Before operating the unit, please read this manual thoroughly, and retain it for future reference.
Notice

1. When disconnecting the display from an electrical outlet, the plug must be pulled out from the socket. Do not remove power cord from outlet by pulling from the cord. Pull from the plug head.

2. WARNING – To reduce the risk of fire or electric shock, do not expose this appliance to rain or other forms of moisture.

3. Display must not be exposed to liquids via dripping or splashing. Please do not place liquid–filled items such as vases near the display.

4. Use only a properly grounded plug and receptacle.

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

This symbol is intended to alert the user to the presence of insulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.
Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this product near water.
6. Clean only with dry microfiber cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other display (including amplifiers) that produce heat.
9. Do not remove ground prong from three-pronged plugs. If your outlet will not accept three-pronged plugs, consult an electrician for replacement.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the display.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the display. When a cart is used, exercise caution when moving the cart/display combination to avoid injury from tip-over.
13. Unplug this display during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the display has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the display, the display has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Do not expose this display to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the display.
16. To completely disconnect this display from the wall outlet, disconnect the power supply cord plug from the AC receptacle/wall socket.
17. The mains plug of the power supply cord shall remain readily operable.
18. An display with CLASS I construction shall be connected to a wall socket outlet with a protective grounding connection.
19. Note: Prolonged use of headphones at a high volume may cause damage your ears.
20. Notice to users: This is a Class A digital device
21. This device is designed for commercial use and features safety certificates for electromagnetic interference (EMI). Users should be mindful of EMI issues.
Cautions for consisting product system

• Environmental condition for installation
As the LCD panel is very sensitive to physical impact, installation requires considerable caution. Minimum clearance (20cm) must be secured for smooth ventilation. Installation must avoid air tight or near air tight places. Improper ventilation causes malfunction and shortens product lifetime by rapid internal temperature rise. If Product has to installed at the improper ventilation, additional ventilation openings or fans must be provided to keep the internal temperature between 0~35℃.
• For ground of Product and application devices, it should be connected as frame ground.
• Please refer to the special installation instruction guide carefully if the display monitor shall install on not enough solid and/or unevenness surface wall and build into wall.
• Ensure that electrical outlet(s) are capable of supporting this product’s power consumption

• Clearance for Ventilation
When installing the product, make sure there is at least 20cm clearance on all sides for effective ventilation and do not seal the product in an enclosed space.
If the product is installed in a location with poor ventilation, the internal temperature can be raised rapidly and it can cause frequent malfunctions and rapid reduction of the product life

Embedded Product
In case of no space of 20cm from each side of the SET, make sure adding cooling fans at the upper part of the set to reduce inner temperature.

Mounting on a wall surface
Please secure minimum clearance as shown in the picture for adequate ventilation and technical service.

• Ventilation space in front of Product must be furnished for heat dispersion. If the front space of Product has to be sealed, there must be consideration for the heat dispersion in the rear side of Product.
Accessories

1. SOURCE : Selects Input Source
2. POWER : Turns the LCD Display On and Off
3. UP : Controls the UP cursor in the menu
4. LEFT : Controls the LEFT cursor in the menu
5. RIGHT : Controls the RIGHT cursor in the menu
6. DOWN : Controls the DOWN cursor in the menu
7. ENTER : Controls the ENTER cursor in the menu
8. MENU : Displays the main On-Screen menu
9. EXIT : Exits the On-Screen menu
1. MENU OVERVIEW

In this menu system, there are several ways to customize the menu settings provided. Most menus consist of three levels to set up the options, but some require greater depth for the variety of settings.

If you press the MENU button, only the first and second level of the menu system will appear on the monitor screen. The third level can be displayed by pressing SELECT. If a menu has more than three levels, the pop-up dialogue box will be displayed as the fourth or fifth level.

1) To show and remove the Menu:
Press the MENU button on the Remote Control to display the menu. A second press of the MENU button or a press of the EXIT button will take you back to monitor viewing.

2) To go to the next level:
Press ENTER on the Remote Control.

3) To go back to the previous level:
Press MENU (or EXIT) on the Remote Control.

4) Typical Menu Operation

a. Press MENU button: The main menu will appear.
b. Use ▲/▼ buttons to select the desired menu option (icon).
c. While the desired menu option is selected, press ENTER to move to the second level.
d. Press ENTER to move to the third level: Some menu options require additional steps.
e. Press MENU to return to the previous menu or press EXIT on the Remote Control to return to monitor viewing.
2. Basic Operation

1) Turning On the Monitor
a. First, connect power cord and ensure the plug head is fully inserted. Flip the power switch located adjacent to the AC inlet. The monitor will then switch to standby or “power on” mode. In standby mode, in order to turn monitor on, press the POWER button on the remote control or power button in the OSD KEY located on the side of the monitor.
b. Select the input source by using SOURCE button on the remote control.

2) Volume Adjustment (A/V extension option)
a. Press the VOL+/- ◀/▶ button to adjust the volume.
b. If you wish to switch the sound off, press the MUTE button on the remote control.
c. You can cancel this function by pressing the MUTE or VOL+/- ◀/▶ button.

3) On Screen Menus Language Selection

There are several languages in which the menus can be displayed. Select your desired language by following these steps:

a. Press the MENU button and then use ▲/▼ button to select the OPTION icon.
b. Press the ▲/▼ button to select Menu Language menu.
c. Press the ENTER button and then use ▲/▼,◀/▶ button to select your desired language:

From this point on, the on-screen menus will be shown in the selected language.
d. Press EXIT button to return to monitor viewing or press MENU button to return to the previous menu.

Supported Languages:
English, French, Italian, Portuguese, Russian, Chinese, etc.
3. On Screen Menus Selection and Adjustment

1) How to adjust the OSD screen

a. Press the **MENU** button and then ◀/▶ button to select each menu.

b. Press the **ENTER** button and then use ▲/▼ button to display the available menus.

- Your monitor’s OSD (On Screen Display) may differ slightly from what is shown in this manual.
4. Select Video Input

1) How to Select USB Source by OSD [PC-RGB, HDMI1, HDMI2, DMP]
   a. Press the SOURCE button and then ▲/▼ button to select each video source.
   b. Press the ENTER button to go to desired video source

5. Picture Menu Options
   1) Picture Mode

   Adjust the picture appearance to suit your preference and viewing situations.
   a. Press the MENU ◀/▶ buttons and then button to select the PICTURE mode.
   b. Press the ◀/▶ buttons and then use ENTER button to select Picture Mode menu.
   Standard, Dynamic, Mild, User
   c. Press the ▲/▼ button to select Picture Mode - User menu
   Contrast, Brightness, Color, Sharpness, Tint.
   d. Press ENTER button and then use ◀/▶ buttons to make appropriate adjustments.
   e. Press EXIT button to return to monitor viewing or press MENU button to return to the previous menu.
2) Color Temperature Control

- Choose one of five automatic color adjustments. Set to **Warm** to enhance hotter colors such as red, or set to **Cool** to see less intense colors with more blue.

  a. Press the **MENU** button and then use ◀/▶ buttons to select the **PICTURE** icon.
  b. Press the ▲/▼ button and then use **ENTER** buttons to select **Color Temperature** menu.
  c. Press the **ENTER** button and then use ◀/▶ buttons to select desired option: **User, Cool, Medium, Warm**.
  d. Press the ▲/▼ buttons to select **Picture Mode - User** menu
  e. Press **EXIT** button to return to monitor viewing or press **MENU** button to return to the previous menu.

3) Aspect Ratio

Selects the screen format.

  a. Press the **MENU** button and then use ◀/▶ buttons to select the **PICTURE** icon.
  b. Press the ▲/▼ buttons and then use **ENTER** button to select **Aspect Ratio** menu.
  c. Press the **ENTER** button and then use ▲/▼ buttons to select desired option: **Auto, 4:3, 16:9, Zoom1, Zoom2, Just Scan**.
  d. Press **EXIT** button to return to monitor viewing or press **MENU** button to return to the previous menu.
4) Noise Reduction

Select the picture appearance to suit your preference and viewing situations.

a. Press the `MENU` button and then `◀/▶` buttons to select the `PICTURE` icon.

b. Press the `▲/▼` buttons and then use `ENTER` button to select `Noise Reduction` menu.

c. Press the `ENTER` button and then use `▲/▼` buttons to select the desired picture option; Off, Low, Middle, High, Default.

d. Press `EXIT` button to return to monitor viewing or press `MENU` button to return to the previous menu.

5) PC Menu

a. Press the `MENU` button and then use `◀/▶` buttons to select the `PICTURE` icon.

b. Press the `▲/▼` buttons and then use `ENTER` button to select `Screen Menu`.

c. Press `▲/▼` buttons and then use `◀/▶` buttons to make desired adjustments.

d. Press `EXIT` button to return to monitor viewing or press `MENU` button to return to the previous menu.
6) Backlight

![Backlight Menu](image1)

a. Press the **MENU** button and then use ◀/▶ buttons to select the **PICTURE** icon.
b. Press the ▲/▼ buttons and then use **ENTER** button to select **Backlight Menu**.
c. Press ▲/▼ buttons and then use ◀/▶ buttons to make appropriate adjustments.
d. Press **EXIT** button to return to monitor viewing or press **MENU** button to return to the previous menu.

7) Color Range

a. Press the **ENTER** button. [Range scaling changes from 16-234 to 0-255]

6. Sound Menu Options

1) Sound standard Mode

![Sound Menu](image2)

Adjust the sound to suit your taste and room situations.

a. Press the **MENU** button and then use ◀/▶ button to select the **SOUND** icon.
b. Press the ▲/▼ button and then use **ENTER** button to select **Sound Mode** menu:
   Standard, Music, Movie, Sports, User.
c. Press the ◀/▶ button and then use ▲/▼ button to select - **User** menu : Treble, Bass.
d. Press **EXIT** button to return to monitor viewing or press **MENU** button to return to the previous menu.
2) Sound Balance

Adjust the sound to suit your taste and room situations.

a. Press the **MENU** button and then use ◀/▶ buttons to select the **SOUND** icon.
b. Press the ▲/▼ buttons and then use ENTER button to select the **Balance** menu.
c. Press ◀/▶ buttons to make appropriate adjustments. [-50 ~ 0 ~ +50]
d. Press **EXIT** button to return to monitor viewing or press **MENU** button to return to the previous menu.

3) Auto Volume- Automatic Volume Level Control

Adjust the sound to suit your taste and room situations.

a. Press the **MENU** button and then use ◀/▶ buttons to select the **SOUND** icon.
b. Press the ▲/▼ buttons and then use ENTER button to select the **Auto Volume** menu.
c. Press ENTER button to make desired adjustments : On, Off
d. Press **EXIT** button to return to monitor viewing or press **MENU** button to return to the previous menu
4) Surround Sound

Adjust the sound to suit your taste and room situations.

a. Press the **MENU** button and then use ◀/▶ buttons to select the **SOUND** icon.

b. Press the ▲/▼ buttons and then use **ENTER** button to select the **Surround Sound** menu.

c. Press the ▲/▼ buttons **ENTER** button to make desired adjustments:

d. Press **EXIT** button to return to monitor viewing or press **MENU** button to return to the previous menu.

5) User Control for 5 Band Equalizer

- If the Equalizer settings are changed, sound mode setting is switched to **User** automatically.

a. Press the **MENU** button and then use ◀/▶ buttons to select the **SOUND** icon.

b. Press the ▲/▼ buttons to select the **EQ(Equalizer)** menu.

c. Press the **ENTER** button and then use ◀/▶ buttons to make desired adjustments;

   20Hz, 500Hz, 1.5KHz, 5KHz, 10KHz.

d. Press **EXIT** button to return to monitor viewing or press **MENU** button to return to the previous menu.
7. Setup Menu Options

1) Language

Selecting a menu language

a. Press the MENU button and then use ◀/▶ buttons to select the OPTION icon.
b. Press the ▲/▼ buttons to select the OSD Language menu.
c. Press the ENTER button and then use ▲/▼, ◀/▶ buttons to select the desired option:

  Supports Language
  English, French, Español, Deutsch, Italiano, Portugues, Chinese, etc.

d. Press EXIT button to return to monitor viewing or press MENU button to return to the previous menu.

2) Set ID

a. Press the MENU button and then use ◀/▶ buttons to select the OPTION icon.
b. Press the ▲/▼ buttons to select the SET ID Menu.
c. Press the ENTER button and then use ◀/▶ buttons to select SET ID options.
d. Press EXIT button to return to monitor viewing or press MENU button to return to the previous menu.
3) Slide Show Option [ Option ]

3-1) Slide Show Option Menu – Show Time (Slide Show Time)

a. Press the **MENU** button and then use ▼/▼ buttons to select the **OPTION** icon.
b. Press the ▲/▼ buttons to select the **Slide Show Option** Menu.
c. Press the **ENTER** button and then use ▲/▼ buttons to select the **Show Time** Menu.
d. Press the ▼/▼ buttons to set Show Time options.
e. Press **EXIT** button to return to monitor viewing or press **MENU** button to return to the previous menu.

3-2) Slide Show Option Menu – Show Time (Show Effect)

a. Press the **MENU** button and then use ▼/▼ buttons to select the **OPTION** icon.
b. Press the ▲/▼ buttons to select the **Slide Show Option** Menu.
c. Press the **ENTER** button and then use ▲/▼ buttons to select the **Show Effect** Menu.
d. Press the ▼/▼ buttons to set Show Effect options.
e. Press **EXIT** button to return to monitor viewing or press **MENU** button to return to the previous menu.
4) Dimming Control [Option]

4-1) Dimming

- Automatic dimming controls by light sensor in Dimming menu.
  a. Press the **MENU** button and then use ▼/▲ buttons to select the **OPTION** icon.
  b. Press the ▲/▼ buttons to select the **Dimm Control** Menu.
  c. Press the **ENTER** button and then use ▼/▲ buttons to select the **Dimming** Menu.
  d. Press the ▲/▼,◄/▶ buttons to set Dimming options.
  e. Press **EXIT** button to return to monitor viewing or press **MENU** button to return to the previous menu.

4-1-1) Dimming Menu – Auto Dimming (Light Ambient Sensor Option only)

- Enables/disables auto dimming control by light ambient sensor

  a. Press the **MENU** button and then use ▼/▲ buttons to select the **OPTION** icon.
  b. Press the ▲/▼ buttons to select the **Dimm Control** Menu.
  c. Press the **ENTER** button and then use ▼/▲ buttons to select the **Dimming** Menu.
  d. Press the ▲/▼ buttons to select the **Auto Dimming** functions.
  e. Press the ▼/▲ buttons to set Auto Dimming options.
  f. Press **EXIT** button to return to monitor viewing or press **MENU** button to return to the previous menu.

**ON :** Dim level is adjusted by light sensor

**OFF :** Dim level is adjusted by manual control
4-1-2) Dim Level – Auto Dimming - off

-Controls Inverter dimming level – Inverter brightness control.
  a. Press the MENU button and then use button to select the OPTION icon.
  b. Press the ▲/▼ buttons to select the Dimm Control Menu.
  c. Press the ENTER button and then use ◀/▶ buttons to select the Dimming Menu.
  d. Press the ▲/▼ buttons to select the Level functions.
  e. Press the ◀/▶ buttons to set Level functions.
  f. Press EXIT button to return to monitor viewing or press MENU button to return to the previous menu.

4-1-3) Dimming Menu – MAX Ambient (Light Ambient Sensor Option only)

-Adjusts detected light ambient to set the maximum dimming
  a. Press the MENU button and then use ◀/▶ buttons to select the OPTION icon.
  b. Press the ▲/▼ buttons to select the Dimm Control Menu.
  c. Press the ENTER button and then use ▲/▼ buttons to select the Dimming Menu.
  d. Press the ▲/▼ buttons to select the Max Ambient functions.
  e. Use ◀/▶ buttons to set detected light ambient value by LUX unit.
  f. Press EXIT button to return to monitor viewing or press MENU button to return to the previous menu.

4-1-4) Dimming Menu – MIN Ambient (Light Ambient Sensor Option only)

-Adjusts detected ambient light level at which to set the minimum dimming value
  a. Press the MENU button and then use ◀/▶ buttons to select the OPTION icon.
  b. Press the ▲/▼ buttons to select the Dimm Control Menu.
  c. Press the ENTER button and then use ▲/▼ buttons to select the Dimming Menu.
  d. Press the ▲/▼ buttons to select the Min Ambient functions.
  e. Use ◀/▶ buttons to set detected light ambient value by LUX unit.
  f. Press EXIT button to return to monitor viewing or press MENU button to return to the previous menu.
5) Heat Control

-Automatic Fan controls activated by internal/external temperature sensor
  a. Press the **MENU** button and then use ▼/▶ buttons to select the **OPTION** icon.
  b. Press the ▲/▼ buttons to select the **Fan Control** Menu.
  c. Press the **ENTER** button and then use ▲/▼,▼/▶ buttons to set Heat Control options.
  d. Press **EXIT** button to return to monitor viewing or press **MENU** button to return to the previous menu.

5-1) Fan Control Menu

-Controls fan driving option by temperature sensor / force on / force off
  a. Press the **MENU** button and then use ▼/▶ buttons to select the **OPTION** icon.
  b. Press the ▲/▼ buttons to select the **Fan Control** Menu.
  c. Press the **ENTER** button and then use ▲/▼ buttons to select the **Fan Control** functions.
  d. Press the ▼/▶ buttons to set Off, On, Auto options.
  e. Press **EXIT** button to return to monitor viewing or press **MENU** button to return to the previous menu.

5-2) Fan Control Menu – Active Temperature

-Adjusts fan driving temperature by degrees Celsius. It works only when the **Fan Control** setting is **Auto**.
  a. Press the **MENU** button and then use ▼/▶ buttons to select the **OPTION** icon.
  b. Press the ▲/▼ buttons to select the **Fan Control** Menu.
  c. Press the **ENTER** button and then use ▲/▼ buttons to select the **Active Temperature** Menu.
  d. Use ▼/▶ buttons to set fan driving temperature by Celsius degree unit.
  e. Press **EXIT** button to return to monitor viewing or press **MENU** button to return to the previous menu.
5-3) Fan Control Menu – Hysteresis

- Adjusts fan driving hysteresis temperature by degrees Celsius.
  a. Press the MENU button and then use ◀/▶ buttons to select the OPTION icon.
  b. Press the ▲/▼ buttons to select the Fan Control Menu.
  c. Press the ENTER button and then use ▲/▼ buttons to select the Hysteresis Menu.
  d. Use ◀/▶ buttons to set fan driving hysteresis temperature by Celsius degree unit.
  e. Press EXIT button to return to monitor viewing or press MENU button to return to the previous menu.

5-4) Fan Control – Shutdown Temperature

- Adjusts shutdown mode temperature by degrees Celsius.
  When current temperature reaches the shutdown temp, the monitor enters shutdown mode.
  a. Press the MENU button and then use ◀/▶ buttons to select the OPTION icon.
  b. Press the ▲/▼ button to select the Heat Control Menu.
  c. Press the ENTER button and then use ▲/▼ buttons to select the Shutdown Temperature Menu.
  d. Use ◀/▶ buttons to set fan driving hysteresis temperature by degrees Celsius.
  e. Press EXIT button to return to monitor viewing or press MENU button to return to the previous menu.

5-5) Fan Control – Current temperature

Displays current detected main sensor’s temperature and auxiliary sensor’s (option) temperature Read Only.

6) Reset

Resets user setting values as default

a. Press the MENU button and then use ◀/▶ buttons to select the OPTION icon.
  b. Press the ▲/▼ buttons to select Restore Factory Default menu
  c. Press the ENTER button and then use ▲/▼ button to make a selection in the Are you sure? menu.
  d. Press the ◀/▶ buttons and then monitor’s
7) Adjusting the transparency of OSD

Adjusting the transparency of OSD.

a. Press the **MENU** button and then use ▼/▶ button to select the **OPTION** icon.

b. Press the ▲/▼ button to select **Blending** menu

c. Press the **ENTER** button to select the Details Menu: **Off, Low, Middle, High**

8) OSD Duration

Adjusting the keep the time OSD.

a. Press the **MENU** button and then use ▼/▶ button to select the **OPTION** icon.

b. Press the ▲/▼ button to select **OsdDuration** menu

c. Press the **ENTER** button to select the Details Menu: **Off, 5sec, 10sec, 15sec**

9) Software Update (USB)

When downloading software via USB memory. Press the **MENU** button and then use -

Must be new version software (merge.bin) in USB memory
8. Clock Menu

1) Time Settings

Enables user to set up the clock information

1-1) Clock

If current time setting is wrong, reset the clock manually

a. Press the MENU button and then use ▼/▲ buttons to select the TIME icon.
b. Press the ENTER button and then use ▲/▼ buttons to select Clock.
c. Press the ▲/▼ buttons to select the Hour, Minute.
d. Use ▼/▲ buttons to adjust clock.
e. Press EXIT button to return to monitor viewing or press MENU button to return to the previous menu.
2) On Timer

Timer function operates only if current time has been set.

- Press the MENU button and then use ◀/▶ buttons to select the TIME icon.
- Press the ▲/▼ button to select On Timer.
- Press the ENTER button and then use ◀/▶ buttons to select the On, Off.
- Use ▲/▼ buttons, ◀/▶ buttons to adjust on time schedule and activation.
- Press EXIT button to return to monitor viewing or press MENU button to return to the previous menu.

3) Off Timer

Timer function operates only if current time has been set.

- Press the MENU button and then use ◀/▶ buttons to select the TIME icon.
- Press the ENTER button and then use ▲/▼ buttons to select Off Timer.
- Press the ▶ button and then use ◀/▶ buttons to select the On, OFF.
- Use ▲/▼ buttons, ◀/▶ buttons to adjust off time schedule and activation.
- Press EXIT button to return to monitor viewing or press MENU button to return to the previous menu.
9. Media Player

1) Select the input signal (USB)
   a. Press the **SOURCE** button and then ▲/▼ button to select USB source.
   b. Press the **ENTER** button to go to desired USB source

2) USB Menu
   a. Press ◀/▶ button to select the desired menu icon using remote control.
   b. After selecting the menu, press the ENTER button.
   c. Using ◀/▶ button in the remote control to select the content to play.
   d. To go back to the previous menu, press ◀/▶ button then select Return item and then press ENTER button.
   e. To exit from the Menu, press SOURCE button in the remote control and change the input source.

Press the ENTER button to see the Play menu.
* The menu will be showed during playing the contents
* To Auto play, save the content (Video & Photo) in the memory USB stick and turn power off and on the monitor.
10. Notes on Content Updates

<table>
<thead>
<tr>
<th>Update Content Guidelines using USB memory</th>
</tr>
</thead>
<tbody>
<tr>
<td>To use the USB Memory stick, make sure it is formatted.</td>
</tr>
<tr>
<td>The USB memory stick should not have any other file except the files that will be played. If there are any unrelated files, there may be interruptions.</td>
</tr>
<tr>
<td>If the content format is not supported by the media board, it will not play</td>
</tr>
<tr>
<td>![USB connector]</td>
</tr>
</tbody>
</table>

This type is Recommended.

11. Selecting Display Position

   - Panoramic Displays will accept signal resolutions with 4:3 and 16:9 aspect ratios. However, they will only display the top one-third, two-fifths, or one-half of this signal, depending on the display model. For example, when a 1920x1080 signal is sent to PA28H, the top half (1920x540) of the image is displayed on the panel.

   - There is one exception to the abovementioned rule (PA88H). This model requires a signal resolution which aligns with the aspect ratio of the panel. For example, in order to display undistorted content across the entirety of a PA88H, a 3840x1080 signal resolution should be used.

   - In order to change the display position, press the “down” directional button on the remote controller four times in succession. This will toggle your view between the top and bottom portions (half, third, or two-fifths) of the 4:3 or 16:9 content being displayed. (Does not apply to PA88H).

   - Optional fixed EDID (1920x540) is available for all models.

Refer to pg. 28 for more details on display/content layouts
### 12. Supported Media Spec (embedded USB multimedia player – PA28H & PA48H only)

<table>
<thead>
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<th>Video</th>
<th>File Extension</th>
<th>Container</th>
<th>Codec</th>
<th>Maximum Resolution</th>
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<td>dat, mpg, mpeg</td>
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<td>1080P 30fps</td>
<td>20M bit</td>
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</thead>
<tbody>
<tr>
<td></td>
<td>MPEG1 Layer2</td>
<td>MP3</td>
<td>32Kbps ~ 448Kbps (Bit rate)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>32KHz ~ 48KHz (Sampling rate)</td>
</tr>
<tr>
<td></td>
<td>MPEG1 Layer3</td>
<td>MP3</td>
<td>32Kbps ~ 320Kbps (Bit rate)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>32KHz ~ 48KHz (Sampling rate)</td>
</tr>
<tr>
<td></td>
<td>AAC</td>
<td>M4A/AAC</td>
<td>24Kbps ~ 384Kbps (Bit rate)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8KHz ~ 48KHz (Sampling rate)</td>
</tr>
<tr>
<td></td>
<td>OGG</td>
<td>Vorbis</td>
<td>free format (Bit rate)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>~48KHz (Sampling rate)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>only supports stereo decoding</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Photo</th>
<th>Image</th>
<th>Photo</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>JPEG</td>
<td>Base-line</td>
<td>15360 X 8704 (1920x8 X 1088x8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Progressive</td>
<td>1024 X 768</td>
</tr>
<tr>
<td></td>
<td>PNG</td>
<td>non-interlace</td>
<td>9600 X 6400</td>
</tr>
<tr>
<td></td>
<td></td>
<td>interlace</td>
<td>1200 X 800</td>
</tr>
<tr>
<td></td>
<td>BMP</td>
<td>.</td>
<td>9600 X 6400</td>
</tr>
</tbody>
</table>
## 13. Supported Timing

### PC Modes

<table>
<thead>
<tr>
<th>Display Mode</th>
<th>Horizontal Frequency(KHz)</th>
<th>Vertical Frequency(Hz)</th>
<th>Pixel Clock (MHz)</th>
<th>Sync Polarity (H/V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM, 640 x 480</td>
<td>31.469</td>
<td>59.940</td>
<td>25.175</td>
<td>-/-</td>
</tr>
<tr>
<td>IBM, 720 x 400</td>
<td>31.469</td>
<td>70.087</td>
<td>28.322</td>
<td>-/-</td>
</tr>
<tr>
<td>VESA, 640 x 480</td>
<td>37.861</td>
<td>72.809</td>
<td>31.500</td>
<td>-/-</td>
</tr>
<tr>
<td>VESA, 640 x 480</td>
<td>37.500</td>
<td>75.000</td>
<td>31.500</td>
<td>-/-</td>
</tr>
<tr>
<td>VESA, 640 x 480</td>
<td>43.269</td>
<td>85.008</td>
<td>36.000</td>
<td>-/-</td>
</tr>
<tr>
<td>VESA, 800 x 600</td>
<td>35.156</td>
<td>56.250</td>
<td>36.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 800 x 600</td>
<td>37.879</td>
<td>60.317</td>
<td>40.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 800 x 600</td>
<td>48.077</td>
<td>72.188</td>
<td>50.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 800 x 600</td>
<td>46.875</td>
<td>75.000</td>
<td>49.500</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 800 x 600</td>
<td>53.674</td>
<td>85.061</td>
<td>56.250</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1024 x 768</td>
<td>48.363</td>
<td>60.004</td>
<td>65.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1024 x 768</td>
<td>56.476</td>
<td>70.069</td>
<td>75.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1024 x 768</td>
<td>60.023</td>
<td>75.029</td>
<td>78.750</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1152 x 864</td>
<td>67.500</td>
<td>75.000</td>
<td>108.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1280 x 960</td>
<td>60.000</td>
<td>60.000</td>
<td>108.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1280 x 1024</td>
<td>63.981</td>
<td>60.020</td>
<td>108.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1280 x 1024</td>
<td>79.976</td>
<td>75.025</td>
<td>135.000</td>
<td>+/-</td>
</tr>
<tr>
<td>1366 x 768</td>
<td>47.712</td>
<td>60.015</td>
<td>85.500</td>
<td>+/-</td>
</tr>
<tr>
<td>1920 x 1080</td>
<td>67.500</td>
<td>60.000</td>
<td>148.500</td>
<td>+/-</td>
</tr>
<tr>
<td>1920 x 1200</td>
<td>74.000</td>
<td>60.000</td>
<td>154.000</td>
<td>+/-</td>
</tr>
</tbody>
</table>

### DTV Modes

<table>
<thead>
<tr>
<th>Display Mode</th>
<th>Horizontal Frequency(KHz)</th>
<th>Vertical Frequency(Hz)</th>
<th>Pixel Clock (MHz)</th>
<th>Sync Polarity (H/V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>720x480</td>
<td>15.735</td>
<td>59.94</td>
<td>13.500</td>
<td>Interlaced</td>
</tr>
<tr>
<td>720x576</td>
<td>15.735</td>
<td>50.00</td>
<td>13.595</td>
<td>Interlaced</td>
</tr>
<tr>
<td>720x480</td>
<td>31.469</td>
<td>59.94</td>
<td>25.175</td>
<td>Interlaced</td>
</tr>
<tr>
<td>720x576</td>
<td>31.250</td>
<td>50.00</td>
<td>26.566</td>
<td>Interlaced</td>
</tr>
<tr>
<td>1280x720</td>
<td>44.964</td>
<td>59.94</td>
<td>74.176</td>
<td>Interlaced</td>
</tr>
<tr>
<td>1280x720</td>
<td>37.500</td>
<td>50.00</td>
<td>60.466</td>
<td>Interlaced</td>
</tr>
<tr>
<td>1920x1080</td>
<td>33.750</td>
<td>60.00</td>
<td>74.25</td>
<td>Interlaced</td>
</tr>
<tr>
<td>1920x1080</td>
<td>28.125</td>
<td>50.00</td>
<td>70.723</td>
<td>Interlaced</td>
</tr>
<tr>
<td>1920x1080</td>
<td>31.250</td>
<td>50.00</td>
<td>72.000</td>
<td>Interlaced</td>
</tr>
<tr>
<td>1920x1080</td>
<td>67.500</td>
<td>60.00</td>
<td>148.500</td>
<td>Progressive</td>
</tr>
<tr>
<td>1920x1200</td>
<td>74.000</td>
<td>60.00</td>
<td>154.000</td>
<td>Progressive</td>
</tr>
</tbody>
</table>
14. Content Layout

<table>
<thead>
<tr>
<th>Model</th>
<th>Size</th>
<th>Optimal Input Resolution</th>
<th>Content Res.*</th>
<th>Native Portion</th>
<th>Content Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>PA12H</td>
<td>12”</td>
<td>1024 x 768</td>
<td>1024 x 256</td>
<td>1/3</td>
<td>1/2</td>
</tr>
<tr>
<td>PA14H</td>
<td>14”</td>
<td>1280 x 960</td>
<td>1280 x 398</td>
<td>2/5</td>
<td></td>
</tr>
<tr>
<td>PA16H</td>
<td>16”</td>
<td>1366x768</td>
<td>1366x238</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>PA19H</td>
<td>19”</td>
<td>1920x1080</td>
<td>1920x360</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>PA20H</td>
<td>20”</td>
<td>1920x1080</td>
<td>1920x539</td>
<td>1/2</td>
<td></td>
</tr>
<tr>
<td>PA27H</td>
<td>27”</td>
<td>1920x1080</td>
<td>1920x360</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>PA28H</td>
<td>28”</td>
<td>1920x1080</td>
<td>1920x540</td>
<td>1/2</td>
<td></td>
</tr>
<tr>
<td>PA37H</td>
<td>37”</td>
<td>1920x1080</td>
<td>1920x540</td>
<td>1/2</td>
<td></td>
</tr>
<tr>
<td>PA48H</td>
<td>48”</td>
<td>1920x1080</td>
<td>1920x359</td>
<td>1/3</td>
<td></td>
</tr>
<tr>
<td>PA50H</td>
<td>50”</td>
<td>1920x1080</td>
<td>1920x540</td>
<td>1/2</td>
<td></td>
</tr>
<tr>
<td>PA88H</td>
<td>88”</td>
<td>3840x1080</td>
<td>3840x1080</td>
<td>FULL</td>
<td></td>
</tr>
</tbody>
</table>

*This “Content resolution” refers to the portion of a 16:9 or 4:3 signal that is to be displayed on the screen. For example, when creating content for PA48H, one must establish a zone within the top or bottom 1920x359 portion of a 1920x1080 signal where their content will reside. See below for more info.

Optional fixed EDID is available on all models
Displays with fixed EDID look for signal resolution that is the same as their native resolution.

Below are examples of Content Layouts

A) Content for ½ the portion native portion is created using the top or bottom half of the input resolution.

B) Content created for a fixed EDID is created using the full 1920x540 input resolution.

A) ½ Native Portion of Panoramic Display

B) Fixed EDID/”FULL”
OSD & Structure
for PA37H PA27H, PA20H, PA16H, PA14H, PA12H
### OSD Structure

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Sub Menu</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Picture</strong></td>
<td>Brightness</td>
<td>Adjust the backlight level of screen</td>
<td>50(0~100)</td>
</tr>
<tr>
<td></td>
<td>Contrast</td>
<td>Increase/ decrease picture contrast</td>
<td>50(0~100)</td>
</tr>
<tr>
<td></td>
<td>Sharpness</td>
<td>Control the clarity of details of pictures</td>
<td>2(0 ~ 4)</td>
</tr>
<tr>
<td></td>
<td>H Position</td>
<td>Adjust picture horizontal position</td>
<td>50(0~100)</td>
</tr>
<tr>
<td></td>
<td>V Position</td>
<td>Adjust picture vertical position</td>
<td>50(0~100)</td>
</tr>
<tr>
<td></td>
<td>Clock</td>
<td>Adjust picture width</td>
<td>50(0~100)</td>
</tr>
<tr>
<td></td>
<td>Phase</td>
<td>Adjust picture focus quality</td>
<td>30(0~100)</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Color Status Management</td>
<td>Select the color of picture mode</td>
<td>User(User, Warm, Normal, Cool)</td>
</tr>
<tr>
<td></td>
<td>Red</td>
<td>Adjust color of red rate</td>
<td>50(0~100)</td>
</tr>
<tr>
<td></td>
<td>Green</td>
<td>Adjust color of green rate</td>
<td>50(0~100)</td>
</tr>
<tr>
<td></td>
<td>Blue</td>
<td>Adjust color of blue rate</td>
<td>50(0~100)</td>
</tr>
<tr>
<td></td>
<td>Auto Color</td>
<td>Auto color calibration</td>
<td>To Start</td>
</tr>
<tr>
<td><strong>OSD</strong></td>
<td>Language</td>
<td>Select OSD menu language</td>
<td>English</td>
</tr>
<tr>
<td></td>
<td>H Position</td>
<td>Adjust the OSD horizontal position</td>
<td>50(0~100)</td>
</tr>
<tr>
<td></td>
<td>V Position</td>
<td>Adjust the OSD vertical position</td>
<td>50(0~100)</td>
</tr>
<tr>
<td></td>
<td>Transparency</td>
<td>Select the transparency of the OSD</td>
<td>33 (0~100)</td>
</tr>
<tr>
<td></td>
<td>OSD Time</td>
<td>Adjust the OSD menu timeout</td>
<td>10(3~30)</td>
</tr>
<tr>
<td><strong>SETUP</strong></td>
<td>Source</td>
<td>Select the input signal Source</td>
<td>RGB, HDMI, AUTO</td>
</tr>
<tr>
<td></td>
<td>Factory reset</td>
<td>Reset to factory settings</td>
<td>To Start</td>
</tr>
<tr>
<td></td>
<td>Aspect</td>
<td>On/ Off the fit to screen</td>
<td>Off(On/Off)</td>
</tr>
<tr>
<td></td>
<td>Backlight DIM</td>
<td>On/ Off the backlight Dimming(PWM)</td>
<td>Off(On/Off)</td>
</tr>
<tr>
<td></td>
<td>Set ID</td>
<td>On/ Off the RS232 control</td>
<td>Off(On/Off)</td>
</tr>
<tr>
<td></td>
<td>Volume</td>
<td>Adjust the audio volume</td>
<td>62(0~100)</td>
</tr>
<tr>
<td></td>
<td>Mute</td>
<td>On/ Off the audio output</td>
<td>Off(On/Off)</td>
</tr>
</tbody>
</table>
### OSD Controls

<table>
<thead>
<tr>
<th>Button</th>
<th>Function</th>
<th>Status</th>
<th>HOT Key</th>
</tr>
</thead>
</table>
| LED    | Indicates operation status | Green: Normal Operation  
Off: Off Mode  
Green Blinking: No Signal | - |
| POWER  | Turn on or turn off the power | | |
| MENU   | Display the OSD menu on no menu status  
Exit a menu of sub-menu | | |
| SELECT | Select highlighted function | Input Source Change on no menu status | |
| DOWN   | Select previous menu item  
Decrease slider value | Auto Configuration on no menu status | |
| UP     | Select next menu item  
Increase slider value | Auto Color on no menu status | |

### Remote controller

<table>
<thead>
<tr>
<th>Button</th>
<th>Function</th>
<th>Data Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWER</td>
<td>Turn on or turn off the power</td>
<td>0x1A</td>
</tr>
</tbody>
</table>
| MENU   | Display the OSD menu on no menu status  
Exit a menu of sub-menu | 0x05 |
| OK     | Select highlighted function | 0x13 |
| ▲      | Select previous menu item  
Decrease slider value | 0x11 |
| ▼      | Select next menu item  
Increase slider value | 0x10 |
| ◀      | Decrease the audio volume | 0x15 |
| ▶      | Increase the audio volume | 0x14 |