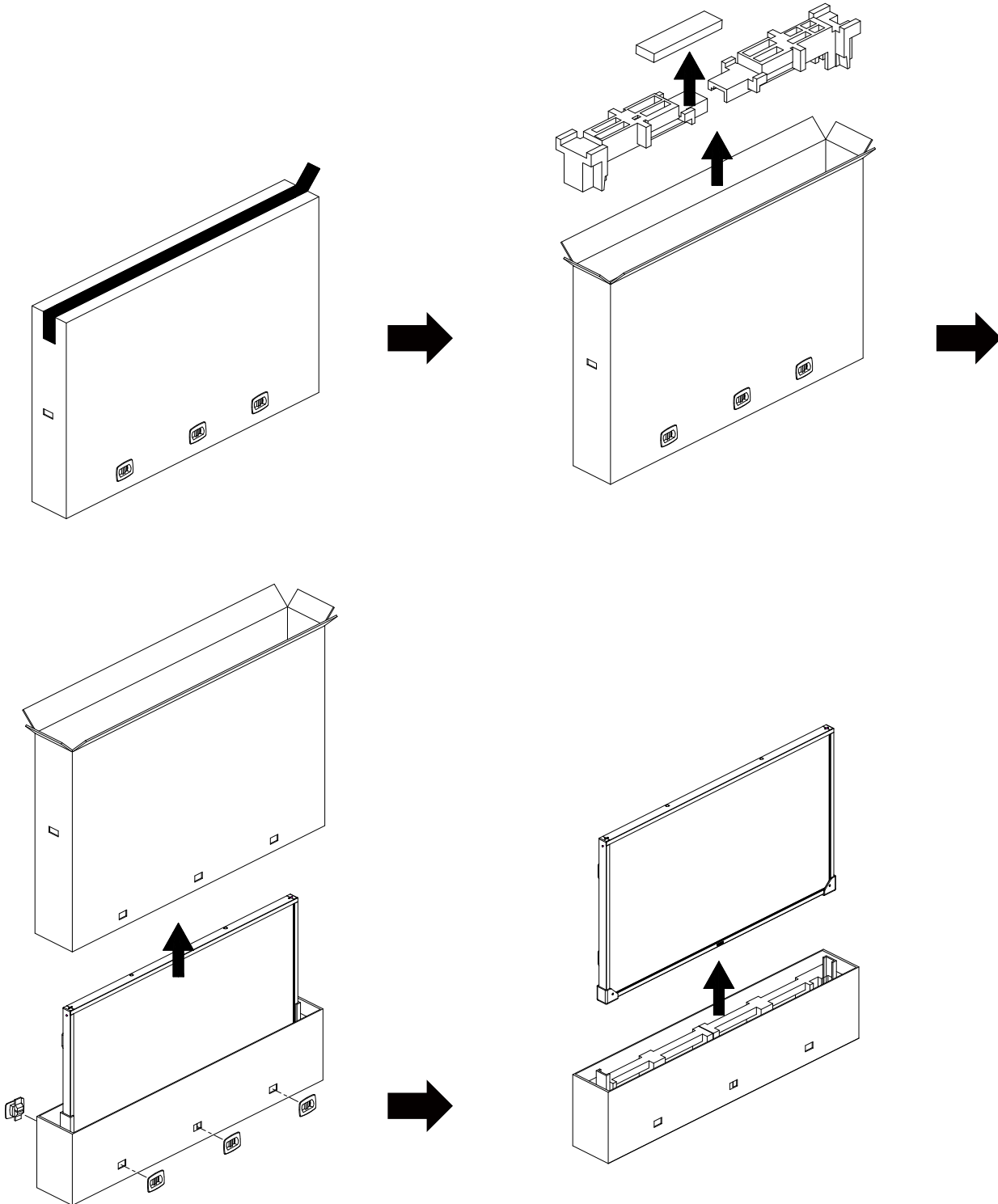
5. Move the display from the carton by two adults with both hands.

- Do not touch the screen of display to avoid possible scratches. Move the display by holding the handles.

- Keep the display vertically when moving it.
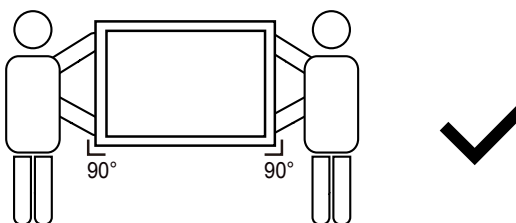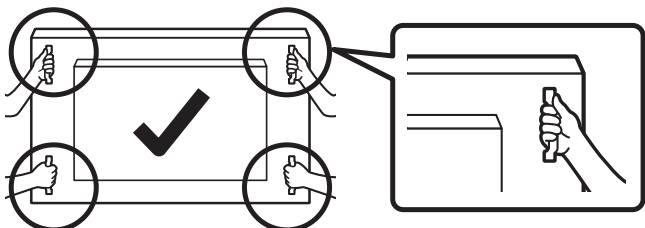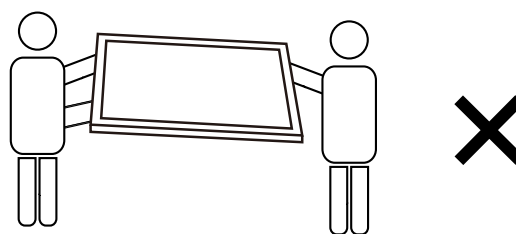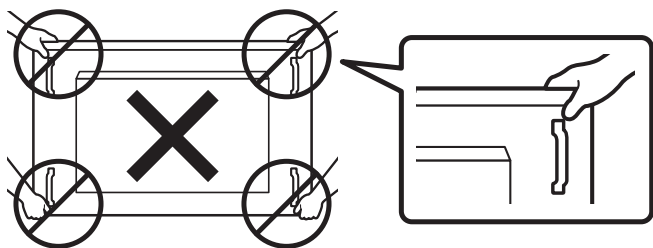
- Place the display vertically and its weight should spread evenly on the surface.

Before installing the display

- This product is packed in a carton, together with the standard accessories.
- Any other optional accessories will be packed separately.
- Move the display by at least two (2) adults.
- After opening the carton, ensure that the contents are complete and in good condition.

1.2. Package Contents
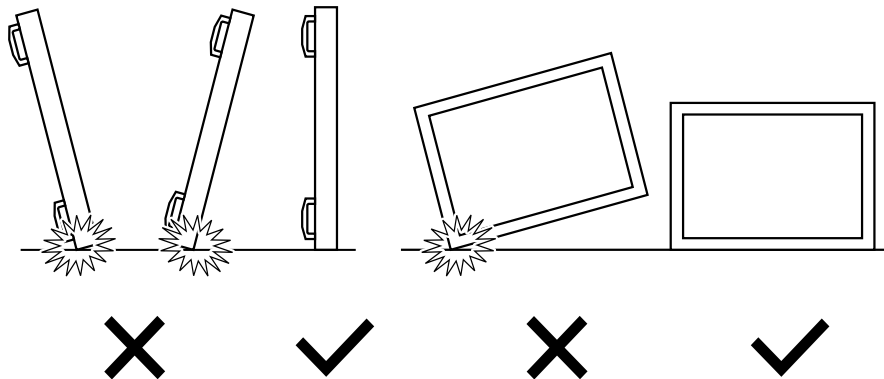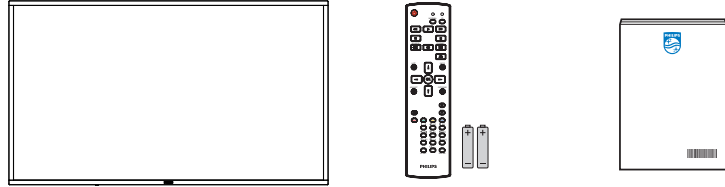
Please verify that you received the following items with your package content:

- LCD display
- Quick start guide
- Remote control and AAA batteries
- Power cord
- RS232 cable
- RS232 daisy chain cable
- IR sensor cable
- HDMI cable
- USB cable

* The supplied power cord varies depending on destination.

| Power Cord | RS232 Cable | RS232 Daisy Chain Cable |

| IR Sensor Cable | HDMI Cable | USB Cable |
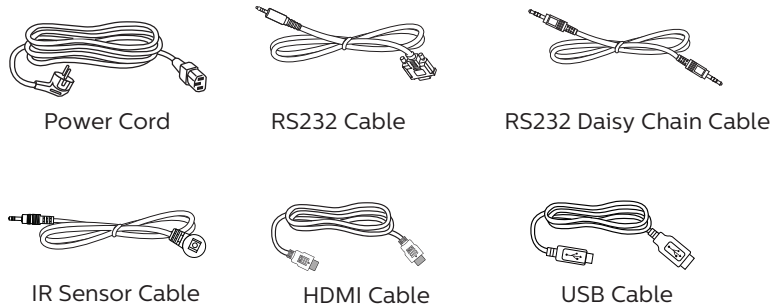
* Items may differ in different locations

Display design and accessories may differ from the images shown.

NOTES:
- 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 (Type H05W-F, 2G or 3G, 0.75 or 1 mm^2 should be used).
- Keep the packaging materials appropriately after unpacking the product.

1.3. Installation Notes

- Only use the power cable provided with this product. If an extension cord is required, please consult your service agent.
- The product should be installed on a flat surface, or the product may tip over. Leave a space between the rear of the product and the wall for proper ventilation. Do not install the product in a kitchen, bathroom or a place exposed to moisture, failure to do so may shorten the life of the internal parts.
- Do not install the product where it is 3000m and higher in altitude. Failure to do so may result in malfunctions.

1.4.   Mounting on a Wall

To mount this display on a wall, a standard wall-mounting kit (commercially available) is required. It is recommended that you use a mounting interface that complied with TUV-GS and/or UL1678 standard in North America.

Protective Sheet

VESA Grid

Table

Carrying handle
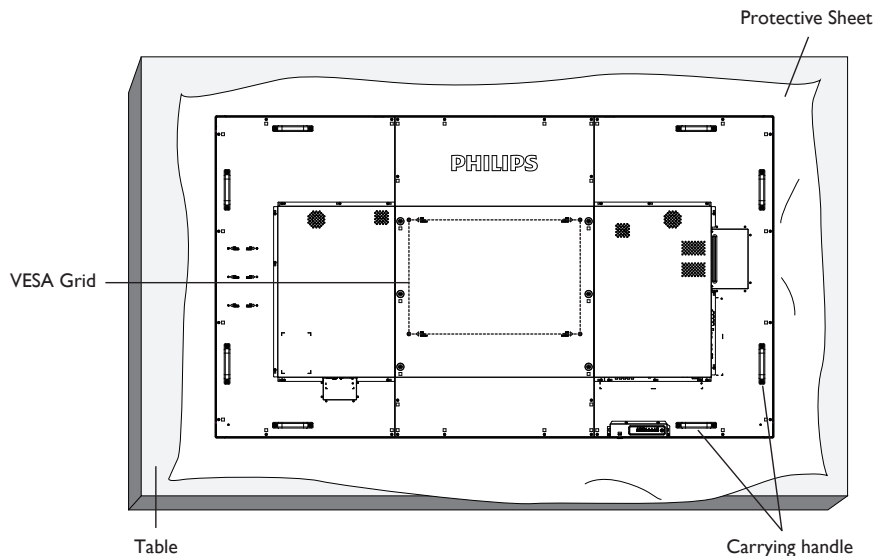
1. Prepare a flat and horizontal surface that is larger than the display and spread a thick protective sheet on it to facilitate your operation without scratching the screen.

2. Ensure you have all accessories for all types of mounting (wall mount, ceiling mount, table stand, etc).

3. Follow the instructions that came with the base mounting kit. Failure to follow the correct mounting procedures could result in damage to the equipment, or injury to the user or installer. The product warranty does not cover the damage caused by improper installation.

4. For the wall-mounting kit, use the M8 mounting screws (with a length 15 mm longer than the thickness of the mounting bracket) and tighten them securely.

5. Weight of the unit without base=96.21 kg. The equipment and its associated mounting facilities still remain secure during the test. Use only the UL listed Wall Mount Bracket with a minimum weight/load of 96.21 kg.

6. Portrait orientation is not allowed.

1.4.1. VESA Grid

86BDL3012T	600(H) × 400(V) mm

Caution:

To prevent the display from falling:

*   For wall or ceiling mounting, we recommend that you install the display with metal brackets which are commercially available. For detailed instructions about the installation, refer to the guide provided with the bracket.

*   To prevent the display from falling in case of earthquake or other natural disaster, please consult the manufacturer of the bracket for the mounting location.

*   As this product is high and heavy, the installation of this product is recommended to be performed by four technicians.

Ventilation Requirements for enclosure locating

Leave a space of 100 mm at the top, rear, right and left of the display for ventilation.

100 mm

100 mm

100 mm

100 mm
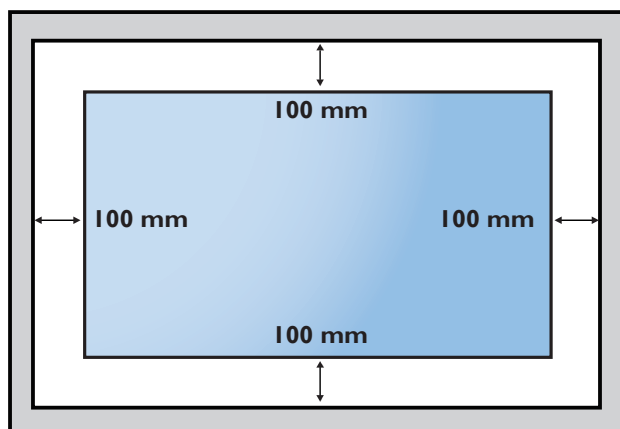
2. Parts and Functions

2.1. Control Panel

① **[⏻] button**

Turn the display On or turn the display to standby mode.

② **[MUTE] button**

Mute the sound or reactivate sound.

③ **[INPUT] button**

Select an input source.

④ **[＋] button**

Increase the adjustment while OSD menu is On, or increase the audio output level while OSD menu is Off.

⑤ **[▬] button**

Decrease the adjustment while OSD menu is On, or decrease the audio output level while OSD menu is Off.

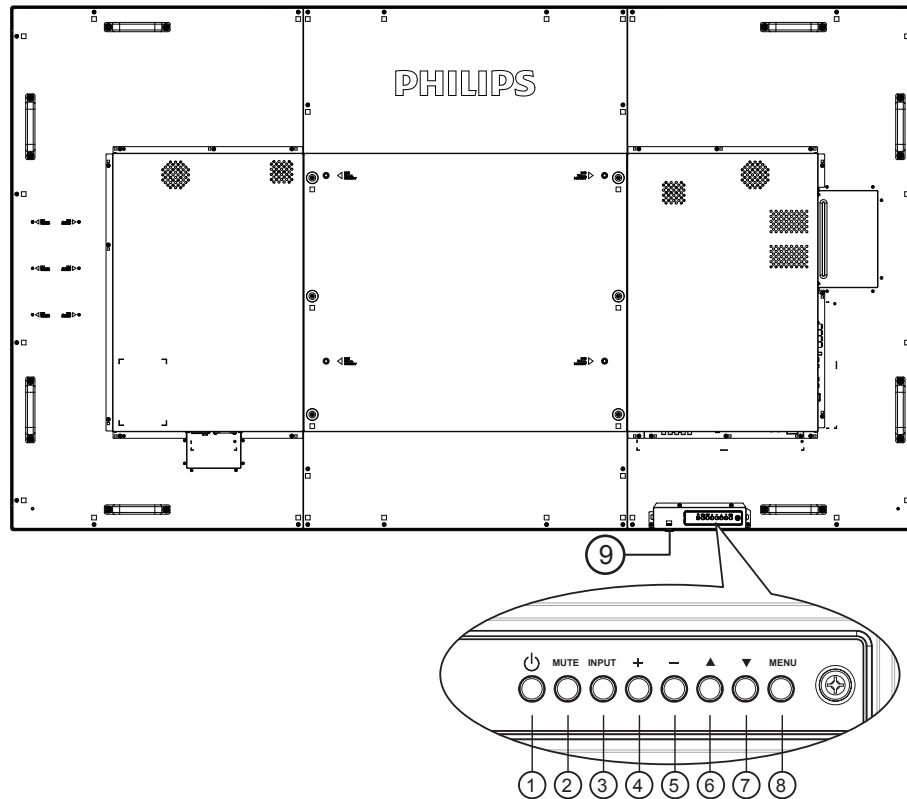⑥ **[▲] button**

Move the selected item one level up while the OSD menu is On.

⑦ **[▼] button**

Move the selected item one level down while the OSD menu is On.

⑧ **[MENU] button**

Return to the previous menu while the OSD menu is On. This button can also be used to activate the OSD menu when the OSD menu is Off.

⑨ **Remote control sensor and power status indicator**

• Receive command signals from the remote control.

• Indicate the operating status of the display without OPS:

- Light green when the display is turned On

- Light red when the display is in the standby mode

- When {SCHEDULE} is enabled, the light blinks green and red

- If the light blinks red, it indicates that a failure has been detected

- Lights off when the main power of the display is turned off

* Using IR sensor cable for better remote control performance. (Please refer to the instructions of 3.5)

2.2. Input/Output Terminals
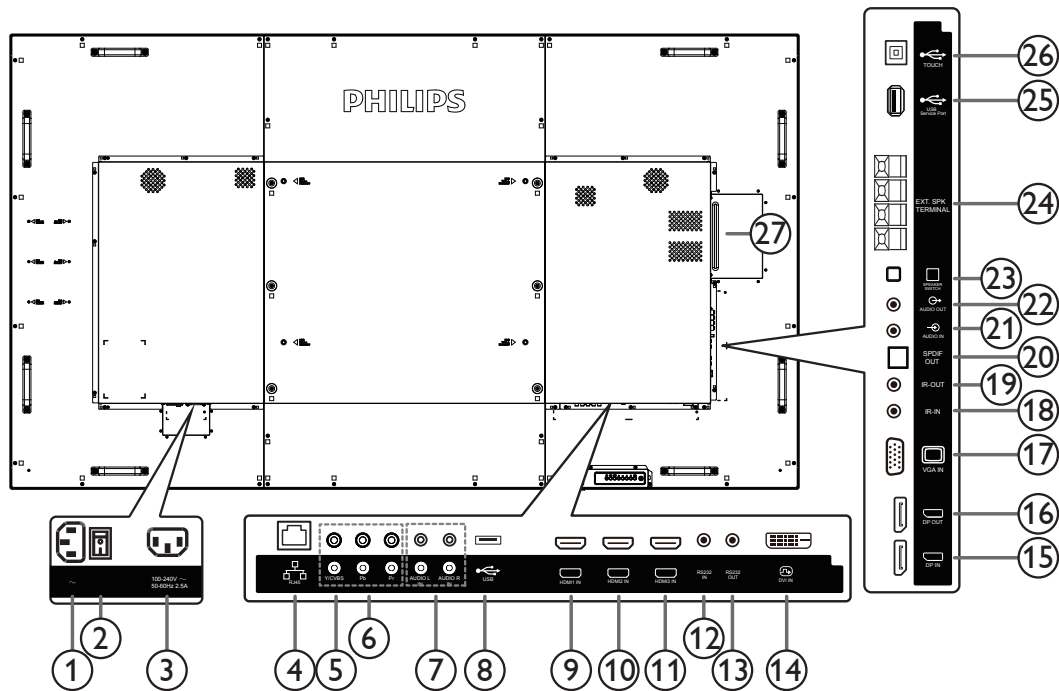
① AC IN
AC power input from the wall outlet.

② MAIN POWER SWITCH
Switch the main power between On and Off.

③ AC OUT
AC power supply to the AC IN jack of a media player.

④ RJ-45
The LAN control function is used for sending the remote control signal from the control center.

⑤ Y/CVBS
Video source input.

⑥ COMPONENT IN
Component YPbPr video source input.

⑦ AUDIO IN
Audio input from external AV device (RCA).

⑧ USB PORT
Connect your USB storage device.

⑨ HDMI1 IN / ⑩ HDMI2 IN / ⑪ HDMI3 IN
HDMI video/audio input.

⑫ RS232C IN / ⑬ RS232C OUT
RS232C network input / output for the loop-through function.

⑭ DVI IN
DVI-D video input.

⑮ DisplayPort IN / ⑯ DisplayPort OUT
DisplayPort video input / output.

⑰ VGA IN (D-Sub)
VGA video input.

⑱ IR IN / ⑲ IR OUT
IR signal input / output for the loop-through function.

NOTES:
- The remote control sensor of this display will stop working if the jack [IR IN] is connected.
- To remotely control your A/V device via this display, refer to page 15 for IR Pass Through connection.

⑳ SPDIF OUT
Digital audio output

㉑ AUDIO IN
Audio input for VGA source (3.5mm stereo phone).

㉒ AUDIO OUT
Audio output to external AV device.

㉓ SPEAKER SWITCH
Internal speaker on/off switch.

㉔ SPEAKERS OUT
Audio output to external speakers.

㉕ USB SERVICE PORT
Connect to a USB storage device for updating the firmware of the mainboard.

NOTE: Reserved for updating the firmware only.

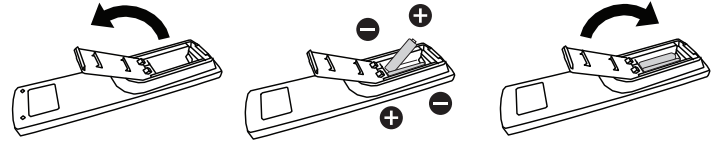### ㉖ Touch USB
Touch connector to PC.

㉗ OPS SLOT
Slot for installing the optional OPS module.

2.2.1. Inserting the batteries in the remote control

The remote control is powered by two 1.5V AAA batteries.

To install or replace the batteries:

1. Press and then slide the cover to open it.
2. Insert the batteries with the correct polarity (+) and (–).
3. Replace the cover.

Caution:

Incorrect use of batteries may cause leakage or explosion. Be sure to follow the instructions below:

- Insert "AAA" batteries with the correct polarity (+ and -).
- Do not mix battery types.
- Do not use a new battery with a used one together. Otherwise, it may cause leakage or shorten the life of the batteries.
- Remove the dead batteries immediately to avoid battery leakage in the battery compartment. Do not touch exposed battery acid, as it may cause injury to your skin.

NOTE: Remove the batteries from the battery compartment when not using for an extended period of time.

2.2.2. Handling the remote control

- Do not drop or apply shock to the remote control.
- Do not allow any liquid to get inside the remote control. If water has entered the remote control, wipe the remote control with a dry cloth immediately.
- Do not place the remote control near heat and steam sources.
- Do not attempt to disassemble the remote control, unless you need to place batteries in the remote control.

2.2.3. Operating range of the remote control

Point the top front of the remote control at the remote sensor on the display when you press the buttons.

Use the remote control within a distance of less than 5m/16ft from the display's sensor, and a horizontal and vertical angle of less than 30°.

NOTE: The remote control may not function properly when the remote control sensor on the display is under direct sunlight or strong illumination, or when there is an object between the remote control and the remote sensor of the display.
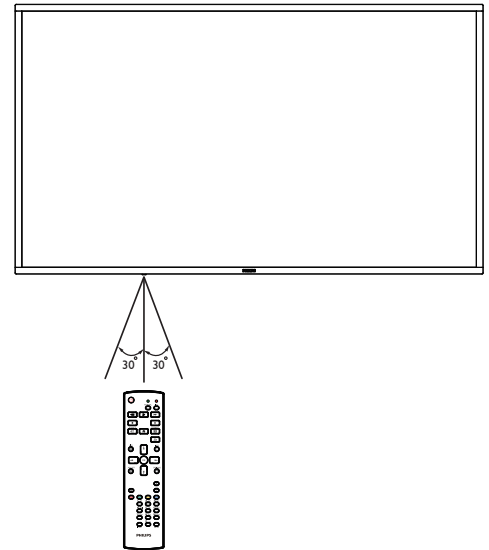
2.3. Remote Control

2.3.1. General functions

① **[⏻] POWER button**

Turn the power On/Off.

② **[PLAY] buttons**

Control playback of media files.(for Media Input only)

Freeze feature

Pause: hot key for freezing all inputs content.

Play: hot key for unfreezing all input content.

③ **[⊡] SOURCE button**

Root Menu: Go to the OSD of Video source.

④ **[⌂] HOME button**

Root Menu: Go to the OSD of Main Menu.

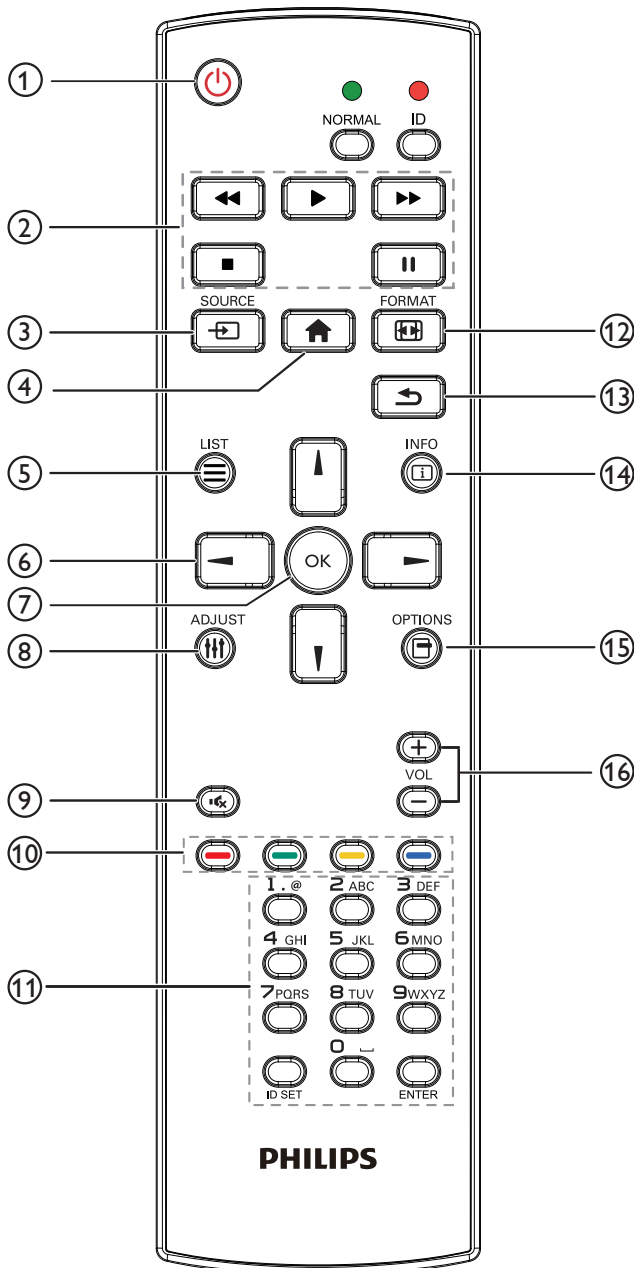**Others**: Exit from the OSD.

⑤ **[☰] LIST button**

Reserved.

⑥ **NAVIGATION buttons**

[▲]

Root Menu: Go to the OSD of Smart picture.

Main Menu: Move the selected item up to make adjustment.

IR Daisy Chain Menu: Increase the controlled Group ID number.

[▼]

Root Menu: Go to the OSD of Audio source.

Main Menu: Move the selected item bar down to make adjustment.

IR Daisy Chain Menu: Decrease the controlled Group ID number.

[◄]

Main Menu: Go to the previous level of menu.

Source Menu: Exit from the source menu.

Volume Menu: Decrease the volume.

[►]

Main Menu: Go to the next level of menu or set selected option.

Source Menu: Go to the selected source.

Volume Menu: Increase the volume.

⑦ **[OK] button**

Root Menu: Go to the OSD of IR daisy chain in Primary/Secondary mode.

Main Menu: Confirm an entry or selection.

⑧ **[᠁] ADJUST button**

Go to the OSD of Auto Adjust (for VGA only).

⑨ **[🔇] MUTE button**

Sound mute on or off.

⑩ **[▬] [▬] [▬] [▬] COLOR buttons**

Choose tasks or options.(for Media Input only)

[▬] Hot key for Window selection function.

⑪ **[Number/ ID SET/ ENTER] button**

Enter text for network setting.

Press to set the display ID. Refer to **2.3.2. ID Remote Control** for more details.

⑫ **[▦] FORMAT button**

Change Image Zoom Mode [Full][4:3][1:1][16:9][21:9][Custom].

⑬ **[↩] BACK button**

Return to the previous menu page or exit from the previous function.

⑭ **[ⓘ] INFO button**

Show Information OSD

⑮ **[▤] OPTIONS button**

Reserved.

⑯ **[—] [+] VOLUME button**

Adjust volume level.

2.3.2. ID Remote Control

Set remote control ID number when using several displays.
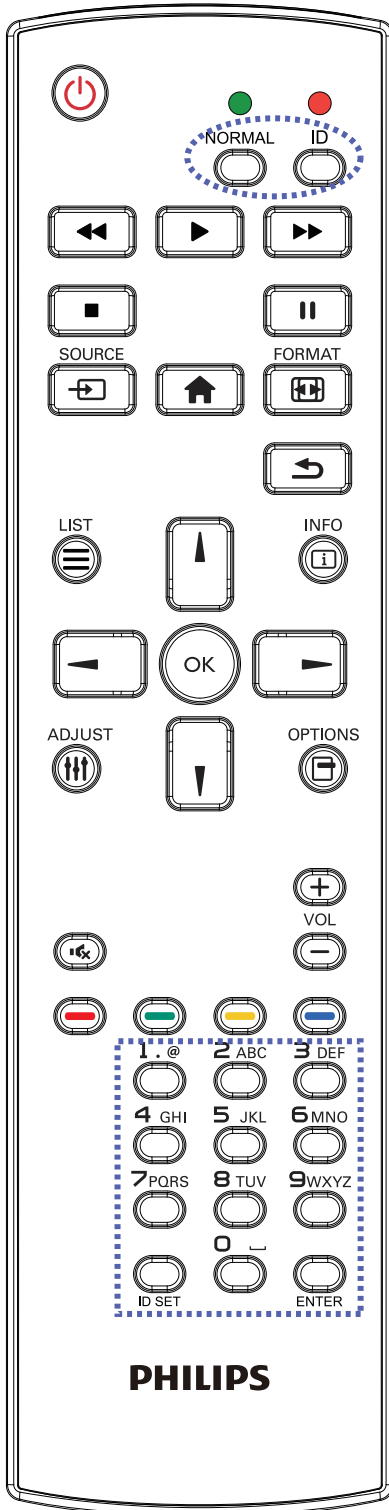
Press the [ID] button and the red LED blinks twice.

1. Press [ID SET] button for more than 1 second to enter the ID Mode. The red LED lights up.
Pressing the [ID SET] button again will exit from the ID Mode. The red LED lights off.

Press the digit numbers [0] ~ [9] to select the display to be controlled. For example: press [0] and [1] for display No.1, press [1] and [1] for display No.11.

The numbers available are [01] ~ [255].

2. If no button is pressed within 10 seconds, it will exit from the ID mode.

3. If a wrong button is pressed, wait for 1 second until the red LED lights off and then turns on again, then press the correct digits.

4. Press [ENTER] button to confirm your selection. The red LED blinks twice and then lights off.

NOTE:

- Press [NORMAL] button. The green LED blinks twice, indicating that the display is under normal operation.

- It is necessary to set up the ID number for each display before selecting its ID number.

2.4. Rubber Cover

- ■ The rubber covers should always be attached to the display unless the display is mounted on the wall.

- ■ Please keep the rubber covers and thumb screws properly and use them to protect the display when the display is not mounted on the wall.
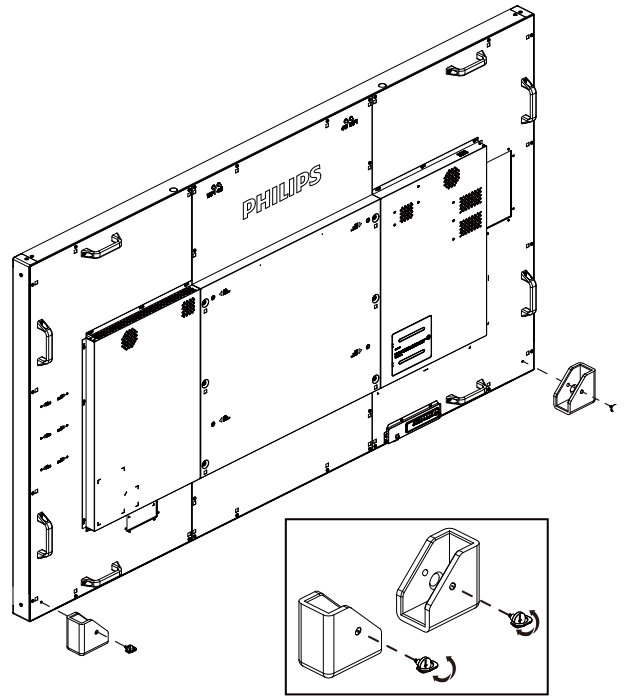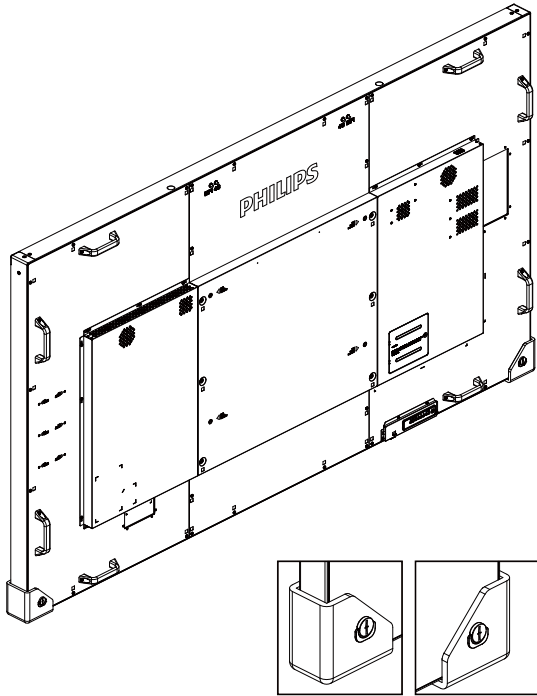
3. Connecting External Equipment

3.1. Connecting External Equipment (DVD/VCR/VCD)

3.1.1. Using HDMI video input

DVD / VCR / VCD

HDMI Out
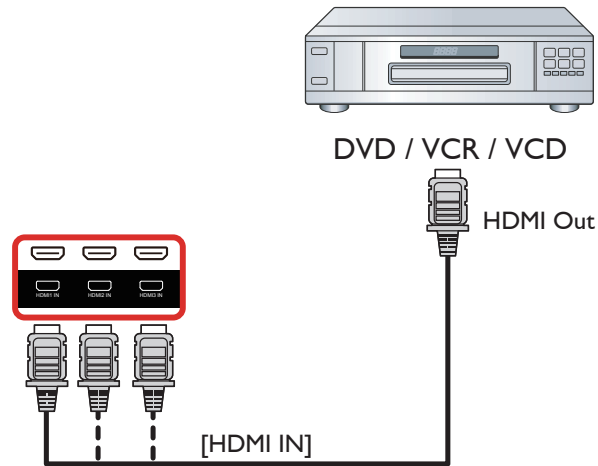
[HDMI IN]

3.2. Connecting a PC

3.2.1. Using VGA input

[VGA AUDIO IN]　　　Audio Out　　PC

VGA Out
D-Sub 15 pin

[VGA IN]

3.2.2. Using DVI input

[VGA AUDIO IN]　　Audio Out　　PC

DVI Out
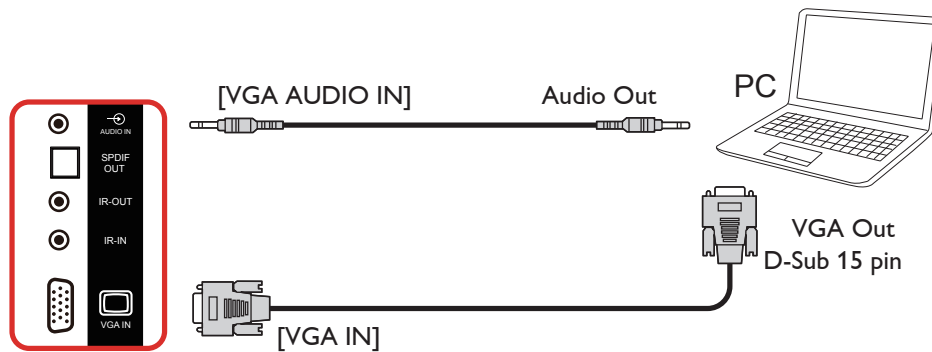
[DVI IN]
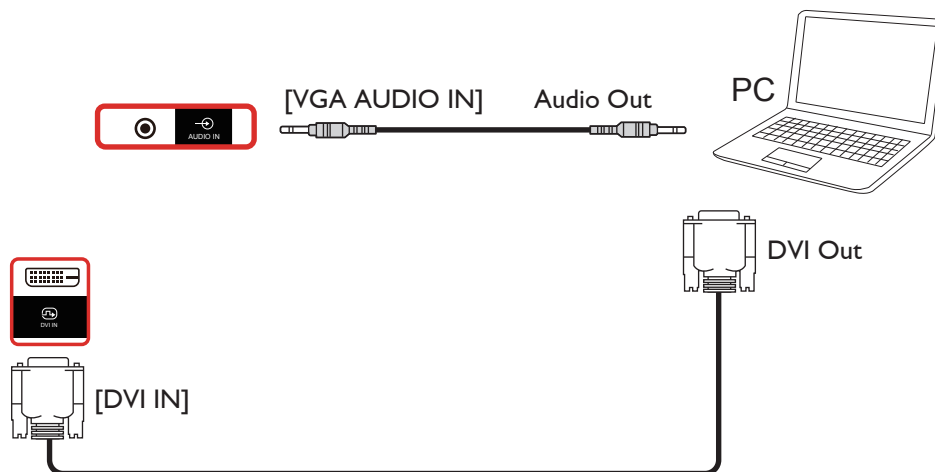
3.2.3. Using HDMI input

PC

HDMI Out

[HDMI IN]
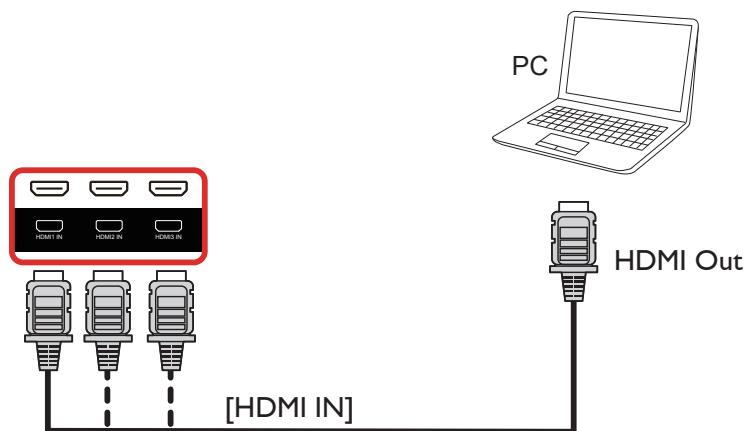
3.2.4. Using DisplayPort input

PC

[DisplayPort IN]   DisplayPort Out

DP IN

3.3. Connecting Audio Equipment

3.3.1. Connecting external speakers

EXT. SPK
TERMINAL

External speakers
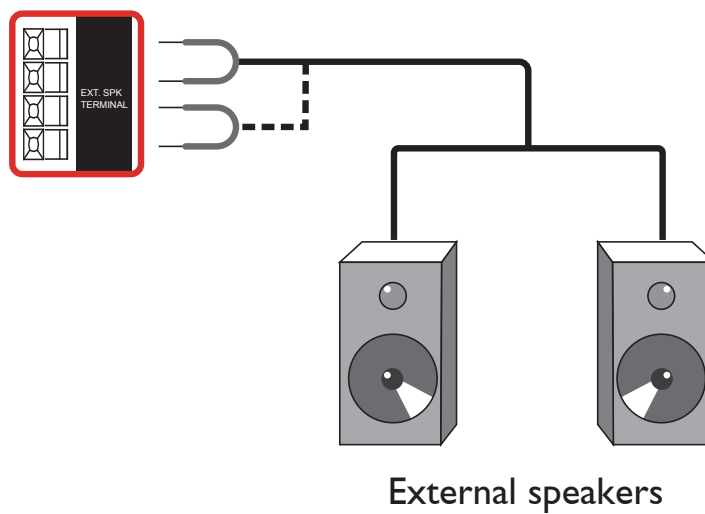
3.3.2. Connecting an external audio device

[AUDIO OUT]

Audio In

[SPDIF OUT]

Stereo Amplifier
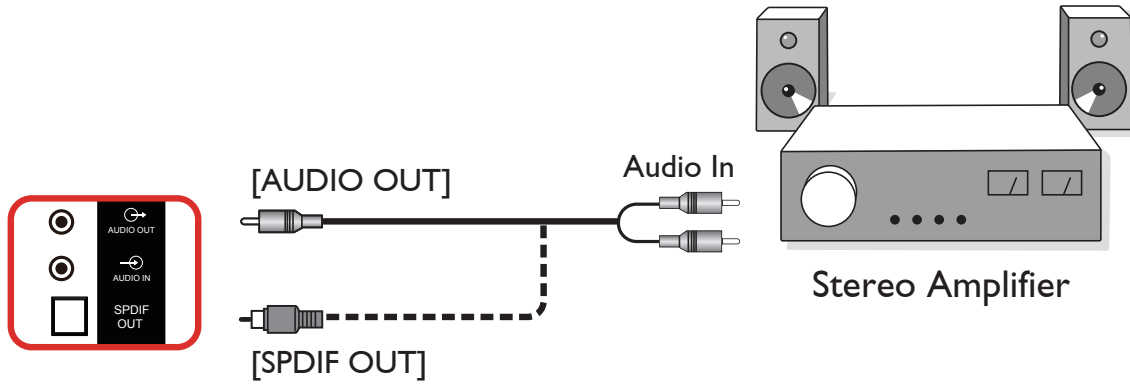
3.4. Connecting Multiple Displays in a Daisy-chain Configuration

You can interconnect multiple displays to create a daisy-chain configuration for applications such as a menu board.

3.4.1. Display control connection

Connect the [RS232 OUT] connector of DISPLAY 1 to the [RS232 IN] connector of DISPLAY 2.

PC

DISPLAY 1

DISPLAY 2

[RS-232C]

[RS-232C IN]　　[RS-232C OUT]　　[RS-232C IN]
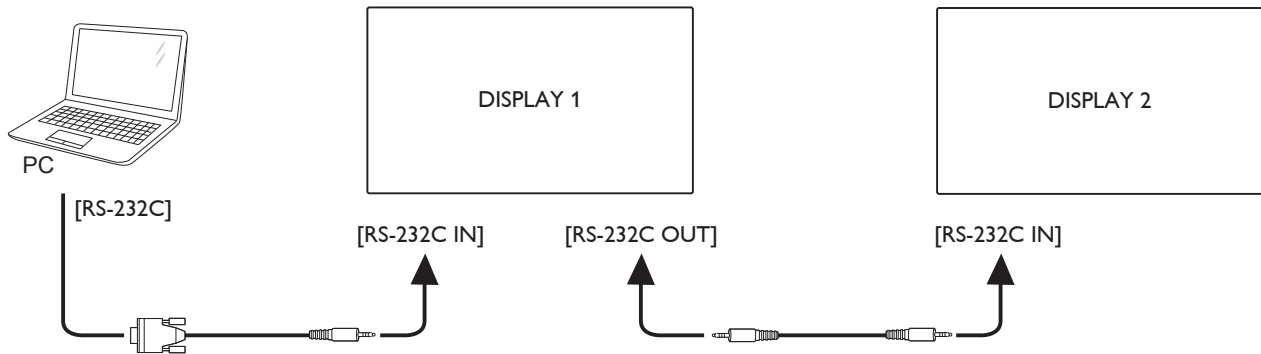
3.4.2. Digital video connection

Connect the [DP OUT] connector of DISPLAY 1 to the [DP IN] connector of DISPLAY 2.

PC

DISPLAY 1

DISPLAY 2

[DP]

[DP IN]　　[DP OUT]　　[DP IN]
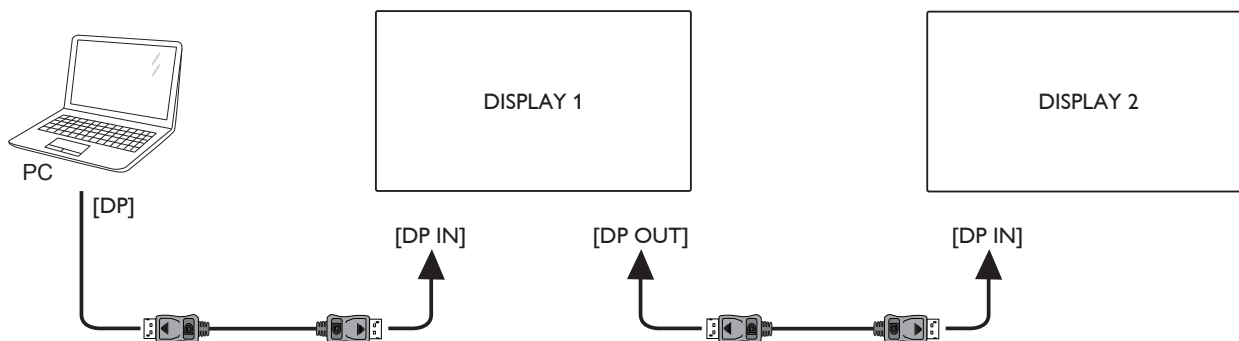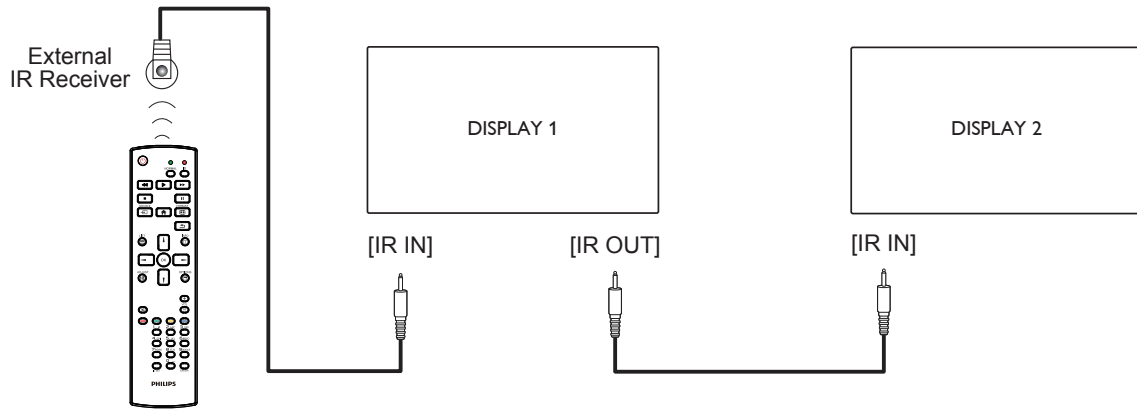
3.5. IR connection

NOTE:

The remote control sensor of this sensor will stop working if the [IR IN] is connected.

3.6. IR Pass-through Connection
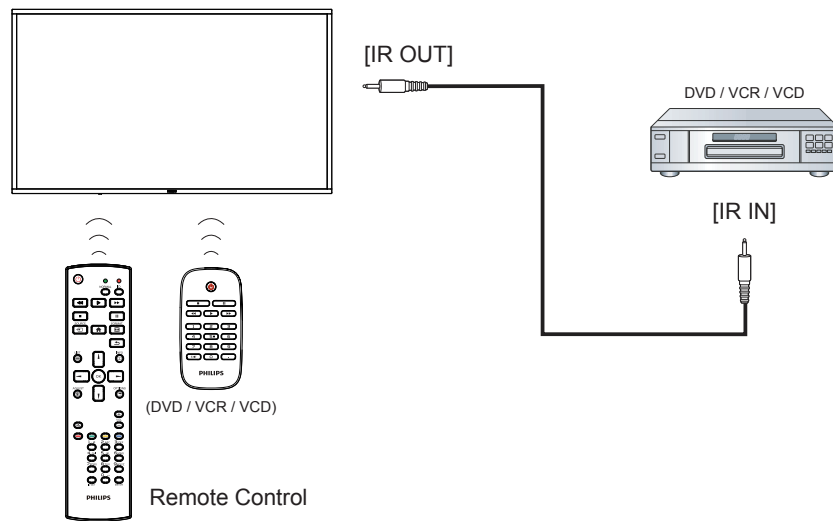
3.7. Wire-connecting to Network
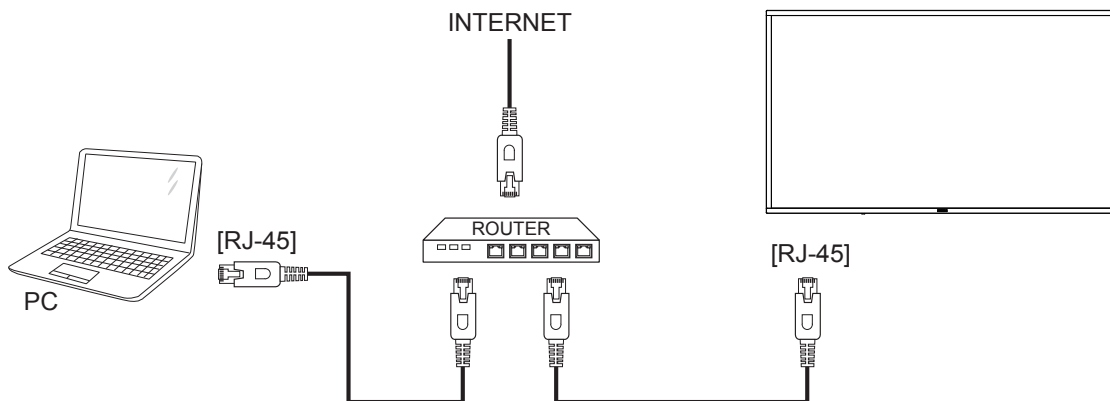
3.8. Touch Operation

This display is equipped with a touch-sensitive screen and supports the **Windows Touch** features either by singletouch or multitouch operation. You can touch the pictures or words on the display gently with your fingers, and your computer will react.

The following illustrations show some typical touch operation behavior. For further detail on how to run the touch operation, please refer to the Windows operation instruction.

Single Tap

Touch the target on the screen with one fingertip for one quick tap, then release.
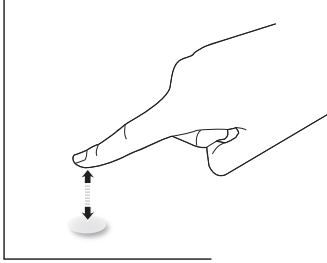
Please note that a touch screen will respond to a light touch from your fingertip when tapping within 4mm above touch screen.

Double Tap

Touch the target on the screen with one fingertip for two quick taps, then release.
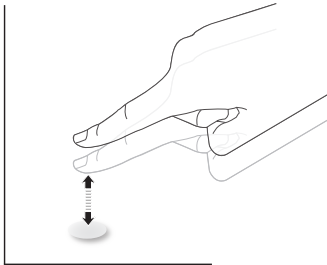
Pan

Touch the target on the screen with one fingertip and move across the target without losing direct contact, then release.
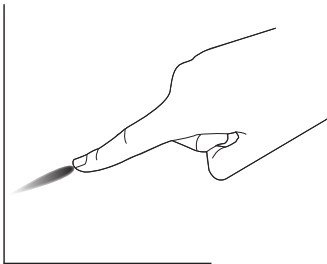
Flick

Touch the target on the screen with one fingertip and brush the surface quickly.
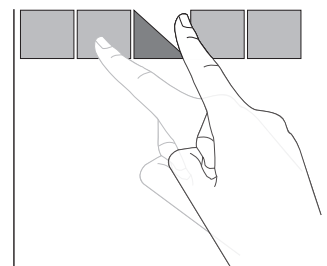
Zoom in

Touch the target on the screen with two fingertips held together and move them apart to zoom in (magnify) the screen image.
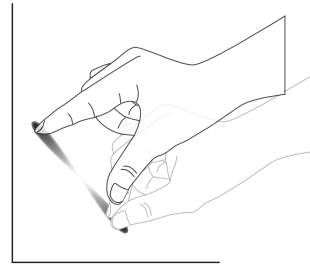
Zoom out

Touch the target on the screen with two fingertips stretched apart and move them closer to zoom out (shrink) the screen image.
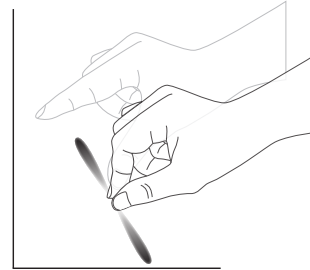
Touch and Hold

Touch and hold the target on the screen with one fingertip for a while to display a context menu or options page for an item.
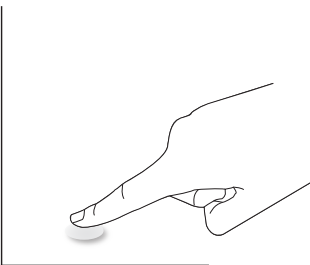
Avoid

- Avoid scratching with sharp object on the screen. Only use your fingertips to perform touch operation.
- Do not expose the screen to intensive light, spotlight, or widespread light.
- Do not install the product to a location where is close to the windows or glass-doors as the direct sunlight may affect the touch control performance.
- To avoid screen interference with each other, do not place 2 touch screens side by side as shown below.
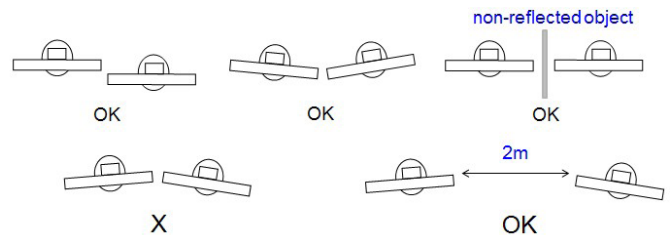
Fig. Touch screens interference

The Touch screen does not require a device driver be installed on the host computer for Windows OS, For Windows 7 and Windows 8, it is recommended that the standard Microsoft Window Control Panel calibration is used.

Item	Description		
Operating Systems supported by Plug-and-Play	Windows 7, 8/8.1, 10		
Modes of operation supported by the Operating System	OS	Single Touch	Multi Touch
	Windows 7, 8/8.1, 10	○	○*
	Mac OSX before (include) 10.9	○	○**
	Mac OSX after (include) 10.10	○	○**
	Chrome 38+	○	○***
	Android Kernel after(include) 3.6	○	○****
	Linux	○	○*****
	* Support 20-point touch. ** Mac OSX for multi touch from version 10.6 to 10.12, please download "UPDD_05_01_1482_noArea.dmg". *** Chrome for multi touch can support up to 16-point. **** Android with Kernel after or including 3.6 for multi touch can support up to 16-point. ***** Support 20-point by Ubuntu 12.04, 14.04, 16.0 with kernel 4.4.0+.		

1. We highly recommend that you use the latest Service Pack with all Windows OS.
2. Digitizer input to Windows refers to touch digitizer as opposed to pen digitizer in tablet PCs.
3. Set as default by Microsoft.
4. Touch cannot work if TPM (Touch Panel Module) USB cable plug into USB I/F.
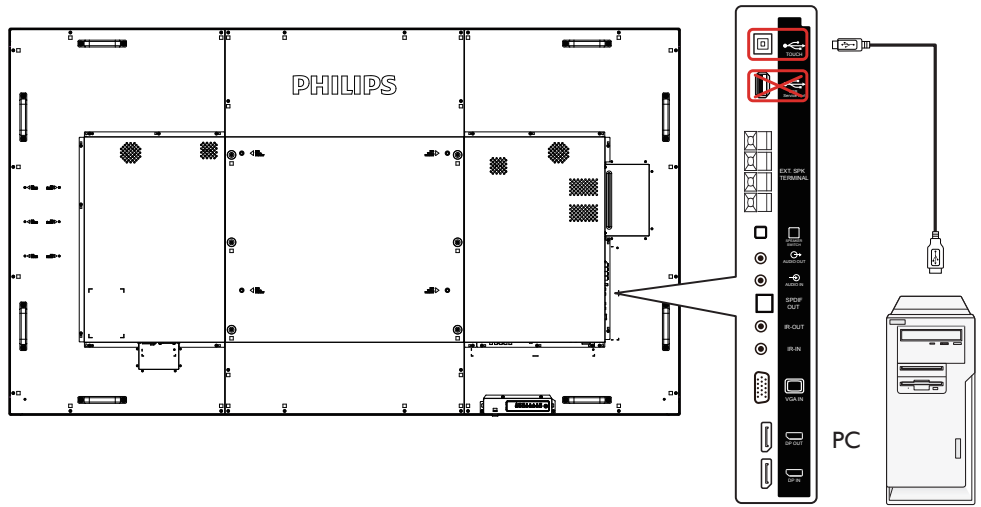
5. SDK is available on the website www.philips.com/signagesolutions-support, for 20-point touch application development on Windows and Linux.
6. For Mac OS 10.10, it is recommended that you use the tool "**TouchService**" to re-define the touch position and simulate mouse operation(single touch). First, install the tool "**TouchService**" to Mac OS, then follow the instruction of Touch Service Manual in the software package "TouchService" which is available on the website www.philips.com/signagesolutions-support.
7. Please visit the website www.philips.com/signagesolutions-support for the latest information about Mac OSX mode support.

4.   Operation

NOTE: The control button described in this section is mainly on the remote control unless specified otherwise.

4.1.   Watch the Connected Video Source

See page 13 for external equipments connection.

1.   Press the **[⊡] SOURCE** button.

⊡ Video source
Displayport
DVI-D
VGA
HDMI1
HDMI2
HDMI3
Component
Video
USB
BROWSER
SmartCMS
Card OPS
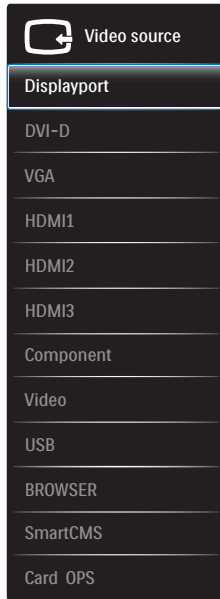
2.   Press **[Ⅰ]** or **[Ⅴ]** button to select a device, then press **[OK]** button.

4.2.   Play multimedia files from USB device

1.   Connect your USB device to the USB port of the display.
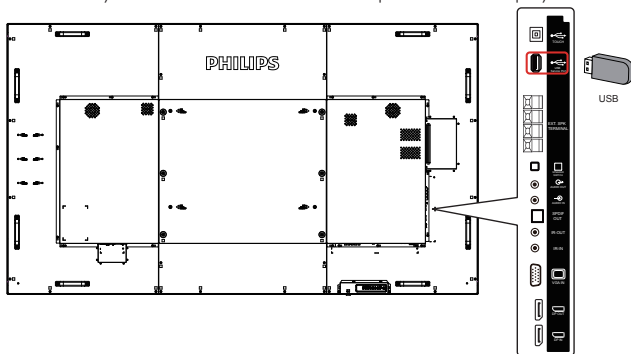
2.   Press **[⊡] SOURCE** button, select **USB**, then press **[OK]** button.

3.   The connected USB device is detected automatically with all its playable files, which will be automatically sorted into 3 types: 🎵 **Music**, 🎬 **Movie**, and 🖼 **Photo**.

4.   Press **[⬅] BACK** button to go up to the top layer of the screen. Press **[◄]** or **[►]** button to select the file type. Press **[OK]** button to enter its play list.

5.   Select your desired file. Press **[OK]** button to start playing.

6.   Follow the on-screen instruction to control the play option.

7.   Press **[PLAY]** buttons (H F G I J) to control playing.

4.3.   Play options

4.3.1.   Playing music files

1.   Select 🎵 **Music** from the top menu bar.

2.   Select one music track, and press **[OK]** button.
- To play all tracks in a folder, select one music file. Then, press **[▬]** to **Play All**.
- To skip to the next or previous track, press **[Ⅰ]** or **[Ⅴ]** button.
- To pause the track, press **[OK]** button. Press **[OK]** button again to resume playback.
- To skip backward or forward 10 seconds, press **[◄]** or **[►]** button.
- To search backward or forward, press **[G]** or **[J]** button, press repeatedly to toggle between different speeds.
- To stop the music, press **[H]** button.

4.3.2.   Playing movie files

1.   Select 🎬 **Movie** from the top menu bar.

2.   Select a video, and press **[OK]** button.
- To play all videos in a folder, select one video file. Then, press **[▬]** to **Play All**.
- To pause the video, press **[OK]** button. Press **[OK]** button again to resume playback.
- To skip backward or forward 10 seconds, press **[◄]** or **[►]** button.
- To search backward or forward, press **[G]** or **[J]** button, press repeatedly to toggle between different speeds.
- To stop the video, press **[H]** button.

4.3.3.   Playing photo files

1.   Select 🖼 **Photo** from the top menu bar.

2.   Select a photo thumbnail, then press **OK]** button.

Start a slideshow

If there are multiple photos in a folder, select one and press **[▬]** to **Play All**.
- To skip to the previous or next photo, press **[◄]** or **[►]** button, and press **[OK]** button.
- To stop the slideshow, press **[H]** button.

4.4.   How to use Opera browser (HTML5)

1.   Press **[⊡] SOURCE** button, select **BROWSER**, and press **[OK]** button.

2.   Move the cursor to URL address bar. Press **[OK]** button and a pop-up on-screen keyboard appears. You can move the cursor to enter the URL address. After completing the URL address, select **Done**.
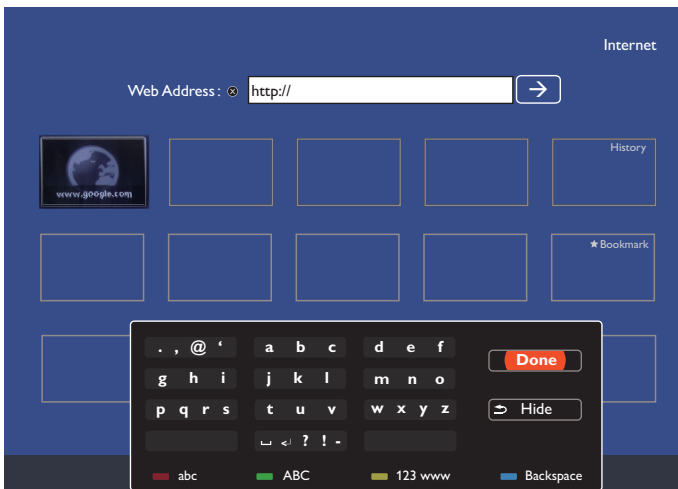
3. Move the cursor to "➔" icon and press [OK] button.
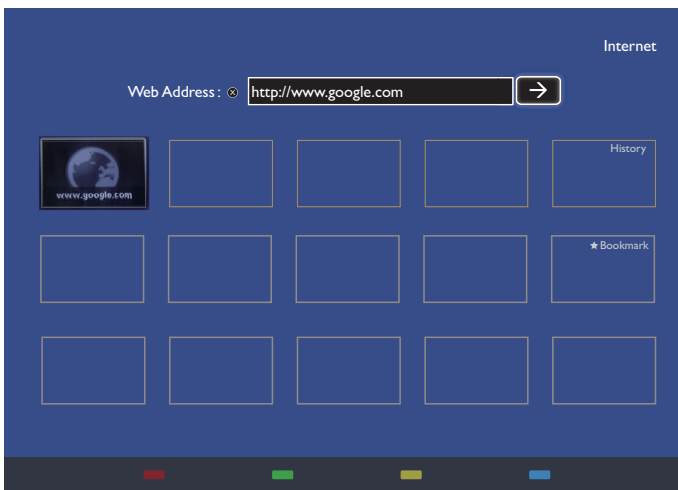
4. A web page appears as shown below.
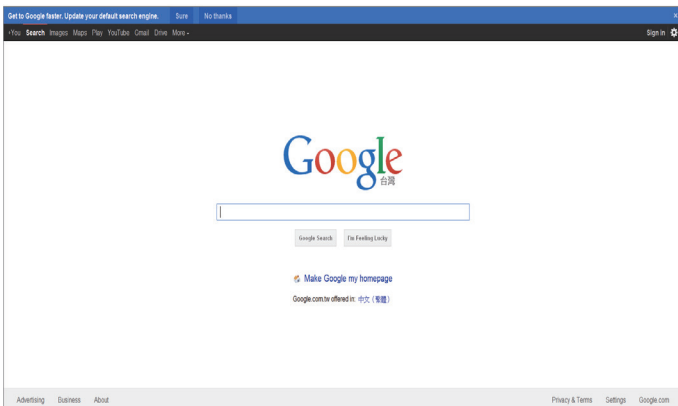
NOTES:

• The Opera browser does not support FLASH format.

• The browser is not a video source. It will not stay at the browser screen after you restart the display.

5. 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.

5.1. Navigating the OSD Menu

5.1.1. Navigating the OSD menu using the remote control
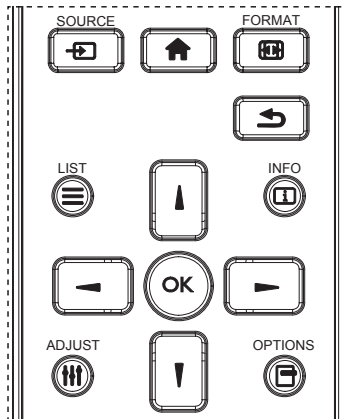
1. Press [🏠] button on the remote control to display the OSD menu.

2. Press [▲] or [▼] button to select the item to adjust.

3. Press [OK] or [►] button to enter the submenu.

4. In the submenu, press [▲] or [▼] button to toggle among items, press [◄] or [►] button to adjust the settings. If there is a submenu, press [OK] or [►] button to enter the submenu.

5. Press [↩] button to return to the previous menu, or press [🏠] button to exit from the OSD menu.

NOTES:
- If the OSD menu is not on the screen, you can press [▲] to display the menu of {Smart picture}.
- If the OSD menu is not on the screen, you can press [▼] to display the menu of {Audio source}.

5.1.2. Navigating the OSD menu using the display's control buttons

1. Press [MENU] button to display the OSD menu.
2. Press [➕] or [➖] button to select the item to adjust.
3. Press [➕] button to enter the submenu.
4. In the submenu, press [▲] or [▼] button to toggle between items, press [➕] or [➖] button to adjust settings. If there is a submenu, press [➕] button to enter the submenu.
5. Press [MENU] button to return to the previous menu, or keep pressing [MENU] button to exit from the OSD menu.

5.2. OSD Menu Overview

5.2.1. Picture menu
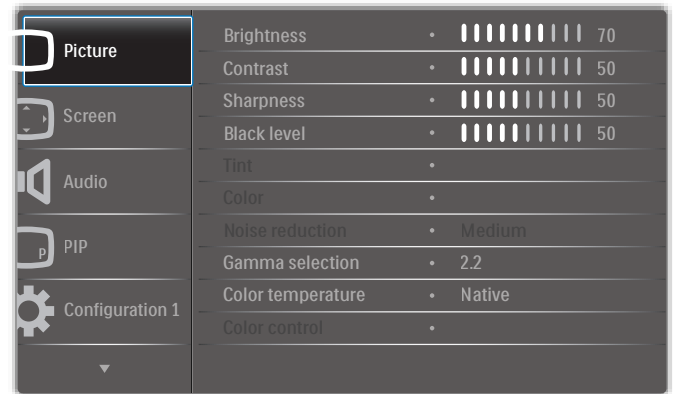
Brightness

Adjust the brightness of this display's backlight.

Contrast

Adjust the contrast ratio for the input signal.

Sharpness

Adjust the sharpness to improve the image detail.

Black level

Video black level is defined as the level of brightness at the darkest (black) part of a visual image. Adjust the black level of this display.

Tint

Adjust tint of the screen.

Use the [◄] or [►] button to adjust. Press the [►] button to make the tone color greenish. Press the [◄] button to make the tone color purplish.

NOTE: This item works only under Video mode (YUV color space).

Color

Adjust the intensity of colors in the image.

NOTE: This item works only under Video mode (YUV color space).

Noise reduction

Reduce picture noise. You can select a suitable noise reduction level.

The options are: {Off} / {Low} / {Medium} / {High}.

NOTE: This item works only under Video mode (YUV color space).

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.

The options are: {Native} / {2.2} / {2.4} / {S gamma} / {D-image}.

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.

The options are {3000K} / {4000K} / {5000K} / {6500K} / {7500K} / {9300K} / {10000K} / {Native} / {User 1} / {User 2}.

Color control

You can adjust the color tones of the image precisely by changing the **User-R** (Red), **User-G** (Green) and **User-B** (Blue) settings independently under the following condition:

{**Picture**} - {**Color temperature**} - {**User**} setting to **[User 1]**

Or, you can adjust the color tones per 100K in the range of 2000K to 10000K under the following condition:

{**Picture**} - {**Color temperature**} - {**User**} setting to **[User 2]**

Smart picture

The following smart picture modes are available for:

- PC mode: {**Standard**} / {**Highbright**} / {**sRGB**}.
- Video mode: {**Standard**} / {**Highbright**} / {**Cinema**}.

Smart contrast

Smart contrast function is to enhance image contrast on darker scenes when activated. The {**Brightness**} setting in the **Picture** menu will be disabled when Smart Contrast is activated.

Smart power

Set the display to reduce the power consumption automatically.

The options are: {**Off**} / {**Medium**} / {**High**}.

Light sensor

Light sensor function is to adjust brightness automatically when ambient light changes.

Scan mode

Change the display area of the image.

- {**Over scan**} - Display about 95% of the original size of the image. The rest of the areas surrounding the image will be cut off.
- {**Under scan**} - Display the image in its original size.

Picture reset

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

5.2.2. Screen menu
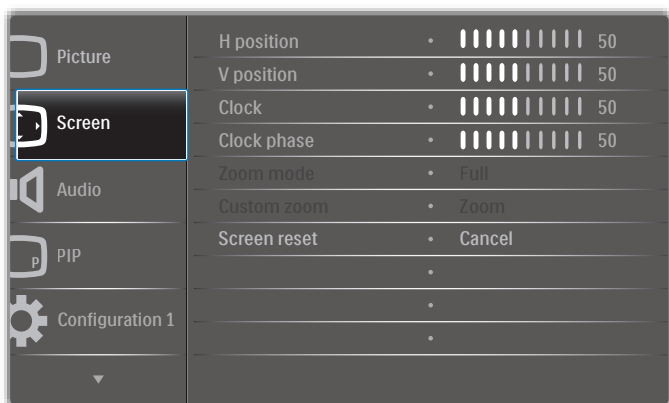
H position

Press the [▶] button to move the image to the right, or [◀] to move the image to the left.

NOTES:

- H position adjustment works with **VGA** input only.
- H position cannot be adjusted when {**Pixel Shift**} is activated.

V position

Press the [▶] button to move the image up, or [◀] to move the image down.

NOTES:

- V position adjustment works with **VGA** input only.
- V position cannot be adjusted when {**Pixel Shift**} is activated.

Clock

Adjust the width of the image.

NOTE: This item works with **VGA** input only.

Clock phase

Adjust to improve the focus, clarity and stability of the image.

NOTE: This item works with **VGA** input only.

Zoom mode

The pictures you receive may be transmitted in 16:9 format (wide screen) or 4:3 format (conventional screen). The 16:9 pictures sometimes have a black band at the top and bottom of the screen (letterbox format). Zoom Mode will be deactivated when {**Pixel Shift**} is activated or turned on, and when {**Tiling**} is enabled.

Choose from: {**Full**} / {**Normal**} / {**Real**} / {**21:9**} / {**Custom**}.

	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.
	Real This mode displays the image pixel-by-pixel on screen without scaling the original image size.
	21:9 The picture is enlarged to 21:9 format. This mode is recommended when displaying pictures that have black bands at the top and bottom (letterbox format).
	Custom Apply the custom zoom settings in the Custom Zoom submenu.

Custom zoom

Use this function to further customize the zoom settings to suit the image you want to display.

NOTE: This item works only when the {**Zoom mode**} is set to {**Custom**}.

	Zoom Expands the horizontal and vertical sizes of image simultaneously.
	H zoom Expands the horizontal size of image only.

	V zoom Expands the vertical size of image only.
	H position Moves the horizontal position of image left or right.
	V position Moves the vertical position of image up or down.

Screen reset

Reset all settings in the **Screen** menu to factory preset values.

5.2.3. Audio menu
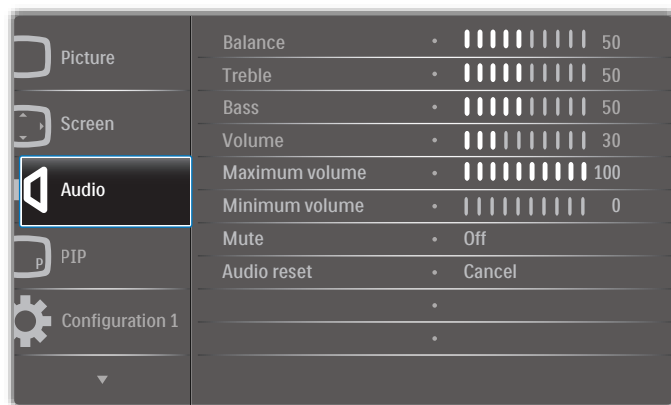
Balance

Adjust to emphasize left or right audio output balance.

Treble

Adjust to increase or decrease higher-pitched sounds.

Bass

Adjust to increase or decrease lower-pitched sounds.

Volume

Adjust the volume.

Maximum volume

Adjust your own limitation for the maximum volume setting. This stops the volume at the sound level you set.

Minimum volume

Adjust your own limitation for the minimum volume setting.

Mute

Turn the mute function on/off.

Audio reset

Reset all settings in the **Audio** menu to factory preset values.

5.2.4. PIP menu
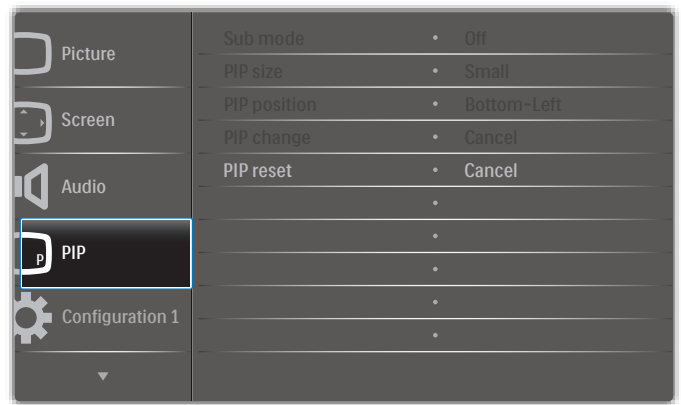
Sub mode

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

The options are: {**Off**} / {**PIP**} / {**POP**} / {**Quick swap**} / {**PBP 2Win**} / {**PBP 3Win**} / {**PBP 4Win**}.
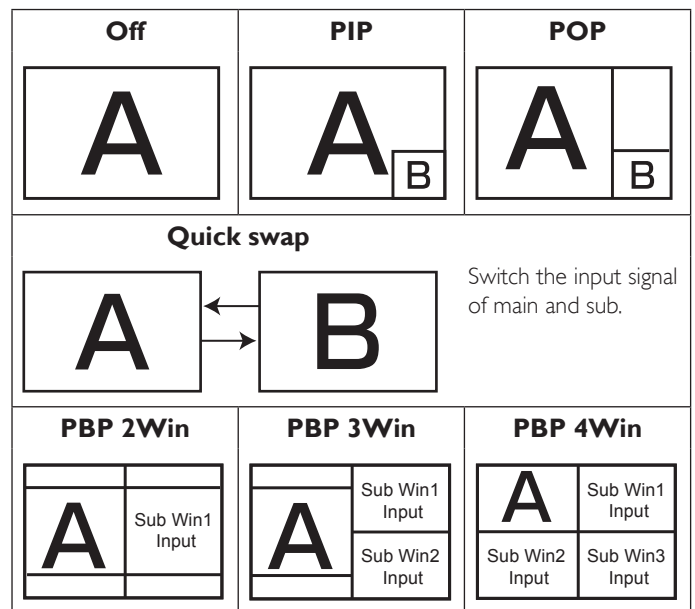
PIP size

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

The options are: {**Small**} / {**Medium**} / {**Large**}.

PIP position

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

The options are: {**Bottom-Right**} / {**Bottom -Left**} / {**Top-Right**} / {**Top-Left**}.

PIP change

Switch the input signal of Main and Sub for **PIP** / **Quick swap** mode.

PIP reset

Reset all settings in the **PIP** menu to factory preset values.

NOTES:

*   The PIP function is available only under the following condition: {**Advanced option**} - {**Tiling**} - {**Enable**} setting to [**No**].

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

Sub \ Main	DP	OPS	HDMI1	VGA	HDMI2	HDMI3	COMP	VIDEO	USB	BROWSER	SmartCMS	DVI
DP	O	O	O	O	O	O	O	O	O	O	O	O
OPS	O	O	X	O	O	O	O	O	O	O	O	O
HDMI1	O	X	O	O	O	O	O	O	O	O	O	O
VGA	O	O	O	O	O	O	O	O	O	O	O	O
HDMI2	O	O	O	O	O	X	O	O	O	O	O	O
HDMI3	O	O	O	O	X	O	O	O	O	O	O	O
COMP	O	O	O	O	O	O	O	X	X	X	X	O
VIDEO	O	O	O	O	O	O	X	O	X	X	X	O
USB	O	O	O	O	O	O	X	X	O	X	X	O
BROWSER	O	O	O	O	O	O	X	X	X	O	X	O
SmartCMS	O	O	O	O	O	O	X	X	X	X	O	O
DVI	O	O	O	O	O	O	O	O	O	O	O	O

(**O**: PIP function is available, **X**: PIP function is unavailable)

- The availability of PIP function depends on the resolution of input signal being used.

5.2.5. Configuration1 menu

Picture	Switch on state	• Last status
Screen	Auto adjust	• Action
	Power save	• Action
Audio	Panel saving	• Action
	Network control port	• RS232
PIP	Network settings	• Action
	DMR	• Off
Configuration 1	Clear internet memory	• Cancel
	Configuration1 reset	• Cancel
	Factory reset	• Cancel

Switch on state

Select the display status that will be applied when you connect the power cord next time.

- {**Power off**} - The display will remain off when the power cord is connected to a wall outlet.
- {**Forced on**} - The display will turn on when the power cord is connected to a wall outlet.
- {**Last status**} - The display will return to the previous power status (on/off/standby) when removing and replacing the power cord.

Auto adjust

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

NOTE: This item works with **VGA** input only.

Power save

Use this setting to reduce the power automatically.

- {**RGB**} - Select {**On**} to let the display enter power saving mode when no signal is detected from the PC (RGB color space) inputs after 10 seconds.
- {**Video**} - Select {**On**} to enter power saving mode when no signal is detected from VIDEO (YUV color space) inputs after 10 seconds.

Panel saving

Enable or disable the panel saving functions and thus reduce the risk of "image persistence" or "ghost-imaging".

- {**Cooling Fan**} - Adjust the rotation speed of cooling fan. Select {**Auto**}, the cooling fan will turn on/off according to the display's temperature.

  The options are: {**Auto**} / {**Off**} / {**Low**} / {**Medium**} / {**High**}.

  NOTES:
  - The default {Auto} option will start running the cooling fan if the temperature of **45°C (113°F)** is reached, and stop running the cooling fan if the temperature of **43°C (109°F)** is reached.
  - A warning message will be shown on the screen if the temperature reaches **58°C** (**136°F**). All key functions except [⏻] key will be disabled.
  - Once the temperature reaches **60°C** (**140°F**), the display's power will be shut down automatically.

- {**Brightness**} - Select {**On**} and the image brightness will be reduced to an appropriate level. The Brightness setting in the Picture menu will be unavailable when selected.
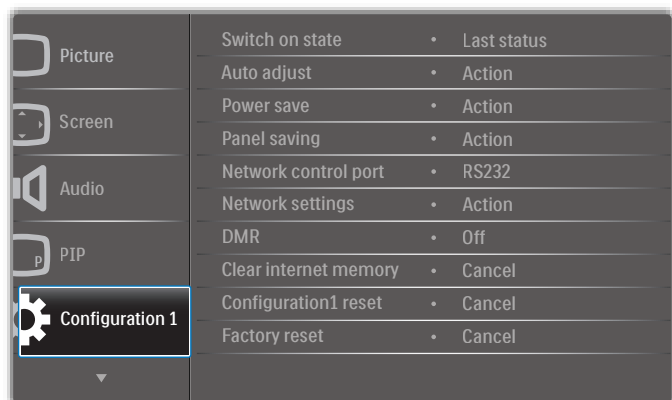- {**Pixel shift**} - Select the time interval ({**Auto**} / {**10 ~ 900**} Seconds / {**Off**}) for the display to slightly expand the image size and shift the position of pixels in four directions (up, down, left, or right). Activating Pixel Shift will disable H Position, V Position and Zoom Mode in the screen Menu.

Network control port

Select the network control port.

The options are: {**RS232**} / {**Card OPS RS232**} / {**LAN ->RS232**}.

NOTE: After connecting to your OPS device, the option {**Card OPS RS232**} will be available.

Network settings

Assign {**IP address**}, {**Subnet Mask**}, and {**Default gateway**} for the display.

Network settings	
Network host name	P H L 0 0 1
DHCP	Disable
IP address	172 - 16 - 0 - 1
Subnet mask	255 - 255 - 0 - 0
Default gateway	0 - 0 - 0 - 0
DNS1	0 - 0 - 0 - 0
DNS2	0 - 0 - 0 - 0
MAC address	▊▊▊▊▊▊
Login user name	a d m i n
Login password	0 0 0 0
[OK]	change [OK] in STORE
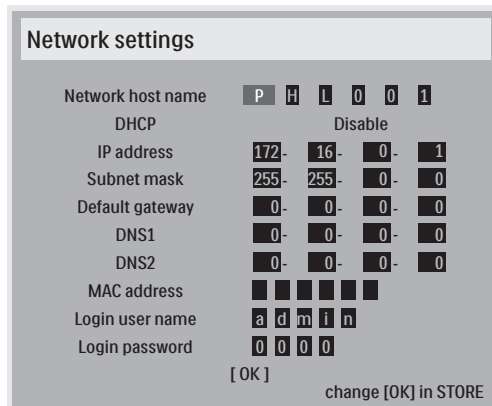
- Network host name
- DHCP - enable or disable the DHCP function. If enabled, the display will be assigned an IP address, Subnet mask and Default gateway automatically. If disabled, you will be prompted to enter the following values manually. Press [**OK**] button to store and save the selected values.
- IP address
- Subnet mask
- Default gateway
- DNS1
- DNS2
- MAC address
- Login user name (The default user name is {**admin**})
- Login password (The default password is {**0000**})

DMR

Receive multimedia files from the connected device by your network.

Clear internet memory

Clear all cookies, bookmarks, history list and text used for automatic filling.

Configuration1 reset

Select the input source when booting.

Input: select input source when booting.

Playlist: select playlist index for Media player, Browser and PDF player.

0: no play list. Same as switch source from OSD. 1~7: playlist number.

Factory reset

Reset all settings in the OSD menus of {**Picture**}, {**Screen**}, {**Audio**}, {**PIP**}, {**Configuration1**}, {**Configuration2**}, {**Advanced option**} and {**Input**} to the factory preset values.

Press [◄] or [►] button to select {**Reset**}, and press [**OK**] button to perform the reset.
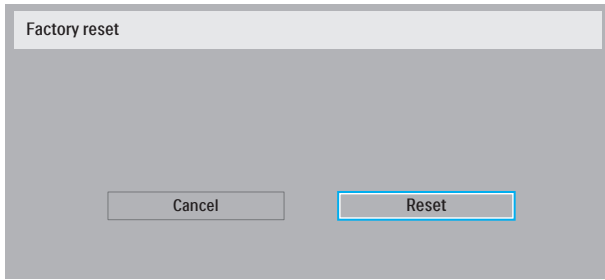
5.2.6. Configuration2 menu
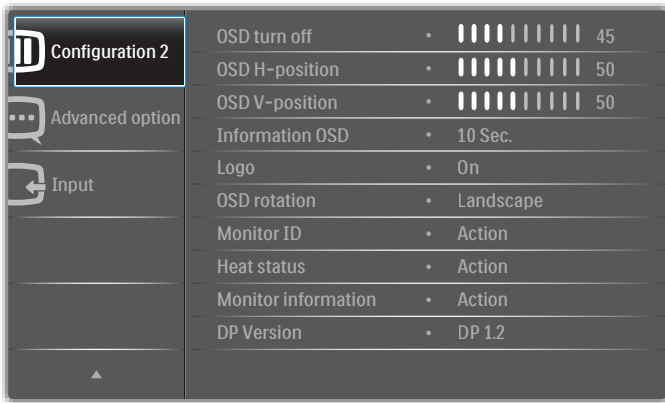
OSD turn off

Set the period of time the OSD (on-screen display) menu stays on the screen.

The options are: {**0 ~ 120**} seconds.

OSD H-position

Adjust the horizontal position of OSD menu.

OSD V-position

Adjust the vertical position of OSD menu.

Information OSD

Set the period of time the information OSD is displayed on the upper right corner of the screen. The information OSD will display when the input signal is changed.

The information OSD will remain on the screen with {**Off**} selection.

The options are: {**Off**, **1 ~ 60**} seconds.

Logo

Enable or disable to show the **PHILIPS** logo when you turn on the display.

OSD rotation

Rotate the OSD Menu.

The options are:

- {**Landscape**} (Default)
- {**Portrait**}

Monitor ID

Set the ID number for controlling the display via the RS232C connection. Each display must have a unique ID number when multiple sets of display are connected. Monitor ID number range is between 1 and 255.

The option are: {**Monitor group**} / {**Tiling matrix**} / {**Auto ID**}
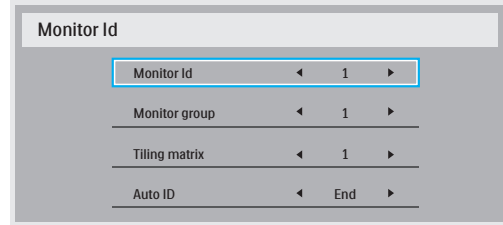
- {**Monitor group**}

  The options are: {**1-255**}. The default setting is 1.

- {**Tiling matrix**}

  Tiling matrix number range is between 1 and 15. 1 is the default setting. The {**Auto ID**} setup function enables setting up {**Monitor ID**} of connected machine according to {**Tiling matrix**} settings.

  Example: Tiling matrix sets as 4
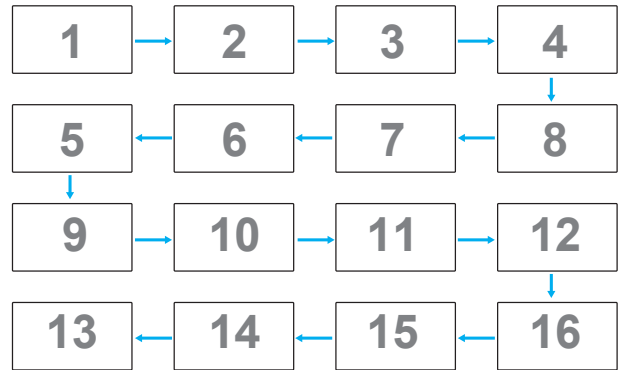
- {**Auto ID**}

  The option are: {**Start**} / {**End**}. The default setting is {**End**}.

  - Switch to **Start** option to set up IDs of machines backward from current one.
  - Once the setup is completed, the option exits from End automatically.
  - To use this function, serially connect all machines with RS-232 cable and set their Control ports to RS-232 as well.

Heat status

This function allows you to check the thermal status of display at any time.

Monitor information

Shows information about your display, including model number, serial number, operating hours and software version.

Monitor information

Model name	XXBDLXXXXX
Serial no	XXX
Operation hours	XHXM
SW Version	VXXX
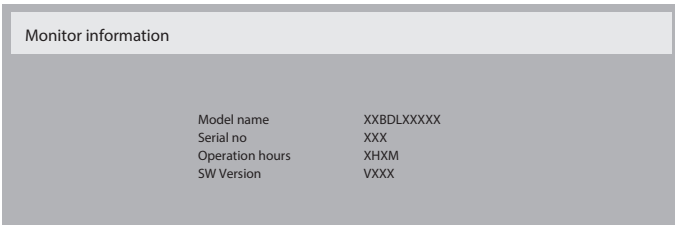
DP Version

The option are: {**DP 1.1**} / {**DP 1.2**} / {**DP multi**}. The default setting is {**DP 1.1**}.

Human sensor

This function will turn the backlight On when it senses the presence of human and turn it off after a specified period of time.

The options are: {**Off**, **10 ~ 60**} minutes.

HDMI EDID

The option are: {**HDMI 1.4**} / {**HDMI 2.0**}. The default setting is {**HDMI 1.4**}.

NOTE: HDMI 2.0 option is to support HDMI 2.0 equipment.

Image rotation

Set the picture of main Window to rotate 270 degrees.

The options are: {**Off**} (default) / {**On**}.

Power LED light

Select to control the power LED.

The options are: {**Off**} / {**On**} (default).

Configuration2 reset

Reset all settings in **Configuration2** menu to the factory preset values.

5.2.7. Advanced option menu

▥	Configuration 2	Input resolution	• Auto
		IR control	• Action
💬	Advanced option	Keyboard control	• Action
		Tiling	• Action
↵	Input	Date and time	• Action
		Off timer	• Off
		Schedule	• Action
		DDC/CI	• On
		HDMI with One Wire	• Off
		Auto signal detection	• Action
		▲	
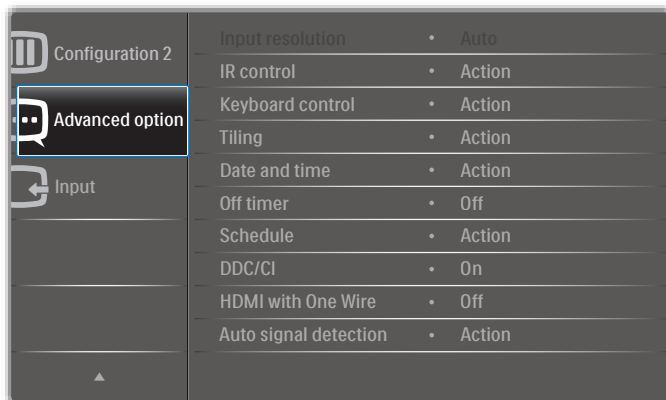
Input resolution

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

NOTE: This item works with **VGA** input only.

The options are:

* {**1024x768** / **1280x768** / **1360x768** / **1366x768**}
* {**1400x1050** / **1680x1050**}
* {**1600x1200** / **1920x1200**}
* {**Auto**}: Determines the resolution automatically.

The selected settings will become effective after turning off the power and turning it on again.

IR control

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

* {**Normal**} - All displays can be operated normally by the remote control unit.
* {**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 All**} / {**Lock all but Volume**} / {**Lock all but Power**} **-** Lock the remote control function of this display. To unlock, press and hold the [ⓘ] **INFO** button on the remote control for 5 seconds.

NOTE: When the main OSD menu is vanished, the Primary/Secondary OSD will be displayed for 3 seconds. Or, press **[OK]** button to display the Primary/Secondary OSD when there is no other OSD.

1. In the Primary OSD, press [**◄**] or [**►**] button to adjust the value of {**Control Monitor ID**}, and press [**▲**] or [**▼**] button to adjust the value of {**Control Group ID**}.

Keyboard control

Select to enable or disable the display keyboard (control buttons) function.

* {**Unlock**} - Enable the keyboard function.
* {**Lock All**} / {**Lock all but Volume**} / {**Lock all but Power**} **-** Disable the keyboard function.

NOTE: To enable or disable the keyboard control lock, press [**+**] and [**▲**] buttons simultaneously and keep pressing continuously for more than 3 seconds.

Tiling

Create a single large-screen matrix (video wall) that consists of up to 150 sets of display (**up to 10-sets in vertical side and 15-sets in horizontal side**). This function requires a daisy-chain connection.

* **H monitors** - Set how many displays in horizontal side.
* **V monitors** - Set how many displays in vertical side
* **Position** - Set the position of this display in the screen matrix.
* **Frame comp.** - Turn the frame compensation function On or Off. If you select {Yes}, the display will adjust the image to compensate for the width of the display bezels in order to accurately display the image.

NOTE: Screen format function in tiling using cascade mode is not supported.

Frame comp. - Yes
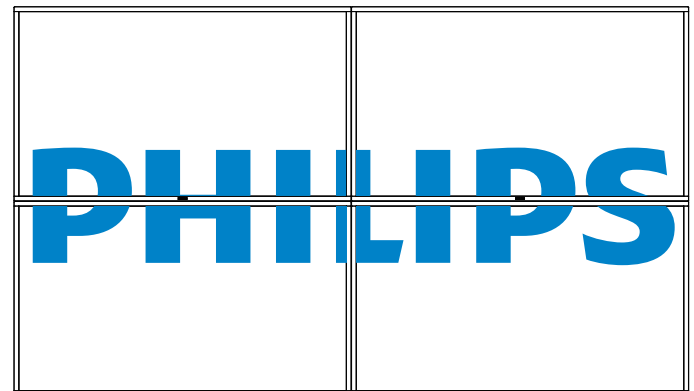
Frame comp. - No
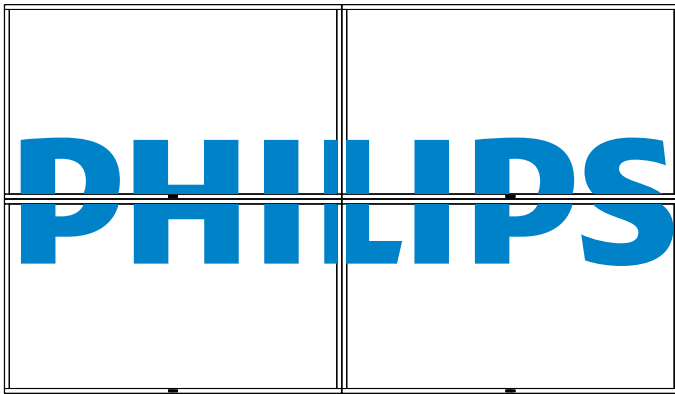
- **Enable**: Enable or disable the Tiling function. If it is enabled, the display will apply the settings in {**H monitors**}, {**V monitors**}, {**Position**}, and {**Frame comp.**}.

- **Switch on delay**: Set the power-on delay time (in seconds). The default option {Auto} allows a sequential powering-on for each display by their ID number when multiple displays are connected.

  The options are: {Off (0) / Auto(1) / 2-255}

- **Brightness**: {Normal}/{ACS}

  - {**Normal**}: Adjust the overall image and background screen brightness (backlight).

  - {**ACS**}: Apply brightness value (backlight) which is adjusted by MIC tool. The default value before adjustment is the same as OSD brightness value, e.g., 70)

NOTE: The Tiling function will be disabled when using PIP function.

Date and time

Adjust the current date and time for the display's internal clock.
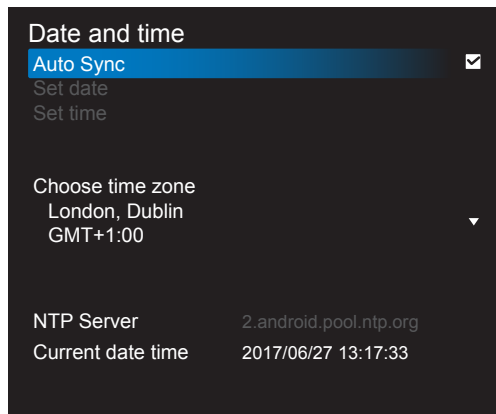
1. Press [**OK**] button to enter the submenu.
2. Press [▲] or [▼] button to toggle between {**Year**}, {**Month**}, {**Day**}, {**Hour**}, {**Minute**}, and {**Daylight saving time**}.
3. Press [◄] or [►] button to adjust all settings except {**Daylight saving time**}.
4. Press [**OK**] button to enter the {**Daylight saving time**} submenu.
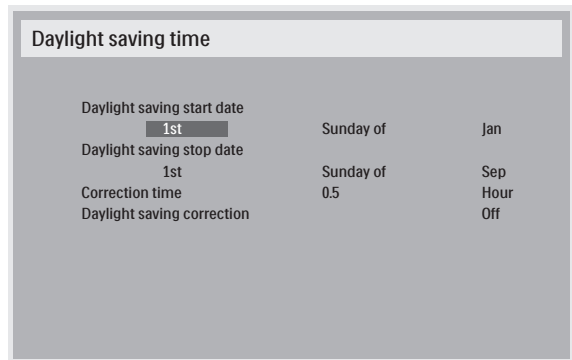
5. Press [◄] or [►] button to select an item, press [▲] or [▼] button to make adjustment.

- {**Daylight saving start date**} - Select {**1st** / **2nd** / **3rd** / **4th** / **last**} Sunday of the month {**Jan ~ Dec**}.
- {**Daylight saving stop date**} - Select {**1st** / **2nd** / **3rd** / **4th** / **last**} Sunday of the month {**Jan ~ Dec**}.
- {**Correction time**} - The options are: {**0.5** / **1.0** / **1.5** / **2.0**}
- {**Daylight saving correction**} Select {**On**} to enable this function.

Off Timer

Set the display to turn itself off to standby mode within a specified period of time.

The options are: {**Off**, **1 ~ 24**} hours from current time.

NOTE: When the "Off timer" is activated, the "Schedule" settings will be disabled.

Schedule

This function allows you to program up to 7 different scheduled time intervals for the display to activate.

You can select:

- The time for the display to turn on and turn off.
- The days in a week for the display to activate.
- Which input source the display will use for each scheduled activation period.

NOTE: It is recommended that you set up the current date and time in the {**Date and time**} menu before using this function.

1. Press [**OK**] or [►] button to enter the submenu.

2. Press [▲] or [▼] button to select a schedule item (item number 1 ~ 7), and press [**OK**] button to mark the item number.

Schedule

Today   2017 . 12 . 19   TUE   20 : 19 : 55

☑1   ① ② ③
□2   On   Off   Input
□3   :   :
□4
□5   ○MON   ○TUE   ④
□6   ○WED   ○THU   ○FRI
□7   ○SAT   ○SUN   Every week
            Playlist   0

                                    Clear all

3. Press [◀] or [▶] button to select the schedule:

① **Power-on** schedule: Press [▲] or [▼] button to adjust and the display will turn on at the specified time.

② **Power-off** schedule: Press [▲] or [▼] button to adjust and the display will turn off at the specified time.

Leave hour and minute options empty if you do not want to use the function of power-on or power-off schedule.

③ **Input-source** selection: Press [▲] or [▼] button to select an input source. If no input source is selected, the input source will remain the same as the previous one.

④ **Date** schedule: Press [▶] button to select which day in a week this schedule item will take effect, then press the [OK] button.

4. For additional schedule settings, press [⤶], 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:

• If the schedules overlap, the scheduled power-on time takes priority over scheduled power-off time.

• If there are two schedule items programmed for the same time, the highest numbered schedule takes priority. For example, if schedule items #1 and #2 both set the display to power on at 7:00 AM and off at 5:00 PM, then only schedule item # 1 will take effect.

DDC/CI

Select to turn on/off the DDC/CI communication function. Select {**On**} for normal use.

DDC/CI (Command Interface) specifies a means for a computer to send commands to the monitor, as well as receive sensor data from the monitor, over the bidirectional link such as DDC2Ab/Bi/B+.

Specific commands to control monitors are defined in a separate Monitor Control Command Set (MCCS) standard.

DDC/CI monitors are sometimes supplied with an external color sensor to allow automatic calibration of the monitor's color balance. Some tilting DDC/CI monitors support an auto pivot function, where a rotation sensor in the monitor enables the operating system to keep the display upright as the monitor is moved between its portrait and landscape positions.

The following DDC/CI commands should be supported via command line:

No.	Commands	No.	Commands
1	Set Brightness	6	Get Brightness
2	Set Contrast	7	Get Contrast
3	Set Red Gain	8	Get Red Gain
4	Set Green Gain	9	Get Green Gain
5	Set Blue Gain	10	Get Blue Gain

NOTE: This item works with VGA input only.

HDMI with One Wire

CEC control.

• {**Off**} - Disable CEC.(Default)

• {**On**} - Enable CEC.

Auto signal detection

This function allows the system to detect and display the available signal sources automatically

• {**Off**} - Once a signal is connected, it can only be selected manually. If the selected input has no signal, sset the system to display the image automatically according to the search order of each option.

The options are: {**All**} / {**PC source only**} / {**Video source only**} / {**Failover**}

• {**All**}: DP / HDMI1 / HDMI2 / HDMI3 / DVI / VGA / Component / OPS.

• {**Failover**}

- Failover 1-12: User-defined setting. Default: HDMI.

OPS settings

Set the OPS configuration under each power condition.

• {**Auto**} - After selecting {**Card OPS**} for video source input, the OPS will be set to off when the display power is set to off, or vice versa. If you set to other video source inputs, the OPS will always be set to on.

• {**Always off**} - The OPS will always be set to off.

• {**Always on**} - The OPS will always be set to on.

Language

Select the language used in the OSD menu.

OSD Transparency

Adjust the transparency of the OSD menu.

Value: Off(0)-100, default Off.

Advanced option reset

Reset all settings except {**Date and Time**} in the **Advanced option** menu to factory preset values.

1. Press [OK] or [▶] button to enter the submenu.

2. Press [◀] or [▶] button to select {**Reset**} and press the [OK] button to restore settings to factory preset values.

3. Press the [⤶] button or select {**Cancel**} and press the [OK] button to cancel and then return to the previous menu.

APM

Power save setting.

• **Off (TCP off/WOL off)** - WOL not supported / wake up on TCP socket not supported.

• **Mode 1 (TCP off/WOL on)** - WOL supported / wake up on TCP socket not supported.

• **Mode 2 (TCP on/WOL off)** - WOL not supported / wake up on TCP socket supported

5.2.8. Input menu

Configuration 2	Video source	•	VGA
	Sub 1	•	VGA
	Sub 2	•	VGA
Advanced option	Sub 3	•	VGA
	Audio source	•	Audio 1
Input	PIP audio	•	Main
	Card OPS audio	•	Digital
	Input reset	•	Cancel
		•	
		•	

Video source

Select a video input source.

The options are: {Displayport} / {DVI-D} / {VGA} / {HDMI1} / {HDMI2} / {HDMI3} / {Component} / {USB} / {BROWSER} / {SmartCMS} / {Card OPS}.

Sub 1

Select the input signal for the sub Win1 picture.

The options are: {Displayport} / {DVI-D} / {VGA} / {HDMI1} / {HDMI2} / {HDMI3} / {Component} / {USB} / {BROWSER} / {SmartCMS} / {Card OPS}.

Sub 2

Select the input signal for the sub Win2 picture.

The options are: {Displayport} / {DVI-D} / {VGA} / {HDMI1} / {HDMI2} / {HDMI3} / {Component} / {USB} / {BROWSER} / {SmartCMS} / {Card OPS}.

Sub 3

Select the input signal for the sub Win3 picture.

The options are: {Displayport} / {DVI-D} / {VGA} / {HDMI1} / {HDMI2} / {HDMI3} / {Component} / {USB} / {BROWSER} / {SmartCMS} / {Card OPS}.

Audio source

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

The options are: {Analog} / {Displayport} / {Audio1} / {Audio2} / {Media}.

PIP audio

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

- {Main} - Select audio from the main picture
- {Sub 1} - Select audio from the sub1 picture.
- {Sub 2} - Select audio from the sub2 picture.
- {Sub 3} - Select audio from the sub3 picture.

Card OPS audio

Select the analog or digital audio mode for card OPS.

Input reset

Reset all settings in the **Input** menu to factory preset values.

6.   Supported Media Formats

USB Video Subtitle Formats (for language subtitles, etc.)

File Extensions	Container	Video codec	Maximum resolution	Max. Frame Rate (fps)	Max. Bit Rate (Mbps)	Audio codec
.mpg mpeg .vob	PS	MPEG-1	1920×1080	25p,30p,50i,60i	30	MPEG-1(L1&L2), MPEG-1,2,2.5 L3, AAC/HE-AAC(v1&v2), DVD-PCM
		MPEG-2	1920×1080	25p,30p,50i,60i	30	
		MPEG-4 ASP	1920×1080	25p,30p,50i,60i	30	
		H.264	1920×1080	25p,30p,50p,60p,60i	30	
.ts	TS	MPEG-2	1920×1080	25p,30p,50i,60i	30	MPEG-1(L1&L2), MPEG-1,2,2.5 L3, AAC/HE-AAC (v1&v2)
		MPEG-4 ASP	1920×1080	25p,30p,50i,60i	30	
		H.264	1920×1080	25p,30p,50p,60p,60i	30	
		MVC	1920×1080i@field rate=50, 60Hz 1920×1080p@frame rate=24, 25,30Hz 1280×720p@frame rate=50, 60Hz	-	30	
.ts .m2ts .mts .mt2	MaTS TTS	MPEG-2	1920×1080	25p,30p,50i,60i	30	MPEG-1(L1&L2), MPEG-1,2,2.5 L3, AAC/HE-AAC (v1&v2)
		MPEG-4 ASP	1920×1080	25p,30p,50i,60i	30	
		H.264	1920×1080	25p,30p,50p,60p,60i	30	
		MVC	1920×1080i @ field rate=50, 60Hz 1920×1080p @ frame rate=24, 25,30Hz 1280×720p @ frame rate=50, 60Hz	-	30	
.ts .m2ts .mts	AVCHD	MPEG-2	1920×1080	25p,30p,50i,60i	30	MPEG-1(L1&L2), MPEG-1,2,2.5 L3, AAC/HE-AAC (v1&v2)
		MPEG-4 ASP	1920×1080	25p,30p,50i,60i	30	
		H.264	1920×1080	25p,30p,50p,60p,60i	30	
.ts .m2ts .mts	AVCHD	MVC	1920×1080i@field rate=50, 60Hz 1920×1080p@frame rate=24, 25,30Hz 1280×720p @ frame rate=50, 60Hz	-	30	MPEG-1(L1&L2), MPEG-1,2,2.5 L3, AAC/HE-AAC (v1&v2)
.m4v	M4V	H.264	1920×1080	25p,30p,50p,60p,60i	30	AAC
.ism/Manifest .mpd	frag MP4	H.264	1920×1080	25p,30p,50p,60p,60i	30	AAC/HE-AAC(v1&v2), WMA, WMA-PRO
		MVC	1920×1080i@field rate=50, 60Hz 1920×1080p@frame rate=24, 25,30Hz 1280×720p @ frame rate=50, 60Hz	-	30	
.mp4	MP4	MPEG-4 ASP	1920×1080	25p,30p,50i,60i	30	AAC/HE-AAC(v1&v2), WMA, WMA-PRO
		H.264	1920×1080		30	
		MVC	1920×1080i@field rate=50, 60Hz 1920×1080p@frame rate=24, 25,30Hz 1280×720p @ frame rate=50, 60Hz	-	30	
		WMV9/VC1	1920×1080	30p,60i	30	
.mkv .mk3d	MKV	MPEG-4 ASP	1920×1080	25p,30p,50i,60i	30	MPEG-1(L1&L2), MPEG-1,2,2.5 L3, AAC/HE-AAC (v1&v2), WMA, WMA-PRO
		H.264	1920×1080		30	

USB Multimedia Formats

File Extensions	Container	Video codec	Maximum resolution	Frequency (kHz)	Max.Bit Rate (Mbps)	Audio codec
.mp3	MP3	-	-	48	384	MPEG-1,2,2.5 L3
.wma .asf	WMA (V2 up to V9.2)	-	-	48	192	WMA
.wma	WMA Pro	-	-	96	768	WMA,WMA Pro
.wav(PC)	LPCM	-	-	192	768	LPCM
.aif(mac) .aiff(mac)	LPCM	-	-	192	768	LPCM
.aac .mp4 .m4a	AAC	-	-	48	1024	AAC,HE-AAC(v1&v2)
.pls .m3u	Playlists	-	-	-	-	-
.m4a	M4A	-	-	48	1024	AAC,HE-AAC(v1&v2)

USB Photo file format type: JPEG, BMP, PNG, GIF

NOTES:

- Sound or video may not work if the contents have a standard bit rate/frame rate above the compatible Frame/sec listed in the table above.

- Video content with a Bit rate or Frame rate larger than the rate specified in the table above can cause choppy video during playback.

7. Input Mode

FHD Preset Mode (VGA/DVI timing support):

Item	Resolution	H.Freq. (KHz)	V.Freq. (Hz)	BW(MHz)
1	640x350	31.469	70.086	25.175
2	640x480	31.469	59.94	25.175
3	640x480	35	66.67	30.240
4	640x480	37.861	72.809	31.500
5	640x480	37.5	75	31.500
6	720x400	31.469	70.087	28.322
7	800x600	35.156	56.25	36.000
8	800x600	37.879	60.317	40.000
9	800x600	48.077	72.188	50.000
10	800x600	46.875	75.000	49.500
11	832x624	49.726	74.551	57.284
12	848x480	31	60.000	33.750
13	960x720	56.4	75.000	72.420
14	960x720	44.74	59.973	57.580
15	1024x768	48.363	60.004	65.000
16	1024x768	56.476	70.069	75.000
17	1024x768	60.023	75.029	78.750
18	1024x768	61.08	75.781	86.000
19	1024x768	35.5	43.000	44.900
20	1152x864	53.986	59.985	79.900
21	1152x864	53.783	59.959	81.750
22	1152x864	63.851	70.012	94.499
23	1152x864	67.5	75.000	108.000
24	1152x870	68.681	75.062	100.000
25	1152x900	61.846	66.004	94.500
26	1152x900	71.809	76.149	108.000
27	1280x720	44.772	60.000	74.500
28	1280x720	52.5	70.000	89.040
29	1280 x768	47.776	59.870	79.500
30	1280 x768	60.289	74.893	102.250
31	1280x800	49.7	59.810	83.500
32	1280x800	62.8	74.930	106.500
33	1280x960	60	60.000	108.000
34	1280x960	75.171	75.021	129.895
35	1280x1024	63.981	60.020	108.000
36	1280x1024	71.691	67.189	117.000
37	1280x1024	76.02	71.448	130.223
38	1280x1024	79.976	75.025	135.000
39	1280x1024	81.13	76.110	135.000
40	1360x768	47.712	60.015	85.500
41	1366x768	47.712	59.790	85.500
42	1440x900	55.469	59.901	88.750
43	1440x900	55.935	59.887	106.500
44	1440x900	70.635	74.984	136.750
45	1400x1050	64.744	59.948	101
46	1440x1050	65.3	60.000	121.750
47	1400x1050	82.278	74.867	156
48	1600x900	55.54	60.000	97.750
49	1600x1200	75	60	162
50	1680x1050	65.29	59.954	146.250
51	1680x1050	64.674	59.883	119.000
52	1920x1080	66.587	59.934	138.500
53	1920x1080	67.5	60.000	148.500
54	1920x1080	67.1584	59.963	173.000
55	1920x1080	67.08	60	172.798
56	1920x1200	74.038	59.950	154.000

UHD Preset Mode (DP/HDMI timing support):

Item	Resolution	H.Freq. (KHz)	V.Freq. (Hz)	BW(MHz)
1	3840x2160	53.946	23.900	296.703
2	3840x2160	54	24.000	297.000
3	3840x2160	56.25	25.000	297.000
4	3840x2160	67.432	29.900	296.703
5	3840x2160	67.5	30.000	297.000
6	4096x2160	54	24.000	297.000
7	3840x2160	135	60.000	594.000

Video timing support (HDMI/DVD HD/DVI):

480i, 480p, 576i, 576p, 720p, 1080i, 1080p, 4Kx2K (except DVI).

NOTES:

- The PC text quality is optimum in HD 1080 mode (1920 x 1080, 60Hz).
- Your PC display screen might appear different depending on the manufacturer (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.
- When the input source is Component or Video, the Information OSD will be displayed slowly than other input sources.
- No matter the resolution of Component source or Video source input, the result of Zoom mode setting is the same as 1080P resolution.

8. Pixel Defect Policy

We strive to deliver the highest quality products and use some of the industry's most advanced manufacturing processes whilst practicing 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 LCD screen. In order to qualify for repair under warranty, the number of pixel defects must exceed a certain level as shown 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.

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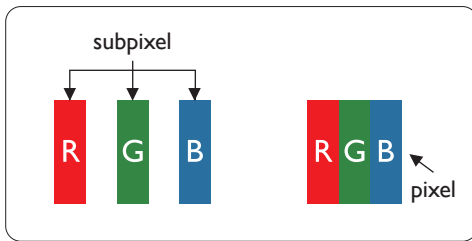
A pixel, or picture element, is composed of three sub-pixels in the primary colors of red, green and blue. Many pixels together form an image. When all sub-pixels of a pixel are lit, the three colored sub-pixels together appear as a single white pixel. When all are dark, the three colored sub-pixels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

8.2. 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.

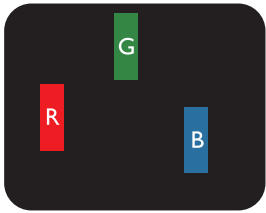**Dot definition = What is a defective "Dot"? :**
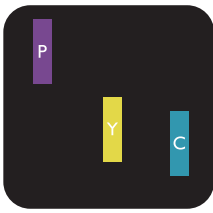
One or more defective, adjacent sub-pixel are defined as one "dot". The no. of defective sub-pixels are not relevant to define a defective dot. This means that a defective dot can consist of one, two or three defective sub-pixels which can be dark or lit.
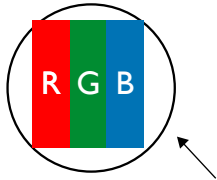
One dot = One Pixel; consists of three sub-pixels of Red, Green, and Blue.

8.3. 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 pixel)

8.4.　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:

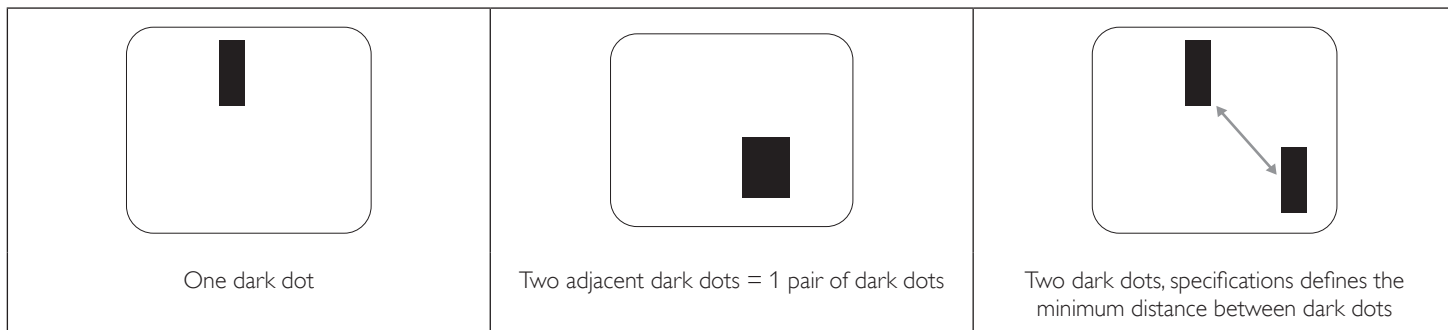|		
One dark dot	Two adjacent dark dots = 1 pair of dark dots	Two dark dots, specifications defines the minimum distance between dark dots

8.5.　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

8.6.　Pixel Defect Tolerances

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

BRIGHT DOT EFFECT	ACCEPTABLE LEVEL
1 lit sub pixel	2
BLACK DOT EFFECT	ACCEPTABLE LEVEL
1 dark sub pixel	10
TOTAL DOT DEFECTS OF ALL TYPES	12

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

8.7.　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

9. Cleaning and Troubleshooting

9.1. Cleaning

Caution When Using the Display

- Do not bring your hands, face or objects close to the ventilation holes of the display. The top of the 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 damage 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 cause fire or electric shock.
- 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.

9.2.   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 display is not switched on. 3. The selected input has no connection. 4. The display is in the standby mode.	1. Plug in the power cord. 2. Make sure that the power switch is switched on. 3. Connect a signal connection to the display.
Interference displayed on the display or an audible noise is heard	Caused by surrounding electrical appliances or fluorescent lights.	Move the display to another location to see if 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	1. The zoom mode is not set correctly. 2. Scan Mode may be set incorrectly to underscan. 3. If the image exceeds the screen size, Scan Mode may need to be set to Underscan.	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	Source signal cable is connected improperly.	Make sure that both video inputs and sound inputs are correctly connected.
Can see picture but no sound is heard	1. Source signal cable is connected improperly. 2. Volume is turned all the way down. 3. {Mute} is turned on. 4. No external speaker is connected.	1. Make sure that both video inputs and sound inputs are connected correctly. 2. Press [+] or [—] button to hear sound. 3. Switch MUTE off by using the [🔇] 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 are off.	This display is designed 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 display after the display is 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 display.

| How to setup the settings in the menu to control all the monitors at the same time and individually via RC? | Daisy chained by RS232 and no IR cable | 1. The first display sets as "Primary" on OSD (Advanced option/IR control item), others set as "Secondary".

2. The setup OSD will show on top left side of the display.(Toggle MENU will show again if it disappears)

3. Default setting: ID NO: 0, GP NO: 0, this setting can control all displays by IR.

  The "+", "-" can change "ID NO" to control signal display by "Monitor ID".

  The "UP", "DOWN" can change "GP NO" to control multi-display by "Group ID".

  *The first display is always controlled by IR. |
| How does the RC work? | Daisy chain: no connection of RS232 and IR cable | No setting is required. Connect with IR cables and control by IR.

*This may cause out-of-synchronizm phenomenon. It is suggested to use the above settings with RS-232 cable. |

10.   Technical Specifications

Display:

Item	Specifications
Screen Size (Active Area)	217.4 cm / 85.6 inches
Aspect Ratio	16:9
Number of pixels	3840 (H) x 2160 (V)
Pixel pitch	0.4935 (H) x 0.4935 (V) [mm]
Displayable colors	1.07 Billion colors
Brightness (typical)	410 cd/m^2
Contrast ratio (typical)	1200:1
Viewing angle	178 degrees

In/Out Terminals:

Item		Specifications
Speaker Output	Internal Speakers	10W (L) + 10W (R) [RMS]/8Ω
	External Speakers	82 dB/W/M/160 Hz ~ 13 KHz
SPDIF Output	SPDIF Port	Serial digital audio output when input is HDMI
Audio Output	3.5 mm Stereo x 1	0.5V [rms] (Normal) / 2 Channel (L+R)
Audio Input	RCA Jack x 2 3.5 mm Stereo x 1	0.5V [rms] (Normal) / 2 Channel (L+R)
RS232C	2.5mm Phone jack x 2	RS232C in/RS232C out
RJ-45	RJ-45 Jack x 1 (8 pin)	10/100 LAN Port
HDMI Input	HDMI Jack x 3 (Type A) (19 pin)	Digital RGB: TMDS (Video + Audio) MAX: Video - 720p, 1080p, 1920 x 1080/60 Hz (WUXGA), 4K/2K 30/60Hz 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)
Component Input	RCA Jack x 3	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
Video Input	RCA x 1 (Share with Component_Y)	Composite 1V [p-p] (75Ω)
Display port in/out	Display port Jack x 2 (20 pin)	Digital RGB: TMDS (Video + Audio) MAX: Video - 3840×2160@60Hz Audio - 48 KHz/ 2 Channel (L+R) Supports LPCM only
IR Input/Output	3.5 mm x 2	IR pass through or IR daisy chain
USB Input	USB x 1 (Type A)	USB 2.0, Multimedia play only

General:

Item	Specifications
Power Input	100 - 240V~, 50 - 60Hz, 7.5A
Power Output	100 - 240V~, 50 - 60Hz, 2.5A
Power Consumption (Max)	471 W
Power Consumption (typ.)	317 W
Power Consumption (Standby & Off)	<0.5 W
Dimensions (Without Stand) [W x H x D]	1957 x 1128 x 104.9 mm
Weight (Without Stand)	96.21 Kg
Gross Weight (Without Stand)	121.5 Kg (Include the weight of small pallet)
Energy Efficiency Class	B
Visible Screen Size	217.4 cm / 85.6 inches
On Mode Power Consumption (W)	317 W
Annual Energy Consumption (kWh)	463 kWh
Standby Power Consumption (W)	0.50 W
Off Mode Power Consumption (W)	0.50 W
Display Resolution (Pixels)	3840 x 2160
Network Standby (W)	5 W

Environmental Condition:

Item		Specifications
Temperature	Operational	0 ~ 40°C
	Storage	-20 ~ 60°C
Humidity	Operational	20 ~ 80% RH (No condensation)
	Storage	5 ~ 95% RH (No condensation)
Altitude	Operational	0 ~ 3,000 m
	Storage / Shipment	0 ~ 9,000 m