

LD5511



**HP Digital Signage Display
User Guide**

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Product Notice

This guide describes features that are common to most models. Some features may not be available on your product.

To access the latest user guide, go to <http://www.hp.com/support> and select your country. Select **Drivers & Downloads**, and then follow the on-screen instructions.

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Safety Instructions

Warnings and Precautions

KNOW THESE SAFETY SYMBOLS



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



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



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

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

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

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

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



Read and follow these instructions when connecting and using your Public Information 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 may 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.

- If turning off the display by detaching the power cable, wait for 6 seconds before re-attaching the power cable 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.

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer; or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.

WARNING: Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

WARNING: The batteries (batteries installed) shall not be exposed to excessive heat such as sunshine, fire or the like.

WARNING: The mains plug or appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

WARNING: To prevent the spread of fire, keep candles or other open flames away from this product at all times.



WARNING: To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.

CAUTION: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

CAUTION: Excessive sound pressure from earphones and headphones can cause hearing loss. Adjustment of the equalizer to maximum increases the earphone and headphone output voltage and the sound pressure level. Therefore, to protect your hearing, adjust the equalizer to an appropriate level.

An all-pole MAINS SWITCH is used as the disconnect device, the location on the apparatus and the function of the switch shall be described, and the switch shall remain readily operable.

For UL/CUL application: For use only with UL Listed Wall Mount Bracket with minimum weight/load: **16 Kg**

For CB application: Unit without base weight: **16 Kg**. The equipment and its associated mounting means still remain secure during the test. (Used wall mounting kit as following table shown).

Wall Mount Grid	Screw
400x400, 400x200	M6x(10+X), X=thickness of wall mount plate

Regulatory Information

Refer to the Product Notices document provided on your media disc, if one is included, or in your documentation kit for regulatory, environmental and safety information about this product.

CE Declaration of Conformity

Refer to the Product Notices document provided on your media disc, if one is included, or in your documentation kit for regulatory, environmental and safety information about this product.

We declare under our responsibility that the product is in conformity with the following standards:

- EN60065:2002+A1:2006+A11:2008+A2:2010+A12:2011 (Safety requirement of Audio, video and similar electronic apparatus)
- EN55013:2013 (Radio Emission requirement of broadcast receivers equipment)
- EN55020:2007+A11:2011 (Sound and television broadcast receivers and associated equipment-Immunity Characteristics-Limits and methods of measurement)
- EN55022:2010 (Radio Disturbance requirement of Information Technology Equipment)

- EN55024:2010 (Immunity requirement of Information Technology Equipment)
- EN61000-3-2:2006 +A1:2009+A2:2009 (Limits for Harmonic Current Emission)
- EN61000-3-3:2013 (Limitation of Voltage Fluctuation and Flicker)
- EN 50581:2012 (Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances)

following provisions of directives applicable:

- 2006/95/EC (Low Voltage Directive)
- 2004/108/EC (EMC Directive)
- 2009/125/EC (ErP Directive, EC No. 1275/2008, 642/2009 Implementing Directive for Standby and Off mode power consumption)
- 93/68/EEC (Amendment of EMC and Low Voltage Directive) and is produced by a manufacturing organization on ISO9000 level.
- 2011/65/EU (RoHS 2 Directive)

Warning:

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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.

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 gniazda, które powinno znajdować się w pobliżu urządzenia i być łatwo dostępne.

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

Pozostałe instrukcje bezpieczeństwa

- Nie należy używać wtyczek adapterowych lub usuwać 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 bezaktywnego 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.

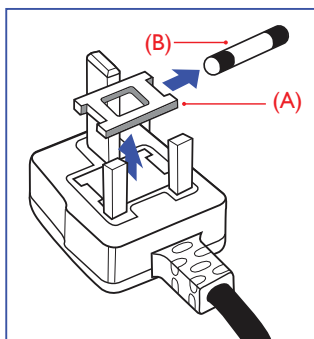
Electric, Magnetic and Electromagnetic Fields ("EMF")

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:

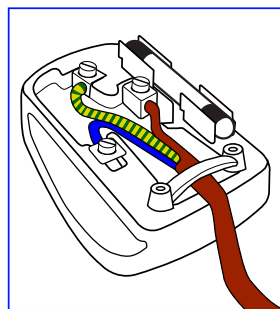
1. Remove fuse cover and fuse.
2. Fit new fuse which should be a BS 1362 5A, A.S.T.A. or BSI approved type.
3. Refit the fuse cover.

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 is 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.

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	○	○	○	○	○	○
后壳	○	○	○	○	○	○
LCD panel	CCFL	×	×	○	○	○
	LED	×	○	○	○	○
电路板组件*	×	○	○	○	○	○
底座	○	○	○	○	○	○
电源线	×	○	○	○	○	○
其他线材	×	○	○	○	○	○
遥控器	×	○	○	○	○	○

*: 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。

本表格依据SJ/T 11364的规定编制。

○: 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。

×: 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。

上表中打“×”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)。

J-moss table

大枠分類	化学物質記号					
	Pb	Hg	Cd	Cr(VI)	PBB	PBDE
前面ベゼル	○	○	○	○	○	○
裏ぶた	○	○	○	○	○	○
スタンド	○	○	○	○	○	○
液晶パネル	CCFL	除外項目	除外項目	○	○	○
	WLED	除外項目	○	○	○	○
PCBA	除外項目	○	○	○	○	○

ケーブル & ワイヤ	除外項目	○	○	○	○	○
リモコン	除外項目	○	○	○	○	○

*: はベア印刷回路基板、はんだ付け、および抵抗器、コンデンサ、アレー、コネクタ、チップなど、その表面実装素子で構成される。

注1: 「○」は、算出対象物質の含有率が含有率基準値以下であることを示す。

注2: 「除外項目」は、算出対象物質がJIS C 0950規格によって除外されている項目であることを意味する。

JIS C 0950

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
Avis Canadien	Ce dispositif numérique de Classe A répond aux exigences de la réglementation du Canada relative aux équipements causant des interférences CAN ICES-3(A)/NMB-3(A). Si ce dispositif est doté de fonctionnalités de réseau sans fil ou Bluetooth, il est conforme aux normes d'exemption de licence RSS d'Industrie Canada. Son fonctionnement est assujéti aux deux conditions suivantes : 1) Ce dispositif ne doit causer aucune interférence dangereuse, et 2) ce dispositif doit accepter toute interférence reçue, y compris les interférences pouvant provoquer un fonctionnement indésirable.
Japan notices	この装置は、情報処理装置等電波障害自主規制協会 (VCCI) の基準に基づくクラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。
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Russia Energy Information	Удельная мощность рабочего режима - X,XXX Вт/см ² Потребляемая мощность изделием в режиме ожидания - X,XX Вт Потребляемая мощность изделием в выключенном режиме - X,XX Вт
Vietnam RoHS	This product is compliant with requirements of Circular No. 30/2011/TT-BCT Regulations "STIPULATING TEMPORARILY THE PERMISSIBLE CONTENT LIMITATION OF SOME TOXIC CHEMICALS IN THE ELECTRONIC, ELECTRICAL PRODUCTS"

North Europe (Nordic Countries) Information

Placering/Ventilation

VARNING:

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

Placering/Ventilation

ADVARSEL:

SØRG VED PLACERINGSFOR, AT NETLEDNINGENS STIK OG STIKKONTAKT ER NEMT TILGÆNGELIGE.

Paikka/Ilmankierto

VAROITUS:

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

Plassering/Ventilasjon

ADVARSEL:

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

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 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.eiat.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.

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.



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

Restriction on Hazardous Substances statement (India)

This product complies with the "India E-waste Rule 2011" and prohibits use of lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers in concentrations exceeding 0.1 weight % and 0.01 weight % for cadmium, except for the 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 where you can drop off your waste equipment for recycling in India please visit the below web link.

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1. Unpacking and Installation

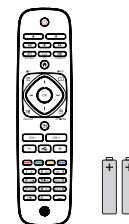
1.1. Unpacking

- This product is packed in a carton, together with the standard accessories.
- Any other optional accessories will be packed separately.
- Due to the size and weight of this display it is recommended for two people to move it.
- 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:

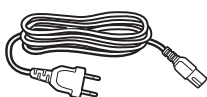
- LCD display
- Remote control with AAA batteries
- Power cord (1.8 m)
- VGA cable (1.8 m)
- RS232 cable (1.8 m, Option)
- HDMI cable (1.8 m)
- Software and documentation disc



Remote Control
and AAA Batteries

Note: The DVI cable is not included.

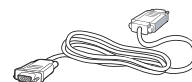
* Only one power cord is provided with your display.



Power Cord



For China



Video Signal Cable
(D-SUB to D-SUB Cable)



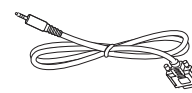
Software and
documentation disc



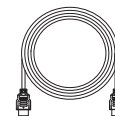
For North America



For UK



RS232 Cable



HDMI Cable

NOTES:

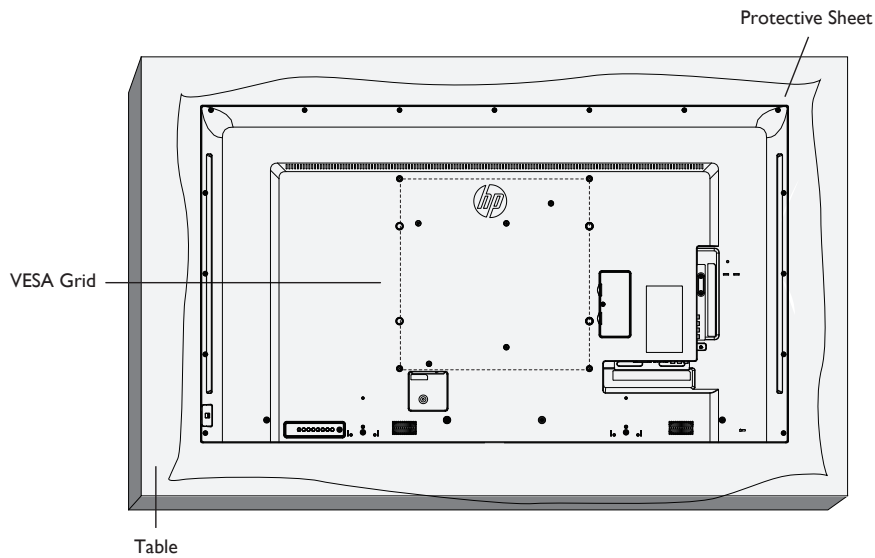
- For all other regions, apply a power cord that conforms to the AC voltage of the power socket and has been approved by and complies with the safety regulations of the particular country.
- You might like to save the package box and packing material for shipping the display.
- To locate updates to the user guide for your product, go to <http://www.hp.com/support>, and select your country. Select Drivers & Downloads, and then follow the on-screen instructions.

1.3. Installation Notes

- Due to the high power consumption, always use the plug exclusively designed for this product. If an extended line is required, please consult your service agent.
- The product should be installed on a flat surface to avoid tipping. 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.

1.4. Mounting on a Wall

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. For the wall mount kit, use M6 mounting screws (having a length 10 mm longer than the thickness of the mounting bracket) and tighten them securely.
5. Unit without base weight= **16 Kg**. The equipment and its associated mounting means still remain secure during the test. For use only with UL Listed Wall Mount Bracket with minimum weight/load: **16 Kg**.
6. It does not support tilt function.

1.4.1. VESA Grid

Vesa Grid	400(H) × 200(V)mm / 400(H) × 400(V)mm
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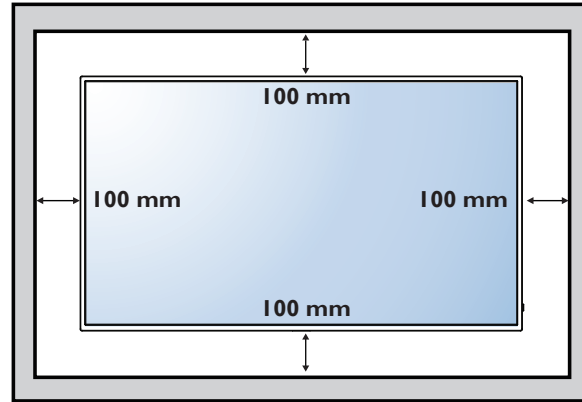
Caution:

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.

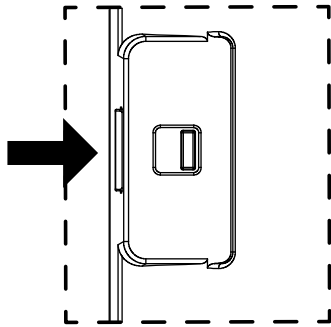
Ventilation Requirements for enclosure locating

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

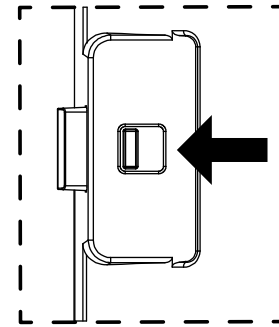


1.5. Using the Remote sensor and power indicator

1. Pull down the lens to have better remote control performance and easy to observe the light information of power status
2. Push up the lens before mounting the display for video wall application
3. Pull/Push the lens until hearing the click sound



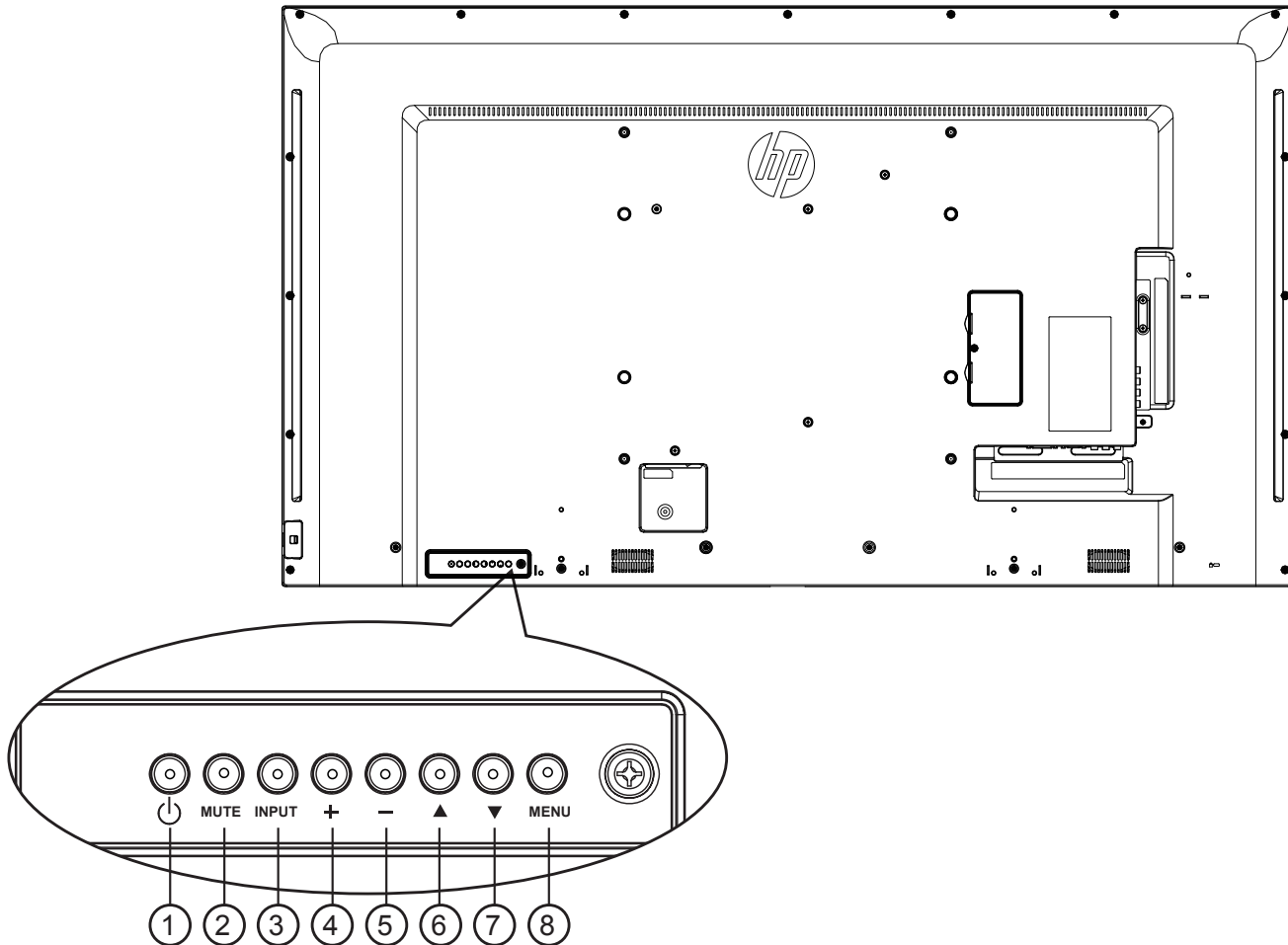
Push right to collapse the lens



Push left to extend the lens

2. Parts and Functions

2.1. Control Panel



① [⏻] button

Use this button to turn the display on or put the display in standby.

② [MUTE] button

Switch the audio mute ON/OFF.

③ [INPUT] button

Choose the input source.

- Used as [OK] button in the On-Screen-Display menu.

④ [++] button

Move the highlight bar up / Increase the adjustment while OSD menu is on, or increase the audio output level while OSD menu is off.

⑤ [–] button

Move the highlight bar down / Decrease the adjustment while OSD menu is on, or decrease the audio output level while OSD menu is off.

⑥ [▲] button

Move the highlight bar up to adjust the selected item while OSD menu is on.

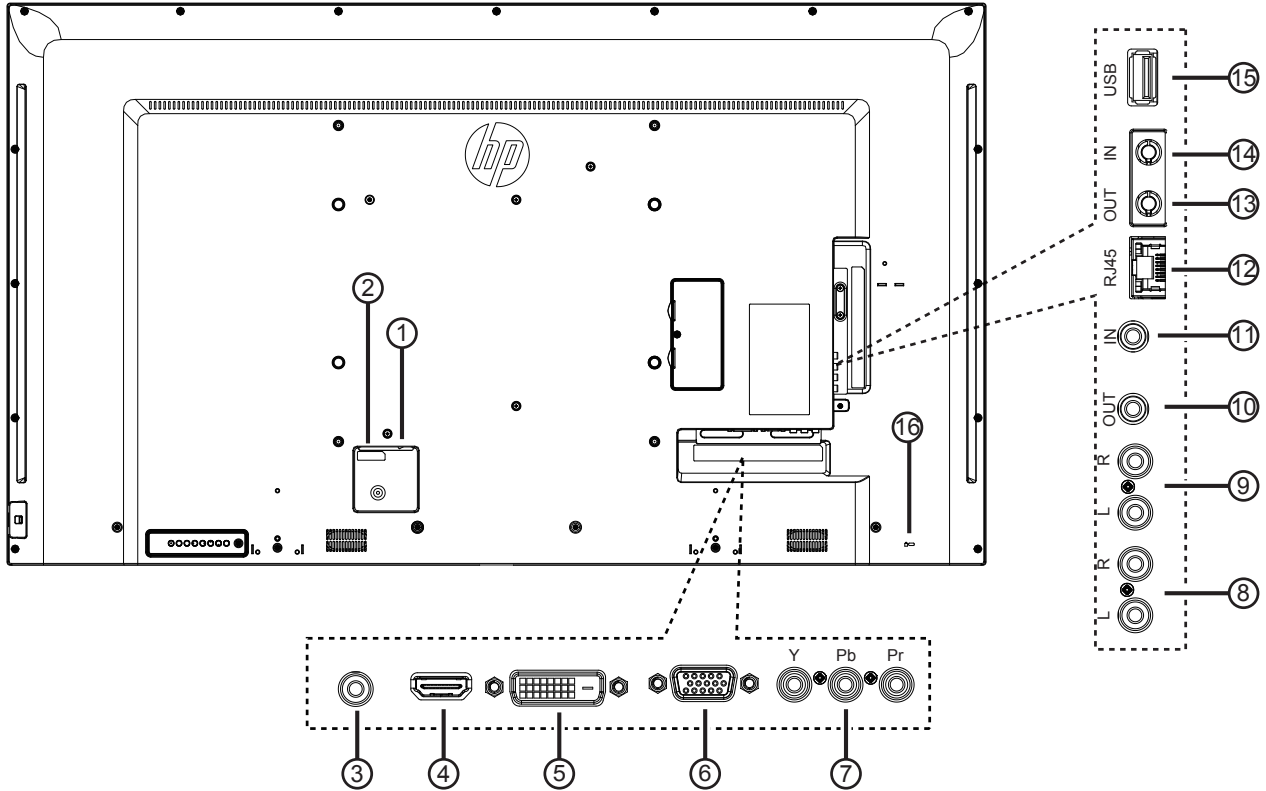
⑦ [▼] button

Move the highlight bar down to adjust the selected item while OSD menu is on.

⑧ [MENU] button

Return to previous menu while OSD menu is on, or to activate the OSD menu when OSD menu is off.

2.2. Input/Output Terminals



① MAIN POWER SWITCH

Switch the main power on/off.

② AC IN

AC power input from the wall outlet.

③ PC LINE IN

Audio input from VGA source (3.5mm stereo phone).

④ HDMI IN

HDMI video / audio input.

⑤ DVI-D IN

DVI-D video input.

⑥ VGA IN (D-Sub)

VGA video input.

⑦ Y/CVBS

Video source input.

⑧ AUDIO IN

Audio input from external AV device (RCA).

⑨ AUDIO OUT

Audio output to external AV device.

⑩ IR OUT / ⑪ IR IN

IR signal output /input for the loop-through function.

NOTES:

- This display's remote control sensor will stop working if the jack [IR IN] is connected.
- To remotely control your A/V device via this display, refer to page 11 for **IR Pass Through** connection.

⑫ RJ-45

LAN control function for the use of remote control signal from control center.

⑬ RS232 OUT / ⑭ RS232 IN

RS232C network output / input for the loop-through function.

⑮ USB PORT

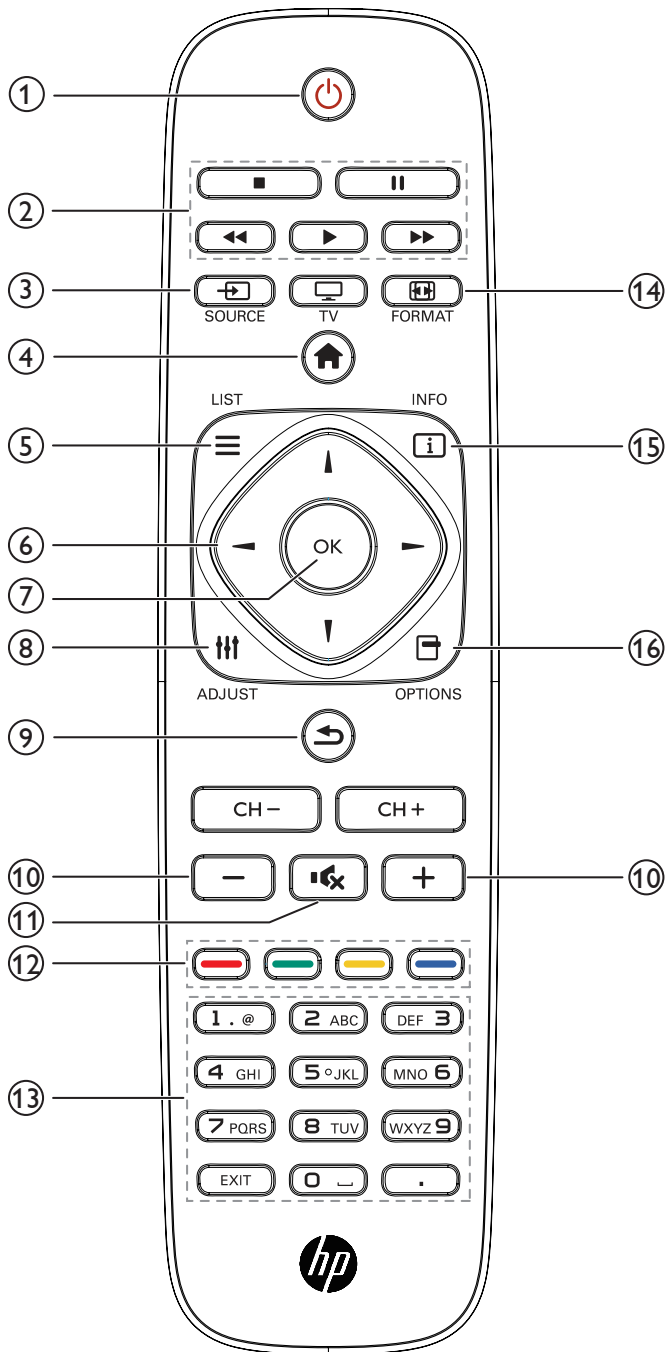
Connect your USB storage device.

⑯ Security LOCK

Used with a cable lock kit (commercially available) for security and theft prevention.

2.3. Remote Control

2.3.1. General functions



① [POWER] POWER button

Switch this display on or off.

② [PLAY] buttons

Control playback of media files.

③ [SOURCE] SOURCE button

Select input source. Press [←] or [→] button to select from **USB**, **Network**, **HDMI**, **DVI**, **YPbPr**, **AV**, or **VGA**. Press [OK] button to confirm and exit.

④ [HOME] HOME button

Access the OSD menu.

⑤ [LIST] LIST button

No function.

⑥ [NAVIGATION] NAVIGATION buttons

Navigate through menus and select items.

⑦ [OK] button

Confirm an entry or selection.

⑧ [ADJUST] ADJUST button

Access currently available options, picture and sound menus.

⑨ [BACK] BACK button

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

⑩ [VOLUME] VOLUME button

Adjust volume.

⑪ [MUTE] MUTE button

Press to turn the mute function on/off.

⑫ [COLOR] COLOR buttons

Select tasks or options.

⑬ [NUMERIC] buttons

Enter text for network setting.

⑭ [FORMAT] FORMAT button

Change picture format.

⑮ [INFO] INFO button

Display information about current activity.

⑯ [OPTIONS] OPTIONS button

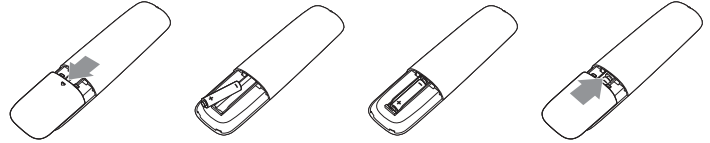
Access currently available options, picture and sound menus.

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:

The incorrect use of batteries can result in leaks or bursting. 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. Refer to the Product Notices document, included with this product, to properly disposed of used batteries.

2.3.3. Handling the remote control

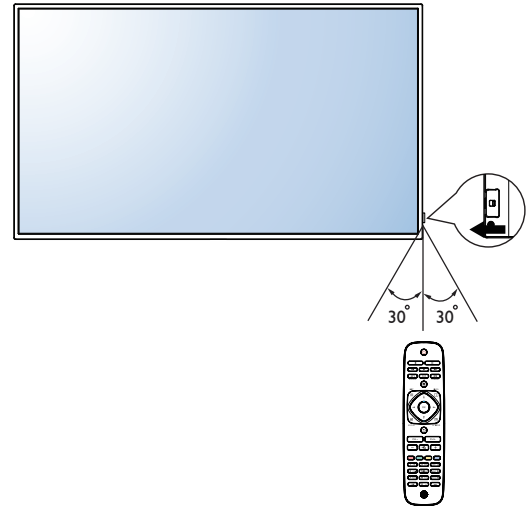
- Do not subject to strong shock.
- Do not allow water or other liquid to splash the remote control. If the remote control gets wet, wipe it dry immediately.
- Avoid exposure to heat and steam.
- Other than to install the batteries, do not open the remote control.

2.3.4. Operating range of the remote control

Point the front of the remote control toward this display's remote control sensor when pressing a button.

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

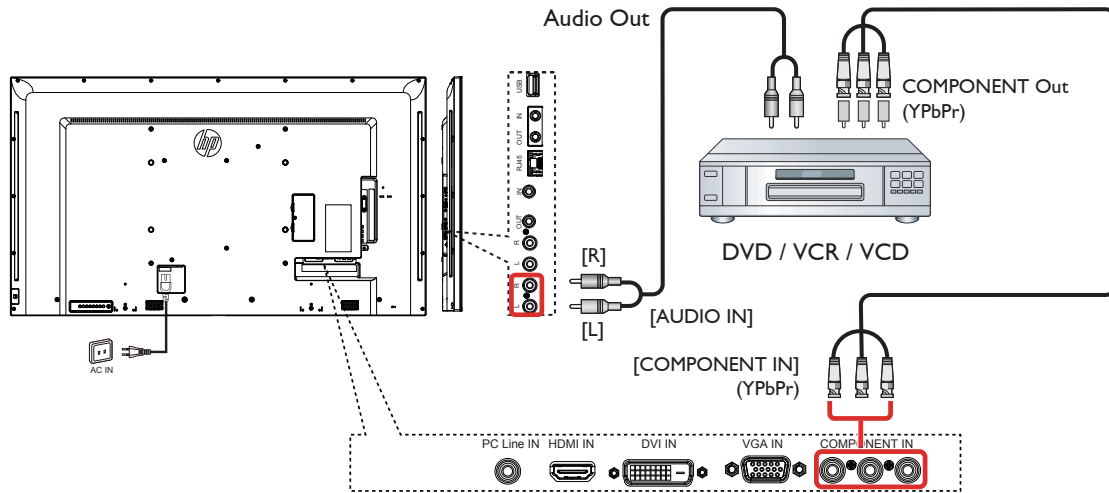
NOTE: The remote control may not function properly when the remote control sensor on this display is under direct sunlight or strong illumination, or when there is an obstacle in the path of signal transmission.



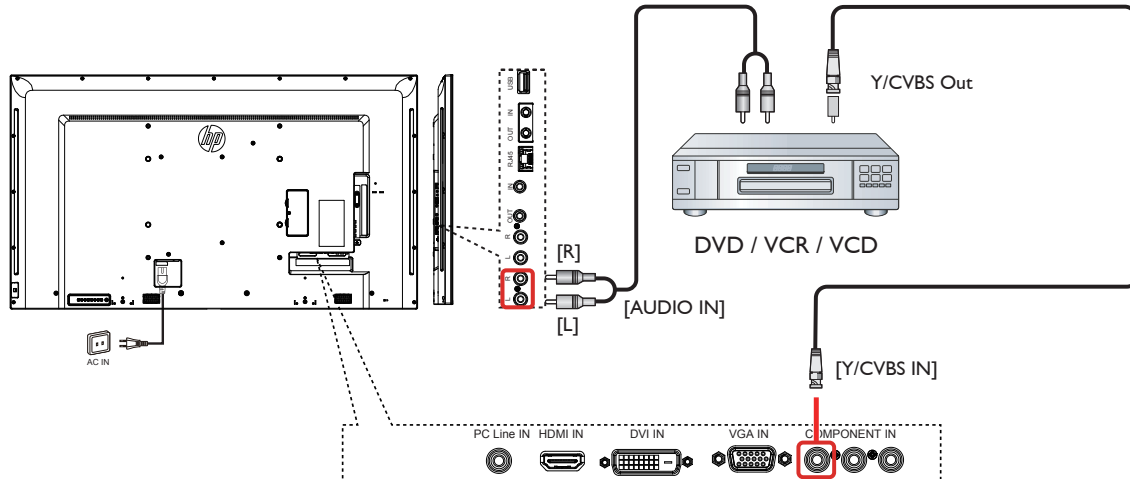
3. Connecting External Equipment

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

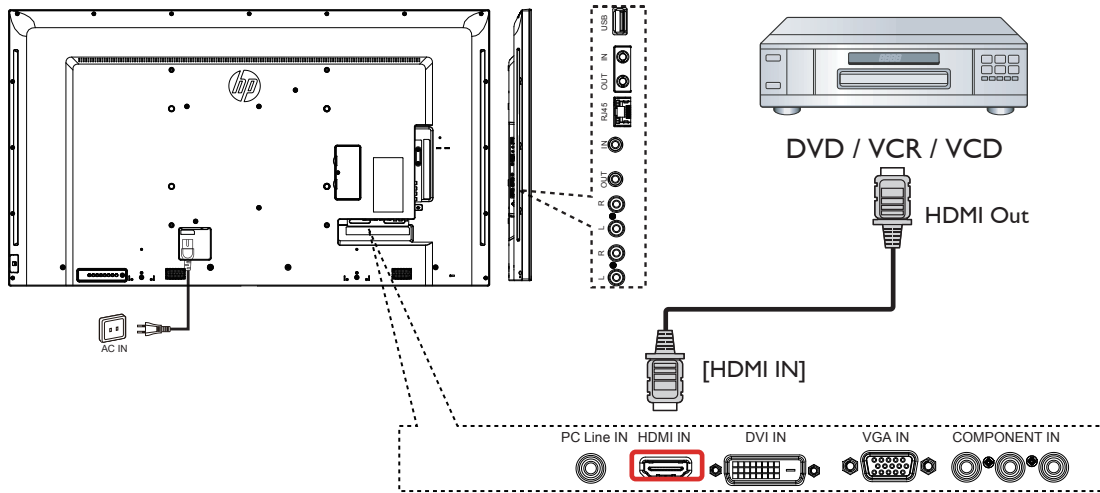
3.1.1. Using COMPONENT video input



3.1.2. Using Video Source input (DVI cable not included)

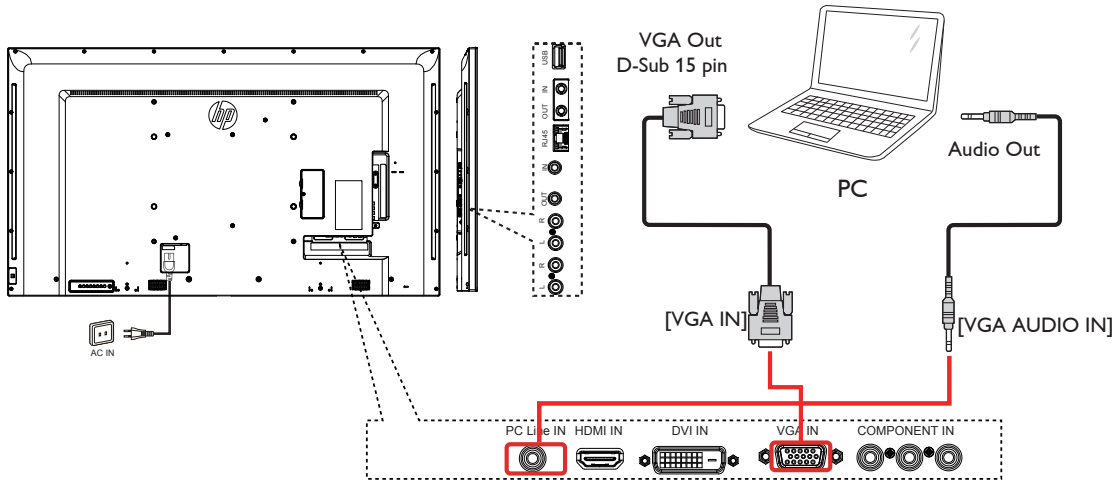


3.1.3. Using HDMI video input

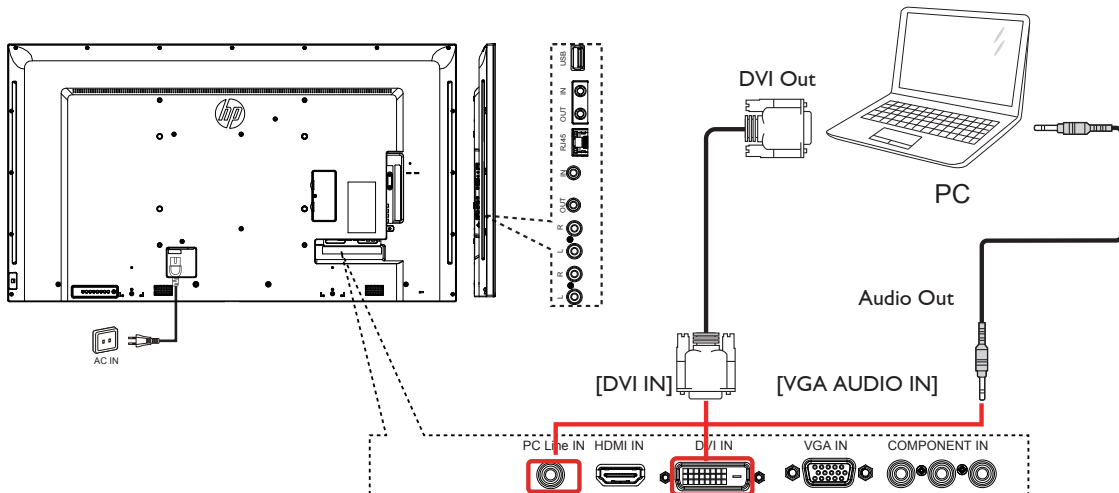


3.2. Connecting a PC

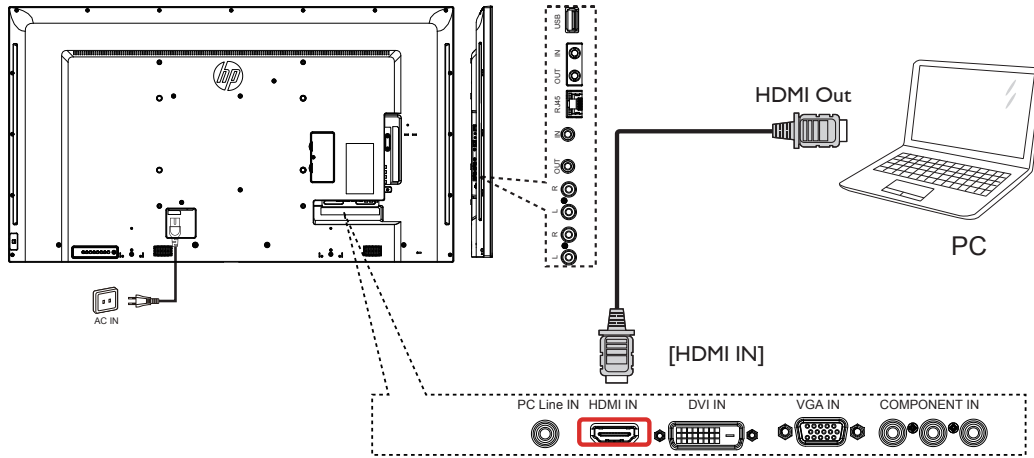
3.2.1. Using VGA input



3.2.2. Using DVI input

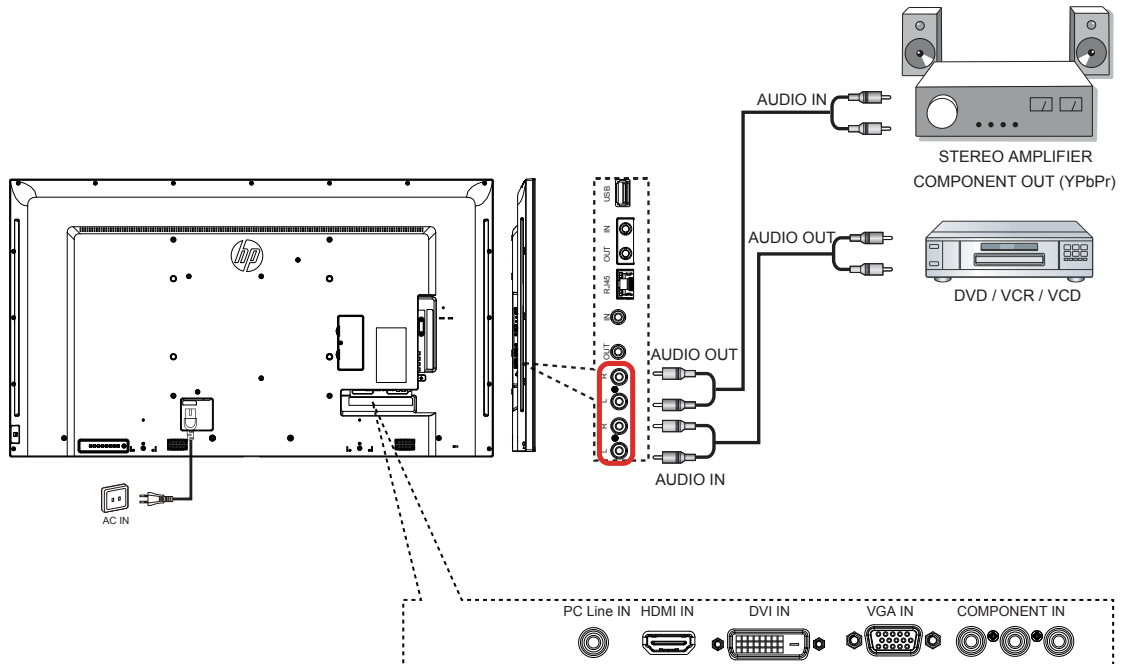


3.2.3. Using HDMI input



3.3. Connecting Audio Equipment

3.3.1. Connecting an external audio device

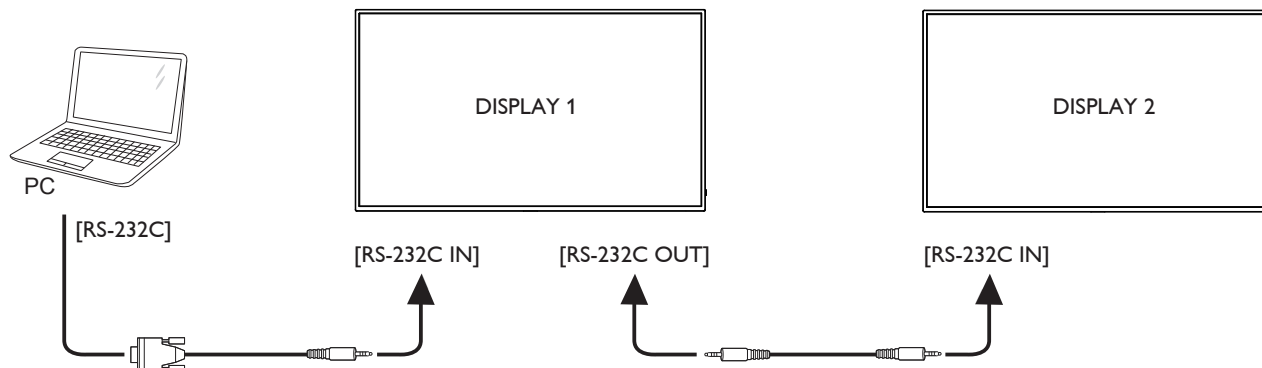


3.4. Connecting Multiple Displays in a Daisy-chain Configuration

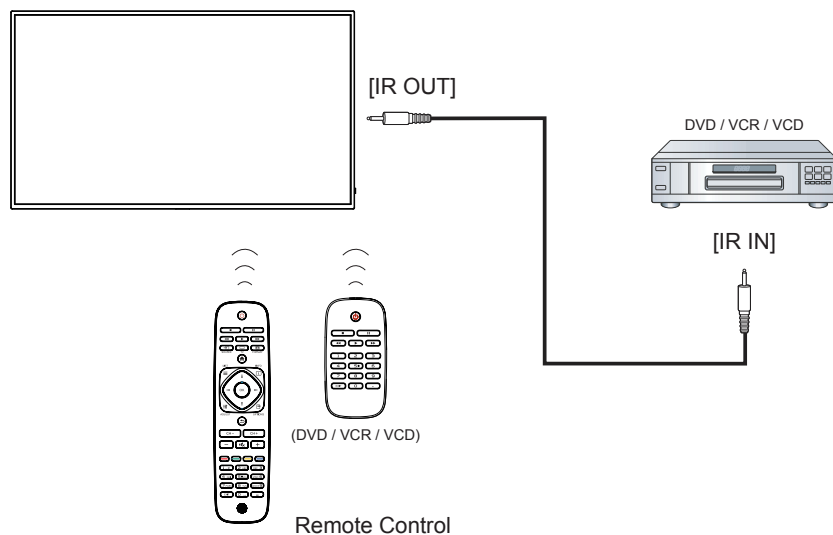
You can interconnect multiple displays to create a daisy-chain configuration for applications such as a video wall.

3.4.1. Display control connection

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

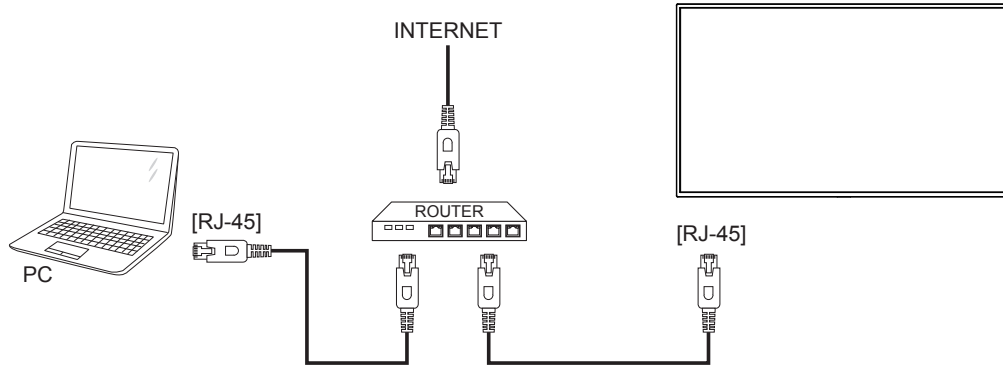


3.5. IR Pass-through Connection



3.6. Wire-connecting to Network

If you connect this display to a home network, you can play photos, music and videos from your computer. See *Play multimedia files via Local Area Network* (Page 13) for more detail.



To setup the network:

1. Switch on the router and switch on its DHCP setting.
2. Connect the router to this display with an Ethernet cable.
3. Press [**HOME**] button to display the OSD menu.
4. Press [**UP**] or [**DOWN**] button to select the menu item {**Network setting**}. Press [**OK**] button to enter its submenu.
5. Press [**UP**], [**DOWN**], [**LEFT**], [**RIGHT**] or number button to adjust its value. Press [**OK**] button to confirm.

NOTE: Connecting with a shielded CAT-5 Ethernet cable to comply with the EMC directive.

4. Operation

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

4.1. Change Picture Format

You can change the picture format to suit the video source. Each video source has its available picture formats.

The available picture formats depend on the video source:

1. Press **FORMAT** button.
2. Press **▲** or **▼** button to select a picture format, then press **OK** button.
 - **{Auto zoom}**: Enlarge the picture to fill the screen. Recommended for minimal screen distortion but not for HD or PC.
 - **{Movie expand 16:9}**: Scale 4:3 format to 16:9. Not recommended for HD or PC.
 - **{Wide screen}**: Shows widescreen 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.

4.2. Play Multimedia Files

You can play videos, photos, and music on your display from:

- Your computer connected through your network.
- A USB device connected to this display.

4.2.1. Play files from computer

To play files from computer, you will need:

- A wired network, connected with a Universal Plug and Play (uPnP) router.
- Optional: A LAN cable that connects your display to your 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 network. See page 12 for **connecting your display to a network**.
2. Switch on your computer and the router.

NOTE: If the apparatus does not return to DLNA mode due to external electrical disturbances (e.g. electrostatic discharge), user intervention is required.

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

Play files

1. Press **SOURCE** button.
2. Select **[Network]**, then press **OK** button.

3. Select a file from the content browser; then press **OK** button to start playing.
4. Press the **Play buttons** on the remote control to control playing.

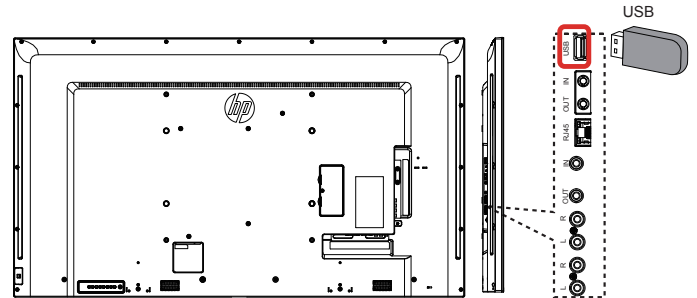
Tips:

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

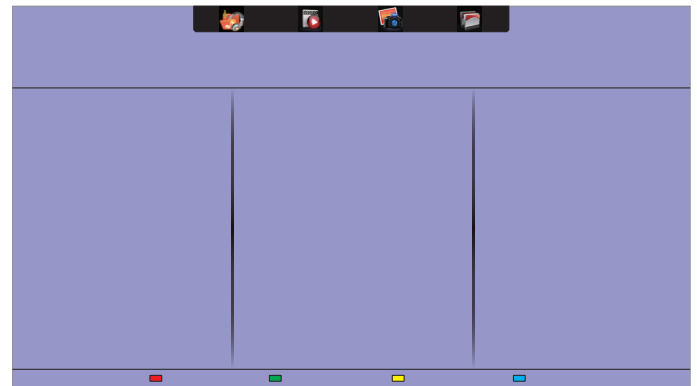
4.2.2. Play multimedia files from USB device

This display can play music, movie, or photo files from your USB device.

1. Connect your USB device to the USB port on this display.



2. Press **SOURCE** button, select **USB**, then press **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 **BACK** button to go up to the top layer in the screen. Press **◀ ▶** button to select the file type. Press **OK** button to enter its play list.
5. Select the file you want. Press **OK** button to start playing.
6. Follow the on-screen instruction to control the play option.
7. Press the **PLAY buttons** (**■ || ◀ ▶ ▶▶**) to control playing.

Supported file system:

- FAT32

Supported file format:


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

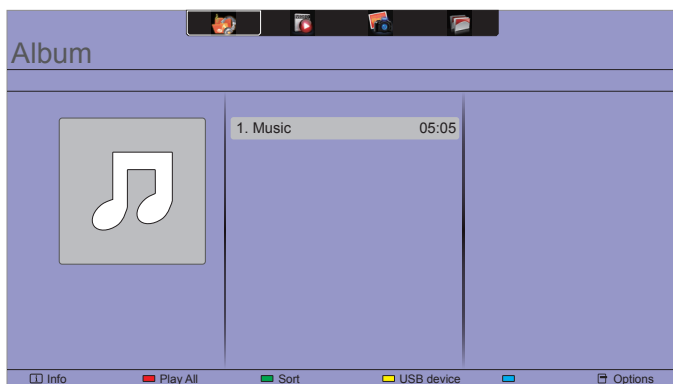
Caution:

- The manufacturer is not responsible if the USB device is not supported, nor is it responsible for damage to or loss of data in the device.
- Do not overload the USB port. If you connect a USB storage device that consumes more than 500mA power, make sure that it is connected to its own external power supply.

NOTE: When you are playing multimedia files from a USB device and turn off the display, it will set the video input to the last input source, such as CVBS, YPbPr, VGA, HDMI and DVI-D, the next time you turn on the display.

4.3. Play options**4.3.1. Playing music files**

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



- To play all the tracks in a folder; select one music file, then select **{Play All}**.
- To skip to the next or previous track, press **CH+** or **VOL-** 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 **◀◀** or **▶▶** button, press repeatedly to toggle between different speeds.
- To stop the music, press **■** button.


Music options

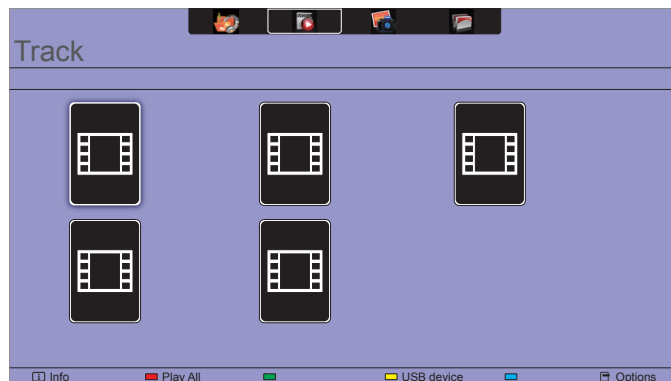
While you play music, press **☰ OPTIONS** button, then press **OK** button to select an option:

- **{Repeat}**: Select **{Repeat}** to play a track or an album repeatedly, or select **{Play once}** to play a track once.
- **{Media Server}**: When you play content from a media server, you can select another media server.
- **{Shuffle On}** / **{Shuffle Off}**: Enable or disable random play of tracks.

NOTE: To view information about a song (for example, title, artist or duration), select the song, then press **i INFO** button. To hide the information, press **i INFO** button again.

4.3.2. Playing movie files

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



- To play all the videos in a folder; select one video file, then select **{Play All}**.
- To skip to the next or previous video, press **CH+** or **VOL-** button.
- 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 **◀◀** or **▶▶** button, press repeatedly to toggle between different speeds.
- To stop the video, press **■** button.


Movie options

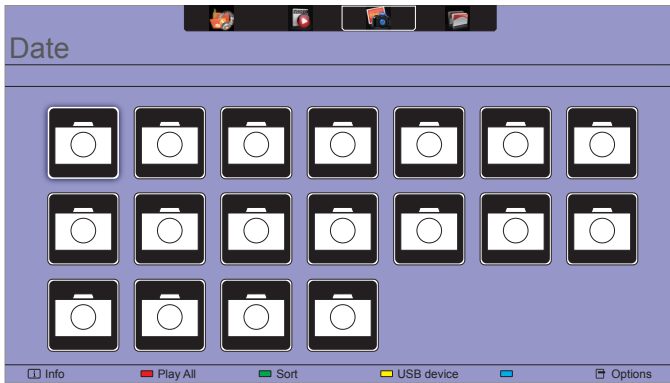
While playing video, press **☰ OPTIONS** button, then press **OK** button to select an option:

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

NOTE: To view information about a video (for example, played position, duration, title, or date), select the video, then press **i INFO** button. To hide the information, press **i INFO** button again.

4.3.3. Playing photo files

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



Start a slideshow

If there are multiple photos in a folder, select a photo, then select **{Play All}**.

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

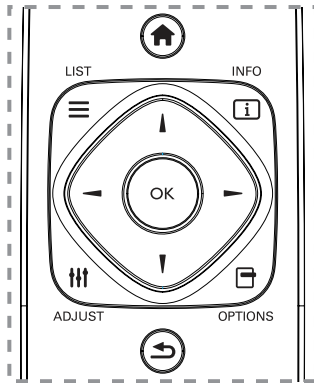
Slideshow options

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

- **{Shuffle Off} / {Shuffle On}**: Enable or disable random display of pictures in the slideshow.
- **{Repeat}**: Select **{Repeat}** to watch a slideshow repeatedly or **{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}**: When you play content from a media server, you can select another media server.

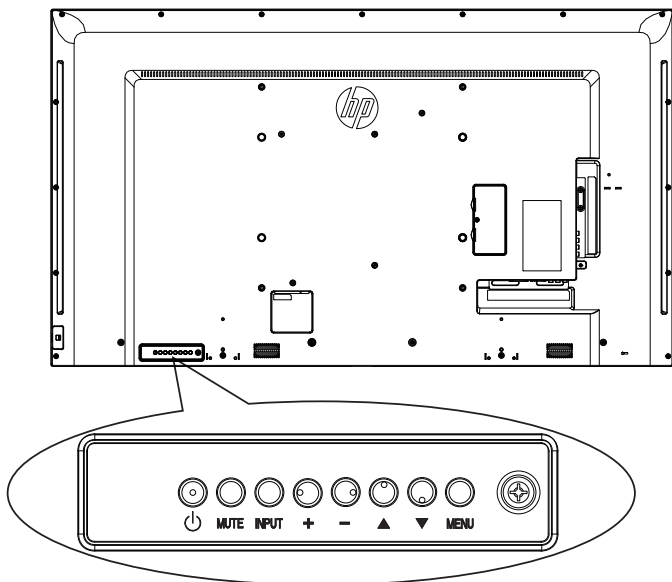
5. Change your settings

Using the remote control:



1. Press **HOME** button to display the OSD menu.
2. Press **▲**, **▼**, **◀**, or **▶** button to select its menu item or to adjust its value. Press **OK** button to confirm.
3. Press **BACK** button to go back to the previous menu layer.
4. Press **EXIT** button to exit the OSD menu.

Using this display's control buttons:



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

5.1. Settings

5.1.1. Picture menu

Picture	Picture style
Sound	Restore style
General settings	Backlight
Network settings	Contrast
	Brightness
	Hue
	Colour
	Sharpness
	Advanced
	Video or PC
	Format and edges

Picture style

Select a predefined picture setting.

Restore style

Restore the last-selected predefined picture setting.

Backlight

Adjust the brightness of this display's backlight.

Contrast

Adjust video contrast.

Brightness

Adjust screen brightness.

Hue

Adjust screen hue.

Colour

Adjust the colour saturation of the picture.

Sharpness

Adjust the sharpness of the picture.

Advanced

Access advanced settings such as gamma, tint settings and video contrast settings.

- **{Noise reduction}**: Select the amount of noise reduction for the picture.
- **{Gamma}**: Adjust the non-linear setting for picture luminance and contrast.
- **{Color temp.}**: Change the colour balance.
- **{Custom color temp.}**: 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}**: Select a backlight level to optimise dynamic power consumption and picture contrast.
- **{Colour enhancement}**: Dynamically enhance the vividness and details of colours.

Video or PC

When viewing content from a connected video console, select **{Video}** to apply video settings. When a computer is connected through HDMI, select **{PC}**.

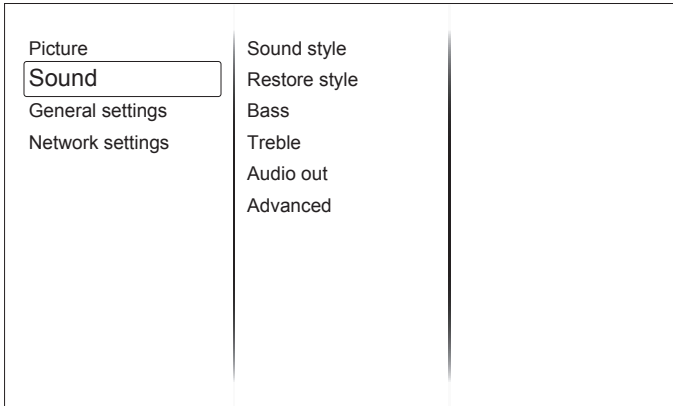
Make sure that **{Format and edges}** → **{Picture format}** → **{Unscaled}** is selected so as to view maximum detail.

Format and edges

Access advanced settings to control the displaying format of the picture.

- **{Picture format}**: Change the picture format.
- **{Screen edges}**: Change the picture size.
- **{Picture shift}**: If available, move the position of the picture.

5.1.2. Sound menu



Sound style

Access predefined sound settings.

Restore style

Restore the last-selected predefined sound setting.

Bass

Adjust the bass level of the speaker and headphones.

Treble

Adjust the treble level of the speaker and headphones.

Audio out

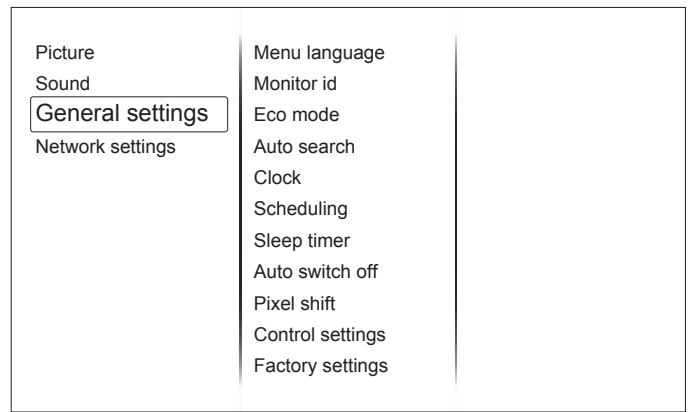
Adjust audio output volume.

Advanced

Access advanced settings to enhance your audio experience.

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

5.1.3. General settings menu



Menu language

Select language used for OSD menus.

Monitor id

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

Eco mode

Set this display to reduce the power consumption automatically.

Please select **{Normal}** setting is to wake the display using NSM.

Auto search

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

Clock

Adjust clock settings.

Scheduling

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 the display to turn on and turn off.
- The days in a week for the display to activate.

NOTES:

- 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}** menu, you need to set this **{Scheduling}** again.

Sleep timer

Switch off this display after a specified time.

Auto switch off

Set the time for this display to be switched off after a period of no activity. Press any key on the remote control to disable this function.

Pixel shift

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.

Control settings

- **{Local KB lock}**: Choose to enable or disable the keyboard (control buttons) function of this display.

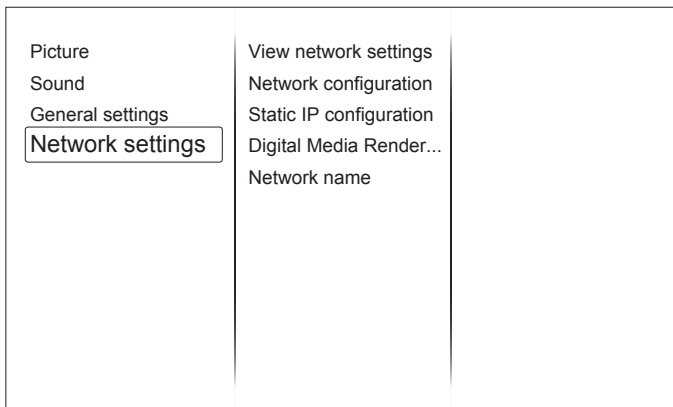
- **{Unlock}**: Enable the keyboard function.
- **{Lock all}**: Lock all keyboard function.
- **{Lock but volume}**: Disable all the keyboard function except the **VOL+** and **VOL-** button.
- **{Lock but power}**: Disable all the keyboard function except the **POWER** button.
- **{RC lock}**: Choose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

NOTE: To disable the lock function from [Local KB lock] or [RC lock] item, press buttons **▲ 1 9 9 8** on the remote control.

Factory settings

Reset all your customized settings to the factory defaults.

5.2. Network Settings



View network settings

View connected network status.

Network settings

Select how this display should assign addresses to the network resources.

Static IP Configuration

Assign {IP address}, {Netmask}, {Gateway}, {DNS1}, and {DNS2} for this display.

Digital Media Renderer - DMR

Receive multimedia files from Smart Phones or Tablets connected to your network.

Network name

Rename this display for easy identification if you have more than one display connected to your network.

6. USB device compatibility

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	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	25p,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	1920x1080i@field rate=50, 60Hz 1920x1080p@frame rate=24, 25,30Hz 1280x720p@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	1920x1080i @ field rate=50, 60Hz 1920x1080p @ frame rate=24, 25,30Hz 1280x720p @ 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	1920x1080i@field rate=50, 60Hz 1920x1080p@frame rate=24, 25,30Hz 1280x720p @ 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
.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	1920x1080i@field rate=50, 60Hz 1920x1080p@frame rate=24, 25,30Hz 1280x720p @ 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	1920x1080i@field rate=50, 60Hz 1920x1080p@frame rate=24, 25,30Hz 1280x720p @ 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

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 Formats

File Extensions	Container	Video codec	Maximum Resolution	Frequency	Max.Bit Rate	Audio codec
jpg/jpeg	JPEG		baseline: color mode = 444, size <=32768x16128 color mode = 422v, size <= 16384x16128 color mode = other; not support	-	-	-
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.

7. Input Mode

VGA Resolution:

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

SDTV Resolution:

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

HDTV Resolution:

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

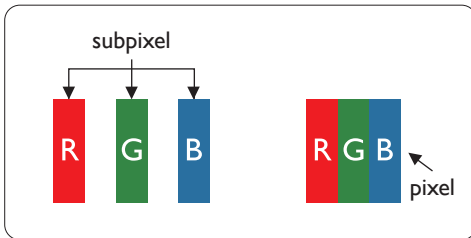
- The PC text quality is optimum in HD 1080 mode (1920 × 1080, 60Hz).
- Your PC display screen might appear different depending on the manufacturer (and your particular version of Windows).
- Check your PC instruction book for information about connecting your PC to a display.
- If a vertical and horizontal 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.

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 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, sets even higher quality standards for those.

8.1. Pixels and Sub-Pixels



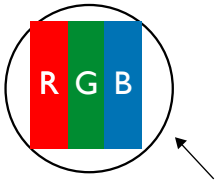
A pixel, or picture element, is composed of three sub-pixels in the primary colors of red, green and blue. Many pixels together form an image. When all sub-pixels of a pixel are lit, the three colored sub-pixels together appear as a single white pixel. When all are dark, the three colored sub-pixels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

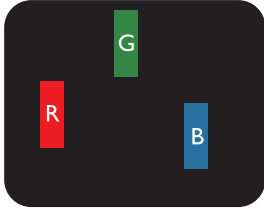
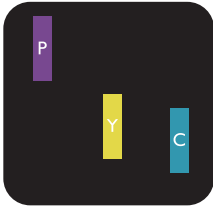
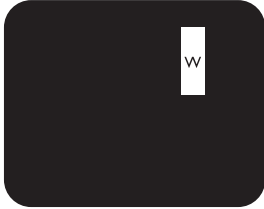
One or more defective, adjacent sub-pixel are defined as one "dot". The no. of defective sub-pixels are not relevant to define a defective dot. This means that a defective dot can consist of one, two or three defective sub-pixels which can be dark or lit.



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

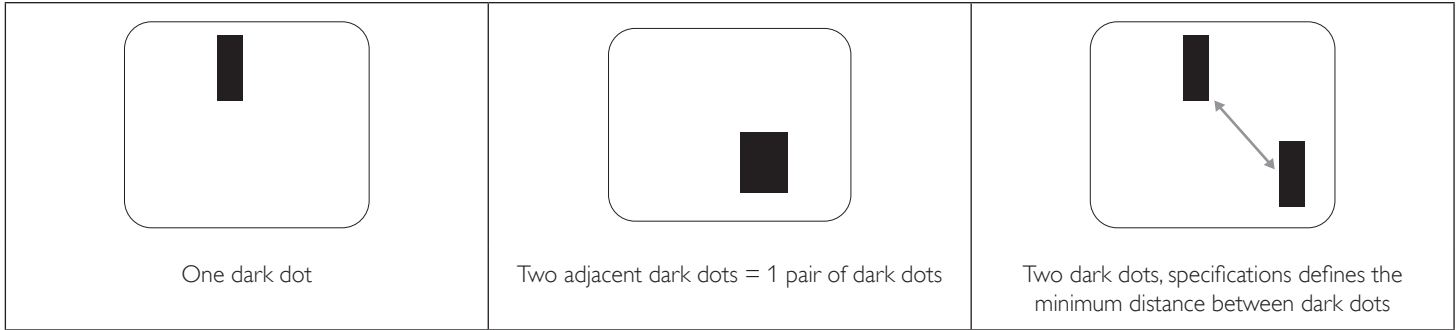
8.3. Bright Dot Defects

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

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



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, 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 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 insect 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 insect 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	<ol style="list-style-type: none"> 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 standby mode. 	<ol style="list-style-type: none"> 1. Plug in the power cord. 2. Make sure the power switch is switched on. 3. Connect a signal connection to the display.
Interference displayed on the display or audible noise is heard	Caused by surrounding electrical appliances or fluorescent lights.	Move the display to another location to see 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	<ol style="list-style-type: none"> 1. The signal cable is not connected properly. 2. The input signal is beyond the capabilities of the display. 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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	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"> 1. Improperly connected source signal cable. 2. Volume is turned all the way down. 3. {Mute} is turned on. 4. No external speaker connected. 	<ol style="list-style-type: none"> 1. Make sure that both video inputs and sound inputs are correctly connected. 2. Press [+] or [-] button to hear sound. 3. Switch MUTE off by using the [MUTE] button. 4. Connect external speakers and adjust the volume to a suitable level.
Some picture elements do not light up	Some pixels of the display may not turn on.	This display is manufactured using an extremely high level of precision technology; however, sometimes some pixels of the display may not display. This is not a malfunction.
After-Images can still be seen on the 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.

10. Technical Specifications

Display:

Item	Specifications
Screen Size (Active Area)	1209.6(H) × 680.4(V)
Aspect Ratio	16:9
Number of pixels	1920 (H) × 1080 (V)
Pixel pitch	0.63(H) × 0.63(V)
Displayable colors	16.7M
Brightness (typical)	350 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]/16Ω 1 Way 1 Speaker System 82 dB/W/M/160 Hz ~ 13 KHz
Audio Output	RCA Jack × 2 0.5V [rms] (Normal) / 2 Channel (L+R)
Audio Input	RCA Jack × 2 3.5mm phone jack × 1 0.5V [rms] (Normal) / 2 Channel (L+R)
RS232C	2.5mm Phone jack × 2 RS232C in/RS232C out
RJ-45	RJ-45 Jack × 1 (8 pin) 10/100 LAN Port
HDMI Input	HDMI Jack × 1 (Type A) (19 pin) Digital RGB: TMDS (Video + Audio) MAX: Video - 720p, 1080p, 1920 × 1080/60 Hz (WUXGA) Audio - 48 KHz/ 2 Channel (L+R) Supports LPCM only
DVI-D Input	DVI-D jack Digital RGB: TMDS (Video)
VGA Input	D-Sub Jack × 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 × 1080/60 Hz (WUXGA)
Component Input	RCA Jack × 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 × 1 (Share with Component_Y) Composite 1V [p-p] (75Ω)

General:

Item	Specifications
Power Supply	AC 100 - 240V, 50 - 60Hz, 2.5A
Power Consumption (Max)	174 W
Power Consumption (typ.)	140 W
Power Consumption (Standby & Off)	<0.5 W (RS232 in active)
Dimensions (Without Stand) [W × H × D]	1238.6(W)×711.1(H)×59.9(Rear Cover)/61.7(Wall Mount)
Weight (Without Stand)	16.0 Kg
Gross Weight (Without Stand)	22.5 Kg

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

Internal Speaker:

Item	Specifications
Type	1 Way 1 Speaker
Input	10 W (RMS)
Impedance	16Ω
Output Sound Pressure	82 dB/W/M
Frequency Response	160 Hz ~ 13 KHz