



THE DISPLAY CHOICE  
OF PROFESSIONALS™

TTN-3201, TTN-4301 & TTN-5501 LED-Backlit Display

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

# User Manual

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# SAFETY INFORMATION

## Federal Communications Commission (FCC) Notice (For TTN-3201/TTN-4301 only)



This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. 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. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- 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.



Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Use only an RF shielded cable that was supplied with the display when connecting this display to a computer device.

To prevent damage which may result in fire or shock hazard, do not expose this appliance to rain or excessive moisture.

THIS CLASS B DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE-CAUSING EQUIPMENT REGULATIONS.

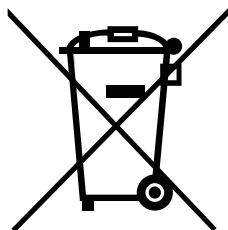


This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

# SAFETY INFORMATION

## WEEE

Disposal of Waste Equipment by Users in Private Household in the European Union.



This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product

For Private Households in the European Union. To help conserve natural resources and ensure the product is recycled in a manner that protects human health and the environment, we would like to bring your attention to the following:

- The crossed-out dustbin on the device or outer packaging indicates the product is compliant with European WEEE (Waste Electrical and Electronic Equipment) Directive
- Always dispose of the old devices separately from household waste
- Batteries should be removed beforehand and disposed separately to the right collection system
- You are responsible with regard to the deletion of personal data on old devices before disposal
- Private households can hand in their old devices free of charge
- For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product

# PRECAUTIONS

## PRECAUTIONS



### Symbols used in this manual



This icon indicates the existence of a potential hazard that could result in personal injury or damage to the product.



This icon indicates important operating and servicing information.

## Notice

- Read this User Manual carefully before using the LCD display and keep it for future reference.
- The product specifications and other information provided in this User Manual are for reference only. All information is subject to change without notice. Updated content can be downloaded from our web site at [www.agneovo.com](http://www.agneovo.com).
- To protect your rights as a consumer, do not remove any stickers from the LCD display. Doing so may affect the determination of the warranty period.

## Cautions When Setting Up



Do not place the LCD display near heat sources, such as a heater, exhaust vent, or in direct sunlight.



Do not cover or block the ventilation holes in the housing.



Place the LCD display on a stable area. Do not place the LCD display where it may be subject to vibration or shock.



Place the LCD display in a well-ventilated area.



Do not place the LCD display outdoors.



Do not place the LCD display in a dusty or humid environment.



Do not spill liquid or insert sharp objects into the LCD display through the ventilation holes. Doing so may cause accidental fire, electric shock or damage the LCD display.

# PRECAUTIONS

## Cautions When Using



Use only the power cord supplied with the LCD display.



The power outlet should be installed near the LCD display and be easily accessible.



If an extension cord is used with the LCD display, ensure that the total current consumption plugged into the power outlet does not exceed the ampere rating.



Do not allow anything to rest on the power cord. Do not place the LCD display where the power cord may be stepped on.



If the LCD display will not be used for an indefinite period of time, unplug the power cord from the power outlet.



To disconnect the power cord, grasp and pull by the plug head. Do not tug on the cord; doing so may cause fire or electric shock.



Do not unplug or touch the power cord with wet hands.



### WARNING:

Unplug the power cord from the power outlet and refer to qualified service personnel under the following conditions:



- When the power cord is damaged.
- If the LCD display has been dropped or the housing has been damaged.
- If the LCD display emits smoke or a distinct odor.



Ceiling mount or mount on any other horizontal surface overhead are not advisable.



### WARNING:

Installation in contravention of the instructions may result in undesirable consequences, particularly hurting people and damaging property. Users who have already mounted the display on the ceiling or any other horizontal surface overhead are strongly advised to contact AG Neovo for consultations and solutions to help ensure a most pleasurable and fulfilling display experience.

# PRECAUTIONS

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## Cleaning and Maintenance

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Do not attempt to service the LCD display yourself, refer to qualified service personnel.

Opening or removing the covers may expose you to dangerous voltage or other risks.

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## Notice for the LCD Display

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In order to maintain the stable luminous performance, it is recommended to use low brightness setting.

Due to the lifespan of the lamp, it is normal that the brightness quality of the LCD display may decrease with time.

When static images are displayed for long periods of time, the image may cause an imprint on the LCD display. This is called image retention or burn-in.

To prevent image retention, do any of the following:

- Set the LCD display to turn off after a few minutes of being idle.
- Use a screen saver that has moving graphics or a blank white image.
- Switch desktop backgrounds regularly.
- Adjust the LCD display to low brightness settings.
- Turn off the LCD display when the system is not in use.

Things to do when the LCD display shows image retention:

- Turn off the LCD display for extended periods of time. It can be several hours or several days.
- Use a screen saver and run it for extended periods of time.
- Use a black and white image and run it for extended periods of time.

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There are millions of micro transistors inside the LCD display. It is normal for a few transistors to be damaged and to produce spots. This is acceptable and is not considered a failure.

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# CHAPTER 1: PRODUCT DESCRIPTION

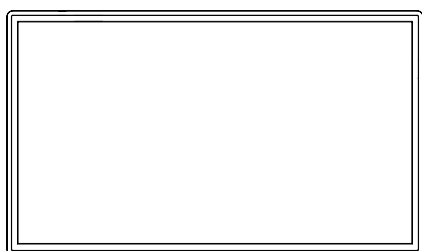
## 1.1 Unpacking

- This product is packed in a packaging box which contains standard accessories.
- Any other optional accessories will be packed separately.
- Considering the size and weight of the display, it is recommended that this product is carried out by two persons.
- After opening the packaging box, ensure that the included items are in good condition and complete.

## 1.2 Package Contents

When unpacking, check if the following items are included in the package. If any of them is missing or damaged, contact your dealer.

☐ **LCD Display**



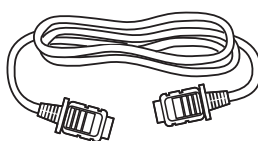
☐ **Remote control**



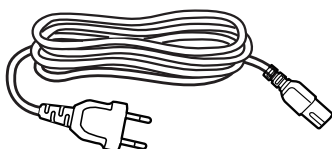
☐ **Quick Start Guide**



☐ **HDMI cable**



☐ **Power cord**



### Note:



**Attention!!**  
**Batteries not included.**

- ◆ No batteries for remote control are included.
- ◆ Remote control requires 2x AAA battery.
- ◆ For all other regions, apply a power cord that conforms to the AC voltage of the power socket and has been approved by and complies with the safety regulations of the particular country (Type H05W-F, 2G or 3G, 0.75 or 1 mm<sup>2</sup> should be used).
- ◆ You might like to save the package box and packing material for shipping the display.
- ◆ The pictures are for reference only. Actual items may vary upon shipment.



# PRODUCT DESCRIPTION

## 1.3 Preparing for the Installation

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



### Warning:

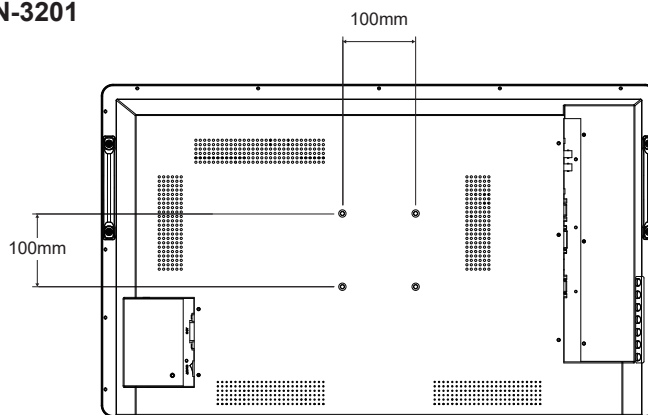
- ◆ Do not press too hard on the LCD panel or edge of the frame, as this may cause the device to malfunction.

## 1.4 Wall Mounting Installation

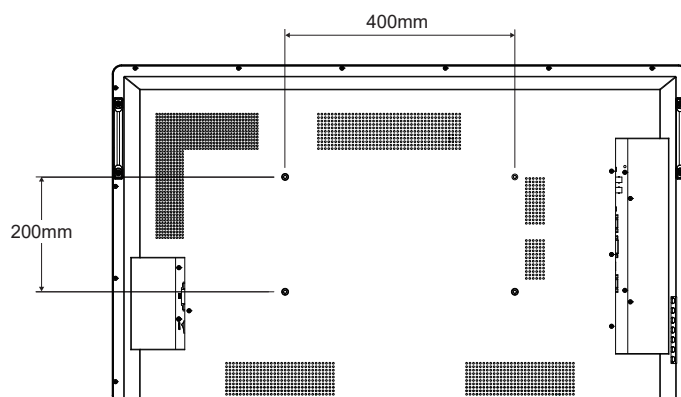
To mount this display to a wall, you will have to obtain a standard wall-mounting kit (commercially available). We recommend using a mounting interface that complies with TUV-GS and/or UL1678 standard in North America.

To wall-mount the LCD display, screw the mounting bracket to the VESA holes at the rear of the LCD display.

### TTN-3201



### TTN-4301

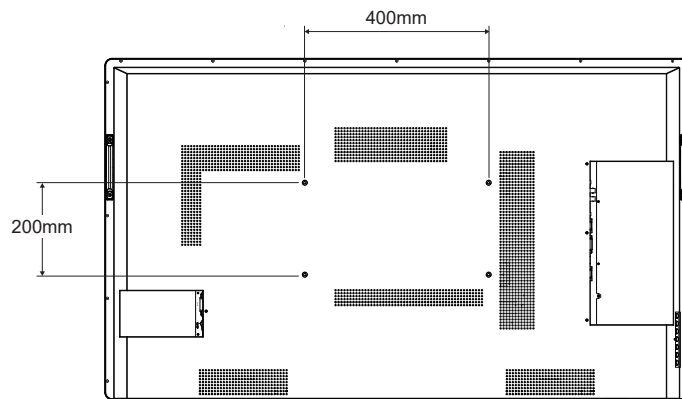


### Note:

- ◆ Avoid the wall-mounting kit to block the ventilation holes on the back of the display.
- ◆ Secure the LCD display on a solid wall strong enough to bear its weight.
- ◆ 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.
- ◆ Ensure you have all accessories for mounting this display (wall mount, ceiling mount, etc).
- ◆ 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.

# PRODUCT DESCRIPTION

TTN-5501



# PRODUCT DESCRIPTION

## 1.4.1 VESA Grid

Model Name	VESA Grid
TTN-3201	100(W) x 100(H) mm
TTN-4301	400(W) x 200(H) mm
TTN-5501	400(W) x 200(H) mm

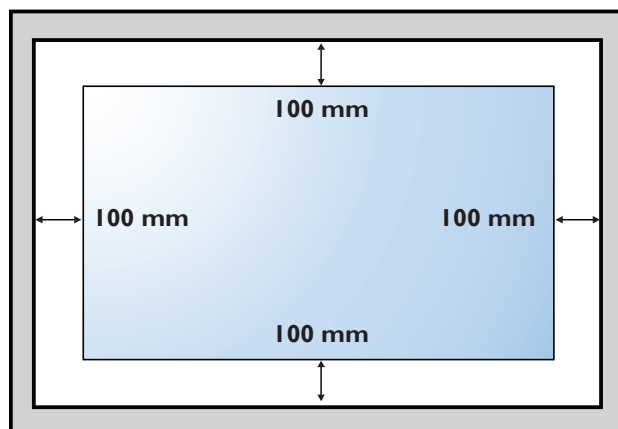
### Caution:

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, see 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.

## 1.4.2 Ventilation Requirements for Enclosure Locating

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



### Note:

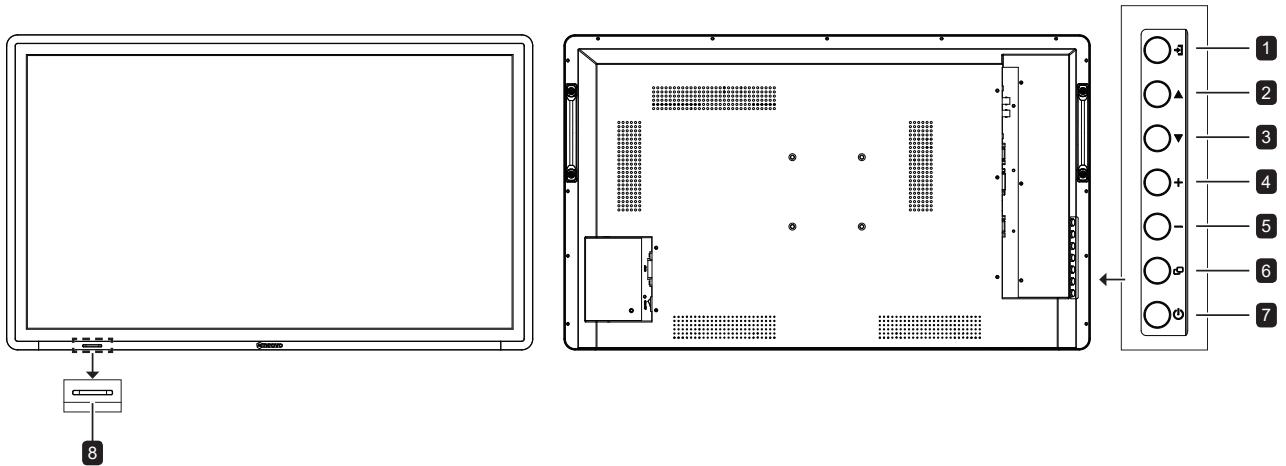
- ◆ For the wall-mounting kit, use M6 mounting screws (having a length 10 mm longer than the thickness of the mounting bracket) and tighten them securely.

# PRODUCT DESCRIPTION

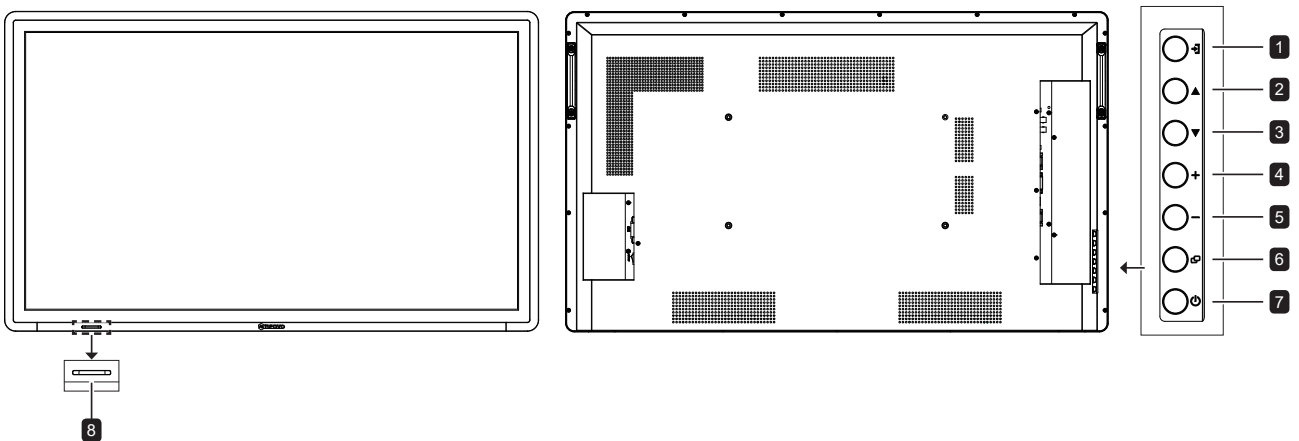
## 1.5 LCD Display Overview

### 1.5.1 Control Panel

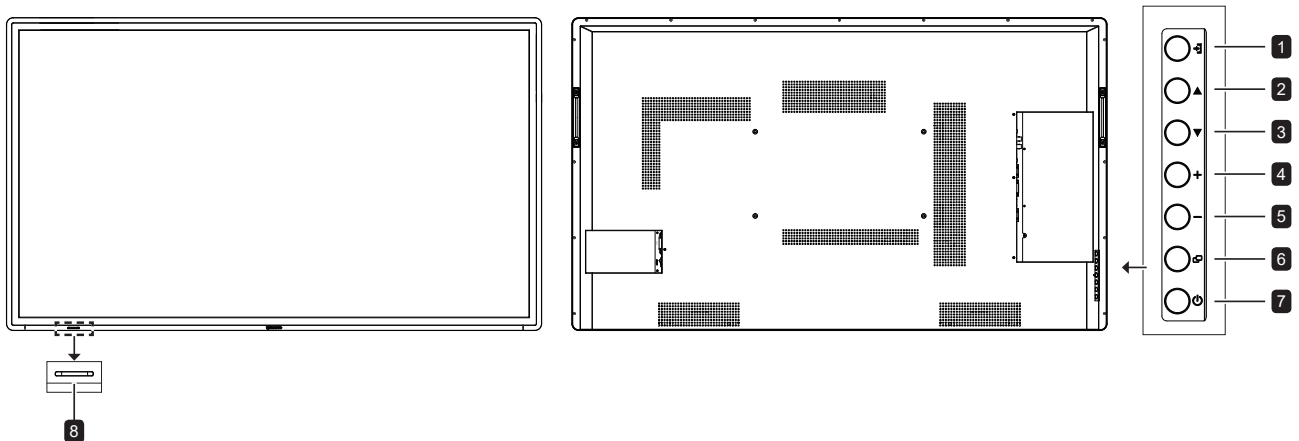
TTN-3201



TTN-4301



TTN-5501



# PRODUCT DESCRIPTION

## 1 Input

Choose the input source.

## 2 Up

Move the highlight bar up to select an option or increase the adjustment while OSD menu is on.

## 3 Down

Move the highlight bar down to select an option or decrease the adjustment while OSD menu is on.

## 4 Increase

- Select an option or increase the adjustment while OSD menu is on.
- Increase the volume level while OSD menu is off.

## 5 Decrease

- Select an option or decrease the adjustment while OSD menu is on.
- Decrease the volume level while OSD menu is off.

## 6 Menu

- Activate the OSD menu when OSD menu is off.
- Return to the previous menu or hide the OSD menu while OSD menu is on.

## 7 Power

Turn the display on or put the display to standby.

## 8 Remote control sensor, power status indicator and EcoSmart sensor

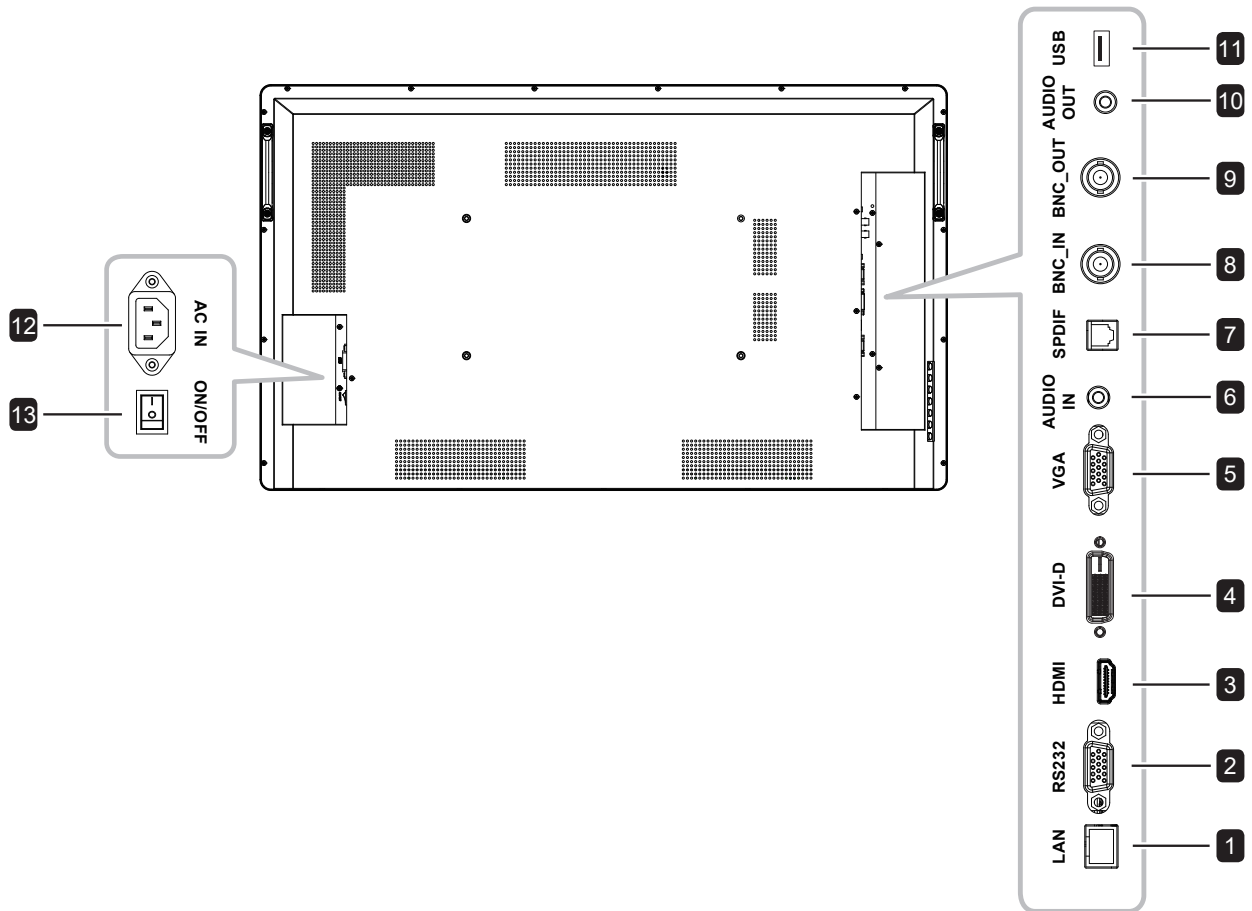
- Receive command signals from the remote control.
- Indicate the operating status of the display:
  - Lights blue when the display is turned on
  - Lights red when the display is in standby mode
  - Lights off when the main power of the display is turned off
- Users can enable the Eco Smart feature to automatically adjust the LCD screen brightness according to the ambient light. This feature comforts the eyes and helps optimise energy efficiency.

### Note:

- ◆ Please make sure the EcoSmart sensor is not covered when enabling this function.

# PRODUCT DESCRIPTION

## 1.5.2 Input/Output Terminals

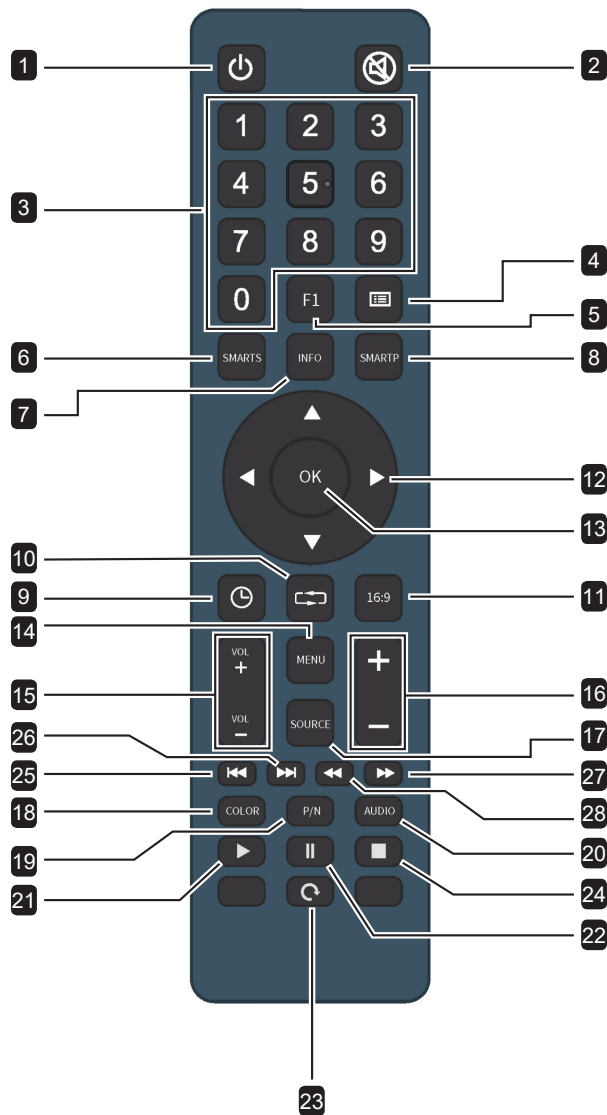


- |  |  |
|--|--|
| <p><b>1 LAN</b><br/>For LAN connection with an Ethernet cable.</p> <p><b>2 RS232</b><br/>Connect RS232 input from external equipment.</p> <p><b>3 HDMI</b><br/>Connect HDMI signals input.</p> <p><b>4 DVI-D</b><br/>Connect DVI signals input.</p> <p><b>5 VGA</b><br/>Connect VGA signals input.</p> <p><b>6 AUDIO_IN</b><br/>Connect audio signals input (3.5 mm Stereo Audio Jack).</p> <p><b>7 SPDIF(HDMI/DP)</b><br/>Connect digital audio signals output.</p> | <p><b>8 BNC_IN</b><br/>Connect BNC signals input.</p> <p><b>9 BNC_OUT</b><br/>Connect BNC signals output.</p> <p><b>10 AUDIO_OUT(PC/CVBS)</b><br/>Connect audio signals output (3.5 mm Stereo Audio Jack).</p> <p><b>11 USB</b><br/>USB Port for USB media playback and firmware upgrade.</p> <p><b>12 AC-IN</b><br/>AC power input.</p> <p><b>13 ON / OFF</b><br/>Switch the main power on/off.</p> |
|--|--|

# PRODUCT DESCRIPTION

## 1.6 Remote Control

### 1.6.1 General Functions



- 1 [POWER]**  
Turns the display on or puts the display into standby mode.
- 2 [MUTE]**  
Turns the mute function on/off.
- 3 [Number]**  
Inputs numbers.
- 4 [List]**  
No function.

- 5 [F1] Freeze**  
Freezes or unfreezes the screen image.
- 6 [SMARTS] Sound Mode**  
Selects the preferred sound mode. The available sound modes include: **Standard**, **Rock**, **POP**, **Jazz**, **Classical**, and **Custom**.
- 7 [INFO] Displays signal type and resolution**  
Accesses the USB media playback OSD function when in USB input source.
- 8 [SMARTP] Picture Mode**  
Selects the preferred picture mode. The available sound modes include: **Standard**, **Vivid**, **Soft**, **CCTV**, and **Movie**.
- 9 [Timer]**  
No function.
- 10 [Back]**  
Exits from the previous function.
- 11 [16:9] Aspect Ratio**  
Changes the aspect ratio.
- 12 [Navigation Buttons]**  
Navigates through menus and chooses items.
- 13 [OK]**  
Confirms an entry or selection.
- 14 [MENU]**  
Accesses the OSD menu or Exit menu.
- 15 [Volume Button]**  
Adjusts volume on internal or external audio sources.
- 16 [+/-]**  
No function.
- 17 [SOURCE]**  
Selects the input source.
- 18 [COLOR] Colour Temperature**  
Selects the colour temperature.
- 19 ~ 20**  
No function.
- 21 ~ 28**  
For USB media playback use.

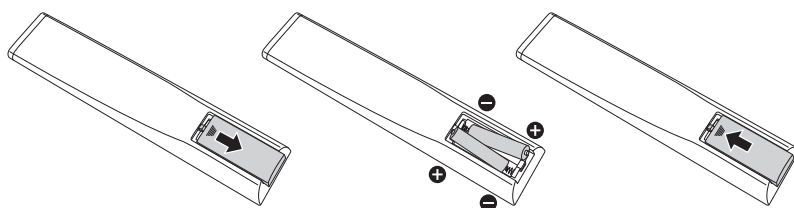
# PRODUCT DESCRIPTION

## 1.6.2 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.



## 1.6.3 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.



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

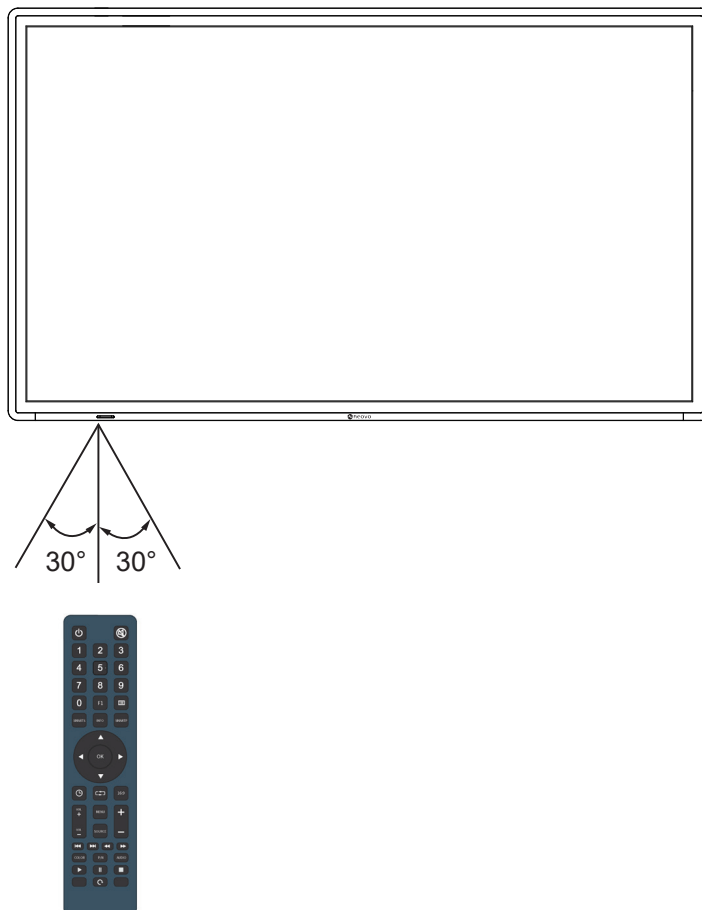


# PRODUCT DESCRIPTION

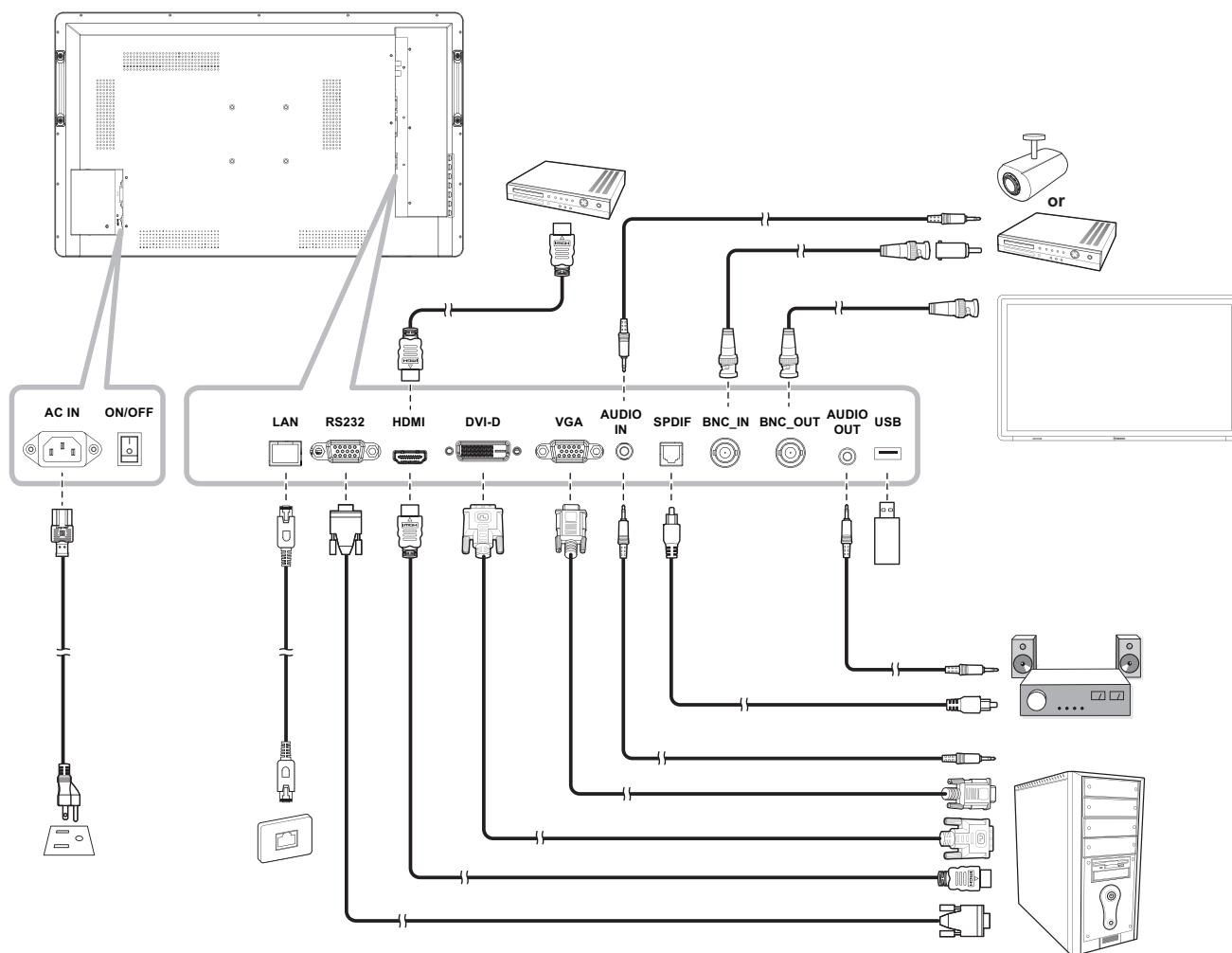
## 1.6.4 Operating Range of the Remote Control

Point the top of the remote control toward the display's remote control sensor (on the right side) when pressing a button.

When using the remote control, the distance from the remote control to the sensor on the display should be less than 8m/26ft, and the horizontal and vertical angles should be less than  $30^{\circ}$ .

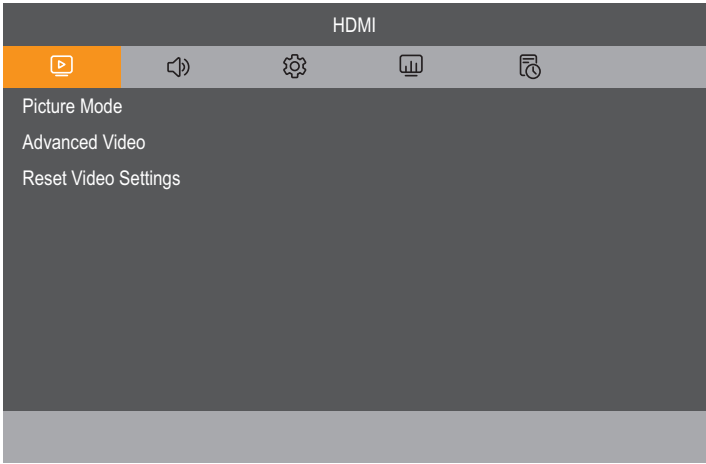

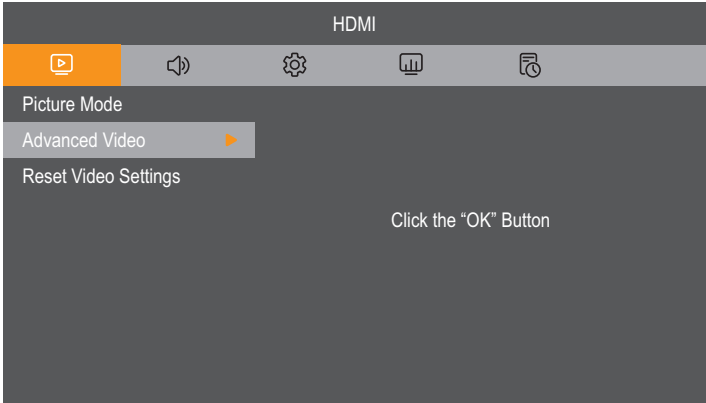
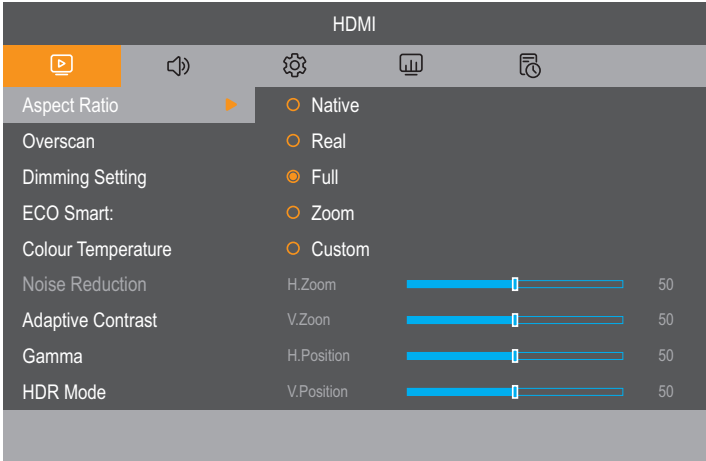



## CHAPTER 2: MAKING CONNECTIONS





# CHAPTER 3: ON SCREEN DISPLAY MENU

## 3.1 Using the OSD Menu

#	Menu Navigation	Operation	
		Control Panel	Remote Control
1	Display the main menu screen. 	1 Press the  button. 2 Press the <b>+</b> or <b>—</b> button to select the menu item.	1 Press the <b>MENU</b> button. 2 Press the <b>◀</b> or <b>▶</b> button to select the menu item.
2	Enter the submenu.  <p>The highlighted item (light gray) indicates the active submenu.</p>	1 Press the <b>▲</b> or <b>▼</b> button to enter the submenu. 2 Press the <b>→</b> button to select an item to be adjusted.	1 Press the <b>▲</b> or <b>▼</b> button to enter the submenu. 2 Press the <b>OK</b> button to select an item to be adjusted.
3	Select the setting or adjust the value. 	1 Press the <b>→</b> button to select an item to be adjusted. 2 Press the <b>▲/▼</b> or <b>+/-</b> button to select the setting or change the value.	1 Press the <b>OK</b> button to select an item to be adjusted. 2 Press the <b>▲/▼</b> or <b>◀/▶</b> button to select the setting or change the value.
4	Exit the submenu.	Press the  button to return to the previous menu.	Press the <b>MENU</b> button to return to the previous menu.

# ON SCREEN DISPLAY MENU

#	Menu Navigation	Operation	
		Control Panel	Remote Control
<b>5</b>	Close the OSD window.	Press  button for several times if necessary to exit.	Press the  button once or the <b>MENU</b> button for several times if necessary to exit.

When settings are modified, usually all changes are saved when the user does the following:

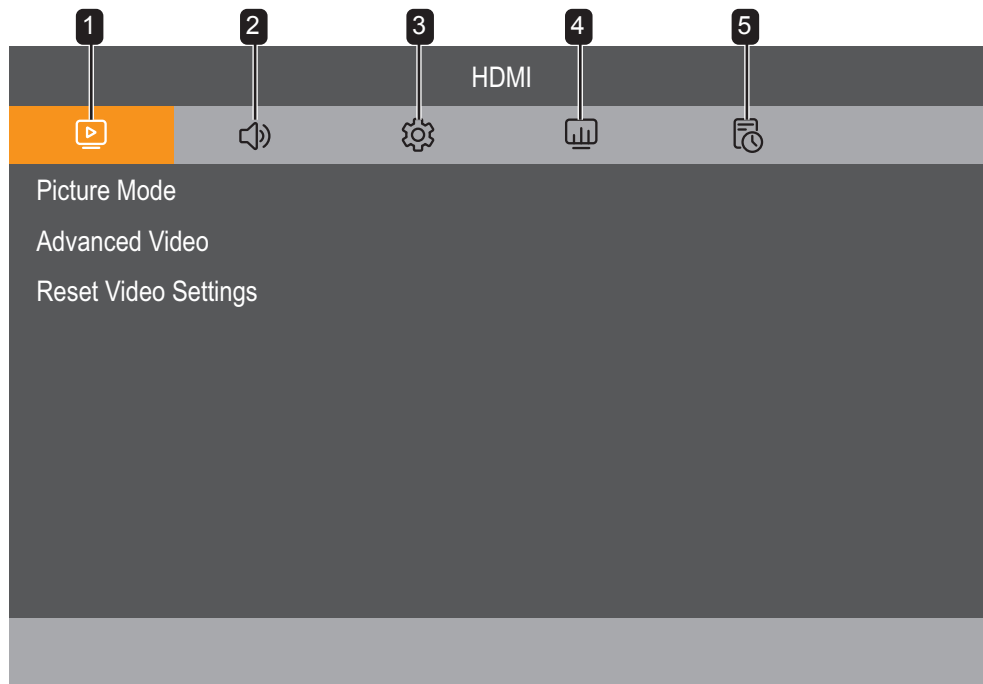
- Proceeds to the another menu.
- Exits the OSD menu.
- Waits for the OSD menu to disappear.

## Note:

- ◆ Availability of some menu items depend on the input source signal. If the menu is not available, it is disabled and grayed out.

# ON SCREEN DISPLAY MENU

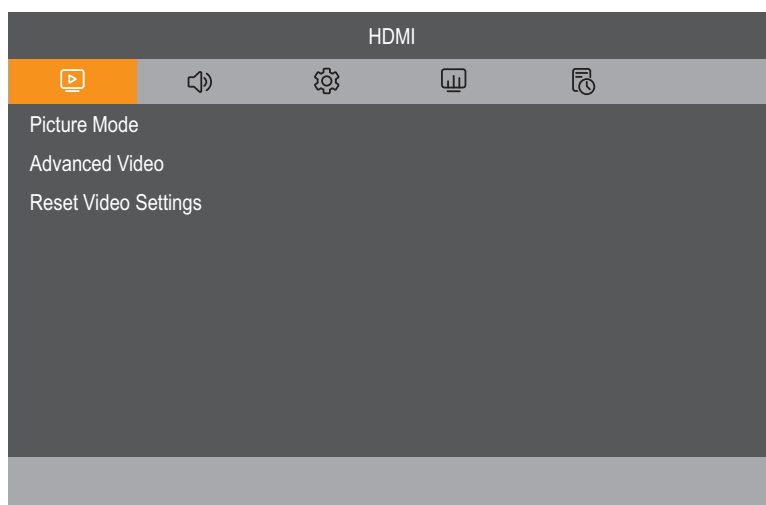
## 3.2 OSD Menu Tree



Main Menu	Submenu	Remarks
1. Picture	<ul style="list-style-type: none"> <li>Picture Mode</li> <li>Advanced Video</li> <li>Reset Video Setting</li> </ul>	See page 22.
2. Sound	<ul style="list-style-type: none"> <li>Sound Mode</li> <li>Balance</li> <li>Surround</li> <li>Internal Speakers</li> <li>Digital Output</li> <li>Audio Delay</li> <li>Audio Source</li> <li>Sound Mute</li> <li>Reset Audio Settings</li> </ul>	See page 25.
3. Settings	<ul style="list-style-type: none"> <li>OSD Settings</li> <li>Power Settings</li> <li>Audio Signal Detection</li> <li>HDMI Settings</li> <li>VGA Options</li> <li>Advanced Options</li> <li>Monitor Information</li> <li>Factory Reset</li> </ul>	See page 27.
4. Network	<ul style="list-style-type: none"> <li>Control Interface</li> <li>Network Settings</li> <li>Monitor ID</li> <li>Reset Network Settings</li> </ul>	See page 31.
5. Schedule	<ul style="list-style-type: none"> <li>Clock</li> <li>Power On</li> <li>Power Off</li> </ul>	See page 32.

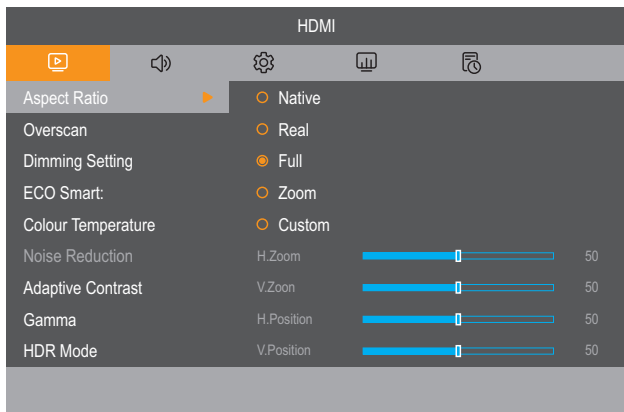
# CHAPTER 4: ADJUSTING THE LCD DISPLAY

## 4.1 Picture

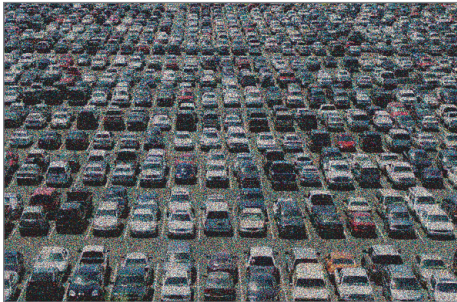



Item	Function	Range
Picture Mode		
	Picture Mode: Sets the predefined picture setting.	Standard Vivid Soft CCTV Movie
	Brightness: Adjusts the luminance of the screen image.	0 to 100
	<div> <div>Original Setting</div> </div> <div> <div>High Setting</div> </div> <div> <div>Low Setting</div> </div>	
	Contrast: Adjusts the difference between the black level and the white level.	0 to 100
	<div> <div>Original Setting</div> </div> <div> <div>High Setting</div> </div> <div> <div>Low Setting</div> </div>	

# ADJUSTING THE LCD DISPLAY

Item	Function	Range
Picture Mode	Hue: Adjusts the colour balance of red and green	0 to 100
	Saturation: Adjust the colour saturation of the picture.	0 to 100
	Sharpness: Adjusts the clarity and focus of the screen image.	0 to 100
	Black level: Adjusts the black level of the screen image. Low brightness setting makes black colour darker.	0 to 100
Advanced video		
	Aspect Ratio: Adjusts the aspect ratio of the screen image.	Native Real Full Zoom Custom
	<b>Note:</b> To adjust manually the value of horizontal zoom ( <b>H. Zoom</b> ), vertical zoom ( <b>V. Zoom</b> ), horizontal position ( <b>H. Position</b> ), and vertical position ( <b>V. Position</b> ), set the aspect ratio to <b>Custom</b> .	0 to 100
	Overscan: Adjusts the overscan setting to fix the cut-off screen edges.	0 to 25
	Dimming Setting: Enables or disables adjusting the backlight brightness. If dimming is set to <b>Dynamic Backlight</b> then this features adjusts the backlight brightness to optimize the dynamic power consumption and screen contrast.	Off Dynamic Backlight Local dimming
	<b>Local dimming:</b> Improve the contrast ratio in dark scenes by dimming backlight zones.(for TTN-4301)	
	ECO Smart: Automatically adjust the screen brightness according to the ambient light.	Off On
	Colour Temperature: Selects a colour temperature for the image. A lower colour temperature will have a reddish tint, whilst a higher colour temperature gives off a more bluish tint. <b>Note:</b> To adjust independently the value of red, green, and blue, set the colour temperature to <b>User</b> .	Cool Normal Warm Native User 0 to 255
	Noise Reduction: Removes noise from the images. This feature helps to produce clearer and crisper images. <b>Note:</b> This menu item is only available if the input source is CVBS.	Off Low Mid High

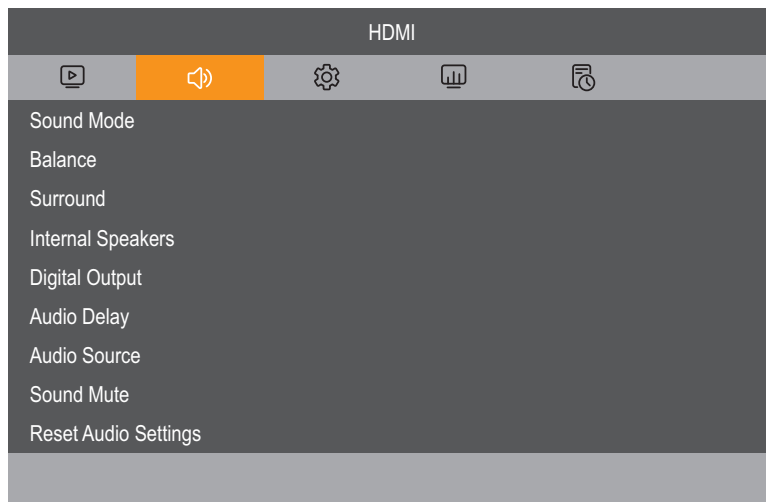
# ADJUSTING THE LCD DISPLAY

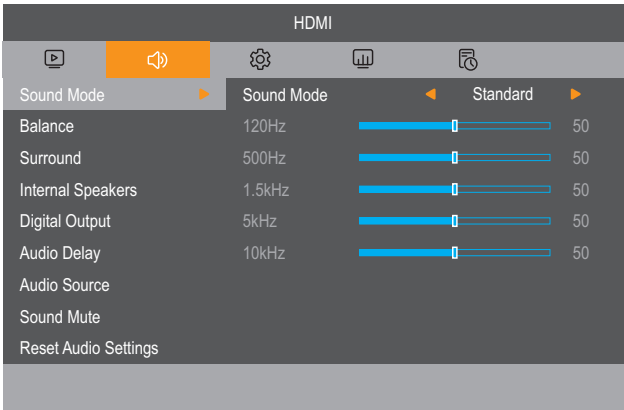
Item	Function		Range
Advanced Video	<div> <div>Noise Reduction Off</div>  </div> <div> <div>Noise Reduction On</div>  </div>		
	Adaptive Contrast: Optimizes automatically the contract ratio of the LCD display in dark scenes as well as delivers smoother and more realistic gradients. <b>Note:</b> Use this function in HDMI source when the signal format is YUV.		Off Low Mid High
	Gamma: Adjusts the non-linear setting for picture luminance and contrast.		Native 2.2 2.4
	HDR ( High dynamic range ) Mode: Displays more realistically colour tones and more details in light and dark environments. <b>Note:</b> Use this function in HDMI-HDR source when the signal format is YUV4:4:4.		Off Low Mid High
	Reset Video Setting: Resets all settings in the Picture menu to the factory preset values.		Yes No



# ADJUSTING THE LCD DISPLAY

## 4.2 Sound



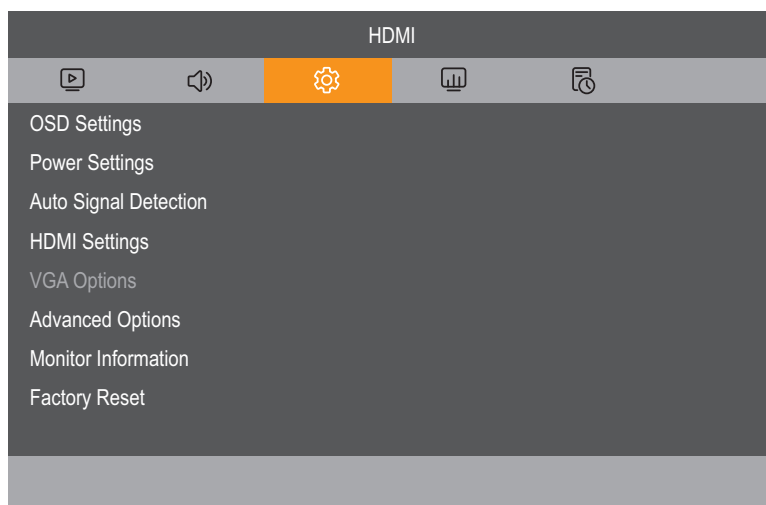
Item	Function	Range
Sound Mode		
	Sets the predefined Sound Mode.	Standard Rock POP Jazz Classical Custom
	<b>Note:</b> To adjust sound settings ( <b>120Hz</b> , <b>500Hz</b> , <b>1.5KHz</b> , <b>5KHz</b> , and <b>10KHz</b> ) manually, set the sound mode to <b>User</b> .	0 to 100
Balance	Adjusts to emphasize left or right audio output balance.	L50 to 0 0 to R50
Surround	Provides an enhanced listening experience.	Off On
Internal Speakers	Enables or disables internal speakers.	Off On
Digital Output	Selects the digital output format.	RAW PCM
Audio Delay	Sets the internal speaker audio delay.	0 to 100
Audio Source	Selects the audio input source. Without video signal there is no audio output. <ul style="list-style-type: none"><li>• Analog: Audio from audio input.</li><li>• Digital: Audio from HDMI/DVI-HDMI audio.</li></ul>	Analog Digital

## ADJUSTING THE LCD DISPLAY

Item	Function	Range
Sound Mute	Turns the mute function on/off.	Off On
Reset Audio Settings	Resets all settings in the Sound menu to the factory preset values.	Yes No

# ADJUSTING THE LCD DISPLAY

## 4.3 Setting







Item	Function	Range
OSD Settings	Language: Sets the OSD language.	English 简体中文 French Español Deutsch 繁體中文
	Transparency: Adjusts OSD transparency. • Off: Transparency is off. • 25% to 75%: Transparency level is 25% to 75%.	Off 25% 50% 75%
	Information OSD: Sets the period of time the information OSD is displayed on the upper right corner of the screen. The information OSD will appear on the screen when the input signal is changed. The information OSD will remain on the screen if the setting is set to <b>Off</b> .	Off On
	OSD Turn off: Sets the period of time the OSD menu stays on the screen.	0 to 100 (1/sec)
Power Settings	Standby: Sets standby mode when DC is off.	Off 10 seconds 30 seconds 1 minute 5 minutes 10 minutes
	Quick Start: The LCD display is fully on but the backlight is off. The device can be woken up on signal detection.	Off On

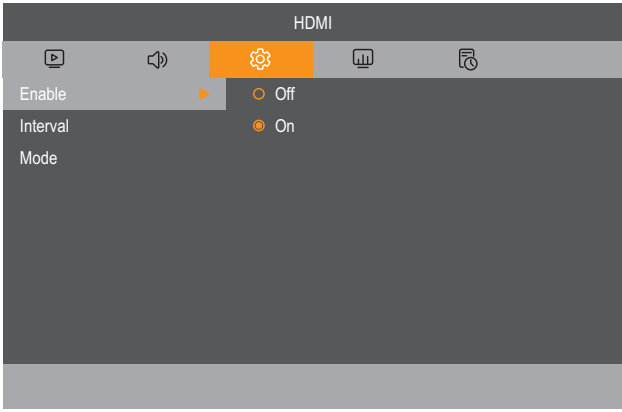
# ADJUSTING THE LCD DISPLAY

Item	Function	Range
Power Settings	<p>Switch on state: Selects the display status used for the next time you connect the power cord.</p> <ul style="list-style-type: none"> <li>Power Off: The display will remain off when the power cord is connected to a wall outlet.</li> <li>Force on: The display will turn on when the power cord is connected to a wall outlet.</li> <li>Last status: The display will return to the previous power status (on/off/standby) when removing and replacing the power cord.</li> </ul>	<p>Power off</p> <p>Force on</p> <p>Last status</p>
Auto Signal Detection	<p>Enables or disables the device to detect and display from available video inputs automatically.</p> <p>This function takes place only if there is no signal connected at the input port you designate for auto-detection.</p> <p>Off: Auto signal detection is disabled.</p> <p>Auto: The system will automatically search the available input signal in the following order: HDMI, DVI, VGA, CVBS.</p>	<p>Off</p> <p>Auto</p>
HDMI Settings  <b>Note:</b> HDMI Settings are available only for the HDMI source.	Alink(CEC): Enables or disables configuring the HDMI Consumer Electronics Control settings.  Off: Alink feature is off.  On: Enables to scan for compatible devices and configures <b>Auto Turn Off, Audio Receiver, and Device List settings</b> .	<p>Off</p> <p>On</p>
	HDMI Version: Set the HDMI version to 1.2, 1.4, or 2.0.  <b>Note:</b> HDMI 1.2 supports up to FHD 1080, HDMI 1.4 up to 4K@30Hz, and HDMI 2.0 up to 4K@60Hz.	<p>HDMI 1.2</p> <p>HDMI 1.4</p> <p>HDMI 2.0</p>
	Colour Range: Adjusts black and white levels for video.	<p>Auto</p> <p>Raw Signal</p> <p>Expanded Signal</p>
	HPD Enable: Enables or disables the HPD (hot-plug-detect) feature.	<p>Off</p> <p>On</p>
VGA Options  <b>Note:</b> VGA Options are available only for the VGA source.	Auto Adjust: Automatically optimizes the display of VGA input image.	<p>N/A</p>
	H.Position: Moves the image to the right or left.	<p>L50 to 0</p> <p>0 to R50</p>
	V.Position: Moves the image up or down.	<p>B50 to 0</p> <p>0 to T50</p>
	Clock: Adjusts the width of the image.	<p>0 to 100</p>
	Phase: Adjusts to improve the focus, clarity, and stability of the image.	<p>0 to 100</p>
	Reset VGA Options: Resets all settings in the VGA Options menu to the factory preset values.	<p>Yes</p> <p>No</p>

# ADJUSTING THE LCD DISPLAY

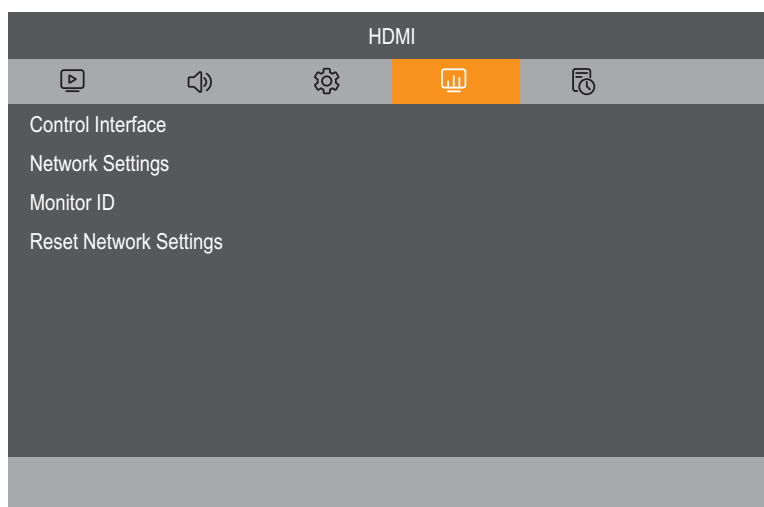
Item	Function	Range
Advanced Options	<p>Key Lock Settings: Enables or disables some or all control panel buttons.</p> <ul style="list-style-type: none"> <li>• Unlock: Unlock all control panel buttons.</li> <li>• Lock All but Power: Lock all control panel buttons except for the <b>Power</b> button.</li> <li>• Lock All except PWR &amp; VOL: Lock all control panel buttons except for the <b>Power</b> and <b>Volume</b> control buttons.</li> <li>• Lock All: Lock all control panel buttons.</li> </ul> <p><b>Note:</b> To unlock all the buttons, you can also press the  button on the control panel for 5 seconds or the  button on the remote control for 5 seconds.</p>	<p>Unlock</p> <p>Lock All but Power</p> <p>Lock All except PWR &amp; VOL</p> <p>Lock All</p>
	<p>IR Lock Settings: Enables or disables some or all remote control buttons.</p> <ul style="list-style-type: none"> <li>• Unlock: Unlock all remote control buttons.</li> <li>• Lock All but Power: Lock all remote control buttons except for the <b>Power</b> button.</li> <li>• Lock All except PWR &amp; VOL: Lock all remote control buttons except for the <b>Power</b> and <b>Volume</b> control buttons.</li> <li>• Lock All: Lock all remote control buttons.</li> </ul> <p><b>Note:</b> To unlock all the buttons, you can also press the  button on the control panel for 5 seconds or the  button on the remote control for 5 seconds.</p>	<p>Unlock</p> <p>Lock All but Power</p> <p>Lock All except PWR &amp; VOL</p> <p>Lock All</p>
	LED Indicator: Sets the display LED indicator on or off.	<p>Off</p> <p>On</p>
	Logo: Chooses to enable or disable the picture of Logo when you turn on your LCD display.	<p>Off</p> <p>On</p>
	Blue Screen: Enables or disables the blue screen feature. If the setting is set to <b>On</b> , it displays a blue screen when no signal is available.	<p>Off</p> <p>On</p>
	Thermal Protect: Enables or disables displaying a temperature warning when the internal temperature is high.	<p>Off</p> <p>On</p>

# ADJUSTING THE LCD DISPLAY

Item	Function	Range
Advanced Options	<p>DVI: Selects the mode to display the DVI signal according to its signal format depending on its source device.</p> <ul style="list-style-type: none"> <li>DVI-PC: Select this option when the source device is a PC.</li> <li>DVI-HDMI: Select this option when there is Audio Signal and the source is a video device.</li> </ul> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>DVI settings can be configured only if the source is DVI.</li> <li>DVI-PC supports FHD 1080 and DVI-HDMI supports 4K@60Hz.</li> </ul>	DVI-PC DVI-HDMI
	<p>Anti-Burn-in™: Selects the time interval for the display to slightly expand the image size and shift the position of pixels in four directions (up, down, left, or right).</p>	Enable Interval Mode
		
	Enable: Enables or disables Anti-Burn-in™ function.	Off On
	Interval: If the Anti-Burn-in™ is set to <b>On</b> , selects the interval time (hour) between activating the function.	1 2 4 7
	Mode: Sets the Anti-Burn-in™ mode to “A” (executes fast), “B” (slower but more precise than mode “A”), or C (slowest but the most precise mode).	A B C
	Signal Information: Displays input signal information.	N/A
Monitor Information	View the information about your LCD display, including model name, firmware version, LAN FW version, and internal temperature.	N/A
Factory Reset	Resets all settings in the Setting menu to the factory preset values.	Yes No

# ADJUSTING THE LCD DISPLAY

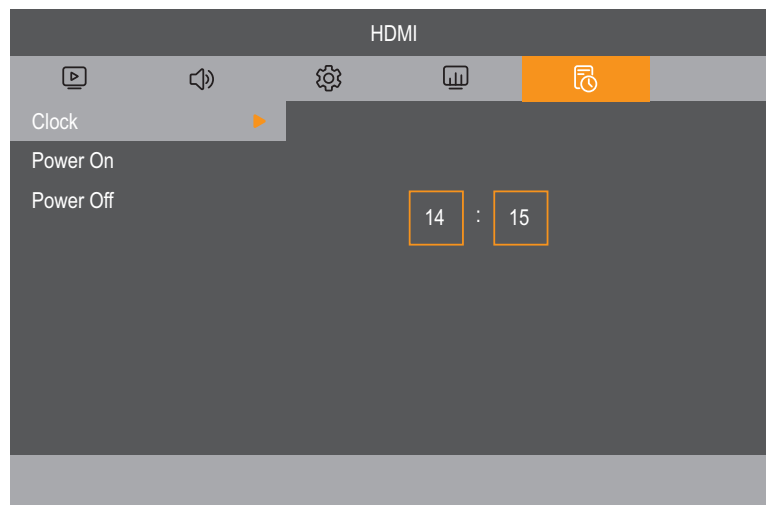
## 4.4 Network



Item	Function	Range
Control Interface	Selects the network control port. <b>Note:</b> If <b>LAN</b> is selected then <b>RS232</b> is disabled and vice versa.	LAN RS232
Network Settings  <b>Note:</b> Network settings can be configured only if the Control Interface is set to <b>LAN</b> .	<div> <p>The screenshot shows the Network Config menu with the following options: Network Config (Static IP), IP Address, Subnet Mask, Default Gateway, DNS Primary, DNS Secondary, and MAC Address. The Static IP option is highlighted with an orange bar.</p> </div>	
	DHCP IP: Receives network access parameters automatically from the server. <b>Note:</b> Make sure the display is connected to the network.	DHCP IP Static IP
	Static IP: Enters the network parameters manually. <b>Note:</b> Make sure the display is connected to the network.	
Monitor ID	Selects Monitor ID: Adjusts 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.	1 to 255
Reset Network Settings	Resets all settings in the Network Settings menu to the factory preset values. <b>Note:</b> Reset Network Settings is available only if the Control Interface is set to <b>LAN</b> .	Yes No

# ADJUSTING THE LCD DISPLAY

## 4.5 Schedule Settings



Item	Function	Range
Clock	Sets the time in HH:MM format.	00~23 : 00~59
Power On	Sets the time when the display will automatically turn on.	
Power Off	Sets the time when the display will automatically turn off.	



# ADJUSTING THE LCD DISPLAY

## 4.6 Using the Multimedia Functions

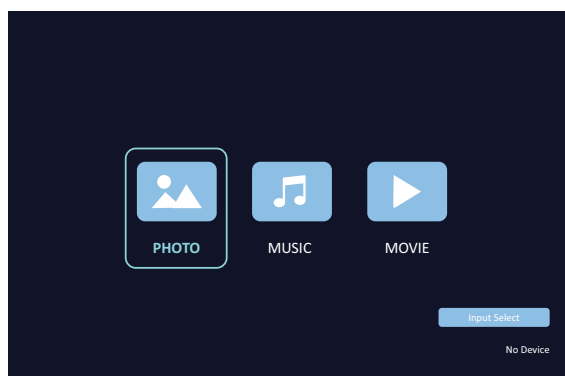
In multimedia mode, you can view photos, listen to the music, watch films, and display text files from an external USB storage.

### 4.6.1 Navigating the Main Multimedia Menu

To switch the LCD display to the multimedia mode, do the following:

- Turn on the LCD display.
- Connect the USB storage with multimedia content to the USB port on the LCD display.
- Set the input source to USB.

The main multimedia menu opens.



**Note:** The folders in multimedia menu can be opened only if you have connected a USB storage to the LCD display.

### 4.6.2 Select the folder with the media content that you want to play.

For viewing photos, select “PHOTO” folder.

For playing music, select “MUSIC” folder.

For watching films, select “MOVIE” folder.

**Note:** To delete the selected playlist at one time, Just delete the MoviePlaylist.mst file in the root directory of the Flash Disk.

- Select media type to play file :

Item	Function
PHOTO	JPEG, JPG, PNG
MUSIC	AAC, FLAC, MP3, WAV
MOVIE	MP4, MKV, AVI

**Note:** Do not use overly complex filenames or wildcard characters.

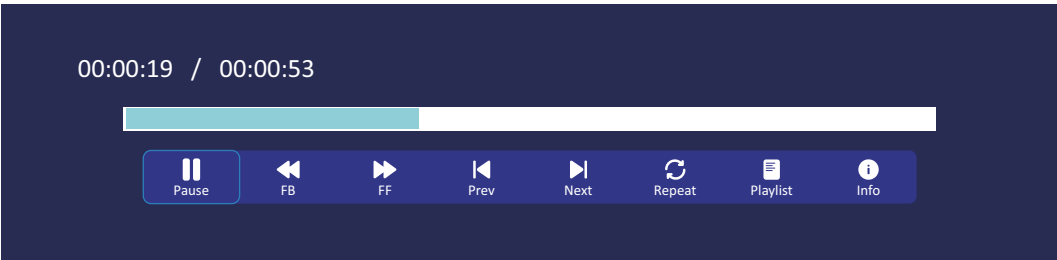
# ADJUSTING THE LCD DISPLAY

## 4.6.3 Play movies/photos/music files.

Operation method Press the navigation key and media play key of the remote control to select the media file to be played.

See page 14. (Section 1.6 “Remote Control”)





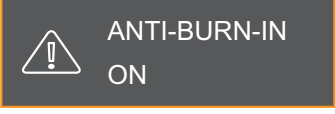
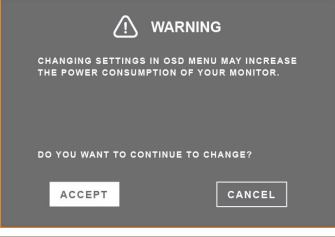
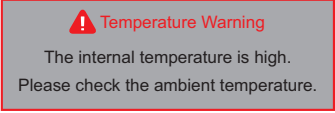
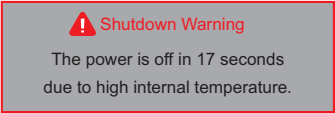
When playing files, you can use the INFO button on the remote control to call out the OSD menu for function selection.



Music Video Photo		Play/Stop
		Fast Backward
		Fast Forward
		Previous
		Next
		Repeat
		Playlist
		Information
		Photo show time

# CHAPTER 5: APPENDIX

## 5.1 Warning Messages

Warning Messages	Cause	Solution
No Signal	The resolution or the refresh rate of the graphics card of the computer is set too high.	<ul style="list-style-type: none"> <li>Change the resolution or the refresh rate of the graphics card.</li> </ul>
 	The LCD display cannot detect the input source signal and enters the Standby mode.	<ul style="list-style-type: none"> <li>Check if the input source is turned ON.</li> <li>Check if the signal cable is properly connected.</li> <li>Check if any pin inside the cable connector is twisted or broken.</li> </ul>
Control panel buttons no work	The operation using the control panel buttons has been locked by the user.	<ul style="list-style-type: none"> <li>Disable the key lock function in <b>Setting &gt; Advanced Options &gt; Key Lock Settings</b> menu or press the  button for 5 seconds. Refer to 30.</li> </ul>
Remote control no work	<p>The operation using the remote control buttons has been locked by the user.</p> <p>The Remote control battery is dead.</p>	<ul style="list-style-type: none"> <li>Disable the IR lock function in <b>Setting &gt; Advanced Options &gt; IR Lock Settings</b> menu or press the  button for 5 seconds. Refer to 30.</li> <li>Please confirm the battery is correct installed. (Section 1.6.2)</li> </ul>
	The Anti-Burn-in™ function has been enabled by the user.	<ul style="list-style-type: none"> <li>Disable the Anti-Burn-in™ function. Refer to pages 30 and 31.</li> </ul>
	This warning message box will only show when the menu feature setting is changed for the first time.	<ul style="list-style-type: none"> <li>Select <b>ACCEPT</b> to continue the setting changes, or select <b>CANCEL</b> to disable the setting changes.</li> </ul>
 	<p>A temperature warning message will appear on the screen when the temperature reaches 55°C (131°F). The device will shut down automatically when the internal temperature reaches 60°C (140°F).</p>	<ul style="list-style-type: none"> <li>Make sure the ventilation slots of the LCD display are not obstructed.</li> <li>Make sure the room temperature is between 0°C to 40°C (32°F to 104°F).</li> </ul>

# APPENDIX

## 5.2 Supported Resolutions

### TTN-3201 (FHD):

No.	Mode	Resolution	Vertical Pixel (Hz)
1	VGA	640 x 480 (60)	60
2	VGA	640 x 480 (75)	75
3	SVGA	800 x 600 (60)	60
4	SVGA	800 x 600 ( 75)	75
5	XGA	1024 x 768 (60)	60
6	XGA	1024 x 768 (75)	75
7	NEC A	1280 x 1024 (70)	70
8	NEW	1280 x 1024 (72)	72
9	SVGA	1280 x 1024 (75)	75
10	SVGA	1280 x 720p (60)	60
11	HD 1080	1920 x 1080 (60)	60

### TTN-4301/TTN-5501 (4K) :

No.	Mode	Resolution	Vertical Pixel (Hz)
1	VGA	640 x 480 (60)	60
2	VGA	640 x 480 (75)	75
3	SVGA	800 x 600 (60)	60
4	SVGA	800 x 600 ( 75)	75
5	XGA	1024 x 768 (60)	60
6	XGA	1024 x 768 (75)	75
7	NEC A	1280 x 1024 (70)	70
8	NEW	1280 x 1024 (72)	72
9	SVGA	1280 x 1024 (75)	75
10	SVGA	1280 x 720p (60)	60
11	HD 1080	1920 x 1080 (60)	60
12	UHD	3840 x 2160 (30)	30
13	UHD	3840 x 2160 (60)	60

# APPENDIX

## 5.3 Cleaning

### Caution When Using the Display

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

### Front Panel Cleaning Instructions


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

### Cabinet Cleaning Instructions

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

# APPENDIX

## 5.4 Troubleshooting

Symptom	Possible Cause	Remedy
No picture is displayed	<ul style="list-style-type: none"> <li>The power cord has been disconnected.</li> <li>The main power switch on the back of the display is not switched on.</li> <li>The selected input has no connection.</li> <li>The display is in standby mode.</li> </ul>	<ol style="list-style-type: none"> <li>1 Plug in the power cord.</li> <li>2 Make sure the power switch is switched on.</li> <li>3 Connect a signal connection to the display.</li> </ol>
Interference displayed on the display or audible noise is heard	Caused by surrounding electrical appliances or fluorescent lights.	Move the display to another location to see if the interference is reduced.
Colour 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	<ul style="list-style-type: none"> <li>The signal cable is not connected properly.</li> <li>The input signal is beyond the capabilities of the display.</li> </ul>	<ul style="list-style-type: none"> <li>Make sure that the signal cable is attached firmly.</li> <li>Check the video signal source to see if it is beyond the range of the display. Please verify its specifications with this display's specification section.</li> </ul>
Display image doesn't fill up the full size of the screen	The picture format is not set correctly.	Press the <b>16:9</b> button and select a suitable picture format.
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	<ul style="list-style-type: none"> <li>Improperly connected source signal cable.</li> <li>Volume is turned all the way down.</li> <li><b>MUTE</b> function is turned on.</li> <li>No external speaker connected.</li> </ul>	<ul style="list-style-type: none"> <li>Make sure that both video and sound inputs are correctly connected.</li> <li>Press the <sup>VOL</sup> + or <sup>VOL</sup> - button to hear the sound.</li> <li>Switch the <b>MUTE</b> function off by using the  button.</li> <li>Connect the external speakers and adjust the volume to a suitable level.</li> </ul>
Some picture elements do not light up	Some pixels of the display may not turn on.	This display is manufactured using an extremely high level of precision technology: however, sometimes some pixels of the display may not display. This is not a malfunction.
After-Images can still be seen on the display after the display is powered off. (Examples of still pictures include logos, video games, computer images, and images displayed in 4:3 normal mode)	A still picture is displayed for an over extended period of time.	Do not allow a still image to be displayed for an extended period of time as this can cause a permanent after-image to remain on the display.

# CHAPTER 6: SPECIFICATIONS

## 6.1 Display Specifications

		TTN-3201	TTN-4301	TTN-5501
Panel	Panel Type	LED-Backlit TFT LCD (IPS Technology)	LED-Backlit TFT LCD (IPS Technology)	LED-Backlit TFT LCD (IPS Technology)
	Panel Size	31.5"	43.0"	54.6"
	Max. Resolution	FHD 1920 x 1080	UHD 3840 x 2160	UHD 3840 x 2160
	Pixel Pitch	0.364 mm	0.245 mm	0.315 mm
	Brightness	450 cd/m <sup>2</sup>	450 cd/m <sup>2</sup>	400 cd/m <sup>2</sup>
	Contrast Ratio	1000:1	1200:1	1200:1
	Viewing Angle (H/V)	178°/178°	178°/178°	178°/178°
	Display Colour	16.7M	1.07G	1.07G
	Response Time	5 ms	5 ms	5 ms
	Surface Treatment	Anti-Glare Treatment (Haze 1%), 2H	Anti-Glare Treatment (Haze 1%), 3H	Anti-Glare Treatment (Haze 1%), 3H
Frequency (H/V)	Frequency (H)	31 KHz-92 KHz	31 KHz-92 KHz	31 KHz-92 KHz
	Frequency (V)	48 Hz-76 Hz	48 Hz-76 Hz	48 Hz-76 Hz
Input	HDMI	2.0 x 1	2.0 x 1	2.0 x 1
	DVI	24-Pin DVI-D	24-Pin DVI-D	24-Pin DVI-D
	VGA	15-Pin D-Sub x 1	15-Pin D-Sub x 1	15-Pin D-Sub x 1
	Composite	BNC x 1	BNC x 1	BNC x 1
Output	Composite (CVBS)	BNC x 1	BNC x 1	BNC x 1
External Control	RS232 In	9-Pin D-Sub	9-Pin D-Sub	9-Pin D-Sub
	LAN	RJ45 x 1(10/100 Mbps)	RJ45 x 1(10/100 Mbps)	RJ45 x 1(10/100 Mbps)
Other Connectivity	USB	2.0 x 1 (Service Port / Media Playback)	2.0 x 1 (Service Port / Media Playback)	2.0 x 1 (Service Port / Media Playback)
Audio	Audio In	Stereo Audio Jack (3.5 mm)	Stereo Audio Jack (3.5 mm)	Stereo Audio Jack (3.5 mm)
	Audio Out	Stereo Audio Jack (3.5 mm), S/PDIF	Stereo Audio Jack (3.5 mm), S/PDIF	Stereo Audio Jack (3.5 mm), S/PDIF
	Internal Speakers	10W x 2	12W x 2	12W x 2
Power	Power Requirements	AC 100-240V, 50/60 Hz	AC 100-240V, 50/60 Hz	AC 100-240V, 50/60 Hz
	On Mode	50W	82W	112W
	Standby Mode	<0.5W	<0.5W	<0.5W
	Off Mode	0W	0W	0W
	Power Supply	Internal	Internal	Internal
Glass	Thickness	3.2 mm (0.13")	3.2 mm (0.13")	3.2 mm (0.13")
	Transmission Rate	≥88%	≥88%	≥88%
	Hardness	IK10	IK08	IK08
Operating Conditions	Temperature	0°C-40°C (32°F-104°F)	0°C-40°C (32°F-104°F)	0°C-40°C (32°F-104°F)
	Humidity	20%-80% (non-condensing)	20%-80% (non-condensing)	20%-80% (non-condensing)
Storage Conditions	Temperature	-10°C - 60°C (-4°F-140°F)	-10°C - 60°C (-4°F-140°F)	-10°C - 60°C (-4°F-140°F)
	Humidity	10%-80% (non-condensing)	10%-80% (non-condensing)	10%-80% (non-condensing)
Mounting	VESA FPMPI	Yes (100 x 100 mm)	Yes (400 x 200 mm)	Yes (400 x 200 mm)
Dimensions	Product w/o Base (W x H x D)	758.4 x 454.2 x 84.5 mm (29.9"x 17.9" x 3.3")	1002.0 x 591.6 x 84.7 mm (39.5" x 23.3" x 3.3")	1270.4 x 742.6 x 84.6 mm (50.0" x 29.2" x 3.3")
	Packaging (W x H x D)	840.0 x 535.0 x 150.0 mm (33.1" x 21.1" x 5.9")	1120.0 x 710.0 x 180.0 mm (44.1" x 28.0" x 7.1")	1420.0 x 870.0 x 220.0 mm (55.9" x 34.3" x 8.7")
Weight	Product w/o Base	10.2 kg (22.49 lb)	19.0 kg (41.89 lb)	29.6 kg (65.2 lb)
	Packaging	12.0 kg (26.46 lb)	22.4 kg (49.38 lb)	35.5 kg (78.1 lb)

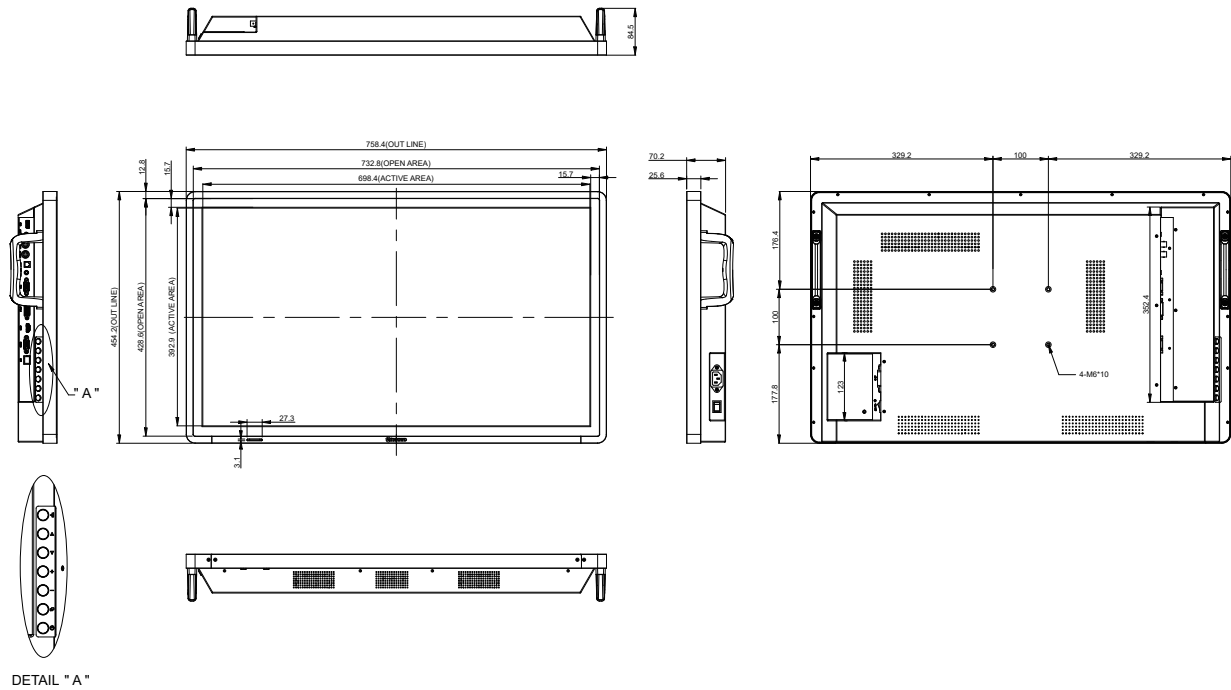
### Note:

- ♦ All specifications are subject to change without prior notice.

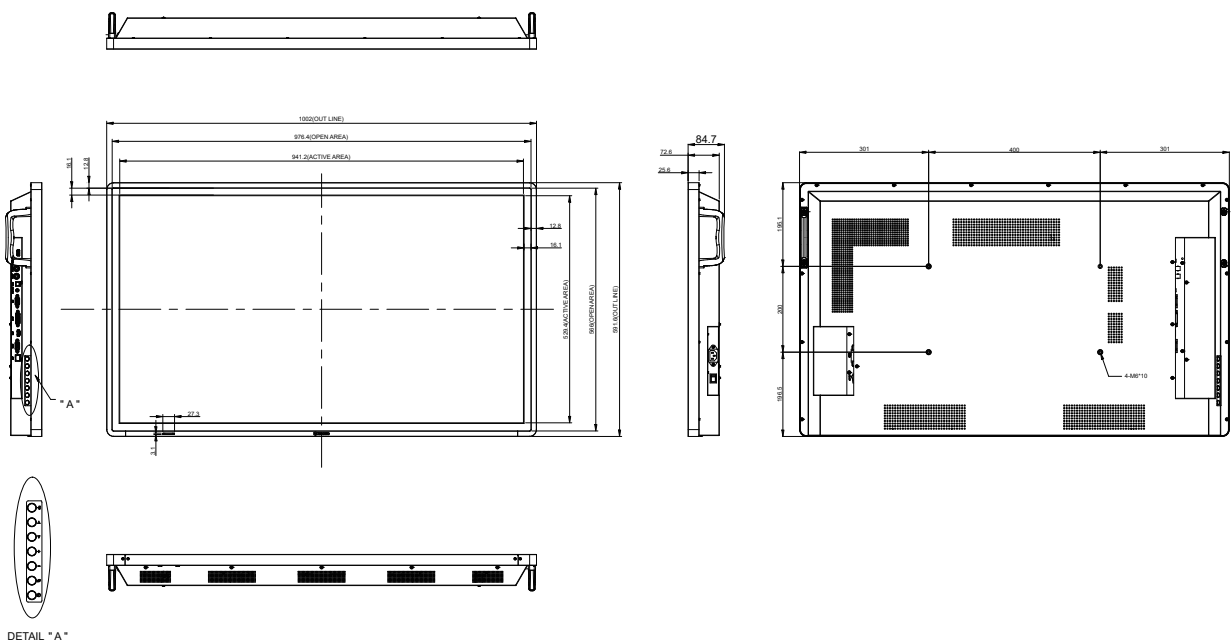
# SPECIFICATIONS

## 6.2 Display Dimensions

### TTN-3201



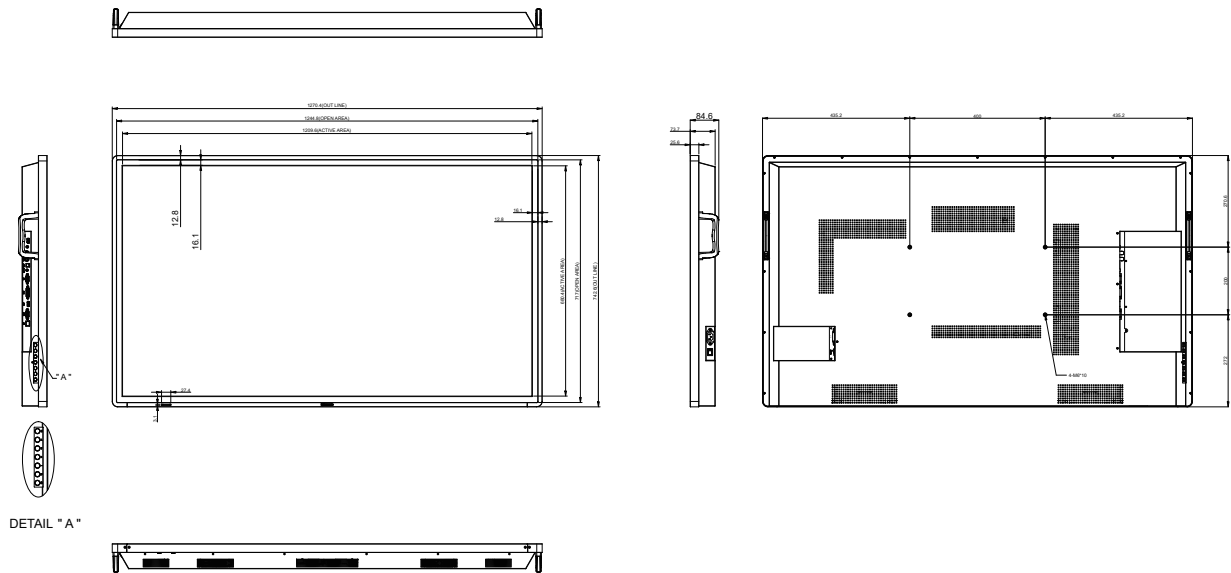
### TTN-4301





# SPECIFICATIONS

## TTN-5501



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TTN-3201/TTN-4301/TTN-5501 Eprel registration number: 1445303/1445304/1879914

TN3210/TT4310/TT5510\_UM\_V021