



**THE DISPLAY CHOICE  
OF PROFESSIONALS™**

[www.agneovo.com](http://www.agneovo.com)

**PM-48 LED-Backlit Display**  
**User Manual**

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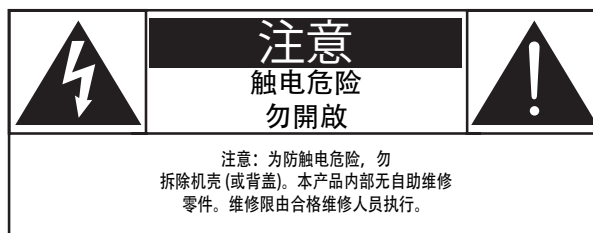
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# Safety Instructions

## Warnings and preventive measures

Please carefully read the meanings of those safety signs.



**Notes:** In order to avoid the risk of electric shock, do not remove the housing (or back cover). The product has no self-maintained components inside. The maintenance is implemented by qualified maintenance persons only.



This sign represents high voltage inside. Touching the internal components of the product in any form is dangerous.



This sign gives the prompt that the product is attached with important operation and maintenance matters.

**Notes:** In accordance with the regulations of the American FCC/ Canadian CAS laws, for users with any behaviors of modifying or changing the device without authorization, the right of the operating the product will be withdrawn.

**Notes:** In order to prevent electric shock, please completely insert the plug into the outlet along the width direction.

In order to prevent damages which may cause fire or electric shock, please keep the device away from rain or moisture.

The outlet should be installed at a position close to the device and be easily accessible.

**When connecting and using a public information display, please read and abide by the following instructions:**



- If the display is not used for a long time, please remove the plug.
- To wipe and clean the display using a piece of slightly wet cloth, please remove the plug first. The screen can be wiped only after the power is turned off, and alcohol, solvents or ammonia-contained liquid cannot be used.
- If the display still does not work after you have operated it according to the instructions, please consult the maintenance persons.
- The device can be opened only by qualified maintenance persons.
- Keep the display away from direct sunlight, fire and other heat sources.
- Remove any articles which may fall into the vent hole or hinder the heat dissipation of electronic devices of the display.
- Do not block the vent hole on the cabinet.
- Keep the display dry. In order to avoid electric shock, do not place the product in over-humid environment or expose the product in the rain.
- If you turn off the product by directly removing the power wire, please insert the power wire again after 6s to ensure correct operation.
- In order to avoid electric shock and prevent the product from being permanently damaged, do not place the product in over-humid environment or expose the product in the rain.
- During placement of the display, please ensure that the power plug and the outlet are both easily accessible.

**Important:** During operation, do enable the screen protection program. If the screen displays a static image with a high contrast for a long time, the screen image will generate 「residual image」 or 「ghost」. This common phenomenon is caused by the inherent defects of the LCD technology. In most cases, the residual image fades after the power is turned off for a period of time. Please note that the residual image phenomenon cannot be maintained and is also not within the maintenance scope.

# Safety Instructions

## Key safety instructions

1. Read the instructions
2. Carefully keep the instructions safe.
3. Pay attention to all warnings.
4. Abide by all the instructions.
5. Do not use the device near water.
6. Use dry cloth to clean the device.
7. Do not block any vent hole. Install the device according to the instructions provided by the manufacturer.
8. Do not install the device near any heat sources, for example, heat dissipater, heat regulator, fire furnace or other heat generating units (including amplifier).
9. Do not damage the safety function of the polar or ground type plug. A polar plug has two pins, a wide one and a narrow one. The ground type plug has two pins and a ground pin. The wide pin or the ground pin are used for the safety purpose. If the plug provided does not apply to your power outlet, please contact the electrician to exchange a proper plug.
10. Prevent the power wire from being stepped or squeezed, in particular at places such as the plug, the power outlet, the joint with the device, etc.
11. Connectors/accessories designated by the manufacturer should be used.
12. Only trolleys, racks, tripods, brackets or workbenches designated by the manufacturer or sold together with the device can be used. During the use of the trolley, you must be careful when pushing the trolley or the device, to prevent injuries caused by turnover of the device.
13. During heavy raining days with thunderstorms or if the device is not used for a long time, please unplug the power wire.
14. The maintenance should be entrusted to professional maintenance persons. The device should be maintained when damaged in any form, for example, the power wire or plug is damaged and wet, objects fall into the device, the device is caught in the rain or moistened, or the device malfunctions or falls on the ground by accident.



**Warning:** In order to reduce the risk of fire or electric shock, please keep the device away from rain or moisture.

**Warning:** Prevent water from splattering on the device, and do not place articles containing liquid (for example, vase) on the device.

**Warning:** The battery (the battery installed) should not be exposed in hot environment such as light illumination and fire.

**Warning:** The main power plug or the appliance coupler is used as a disconnecting device, and the disconnecting device should keep operable at any time.

**Warning:** In order to prevent fire, do keep candles or other open fire away from the product.



**Warning:** In order to prevent damage, the installation instructions must be attached, and the device must be safely fixed on the floor/wall.

**Notes:** Those maintenance instructions only apply to qualified maintenance persons. In order to reduce the risk of electric shock, any maintenance operations excluded in the operation instructions should be handled by the qualified persons.

**Notes:** If the earphone or receiver is configured with too much high acoustic pressure, the hearing may be damaged. When the equalizer is adjusted to the maximum level, the output voltage and acoustic pressure intensity of the earphone or the receiver will be increased. Therefore, in order to protect your hearing, please adjust the equalizer to a proper position.

For UL/CUL application: Only the UL certified wall mounting brackets with the minimum load capability can be used. W Kg

Model name	W (kg)
PM-48	11.52

For CB applications: Weight of the device without base: Wkg. The device and the associated components thereof keep safe during the testing (the wall-hanging components used can be seen in the table below).

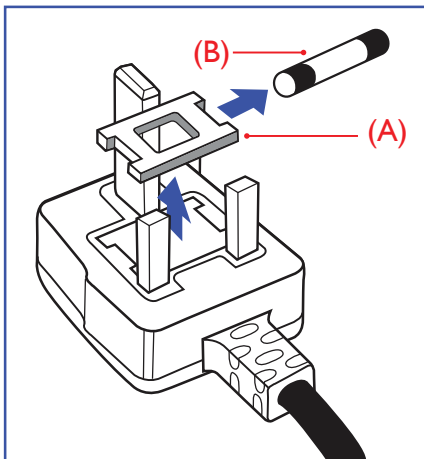
Model name	VESA Size (mm)	Fixing screw* (X=Thickness of the wall hanging plate)
PM-48	400x400, 200x200	M6x(10+X), X=thickness of wall mount plate

# Safety Instructions

## Electric field, magnetic field and electromagnetic field ("EMF")

1. Various consumptive products manufactured and sold by the company, like other electronic devices, generate and receive electromagnetic signals in general situations.
2. The most important enterprise principle of the company is to adopt various necessary health and safety measures during production of its products such that the products comply with all applicable regulatory requirements and applicable EMF standards.
3. We are dedicated to research, development, production and sales of products which do not affect the health.
4. In accordance with the existing scientific evidences, we believe that the products can be safely used if correctly used for the preset purposes.
5. We have actively participated in the formulation of the international EMF and safety standards to get a knowledge of the development of the future standards, and therefore incorporate the standards into the product requirements in advance.

## Information for English users only



### Warning: The device must be grounded.

Important notices:

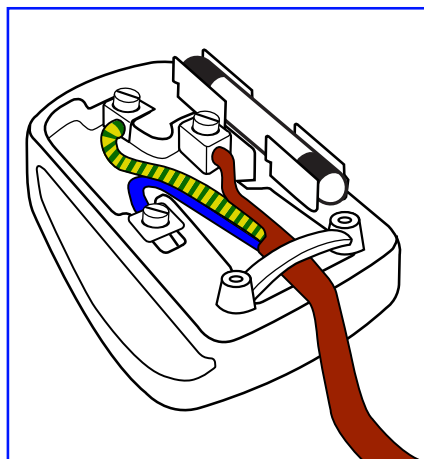
The device is configured with a certified 13A molded plug. To replace the fuse in such plug, please follow the steps below:

1. Take down the fuse cover and the fuse.
2. Install a new BS 1362 5A type fuse certified by A.S.T.A. or BSI.
3. Re-install the fuse cover.

If the plug does not match your outlet, please cut it, and install another proper 3-pin plug.

If the main plug contains the fuse, its rated value should be 5A. If the plug used has no fuse, the fuse on the power distribution board should not exceed 5A.

**⚠ Note:** The removed plug should be destroyed to prevent the risk of electric shock which may be caused by insertion of the removed plug into the 13A outlet at other places.



### How to connect the plug

The wire colors in the power wire head comply with the following regulations:

- Blue-Null wire (N)
- Brown-Live wire (L)
- Green yellow - Earth wire (E)

1. The green-yellow power wire must be connected with the wiring terminal marked with the Letter E, or marked with the earthing sign or in green color or green yellow color in the plug.
2. The blue wire must be connected with the wiring terminal marked with the letter N or in black color.
3. The blue brown must be connected with the wiring terminal marked with the letter L or in red color.

Before re-installing the plug cover, confirm that the wire clip has been firmly clamped on the protective sheath of the wire head, not merely clamped on the three wires.

# Legal Information

## China RoHS

中国电子信息产品污染控制标识要求 (中国RoHS法规标示要求) 产品中有害物质的名称及含量。

零部件名称		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)
塑料外框		O	O	O	O	O	O
后壳		O	O	O	O	O	O
LCD panel	CCFL	X	X	O	O	O	O
	LED	X	O	O	O	O	O
电路板组件*		X	O	O	O	O	O
底座		O	O	O	O	O	O
电源线		X	O	O	O	O	O
其他线材		X	O	O	O	O	O
遥控器		X	O	O	O	O	O
*：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。							
<p>本表格依据SJ/T 11364的规定编制。</p> <p>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 标准规定的限量要求以下。</p> <p>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 标准规定的限量要求。</p> <p>上表中打“X”的部件中，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，但是符合欧盟RoHS法规要求(属于豁免部分)。</p>							



### 环保使用期限

在产品本体上标示的该标志表示环境保护使用期限为 10 年。

电子信息产品的环境保护使用期限是指电子信息产品中所含的有害物质不会向外部泄漏或出现突然变异，并且电子信息产品的用户在使用该电子信息产品时也不会对环境造成严重污染或对人体、财产带来严重损害的期限。

在环境保护期限中，请按照使用说明书使用本产品。

本环境保护使用不覆盖易损件：电池。

### 《废弃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规定，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。



汉文	仅适用于非热带气候条件下安全使用。
蒙古文	《ᠳᠠᠨ ᠬᠠᠪ ᠶᠤᠩᠭᠦ ᠶᠣᠸᠡ ᠵᠢᠨᠱᠡᠢᠭᠡᠨ ᠮᠪᠤᠵᠡ ᠳᠠᠳᠢ ᠬᠠᠭᠠᠨᠲᠤ ᠬᠠᠨᠢᠴᠢᠷᠠᠨ ᠰᠠᠵᠢᠶᠢᠩᠭᠡ》
藏文	“ཆ་བའི་སྐུལ་གྱི་གནས་གཤིས་མིན་པའི་སྐུལ་ཁོན་ཉེན་མིང་བཟོད་བྱས་འཇུག།”
维文	غەيرى ئىسسىق بەلباغ ھاۋا كىلىماتى شارائىتىدىلا بىخەتەر، ئىشلەتكىلى بولىدۇ.
壮文	Dan hab yungh youq gij dienheiq diuzgen mbouj dwg diegndat haenx ancienz sawjyungh.



汉文	仅适用于海拔2000m以下地区安全使用。
蒙古文	《2000м-ий амьжиргаар ашиглахад зориулсан хэрэгсэл
藏文	“བྱ་མཚོའི་ངོ་མ་ལས་མགོ་ཚད་སྤྱི་2000མན་གྱི་སྤྱུ་སྒྲུབ་ཁྲིམ་ཞུག་མེད་ལེན་སྤྱད་བྱས་འཇུག།
维文	دېڭىز يۈزىدىن 2000 مېتر ئۈۋەن زايونلاردا بىخەتەر ئىشلەتكىلى بولىدۇ
壮文	Hai dou gaxqong, wngdang sien duenh denvasen bae.

汉文	“注意 如果电池更换不当会有爆炸危险 只能用同样类型或等效类型的电池来更换”
蒙古文	《Агаарын хүчилтөрөгчийн хэмжээг зохих хэмжээнд байлгах / Агаарын татваргүй байдалд байгаа үед / хүчилтөрөгчийг оруулах》
藏文	“གཤིན་སྐད་སྒྲིག་སྒྱུར་བ་མཛོལ་འཕྲོད་པ་དང་། གསལ་འབྱེད་བའི་ཉེན་ཁལ་དང་། རིགས་མཚན་མཇུག་ཅུ་མཚན་གྱི་སྒྲིག་སྒྱུར་བ་མཛོལ་འཕྲོད་པ་ཡིན་པ་ལྟོགས། ”
维文	دېققەت باتارىيىنى ئالماشتۇرۇش مۇۋاپىق بولمىسا پارتلاش خەۋپى بار ئوخشاش تىپلىق ياكى تەڭ ئۈنۈملۈك باتارىيىنى ئالماشتۇرۇڭ
壮文	“Louzsim Danghnaeuz denyouz vuenh ndaej mbouj habdangq aiq miz gij yungyiemj fatseng bauqcaq Cijndaej yungh gij denyouz doengzyiengh loihhingz roxnaeuz daengjiyauq loihi haenx vuenh”

汉文	“接入本设备的有线网络天线必须与保护接地隔离,不然可能会引起着火等危险!”
蒙古文	《ᠡᠭᠡᠨ ᠤᠯᠦᠰᠢᠨᠲᠣᠩᠭᠣᠨ ᠵᠢ ᠶ᠋ᠢᠨᠠᠳᠤᠨ ᠴᠠᠷᠠᠨᠪᠠᠭᠤᠨ ᠬᠡ ᠶ᠋ᠢᠨᠠᠳᠤᠨ ᠵᠢ ᠶ᠋ᠢᠨᠠᠳᠤᠨ ᠵᠢᠨᠠᠳᠤᠨ ᠴᠠᠷᠠᠨᠪᠠᠭᠤᠨ ᠵᠢ ᠶ᠋ᠢᠨᠠᠳᠤᠨ ᠵᠢ ᠶ᠋ᠢᠨᠠᠳᠤᠨ ᠵᠢ ᠶ᠋ᠢᠨᠠᠳᠤᠨ ᠵᠢ ᠶ᠋ᠢᠨᠠᠳᠤᠨ ᠵᠢ ᠶ᠋ᠢᠨᠠᠳᠤᠨ - - 》
藏文	“སྒྱུ་རྩེ་མཚན་པོ་དེ་གི་སྐད་ཡིད་འབྲིན་ཀྱི་ཁྱེད་གནས་སྐད་དང་འབྲེལ་མཐུན་ཟིན་སྐབས་དེས་ཕར་ཏུ་ ཉན་འགྲོགས་སྐད་དང་འགས་སྐད་གར་དགོས། དེ་ལྟར་མ་བྱས་ན་མི་འབར་བ་ལ་མིགས་པའི་ཉན་ཁ་ ཡིང་སྤྲ། ”
维文	بۇ ئۈسكۈنىگە ئۇلايدىغان سىملىق تور ئانتېننىسىنى يەرگە ئۇلاپ بىخەتەرلەشتۈرۈش بىلەن ئايرىۋېتىش، بولمىسا ئوت كېتىشەن خەۋپلەر كېلىپ چىقىدۇ
壮文	“Gij mizsiengq vangjloz denhsen ciephaeuj bonj sezbi daeuj haenx itdingh aeu caeuj gjij ciepdieg bauihoh doxliz. mbouine aiq miz gij vungviemi dawzfeiz daengqi!”



# Legal Information

## North Europe (Nordic Countries) Information

Placering/Ventilation

**WARNING:** 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 TILGÆENGELIGE.

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.

## Modes of disposal after the end of the life span

The public information display is made of recyclable and reusable materials. Professional companies can recycle this product to increase the total amount of the recyclable materials and minimize the total amount of the materials to be disposed.

Please consult the local dealers about the local regulations for disposal of the display.

## Waste electronic and electrical devices-WEEE

### Attentions for European private users



The label on the product or the packing represents that this product cannot be disposed together with household wastes in accordance with the EU Directive 2012/19/EU (aiming at used electronic and electrical devices). Users must dispose the product at the designated recycling points of waste electronic and electrical devices. To get a knowledge of the recycling points of waste electronic and electrical devices, please contact the local government or household waste disposal dealers or the sales stores of the product.

### Directive for termination of the life span - Recycle



The public information display contains many recyclable materials which can be used by others after being recycled.

Please carefully handle the product according to the local, state and federal laws.

### Statement on prevention of hazardous substances (India)

This product complies with the requirements of the Indian Regulations for Recycling and Disposal of Electronic Wastes, and is manufactured in principle of being forbidd from using the lead, mercury, hexavalent chromium, polybrominated biphenyl or polybrominated diphenyl ether with a concentration of over 0.1wt% and cadmium with a concentration of over 0.01wt%. The exempted items formulated in the time table of the Regulation are excluded.

# Legal Information

## Electronic wastes statement applicable to India



If you see this sign on the product or the packing, this means that this product cannot be disposed together with other household wastes. You should be responsible for sending the waste devices to be disposed to the designated recycling points to recycle the waste appliances and electronic devices. Separate collection and recycling of your wastes devices helps protect natural resources and ensure that the waste device recycling modes can help maintain human health and environmental safety. If you need more information about delivery of the waste devices to the recycling points in India, please visit the following website.

# Chapter 1: Unpacking and Installation

## 1.1. Unpacking

- This product is packed in a packaging box which contains standard accessories.
- Other optional components are individually packed.
- Considering the size and weight of the display, it is recommended that this product is carried out by two persons.
- After opening the packaging box, please ensure that the interior is intact.

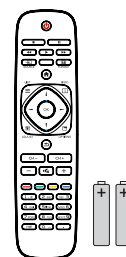
## 1.2. Package Contents

When unpacking, check if the following items are included in the package:

- LCD display
- Remote control and AAA batteries
- Power cord (1.8m)
- VGA cable (1.8m)
- RS232 cable (1.8m)
- RS232 daisy chain cable (1.8m)
- User Manual



\* Power cord included differ by regions.



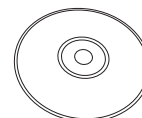
Remote control and AAA batteries



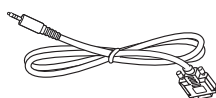
Power cable



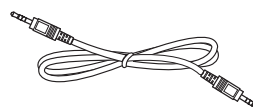
Video signal cable  
(D-SUB - D-SUB wire)



User Manual



RS232 cable



RS232 daisy chain cable

### ⚠ 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.
- You can keep the packaging box and the packing materials for shipping the display in future.

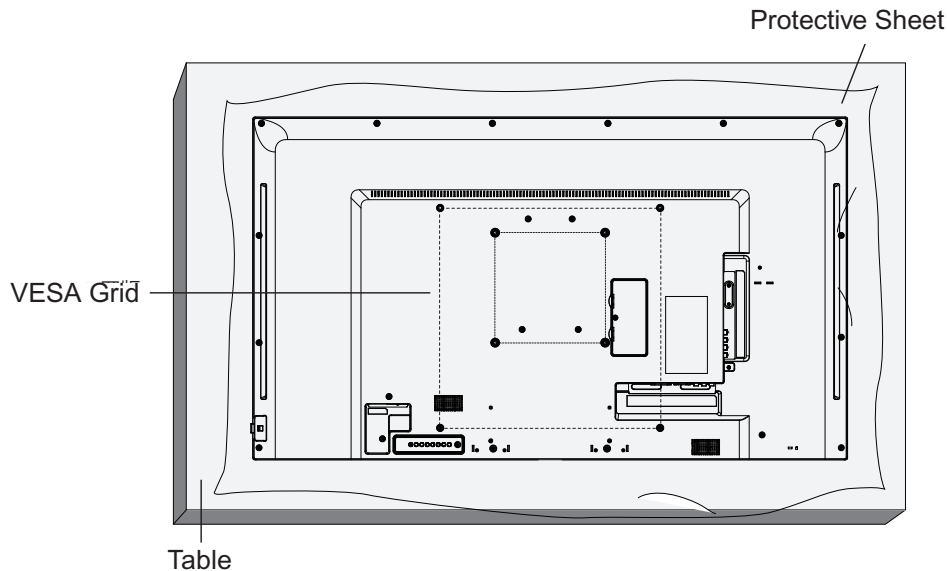
## 1.3. Preparing for the Installation

- Due to the high power consumption, always use the plug exclusively designed for this product. If an extended line is required, please consult your service agent.
- The product should be installed on a flat surface to avoid tipping. The distance between the back of the product and the wall should be maintained for proper ventilation. Avoid installing the product in the kitchen, bathroom or any other places with high humidity so as not to shorten the service life of the electronic components.
- The product can normally operate only under 3000m in altitude. In installations at altitudes above 3000m, some abnormalities may be experienced.

# Unpacking and Installation

## 1.4. Wall Mounting Installation

To mount this display to a wall, you will have to obtain a standard wall-mounting kit (commercially available). We recommend using a mounting interface that complies with TUV-GS and/or UL1678 standard in North America.



1. Lay a protective sheet on a table, which was wrapped around the display when it was packaged, beneath the screen surface so as not to scratch the screen face.
2. Ensure you have all accessories for mounting this display (wall mount, ceiling mount, table stand, etc).
3. Follow the instructions that come with the base mounting kit. Failure to follow correct mounting procedures could result in damage to the equipment or injury to the user or installer. Product warranty does not cover damage caused by improper installation.
4. Use M6 mounting screws to secure the wall-mounting kit.
5. The weight of the device without the base is 11.52kg, so only UL certified wall-mounting installation kit with a minimum bearing capability which is greater than 11.52kg can be used. Make sure to perform proper installation accordingly to the instructions to ensure safety.

### 1.4.1. VESA Grid

VESA Grid
200(W) x 200(H)mm / 400(W) x 400(H)mm

#### ⚠ Caution:

Measures for preventing the display from falling:

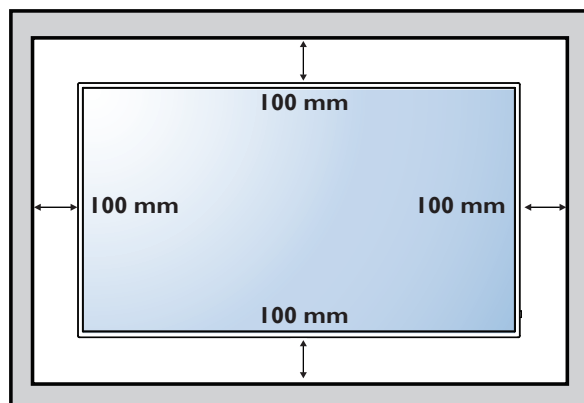
To prevent the display from falling:

- For wall or ceiling installation, we recommend installing the display with metal brackets which are commercially available. For detailed installation instructions, refer to the guide received with the respective bracket.
- To lessen the probability of injury and damage resulting from fall of the display in case of earthquake or other natural disaster, be sure to consult the bracket manufacturer for installation location.

# Unpacking and Installation

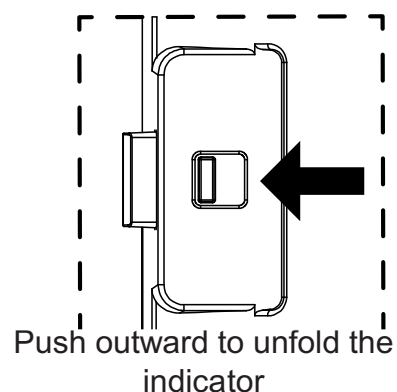
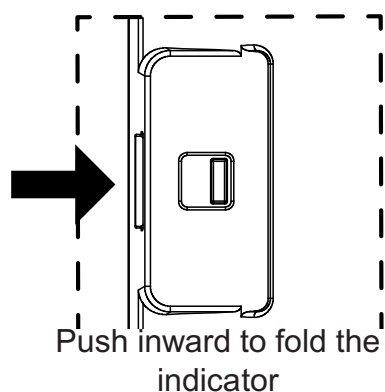
## Ventilation Requirements for Enclosure Locating

To allow heat to disperse, leave space between surrounding objects as shown in the diagram below.



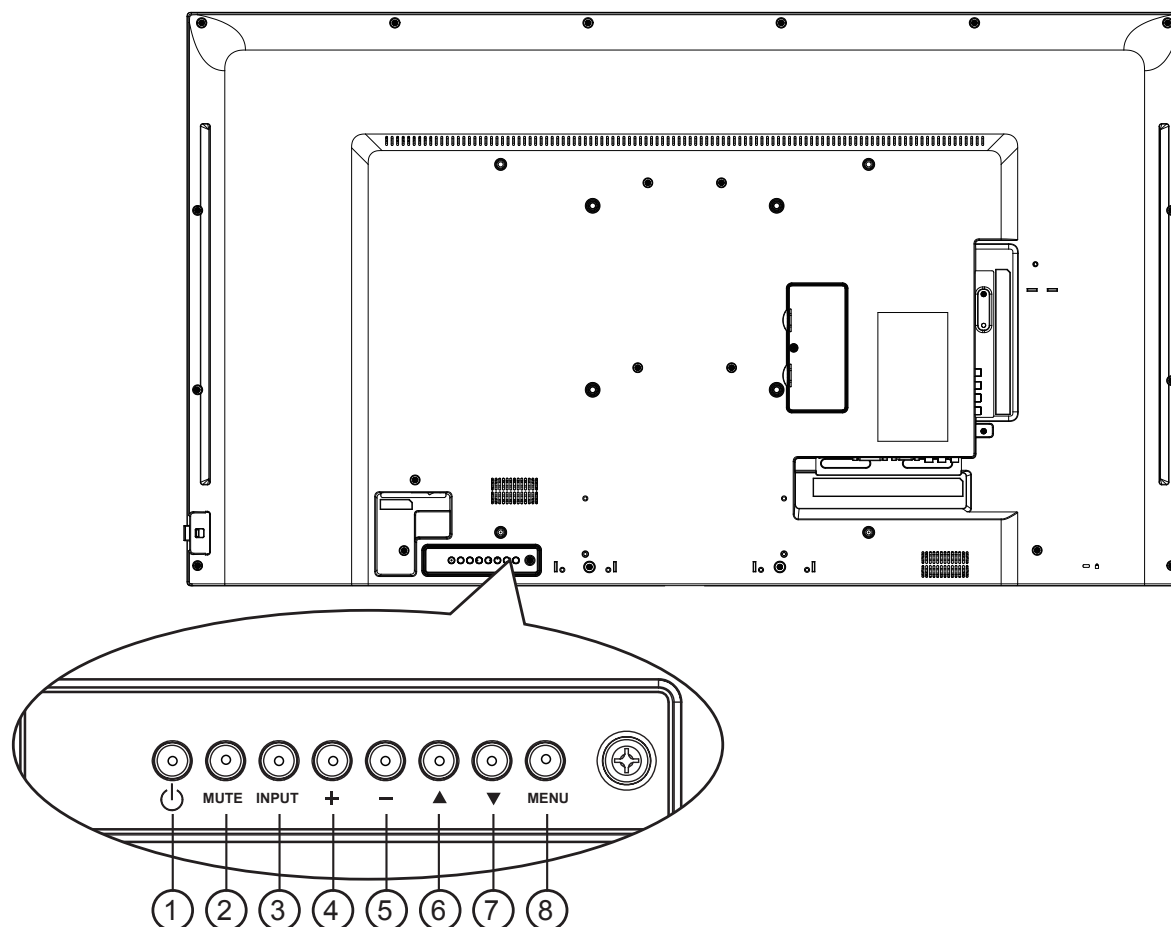
## 1.5. Using the Remote Sensor and Power Status Indicator

1. If you want to obtain a better reception of remote control function, please adjust the indicator location to easily check the power status indicator.
2. If the display is mounting on the wall, please push the indicator inward before installation.
3. When adjusting the indicator location, make sure to push/pull the indicator firmly until it clicks into place.



# Chapter 2: Parts and Functions

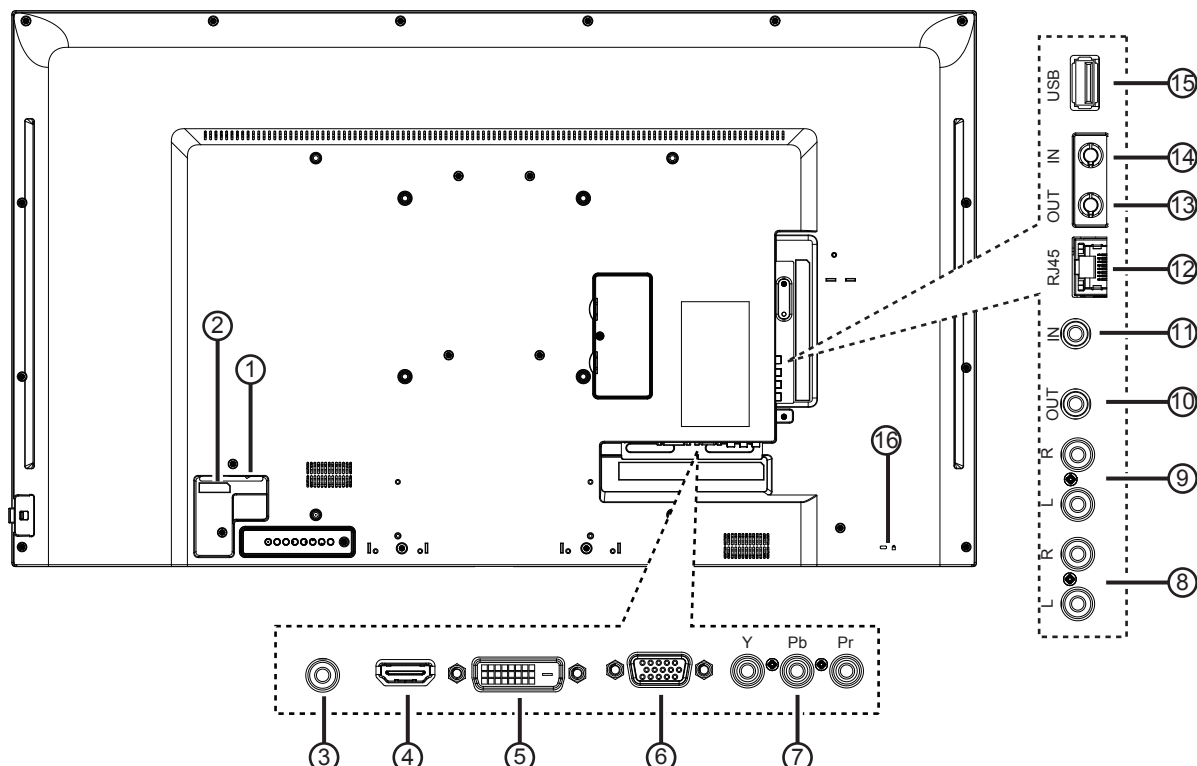
## 2.1. Control panel



- ① **[Power] button**  
Turn the display on or put the display to standby.
- ② **[Mute] button**  
Enable/disables the mute function.
- ③ **[Enter] button**  
Selects the input source.  
Used as the [OK] button while OSD menu is on.
- ④ **[+] button**  
When the OSD menu is enabled, press this button to increase the adjustment; when the OSD menu is disabled, press this button to increase the volume level.
- ⑤ **[-] button**  
When the OSD menu is enabled, press this button to decrease the adjustment; when the OSD menu is disabled, press this button to decrease the volume level.
- ⑥ **[▲] button**  
When the OSD menu is enabled, press this button to move the highlight bar up to select an option.
- ⑦ **[▼] button**  
When the OSD menu is enabled, press this button to move the highlight bar down to select an option.
- ⑧ **[Menu] button**  
When the OSD is enabled, press this button to return the previous menu; and when the OSD menu is disabled, press this button to activate the OSD menu.

# Parts and Functions

## 2.2. Input/Output Terminals



- ① **Main power button**  
Switch the main power on/off.
- ② **AC input**  
AC power input from the wall outlet.
- ③ **PC line input**  
Audio input of the VGA input source (3.5mm stereo phone).
- ④ **HDMI input**  
HDMI video/audio input.
- ⑤ **DVI-D input**  
DVI-D video input.
- ⑥ **VGA input (D-Sub)**  
VGA video input.
- ⑦ **Y/CVBS**  
Video source input
- ⑧ **Audio input**  
Audio input (RCA) from an external AV device.
- ⑨ **Audio output**  
Press the button to output audio files into an external AV device.
- ⑩ **IR OUT** / ⑪ **IR IN**  
IR signal input / output for the loop-through function.

### ▲ Notes:

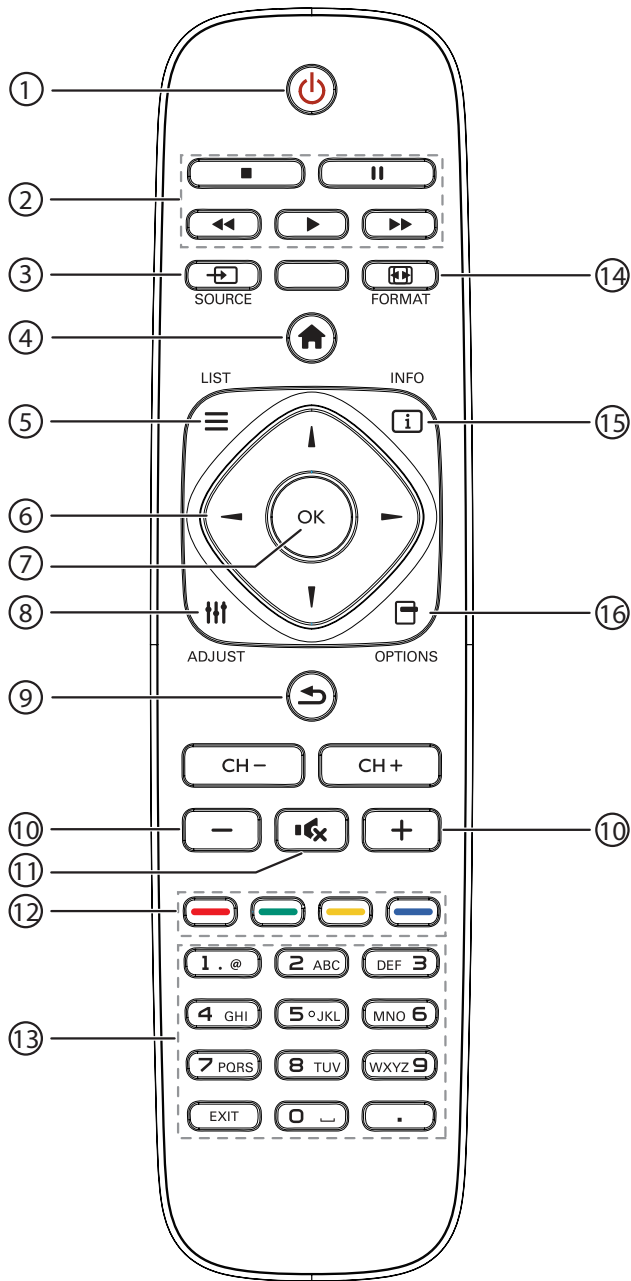
- This display's remote control sensor will stop working if the [IR IN] jack is connected.
  - To remotely control your A/V device via this display, refer to page 19 for IR Pass-Through connection.
- ⑫ **RJ-45**  
LAN control function for the use of remote control signal from the control center.
  - ⑬ **RS232 OUT** / ⑭ **RS232 IN**  
RS232C network output / input for the loop-through function.
  - ⑮ **USB port**  
Connect your USB storage device.
  - ⑯ **Security Lock**  
Used for security and theft prevention.



# Parts and Functions

## 2.3 Remote Control

### 2.3.1 General Functions



#### ① [Power] Power button

Turn the display on or to put the display into standby mode.

#### ② [Play] button

Control playback in multimedia mode.

#### ③ [Source] Input source button

Press the button to select the input source. Press the [Left] or [Right] button to select **USB**, **network**, **HDMI**, **DVI**, **YPbPr**, **AV** or **VGA**. Press the [OK] button to confirm the selection or exit.

#### ④ [Home] Homepage button

Press the button to access the OSD menu.

#### ⑤ [List] list button

No function.

#### ⑥ [Left] [Right] [Up] [Down] Aviation button

Press the button to navigate through menus and choose items.

#### ⑦ [OK] button

Press the button to confirm an entry or selection.

#### ⑧ [Adjust] Adjustment button

Press the button to access currently available options, picture, and sound menus.

#### ⑨ [Return] Return button

Press the button to return to the previous menu or exit from the previous function.

#### ⑩ [Volume -] [Volume +] Volume button

Press the button to adjust the volume level.

#### ⑪ [Mute] Mute button

Press the press to enable or disable the mute function.

#### ⑫ [Red] [Green] [Yellow] [Blue] Color button

Press the button to select a task or an option.

#### ⑬ [Number] button

Press the button to enter text for the network setting.

#### ⑭ [Format] Format button

Press the button to change the image format.

#### ⑮ [Info] Information button

Press the button to view the information about the display.

#### ⑯ [Option] Option button

Press the button to access currently available options, picture, and sound menus.

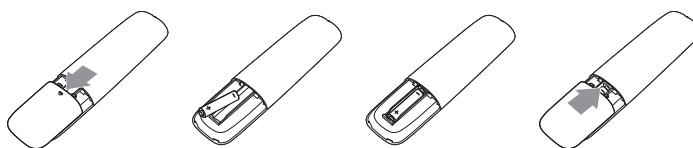
# Parts and Functions

## 2.3.2 Inserting the Batteries in the Remote Control

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

To install or replace batteries:

1. Press and then slide the cover to open it.
2. Align the batteries according to the (+) and (-) indications inside the battery compartment.
3. Replace the cover.



### Caution:

Incorrect use of the batteries will result in leak or explosion. Be sure to follow these instructions:

- Place “AAA” batteries matching the (+) and (–) signs on each battery to the (+) and (–) signs of the battery compartment.
- Do not mix battery types.
- Do not combine new batteries with used ones. It causes shorter life or leakage of batteries.
- Remove the dead batteries immediately to prevent them from liquid leaking in the battery compartment. Don't touch exposed battery acid, as it can damage your skin.

**▲ Note:** If you do not intend to use the remote control for a long period, remove the batteries.

## 2.3.3 Handling the Remote Control

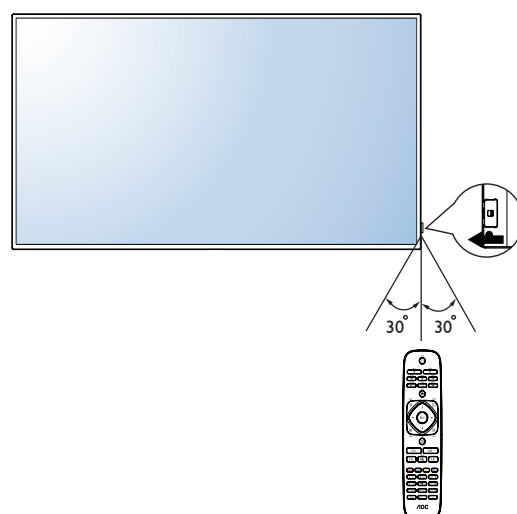
- Do not subject to strong shock.
- Do not allow water or other liquid to splash the remote control. If the remote control gets wet, wipe it dry immediately.
- Avoid exposure to heat and steam.
- DOther than to install the batteries, do not open the remote control.

## 2.3.4 Operating Range of the Remote Control

When pressing the buttons of the remote control, please point the front end of the remote control toward the remote control sensor on the display.

When using the remote control, the distance from the remote control to the sensor on the display should be less than 5m/16 inches, and the horizontal and vertical angles should be less than 30°.

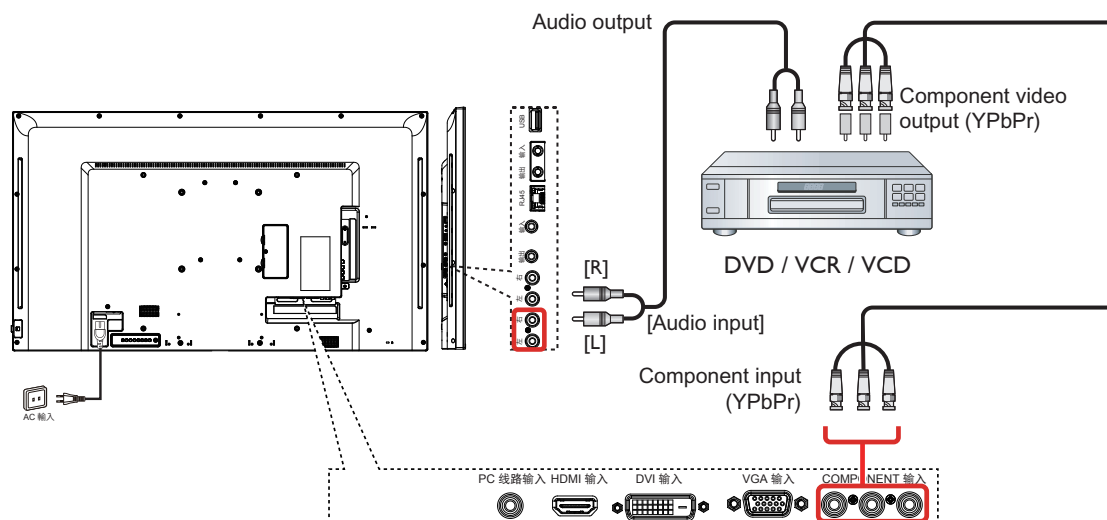
**▲ Note:** The remote control may not function properly when the remote control sensor on this display is under direct sunlight or strong illumination, or when there is an obstacle in the path of signal transmission.



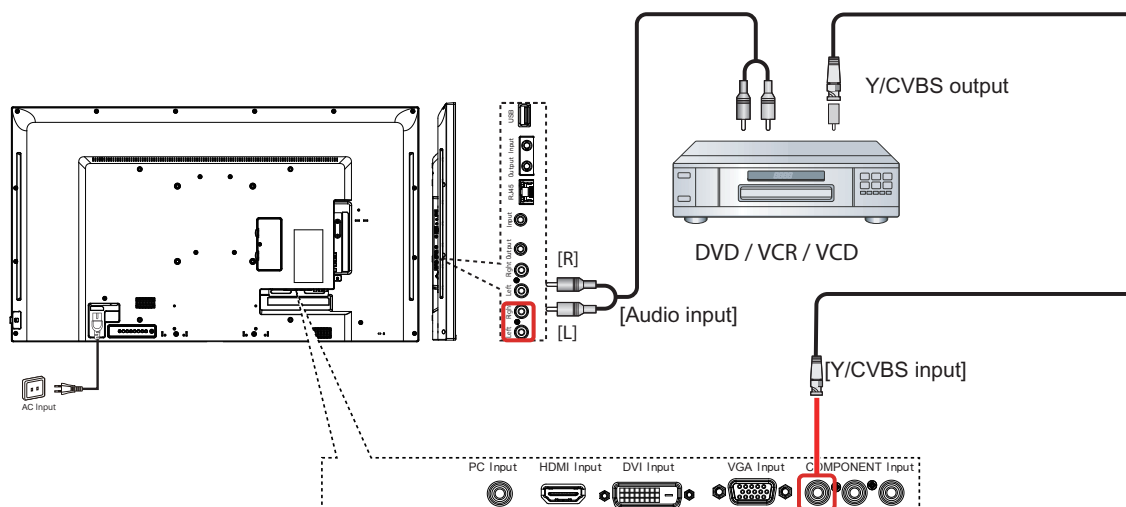
# Chapter 3: Connecting External Devices

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

### 3.1.1 Using COMPONENT Video Input

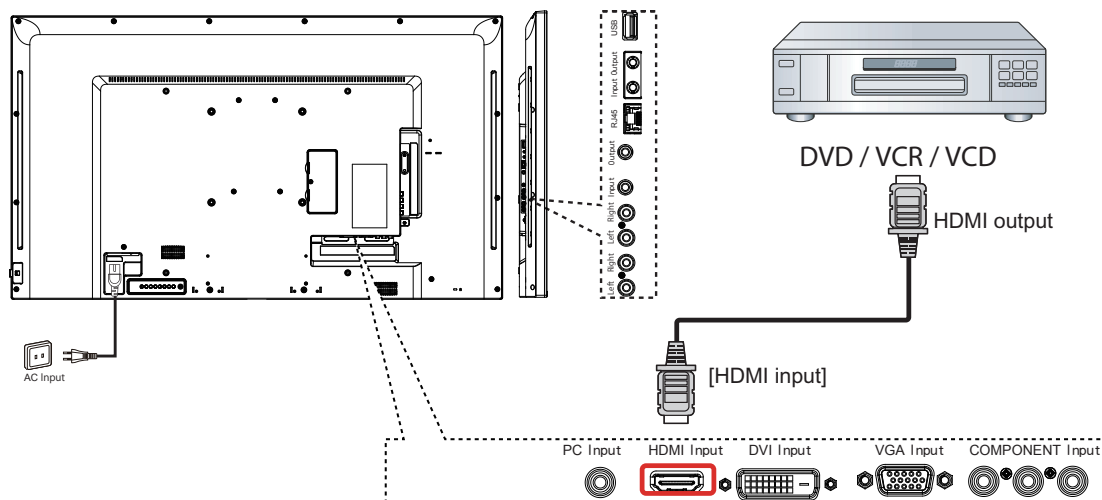


### 3.1.2 Using Video Source Input



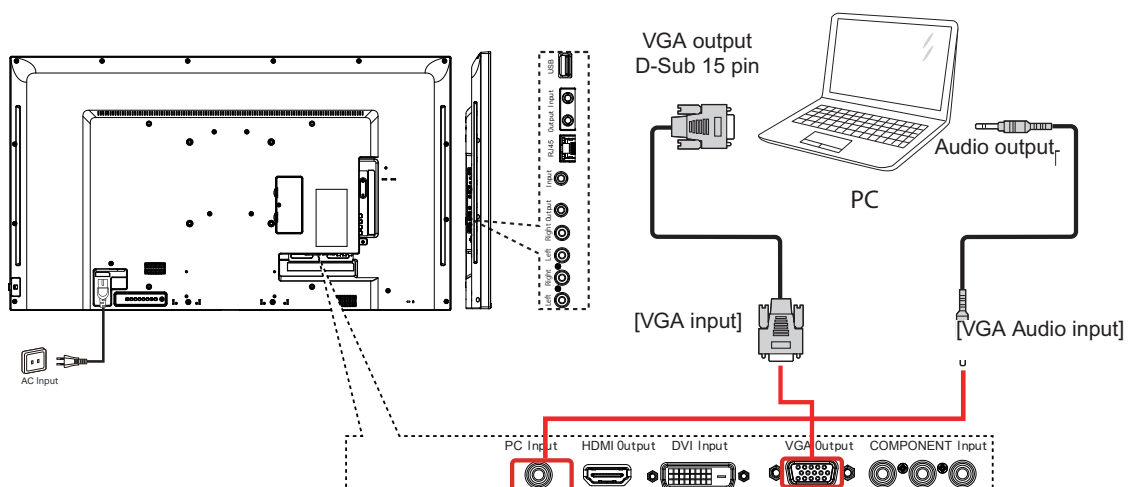
# Connecting External Devices

## 3.1.3 Using HDMI Video Input



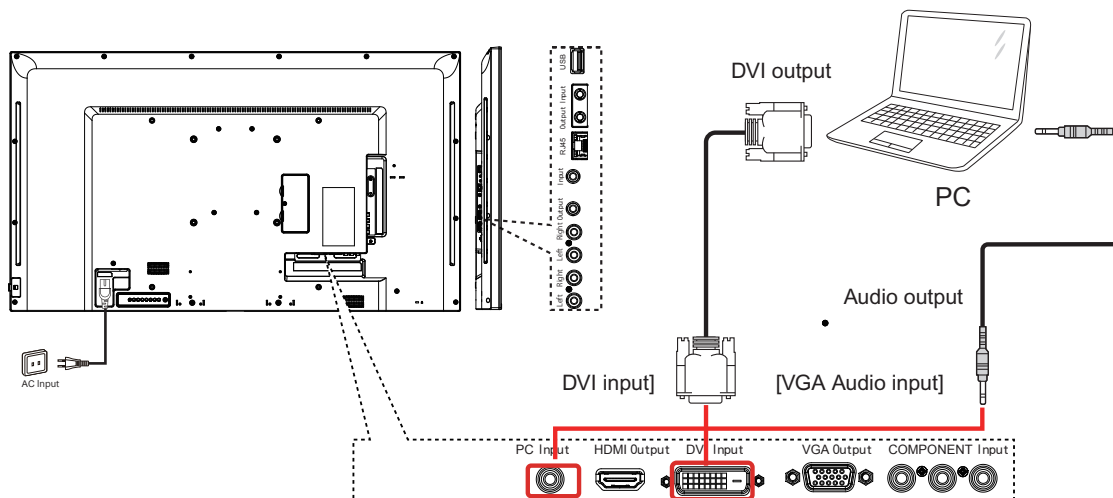
## 3.2 Connecting a Computer

### 3.2.1 Using VGA Input

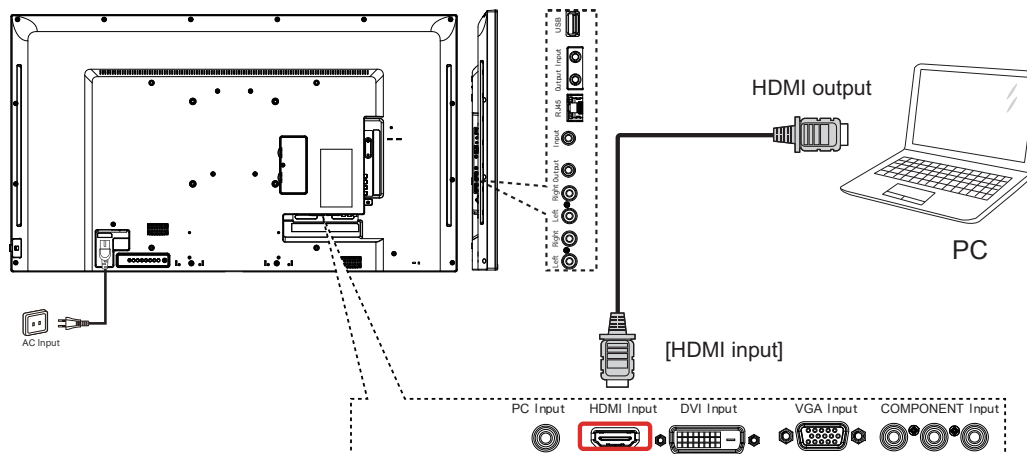


# Connecting External Devices

## 3.2.2 Using DVI Input



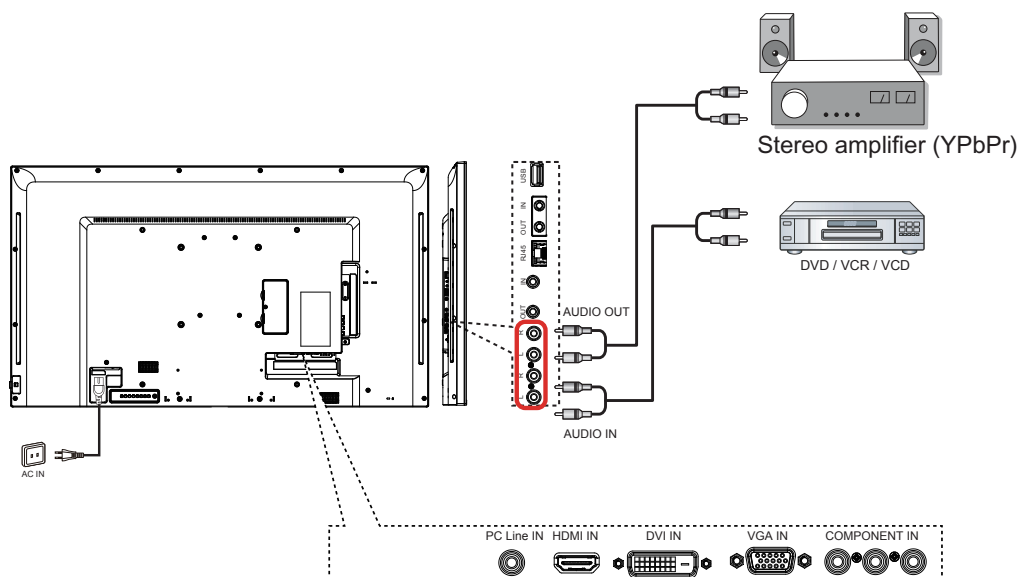
## 3.2.3 Using HDMI Input



# Connecting External Devices

## 3.3 Connecting Audio Equipment

### 3.3.1 Connecting External Audio Devices

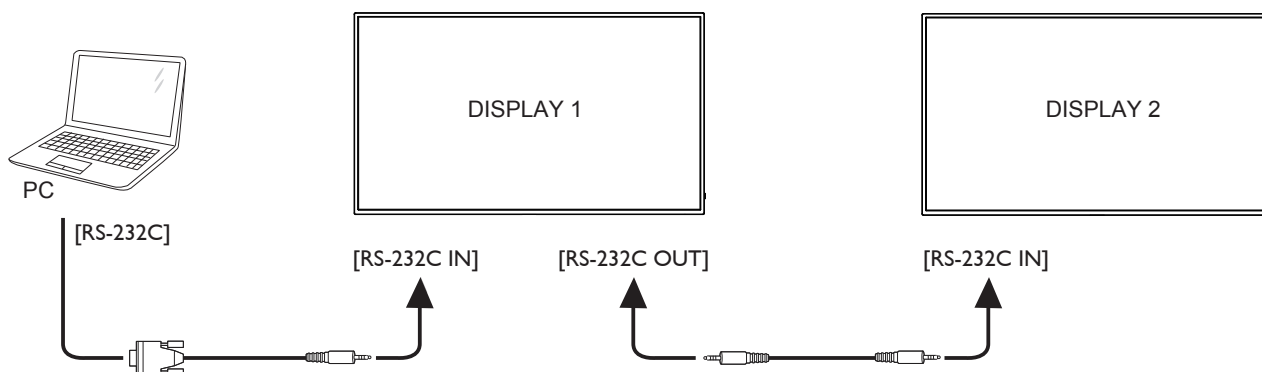


## 3.4 Connect Multiple Displays in a Daisy-chain Configuration

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

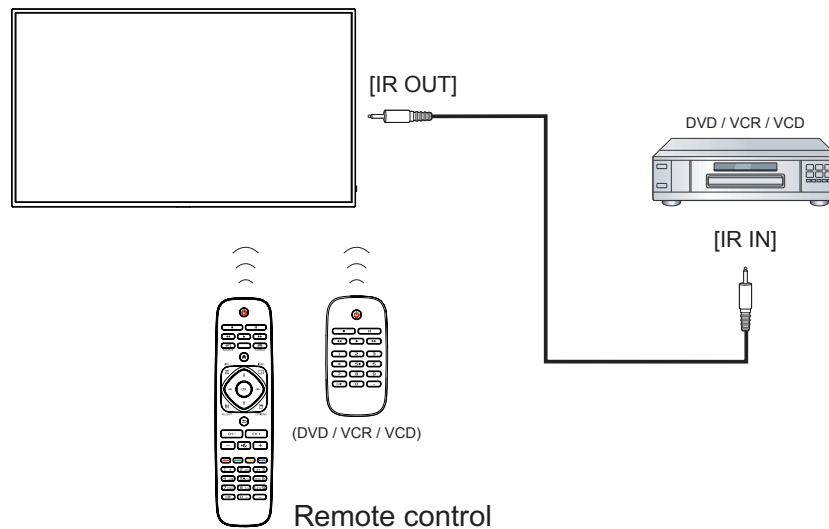
### 3.4.1 Display Control Connection

Connect the RS232C OUT connector of DISPLAY 1 to the RS232C IN connector of DISPLAY 2.



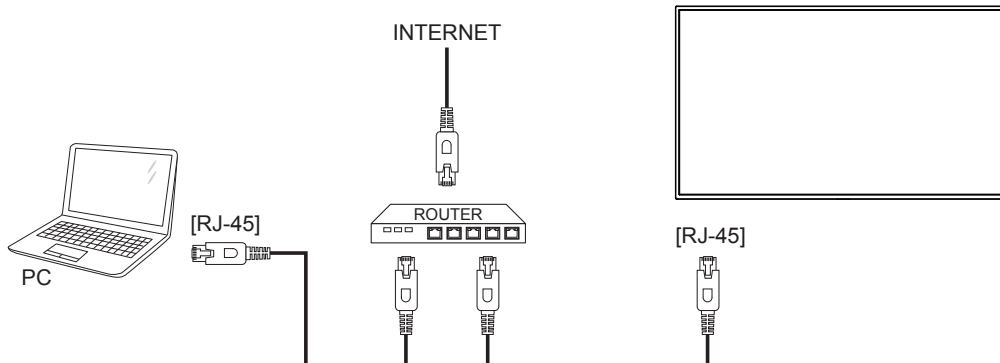
# Connecting External Devices

## 3.5 IR Pass-Through Connection





## 3.6 Connecting to Wired Network

If you connect this display to a home network, you can play photos, music, and videos from the computer. Please see *Playing Multimedia Files via Local Area Network* (page 20) for details.



### To set up the network:

1. Switch on the router and switch on its DHCP setting.
2. Connect the router to the display with an Ethernet cable.
3. Press the [  ] homepage button on the remote control, and select **Settings**.
4. Select **Connect to the network**, and then press the [  ] button.
5. Follow the on-screen instructions to configure the network settings.
6. Wait until the display detects the network connection.
7. When prompted, click "End User Permission Protocol" to complete the network setup.

**▲ Note:** To comply to the EMC directive, a shielding type CAT-5 Ethernet cable should be used.






# Chapter 4: Operation

▲ **Note:** Unless particularly specified, the control buttons introduced in this section mainly refer to the buttons on the remote control.

## 4.1 Change the image format

You can change the image format according to the video source. The input sources have respective available image formats.

The available image formats is depending on the input source.

1. Press the  **FORMAT** button.
2. Press the  or  button to select an image format, and then press the **OK** .
  - **{Auto zoom}**: Enlarge the picture to fill the screen. Recommended for minimal screen distortion but not for HD or PC.
  - **{Movie expand 16:9}**: Adjust the 4:3 format into the 16:9 format. Application to HD or PC is not recommended.
  - **{Wide screen}**: Show wide screen format content unstretched. Not recommended for HD or PC.
  - **{Unscaled}**: Provide maximum detail for PC. Only available when PC mode is selected in the Picture menu.
  - **{4:3}**: Display the classic 4:3 format.
  - **{Music}**: Suitable for playing music.
  - **{Game}**: Suitable for games.
  - **{News}**: Suitable for vocal speeches, for example news.

## 4.2 Playing Multimedia Files

You can play videos, photos, and music of the following input sources connected to the display:

- Computers connected via the network.
- USB devices connected to the display.

### 4.2.1 Playing Multimedia Files via Local Area Network

To play files via Local Area Network, you will need:

- A wired home network, connected with a Universal Plug and Play (uPnP) router.
- Optional: A LAN cable that connects your display to your home network.
- A media server running on your computer.
- Appropriate settings on your computer firewall to allow you to run the media server.

#### Set Up the Network

1. Connect your display and the computer to the same home network.
2. Power on your computer and router.

▲ **Note:** If the display fails to return to the DLNA mode due to the external electrical interference (e.g. electrostatic discharge), the user needs to manually return the display to the DLNA mode.


#### Set Up Media Sharing

1. Install a media server on your computer to share media files. These are some media servers:
  - For PC: Windows Media Player 11 (or higher) or TVersity
  - For Mac: Twonky


# Operation

2. Switch on media sharing on your computer using the media server. For more information on how to set up the media server, please visit the website of the media server.

## Play files

1. Press the  **SOURCE** button.
2. Select [Browse network], and then press the **OK** button.
3. Select a file from the content browser, and press the **OK** button to play the file.
4. Press the play button on the remote control to control the play ack.

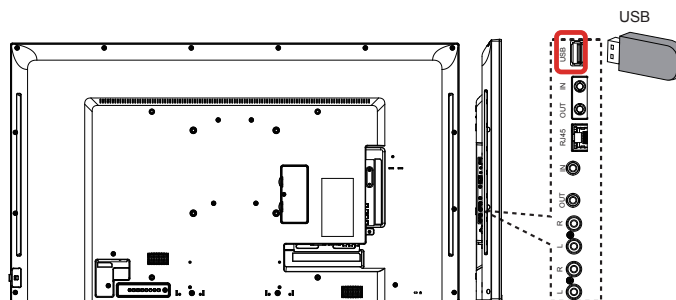
### Tip:





- Choose the top bar to filter your files by type.
- Select [**Sort**] to arrange the files according to album names, artists or other fields.
- To clear the list of offline media servers, press the  **OPTIONS** button, then select [**Clear offline servers**] and press the **OK** button.

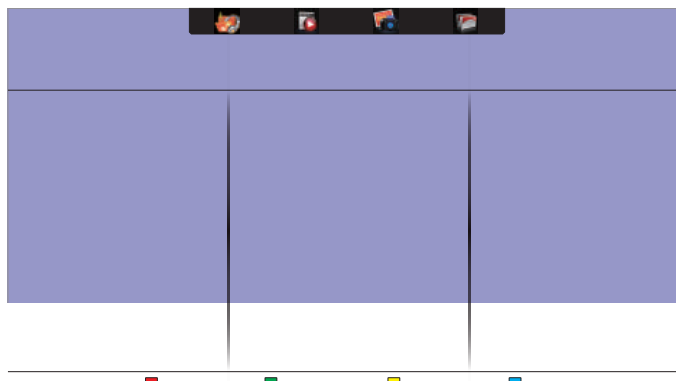
## 4.2.2 Playing Multimedia Files from the USB Device









Music, movies, or photo files from the USB device can be played on the display.

1. Connect the USB device to the USB port of the display.



2. Press the  **SOURCE** button, select the USB, and then press the **OK** button.
3. The connected USB device is detected automatically for all its playable files, which will be automatically sorted into 3 types: **Music**  , **Movie**  and **Photo**  .



4. Press the  return button, and then the screen returns to the homepage. Press the   button to select the file type. Press the **OK** button to enter its play list.
5. Select the desired file. Press the **OK** button to start playing.
6. Follow the on-screen instructions to control the play option.
7. Press the play button (  ,  ,  ,  ,  ) to control the media playback.

# Operation

## Supported file systems:

- FAT32

## Supported file formats:

- Music: MP3, WMA, M4A, AAC, AC3
- Movies: AVI, MP4, MOV, MPG/MPEG
- Photos: JPEG, BMP, GIF


## Caution:

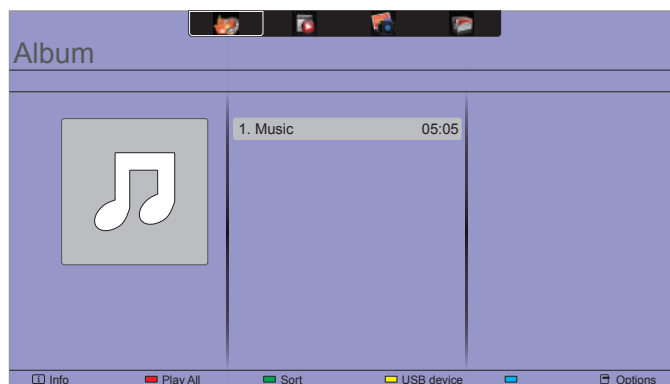
- The manufacturer is not responsible for unsupported USB devices or data damage or losses in the device.
- Never overload the USB port. To connect to the USB device with consumption power of over 500mA, ensure that the device has been connected with its own external power supply.

**▲Note:** Play multimedia file from the USB device and turn off the display. When the display is powered on next time, it sets the input source as the last connected input source, for example, CVBS, YPbPr, VGA, HDMI and DVI-D.

## 4.3 Play Options

### 4.3.1 Playing Music Files

1. Select **Music**  in the top bar.
2. Select one music track, and press the **OK** button.



- To play all tracks in a folder, please select a music file and tick [All].
- To skip to the previous or next track, please press the **CH+** or **VOL-** button.
- To pause, please press the **OK** button. Press the **OK** button again to resume playback.
- To skip backward or forward 10 seconds, please press the **◀** or **▶** button.
- To search backward or forward, please press the **◀◀** or **▶▶** button. Pressing repeatedly to toggle between different speeds.
- To stop playing, please press the **■** button.

## Music options

To play music, press the  **OPTIONS** button, and then press the **OK** button to select an option:


- **{Repeat}**: Select **{Repeat}** to repeat a track or an album, or select **{Play Once}** to play a track once.
- **{Media Server}**: To play content from the media server, you can select another media server.

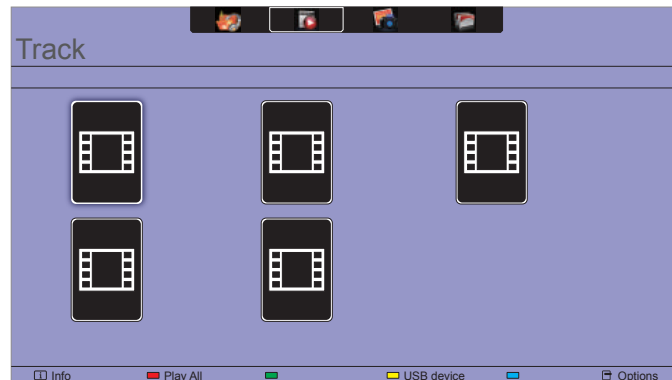
# Operation

- {**Shuffle On**} / {**Shuffle Off**}: Enable or disable random play of tracks.

⚠ To check the details of a song (for example, title, artist or duration), please select the song, and then press the **i** **INFO** button. To hide the details, please press the **i** **INFO** button again.

## 4.3.2 Playing Movie Files

1. Select **Movie**  in the top bar.
2. Select a video and press the **OK** button.



- To play all videos in a folder, please select a video file and tick [All].
- To skip to the previous or next video, please press the **CH+** or **VOL-** button.
- To pause, please press the **OK** button. Press the **OK** button again to resume playback.
- To skip backward or forward 10 seconds, please press the **◀** or **▶** button.
- To search backward or forward, please press the **◀◀** or **▶▶** button. Pressing repeatedly to toggle between different speeds.
- To stop video, please press the **■** button.

## Movie options


To play videos, press the **Options**  button, and then press the **OK** button to select an option:

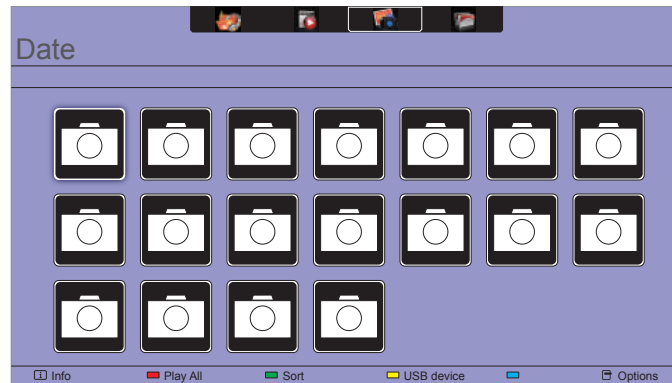
- {**Subtitles**}: Select available subtitle settings.
- {**Subtitle language**}: Select the subtitle language (if available).
- {**Character set**}: Select a correct character set for the subtitle.
- {**Audio language**}: Select an audio language.
- {**Repeat**}: Select {Repeat} to repeat a video file, or select {Play once} to play a video file once.
- {**Media Server**}: To play content from the media server, you can select another media server.
- {**Shuffle On**} / {**Shuffle Off**}: Enable or disable random play of video files.

⚠ **Note:** To check the details of a video (for example, play position, duration, title or date), please select the video, and then press the **i** **INFO** button. To hide the details, please press the **i** **INFO** button again.

# Operation

## 4.3.3 Playing Photo Files

1. Select **Photo**  in the top bar.
2. Select a photo thumbnail, and then press the **OK** button.



### Start a Slideshow

If there are multiple photos in a folder, please select one photo and press **{Play All}**.

- To skip to the previous or next photo, please press the **◀** or **▶** button, and then press the **OK** button.
- To stop the slideshow, please press the **■** button.

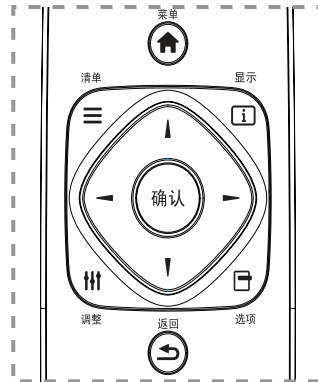
### Slideshow options

While you play a slideshow, press the **☰ OPTIONS** button, and then press the **OK** button to select an option.

- **{Shuffle On}** / **{Shuffle Off}**: Enable or disable random display of pictures in the slideshow.
- **{Repeat}**: Select **{Repeat}** to watch a slideshow repeatedly or select **{Play Once}** to watch once.
- **{Slideshow Time}**: Select the displaying time for each photo in the slideshow.
- **{Slideshow Transitions}**: Select the transition from one photo to the next.
- **{Media Server}**: To play content from the media server, you can select another media server.

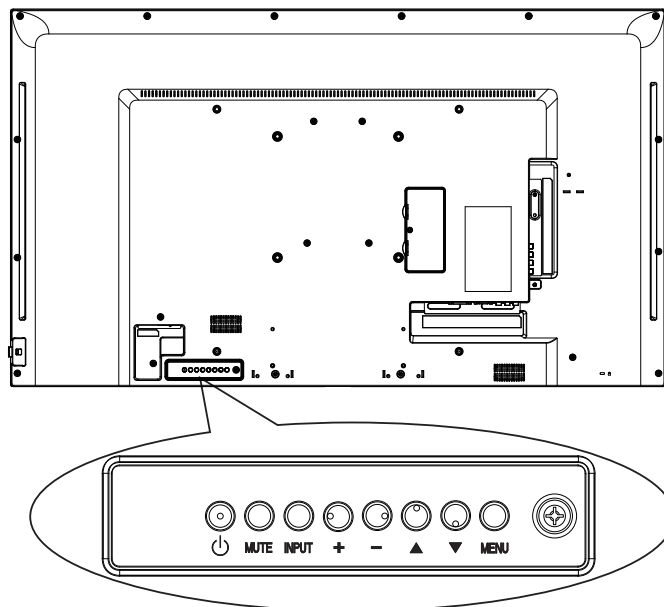
# Chapter 5: Configuring the Settings

## Using the Remote Control:



1. Press the **HOME** button, and then the OSD menu appears.
2. Press the **▲**, **▼**, **◀** or **▶** button to select the menu item or adjust its value. Press the **OK** button to confirm a selection.
3. Press the **BACK** button to return to the previous menu.
4. Press the **EXIT** button to exit from the OSD menu.

## Using the Control Button of the Display:

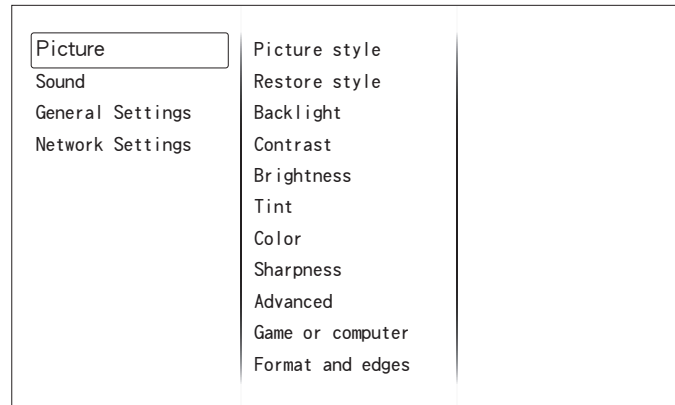


1. Press the **MENU** button, and then the OSD menu appears.
2. Press the **▲**, **▼**, **+** or **-** button to select the menu item or adjust its value.
3. Press the **INPUT** button to confirm the menu selection and enter its submenu.
4. Press the **MENU** button to exit from the OSD menu.

# Configuring the Settings

## 5.1 Settings

### 5.1.1 Picture Menu



#### **Picture style**

Choose a predefined picture setting.

#### **Restore style**

Restore the last-selected predefined picture setting.

#### **Backlight**

Adjust the brightness of this display's backlight.

#### **Contrast**

Adjust the video contrast.

#### **Brightness**

Adjust the screen brightness.

#### **Tint**

Adjust the color tint.

#### **Color**

Adjusts the saturation color of the screen.

#### **Sharpness**

Adjust the clarity and focus of the screen image.

#### **Advanced**

Access advanced settings such as gamma and tone settings as well as video contrast settings.

- {Noise reduction}: Adjust the noise reduction to help remove noise from images. This helps produce clearer and crisper images.
- {Gamma}: Adjust the non-linear setting for picture luminance and contrast.
- {Color temperature}: Change the colour balance.
- {Custom color temperature}: Customise colour balance setting.
- {Advanced sharpness}: Enable superior sharpness, especially on lines and contours in the picture.
- {Dynamic contrast}: Dynamically enhance the details in the dark, medium and light areas of the picture.
- {Dynamic backlight}: Adjust a backlight brightness to optimize the dynamic power consumption and screen contrast.
- {Color enhancement}: Dynamically enhance the vividness and details of colours.



# Configuring the Settings

## Game or computer

When viewing content from a connected game console, choose {Game} to apply game settings.

When a computer is connected through HDMI, choose {Computer}.

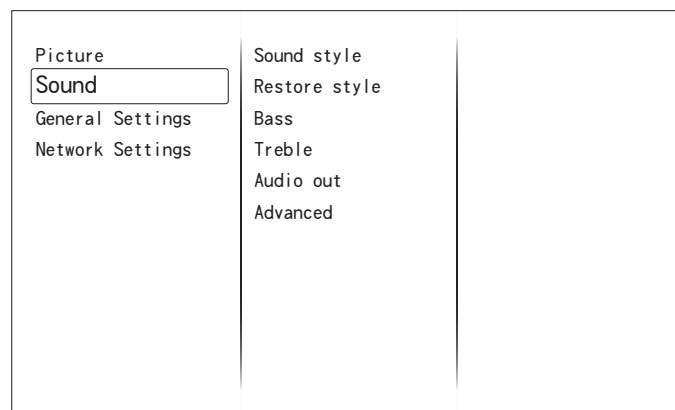
Make sure that {Format and edges} → {Picture format} → and {Unscaled} is selected so as to view maximum detail.

## Format and edges

Senior access settings for controlling the display format of the picture.

- {Picture format}: Change the picture format.
- {Screen edge}: Change the picture size.
- {Picture movement}: if available, used to move the picture.

## 5.1.2 Sound Menu



### Sound style

Select the sound style for the audio content.

### Restore style

Restore the last-selected predefined sound setting.

### Bass

Adjusts to increase or decrease lower-pitched sounds.

### Treble

Adjust to increase or decrease higher-pitched sounds.

### Audio out

Adjust audio output volume.

### Advanced

Access advanced settings for strengthening the audio experience.

- {Auto volume leveling}: Enable the reduction of sudden volume changes.
- {Speaker settings}: Turn on or off the internal speakers.
- {Clear sound}: Enhance sound quality.

# Configuring the Settings

## 5.1.3 General Settings

Picture	Menu language	
Sound	Monitor ID	
General Settings	ECO mode	
Network Settings	Auto search	
	Clock	
	Schedule	
	Sleep timer	
	Auto shutdown	
	ANTI-BURN-IN	
	Control settings	
	Startup logo	
	Factory settings	

### Menu language

Choose language used for OSD menus.

### Monitor ID

Adjust the ID number for controlling the display via the RS232C connection. Each display must have a unique ID number when multiple sets of this display are connected.

### ECO mode

Set the display to reduce the power consumption automatically.

### Auto search

Choose to let this display detect and display available signal sources automatically.

### Clock

Adjust the clock settings.

### Schedule

This function allows you to program up to 3 different scheduled time intervals for this display to activate.

You can set:

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

### ⚠ Note:

- We recommend you to set up current date and time in the {Clock} menu before using this function.
- After changing the {Clock} option in the {General settings}, you need to set the {Schedule} again.

### Sleep timer

Switch off this display after a specified time.

### Auto shutdown

Set the countdown timer interval to let the display to automatically power off when no signal is detected. Press any key on the remote control to disable this function.

### ANTI-BURN-IN

For video input sources, you may choose {On} to move the screen image automatically to protect the display from “burn-in” or “after-image” symptoms 30 seconds after not operating the display.

# Configuring the Settings

## Control settings

- {Local KB lock}: Choose to enable or disable the keyboard (control panel buttons) function of the display.
  - {Unlock}: Enable the keyboard function.
  - {Lock all}: Lock all keyboard function.
  - {Lock but volume}: Disable all the keyboard function except the **VOL+** and **VOL-** buttons.
  - {Lock but power}: Disable all the keyboard function except the **POWER** button.
- {RC lock}: Choose to enable or disable the button function of the remote control.
  - {Unlock}: Enable the button function of the remote control.
  - {Lock all}: Lock all button functions of the remote control.
  - {Lock but volume}: Disable all the button functions except the the **— + VOLUME** button.
  - {Lock but power}: Disable all the button functions of the remote control except the **POWER** button.

**▲ Note:** To disable the lock-up function in the [Local KB lock] or [RC lock] item, please press the **⬆** button and buttons 1 9 9 8 on the remote control.

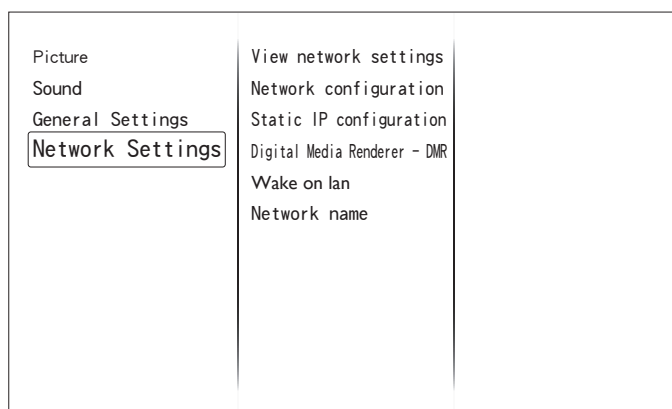
## Startup logo

If you select {Off}, the display does not display the AV Neovo logo after being turned on.

## Factory settings

Reset all your customized settings to the factory defaults.

## 5.2 Network Settings



### View network settings

View connected network status.

### Network configuration

Choose how the LCD display should assign addresses to the network resources.

### Static IP configuration

Configure the network parameters, such as IP address, netmask, gateway, DNS 1, and DNS 2.

### Digital Media Renderer - DMR

Enable this function to allow the display to receive multimedia files from the connected device from the network.

### Wake on lan

Enable this feature to allow the display to be switched on over the network.

### Network name

In the multiple-display connection, you can rename each display for easy identification.

# Chapter 6: USB Device Compatibility

## 6.1 USB Device Compatibility

### USB Video Subtitle Formats (for language subtitle, etc.)

Filename extensions	Container	Video codec	Maximum resolution	Maximum frame rate (fps)	Maximum bit rate (Mbps)	Audio codec
.mpg mpeg .vob	PS	MPEG-1	1920x1080	25p,30p,50i,60i	30	MPEG-1(L1&L2), MPEG-1,2,2.5 L3, AAC/HE- AAC(v1&v2), DVD-PCM,AC3
		MPEG-2	1920x1080	25p,30p,50i,60i	30	
		MPEG-4 ASP	1920x1080	25p,30p,50i,60i	30	
		H.264	1920x1080	p,30p,50p,60p,60i	30	
.ts	TS	MPEG-2	1920x1080	25p,30p,50i,60i	30	MPEG-1(L1&L2), MPEG-1,2,2.5 L3, AAC/HE-AAC (v1&v2), AC3,E-AC3, Dolby Pulse
		MPEG-4 ASP	1920x1080	25p,30p,50i,60i	30	
		H.264	1920x1080	25p,30p,50p,60p,60i	30	
		MVC	1,920x1,080i, field rate=50, 60Hz 1,920x1,080p, frame rate=24, 25,30Hz 1,280x720p, frame rate=50, 60Hz	-	30	
.ts .m2ts .mts .mt2	MaTS TTS	MPEG-2	1920x1080	25p,30p,50i,60i	30	MPEG-1(L1&L2), MPEG-1,2,2.5 L3, AAC/HE-AAC (v1&v2), AC3,E-AC3, Dolby Pulse
		MPEG-4 ASP	1920x1080	25p,30p,50i,60i	30	
		H.264	1920x1080	25p,30p,50p,60p,60i	30	
		MVC	1,920x1,080i @ field rate=50, 60Hz 1,920x1,080p@frame rate=24, 25,30Hz 1,280x720p @ frame rate=50, 60Hz	-	30	
.ts .m2ts .mts	AVCHD	MPEG-2	1920x1080	25p,30p,50i,60i	30	MPEG-1(L1&L2), MPEG-1,2,2.5 L3, AAC/HE- AAC(v1&v2), AC3,E-AC3, Dolby Pulse
		MPEG-4 ASP	1920x1080	25p,30p,50i,60i	30	
		H.264	1920x1080	25p,30p,50p,60p,60i	30	
.ts .m2ts .mts	AVCHD	MVC	1,920x1,080i, field rate=50, 60Hz 1,920x1,080p, frame rate=24, 25,30Hz 1,280x720p @ frame rate=50, 60Hz	-	30	MPEG-1(L1&L2), MPEG-1,2,2.5 L3, AAC/HE- AAC(v1&v2), AC3,E-AC3, Dolby Pulse
.m4v	M4V	H.264	1920x1080	25p,30p,50p,60p,60i	30	AAC

# USB Device Compatibility

Filename extensions	Container	Video codec	Maximum resolution	Maximum frame rate (fps)	Maximum bit rate (Mbps)	Audio codec
.ism/ Manifest .mpd	frag MP4	H.264	1920x1080	25p,30p,50p,60p,60i	30	AAC/HE-AAC (v1&v2), AC3,E-AC3,WMA, WMA-PRO
		MVC	1,920x1,080i, field rate=50, 60Hz 1,920x1,080p, frame rate=24, 25,30Hz 1,280x720p @ frame rate=50, 60Hz	-	30	
.mp4	MP4	MPEG-4 ASP	1920x1080	25p,30p,50i,60i	30	AAC/HE-AAC (v1&v2), AC3,E-AC3,WMA, WMA-PRO
		H.264	1920x1080		30	
		MVC	1,920x1,080i, field rate=50, 60Hz 1,920x1,080p, frame rate=24, 25,30Hz 1,280x720p @ frame rate=50, 60Hz	-	30	
		WMV9/VC1	1920x1080	30p,60i	30	
.mkv .mk3d	MKV	MPEG-4 ASP	1920x1080	25p,30p,50i,60i	30	MPEG-1(L1&L2), MPEG-1,2,2.5 L3, AAC/HE-AAC (v1&v2), AC3,E-AC3, WMA, WMA-PRO
		H.264	1920x1080		30	

## USB Multimedia Formats

Filename extensions	Container	Video codec	Maximum resolution	Frequency (kHz)	Maximum bit rate (Mbps)	Audio codec
.mp3	MP3	-	-	48	384	MPEG-1,2,2.5 L3
.wma .asf	WMA (V2 max 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	Play list	-	-	-	-	-
.m4a	M4A	-	-	48	1024	AAC,HE-AAC(v1&v2)

# USB Device Compatibility

## USB Photo Formats

Filename extension	Container	Video codec	Maximum resolution	Frequency	Maximum bit rate	Audio codec
jpg/jpeg	JPEG		Base line: Color mode = 444, Size <=32768x16128 Color mode = 422v, Size <= 16384x16128 Color mode = Others, not supported	-	-	-
bmp	BMP		4096x3072_4bit, 2730x2500_8bit, 2048x1536_16bit, 1500x1200_32bit	-	-	-
png	PNG		4096x3072_4bit, 2730x2500_8bit, 2048x1536_16bit, 1500x1200_32bit	-	-	-
gif	GIF		4096x3072_4bit, 2730x2500_8bit, 2048x1536_16bit, 1500x1200_32bit	-	-	-

### ▲ 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.

# Chapter 7: Input Mode

## VGA Resolution:

Standard Resolution	Active Resolution		Refresh Rate	Pixel Rate	Aspect Ratio	Stand for Mode
	Horizontal pixels	Vertical lines				
VGA	640	480	60Hz	25.175 MHz	4:3	Video graphic array
			72 Hz	31.5 MHz		
			75 Hz	31.5 MHz		
WVGA	720	400	70 Hz	33.75 MHz	16:9	Wide video graphic array
SVGA	800	600	60Hz	40 MHz	4:3	Super VGA
			75 Hz	49.5 MHz		
XGA	1024	768	60Hz	65 MHz	4:3	Expanded graphic array
			75 Hz	78.75 MHz		
WXGA	1280	768	60Hz	79.5 MHz	5:3	Wide XGA
WXGA	1280	800	60Hz	79.5 MHz	16:10	Wide XGA
SXGA	1280	960	60Hz	108 MHz	4:3	Super XGA
SXGA	1280	1024	60Hz	108 MHz	5:4	Super XGA
WXGA	1360	768	60Hz	85.5 MHz	16:9	Wide XGA
WXGA	1366	768	60Hz	85.5 MHz	16:9	Wide XGA
UXGA	1600	1200	60Hz	162 MHz	4:3	Super XGA
HD1080	1920	1080	60Hz	148.5 MHz	16:9	HD1080

## SDTV Resolution:

Standard Resolution	Active Resolution		Refresh Rate	Pixel Rate	Aspect Ratio	Stand for Mode
	Horizontal pixels	Vertical lines				
480i	720	480	29.97 Hz	13.5 MHz	4:3	Modified NTSC standard
480p			59.94 Hz	27 MHz		
576i	720	576	25 Hz	13.5 MHz	4:3	Modified PAL standard
576p			50 Hz	27 MHz		

## HDTV Resolution:

Standard Resolution	Active Resolution		Refresh Rate	Pixel Rate	Aspect Ratio	Stand for Mode
	Horizontal pixels	Vertical lines				
720p	1280	720	50 Hz	74.25 MHz	16:9	Normally DVB mode
			60Hz			
1080i	1920	1080	25 Hz	74.25 MHz	16:9	Normally ATSC mode
			30 Hz			
1080p	1920	1080	50 Hz	148.5 MHz	16:9	Normally ATSC mode
			60Hz			

- The PC text quality is optimum in the 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.

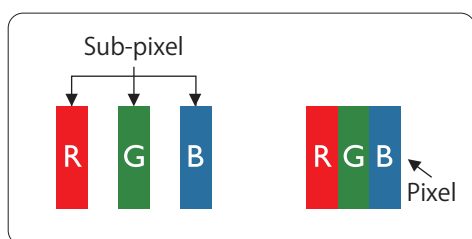


## Chapter 8: Defective Pixel Policy

We employ some most advanced manufacturing processes in the industry, insist on strict quality control, and provide the best products. However, pixel or sub-pixel defects appearing on the PDP/ TFT panels used as the plasma display or liquid crystal display are sometimes inevitable. No manufacturer can ensure that all panels have no pixel defects, but we guarantee to repair the plasma displays and the liquid crystal displays with any defects of which the number exceeds the acceptable level within the warranty period according to the local guarantee terms.

This notice explains the pixel defects of various types and defines the acceptable defect levels of the liquid crystal display. In order to meet the conditions for maintenance under warranty, the number of the pixel defects must exceed a certain level, as shown in the reference list. If the liquid crystal display meets the specification requirements, then execution of the return/exchange/ recall upon the quality guarantee is refused. Besides, the types or combinations of some pixel defects are more obvious in comparison with those in other cases, so we've set even higher quality standards.

### 8.1 Pixels and Sub pixels



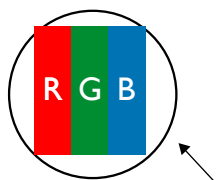
A pixel or picture element consists of three sub-pixels in the primary colors, namely red, green and blue. Numerous pixels together form a picture. When all sub-pixels of a pixel are lit, three sub-pixels in different colors together are displayed as a white pixel. When all sub-pixels are black, three sub-pixels in different colors together are displayed as a black pixel. Other combinations of lit and dark sub-pixels are displayed as a pixel in other colors.

### 8.2 Type of Pixel Defects + Definition of the Defective Dot

Defects of the pixel and sub-pixel are displayed on the screen in different modes. There are three categories of pixel defects, each including several sub-pixel types.

#### Definition of the defective dot:

One or more adjacent defective sub-pixels are defined as a "defective dot". The number of the defective sub-pixels is irrelevant to the determined defective dot. This means that the defective dot can be composed of one, two or three black or bright defective sub-pixels.

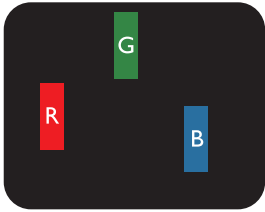
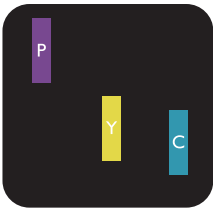



One dot = one pixel, composed of red, green and blue three sub-pixels.

### 8.3 Bright Dot Defects

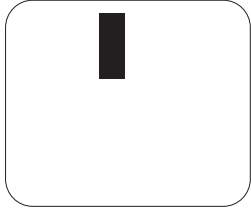
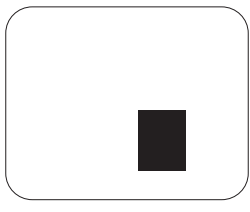
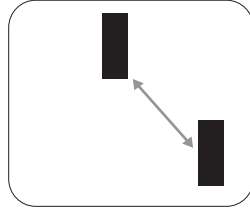
Bright dot defect refers to that there is (are) a pixel(s) or a sub-pixel (s) which is (are) always lit or "activated". The following is an example of the bright dot defects:

# Defective Pixel Policy

 <p>A lit red, green or blue sub-pixel</p>	 <p>Two adjacent lit sub-pixels            Red + Blue = Purple            Red + Green = Yellow            Green + Blue = Green (Light blue)</p>	 <p>Three adjacent lit sub-pixels (one white pixel)</p>
---	--	--

## 8.4 Black Dot Defects

Black dot defect refers to there is (are) a pixel(s) or a sub-pixel(s) which is (are) always black or "off". The following is an example of the dark dot defects:

 <p>One dark sub-pixel</p>	 <p>Two adjacent dark sub-pixels = one pair of dark sub-pixel</p>	 <p>Two dark sub-pixels, with the minimum tolerance is defined in the specifications</p>
--	---	--

## 8.5 Adjacent Pixel Defects

The mutually adjacent pixel or sub-pixel defects of the same types are more noticeable, so the tolerances of the adjacent degree of the pixel defects is also defined. You can find the tolerances listed in the following tables.

- Number of the allowable adjacent dark pixels = (adjacent dark sub-pixels = 1 pair of dark sub-pixel)
- Minimum distance between the dark sub-pixels
- Total sum of all defective pixels

## 8.6 Defective Pixel Tolerances

To obtain the qualification of maintenance due to the pixel defects within the warranty period, the number of the pixel or sub-pixel defects on the PDP/TFT panel of the plasma display/liquid crystal display must exceed the the tolerances listed in the table below.

Bright dot defect	Acceptable level
One bright sub-pixel	2
Black dot defect	Acceptable level
One black sub-pixel	10
All types of total defect dots	12

▲ **Note:**\* 1 or 2 adjacent sub-pixel defects=1 defective dot

# Defective Pixel Policy

## 8.7 MURA

The panels of some liquid crystal displays (LCD) sometimes have black points or spots. The Mura phenomenon known in the industry is a Japanese expression of "non-uniformity". It is used to describe an irregular pattern or area. In the area, the phenomenon of non-uniform brightness appears on the screen under specific conditions. Mura is the result of deterioration of the liquid crystal layers, usually caused by the long-term operation at a higher environmental temperature. This is a common phenomenon in the industry. Mura cannot be repaired. It is not covered under the guarantee.

Mura exists since the liquid crystal technology is created. As the screen becomes bigger and bigger and runs in the 24/7 mode, many displays operate under the weak light conditions. All of those increase the probability that Mura affects the display.

### How to identify MURA

For many reasons, Mura has many scenarios. Below are some reasons listed:

- Impurities or other particles in the crystal array
- Non-uniform distribution of the liquid crystal arrays during manufacturing
- No-uniform distribution of the back light illumination
- Induction stress for panel assembling
- Defects in optical units of the liquid crystals
- Thermal induction stress-Long term of high-temperature operation

### How to avoid MURA

We cannot ensure that Mura can be eliminated each time, but generally, we can reduce the occurrence of the Mura phenomenon by the following methods:

- Reduce the brightness of the backlight.
- Use a screen protection program.
- Reduce the temperature around the display.

# Chapter 9: Cleaning and Troubleshooting

## 9.1 Cleaning

### Caution When Using the Display

- Keep your hands or face or other objects away from the vent hole 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.

# Cleaning and Troubleshooting

## 9.2 Troubleshooting

Trouble	Possible causes	Solutions
No picture is displayed	<ol style="list-style-type: none"> <li>1. The power cord has been disconnected.</li> <li>2. The main power switch on the back of the display is not switched on.</li> <li>3. The selected input has no connection.</li> <li>4. The display is in standby mode.</li> </ol>	<ol style="list-style-type: none"> <li>1. Plug the power cord.</li> <li>2. Ensure that the power switch is switched on.</li> <li>3. Connect a signal connection to the display.</li> </ol>
Interference on the display or 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.	Ensure that the signal cable is attached firmly to the back of the display.
Picture is distorted with abnormal patterns	<ol style="list-style-type: none"> <li>1. The signal cable is not connected properly.</li> <li>2. The input signal is beyond the capabilities of the display.</li> </ol>	<ol style="list-style-type: none"> <li>1. Make sure that the signal cable is attached firmly.</li> <li>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.</li> </ol>
Display image doesn't fill up the full size of the screen	<ol style="list-style-type: none"> <li>1. The zooming mode is not correctly set.</li> <li>2. The scanning mode may be wrongly set as insufficient scanning.</li> <li>3. If the image size exceeds the screen size, the scanning mode may be required to be set as insufficient scanning.</li> </ol>	Use the zooming mode in the screen menu or the self-defined zooming function to fine tune the geometrical shape and clock frequency parameters of the screen.
Can hear sound, but no picture	Improperly connected source signal cable.	Make sure that both video inputs and sound inputs are correctly connected.
Can see picture but no sound is heard	<ol style="list-style-type: none"> <li>1. Improperly connected source signal cable.</li> <li>2. Volume is turned all the way down.</li> <li>3. MUTE function is turned on.</li> <li>4. No external speaker connected.</li> </ol>	<ol style="list-style-type: none"> <li>1. Make sure that both video and sound inputs are correctly connected.</li> <li>2. Press the [ + ] or [ - ] button to hear the sound.</li> <li>3. Switch the MUTE function off by using the [ MUTE ] button.</li> <li>4. Connect the external speakers and adjust the volume to a suitable level.</li> </ol>
Some picture elements do not light up.	Some pixels of the display may not turn on.	This display is manufactured using an extremely high level of precision technology; however, sometimes some pixels of the display may not display. This is not a malfunction.
After-Images can still be seen on the 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.

# Chapter 10: Technical Specifications

## 10.1 PM-48

Display	PM-48
Screen Size (Active Area)	1054.08 (H) x 592.92 (V)
Aspect Ratio	16:9
Number of Pixels	1920 (H) x 1080 (V)
Pixel Pitch	0.549 (H) x 0.549 (V)
Displayable Colors	10,70,000,000
Brightness (Typical)	350 cd/m <sup>2</sup>
Contrast Ratio (Typical)	4000:1
Viewing Angle	178(degrees)

In/Out Terminals	PM-48
Speaker Output	Internal Speakers 10W (Left) + 10W (Right) [RMS]/16Ω 1 Way 1 Speaker System 82 dB/W/M/160 Hz - 13 KHz
Audio Output	RCA jack x 2 0.5V [rms] (Normal) / 2 Channel (L+R)
Audio Input	RCA jack x 2 3.5mm phone jack x 1 0.5V [rms] (Normal) / 2 Channel (L+R)
RS232C	2.5mm phone jack x 2 RS232C input /RS232C output
RJ-45	RJ-45 jack x 1 (8 pins) 10/100 LAN port
HDMI Input	HDMI jack x 1(A type) (19 pins) Digit RGB: TMDS (Video + Audio) Maximum: Video - 720p, 1080p, 1920 x 1080/60 Hz (WUXGA) Audio- 48 KHz/ 2 Channel (L+R) Support LCPM only
DVI-D Input	DVI-D jack Digital RGB: TMDS (Video)
VGA Input	D-Sub jack x 1 (15 pins) Analog RGB: 0.7V [p-p] (75Ω), H/CS/V: TTL (2.2kΩ), SOG: 1V [p-p] (75Ω) Maximum: 720p, 1080p, 1920 x 1080/60 Hz (WUXGA)
Scart Inputs	RCA jack x 3 Y: 1V [p-p] (75Ω), Pb: 0.7V [p-p] (75Ω), Pr: 0.7V [p-p] (75Ω) Maximum: 480i, 576i, 480p, 576p, 720p, 1080i, 1080p
Video Input	RCA x 1 ( shared with Component_Y) Composite 1V [p-p] (75Ω)

# Technical Specifications

General		PM-48
Power Supply		AC 100 - 240V, 50 - 60Hz, 2.5A
Power Consumption (Maximum)		149 W
Power Consumption (Typical)		115 W
Power Consumption (Standby & Off))		<0.5 W (RS232 in active)
Dimensions (With Stand) [W x H x D] (mm)		1081.8 (W) x 663.1 (H) x 329.6 (D)
Dimensions (Without Stand) [W x H x D] (mm)		1081.8 (W) x 623.4 (H) x 59.9 (D, extending to the device back)/61.1 (D, extending to the device back)
Weight (With Stand)		13.39 kg
Weight (Without Stand)		11.52 kg
Gross weight (Without Stand)		16.4 kg

Environmental Condition			PM-48
Temperature	Operational		0-40°C
	Storage		-20-60°C
Humidity	Operational		20-80%RH (No condensation)
	Storage		5~95%RH (No condensation)
Altitude	Operational		0-3,000m
	Storage / Shipment		0-9,000 m

Internal Speaker		PM-48
Type		1 Way 1 Speaker
Input		10 W (RMS)
Impedance		16Ω
Output Sound Pressure		82 dB/W/M
Frequency Response		160 Hz - 13 KHz

**▲ Note:** All specifications are subject to change without prior notice.

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