ViewSonic®

CDP9800
Commercial Display
User Guide

IMPORTANT: Please read this User Guide to obtain important information on installing and using your product in a safe manner, as well as registering your product for future service. Warranty information contained in this User Guide will describe your limited coverage from ViewSonic Corporation, which is also found on our web site at http://www.viewsonic.com in English, or in specific languages using the Regional selection box in the upper right corner of our website. “Antes de operar su equipo lea cu idadosamente las instrucciones en este manual”

Model No. VS16304

Thank you for choosing ViewSonic

With over 25 years as a world leading provider of visual solutions, ViewSonic is dedicated to exceeding the world's expectations for technological evolution, innovation, and simplicity. At ViewSonic, we believe that our products have the potential to make a positive impact in the world, and we are confident that the ViewSonic product you have chosen will serve you well.

Once again, thank you for choosing ViewSonic !

ViewSonic®

Compliance Information

NOTE: This section addresses all connected requirements and statements regarding regulations. Confirmed corresponding applications shall refer to nameplate labels and relevant markings on unit.

FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class A/ Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, 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/her own expense.

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning: To comply with the limits for the Class A/Class B digital device, pursuant to Part 15 of the FCC Rules, this device must be installed in computer equipment certified to comply with the Class A/Class B limits. All cables used to connect the computer and peripherals must be shielded and grounded. Operation with non-certified computers or non-shielded cables may result in interference to radio or television reception. Changes and modifications not expressly approved by the manufacturer could void the user’s authority to operate this equipment.

For Canada

CAN ICES-3 (A/B)/NMB-3(A/B)

CE Conformity for European Countries

The device complies with the EMC Directive 2004/108/EC and Low Voltage Directive 2006/95/EC.

Following information is only for EU-member states:

The mark shown to the right is in compliance with the Waste Electrical and Electronic Equipment Directive 2012/19/EU (WEEE).



The mark indicates the requirement NOT to dispose of the equipment as unsorted municipal waste, but use the return and collection systems according to local law.

If the batteries, accumulators and button cells included with this equipment, display the chemical symbol Hg, Cd, or Pb, then it means that the battery has a heavy metal content of more than 0.0005% Mercury or more than, 0.002% Cadmium, or more than 0.004% Lead.



Industry Canada Notice

This device complies with Canadian RSS-210.To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmitting antenna) that is installed outdoors is subject to licensing. The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's website www.hc-sc.gc.ca/rpb.

R&TTE Compliance Statement

This device complies with the Essential Requirements of the R&TTE Directive of the European Union (1999/5/EC). This equipment meets the following conformance standards:

ETSI EN 300 328

EN 301 489-01

EN 301 489-17

EN 62311

Notified Countries: Germany, UK, Netherlands, Belgium, Sweden, Denmark, Finland, France, Italy, Spain, Austria, Ireland, Portugal, Greece, Luxembourg, Estonia, Latvia, Lithuania, Czech Republic, Slovakia, Slovenia, Hungary, Poland and Malta.

Declaration of RoHS2 Compliance

This product has been designed and manufactured in compliance with Directive 2011/65/EU of the European Parliament and the Council on restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS2 Directive) and is deemed to comply with the maximum concentration values issued by the European Technical Adaptation Committee (TAC) as shown below:

Substance	Proposed Maximum Concentration	Actual Concentration
Lead (Pb)	0,1%	< 0,1%
Mercury (Hg)	0,1%	< 0,1%
Cadmium (Cd)	0,01%	< 0,01%
Hexavalent Chromium (Cr^{6+})	0,1%	< 0,1%
Polybrominated biphenyls (PBB)	0,1%	< 0,1%
Polybrominated diphenyl ethers (PBDE)	0,1%	< 0,1%

Certain components of products as stated above are exempted under the Annex III of the RoHS2 Directives as noted below:

Examples of exempted components are:

1. Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp):
   (1) Short length (≦500 mm): maximum 3.5 mg per lamp.
   (2) Medium length (＞500 mm and ≦1,500 mm): maximum 5 mg per lamp.
   (3) Long length (＞1,500 mm): maximum 13 mg per lamp.
2. Lead in glass of cathode ray tubes.
3. Lead in glass of fluorescent tubes not exceeding 0.2% by weight.
4. Lead as an alloying element in aluminium containing up to 0.4% lead by weight.
5. Copper alloy containing up to 4% lead by weight.
6. Lead in high melting temperature type solders (i.e. lead-based alloys containing 85% by weight or more lead).
7. Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound.

Safety Precautions

FOR OPTIMUM PERFORMANCE, PLEASE NOTE THE FOLLOWING WHEN SETTING UP AND USING THE LCD COLOR MONITOR:

- DO NOT REMOVE MONITOR BACK COVER. There are no user serviceable parts inside and opening or removing covers may expose you to dangerous shock hazards or other risks. Refer all servicing to qualified service personnel.
- Do not spill any liquids into the cabinet or use your monitor near water.
- Do not insert objects of any kind into the cabinet slots, as they may touch dangerous voltage points, which can be harmful or fatal or may cause electric shock, fire or equipment failure.
- Do not place any heavy objects on the power cord. Damage to the cord may cause shock or fire.
- Do not place this product on a sloping or unstable cart, stand or table, as the monitor may fall, causing serious damage to the monitor.
- Do not place any objects onto the monitor and do not use the monitor outdoors.
- The inside of the fluorescent tube located within the LCD monitor contains mercury. Please follow the laws or rules of your municipality to dispose of the tube properly.
- Do not bend power cord.
- Do not use monitor in high temperature, humid, dusty, or oily areas.
- If monitor or glass is broken, do not come in contact with the liquid crystal and handle with care.
- Allow adequate ventilation around the monitor, so that heat can properly dissipate. Do not block ventilated openings or place the monitor near a radiator or other heat sources. Do not put anything on top of the monitor.
- The power cable connector is the primary means of detaching the system from the power supply. The monitor should be installed close to a power outlet, which is easily accessible.
- Handle with care when transporting. Save packaging for transporting.
- Please clean the holes of back cabinet to reject dirt and dust at least once a year because of set reliability.
- If using the cooling fan continuously, it’s recommended to wipe holes a minimum of once a month.
- When installing the remote control batteries;
  - Align the batteries according to the (+) and (-) indications inside the case.
  - Align the (-) indication of the battery first inside the case.

WARNING:

Usage of other than specified head- or earphones can result in hearing loss due to excessive sound pressures.

CAUTION:

Immediately unplug your monitor from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the monitor.
- If the monitor has been exposed to rain or water.
- If the monitor has been dropped or the cabinet damaged.
- If the monitor does not operate normally by following operating instructions.

Recommended Use

CAUTION:

- For optimum performance, allow 20 minutes for warm-up.
- Rest your eyes periodically by focusing on an object at least 5 feet away. Blink often.
- Position the monitor at a 90° angle to windows and other light sources to minimize glare and reflections.
- Clean the LCD monitor surface with a lint-free, nonabrasive cloth. Avoid using any cleaning solution or glass cleaner!
- Adjust the monitor’s brightness, contrast and sharpness controls to enhance readability.
- Avoid displaying fixed patterns on the monitor for long periods of time to avoid image persistence (after image effects).
- Get regular eye checkups.

Ergonomics

To realize the maximum ergonomic benefits, we recommend the following:

- Use the preset Size and Position controls with standard signals.
- Use the preset Color Setting.
- Use non-interlaced signals.
- Do not use primary color blue on a dark background, as it is difficult to see and may produce eye fatigue due to insufficient contrast.

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Product Registration

To meet your future needs, and to receive any additional product information as it becomes available, please register your product on the Internet at: www.viewsonic.com.

The ViewSonic® Wizard CD-ROM also provides an opportunity for you to print the registration form, which you may mail or fax to ViewSonic.

For Your Records

Product Name:	CDP9800 ViewSonic Commercial Display
Model Number:	VS16304
Document Number:	CDP9800_UG_ENG Rev. 1A 11-06-15
Serial Number:	_____
Purchase Date:	_____

Product disposal at end of product life

ViewSonic respects the environment and is committed to working and living green. Thank you for being part of Smarter, Greener Computing.

Please visit ViewSonic website to learn more.

USA & Canada: http://www.viewsonic.com/company/green/recycle-program/

Europe: http://www.viewsoniceurope.com/uk/support/recycling-information/

Taiwan: http://recycle.epa.gov.tw/recycle/index2.aspx

1. Unpacking and Installation

1.1. Unpacking

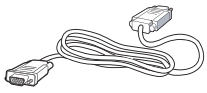
- This product is packed in a carton, together with the standard accessories.
- Any other optional accessories will be packed separately.
- Due to the size and weight of this display it is recommended for two people to move it.
- After opening the carton, ensure that the contents are complete and in good condition.

1.2. Package Contents

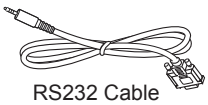
Please verify that you received the following items with your package content:

- LCD display
- CD ROM
- Remote control with AAA batteries
- Power cord (1.8 m)
- VGA cable (1.8 m)
- RS232 cable (3.0m)
- Quick Start Guide

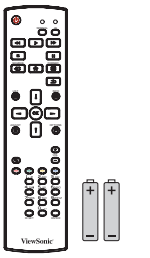




Video Signal Cable
(D-SUB to D-SUB Cable)



RS232 Cable



Remote Control
and AAA Batteries



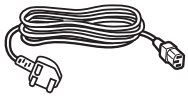
For EU*



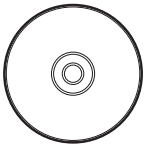
For China*



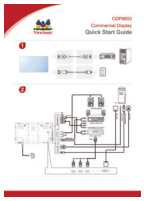
For North America*



For UK*



CD ROM



Quick Start Guide

* The supplied power cord varies depending on destination.

NOTES:

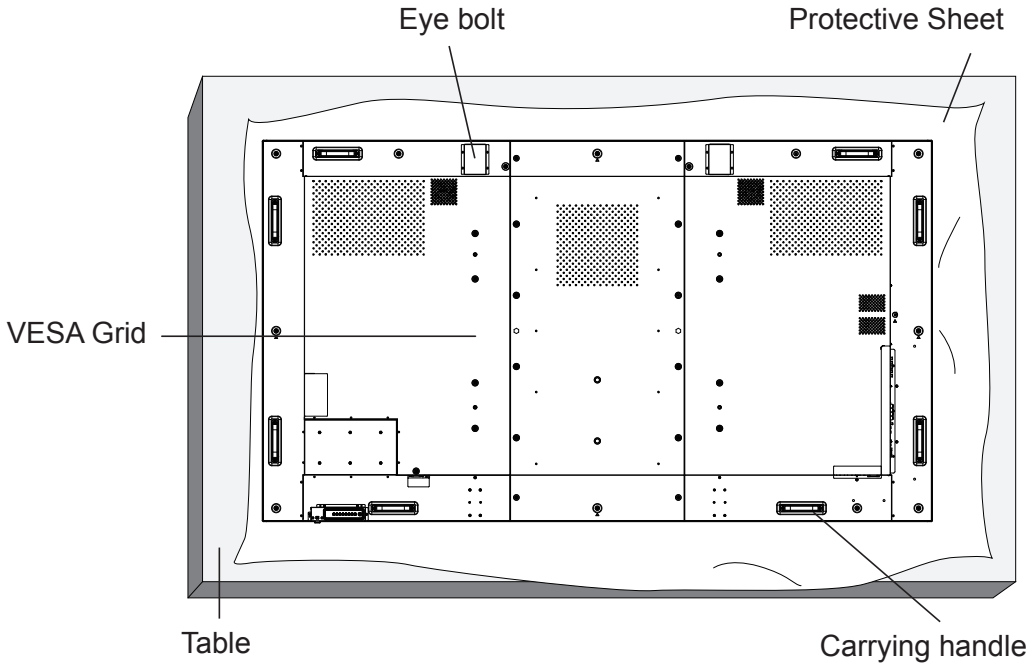
- For all other regions, apply a power cord that conforms to the AC voltage of the power socket and has been approved by and complies with the safety regulations of the particular country.
- You might like to save the package box and packing material for shipping the display.

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 5000m in altitude. In installations at altitudes above 5000m, 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-mounting kit, use M8 mounting screws (having a length 15 mm longer than the thickness of the mounting bracket) and tighten them securely.
5. The eye bolt is for usage in short time maintenance and installation. We suggest not to use the eye bolt for more than 1 hour. Prolong usage is prohibited. Please keep a clear safety area under the display while using the eye bolt.

1.4.1. VESA Grid

CDP9800	800(H) x 500(V) mm

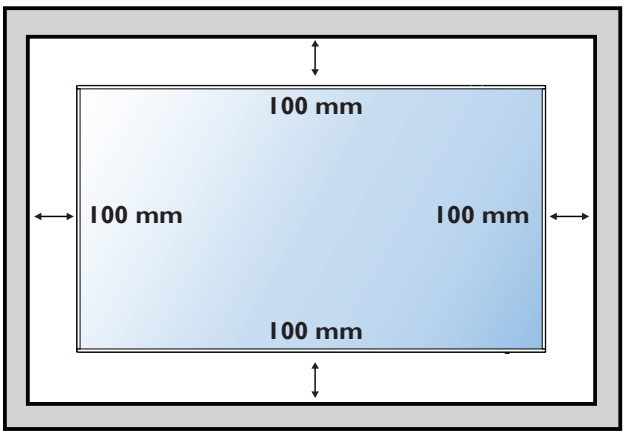
Caution:

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

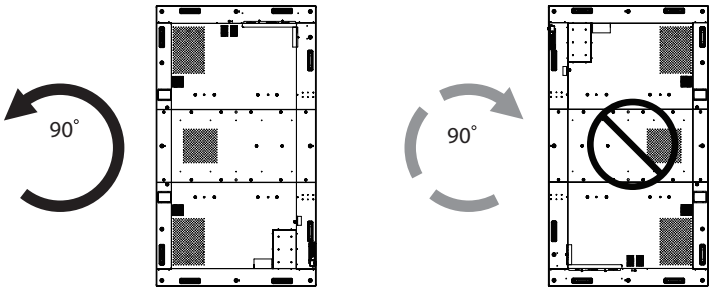
To allow heat to disperse, leave space between surrounding objects as shown in the diagram below.



1.5. Mounting in Portrait Position

This display can be installed in por trait position.

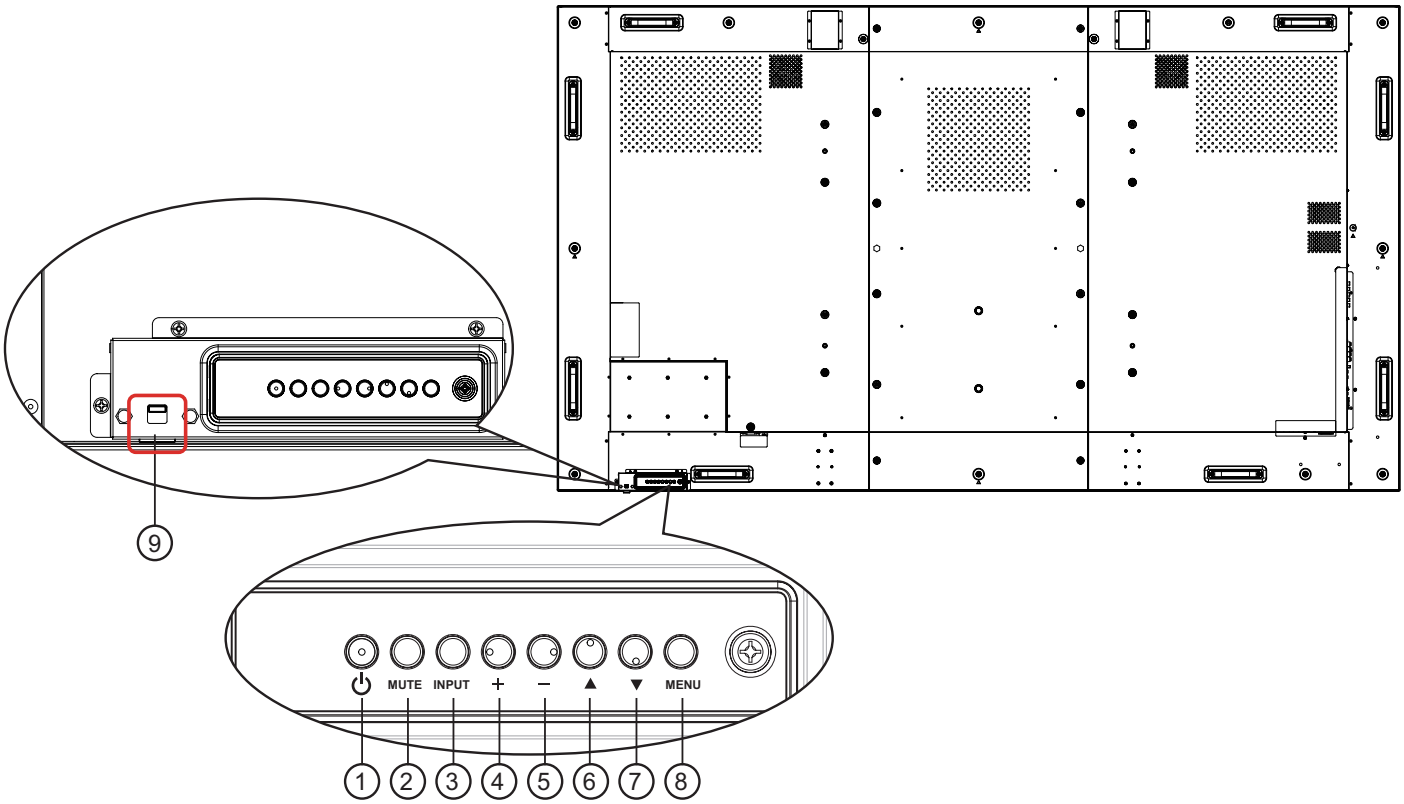
1. Remove the table stand, if attached.
2. When facing the display at the back, rotate 90 degrees anticlockwise, the input/output terminals should at the top and right side.



NOTE: When installing the display on a wall, please consult a professional technician for proper installation. We accept no liability for installations not performed by a professional technician.

2. Parts and Functions

2.1. Control Panel



① **[⏻] button**
Use this button to turn the display on or put the display to standby.

② **[MUTE] button**
Switch the audio mute ON/OFF.

③ **[INPUT] button**
Use this button to select the input source.

④ **[+] button**
Increase the adjustment while OSD menu is on, or increase the audio output level while OSD menu is off.

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

⑤ **[–] button**
Decrease the adjustment while OSD menu is on, or decrease the audio output level while OSD menu is off.

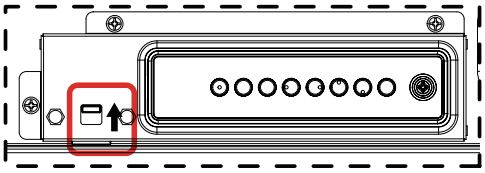
⑥ **[▲] button**
Move the highlight bar up to adjust the selected item while OSD menu is on.

⑦ **[▼] button**
Move the highlight bar down to adjust the selected item while OSD menu is on.

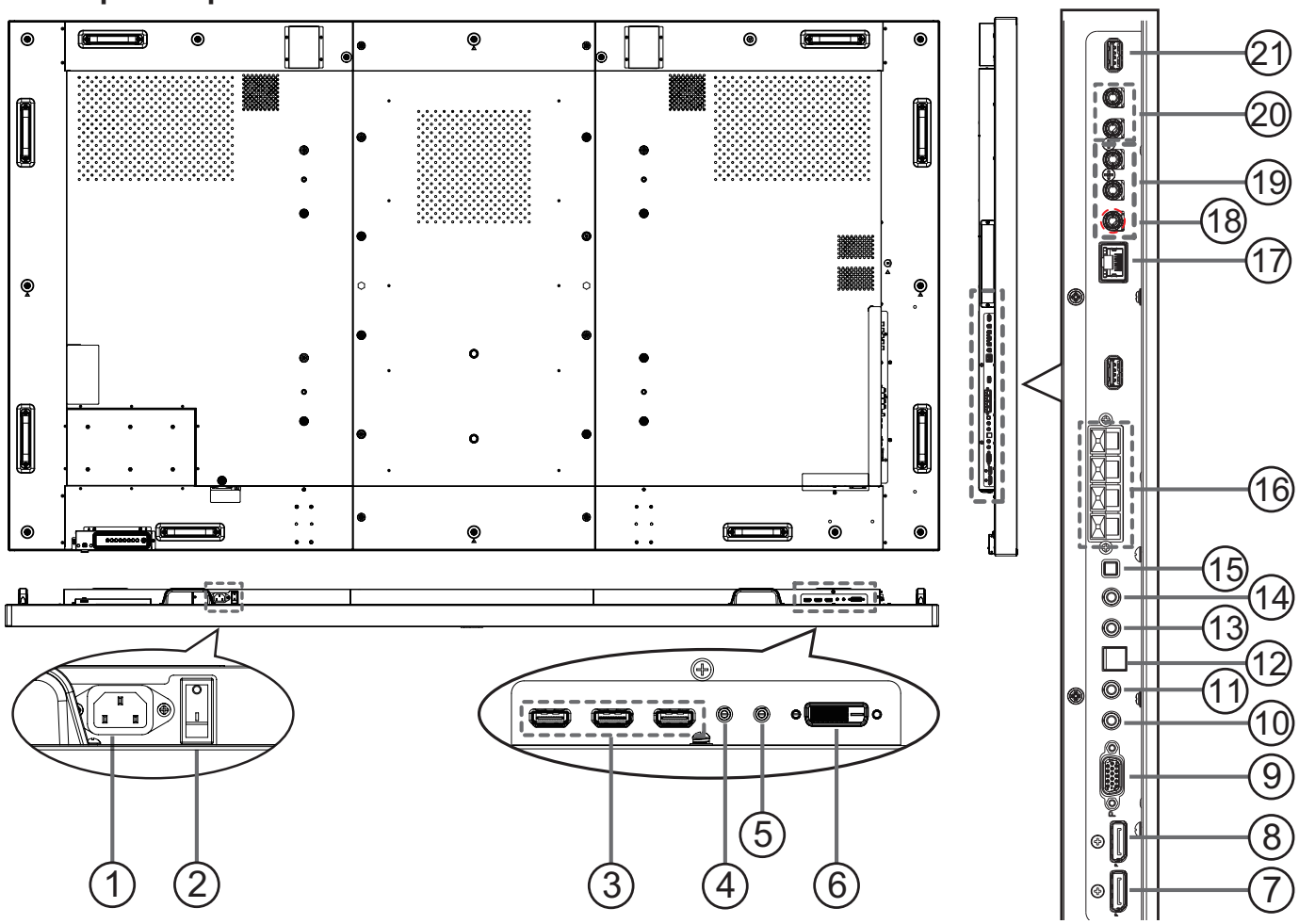
⑧ **[MENU] button**
Return to previous menu while OSD menu is on, or to activate the OSD menu when OSD menu is off.

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

- Receives command signals from the remote control.
- Indicates the operating status of the display:
  - Lights green when the display is turned on
  - Lights red when the display is in standby mode
  - Lights amber when the display enters APM mode
  - When {**SCHEDULE**} is enabled, the light blinks green and red
  - If the light blinks red, it indicates that a failure has been detected
  - Lights off when the main power of the display is turned off
- Push up to hide the lens:



2.2. Input/Output Terminals



① **AC IN**
AC power input from the wall outlet.

② **MAIN POWER SWITCH**
Switch the main power on/off.

③ **HDMI 1 IN / HDMI 2 IN / HDMI 3 IN**
HDMI video/audio input.

④ **RS232C IN** ⑤ **RS232C OUT**
RS232C network output for the loop-through function.

⑥ **DVI IN**
DVI-D video input.

⑦ **DisplayPort IN /** ⑧ **DisplayPort OUT**
DisplayPor t video input / output.

⑨ **VGA IN (D-Sub)**
VGA video input.

⑩ **IR IN /** ⑪ **IR OUT**
IR signal input / output 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 **SPDIF OUT**
Digital audio output.

⑬ **AUDIO IN**
Audio input for VGA source (3.5mm stereo phone).

⑭ **AUDIO OUT**
Audio output to external AV device.

⑮ **SPEAKER SWITCH**
Internal speaker on/off switch.

⑯ **SPEAKERS OUT**
External speakers output.

⑰ **RJ-45**
LAN control function for the use of remote control signal from control center.

⑱ **Y/CVBS**
Video source input.

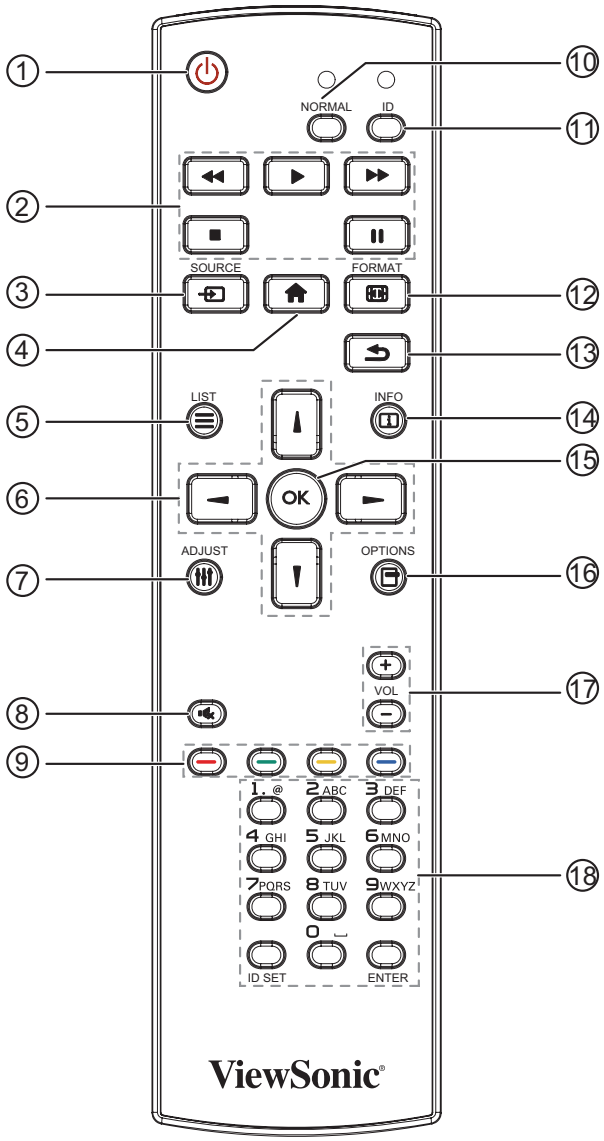
⑲ **COMPONENT IN**
Component YPbPr video source input.

⑳ **AUDIO IN**
Audio inpu+t from external AV device (RCA).

㉑ **USB PORT**
Connect your USB storage device.

2.3. Remote Control

2.3.1. General functions



① **[⏻] button**
Turn the display on or put the display to standby.

② **[PLAY] button**
Control playback of media files.

③ **[⇥] SOURCE button**
Choose input source. Press [▲] or [▼] button to choose from **DisplayPort**, **DVI-D**, **VGA**. **HDMI 1**, **HDMI 2**, **HDMI 3**, **Component**, **Video**, **USB** or **Card OPS**. Press [**OK**] button to confirm and exit.

④ **[⌂] HOME button**
Access the OSD menu.

⑤ **[☰] LIST button**
No function.

⑥ **[▲] [▼] [◄] [►] NAVIGATION buttons**
Navigate through menus and choose items.

⑦ **[⚙] ADJUST button**
To auto adjust for VGA input only.

⑧ **[🔇] MUTE button**
Press to turn the mute function on/off.

⑨ **[■] [■] [■] [■] COLOR buttons**
Choose tasks or options..

⑩ **[NORMAL] button**
Switch to normal mode.

⑪ **[ID] button**
Switch to ID mode.

⑫ **[⛶] FORMAT button**
Change zoom mode.

⑬ **[⮌] BACK button**
Return to the previous menu page or exit from the previous function.

⑭ **[ⓘ] INFO button**
Display information about current activity.

⑮ **[OK] button**
Confirm an entry or selection.

⑯ **[▤] OPTIONS button**
Access currently available options, picture and sound menus.

⑰ **[+] [–] VOLUME button**
Adjust volume.

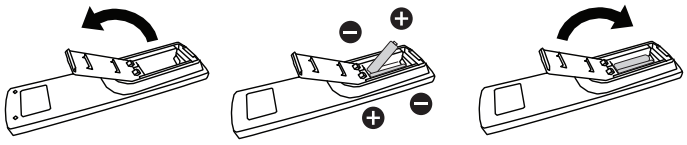
⑱ **[NUMERIC] button**
Enter text for network setting, and set up ID for ID mode.

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.

2.3.3. Handling the remote control

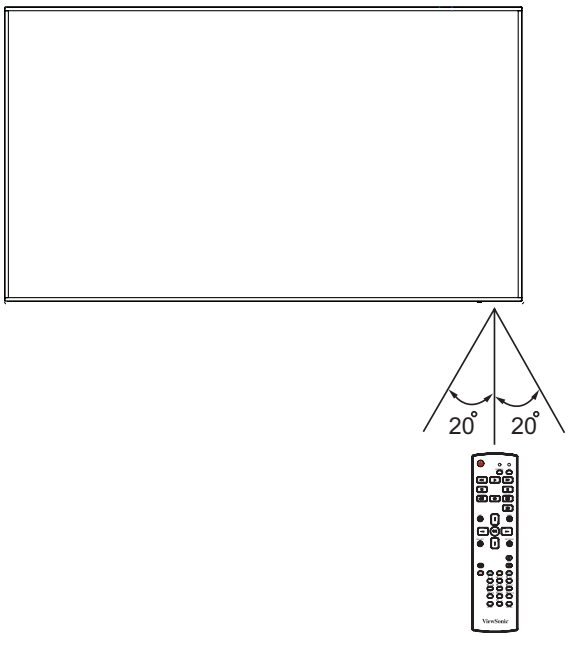
- Do not subject to strong shock.
- Do not allow water or other liquid to splash the remote control. If the remote control gets wet, wipe it dry immediately.
- Avoid exposure to heat and steam.
- Other than to install the batteries, do not open the remote control.

2.3.4. Operating range of the remote control

Point the top of the remote control toward the display’s remote control sensor when pressing a button.

Use the remote control within a distance of less than 5m (pull the lens down and use the remote control from the front) /26ft from the display’s sensor, and a horizontal and ver tical angle of less than 20 degrees.

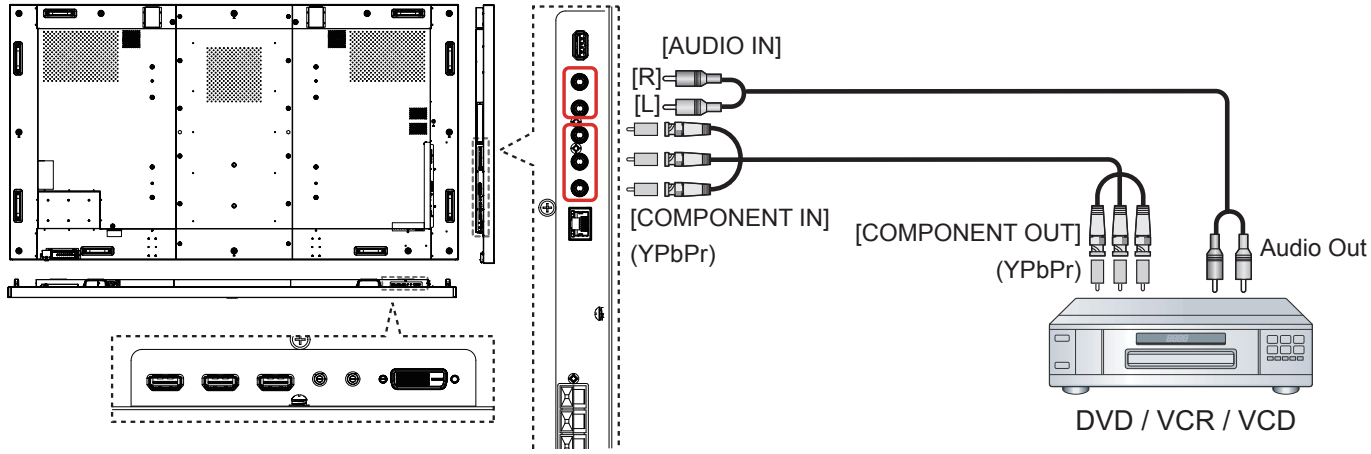
NOTE: The remote control may not function properly when the remote control sensor on the display is under direct sunlight or strong illumination, or when there is an obstacle in the path of signal transmission.



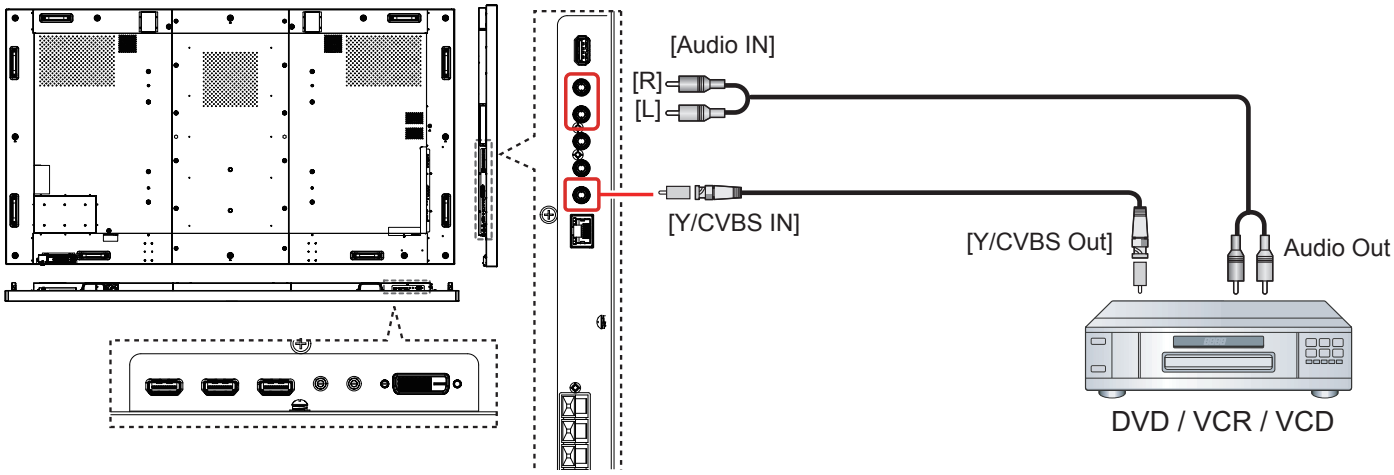
3. Connecting External Equipment

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

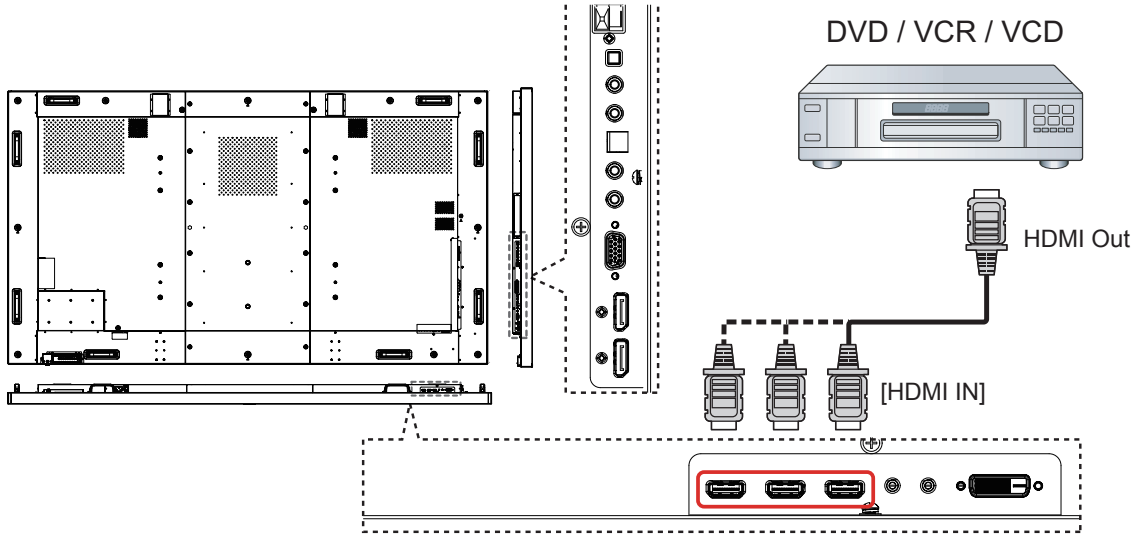
3.1.1. Using COMPONENT video input



3.1.2. Using Video Source input

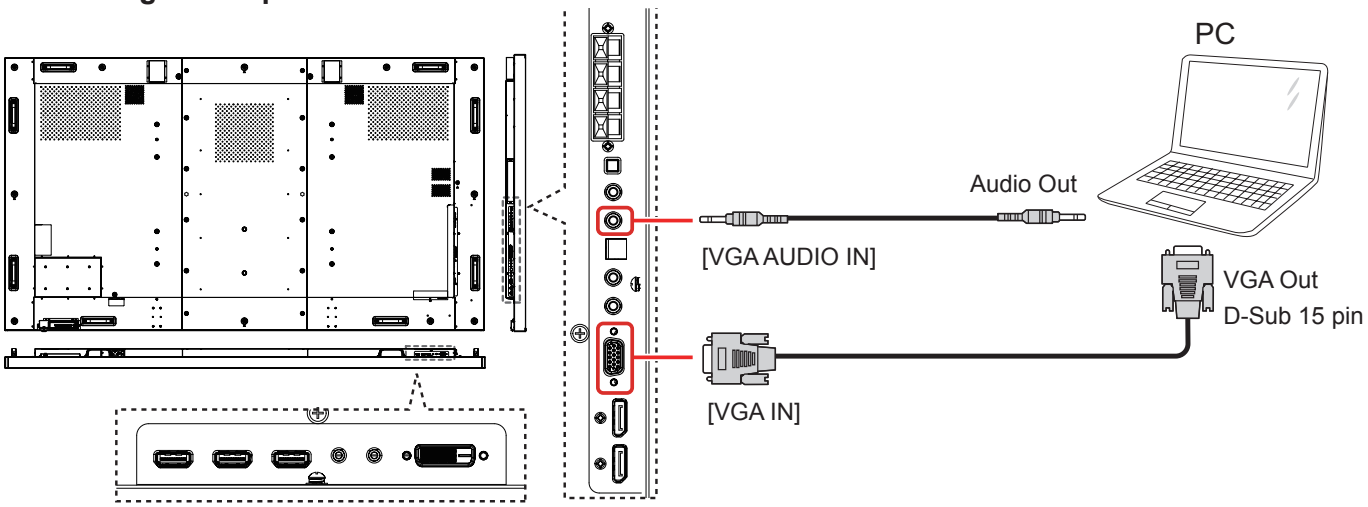


3.1.3. Using HDMI video input

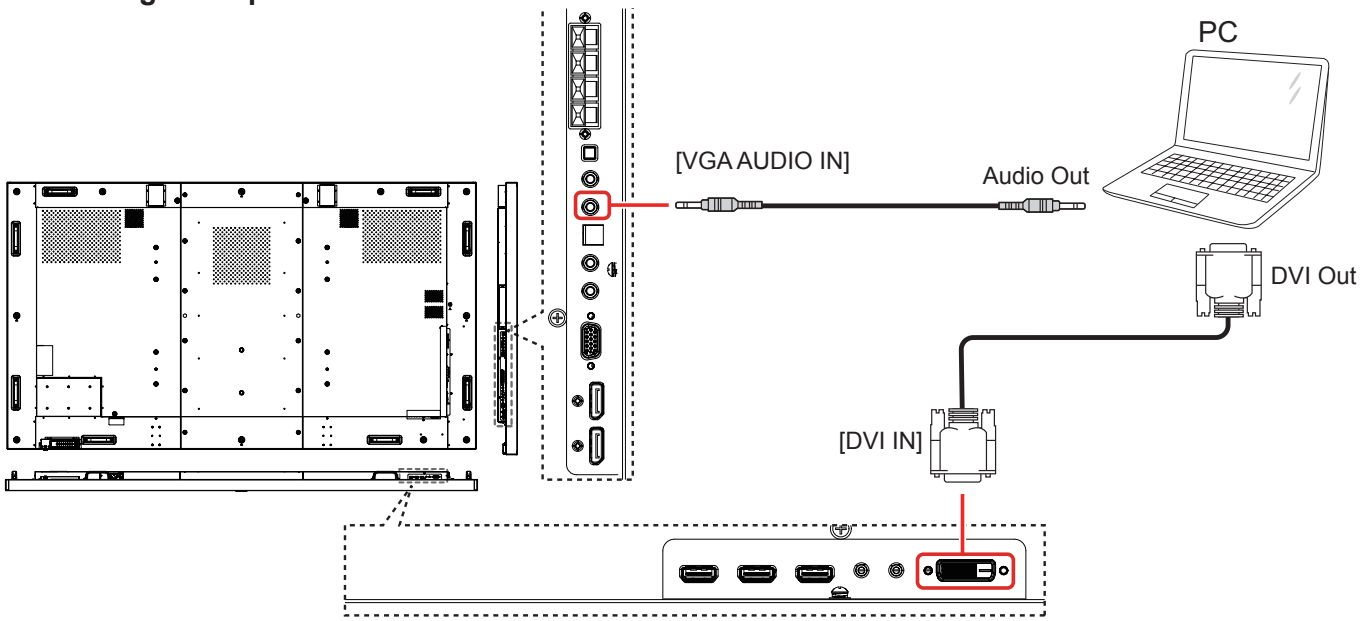


3.2. Connecting a PC

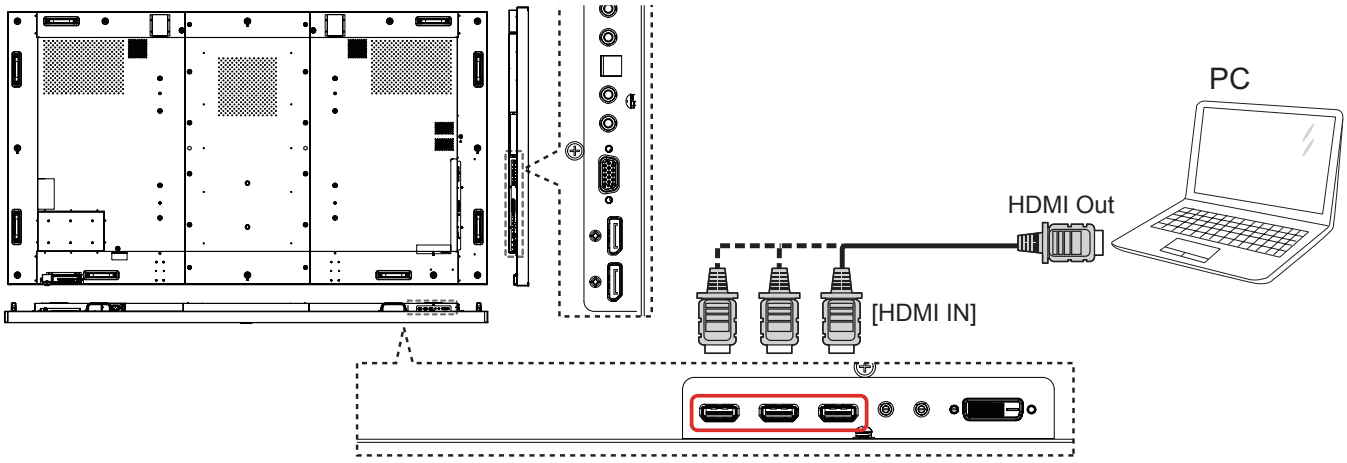
3.2.1. Using VGA input



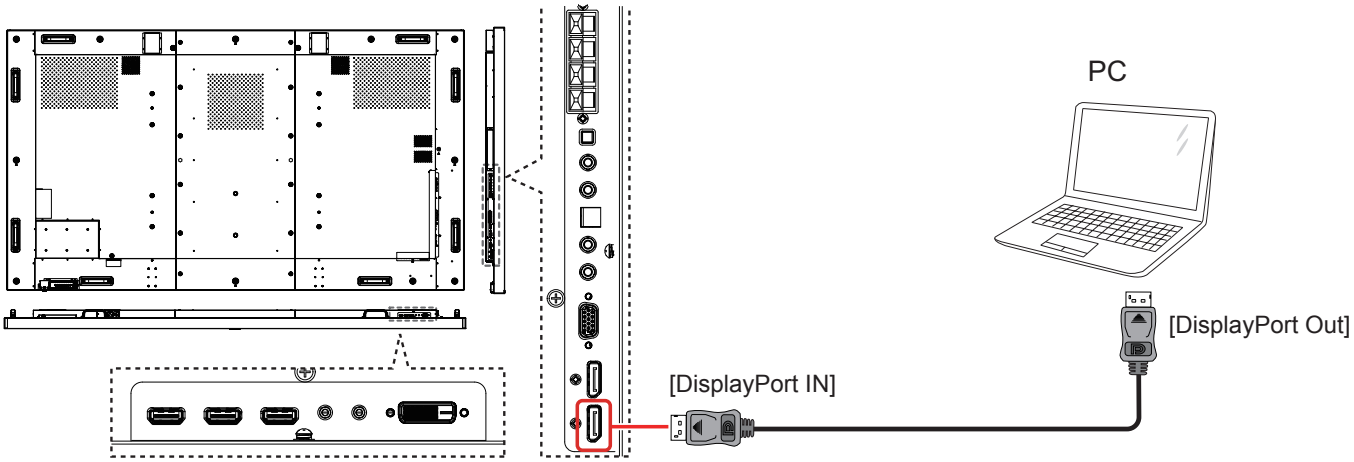
3.2.2. Using DVI input



3.2.3. Using HDMI input

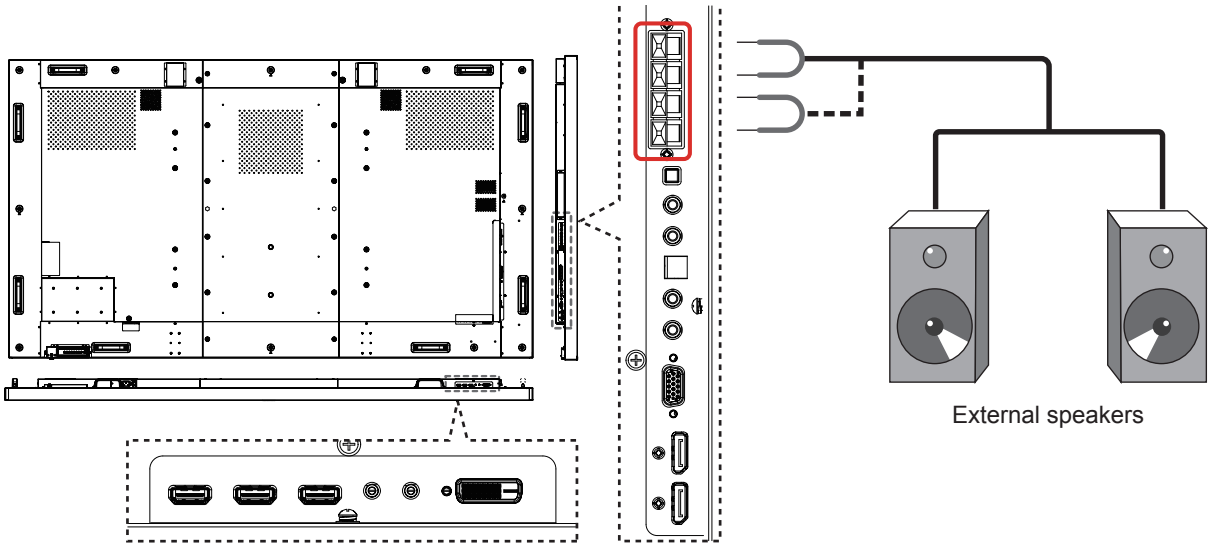


3.2.4. Using DisplayPort input

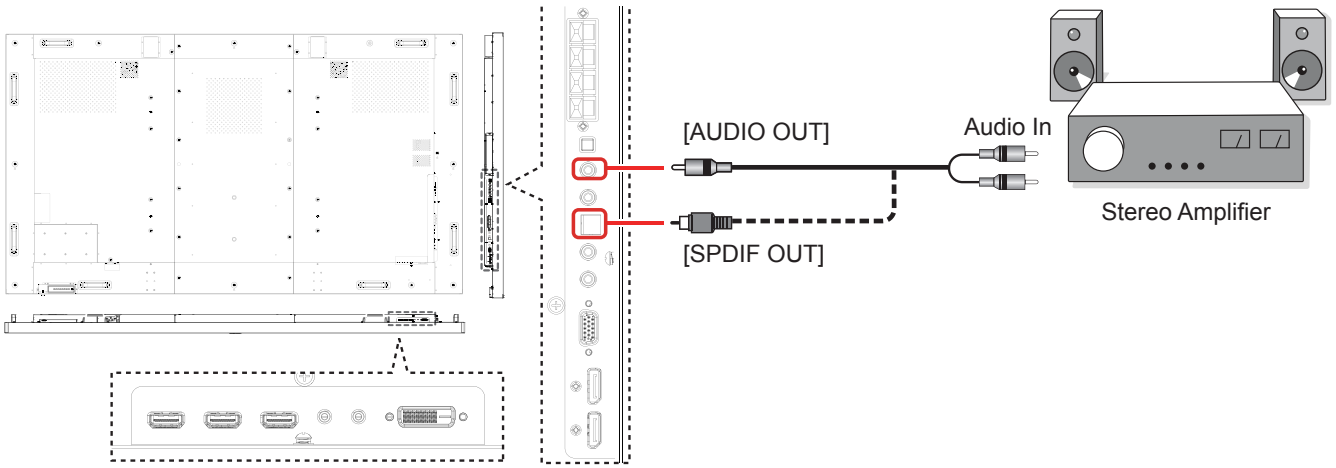


3.3. Connecting Audio Equipment

3.3.1. Connecting external speakers



3.3.2. Connecting an external audio device



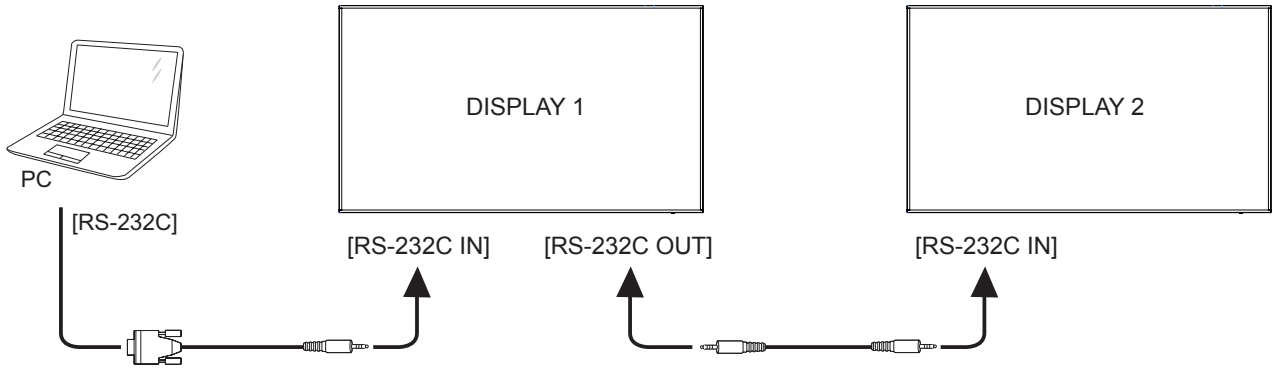
3.4. Connecting Multiple Displays in a Daisy-chain Configuration

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

NOTE: Maximum 100 displays (10x10) can be used in a daisy-chain configuration.

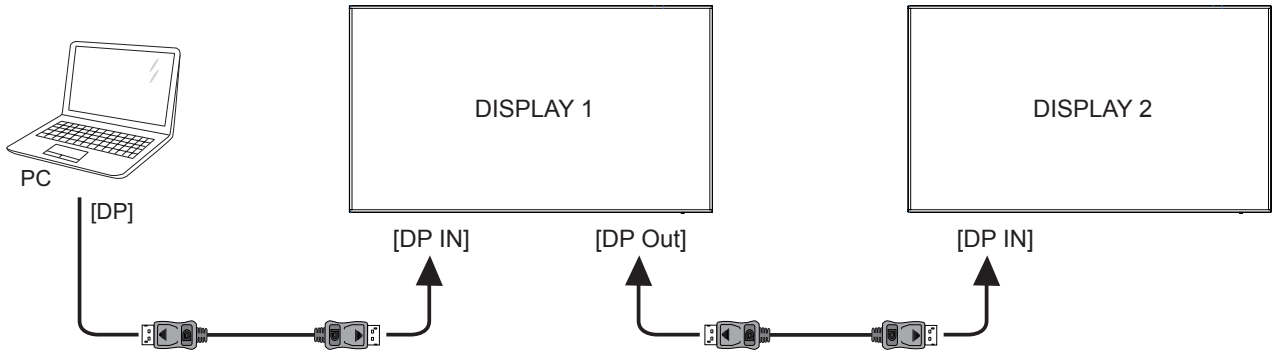
3.4.1. Display control connection

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

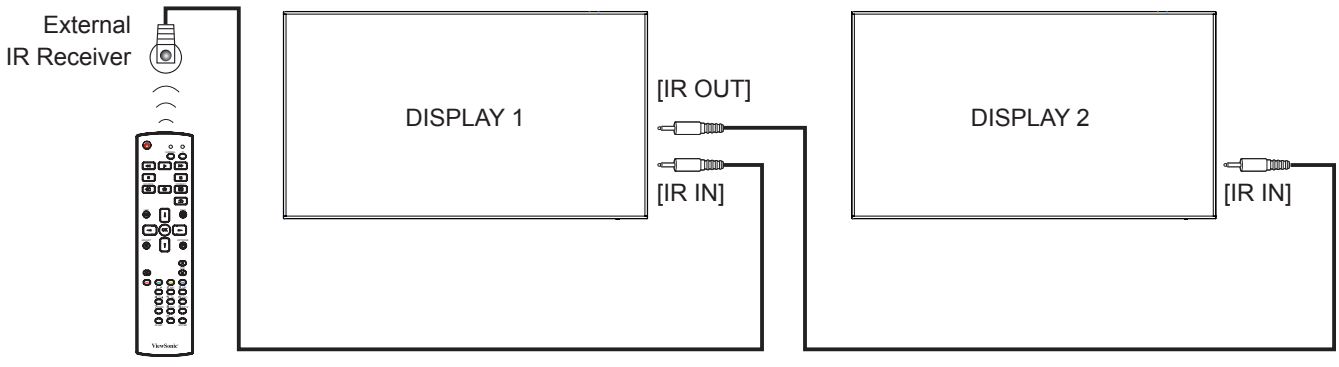


3.4.2. Digital video connection

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

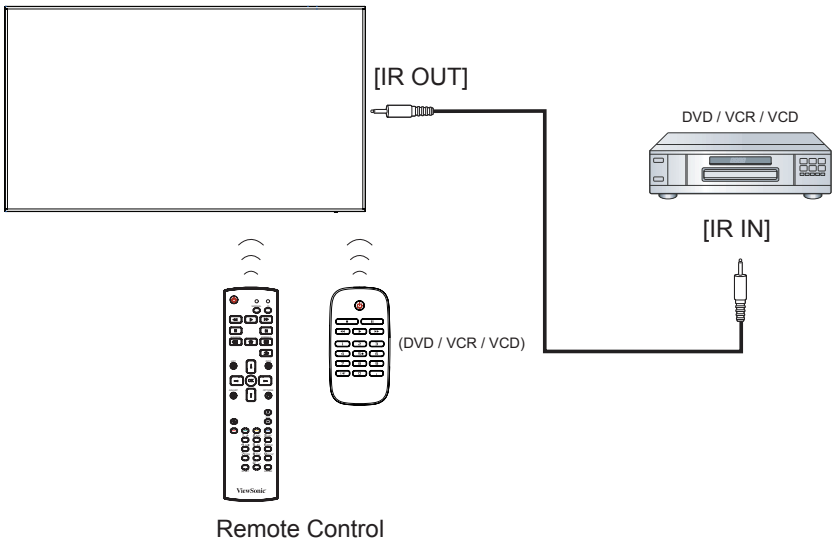


3.5. IR connection (optional)



NOTE: This display's remote control sensor will stop working if the [**IR IN**] is connected.

3.6. IR Pass-through Connection (optional)



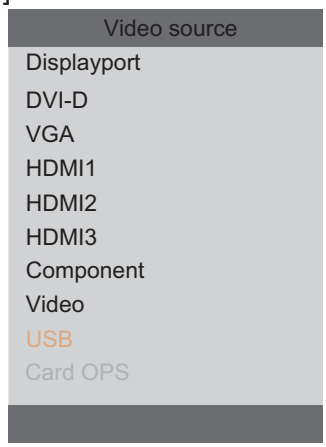
4. Operation

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

4.1. Watch the Connected Video Source

See page 13 for external equipments connection.

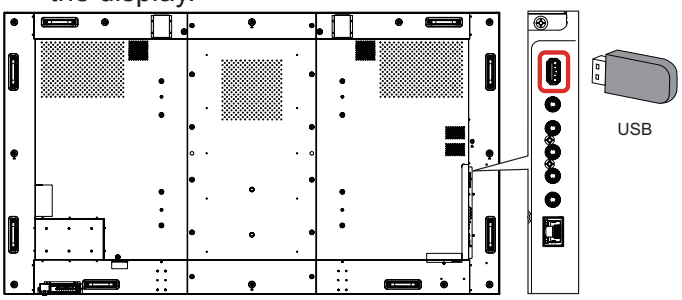
1. Press [⏎] **SOURCE** button.



2. Press [▲] or [▼] button to choose a device, then press [**OK**] button.

4.2. Play multimedia files from USB device

1. Connect your USB device to the USB por t on the display.



2. Press [⏎] **SOURCE** button, choose **USB**, and press [**OK**] button.
3. The connected USB device is detected automatically for all its playable files, which will be automatically sor ted into 3 types: **Music**, **Movie**, and **Photo**.
4. Press [⮌] **BACK** button to go up to the top layer in the screen. Press **[−]** or **[+]** button to choose the file type. Press [**OK**] button to enter its play list.
5. Choose the file you want. Press [**OK**] button to star t playing.
6. Follow the on-screen instruction to control the play option.
7. Press [**PLAY**] buttons (■ ❚❚ ◀◀ ▶ ▶▶) to control playing.

4.3. Play options

4.3.1. Playing music files

1. Choose **Music** in the top bar.



2. Choose one music track, and press [**OK**] button.
   - To play all the tracks in a folder, choose one music file.Then, press **[−]** to **Play All**.
   - To skip to the next or previous track, press [▲] or [▼] 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.

4.3.2. Playing movie files

1. Choose **Movie** in the top bar.



2. Choose a video, and press [**OK**] button.
   - To play all the videos in a folder, choose one video file.Then, press **[−]** to **Play All**.
   - To pause the video, press [**OK**] button. Press [**OK**] button again to resume playback.
   - To skip backward or forward 10 seconds, press **[−]** or **[+]** button.
   - To search backward or forward, press [◀◀] or [▶▶] button, press repeatedly to toggle between different speeds.
   - To stop the video, press [■] button.

4.3.3. Playing photo files

1. Choose **Photo** in the top bar.



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

Start a slideshow

If there are multiple photos in a folder, choose a photo.Then, press **[−]** to **Play All**.

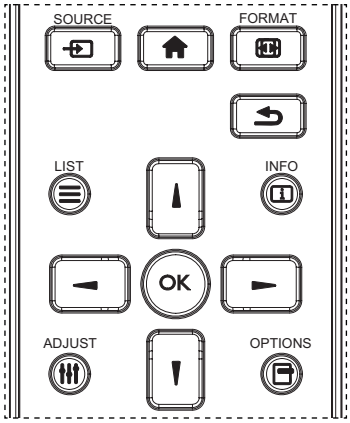
- To skip to the previous or next photo, press **[−]** or **[+]** button, and then press [**OK**] button.
- To stop the slideshow, press [■] button.

5. OSD Menu

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

5.1. Navigating the OSD Menu

5.1.1. Navigating the OSD menu using the remote control



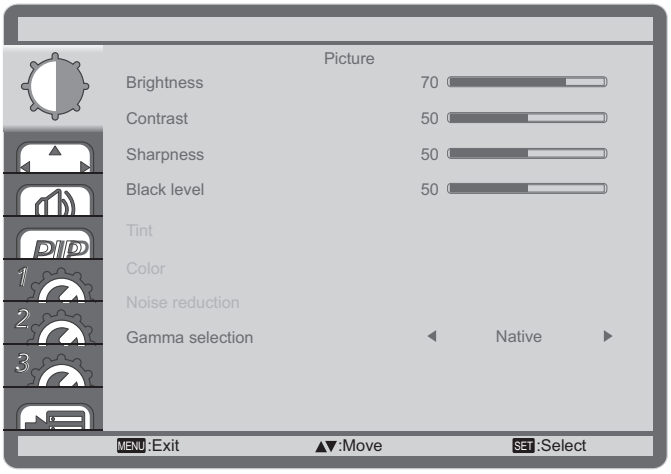
1. Press [⌂] button on the remote control to display the OSD menu.
2. Press [▲] or [▼] button to choose the item you want to adjust.
3. Press [**OK**] or [►] button to enter the submenu.
4. In the submenu, press [▲] or [▼] button to toggle among items, press **[◄]** or **[►]** button to adjust settings. If there is a submenu, press [**OK**] or **[►]** button to enter the submenu.
5. Press [⮌] button to return to the previous menu, or press [⌂] button to exit the OSD menu.

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

1. Press [**MENU**] button to display the OSD menu.
2. Press [+] or [–] button to choose the item you want to adjust.
3. Press [+] button to enter the submenu.
4. In the submenu, press [▲] or [▼] button to toggle among items, press [+] or [–] button to adjust settings. If there is a submenu, press [+] button to enter the submenu.
5. Press [**MENU**] button to return to the previous menu, or press [**MENU**] button several times to exit the OSD menu.

5.2. OSD Menu Overview

5.2.1. PICTURE menu



Brightness

Adjust the overall image brightness by changing the intensity of the LCD panel's backlight.

Contrast

Adjust to sharpen the picture quality. The black portions of the picture become richer in darkness and the white become brighter.

Sharpness

Adjust to improve the image detail.

Black level

Video black level is defined as the level of brightness at the darkest (black) par t of a visual image. Adjust to change the image brightness.

Tint

Adjust to change the color tint of the image.

Use the **[◄]** or **[►]** button to adjust. Press the **[►]** button and the flesh tone color turns slightly green. Press the **[◄]** button and the flesh tone color turns slightly purple.

NOTE: This item functional for Video mode (YUV color space) only.

Color

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

NOTE: This item functional for Video mode(YUV color space) only.

Noise reduction

Adjust to remove the noise in the image.You can select a suitable noise reduction level.

Choose from: {**Off**} / {**Low**} / {**Medium**} / {**High**}.

NOTE: This item functional for Video mode (YUV color space) only.

Gamma selection

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

The options are: {**NATIVE**} / {**2.2**} / {**2.4**} / {**S GAMMA**}.

Color temperature

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

Choose from: {**3000K**} / {**4000K**} / {**5000K**} / {**6500K**} / {**7500K**} / {**9300K**} / {**10000K**} / {**NATIVE**} / {**USER**}.

Color control

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

{**Picture**} - {**Color temperature**} - {**User**}

Smart picture

The following smar t picture modes are available for :

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

Light sensor

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

Scan mode

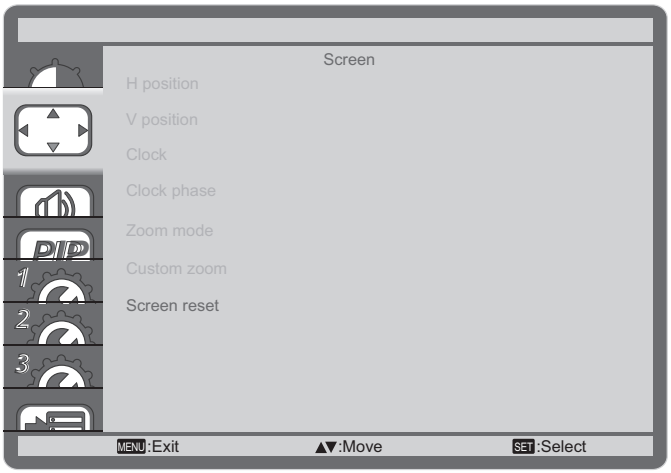
Change the display area of the image.

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

Picture reset

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

5.2.2. Screen menu



H POSITION

Press the [►] button to move the image to the right, or [◄] to move the image to the left.

NOTE:

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

V POSITION

Press the [►] button to move the image up, or [◄] to move the image down.

NOTE:

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

Clock

Adjust the width of the image.

NOTE: This item is functional for **VGA** input only.

Clock phase

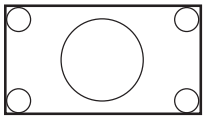
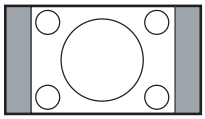
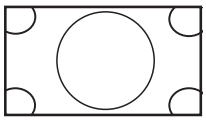
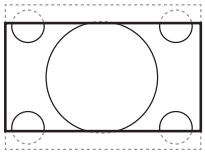
Adjust to improve the focus, clarity and stability of the image.

NOTE: This item is functional for **VGA** input only.

Zoom mode

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

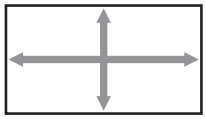
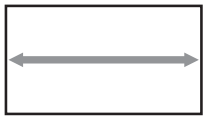
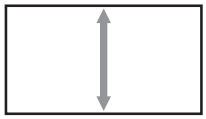
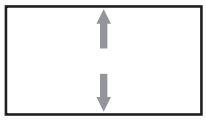
Choose from: {**Full**} / {**Normal**} / {**Real**} / {**21:9**} / {**Custom**}.

	**FULL** This mode restores the correct proportions of pictures transmitted in 16:9 using the full screen display.
	**NORMAL** The picture is reproduced in 4:3 format and a black band is displayed on either side of the picture.
	Real This mode displays the image pixel-by-pixel on screen without scaling the original image size.
	**21:9** The picture is enlarged to 21:9 format.This mode is recommended when displaying pictures that have black bands at the top and bottom (letterbox format).
	**Custom** Choose to apply the custom zoom settings in the Custom Zoom submenu.

CUSTOM ZOOM

You can use this function to further customize the zoom settings to suit the image you want to display.

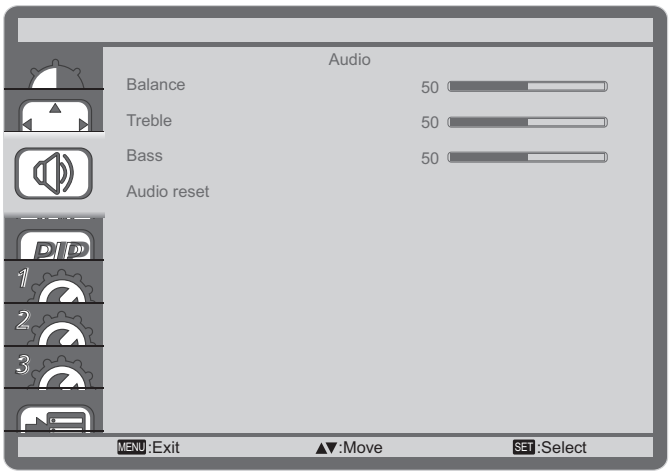
NOTE: This item is functional only when the {**ZOOM MODE**} setting is set to {**CUSTOM**}.

	**ZOOM** Expands the horizontal and vertical sizes of the image simultaneously.
	**H ZOOM** Expands the horizontal size of the image only.
	**V ZOOM** Expands the vertical size of the image only.
	**H POSITION** Moves the horizontal position of the image left or right.
	**V POSITION** Moves the vertical position of the image up or down.

Screen reset

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

5.2.3. AUDIO menu



BALANCE

Adjust to emphasize left or right audio output balance.

TREBLE

Adjust to increase or decrease higher-pitched sounds.

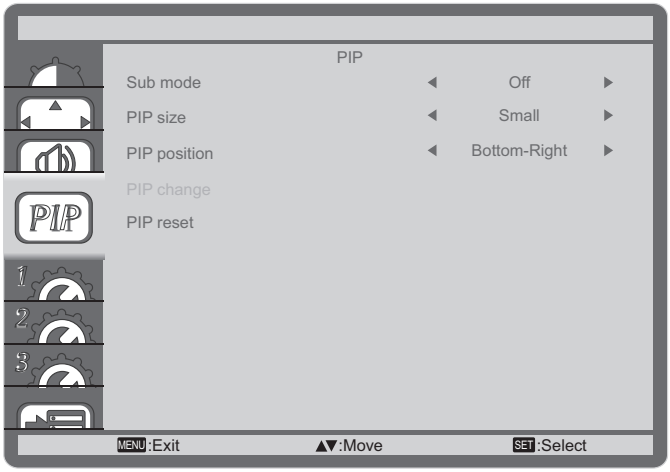
BASS

Adjust to increase or decrease lower-pitched sounds.

AUDIO RESET

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

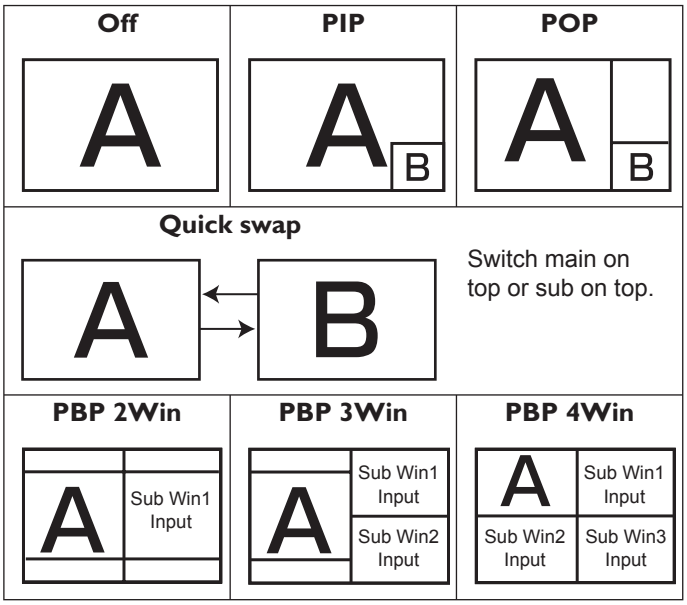
5.2.4. PIP menu



Sub mode

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

Choose from: {**Off**} / {**PIP**} / {**POP**} / {**Quick swap**} / {**PBP 2Win**} / {**PBP 3Win**} / {**PBP 4Win**}.



PIP SIZE

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

Choose from: {**SMALL**} / {**MIDDLE**} / {**LARGE**}.

PIP position

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

Choose from: {**Bottom-Right**} / {**Bottom -Left**} / {**Top-Right**} / {**Top- Left**}.

PIP change

Exchange input signal of Main and Sub for **PIP** / **POP** / **Quick swap** / **PBP 2Win** mode.

PIP RESET

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

NOTES:

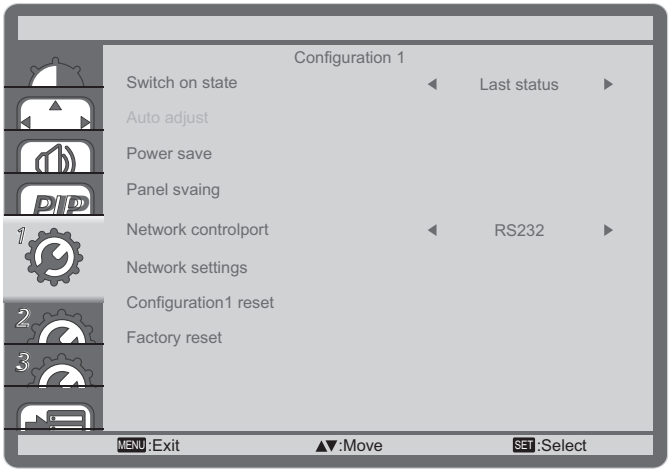
- The PIP function is available only for the following condition: {**Advanced option**} - {**Tiling**} - {**Enable**} setting to [**No**].
- The PIP function is available only for cer tain signal source combinations as shown in the table below.

Main / Sub	DP	OPS	HDMI1	VGA	HDMI2	HDMI3	COMP	VIDEO	USB	DVI
DP	O	O	O	O	O	O	O	O	O	O
OPS	O	O	X	O	O	O	O	O	O	O
HDMI1	O	X	O	O	O	O	O	O	O	O
VGA	O	O	O	O	O	O	O	O	O	O
HDMI2	O	O	O	O	O	X	O	O	O	O
HDMI3	O	O	O	O	X	O	O	O	O	O
COMP	O	O	O	O	O	O	O	X	X	O
VIDEO	O	O	O	O	O	O	X	O	X	O
USB	O	O	O	O	O	O	X	X	O	O
DVI	O	O	O	O	O	O	O	O	O	O

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

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

5.2.5. CONFIGURATION1 menu



Switch on state

Select the display status used for the next time you connect the power cord.

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

Auto adjust

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

NOTE: This item is functional for **VGA** input only.

Power save

Use this setting to reduce the power automatically.

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

Panel saving

Choose to enable the panel saving functions and thus reduce the risk of “image persistence” or “ghost-imaging”.

- {**Cooling Fan**} - Choose to adjust the cooling fan’s speed of rotation. Select {**Auto**} to turn on/off the cooling fan according to the display’s temperature.
  Choose from: {**Auto**} / {**Off**} / {**Low**} / {**Medium**} / {**High**}.

NOTES:

- The default {Auto} option will star t running the cooling fan if the temperature of **45°C** (**113°F**) is reached, and stop running the cooling fan if the temperature of **43°C** (**109°F**).
- A temperature-warning message will be shown on the screen if the temperature reaches **58°C** (**136°F**). All key functions except [⏻] key will then be disabled.
- Once the temperature reaches **60°C** (**140°F**), the display power will be shut down automatically.
- {**Brightness**} - Select {**On**} and the image brightness will be reduced to an appropriate level.The Brightness setting in the Picture menu will be unavailable when selected.

- {**Pixel shift**} - Select the time interval ({**Auto**} / {**10 ~ 900**} Seconds / {**Off**}) for the display to slightly expand the image size and shift the position of pixels in four directions (up, down, left, or right). Activating Pixel Shift will disable H Position,V Position and Zoom Mode in the Screen Menu.

Network control port

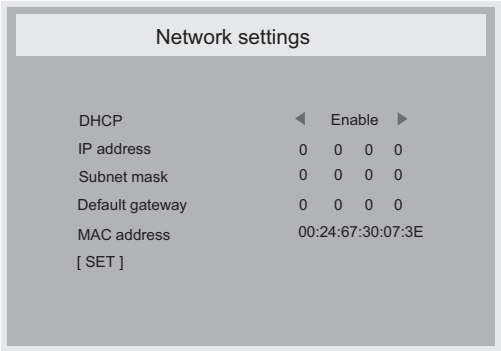
Select the network control port.

Choose from: {**RS232**} / {**Card OPS RS232**} / {**LAN ->RS232**}.

NOTE: After connected to your OPS device, the option {**Card OPS RS232**} is functional.

Network settings

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



- DHCP - Choose to enable or disable the DHCP function. If enabled, the display will be assigned IP address, Subnet mask and Default gateway automatically. If disabled, you will be prompted to enter the following values manually. Press select to [set] and [**OK**] button to store and save the chosen values.
- IP address
- Subnet mask
- Default gateway
- MAC address.

Configuration1 reset

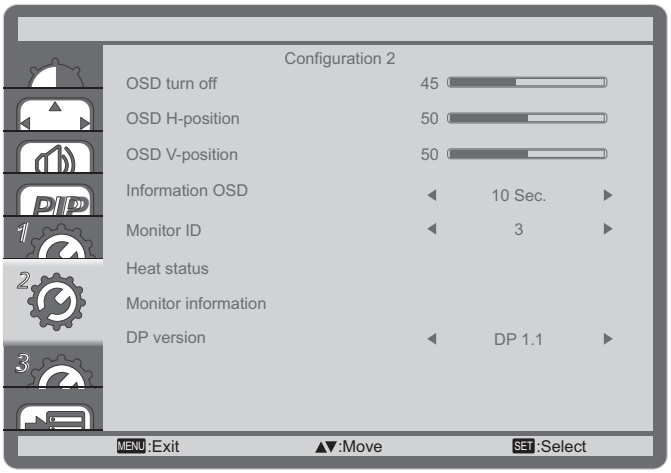
Reset all settings in the **Configuration1** menu to factory preset values.

Factory reset

Reset all settings in the OSD menus of {**Picture**}, {**Screen**}, {**Audio**}, {**PIP**}, {**Configuration1**}, {**Configuration2**}, {**Advanced option**}, and {**Input**} to the factor y preset values Press **[ ]** or **[ ]** button to select {**Reset**}, and press [**OK**] button to do the reset.



5.2.6. CONFIGURATION2 menu



OSD TURN OFF

Set the period of time the OSD menu stays on the screen.

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

OSD H-POSITION

Adjust the horizontal position of the OSD menu.

OSD V-POSITION

Adjust the vertical position of the OSD menu.

INFORMATION OSD

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

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

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

MONITOR ID

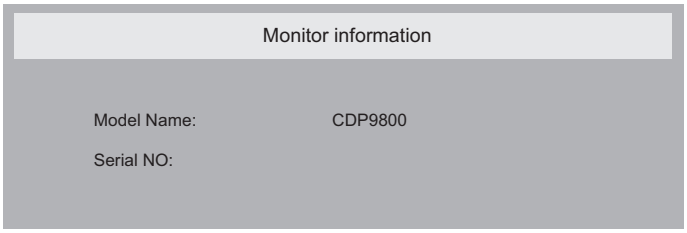
Set the ID number for controlling the display via the RS232C connection. Each display must have a unique ID number when multiple sets of this display are connected. Monitor ID number range is between 1 to 99.

Heat status

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

Monitor information

Shows information about your display, including model number and serial number.



DP Version

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

Human sensor

Set the display to turn on backlight if it does sensor human and turn off backlight after an amount of time specified The options are: {**Off**, **10 ~ 60**} minutes.

HDMI edid

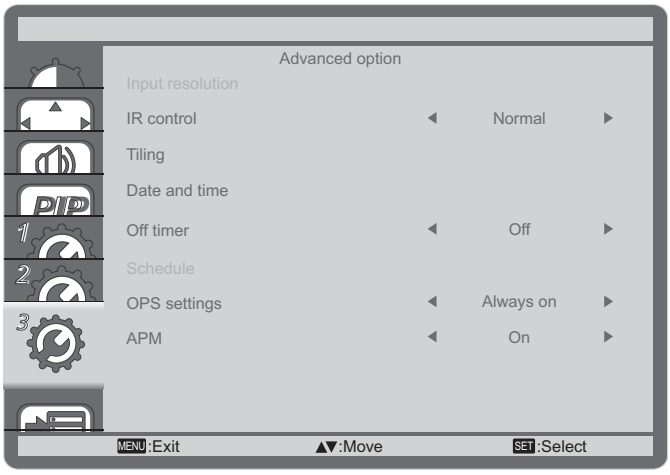
The option are: {**HDMI 1.4**} / {**HDMI 2.0**}.The default is {**HDMI 1.4**}.

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

Configuration2 reset

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

5.2.7. ADVANCED OPTION menu



Input resolution

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

NOTE: This item is functional for **VGA** input only.

The options are:

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

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

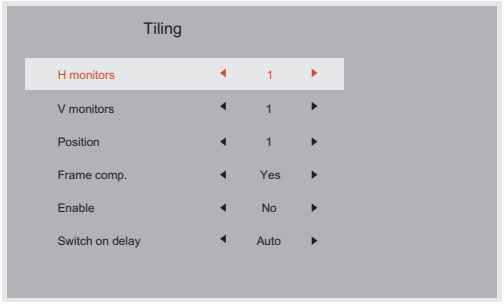
IR control

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

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

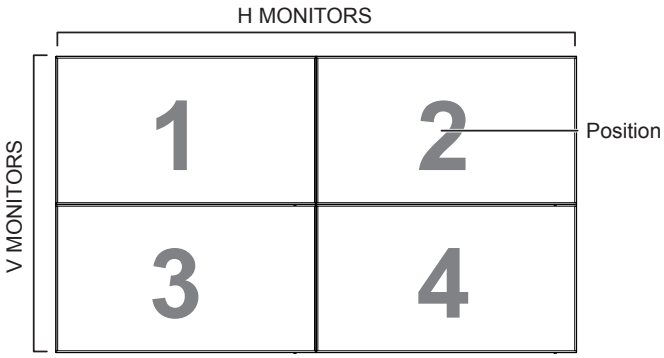
Tiling

With this function you can create a single large-screen matrix (video wall) that consists of up to 100 sets of this display (**up to 10-sets on the vertical and 10-sets on the horizontal sides**). This function requires a daisy-chain coection.



Example: 2 x 2 screen matrix (4 displays)

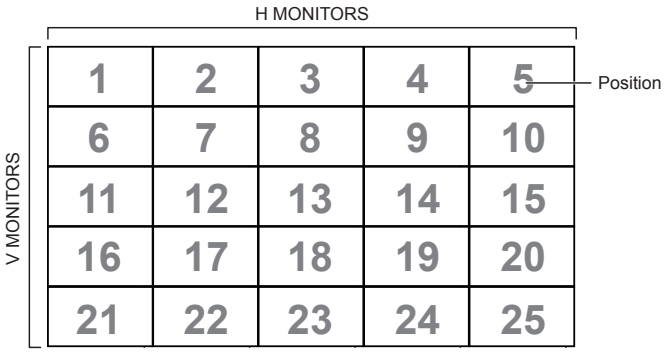
H MONITORS = 2 displays
V MONITORS = 2 displays



Example: 5 x 5 screen matrix (25 displays)

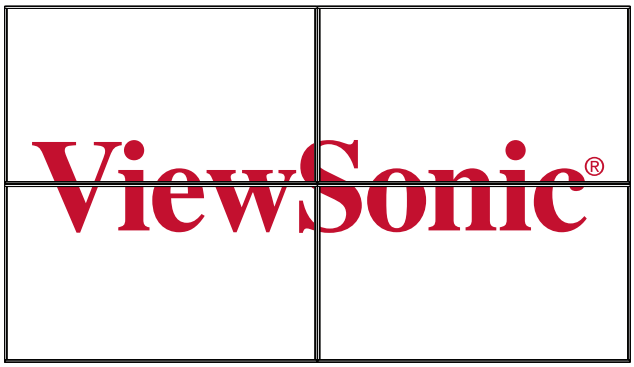
H MONITORS = 5 displays

V MONITORS = 5 displays

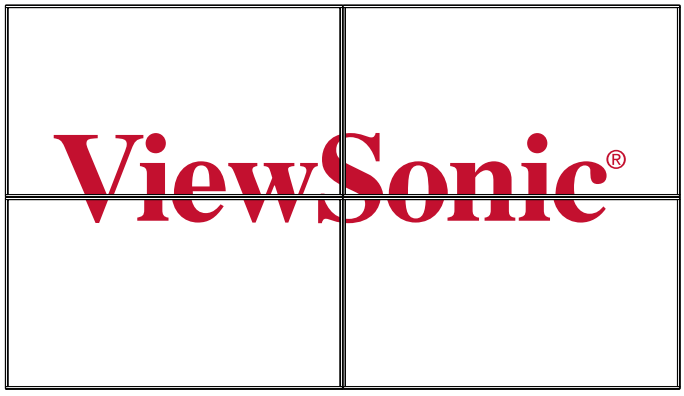


- {**H monitors**} - Select the number of displays on the horizontal side.
- {**V monitors**} - Select the number of displays on the ver tical side.
- {**Position**} - Select the position of this display in the screen matrix.
- {**Frame comp.**} - Choose to turn the frame compensation function on or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

Frame comp. - Yes



Frame comp. - No

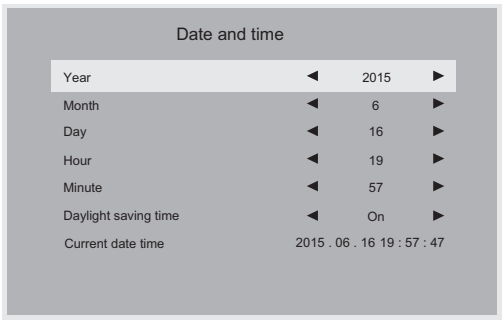


- {**Enable**} - Choose to enable or disable the Tiling function. If enabled, the display will apply the settings in {**H monitors**}, {**V monitors**}, {**Position**}, and {**Frame comp.**}.
- {**Switch on delay**} - Set the power-on delaying time (in seconds). The default option {**Auto**} allows a sequential powering-on for each display by their ID number when multiple displays are connected. The options are: {**Off** / **Auto** / **2 ~ 255**}.

NOTE: If sub mode is enabled, then it would be disabled by tiling function on.

Date and time

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



1. Press [**OK**] button to enter the submenu.
2. Press [▲] or [▼] button to toggle between {**Year**}, {**Month**}, {**Day**}, {**Hour**}, {**Minute**}, and {**Daylight saving time**}.
3. Press **[◄]** or **[►]** button to adjust all settings.

Off Timer

Set the display to turn itself off to standby mode within an amount of time specified.

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

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

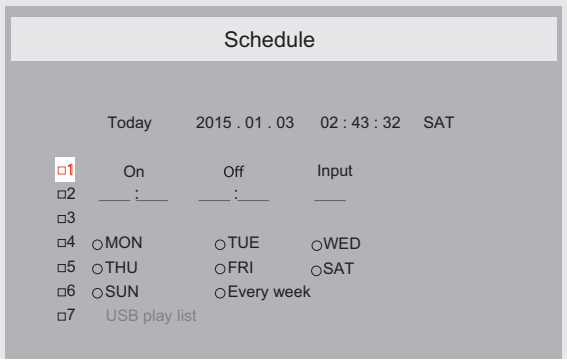
Schedule

This function allows you to program up to 7 (seven) different scheduled time intervals for the display to activate You can select:

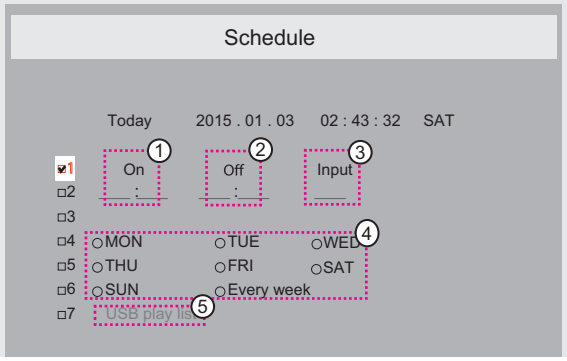
- The time for the display to turn on and turn off.
- The days in a week for the display to activate.
- Which input source the display will use for each scheduled activation period.

NOTE: We recommend you to set up current date and time in the {**Date and time**} menu before using this function.

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



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



3. Press **[◄]** or **[►]** button to select the schedule:

① **Power-on** schedule: Press [▲] or [▼] button to set the hour and minute for the display to turn on.

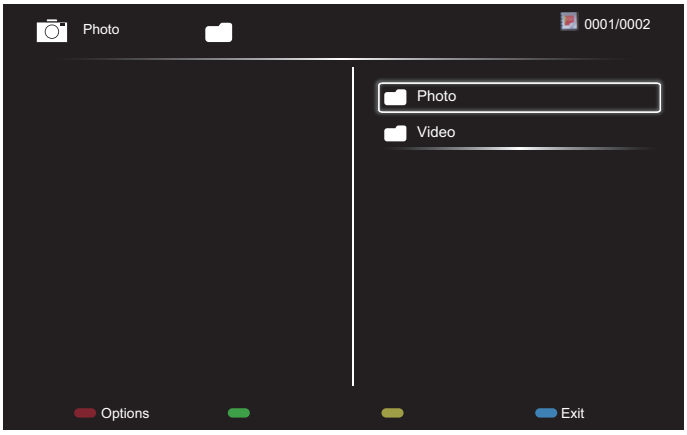
② **Power-off** schedule: Press [▲] or [▼] button to set the hour and minute for the display to turn off.

Select or leave an empty "__" for both the hour and minute slot if you do not want to use this power-on or power-off schedule.

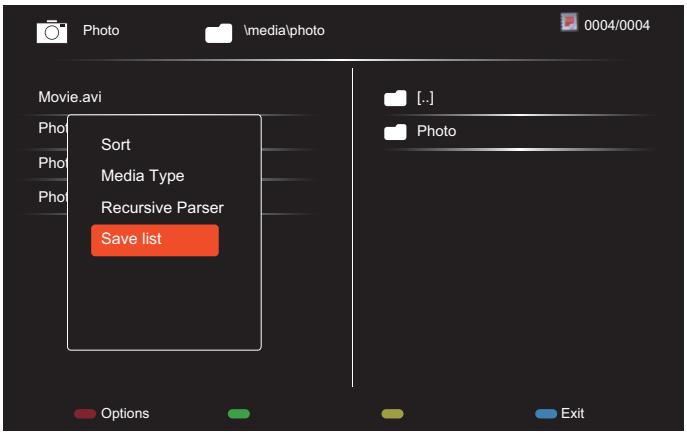
③ **Input-source** selection: Press [▲] or [▼] button to select an input source. If no input source is selected, the input source will remain the same as last selected.

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

⑤ When **Input-source** select to **USB**, enable to access **USB play** list setting:



- Press [▲] [▼] buttons to choose files.
- Press **[◄] [►]** buttons to switch Playlist and File Manager.
- Press [**OK**] button to set or clear the playlist.
- To save the playlist, press [🟥] and choose **Save list**



4. For additional schedule settings, press [↩], then repeat the steps above. A check mark in the box next to the number of the schedule item indicates that the selected schedule is in effect.

NOTES:

- If the schedules overlap, the scheduled power-on time takes priority over scheduled power-off time.
- If there are two schedule items programmed for the same time, the highest numbered schedule takes priority. For example, if schedule items #1 and #2 both set the display to power on at 7:00 AM and off at 5:00 PM, then only schedule item # 1 will take effect.
- Each Playlist suppor ts up to 30 files.
- Playlist will not be cleared after {**Factory reset**}. You have to manually remove the files or delete usb_schedulinglist.txt in the USB.

OPS settings

Set the OPS configuration under each power condition.

- {**Auto**} - After selecting {**Card OPS**} for video source input, the OPS will be set to off when the display power is set to off, or set to on when the display power is set to on. When set to other video source inputs, the OPS will always be set to on.
- {**Always off**} - The OPS will always be set to off.
- {**Always on**} - The OPS will always be set to on.

APM

Power save setting.

- {**Off**} - No signal, direct shutdown. (Default).
- {**On**} - No signal, enter into Power Save mode.

Language

Select the language used in the OSD menu.

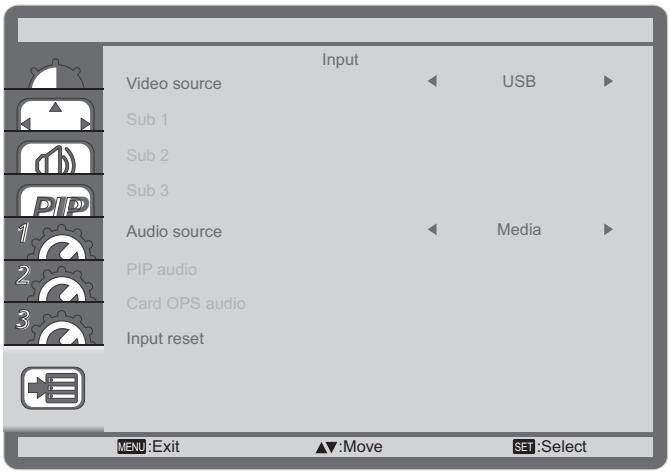
The options are: {**ENGLISH**} / {**DEUTSCH**} / {简体中文} {**FRANÇAIS**} / {**ITALIANO**} / {**ESPAÑOL**} /{ 繁體中文 } / {日本語}.

Advanced option reset

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

1. Press [**OK**] or [►] button to enter the submenu.
2. Press [◄] or [►] button to select {**Reset**} and press the [**OK**] button to restore settings to factory preset values.
3. Press the [⮌] button or select {**Cancel**} and press the [**OK**] button to cancel and then return to the previous menu.

5.2.8. Input menu



Video source

Select a video input source.

Choose from: {**Displayport**} / {**DVI-D**} / {**VGA**} / {**HDMI 1**} / {**HDMI 2**} / {**HDMI 3**} / {**Component**} / {**Video**} / {**USB**} / {**Card OPS**}.

Sub 1

Select the input signal for the sub Win1 picture.

Choose from: {**Displayport**} / {**DVI-D**} / {**VGA**} / {**HDMI 1**} / {**HDMI 2**} / {**HDMI 3**} / {**Component**} / {**Video**} / {**USB**} / {**Card OPS**}.

Sub 2

Select the input signal for the sub Win2 picture.

Choose from: {**Displayport**} / {**DVI-D**} / {**VGA**} / {**HDMI 1**} / {**HDMI 2**} / {**HDMI 3**} / {**Component**} / {**Video**} / {**USB**} / {**Card OPS**}.

Sub 3

Select the input signal for the sub Win3 picture.

Choose from: {**Displayport**} / {**DVI-D**} / {**VGA**} / {**HDMI 1**} / {**HDMI 2**} / {**HDMI 3**} / {**Component**} / {**Video**} / {**USB**} / {**Card OPS**}.

Audio source

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

Choose from: {**Analog**} / {**Displayport**} / {**Audio1**} / {**Audio2**} / {**Media**}.

PIP audio

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

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

Card OPS audio

Select the analog or digital audio mode for card OPS.

Input reset

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

6. 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, 60i	30	AAC
.ism/ Manifest .mpd	frag MP4	H.264	1920x1080	25p, 30p, 50p, 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 file format type: JPEG, BMP, PNG, GIF

NOTES:

- Sound or video may not work if the contents have a standard bit rate/frame rate above the compatible Frame/sec listed in the table above.
- Video content with a Bit rate or Frame rate larger than the rate specified in the table above can cause choppy video during playback.

7. Input Mode

FHD Preset Mode (VGA/DVI timing support):

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

UHD Preset Mode (DP/HDMI timing support):

Item	Resolution	H.Freq. (KHz)	V.Freq. (Hz)	BW (MHz)	
1	3840x2160	53.946	23.900	296.703	For HDMI
2	3840x2160	54	24.000	297.000	For HDMI
3	3840x2160	56.25	25.000	297.000	For HDMI
4	3840x2160	67.432	29.900	296.703	For HDMI
5	3840x2160	67.5	30.000	297.000	For HDMI
6	4096x2160	54	24.000	297.000	For HDMI
7	3840x2160	135	60.000	594.000	For HDMI
8	3840x2160	133.312	59.997	533.25	For DP
9	3840x2160	65.688	29.981	262.75	For DP/ HDMI

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

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

NOTES:

- The PC text quality is optimum in HD 1080 mode (1920 x 1080, 60Hz).
- Your PC display screen might appear different depending on the manufacturer (and your par ticular version of Windows).
- Check your PC instruction book for information about connecting your PC to a display.
- If a ver tical and horizontal frequency-select mode exists, select 60Hz (ver tical) 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 suppor t mode is regarded as same to the PC suppor t mode.
- The best timing for the ver tical frequency to each mode is 60Hz.
- When the input source is Component or Video, the Information
- OSD will be displayed slowly than other input sources.
- No matter the resolution of Component source or Video source input, the result of Zoom mode setting is the same as 1080P resolution.

8. Cleaning and Troubleshooting

8.1. Cleaning

When Using the Display

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

Front Panel Cleaning Instructions

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

Cabinet Cleaning Instructions

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

8.2. Troubleshooting

Symptom	Possible Cause	Remedy
No picture is displayed	1. The power cord is disconnected. 2. The main power switch on the back of the display is not switched on. 3. The selected input has no connection. 4. The display is in standby mode.	1. Plug in the power cord. 2. Make sure the power switch is switched on. 3. Connect a signal connection to the display.
Interference displayed on the display or audible noise is heard	Caused by surrounding electrical appliances or fluorescent lights.	Move the display to another location to see is the interference is reduced.
Color is abnormal	The signal cable is not connected properly.	Make sure that the signal cable is attached firmly to the back of the display.
Picture is distorted with abnormal patterns	1. The signal cable is not connected properly. 2. The input signal is beyond the capabilities of the display.	1. Make sure that the signal cable is attached firmly. 2. Check the video signal source to see if it is beyond the range of the display. Please verify its specifications with this display's specification section.
Display image doesn't fill up the full size of the screen	Zoom mode is not correctly set.	Use the Zoom mode or Custom zoom function in the Screen menu to fine tune display geometry and time frequency parameter.
Can hear sound, but no picture	Improperly connected source signal cable.	Make sure that both video inputs and sound inputs are correctly connected.
Can see picture but no sound is heard	1. Improperly connected source signal cable. 2. Volume is turned all the way down. 3. [**MUTE**] is turned on. 4. No external speaker connected.	1. Make sure that both video inputs and sound inputs are correctly connected. 2. Press [**+**] or [**-**] button to hear sound. 3. Switch MUTE off by using the [🔇] button. 4. Connect external speakers and adjust the volume to a suitable level.
Some picture elements do not light up	Some pixels of the display 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.

9. Technical Specifications

Display:

Item	Specifications
Screen Size (Active Area)	97.5” (247.7 cm) LCD
Aspect Ratio	16:9
Number of pixels	3840 (H) x 2160 (V)
Pixel pitch	0.5622 x 0.5622 mm
Displayable colors	1073.7M colors
Brightness (typical)	500 nits (typ)
Contrast ratio (typical)	1300:1 (typ)
Viewing angle	89 degrees

In/Out Terminals:

Item		Specifications
Speaker Output	Internal Speakers External Speakers	10W (L) + 10W (R) [RMS]/8Ω 1 Way 1 Speaker System 82 dB/W/M/160 Hz ~ 13 KHz
SPDIF Output	SPDIF Port	Serial digital audio output when input is HDMI
Audio Output	3.5 mm Stereo x 1	0.5V [rms] (Normal) / 2 Channel (L+R)
Audio Input	RCA Jack x 2 3.5 mm Stereo x 1	0.5V [rms] (Normal) / 2 Channel (L+R)
RS232C	2.5mm Phone jack x 2	RS232C in/RS232C out
RJ-45	RJ-45 Jack x 1 (8 pin)	10/100 LAN Por t
HDMI Input	HDMI Jack x 3 (Type A) (19 pin)	Digital RGB: TMDS (Video + Audio) MAX: Video - 720p, 1080p, 1920 x 1080/60 Hz (WUXGA), 4K/2K 30/60Hz Audio - 48 KHz/ 2 Channel (L+R) Suppor ts LPCM only
DVI-D Input	DVI-D jack	Digital RGB:TMDS (Video)
VGA Input	D-Sub Jack x 1 (15 pin)	Analog RGB: 0.7V [p-p] (75Ω), H/CS/V:TTL (2.2kΩ), SOG: 1V [p-p] (75Ω) MAX: 720p, 1080p, 1920 x 1080/60 Hz (WUXGA)
Component Input	RCA Jack x 3	Y: 1V [p-p] (75Ω), Pb: 0.7V [p-p] (75Ω), Pr: 0.7V [p-p] (75Ω) MAX: 480i, 576i, 480p, 576p, 720p, 1080i, 1080p
Video Input	RCA x 1 (Share with Component_Y)	Composite 1V [p-p] (75Ω)
Displaypor t in/out	Displaypor t Jack x 2 (20 pin)	Digital RGB:TMDS (Video + Audio) MAX: Video - 3840×2160@60Hz Audio - 48 KHz/ 2 Channel (L+R) Suppor ts LPCM only
IR Input/Output	3.5 mm × 2	IR pass through or IR daisy chain
USB Input	USB × 1 (Type A)	USB 2.0, Multimedia play only

General:

Item	Specifications
Power Supply	AC 100 ~ 240V, 50 ~ 60Hz
Power Consumption	700 W (max)
	500 W (typ)
	NA (EPA 6.0)
	<0.5W (standby mode)
Dimensions (Without Stand)	2193.2 (W) x 1248.2 (H) x 89.8 (D) mm
Weight (Without Stand)	91.4 Kg
Gross Weight (Without Stand)	134.5 Kg

Environmental Condition:

Item		Specifications
Temperature	Operational	0 ~ 40°C
	Storage	-20 ~ 60°C
Humidity	Operational	20 ~ 80% (without condensation)
	Storage	5 ~ 95% (without condensation)
Altitude	Operational	0 ~ 5,000 m
	Storage / Shipment	0 ~ 9,000 m

Internal Speaker:

Item	Specifications
Type	1 Way 1 Speaker
Input	10 W (RMS)
Impedance	8Ω
Output Sound Pressure	82 dB/W/M
Frequency Response	160 Hz ~ 13 KHz

10. RS232 Protocol

10.1. Introduction

This document describes the hardware interface spec and software protocols of RS232 interface communication between ViewSonic Commercial TV / Digital Signage and PC or other control unit with RS232 protocol.

The protocol contains three sections command:

- Set-Function
- Get-Function
- Remote control pass-through mode

※ In the document below, “PC” represents all the control units that can send or receive the RS232 protocol command.

10.2. Description

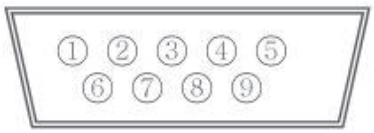
10.2.1.Hardware specification

Viewsonic TV communication port on the rear side:

(1) Connector type: DSUB 9-Pin Male

(2) Pin Assignment

Male DSUB 9-Pin
(outside view)



Pin #	Signal	Remark
1	NC	
2	RXD	Input to Commercial TV or DS
3	TXD	Output from Commercial TV or DS
4	NC	
5	GND	
6	NC	
7	NC	
8	NC	
9	NC	
frame	GND	

* Use of crossover (null modem) cable required for use with PC

[Special case]3.5mm barrel connector

Pin #	Signal	Remark
Tip	TXD	Output from Commercial TV or DS
Ring	RXD	Input to Commercial TV or DS
Sleeve	GND	

10.2.2.Communication Setting

- Baud Rate Select: 9600bps (fixed)
- Data bits: 8 bits (fixed)
- Parity: None (fixed)
- Stop Bits: 1 (fixed)

10.2.3.Command Message Reference

PC sends to Monitor command packet followed by “CR”. Every time PC sends control command to the Monitor, the Monitor shall respond as follows:

1. If the message is received correctly it will send “+” (02Bh) followed by “CR” (00Dh)
2. If the message is received incorrectly it will send “-” (02Dh) followed by “CR” (00Dh)

10.3. Protocol

10.3.1.Set-Function Listing

The PC can control the TV/DS for specific actions. The Set-Function command allows you to control the TV/DS behavior in a remote site through the RS232 port. The Set-Function packet format consists of 9 bytes.

Set-Function description:

Length: Total Byte of Message excluding “CR”.

TV/DS ID Identification for each of TV/DS (01~98; default is 01)
ID “99” means to apply the set command for all connected displays. Under such circumstances, only ID#1 display has to reply.
The TV/DS ID can be set via the OSD menu for each TV/DS set.

Command Type Identify command type,
“s” (0x73h) : Set Command
“+” (0x2Bh) : Valid command Reply
“-“ (0x2Dh) : Invalid command Reply

Command: Function command code: One byte ASCII code.

Value[1~3]: Three bytes ASCII that defines the value.

CR 0x0D

Set-Function format

Send: (Command Type=”s”)

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR
Byte Count	1 Byte	2 Byte	1 Byte	1 Byte	1 Byte	1 Byte	1 Byte	1 Byte
Bytes order	1	2~3	4	5	6	7	8	9

NOTE: For VT2405LED-1 and VT3205LED, the set “Power on” command is the exception

Reply: (Command Type=”+” or “-”)

Name	Length	ID	Command Type	CR
Byte Count	1 Byte	2 Byte	1 Byte	1 Byte
Bytes order	1	2~3	4	5

NOTE:

1. The reply for “Power on” command is the exception for VT2405LED-1 and VT3205LED. It’s 0x322B0D (2+<CR>).
2. When PC applies command to all displays (ID=99), only the #1 set needs to reply by the name of ID=1.

Example1: Set Brightness as 76 for TV-02 and this command is valid

Send (Hex Format)

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR
Hex	0x38	0x30 0x32	0x73	0x24	0x30	0x37	0x36	0x0D

Reply (Hex Format)

Name	Length	ID	Command Type	CR
Hex	0x34	0x30 0x32	0x2B	0x0D

Example2: Set Brightness as 176 for TV-02 and this command is NOT valid Send (Hex Format)

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR
Hex	0x38	0x30 0x32	0x73	0x24	0x31	0x37	0x36	0x0D

Reply (Hex Format)

Name	Length	ID	Command Type	CR
Hex	0x34	0x30 0x32	0x2D	0x0D

Set function table:

Set Function	Length	ID	Command Type	Command		Value Range	Comments
				Code (ASCII)	Code (Hex)	(Three ASCII bytes)	
Power on/off (standby)	8		s	!	21	000: STBY 001: ON	Controlled power status: ON or Standby
Input Select	8		s	“	22	000 : TV 001 : AV 002 : S-Video 003 : YPbPr 004 : HDMI 014 : HDMI2 024 : HDMI3 005 : DVI 006 : VGA1(PC) 016 : VGA2 007 : OPS 008 : Internal Mem 009 : DP	1. No need for USB 2. For the case of two more same sources, the 2nd digital is used to indicate the extension.
Contrast	8		s	#	23	000 ~ 100	
Brightness	8		s	$	24	000 ~ 100	
Sharpness	8		s	%	25	000 ~ 100	
Color	8		s	&	26	000 ~ 100	
Tint	8		s	‘	27	000 ~ 100	
Color Mode	8		s	)	29	000 : Normal 001 : Warm 002 : Cold 003 : Personal	
Bass	8		s	.	2E	000 ~ 100	Sets Bass value
Treble	8		s	/	2F	000 ~ 100	Sets Treble value
Balance	8		s	0	30	000 ~ 100	Sets Balance position
Picture Size	8		s	1	31	000 : FULL 001 : NORMAL 002 : CUSTOM 003 : DYNAMIC 004 : REAL	
OSD Language	8		s	2	32	000 : English 001 : French 002 : Spanish	
Power Lock	8		s	4	34	000 : Unlock 001 : Lock	
Volume	8		s	5	35	000 ~ 100 900 : Volume down (-1) 901 : Volume up (+1)	

Mute	8		s	6	36	000: OFF 001: ON (mute)	
Button Lock	8		s	8	38	000 : Unlock 001 : Lock	
Menu Lock	8		s	>	3E	000 : Unlock 001 : Lock	
Key Pad	8		s	A	41	000 : UP 001 : DOWN 002 : LEFT 003 : RIGHT 004 : ENTER 005 : INPUT 006 : MENU/EXIT	
Remote Control	8		s	B	42	000: Disable	**Disable:** RCU has no effect on Monotor.
						001: Enable	**Enabled:** RCU controls the Monitor. This is the power up default on the Monitor.
						002: Pass through	**Pass through:** RCU has no effect on Monitor and all RCU command codes are transmitted to PC via the RS232 port.
Date	8		s	V	56	0xx: Year 1xx: Month+Day (See example in Note)	For specific models only
Tiling-Mode	8		s	P	50	000: OFF 001: ON	(for DS)
Tiling-Compensation	8		s	Q	51	000: OFF 001: ON	(for DS) Bezel width compensation
Tiling-H by V Monitors	8		s	R	52	01x~09x: H 0x1~0x9: V	(for DS) 1. 2nd digital for H monitors 2. 3rd digital for V monitors
Tiling-Position	8		s	S	53	001~025	(for DS) Copy the screen of Position# to identified display
Time	8		s	W	57	0xx: Hour+Min 10x: Sec (See example in Note)	For specific models only
Factory reset	8		s	~	7E	0	Rests Monitor to factory setting

NOTE:

1. Behavior at lock modes

Lock Mode	Behavior
Button Lock	1. Lock all buttons on the front panel and RCU, except for “Power” 2. All the SET functions should be workable via RS32, even the ones with according hot key in RCU like Mute,…etc.
MENU Lock	1. Lock “MENU’ key of front panel and RCU 2. The Factory and Hospitality modes should not be blocked for the model using MENU-combined key to enter these two modes. Alternative approach will be indicated separately if any limitation by model.
POWER Lock	1. Lock “POWER” key on the front and RCU. 2. The SET_POWER on/off should be workable via RS232, but does not mean the POWER lock will be released under this case. 3. Can not be unlocked by reset in OSD setting 4. Will auto AC power-on in power-lock 5. Under power-lock, the set will not enter power saving when no PC signal and neither not turn off when no other video signals after 15min.
Remote control disable	Lock the RCU keys, but keep the front panel buttons workable.

2. Example for value setting of SET_TV channel DTV

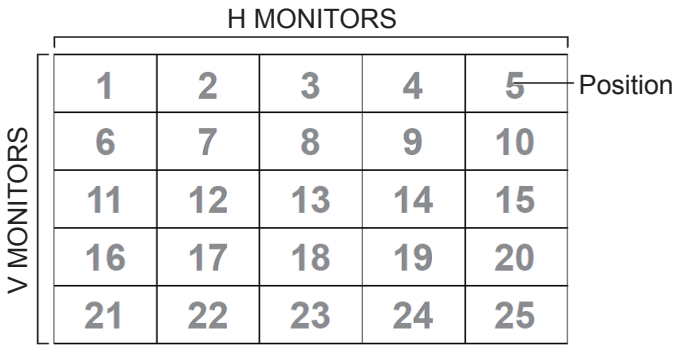
012-0: 0x 30 31 32

012-1: 0x 30 31 42

1012-2: 0x 41 31 52

1512-3: 0x 46 31 62

3. Tiling definition of H Monitors/ V Monitors/ and Position



4. Date & Time format definition

	Value 1	Value 2	Value 3
Date	0: Year	Year code of the first 2 digis	Year code of the last 2 digis
	1: Month+Day	Month code	Day code
Time	0: Hour(24-hr format)+Min	Hour code	Minute code
	1: Sec	0	Second code

Hex code (in hex) = Original data (in dec) + 20

Date & Time	Code (ASCII)	Code (Hex)	Date & Time	Code (ASCII)	Code (Hex)	Date & Time	Code (ASCII)	Code (Hex)	Date & Time	Code (ASCII)	Code (Hex)
0	space	20	16	6	36	32	R	52	48	h	68
1	!	21	17	7	37	33	S	53	49	i	69
2	“	22	18	8	38	34	T	54	50	p	70
3	#	23	19	9	39	35	U	55	51	q	71
4	$	24	20	@	40	36	V	56	52	r	72
5	%	25	21	A	41	37	W	57	53	s	73
6	&	26	22	B	42	38	X	58	54	t	74
7	’	27	23	C	43	39	Y	59	55	u	75
8	(	28	24	D	44	40	`	60	56	v	76
9	)	29	25	E	45	41	a	61	57	w	77
10	0	30	26	F	46	42	b	62	58	x	78
11	1	31	27	G	47	43	c	63	59	y	79
12	2	32	28	H	48	44	d	64			
13	3	33	29	I	49	45	e	65			
14	4	34	30	P	50	46	f	66			
15	5	35	31	Q	51	47	g	67			

Month: 1~12
Day: 1~31
Hour: 00~23
Min:: 00~59
Sec: 00~59

5. Set Date & Time example

Date: 2015-1/31
Time: 16:27:59

Send: 0x 38 30 31 73 56 30 40 35 0D (Year “20” “15”)
Send: 0x 38 30 31 73 56 31 21 51 0D (Month “1”, Day ”31”)
Send: 0x 38 30 31 73 57 30 36 47 0D (Hour “16”, Min “27”)
Send: 0x 38 30 31 73 57 31 30 79 0D (“0”, Sec “59”)

10.3.2. Get-Function Listing

The PC can interrogate the TV/DS for specific information. The Get-Function packet format consists of 9 bytes which is similar to the Set-Function packet structure. Note that the “Value” byte is always = 000

Get-Function description:

Length: Total Byte of Message excluding “CR”.

TV/DS ID Identification for each of TV/DS (01~98; default is 01).

Command Type Identify command type,
“g” (0x67h) : Get Command
“r” (0x72h) : Valid command Reply
“-“ (0x2Dh) : Invalid command Reply

Command: Function command code: One byte ASCII code.

Value[1~3]: Three bytes ASCII that defines the value.

CR 0x0D

Get-Function format

Send: (Command Type=”g”)

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR
Byte Count	1 Byte	2 Byte	1 Byte	1 Byte	1 Byte	1 Byte	1 Byte	1 Byte
Bytes order	1	2~3	4	5	6	7	8	9

NOTE: “Power STBY status” is the exception for VT2405LED-1 and VT3205LED.

Reply: (Command Type=”r” or “-”)

If the Command is valid, Command Type =”r”

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR
Byte Count	1 Byte	2 Byte	1 Byte	1 Byte	1 Byte	1 Byte	1 Byte	1 Byte
Bytes order	1	2~3	4	5	6	7	8	9

NOTE: The reply for “Power STBY status” command is the exception for VT2405LED-1 and V3205LED. It’s 0x36 72 6C 30 30 30 0D (6rl000<CR>).

If the Command is Not valid, Command Type=”-“

Name	Length	ID	Command Type	CR
Byte Count	1 Byte	2 Byte	1 Byte	1 Byte
Bytes order	1	2~3	4	5

Example1: Get Brightness from TV-05 and this comm and is valid. The Brightness value is 67.

Send (Hex Format)

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR
Hex	0x38	0x30 0x35	0x67	0x62	0x30	0x30	0x30	0x0D

Reply (Hex Format)

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR
Hex	0x38	0x30 0x35	0x72	0x62	0x30	0x36	0x37	0x0D

Example2: Get Brightness from TV-05, but the Brightness command ID is error and it is NOT in the command table.

Send (Hex Format)

Name	Length	ID	Command Type	Command	Value1	Value2	Value3	CR
Hex	0x38	0x30 0x35	0x67	0XD3	0x30	0x30	0x30	0x0D

Reply (Hex Format)

Name	Length	ID	Command Type	CR
Hex	0x34	0x30 0x35	0x2D	0x0D

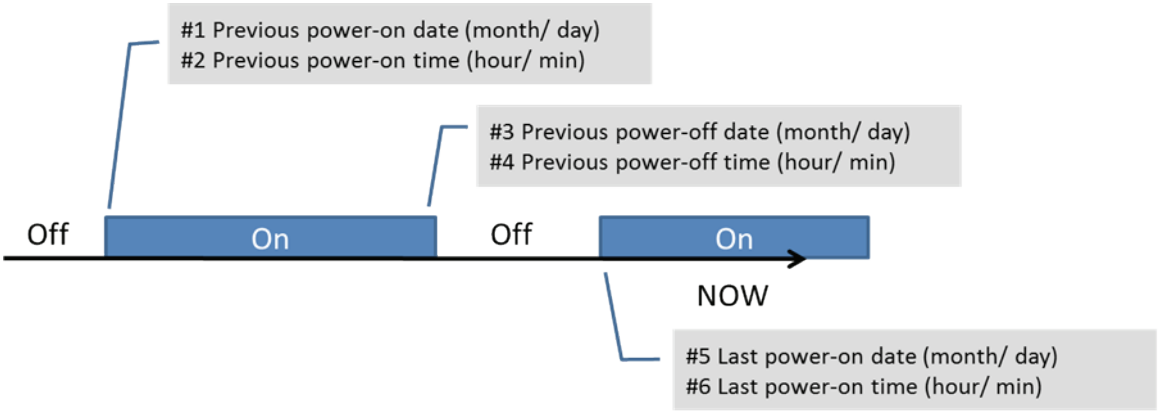
Get function table:

Get Function	Length	ID	Command Type	Command		Value Range	Comments
				Code (ASCII)	Code (Hex)	(Three ASCII bytes)	
Get-Contrast	8		g	a	61	000 ~ 100	Gets Contrast value
Get-Brightness	8		g	b	62	000 ~ 100	Gets Brightness value
Get-Sharpness	8		g	c	63	000 ~ 100	Gets Sharpness value
Get-Color	8		g	d	64	000 ~ 100	Gets Color value
Get-Tint	8		g	e	65	000 ~ 100	Gets Tint value
Get-Volume	8		g	f	66	000 ~ 100	Gets Volume value
Get-Mute	8		g	g	67	000: OFF (unmuted) 001: ON (muted)	Gets Mute ON/OFF status
Get-Input select	8		g	j	6A	000~	See Set-function table
Get-Power status : ON/ STBY	8		g	l	6C	000: STBY 001: ON	
Get-Remote control	8		g	n	6E	000 : Disable 001 : Enable 002 : Pass through	
Get-Power Lock	8		g	o	6F	000 : Unlock 001 : Lock	
Get-Button Lock	8		g	p	70	000 : Unlock 001 : Lock	
Get-Menu Lock	8		g	q	71	000 : Unlock 001 : Lock	
Get-Tiling Mode	8		g	v	76	000: OFF 001: ON	(for DS)
Get-Tiling Compensation	8		g	w	77	000: OFF 001: ON	(for DS) Bezel width compensation
Get-Tiling H by V monitors	8		g	x	78	01x~09x: H monitors 0x1~0x9: V monitors	(for DS) 1. 2nd digital for H monitors 2. 3rd digital for V monitors
Get-Tiling position	8		g	y	79	000: OFF 001~025	(for DS) Copy the screen of Position# to identified display
Get-ACK	8		g	z	7A	000	This command is used to test the communication link.

Get-Thermal	8		g	0	30	000~100: 0~+100 deg C -01~-99: -1~-99 deg C	For specific models only
Get-Power on/ off log	8		g	1	31	000 (See below note)	For specific models only
Get-Date	8		g	2	32	000 (See the Set-Date command)	For specific models only
Get- Time	8		g	3	33	000 (See the Set-Time command)	For specific models only

NOTE:

1. Power on/off log data is replied as 6 sequential strings in following order.



2. Time log data definition

Value 1	Value 2	Value 3
On/ Off indicator 0: Off 1: On	Month code	Day code
	Hour code	Minute code

Hex code (in hex) = Original data (in dec) + 20

Date & Time	Code (ASCII)	Code (Hex)	Date & Time	Code (ASCII)	Code (Hex)	Date & Time	Code (ASCII)	Code (Hex)	Date & Time	Code (ASCII)	Code (Hex)
0	space	20	16	6	36	32	R	52	48	h	68
1	!	21	17	7	37	33	S	53	49	i	69
2	“	22	18	8	38	34	T	54	50	p	70
3	#	23	19	9	39	35	U	55	51	q	71
4	$	24	20	@	40	36	V	56	52	r	72
5	%	25	21	A	41	37	W	57	53	s	73
6	&	26	22	B	42	38	X	58	54	t	74
7	’	27	23	C	43	39	Y	59	55	u	75
8	(	28	24	D	44	40	`	60	56	v	76
9	)	29	25	E	45	41	a	61	57	w	77
10	0	30	26	F	46	42	b	62	58	x	78
11	1	31	27	G	47	43	c	63	59	y	79
12	2	32	28	H	48	44	d	64			
13	3	33	29	I	49	45	e	65			
14	4	34	30	P	50	46	f	66			
15	5	35	31	Q	51	47	g	67			

Month: 1~12
Day: 1~31
Hour: 00~23
Min:: 00~59

3. Get Time log data example

Assumed the power-on/off record of display#01 as below
2014-8/31 08:00 On
2014-8/31 22:00 Off
2014-9/1 10:30 On
2014-9/1 11:00 To send “GET-Time log” command

Send: 0x 38 30 31 67 31 30 30 30 0D
Reply:
#1 0x 38 30 31 72 31 31 28 51 0D (On 8/31)
#2 0x 38 30 31 72 31 31 28 20 0D (On 08:00)
#3 0x 38 30 31 72 31 30 28 51 0D (Off 8/31)
#4 0x 38 30 31 72 31 30 42 20 0D (Off 22:00)
#5 0x 38 30 31 72 31 31 29 21 0D (On 9/1)
#6 0x 38 30 31 72 31 31 30 50 0D (On 10:30)

4. Get Date & Time example

Assumed the current date/time of display#01 as below
Date: 2015-1/31
Time: 16:27:59

Send: 0x 38 30 31 67 32 30 30 30 0D (Get Date)
Reply:
#1 0x 38 30 31 72 32 30 40 35 0D (Year “20” “15”)
#2 0x 38 30 31 72 32 31 21 51 0D (Month “1”, Day ”31”)

Send: 0x 38 30 31 67 33 30 30 30 0D (Get Time)
Reply:
#1 0x 38 30 31 72 33 30 36 47 0D (Hour “16”, Min “27”)
#2 0x 38 30 31 72 33 31 30 79 0D (“0”, Sec “59”)

10.3.3.Remote Control Pass-through mode

When the PC sets the TV/DS to Remote Control Pass through mode, the TV/DS will send a 7-byte packet (followed by “CR”) in response to RCU button activation. Note, that in this mode the RCU shall have no effect on the TV/DS function. For example: “Volume+” will not change the volume in the LCD but only sends “Volume+” code to PC over the RS232 port.

IR Pass Through-Function format

Reply: (Command Type=”p”)

Name	Length	ID	Command Type	RCU Code1 (MSB)	RCU Code2 (LSB)	CR
Byte Count	1 Byte	2 Byte	1 Byte	1 Byte	1 Byte	1 Byte
Bytes order	1	2~3	4	5	6	7

Example1: Remote Control pass-through when “VOL+” key is pressed for TV-05 Send (Hex Format)

Name	Length	ID	Command Type	Command	Value1	CR
Hex	0x36	0x30 0x35	0x70	0x31	0x30	0x0D

Key	Code (HEX)
1	01
2	02
3	03
4	04
5	05
6	06
7	07
8	08
9	09
0	0A
-	0B
RECALL (LAST)	0C
INFO (DISPLAY)	0D
	0E
ASPECT (ZOOM, SIZE)	0F
VOLUME UP (+)	10
VOLUME DOWN (-)	11
MUTE	12
CHANNEL/PAGE UP (+)/ BRIGHTNESS+	13
CHANNEL/PAGE DOWN (-)/ BRIGHTNESS-	14
POWER	15
SOURCES (INPUTS)	16
	17
	18
SLEEP	19
MENU	1A
UP	1B
DOWN	1C
LEFT (-)	1D
RIGHT (+)	1E
OK (ENTER, SET)	1F
EXIT	20
	21
	22
	23
	24
	25
	26
	27
	28
	29
	2A
	2B
RED ■ (F1)	2C
GREEN ■ (F2)	2D
YELLOW ■ (F3)	2E
BLUE ■ (F4)	2F

NOTE:

1. This IR-pass-through code is different from the RCU key code.
2. Special control sequence for POWER key under IR-pass through mode.
   2-1. When TV/DS is OFF and receives the IR POWER code: TV/DS will turn itself on, then forward the POWER code to the host via RS232.
   2-2. When TV/DS is ON and receives the IR POWER code: TV/DS will forward the POWER code to the host via RS232, then turn off itself.
   2-3. When SET-POWER LOCK is enabled, the TV/DS will not respond to POWER key pressing.
3. The VOLUME UP and VOLUME DOWN code will repeatedly output when you press and hold the keys.

11. Other Information

Customer Support

For technical support or product service, see the table below or contact your reseller.

NOTE: You will need the product serial number.

Country/Region	Website	T= Telephone C = CHAT ONLINE	Email
Australia New Zealand	www.viewsonic.com.au	AUS= 1800 880 818 NZ= 0800 008 822	service@au.viewsonic.com
Canada	www.viewsonic.com	T (Toll-Free)= 1-866-463-4775 T (Toll)= 1-424-233-2533	service.ca@viewsonic.com
Europe	www.viewsoniceurope.com	www.viewsoniceurope.com/uk/support/call-desk/	
Hong Kong	www.hk.viewsonic.com	T= 852 3102 2900	service@hk.viewsonic.com
India	www.in.viewsonic.com	T= 1800 266 0101	service@in.viewsonic.com
Korea	ap.viewsonic.com/kr/	T= 080 333 2131	service@kr.viewsonic.com
Latin America (Argentina)	www.viewsonic.com/la/	C= http://www.viewsonic.com/la/soporte/servicio-tecnico	soporte@viewsonic.com
Latin America (Chile)	www.viewsonic.com/la/	C= http://www.viewsonic.com/la/soporte/servicio-tecnico	soporte@viewsonic.com
Latin America (Columbia)	www.viewsonic.com/la/	C= http://www.viewsonic.com/la/soporte/servicio-tecnico	soporte@viewsonic.com
Latin America (Mexico)	www.viewsonic.com/la/	C= http://www.viewsonic.com/la/soporte/servicio-tecnico	soporte@viewsonic.com
Nexus Hightech Solutions, Cincinnati #40 Desp. 1 Col. De los Deportes Mexico D.F. Tel: 55) 6547-6454 55)6547-6484 Other places please refer to http://www.viewsonic.com/la/soporte/servicio-tecnico#mexico			
Latin America (Peru)	www.viewsonic.com/la/	C= http://www.viewsonic.com/la/soporte/servicio-tecnico	soporte@viewsonic.com
Macau	www.hk.viewsonic.com	T= 853 2870 0303	service@hk.viewsonic.com
Middle East	ap.viewsonic.com/me/	Contact your reseller	service@ap.viewsonic.com
Puerto Rico & Virgin Islands	www.viewsonic.com	T= 1-800-688-6688 (English) C= http://www.viewsonic.com/la/soporte/servicio-tecnico	service.us@viewsonic.com soporte@viewsonic.com
Singapore/ Malaysia/Thailand	www.ap.viewsonic.com	T= 65 6461 6044	service@sg.viewsonic.com
South Africa	ap.viewsonic.com/za/	Contact your reseller	service@ap.viewsonic.com
United States	www.viewsonic.com	T (Toll-Free)= 1-800-688-6688 T (Toll)= 1-424-233-2530	service.us@viewsonic.com

Limited Warranty

ViewSonic® LCD Commercial Display

What the warranty covers:
ViewSonic warrants its products to be free from defects in material and workmanship, under normal use, during the warranty period. If a product proves to be defective in material or workmanship during the warranty period, ViewSonic will, at its sole option, repair or replace the product with a like product. Replacement product or parts may include remanufactured or refurbished parts or components.

Who the warranty protects:
This warranty is valid only for the first consumer purchaser.

What the warranty does not cover:
1. Any product on which the serial number has been defaced, modified or removed.
2. Damage, deterioration or malfunction resulting from:
   a. Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
   b. Any damage of the product due to shipment.
   c. Removal or installation of the product.
   d. Causes external to the product, such as electrical power fluctuations or failure.
   e. Use of supplies or parts not meeting ViewSonic's specifications.
   f. Normal wear and tear.
   g. Any other cause which does not relate to a product defect.
3. Any product exhibiting a condition commonly known as "image burn-in" which results when a static image is displayed on the product for an extended period of time.
4. Removal, installation, one way transportation, insurance, and set-up service charges.

How to get service:
1. For information about receiving service under warranty, contact ViewSonic Customer Support (Please refer to Customer Support page). You will need to provide your product's serial number.
2. To obtain warranty service, you will be required to provide (a) the original dated sales slip, (b) your name, (c) your address, (d) a description of the problem, and (e) the serial number of the product.
3. Take or ship the product freight prepaid in the original container to an authorized ViewSonic service center or ViewSonic.
4. For additional information or the name of the nearest ViewSonic service center, contact ViewSonic.

Limitation of implied warranties:
There are no warranties, express or implied, which extend beyond the description contained herein including the implied warranty of merchantability and fitness for a particular purpose.

Exclusion of damages:
ViewSonic's liability is limited to the cost of repair or replacement of the product. ViewSonic shall not be liable for:

1. Damage to other property caused by any defects in the product, damages based upon inconvenience, loss of use of the product, loss of time, loss of profits, loss of business opportunity, loss of goodwill, interference with business relationships, or other commercial loss, even if advised of the possibility of such damages.
2. Any other damages, whether incidental, consequential or otherwise.
3. Any claim against the customer by any other party.
4. Repair or attempted repair by anyone not authorized by ViewSonic.

Effect of state law:
This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow limitations on implied warranties and/or do not allow the exclusion of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

Sales outside the U.S.A. and Canada:
For warranty information and service on ViewSonic products sold outside of the U.S.A. and Canada, contact ViewSonic or your local ViewSonic dealer.
The warranty period for this product in mainland China (Hong Kong, Macao and Taiwan Excluded) is subject to the terms and conditions of the Maintenance Guarantee Card.
For users in Europe and Russia, full details of warranty provided can be found in www.viewsoniceurope.com under Support/Warranty Information.

Mexico Limited Warranty

ViewSonic® LCD Commercial Display

What the warranty covers:
ViewSonic warrants its products to be free from defects in material and workmanship, under normal use, during the warranty period. If a product proves to be defective in material or workmanship during the warranty period, ViewSonic will, at its sole option, repair or replace the product with a like product. Replacement product or parts may include re-manufactured or refurbished parts or components.

Who the warranty protects:
This warranty is valid only for the first consumer purchaser.

What the warranty does not cover:
1. Any product on which the serial number has been defaced, modified or removed.
2. Damage, deterioration or malfunction resulting from:
   a. Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
   b. Any damage of the product due to shipment.
   c. Removal or installation of the product.
   d. Causes external to the product, such as electrical power fluctuations or failure.
   e. Use of supplies or parts not meeting ViewSonic's specifications.
   f. Normal wear and tear.
   g. Any other cause which does not relate to a product defect.
3. Any product exhibiting a condition commonly known as "image burn-in" which results when a static image is displayed on the product for an extended period of time.
4. Removal, installation, one way transportation, insurance, and set-up service charges.

How to get service:
For information about receiving service under warranty, contact ViewSonic Customer Support (Please refer to the attached Customer Support page). You will need to provide your product's serial number, so please record the product information in the space provided below on your purchase for your future use. Please retain your receipt of proof of purchase to support your warranty claim.

For Your Records
Product Name: _____
Document Number: _____
Purchase Date: _____
Model Number: _____
Serial Number: _____
Extended Warranty Purchase? _____(Y/N)
If so, what date does warranty expire? _____

1. To obtain warranty service, you will be required to provide (a) the original dated sales slip, (b) your name, (c) your address, (d) a description of the problem, and (e) the serial number of the product.
2. Take or ship the product in the original container packaging to an authorized ViewSonic service center.
3. Round trip transportation costs for in-warranty products will be paid by ViewSonic.

Limitation of implied warranties:
There are no warranties, express or implied, which extend beyond the description contained herein including the implied warranty of merchantability and fitness for a particular purpose.

Exclusion of damages:
ViewSonic's liability is limited to the cost of repair or replacement of the product. ViewSonic shall not be liable for:
1. Damage to other property caused by any defects in the product, damages based upon inconvenience, loss of use of the product, loss of time, loss of profits, loss of business opportunity, loss of goodwill, interference with business relationships, or other commercial loss, even if advised of the possibility of such damages.
2. Any other damages, whether incidental, consequential or otherwise.
3. Any claim against the customer by any other party.
4. Repair or attempted repair by anyone not authorized by ViewSonic.

Contact Information for Sales & Authorized Service (Centro Autorizado de Servicio) within Mexico:	
Name, address, of manufacturer and importers: México, Av. de la Palma #8 Piso 2 Despacho 203, Corporativo Interpalmas, Col. San Fernando Huixquilucan, Estado de México Tel: (55) 3605-1099 http://www.viewsonic.com/la/soporte/index.htm	
NÚMERO GRATIS DE ASISTENCIA TÉCNICA PARA TODO MÉXICO: 001.866.823.2004	
Hermosillo: Distribuciones y Servicios Computacionales SA de CV. Calle Juarez 284 local 2 Col. Bugambilias C.P: 83140 Tel: 01-66-22-14-9005 E-Mail: disc2@hmo.megared.net.mx	***Villahermosa:*** Compumantenimietnos Garantizados, S.A. de C.V. AV. GREGORIO MENDEZ #1504 COL, FLORIDA C.P. 86040 Tel: 01 (993) 3 52 00 47 / 3522074 / 3 52 20 09 E-Mail: compumantenimientos@prodigy.net.mx
Puebla, Pue. (Matriz): RENTA Y DATOS, S.A. DE C.V. Domicilio: 29 SUR 721 COL. LA PAZ 72160 PUEBLA, PUE. Tel: 01(52).222.891.55.77 CON 10 LINEAS E-Mail: datos@puebla.megared.net.mx	***Veracruz, Ver.:*** CONEXION Y DESARROLLO, S.A DE C.V. Av. Americas # 419 ENTRE PINZÓN Y ALVARADO Fracc. Reforma C.P. 91919 Tel: 01-22-91-00-31-67 E-Mail: gacosta@qplus.com.mx
Chihuahua Soluciones Globales en Computación C. Magisterio # 3321 Col. Magisterial Chihuahua, Chih. Tel: 4136954 E-Mail: Cefeo@soluglobales.com	***Cuernavaca*** Compusupport de Cuernavaca SA de CV Francisco Leyva # 178 Col. Miguel Hidalgo C.P. 62040, Cuernavaca Morelos Tel: 01 777 3180579 / 01 777 3124014 E-Mail: aquevedo@compusupportcva.com
Distrito Federal: QPLUS, S.A. de C.V. Av. Coyoacán 931 Col. Del Valle 03100, México, D.F. Tel: 01(52)55-50-00-27-35 E-Mail : gacosta@qplus.com.mx	***Guadalajara, Jal.:*** SERVICRECE, S.A. de C.V. Av. Niños Héroes # 2281 Col. Arcos Sur, Sector Juárez 44170, Guadalajara, Jalisco Tel: 01(52)33-36-15-15-43 E-Mail: mmiranda@servicrece.com
Guerrero Acapulco GS Computación (Grupo Sesicomp) Progreso #6-A, Colo Centro 39300 Acapulco, Guerrero Tel: 744-48-32627	***Monterrey:*** Global Product Services Mar Caribe # 1987, Esquina con Golfo Pérsico Fracc. Bernardo Reyes, CP 64280 Monterrey N.L. México Tel: 8129-5103 E-Mail: aydeem@gps1.com.mx
MERIDA: ELECTROSER Av Reforma No. 403Gx39 y 41 Mérida, Yucatán, México CP97000 Tel: (52) 999-925-1916 E-Mail: rrrb@sureste.com	***Oaxaca, Oax.:*** CENTRO DE DISTRIBUCION Y SERVICIO, S.A. de C.V. Murguía # 708 P.A., Col. Centro, 68000, Oaxaca Tel: 01(52)95-15-15-22-22 Fax: 01(52)95-15-13-67-00 E-Mail. gpotai2001@hotmail.com
Tijuana: STD Av Ferrocarril Sonora #3780 L-C Col 20 de Noviembre Tijuana, Mexico	***FOR USA SUPPORT:*** ViewSonic Corporation 14035 Pipeline Ave. Chino, CA 91710, USA Tel: 800-688-6688 (English); 866-323-8056 (Spanish); E-Mail: http://www.viewsonic.com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