OWNER'S MANUAL
4K Ultra HD LCD Display

MODELS:
RS-840UD

Important Precautions

Please read these safety precautions carefully before using the display.

Warning Failure to follow those warnings may result in death, serious injury or damage to the display or other property.

Electrical Power Related Precautions

Warning

- **Use only the power cord supplied with the unit or another manufacturer's authorized cord.**
  - Failure to do so may result in fire or electrical shock or damage to the display.
- **Use only a properly grounded plug and receptacle.**
  - If you do not, you may be electrocuted or injured. Or the display might be damaged.
- **Do not use a damaged or loose plug.**
  - This may cause electrical shock or fire.
- **Operate the display only from a power source (i.e. voltage) indicated in the product specification.**
  - Otherwise, the display can be damaged, fire can occur or you may be electrocuted. If you are not sure what type of power supply you have, consult a certified electrician.
- **In the presence of thunder and lightning, never touch the power cord and signal cable because it can be very dangerous.**
  - It can cause electric shock.
- **Do not connect several extension cords, electrical appliances or electrical heaters to a single outlet. Use a power bar with a grounding terminal designed for exclusive use with the display.**
  - A fire can break out due to overheating.
- **Do not touch the power plug with wet hands. Additionally, if the cord pin is wet or covered with dust, dry the power plug completely or wipe dust off before plugging in the cord**.
  - You may be electrocuted due to excess moisture.
- **If you do not intend to use the display for a long time, unplug the power cord from the display.**
  - Covering dust can cause a fire, or insulation deterioration can cause electric leakage, electric shock or fire.
- **Insert the power plug firmly so it cannot come loose.**
  - A loose connection can cause fire. Hold the plug when pulling out the power cord.
- **Do not pull the plug out by the wire. Do not bend the power cord with excessive force or put heavy objects on the power cord.**
  - The power line can be damaged, which may cause electric shock or fire.
- **Do not insert metal or other conductive materials into the display openings. Additionally, do not touch the power cord right after plugging the cable into the wall input terminal.**
  - You may be electrocuted.
- **The power supply cord is used as the main disconnection device. The socket-outlet shall be installed near the equipment and shall be easily accessible.**
- **Do not unplug the power cord while the display is in use.**
  - Electrical shock can damage the product.
- **As long as this unit is connected to the AC wall outlet, it is not disconnected from the AC power source even if the unit is turned off.**

Important Precautions

Precautions in Installing the Display

⚠ Warning

- **Keep away from heat sources like heaters or open flames.**
  - Electrical shock, fire, malfunction or deformation may occur.
- **Keep the packing anti-moisture material or vinyl packing out of the reach of children.**
  - Anti-moisture material is harmful if swallowed. If swallowed by mistake, force the patient to vomit and visit the nearest hospital. Additionally, vinyl packing can cause suffocation. Keep it out of the reach of children.
- **Do not put heavy objects on the display or sit upon it.**
  - If the display collapses or is dropped, you may be injured. Children must pay particular attention.
- **Do not leave the power or signal cable where someone can trip over it.**
  - The passerby can falter, which can cause electrical shock, fire, display breakdown, or injury.
- **Install the display in a neat and dry place. Do not use near water.**
  - Dust or moisture can cause electrical shock, fire, or display damage.
- **Do not add accessories that have not been designed for this display.**
- **If you smell smoke or other odors or hear a strange sound from the display, unplug the power cord and contact Customer Service.**
  - If you continue to use without taking proper measures, electrical shock or fire can occur.
- **If you dropped the display or the case is broken, turn off the display and unplug the power cord.**
  - If you continue to use without taking proper measures, electrical shock or fire can occur. Contact Customer Service.
- **Do not drop an object on or apply impact to the display. Do not throw any toys or objects at the display.**
  - It can cause injury to humans, problems to the display, and damage the display.
- **Keep out of reach of children and do not place toys near the display.**
- **Make sure the display ventilation hole is not blocked. Install the display more than 10cm away from the wall.**
  - If you install the display too close to the wall, it may be deformed or fire can break out due to internal heat build-up.
- **Do not cover the display with cloth or other material (eg. plastic) while plugged in.**
  - The display can be deformed or fire can break out due to internal overheating.
- **Place the display on a flat and stable surface that is large enough to support the display.**
  - If the display is dropped, you may be injured or the display may be broken.
- **Install the display where no Electromagnetic Interference occurs.**
- **Keep the display away from direct sunlight.**
  - The display can be damaged.
- **Do not place the display on the floor.**
  - Small children and others may trip over it.

Important Precautions

Precautions in Moving the Display

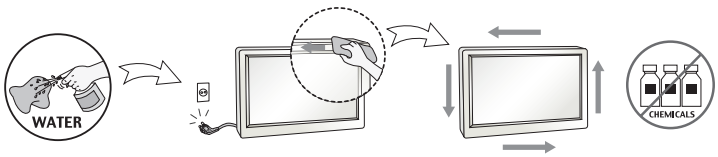
⚠ Warning

- **Make sure to turn off the display.**
  - You may be electrocuted or the display can be damaged.
- **Make sure to remove all cables before moving the display.**
  - You may be electrocuted or the display can be damaged.
- **Do not shock the display when moving it.**
  - You may be electrocuted or the display can be damaged.
- **Make sure the display faces forward and hold it with both hands to move.**
  - If you drop the display, the damaged display can cause electric shock or fire.
- **Do not place the display face down.**
  - This may damage the display.

Precautions in Using/Cleaning the Display

⚠ Warning

- **Do not attempt to disassemble, repair, or modify the display yourself.**
  - Fire or electric shock can occur.
  - Contact Customer Service for repair.
- **When cleaning the display, unplug the power cord and scrub gently with a soft cloth to prevent scratching. Do not clean with a wet cloth or spray water or other liquids directly onto the display. An electric shock may occur. (Do not use chemicals such as benzene, paint thinners, or alcohol)**
- **Keep the display away from water.**
  - Fire or electric shock accident can occur.
- **Avoid high temperatures and humidity.**
- **Do not put or store flammable substances near the display.**
  - There is a danger of explosion or fire.
- **Keep the display clean at all times.**
- **Do not press on the display with a hand or sharp object such as nail, pencil or pen, or make a scratch on it.**
- **Keep proper distance from the display and rest from time-to-time.**
  - Your vision may be impaired if you look at the display too closely or for too long.
- **Keep small accessories out of the reach of children.**
- **Leaving a fixed image on the display for a long time may cause damage to the display and cause image retention. Make sure to use a screen saver on the display. Burn-in and related problems are not covered by the warranty on this display.**
- **Spray water onto a soft cloth 2 to 4 times, and use it to clean the front frame; wipe in one direction only. Too much moisture may cause staining.**



On Disposal (Only, Hg lamp used Display)

- **The fluorescent lamp used in this display contains a small amount of mercury.**
- **Do not dispose of this display with general household waste.**
- **Disposal of this display must be carried out in accordance to the regulations of your local authority.**

Precautions for Image Sticking

To optimize display lifetime and function, pay attention on the following operation usages:

- **Normal operating condition**

  - Operating Temperature: 0°C to 35°C
  - Operating Ambient Humidity: 20% to 90%
  - Display Pattern: dynamic pattern (real display)

  Note: *Long-term static display can cause image sticking.*

- **Operating usages under abnormal condition**

  a. Ambient condition

  - Well-ventilated place is recommended to set up the system.

  b. Power and screen saver

  - Periodical power-off or screen saver is needed after long-term display.

- **Operating usages to protect against image sticking due to long-term static display**

  a. Suitable operating time

  - Under 18 hours a day.

  b. Static information display recommended to use with moving image

  - Cycling display between 5 minutes information (static) display and 10 seconds moving image.

  c. Background and character (image) color change

  - Use different colors for background and character, respectively.
  - Change colors themselves periodically.

  d. Avoid combination of background and character with large different luminance

  Note:

  1) Abnormal condition just means conditions except normal condition.

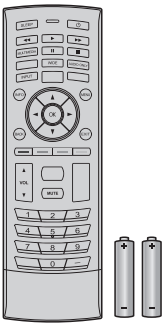
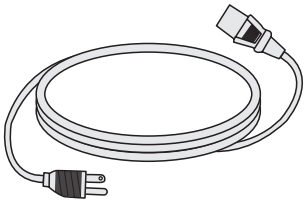
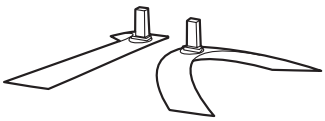
  2) Black image or moving image is strongly recommended as a screen saver.

Accessories

Included Accessories

Thank you for your purchase. Ensure that the following accessories are included with your display. If an accessory is missing, please contact the dealer where you purchased the display.

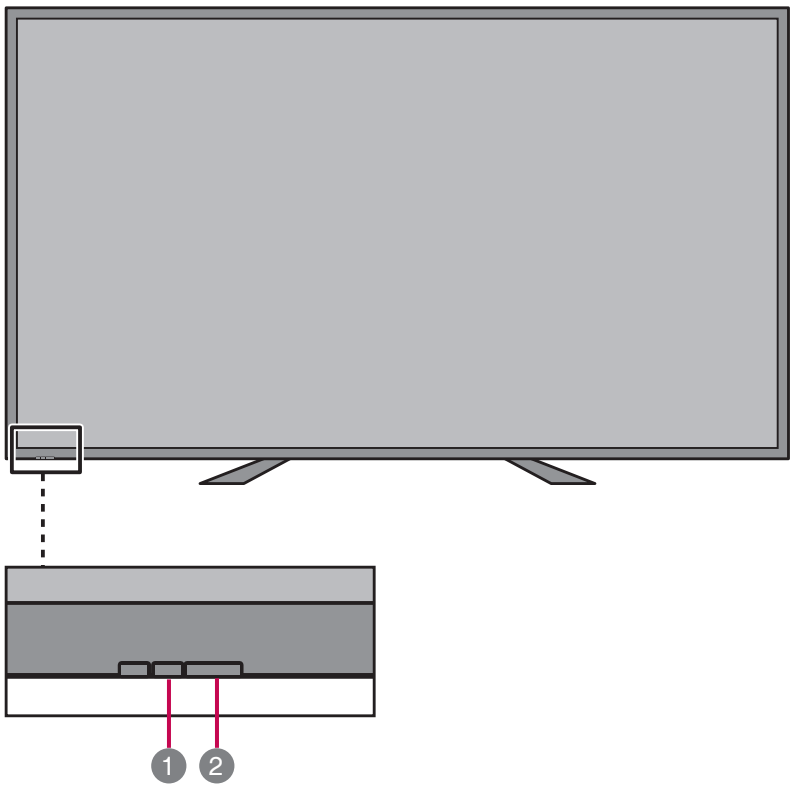
❖ The accessories included may differ from the images shown below.

		
Remote Control & Batteries (AAA × 2)	Power Cord **Power Cord for EU (Optional)*	Quick Start Guide
		
Stand	Stand Screws (6 pieces)	CD-ROM (User's Manual)

Name and Function of the Parts

* The image shown in the user's guide could be different from the actual image.

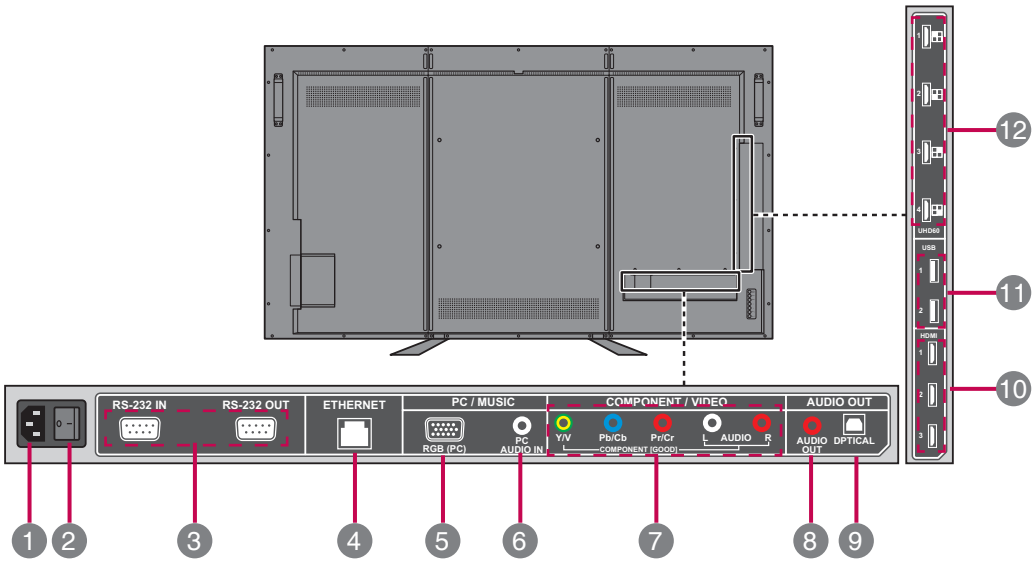
Front View



No.	Item	Description
1	**Power indicator**	Indicate power on or sleep mode status. - Power on: LED lights up. - Power off: LED off.
2	**IR Receiver**	Receive incoming remote control commands.

Name and Function of the Parts

Rear View



No.	Item	Description
1	**AC Power Input Connector**	Connect the power cord.
2	**AC Switch**	Switch the power supply on/off.
3	**RS-232C Serial Ports**	Connect several displays with serial port.
4	**Ethernet Port**	Connect to a local area network (LAN) using an Ethernet cable.
5	**RGB Port**	Connect to a PC VGA port.
6	**PC Audio Input Port**	Connect to a PC's line / audio port.
7	**Component/ Video Input Ports**	Connect to an external device, such as a VCR, STB, or a DVD player.
8	**Stereo Audio Line Out**	Connect an external audio system or headphones.

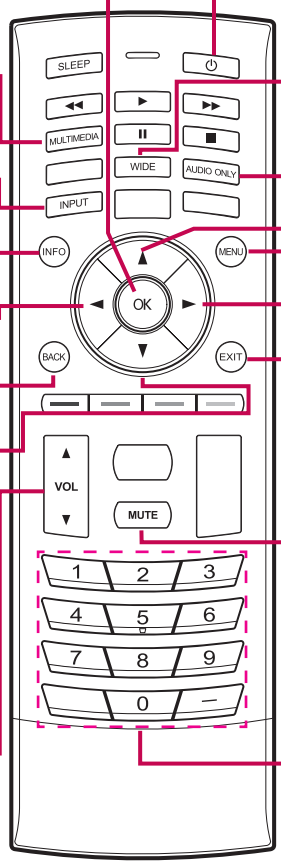
Name and Function of the Parts

Rear View (continue)

No.	Item	Description
9	**Optical Audio Out**	Connect an audio amplifier.
10	**HDMI Ports**	Connect an HDMI equipment or an HDMI-DVI adapter cable to devices such as a DVD player or set-top box. ❖ HDMI Supports High Definition input and HDCP (High-bandwidth Digital Content Protection). Some devices require HDCP in order to display HD signals.
11	**USB Ports**	Connect to a USB device such as a USB flash drive or USB hard disk drive.
12	**HDMI-UHD60 Ports**	Connect an HDMI equipment such as a computer, camcorder, or multimedia player which are able to output 4x HDMI with individually 1080p@60Hz resolution and compose to a UHD@60Hz resolution.

Using the Remote Control

Name of the Remote Control Buttons



OK
- Enter the submenu.
- Confirm the selection.

Multimedia
Enter the multimedia mode.

Input
Switch the input source.

Info
Display the input information.

Left
- Decrease the values.
- Change the options.

Back
Return to the previous menu/screen.

Down
- Move downward on the selection.
- Change selected item.

Volume
Adjust the volume.

Power
Turn the display on/off.

Wide
Change the display mode.

Audio only
Only output audio from the display speaker.

Up
- Move upward on the selection.
- Change selected item.

Menu
Display OSD (on-screen display) menu.

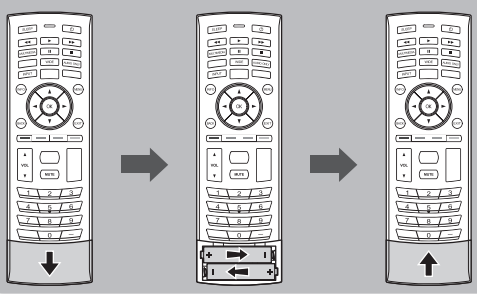
Right
- Increase the values.
- Enter the submenu.
- Change the options.

Exit
Exit OSD menu.

Mute
Mute the audio.

Numbers (0~9, -)
Input the number.

Installing Batteries into the Remote Control

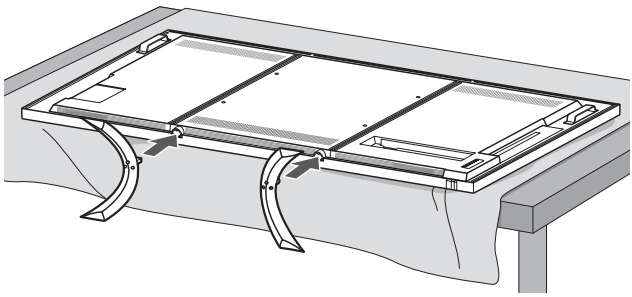


1. **Open the battery cover.**
2. **Install the batteries matching the correct polarity.**
   - Install two 1.5V AA batteries.
3. **Close the battery cover.**
   - Dispose the used batteries in the recycle bin to prevent environmental pollution.

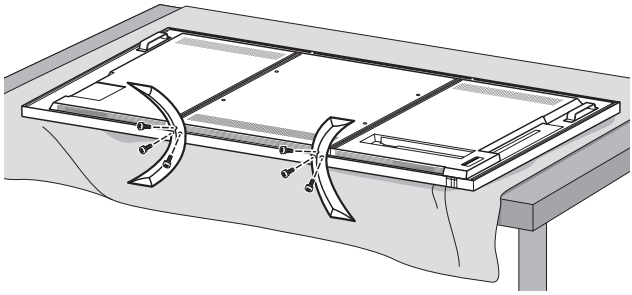
Stand Installation

Installing the Stand

1. Place the display with the screen side down on a flat and cushioned surface. Then, attach the stand as shown in the illustration.



2. Secure the stand with the six included screws. Please fasten with a screwdriver.



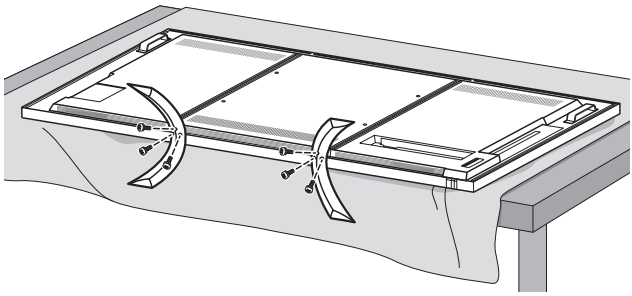
Note

- If you do not fasten the screws, the display may fall, which may result in damage to the product.

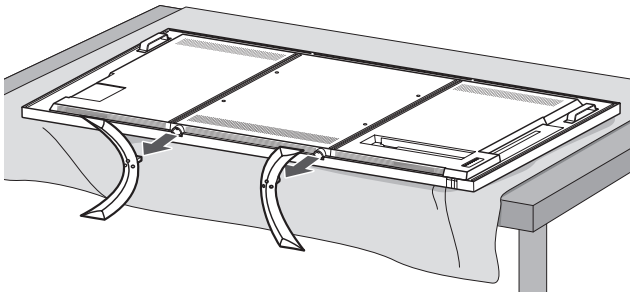
Stand Installation

Removing the Stand

1. Place the display with the screen side down on a flat and cushioned surface. Then, remove the screws.



2. Detach the stand from the display.



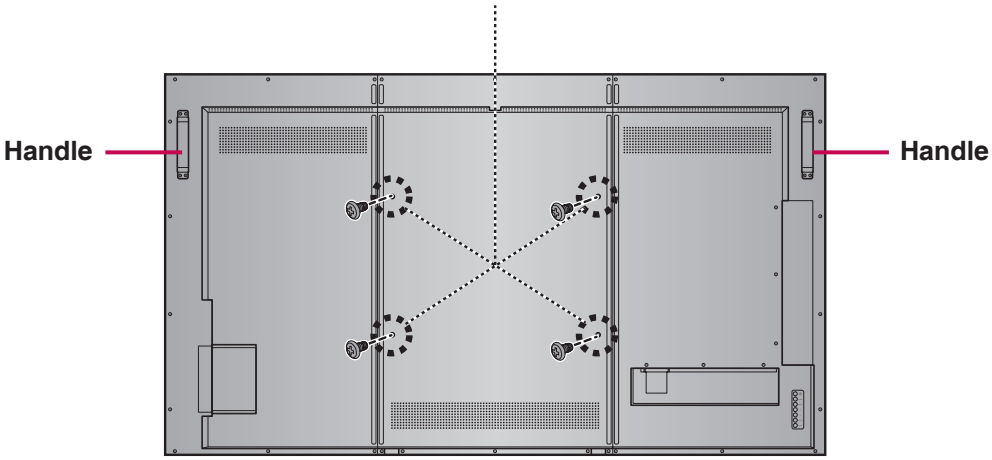
Mounting on a Wall

VESA FDMI Wall Mounting

This display supports a VESA FDMI compliant mounting interface. These mounts are purchased separately. Refer to the instructions included with the wall mount for more information.

❖ The handles are designed for carrying.

VESA-compatible wall bracket (WxH)	Screw type	Mount holes number
400 x 600 mm	M8	4



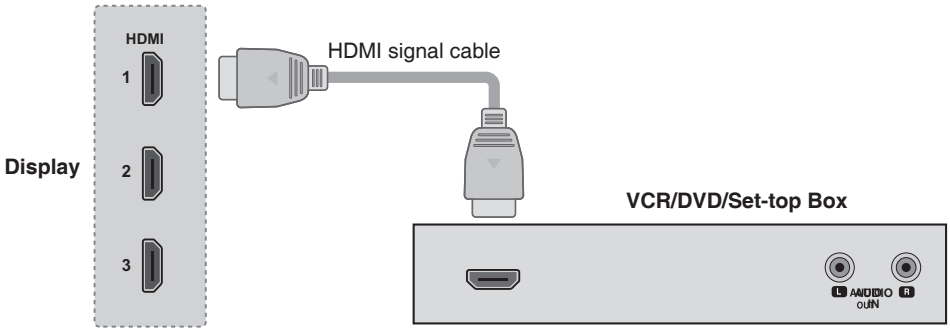
Connecting to External Devices

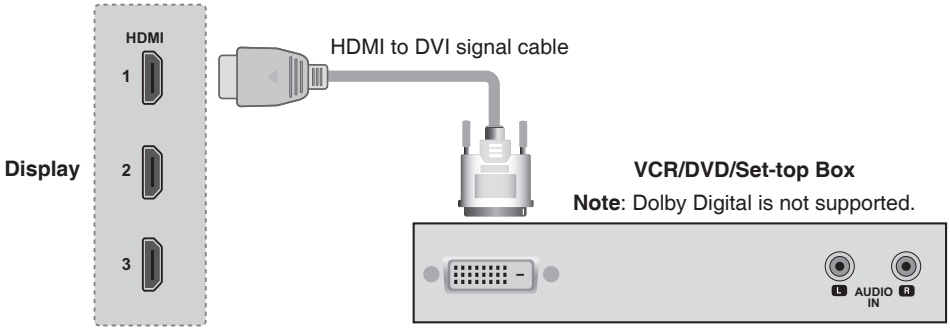
Recommended Connection, Resolution & Picture Mode

HDMI Connection, 3840 x 2160@30Hz, dynamic

HDMI Connection (480p, 576p, 720p, 1080i, 1080p, UHD@24Hz/30Hz)

HDMI supports ultra high definition (UHD) input, high definition input, and HDCP (High-bandwidth Digital Content Protection). Some devices require HDCP in order to display HD signals.

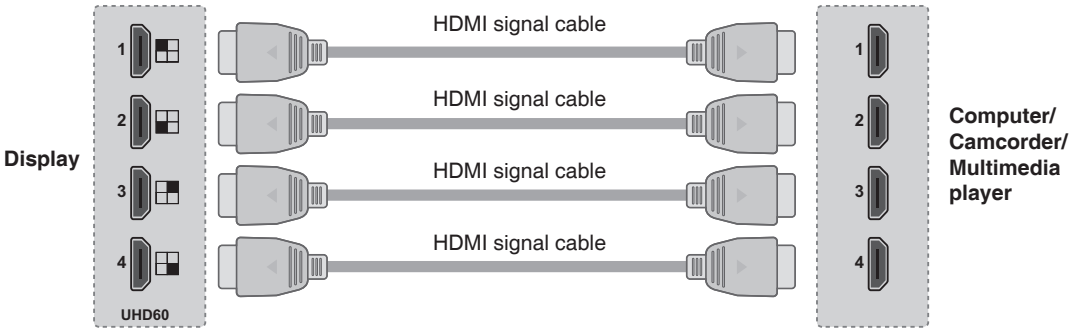




Connecting to External Devices

HDMI-UHD60 Connection (3840 x 2160 @60Hz)

Four HDMI ports form a UHD 60Hz. Each connection transmits 1080P @60Hz.

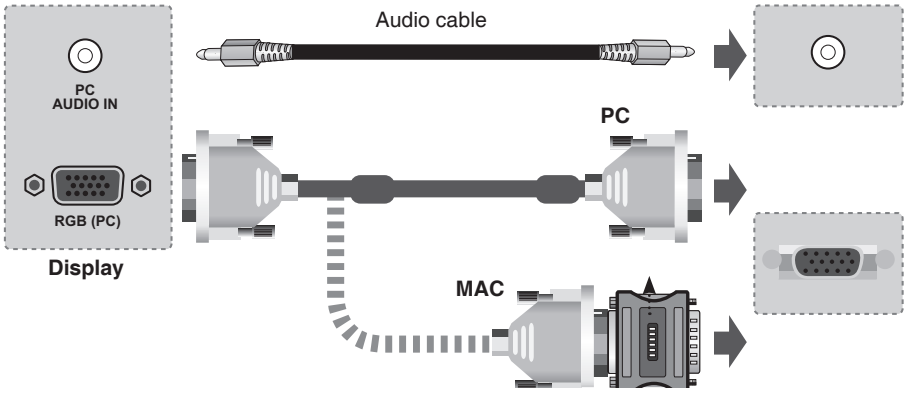


PC Connection

Check that the computer, display, and the peripherals are turned off. Then, connect the signal input cable.

A. Connecting with an HDMI Signal Input Cable

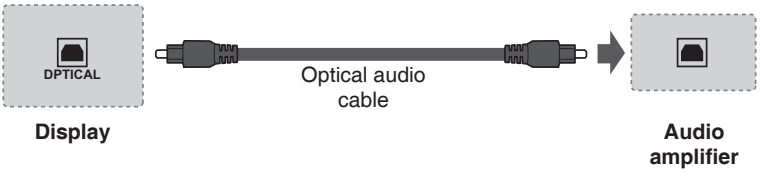
B. Connecting with a D-sub(VGA) Signal Input Cable



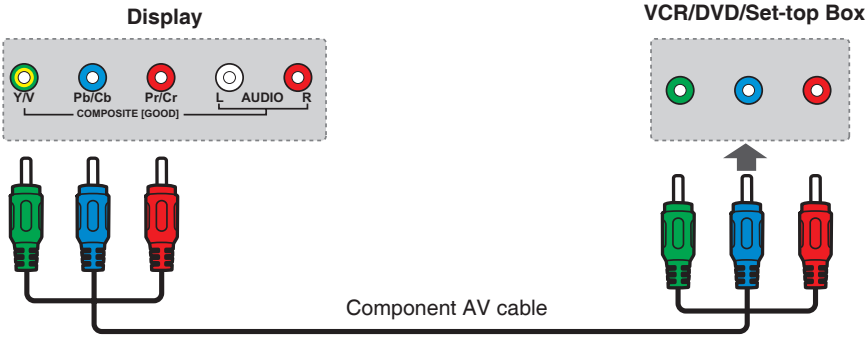
Macintosh Adapter
Use only the standard Macintosh adapter.
Do not use other adapter type that is compatible with different signaling system.

Connecting to External Devices

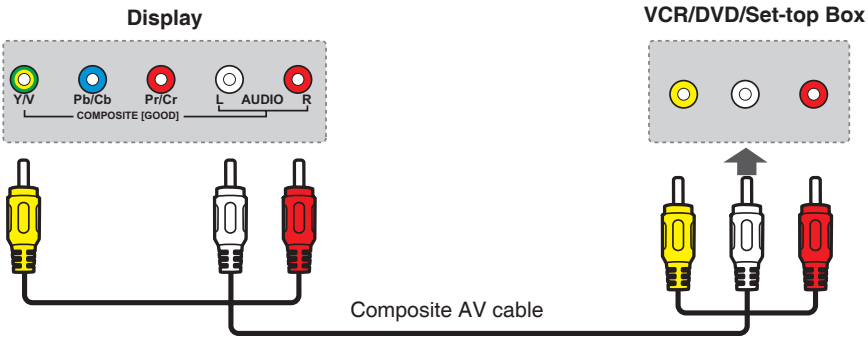
Audio Out Connection



Component Connection

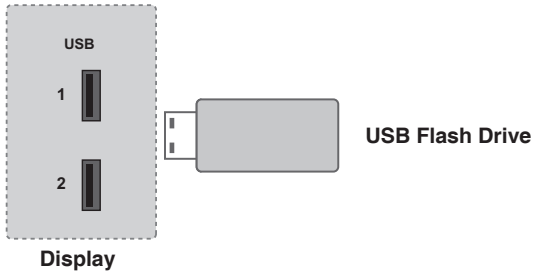


Composite (Video) Connection

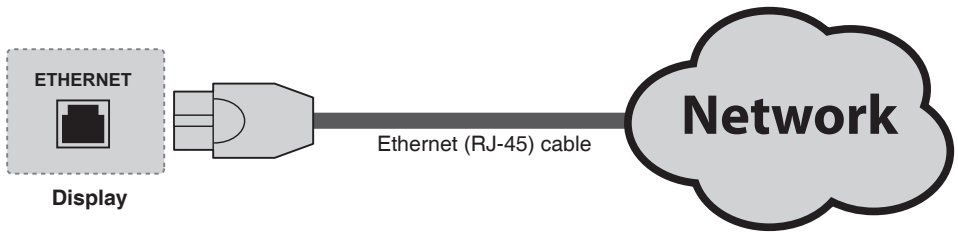


Connecting to External Devices

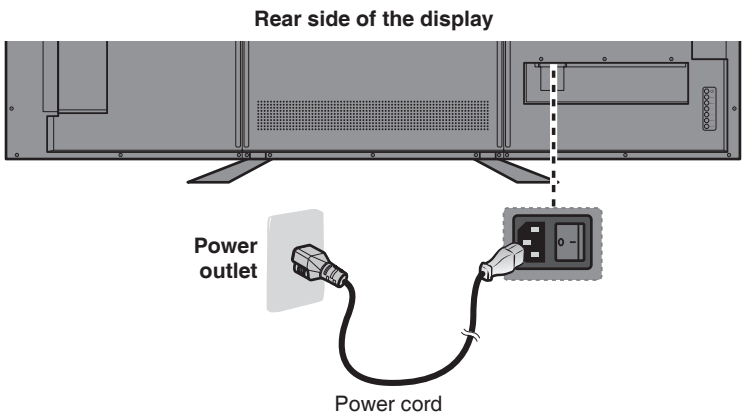
USB Connection



Ethernet Connection

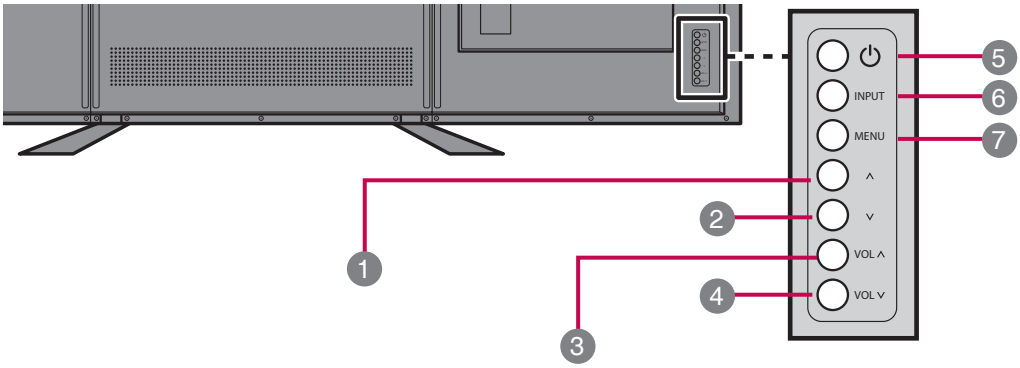


Power Connection



OSD Menus

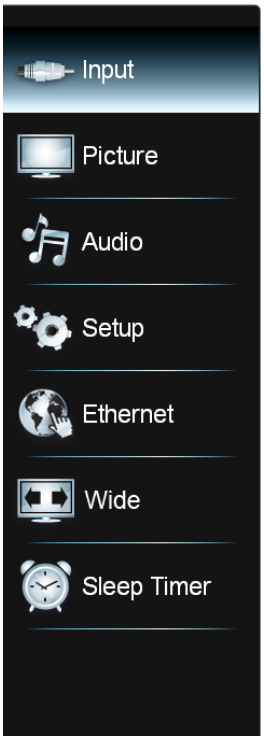
Screen Adjustment Options (using the Control Panel)



No.	Item	Description
1	**Up**	Select menu item (move up).
2	**Down**	Select menu item (move down).
3	**Volume Up**	- Increase the volume level. - Adjust the settings (increase the value).
4	**Volume Down**	- Decrease the volume level. - Adjust the settings (decrease the value).
5	**Power**	Turn the display on/off.
6	**Input**	Switch the input source.
7	**Menu**	Display/hide the OSD (on-screen display) menu or return to the previous menu.

OSD Menus

Menu Options



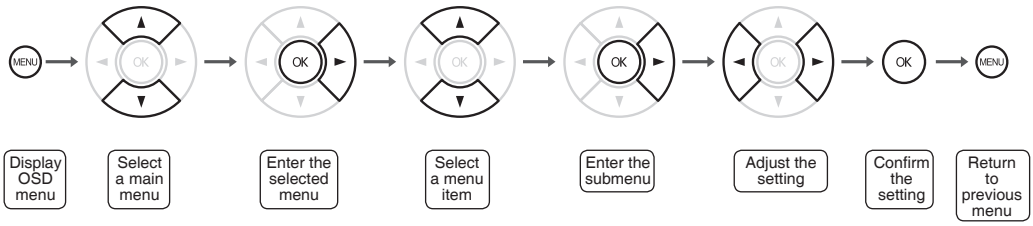
Menu	Description
Input	Select the input source.
Picture	Adjust and refine the picture displayed on your display based on ambient room light and personal preferences.
Audio	Adjust the audio settings.
Setup	Adjust the general settings such as CEI setting, OSD language, and etc.
Ethernet	Configure the network settings.
Wide	Select how the picture displays on the screen.
Sleep Timer	Set the timer to turn the display off at the preset time.

Note

OSD (On Screen Display)
The OSD function enables you to adjust the screen status conveniently since it provides graphical presentation.

OSD Menus

Adjusting On-Screen Display (OSD) Settings



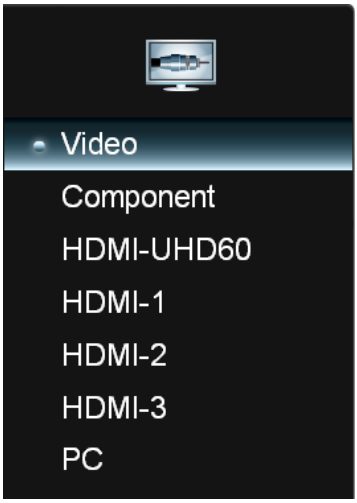
*(*operation using the remote control)*

1	Press the **MENU** button to display the OSD menu.
2	Use the ▲/▼ button to select the main menu.
3	Press the **OK** or ▶ button to enter the selected menu screen.
4	Use the ▲/▼ button to select the menu item.
5	Press the **OK** or ▶ button to enter the submenu.
6	Use the ◀/▶ button to adjust the setting/select the option.
7	Use the **OK** button to confirm the setting.
8	Press the **MENU** button to return to the previous menu/exit the OSD menu.

OSD Menus

Input Menu

Select the proper input source.

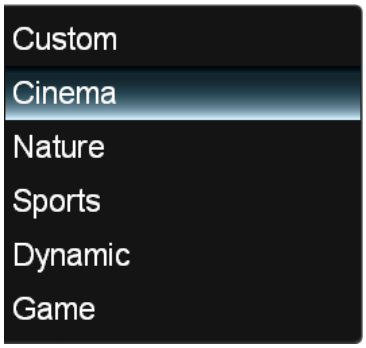


Note

- You can also access the Input menu by pressing the **INPUT** button on the remote control.
- The available menu options varies depending on the input source.
- If the menu items are appears in gray, this indicates that those functions are not available.

OSD Menus

Picture Menu

Menu Option	Description
Picture Mode	Select a preset view option optimized for different viewing conditions.  • **Custom**: User can use the user-defined settings as they wish. • **Cinema**: This mode is normally used in movie. Soft image can be seen in this mode. The picture is somewhat darker than other mode.

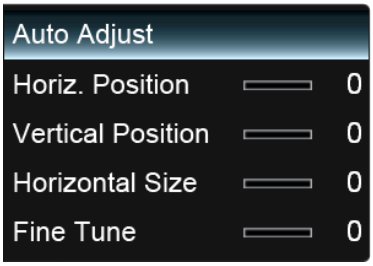
OSD Menus

Picture Menu (continue)

Menu Option	Description
Picture Mode	• **Nature**: This mode shows normal and natural image. • **Sports**: This mode uses high contrast display for clear-cut images ideal for viewing sports events. • **Dynamic**: This mode is normally used in department store, Backlight and Sharpness is set to its maximum value. Saturation of Color becomes high. You can see very bright, clear, and sharp image. • **Game**: This mode increases the brightness and response time level for enjoying video games. **Note** "**Picture Mode**" option is not available if the input source is PC.
Gamma	Select the appropriate setting of dark scenery. With greater gamma value, dark scenery looks brighter. 
Backlight	Adjust the backlight that affects the overall brilliance of the picture.
Contrast	Adjust the difference between the light and dark levels in the picture.
Brightness	Adjust the brightness setting.
Color	Adjust the color intensity of the picture.
Tint	Adjust the picture hue.
Sharpness	Adjust the sharpness of the edges of elements in the picture. **Note** "**Sharpness**" option is not available if the input source is PC.

OSD Menus

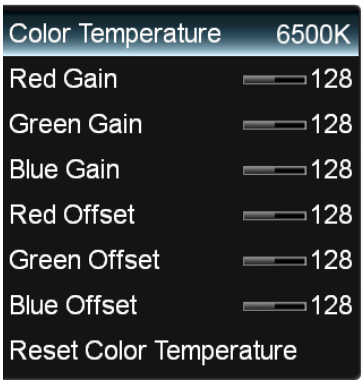
Picture Menu (continue)

Menu Option	Description
Size & Position	Adjust the display settings.  • **Auto Adjust**: Synchronize the display automatically. • **Horiz. Position**: Move the screen position horizontally. • **Vertical Position**: Move the screen position vertically. • **Horizontal Size**: Set the horizontal size of the screen. • **Vertical Size**: Set the vertical size of the screen. • **Fine Tune**: Adjust the focus of the display. This item allows you to remove any horizontal noise and clear or sharpen the image of characters.

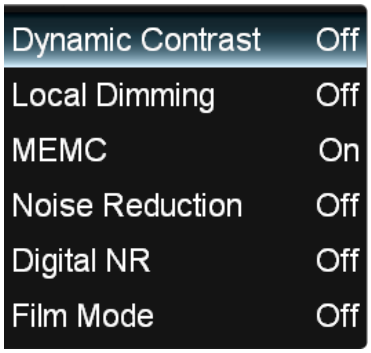
Note

- "**Size & Position**" menu is not available if the input source is HDMI-UHD60.
- The available menu options varies depending on the input source.

Picture Menu (continue)

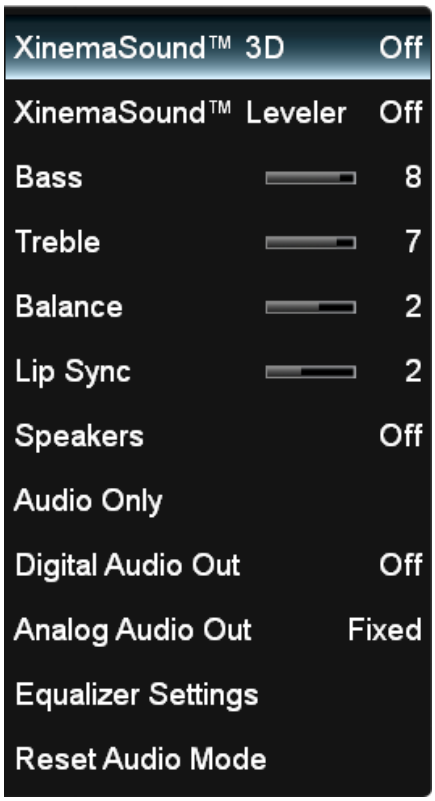
Menu Option	Description
Color Temperature	Adjust the color settings.  • **Color Temperature**: Select from the predetermined color temperatures. • **Red Gain** / **Green Gain** / **Blue Gain**: Adjust the red / green / blue gain settings to your preference. • **Red Offset** / **Green Offset** / **Blue Offset**: Adjust the red / green / blue offset settings to your preference. • **Reset Color Temperature**: Reset all **Color Temperature** settings to the factory default settings.

Picture Menu (continue)

Menu Option	Description
Advanced Picture	Set advanced **Picture** settings.  • **Dynamic Contrast**: Adjust the brightness of the display to maximize the picture quality. • **Local Dimming**: Reduce the leakage and produce a darker picture. • **MEMC**: Reduce motion blur effect. • **Noise Reduction**: Reduce the noise level. • **Digital NR**: Reduce the noise level of digital signals. • **Film Mode**: Produce smoother motion picture when viewing movies from video players connected via HDMI. **Note** • "**Advanced Picture**" option is not available if the input source is PC. • Only "**Local Dimming**" and "**MEMC**" options are available if the input source is HDMI-UHD60.
Reset Picture Settings	Reset all **Picture** settings to the factory default settings.  Select **OK** to reset all settings.

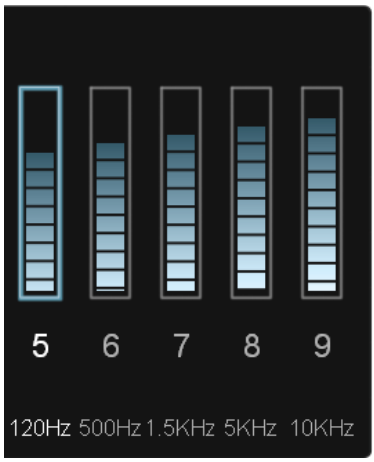
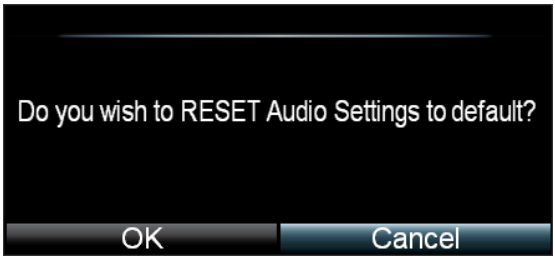
OSD Menus

Audio Menu



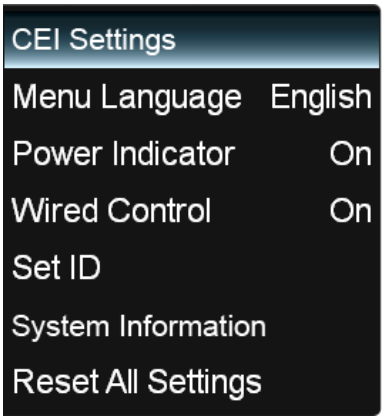
Menu Option	Description
XinemaSound™ 3D	Enable/Disable the multi-dimensional surrounding sound function.
XinemaSound™ Leveler	Enable/Disable the smooth and steady volume level function.
Bass	Adjust the bass level to your preference.
Treble	Adjust the treble level to your preference.
Balance	Adjust the sound balance between the left and right speakers.
Lip Sync	Adjust to match the movements and the lips of the person talking on the screen.
Speakers	Turn the built-in speakers on or off.

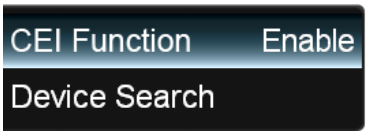
Audio Menu (continue)

Menu Option	Description
Audio Only	Output audio from the TV speakers but turn off the TV display.
Digital Audio Out	Select the type of digital audio output to an external audio system.
Analog Audio Out	Select the analog audio mode.
Equalizer Settings	Customize the equalizer settings.  To adjust the settings, do the following: i. Press the ◀/▶ button to select the option and select **OK** to enter the submenu. ii. Press the ▲/▼ button to adjust the setting.
Reset Audio Settings	Reset all **Audio** settings to the factory default settings.  Select **OK** to reset all settings.

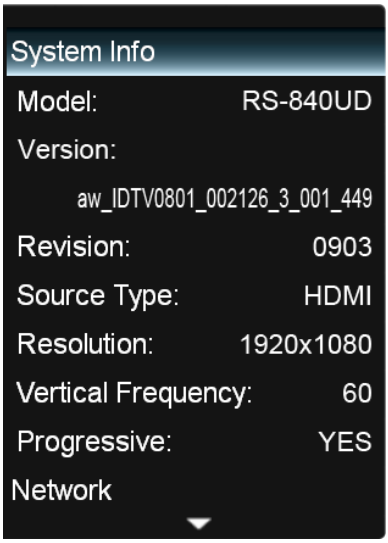
OSD Menus

Setup Menu

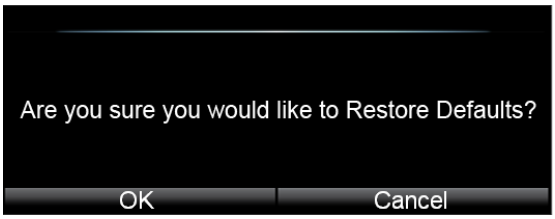


Menu Option	Description
CEI Settings	Configure CEI settings.  • **CEI Function**: Enable/Disable CEI function. • **Device Search**: Search for CEI devices. **Note** "**Device Search**" option is only available if CEI function is enabled.
Menu Language	Select the on-screen menu language. 
Power Indicator	Enable or disable the power indicator on the front of the display when the display is turned on.
Wired Control	Specify the type of network connection.

Setup Menu (continue)

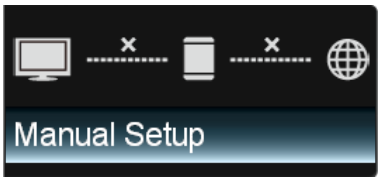
Menu Option	Description
Set ID	Assign a unique Set ID NO (name assignment) to each display when several displays are connected (via RS-232C) for display.  Enter the ID number and select **Set** to confirm the setting.
System Information	Display the system information of the display.  Select **System Information** to view the system information.

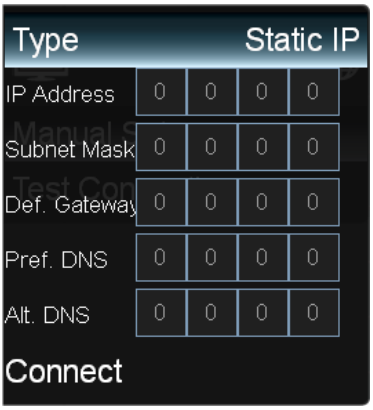
Setup Menu (continue)

Menu Option	Description
Reset All Settings	Return the display parameters on all menus to the factory default settings.  Select **OK** to reset all settings.

OSD Menus

Ethernet Menu

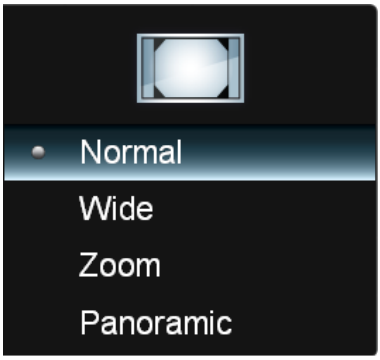


Menu Option	Description
Manual Setup	Configure the network settings.  • **Type**: User can use the user-defined settings as they wish. • **IP Address** / **Subnet Mask** / **Def. Gateway** / **Pref. DNS** / **Alt. DNS**: Enter the respective network parameters. • **Connect**: Verify the network connection. **Note** • Check with your Information Technology Provider for the correct setting. • Be sure the RJ-45 cable is properly connected.

OSD Menus

Wide Menu

Select how the picture displays on the screen. As you select an option, you will see the screen adjusting to the different size.

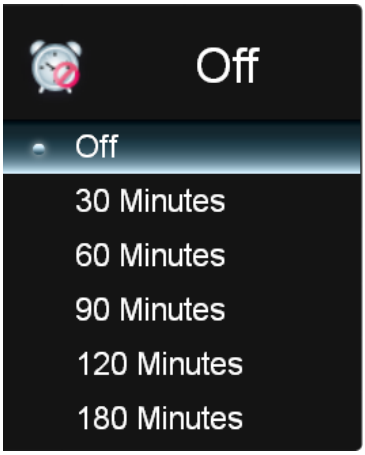


Note

- The available menu options varies depending on the input source.
- “Wide” menu is not available if the input source is 4k2k.
- The option is either “Panoramic” or “Stretch” depend on input screen format:
  - Panoramic: Standard screen format (ex. 4:3)
  - Stretch: Wide screen format (ex. 16:9)

Sleep Timer

Set the timer to turn the display off at the preset time.



Note You can also access the Sleep Timer menu by pressing the **SLEEP** button on the remote control.

Multimedia Mode

Multimedia Menu

This display is equipped with USB port that enables you to view photos, listen to music, or watch videos stored on a USB storage device.

Multimedia support format

Container	Extensions	Audio/Video	Codec
ASF	.asf	Video	VC-1/WMV9 Advanced Profile
	.wmv		VC-1/WMV9 Simple and Main Profiles
	.wma		H.264/MPEG-4 AVC
AVI/DivX	.avi	Video/Audio	H.264, AVC
	.divx		MPEG-1 Layer 1, 2, 3
			AC-3
MPEG-2 TS (Transport Stream) standard 188 byte TS and time-stamped 192 byte TS	.ts	Video	H.264 / AVC
	.trp		MPEG-2
	.tp		VC-1
	.m2ts	Audio	MPEG-1 Layer I, II
	.m2t		MPEG-1 Layer III (MP3)
	.mts		AC-3
			AAC
MPEG-2 PS (Program Stream), VOB, SVCD	.vob	Video	MPEG-1
			MPEG-2
		Audio	AC-3
			MPEG-1 Layer I, II
			DVD-LPCM

Multimedia Mode

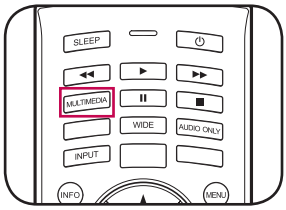
Container	Extensions	Audio/Video	Codec
MP4	.mp4	Video	H.264 / AVC
	.m4a		MPEG-4 Part 2
	.m4v		H.263
		Audio	AAC
			AC3
MP3	.mp3		MP3
WAVE/WAV	.wav	Audio	8 bit, 16 bit PCM
JPEG	.jpeg		JPEG
	.jpg		

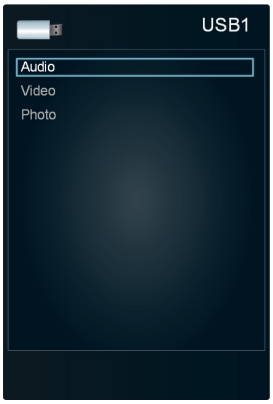
Note

- All still pictures are scaled to 1920 x 1080 then upscaled to 3840 x 2160 for display.
- Video decoding supports up to FHD 30P.

Basic Operation

1. Turn on the display.
2. Plug a USB device to the USB port on the display.
3. Press the **MULTIMEDIA** button on the remote control.



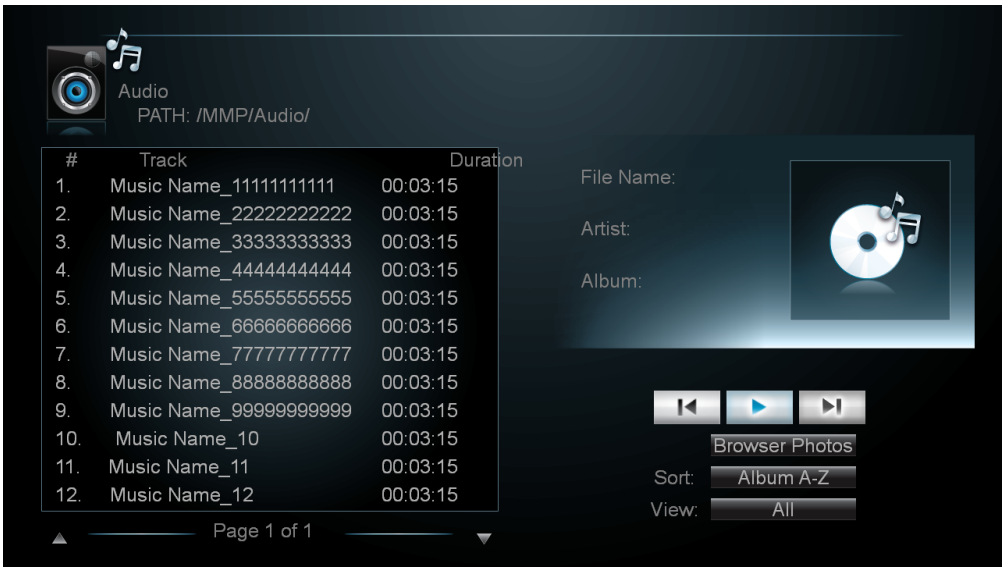


4. Select the USB port that you want to access and press the **OK** button.
5. Select the media type of the file you wish to play and press the **OK** button.
6. Use the ▲/▼/◀/▶ button to browse the files, folders or menu options and press the **OK** button to confirm.

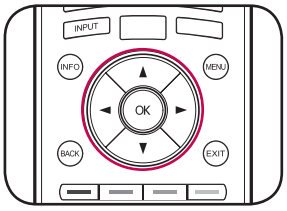
Multimedia Mode

Playback Music

1. Select **Audio** and press the **OK** button to enter the main Music content browser.



2. In the main Music content browser, use the ▲/▼ button to select a song.
3. Press the **OK** button to play, and an automatic playback begins from the selected song.

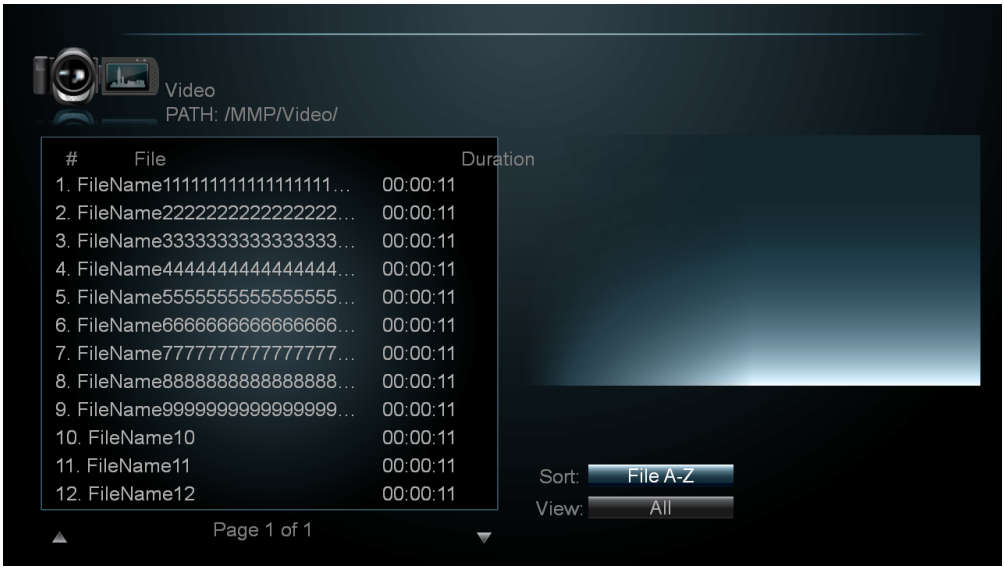


- Press the ❚❚ icon to pause the selected song playback. Press the ► button to resume the playback.
- You can highlight the ⏭ icon and press the **OK** button to skip to the next song.
- You can highlight the ⏮ icon and press the **OK** button to skip to the previous song.
- Select **Sort** to specify the sorting method.
- Select **View** to change the type of file listing.
- Select **Browser Photos** to playback photos.

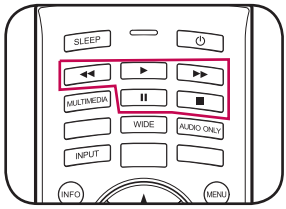
Multimedia Mode

Watching Videos

1. Select **Video** and press the **OK** button to enter the main Video content browser.



2. In the main Video content browser, use the ▲/▼ button to select a video.
3. Press the **OK** button to begin the video playback.
   - ■ Press the ❚❚ icon to pause the selected video playback. Press the ► button to resume the playback.
   - ■ Press the ►► button to fast-forward the video playback.
   - ■ Press the ◄◄ button to rewind the video playback.
   - ■ Press the ■ button to stop the playback.
   - ■ Select **Sort** to specify the sorting method.
   - ■ Select **View** to change the type of file listing.



Multimedia Mode

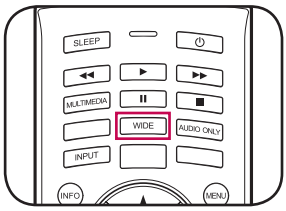
Viewing Photos

1. Select **Photo** and press the **OK** button to enter the main Photo content browser.

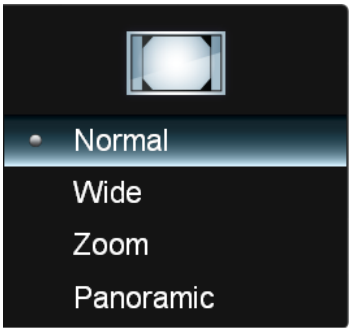
2. In the main Photo content browser, use the ▲/▼/◀/▶ buttton to select a photo.
3. Press the **OK** button to view in full screen.
4. To begin a slide show, select **Start Slideshow** and press the **OK** button. A slide show begins from the selected photo.
   - ■ Press the ❚❚ button to pause the slide show, or press the ■ button to stop the slide show.
   - ■ Select **Sort** to specify the file sorting method.
   - ■ Select **View** to change the type of file listing.
   - ■ Select **Setting** to customize the slide show settings.
     - **Shuffle**: Enable/Disable the shuffle function.
     - **Speed**: Set the interval time between each slide display.
     - **Effect**: Select the transition effect between each slide displays.
   - ■ Select **Browser Music** to playback songs.

Changing Display Mode

Set Aspect Ratio



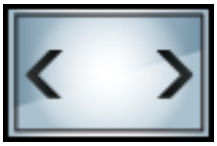
1. Turn on the display.
2. Press the **WIDE** button on the remote control.
   The Aspect Ratio menu appears on the screen.



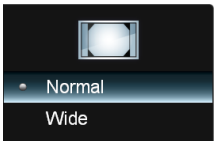
3. Use the ▲/▼ button to select the aspect ratio of the display and press the **OK** button to confirm.

Normal

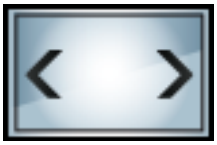
Stretch



Wide



Panoramic



Zoom

Note

- The available menu options varies depending on the input source.
- The option is either “Panoramic” or “Stretch” depend on input screen format:
  - Panoramic: Standard screen format (ex. 4:3)
  - Stretch: Wide screen format (ex. 16:9)

Troubleshooting

No image is displayed

● **Is the power cord connected?**	• See if the power cord is properly connected to the outlet.
● **Is the power indicator light on?**	• See if the power switch is turned on.
● **Power is on, power indicator is blue but the screen appears extremely dark.**	• Adjust brightness and contrast again. • Backlight may need repair.
● **Is the power indicator amber?**	• If the display is in power saving mode, move the mouse or press any key. • Turn both devices off and then back on.
● **Does the 'NO SIGNAL' message appear?**	• The signal cable between PC and display is not connected. Check the signal cable. • Press INPUT on the remote control to check the input signal.

The screen image looks abnormal

● **Is the screen positioned?**	• D-SUB analog signal –Select **Auto Adjustment** in **Size & Position** menu to automatically select the optimal screen status that fits the current mode.
● **Do thin lines appear in the background?**	• D-SUB analog signal –Select **Auto Adjustment** in **Size & Position** menu to automatically select the optimal screen status that fits the current mode. If the adjustment is not satisfactory, use the **Fine Tune** menu.
● **Power is on, power indicator is blue but the screen appears extremely dark.**	• D-SUB analog signal —Select **Auto Adjustment** in **Size & Position** menu to automatically select the optimal screen status that fits the current mode. If the adjustment is not satisfactory, use the **Fine Tune** menu.

Troubleshooting

After-image appears on the screen

● **After-image appears when the previous image changed.**	• If you display a fixed image for a long time, the pixels may be damaged quickly. Use the screen-saver function.

Screen color is abnormal

● **Screen has poor color resolution (16 colors).**	• Set the number of color to more than 24 bits (true color). Select **Control Panel** –**Display**–**Settings**–**Color Table** menu in Windows.
● **Screen color is unstable or mono-colored.**	• Check the connection status of the signal cable or re-insert the PC video card.
● **Do black spots appear on the screen?**	• Several pixels (red, green, white, or black color) may appear on the screen, which can be attributable to the unique characteristics of the LCD Panel. This is not a malfunction of the LCD.

If any of above instructions does not work, follow the instructions:

[1] Press **MENU**. Select **Setup** > **Reset All Settings**.

[2] Enter the password.

[3] Remove the AC power cord and wait for 10 seconds.

[4] Connect the AC power cord and turn on the display.

Specifications

The product specifications can change without prior notice for product improvement.

LCD Panel	Size	84”	
	Native Resolution	3840 x 2160	
	Aspect Ratio	16:9	
	Frame Rate	120Hz	
	Brightness	350 nits	
	Contrast Ratio	1400:1 (Typical)	
	Response Time	5ms (Typical)	
	Display Color	1.06 Billion	
Power	**Input Voltage (min range)**	90 ~ 264V	
	Input Frequency (min range)	50~60 Hz	
	Power Consumption (Max)	On	550W
		Standy	≤ 3W
		Controllable Standby	≤ 15W
Dimensions & Weight	**Dimensions (Width x Height x Depth)**		
	1919.2mm x 1166.6mm x 394mm (with stand)		
	1919.2mm x 1105.2mm x 67mm (without stand)		
	Net Weight		
	81.5kg (with stand)		
	77.5kg (without stand)		
Video Signal	**Maximum Resolution**	RGB: 1920 x 1080 @60 Hz Single HDMI: 3840 x 2160 @23.98/24/25/29.97/30Hz 4x HDMI: 3840 x 2160 @50/60Hz Component: 1920 x 1080 I @50Hz Composite: 480i (NTSC)	
Supported Color Format	4K2K@30Hz / 4K2K@25Hz / 4K2K@24Hz: Up to RGB 4:4:4: 8 bit		
	≤ 1080P or 4K2K@50Hz / 4K2K@60Hz: Up to RGB 4:4:4 12 bit		
Input Connector	HDMI, HDMI UHD60, RGB (VGA), RS-232C, RJ-45, Component/ Composite		
Environmental Conditions	**Operational Condition**	Temperature: 0°C to 35°C, Humidity: 20% to 90%	
	Storage Condition	Temperature: -20°C to 60°C, Humidity: 10% to 90%	

Specifications

PC Mode (RGB) – Preset Mode

Mode No.	Resolution	Refresh rate
1	720 x 400	70Hz
2	640 x 480	60Hz
3	640 x 480	75Hz
4	800 x 600	60Hz
5	800 x 600	72Hz
6	800 x 600	75Hz
7	1024 x 768	60Hz
8	1024 x 768	70Hz
9	1024 x 768	75Hz
10	1280 x 1024	60Hz
11	1280 x 1024	75Hz
12	1920 x 1080	60Hz

HDMI – Preset Mode

Single HDMI		
Mode No.	Resolution	Refresh rate
1	640 x 480 P	60Hz 4:3
2	720 x 480 P	59.94Hz
3	720 x 480 P	60Hz 16:9
4	720 x 576 P	50Hz
5	1280 x 720 P	50Hz
6	1280 x 720 P	60Hz 16:9
7	1920 x 1080 I	50Hz
8	1920 x 1080 I	60Hz 16:9
9	1920 x 1080 P	50Hz
10	1920 x 1080 P	59.94Hz
11	1920 x 1080 P	60Hz 16:9
12	1920 x 1080 P	23.98Hz
13	1920 x 1080 P	24Hz
14	1920 x 1080 P	30Hz 16.9

Specifications

Single HDMI		
Mode No.	Resolution	Refresh rate
15	3840 x 2160	23.98Hz
16	3840 x 2160	24Hz
17	3840 x 2160	25Hz
18	3840 x 2160	29.97Hz
19	3840 x 2160	30Hz

UHD60 (4x HDMI)		
Mode No.	Resolution	Refresh rate
1	3840 x 2160	50Hz
2	3840 x 2160	60Hz

Component Mode – Preset Mode

Mode No.	Resolution	Refresh rate
1	720 x 480 I	59.94Hz
2	720 x 480 P	59.94Hz
3	1280 x 720 P	60Hz
4	1920 x 1080 I	60Hz
5	720 x 576 I	50Hz
6	720 x 576 P	50Hz
7	1280 x 720 P	50Hz
8	1920 x 1080 I	50Hz

Composite Mode – Preset Mode

Mode No.	Resolution
1	480i (NTSC)

Daisy Chain Connection

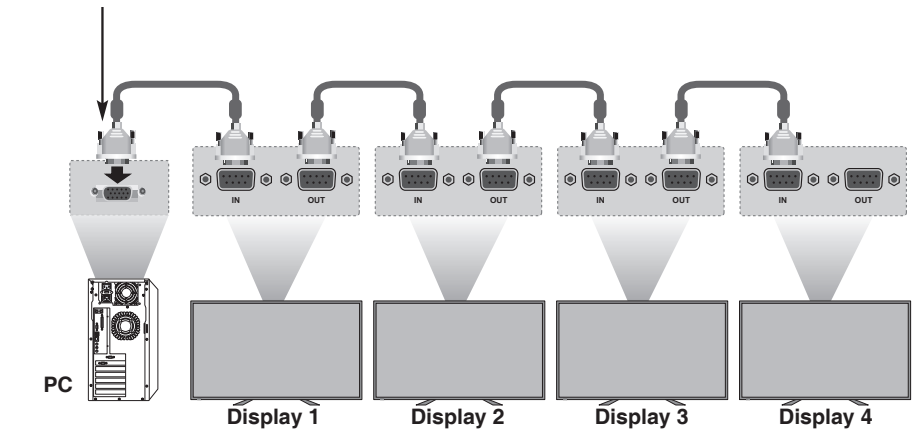
Use this method to connect several displays to a single PC.
You can control several displays at a time by connecting them to a single PC.

Connecting the cable

Connect the RS-232C cable as shown in the illustration.

* The RS-232C protocol is used for communication between the PC and display. You can turn the display on/off or adjust the OSD menu from your PC.

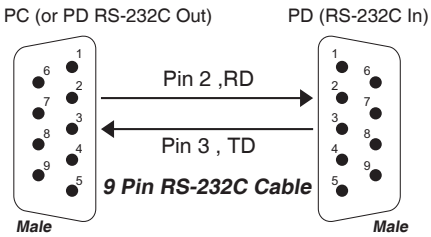
RS-232C cable **(not included)**

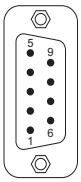


Maximum of Daisy Chain: 4 pcs

RS-232C Configurations

2-Wire Configurations (Not Standard)





PC DB 9 Pin Male			
Pin No.		Designation Description	Input/Output
1	DCD	Data carrier detect	Input
2	RxD	Receive data	Input
3	TxD	Transmit data	Output
4	DTR	Data terminal ready	Output
5	GND	Ground	-
6	DSR	Data set ready	Input
7	RTS	Request to send	Output
8	CTS	Clear to send	Input
9	RI	Incoming call	Input

Communication Parameter

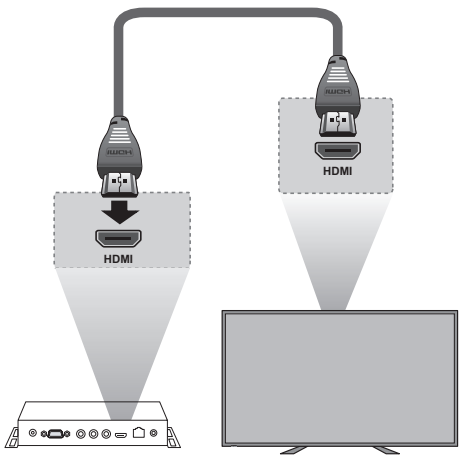
- ⇨ **Baud Rate**: 9600
- ⇨ **Data Length**: 8 Bit
- ⇨ **Parity Bit**: None
- ⇨ **Stop Bit**: 1 Bit
- ⇨ **Flow Control**: None
- ⇨ **Communication Code**: Hex Code
- ⇨ Use a DB 9 Pin Cable

HDMI CEI Connection

With Consumer Electronics Interface (CEI) feature, you can command and control two or more CEC-enabled boxes, that are connected through HDMI, by using only one of their remote controls. (e.g. controlling a television set, set-top box and DVD player using only the remote control of the display).

Connecting the cable

Connect the HDMI cable as shown in the illustration.



Display

Not support HDMI splitter or Daisy Chain connection, only support PC-Display 1:1 control.

HDMI CEI statement

Term	Description
One Touch Play	Turning on the HDMI source device cause the connected Display to be turned on and switch to HDMI Input automatically.
Routing Control	Switch (Remote control or Front key) Display Input to HDMI will cause the HDMI source device to be turned on.
System Standby	Turning off the Display will cause the HDMI Devices in the CEC net to be turned off.

Controlling the Multiple Product

RS-232C and RJ-45 Protocol

	Header (5 bytes)					Payload (4 bytes)				Checksum (1byte)
command	Prefix code #0	Prefix code #1	Set ID	Payload Type	# of payload bytes	Command	data #0	data #1	data #2	CS #0
Set Power	0xCC	0x33		0	4	0x10	0 : 0ff 1 : On	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Power	0xCC	0x55		0	4	0x10	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Set Input Source	0xCC	0x33		0	4	0x11	0x30 : VGA1 0x40 : DVI1 0x50 : HDMI1 0x51 : HDMI2 0x52 : HDMI3 0x60 : Composite1 0x70 : YPbPr1 0x80 : Music Port 0x90 : TV1 0xA0 : HDMI-UHD60	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Input Source	0xCC	0x55		0	4	0x11	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Input Source	0xCC	0x33		1	4	0x11	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Input Source	0xCC	0x55		1	4	0x11	0xE0 : OK 0xE1 : NG	0x30 : VGA1 0x40 : DVI1 0x50 : HDMI1 0x51 : HDMI2 0x52 : HDMI3 0x60 : Composite1 0x70 : YPbPr1 0x80 : Music Port 0x90 : TV1 0xA0 : HDMI-UHD60	reserved (0xFF)	Header XOR Payload
Set Screen Mute	0xCC	0x33		0	4	0x12	0 : mute off 1 : mute on	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Screen Mute	0xCC	0x55		0	4	0x12	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Screen Mute	0xCC	0x33		1	4	0x12	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Screen Mute	0xCC	0x55		1	4	0x12	0xE0 : OK 0xE1 : NG	0 : mute off 1 : mute on	reserved (0xFF)	Header XOR Payload

Controlling the Multiple Product

	Header (5 bytes)					Payload (4 bytes)				Checksum (1byte)
command	Prefix code #0	Prefix code #1	Set ID	Payload Type	# of payload bytes	Command	data #0	data #1	data #2	CS #0
Set Remote Controller Key	0xCC	0x33		0	4	0x14	0x08 : POWER 0x43 : MENU 0x0B : INPUT 0x40 : UP 0x41 : DOWN 0x07 : LEFT 0x06 : RIGHT 0x50 : OK 0x51 : INFO 0x52 : BACK 0x53 : EXIT 0x54 : VOL UP 0x55 : VOL DOWN 0x56 : CH UP 0x57 : CH DOWN 0x58 : LAST 0x59 : - 0x5A : MUTE 0x5B : SLEEP 0x5C : FR 0x5D : PLAY 0x5E : FF 0x5F : MULTIMEDIA 0x60 : PAUSE 0x61 : STOP 0x62 : FAV. CH 0x63 : WIDE 0x64 : AUDIO ONLY 0x80~0x89 : 0~9	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Remote Controller Key	0xCC	0x55		0	4	0x14	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Set SleepTime	0xCC	0x33		0	4	0x19	0 : off 1 : 30 min 2 : 60 min 3 : 90 min 4 : 120 min 5 : 180 min	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set SleepTime	0xCC	0x55		0	4	0x19	0xE0 : OK 0xE1 : NG	reserved (0x00)	reserved (0x00)	Header XOR Payload
Read SleepTime	0xCC	0x33		1	4	0x19	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read SleepTime	0xCC	0x55		1	4	0x19	0xE0 : OK 0xE1 : NG	0 : off 1 : 30 min 2 : 60 min 3 : 90 min 4 : 120 min 5 : 180 min	remain time to sleep in minute	Header XOR Payload
Set VGA Horz. Size	0xCC	0x33		0	4	0x20	0~255	reserved (0x00)	reserved (0x00)	Header XOR Payload

Controlling the Multiple Product

	Header (5 bytes)					Payload (4 bytes)				Checksum (1byte)
command	Prefix code #0	Prefix code #1	Set ID	Payload Type	# of payload bytes	Command	data #0	data #1	data #2	CS #0
Ack Set VGA Horz. Size	0xCC	0x55		0	4	0x20	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read VGA Horz. Size	0xCC	0x33		1	4	0x20	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read VGA Horz. Size	0xCC	0x55		1	4	0x20	0xE0 : OK 0xE1 : NG	0~255	reserved (0xFF)	Header XOR Payload
_Set Color Temp. Reset	0xCC	0x33		0	4	0x21	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Color Temp.	0xCC	0x55		0	4	0x21	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Set Picture Mode	0xCC	0x33		0	4	0x30	0 : Dynamic 1 : Normal 2 : Mild 3 : Usermild (Custoom) 4 : Standard (Natural) 5: Movie (Cinema) 6 : Game 7 : Vivid 8 : Sport	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Picture Mode	0xCC	0x55		0	4	0x30	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Picture Mode	0xCC	0x33		1	4	0x30	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Picture Mode	0xCC	0x55		1	4	0x30	0xE0 : OK 0xE1 : NG	0 : Dynamic 1 : Normal 2 : Mild 3 : User 4 : Custom 5 : Standard 6: Movie 7 : Game 8 : Vivid 9 : Sport	reserved (0xFF)	Header XOR Payload
Set Brightness	0xCC	0x33		0	4	0x31	0~100	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Brightness	0xCC	0x55		0	4	0x31	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Brightness	0xCC	0x33		1	4	0x31	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Brightness	0xCC	0x55		1	4	0x31	0xE0 : OK 0xE1 : NG	0~100	reserved (0xFF)	Header XOR Payload
Set Contrast	0xCC	0x33		0	4	0x32	0~100	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Contrast	0xCC	0x55		0	4	0x32	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Contrast	0xCC	0x33		1	4	0x32	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Contrast	0xCC	0x55		1	4	0x32	0xE0 : OK 0xE1 : NG	0~100	reserved (0xFF)	Header XOR Payload

Controlling the Multiple Product

	Header (5 bytes)					Payload (4 bytes)				Checksum (1byte)
command	Prefix code #0	Prefix code #1	Set ID	Payload Type	# of payload bytes	Command	data #0	data #1	data #2	CS #0
Set Sharpness	0xCC	0x33		0	4	0x33	0~12	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Sharpness	0xCC	0x55		0	4	0x33	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Sharpness	0xCC	0x33		1	4	0x33	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Sharpness	0xCC	0x55		1	4	0x33	0xE0 : OK 0xE1 : NG	0~20	reserved (0xFF)	Header XOR Payload
Set Backlight	0xCC	0x33		0	4	0x34	0~100	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Backlight	0xCC	0x55		0	4	0x34	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Backlight	0xCC	0x33		1	4	0x34	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Backlight	0xCC	0x55		1	4	0x34	0xE0 : OK 0xE1 : NG	0~100	reserved (0xFF)	Header XOR Payload
Set Color Temp Mode	0xCC	0x33		0	4	0x35	0 : Cool (9300K) 1 : Medium (6500K) 2 : Warm (5500K) 3 : User (Custom) 4 : Natural 5 : 3200K	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Color Temp Mode	0xCC	0x55		0	4	0x35	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Color Temp Mode	0xCC	0x33		1	4	0x35	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Color Temp Mode	0xCC	0x55		1	4	0x35	0xE0 : OK 0xE1 : NG	0 : Cool (9300K) 1 : Medium (6500K) 2 : Warm (5500K) 3 : User (Custom) 4 : Natural 5 : 3200K	reserved (0xFF)	Header XOR Payload
Set Color Temp Red Gain	0xCC	0x33		0	4	0x36	0 ~ 255	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Color Temp Red Gain	0xCC	0x55		0	4	0x36	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Color Temp Red Gain	0xCC	0x33		1	4	0x36	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Color Temp Red Gain	0xCC	0x55		1	4	0x36	0xE0 : OK 0xE1 : NG	0 ~ 255	reserved (0xFF)	Header XOR Payload
Set Color Temp Green Gain	0xCC	0x33		0	4	0x37	0 ~ 255	reserved (0x00)	reserved (0x00)	Header XOR Payload

Controlling the Multiple Product

	Header (5 bytes)					Payload (4 bytes)				Checksum (1byte)
command	Prefix code #0	Prefix code #1	Set ID	Payload Type	# of payload bytes	Command	data #0	data #1	data #2	CS #0
Ack Set Color Temp Green Gain	0xCC	0x55		0	4	0x37	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Color Temp Green Gain	0xCC	0x33		1	4	0x37	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Color Temp Green Gain	0xCC	0x55		1	4	0x37	0xE0 : OK 0xE1 : NG	0 ~ 255	reserved (0xFF)	Header XOR Payload
Set Color Temp Blue Gain	0xCC	0x33		0	4	0x38	0 ~ 255	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Color Temp Blue Gain	0xCC	0x55		0	4	0x38	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Color Temp Blue Gain	0xCC	0x33		1	4	0x38	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Color Temp Blue Gain	0xCC	0x55		1	4	0x38	0xE0 : OK 0xE1 : NG	0 ~ 255	reserved (0xFF)	Header XOR Payload
Set VGA Adjust Auto Mode	0xCC	0x33		0	4	0x3A	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set VGA Adjust Auto Mode	0xCC	0x55		0	4	0x3A	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Set VGA Adjust H Position	0xCC	0x33		0	4	0x3B	0~100	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set VGA adjust H Position	0xCC	0x55		0	4	0x3B	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read VGA Adjust H Position	0xCC	0x33		1	4	0x3B	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read VGA Adjust H Position	0xCC	0x55		1	4	0x3B	0xE0 : OK 0xE1 : NG	0~100	reserved (0xFF)	Header XOR Payload
Set VGA Adjust V Position	0xCC	0x33		0	4	0x3C	0~100	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set VGA Adjust V Position	0xCC	0x55		0	4	0x3C	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read VGA Adjust V Position	0xCC	0x33		1	4	0x3C	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read VGA Adjust V Position	0xCC	0x55		1	4	0x3C	0xE0 : OK 0xE1 : NG	0~100	reserved (0xFF)	Header XOR Payload
Set VGA Adjust Phase	0xCC	0x33		0	4	0x3E	0~100	reserved (0x00)	reserved (0x00)	Header XOR Payload

Controlling the Multiple Product

	Header (5 bytes)					Payload (4 bytes)				Checksum (1byte)
command	Prefix code #0	Prefix code #1	Set ID	Payload Type	# of payload bytes	Command	data #0	data #1	data #2	CS #0
Ack Set VGA Adjust Phase	0xCC	0x55		0	4	0x3E	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read VGA Adjust Phase	0xCC	0x33		1	4	0x3E	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read VGA Adjust Phase	0xCC	0x55		1	4	0x3E	0xE0 : OK 0xE1 : NG	0~100	reserved (0xFF)	Header XOR Payload
Set Picture Reset	0xCC	0x33		0	4	0x3F	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Picture Reset	0xCC	0x55		0	4	0x3F	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Set Color	0xCC	0x33		0	4	0x40	0~100	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Color	0xCC	0x55		0	4	0x40	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Color	0xCC	0x33		1	4	0x40	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Color	0xCC	0x55		1	4	0x40	0xE0 : OK 0xE1 : NG	0~100	reserved (0xFF)	Header XOR Payload
Set Tint	0xCC	0x33		0	4	0x41	0 : -50 ... 50 : 0 ... 100 : 50	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Tint	0xCC	0x55		0	4	0x41	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Tint	0xCC	0x33		1	4	0x41	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Tint	0xCC	0x55		1	4	0x41	0xE0 : OK 0xE1 : NG	0 : -50 ... 50 : 0 ... 100 : 50	reserved (0xFF)	Header XOR Payload
Set non-VGA Horz. Position	0xCC	0x33		0	4	0x42	0~64	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set non-VGA Horz. Position	0xCC	0x55		0	4	0x42	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read non-VGA Horz. Position	0xCC	0x33		1	4	0x42	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read non-VGA Horz. Position	0xCC	0x55		1	4	0x42	0xE0 : OK 0xE1 : NG	0~64	reserved (0xFF)	Header XOR Payload
Set non-VGA Vert. Position	0xCC	0x33		0	4	0x43	0~32	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set non-VGA Vert. Position	0xCC	0x55		0	4	0x43	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read non-VGA Vert. Position	0xCC	0x33		1	4	0x43	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload

Controlling the Multiple Product

	Header (5 bytes)					Payload (4 bytes)				Checksum (1byte)
command	Prefix code #0	Prefix code #1	Set ID	Payload Type	# of payload bytes	Command	data #0	data #1	data #2	CS #0
Ack Read non-VGA Vert. Position	0xCC	0x55		1	4	0x43	0xE0 : OK 0xE1 : NG	0~32	reserved (0xFF)	Header XOR Payload
Set non-VGA Horz. Size	0xCC	0x33		0	4	0x44	0~100	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set non-VGA Horz. Size	0xCC	0x55		0	4	0x44	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read non-VGA Horz. Size	0xCC	0x33		1	4	0x44	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read non-VGA Horz. Size	0xCC	0x55		1	4	0x44	0xE0 : OK 0xE1 : NG	0~100	reserved (0xFF)	Header XOR Payload
Set non-VGA Vert. Size	0xCC	0x33		0	4	0x45	0~100	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set non-VGA Vert. Size	0xCC	0x55		0	4	0x45	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read non-VGA Vert. Size	0xCC	0x33		1	4	0x45	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read non-VGA Vert. Size	0xCC	0x55		1	4	0x45	0xE0 : OK 0xE1 : NG	0~100	reserved (0xFF)	Header XOR Payload
Set Color Temp Red Offset	0xCC	0x33		0	4	0x46	0 ~ 255	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Color Temp Red Offset	0xCC	0x55		0	4	0x46	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Color Temp Red Offset	0xCC	0x33		1	4	0x46	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Color Temp Red Offset	0xCC	0x55		1	4	0x46	0xE0 : OK 0xE1 : NG	0 ~ 255	reserved (0xFF)	Header XOR Payload
Set Color Temp Green Offset	0xCC	0x33		0	4	0x47	0 ~ 255	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Color Temp Green Offset	0xCC	0x55		0	4	0x47	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Color Temp Green Offset	0xCC	0x33		1	4	0x47	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Color Temp Green Offset	0xCC	0x55		1	4	0x47	0xE0 : OK 0xE1 : NG	0 ~ 255	reserved (0xFF)	Header XOR Payload
Set Color Temp Blue Offset	0xCC	0x33		0	4	0x48	0 ~ 255	reserved (0x00)	reserved (0x00)	Header XOR Payload

Controlling the Multiple Product

	Header (5 bytes)					Payload (4 bytes)				Checksum (1byte)
command	Prefix code #0	Prefix code #1	Set ID	Payload Type	# of payload bytes	Command	data #0	data #1	data #2	CS #0
Ack Set Color Temp Blue Offset	0xCC	0x55		0	4	0x48	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Color Temp Blue Offset	0xCC	0x33		1	4	0x48	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Color Temp Blue Offset	0xCC	0x55		1	4	0x48	0xE0 : OK 0xE1 : NG	0 ~ 255	reserved (0xFF)	Header XOR Payload
Set Dynamic Contrast	0xCC	0x33		0	4	0x4B	0 : Off 1 : Low 2 : Medium 3 : High	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Dynamic Contrast	0xCC	0x55		0	4	0x4B	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Dynamic Contrast	0xCC	0x33		1	4	0x4B	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Dynamic Contrast	0xCC	0x55		1	4	0x4B	0xE0 : OK 0xE1 : NG	0 : Off 1 : Low 2 : Medium 3 : High	reserved (0xFF)	Header XOR Payload
Set Local Dimming	0xCC	0x33		0	4	0x4C	0 : Off 1 : On	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Local Dimming	0xCC	0x55		0	4	0x4C	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Local Dimming	0xCC	0x33		1	4	0x4C	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Local Dimming	0xCC	0x55		1	4	0x4C	0xE0 : OK 0xE1 : NG	0 : Off 1 : On	reserved (0xFF)	Header XOR Payload
Set Noise Reduction	0xCC	0x33		0	4	0x4D	0 : Off 1 : Low 2 : Medium 3 : High	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Noise Reduction	0xCC	0x55		0	4	0x4D	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Noise Reduction	0xCC	0x33		1	4	0x4D	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Noise Reduction	0xCC	0x55		1	4	0x4D	0xE0 : OK 0xE1 : NG	0 : Off 1 : Low 2 : Medium 3 : High	reserved (0xFF)	Header XOR Payload
Set Digital NR	0xCC	0x33		0	4	0x4E	0 : Off 1 : Low 2 : Medium 3 : High	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Digital NR	0xCC	0x55		0	4	0x4E	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Digital NR	0xCC	0x33		1	4	0x4E	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload

Controlling the Multiple Product

	Header (5 bytes)					Payload (4 bytes)				Checksum (1byte)
command	Prefix code #0	Prefix code #1	Set ID	Payload Type	# of payload bytes	Command	data #0	data #1	data #2	CS #0
Ack Read Digital NR	0xCC	0x55		1	4	0x4E	0xE0 : OK 0xE1 : NG	0 : Off 1 : Low 2 : Medium 3 : High	reserved (0xFF)	Header XOR Payload
Set Film Mode	0xCC	0x33		0	4	0x4F	0 : Off 1 : Auto	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Film Mode	0xCC	0x55		0	4	0x4F	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Film Mode	0xCC	0x33		1	4	0x4F	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Film Mode	0xCC	0x55		1	4	0x4F	0xE0 : OK 0xE1 : NG	0 : Off 1 : Auto	reserved (0xFF)	Header XOR Payload
Set Balance	0xCC	0x33		0	4	0x56	0 : L50 ~ 49 : L1 50 : 0 51 : R1 ~ 100 : R50	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Balance	0xCC	0x55		0	4	0x56	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Balance	0xCC	0x33		1	4	0x56	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Balance	0xCC	0x55		1	4	0x56	0xE0 : OK 0xE1 : NG	0 : L50 ~ 49 : L1 50 : 0 51 : R1 ~ 100 : R50	reserved (0xFF)	Header XOR Payload
Set Volume	0xCC	0x33		0	4	0x58	0~100	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Volume	0xCC	0x55		0	4	0x58	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Volume	0xCC	0x33		1	4	0x58	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Volume	0xCC	0x55		1	4	0x58	0xE0 : OK 0xE1 : NG	0~100	reserved (0xFF)	Header XOR Payload
Set Sound Reset	0xCC	0x33		0	4	0x59	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Sound Reset	0xCC	0x55		0	4	0x59	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Set XinemaSound 3D	0xCC	0x33		0	4	0x60	0: Off 1: On	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set XinemaSound 3D	0xCC	0x55		0	4	0x60	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read XinemaSound 3D	0xCC	0x33		1	4	0x60	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read XinemaSound 3D	0xCC	0x55		1	4	0x60	0xE0 : OK 0xE1 : NG	0: Off 1: On	reserved (0xFF)	Header XOR Payload

Controlling the Multiple Product

	Header (5 bytes)					Payload (4 bytes)				Checksum (1byte)
command	Prefix code #0	Prefix code #1	Set ID	Payload Type	# of payload bytes	Command	data #0	data #1	data #2	CS #0
Set XinemaSound Leveler	0xCC	0x33		0	4	0x61	0: Off 1: On	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set XinemaSound Leveler	0xCC	0x55		0	4	0x61	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read XinemaSound Leveler	0xCC	0x33		1	4	0x61	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read XinemaSound Leveler	0xCC	0x55		1	4	0x61	0xE0 : OK 0xE1 : NG"	0: Off 1: On	reserved (0xFF)	Header XOR Payload
Set Bass	0xCC	0x33		0	4	0x62	0: -12 … 12 : 0 ... 24: 12	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Bass	0xCC	0x55		0	4	0x62	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Bass	0xCC	0x33		1	4	0x62	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Bass	0xCC	0x55		1	4	0x62	0xE0 : OK 0xE1 : NG	0: -12 … 12 : 0 ... 24: 12	reserved (0xFF)	Header XOR Payload
Set Treble	0xCC	0x33		0	4	0x63	0: -12 … 12 : 0 ... 24: 12	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Treble	0xCC	0x55		0	4	0x63	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Treble	0xCC	0x33		1	4	0x63	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Treble	0xCC	0x55		1	4	0x63	0xE0 : OK 0xE1 : NG	0: -12 … 12 : 0 ... 24: 12	reserved (0xFF)	Header XOR Payload
Set Lip Sync	0xCC	0x33		0	4	0x64	0~5	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Lip Sync	0xCC	0x55		0	4	0x64	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Lip Sync	0xCC	0x33		1	4	0x64	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Lip Sync	0xCC	0x55		1	4	0x64	0xE0 : OK 0xE1 : NG	0~5	reserved (0xFF)	Header XOR Payload
Set Speakers	0xCC	0x33		0	4	0x65	0 : Off 1 : On	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Speakers	0xCC	0x55		0	4	0x65	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Speakers	0xCC	0x33		1	4	0x65	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload

Controlling the Multiple Product

	Header (5 bytes)					Payload (4 bytes)				Checksum (1byte)
command	Prefix code #0	Prefix code #1	Set ID	Payload Type	# of payload bytes	Command	data #0	data #1	data #2	CS #0
Ack Read Speakers	0xCC	0x55		1	4	0x65	0xE0 : OK 0xE1 : NG	0 : Off 1 : On	reserved (0xFF)	Header XOR Payload
Set Audio Only	0xCC	0x33		0	4	0x66	0 : Off 1 : On	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Audio Only	0xCC	0x55		0	4	0x66	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Audio Only	0xCC	0x33		1	4	0x66	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Audio Only	0xCC	0x55		1	4	0x66	0xE0 : OK 0xE1 : NG	0 : Off 1 : On	reserved (0xFF)	Header XOR Payload
Set Digital Audio Out	0xCC	0x33		0	4	0x67	0 : Off 1 : Dolby 2 : PCM	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Digital Audio Out	0xCC	0x55		0	4	0x67	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Digital Audio Out	0xCC	0x33		1	4	0x67	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Digital Audio Out	0xCC	0x55		1	4	0x67	0xE0 : OK 0xE1 : NG	0 : Off 1 : Dolby 2 : PCM	reserved (0xFF)	Header XOR Payload
Set Analog Audio Out	0xCC	0x33		0	4	0x68	0 : Fixed 1 : Variable	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Analog Audio Out	0xCC	0x55		0	4	0x68	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Analog Audio Out	0xCC	0x33		1	4	0x68	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Analog Audio Out	0xCC	0x55		1	4	0x68	0xE0 : OK 0xE1 : NG	0 : Fixed 1 : Variable	reserved (0xFF)	Header XOR Payload
Set Equalizer	0xCC	0x33		0	4	0x69	0 : 120Hz 1 : 500Hz 2: 1.5KHz 3: 5KHz 4: 10KHz	0 : -12 ... 12: 0 ... 24: 12	reserved (0x00)	Header XOR Payload
Ack Set Equalizer	0xCC	0x55		0	4	0x69	0xE0 : OK 0xE1 : NG	0 : 120Hz 1 : 500Hz 2: 1.5KHz 3: 5KHz 4: 10KHz	reserved (0xFF)	Header XOR Payload
Read Equalizer	0xCC	0x33		1	4	0x69	0 : 120Hz 1 : 500Hz 2: 1.5KHz 3: 5KHz 4: 10KHz	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Equalizer	0xCC	0x55		1	4	0x69	0xE0 : OK 0xE1 : NG	0 : 120Hz 1 : 500Hz 2: 1.5KHz 3: 5KHz 4: 10KHz	0 : -12 ... 12: 0 ... 24: 12	Header XOR Payload

Controlling the Multiple Product

	Header (5 bytes)					Payload (4 bytes)				Checksum (1byte)
command	Prefix code #0	Prefix code #1	Set ID	Payload Type	# of payload bytes	Command	data #0	data #1	data #2	CS #0
Set OSD Language	0xCC	0x33		0	4	0x70	0 : English 1 : Spanish 2 : French 3 : Italian 4 : Deutsch 5 : Polski 6 : Portuques 7 : Chinese 8 : Japanese 9 : Korean	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set OSD Language	0xCC	0x55		0	4	0x70	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read OSD Language	0xCC	0x33		1	4	0x70	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read OSD Language	0xCC	0x55		1	4	0x70	0xE0 : OK 0xE1 : NG	0 : English 1 : Spanish 2 : French 3 : Italian 4 : Deutsch 5 : Polski 6 : Portuques 7 : Chinese 8 : Japanese 9 : Korean	reserved (0xFF)	Header XOR Payload
Set ID Setup	0xCC	0x33		0	4	0x73	1~100	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set ID Setup	0xCC	0x55		0	4	0x73	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Set Power Indicator	0xCC	0x33		0	4	0x76	0 : Off 1 : On	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Power Indicator	0xCC	0x55		0	4	0x76	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Power Indicator	0xCC	0x33		1	4	0x76	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Power Indicator	0xCC	0x55		1	4	0x76	0xE0 : OK 0xE1 : NG	0 : Off 1 : On	reserved (0xFF)	Header XOR Payload
Set Factory Reset	0xCC	0x33		0	4	0x79	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Factory Reset	0xCC	0x55		0	4	0x79	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Set ID	0xCC	0x33		1	4	0x90	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Set ID	0xCC	0x55		1	4	0x90	0xE0 : OK 0xE1 : NG	1~100	reserved (0xFF)	Header XOR Payload
Read F/W Version	0xCC	0x33		1	4	0x91	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read F/W Version	0xCC	0x55		1	4	0x91	0xE0 : OK 0xE1 : NG	F/WLeft part	F/W Right part	Header XOR Payload
Read Input Resolution	0xCC	0x33		1	4	0xA3	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload

Controlling the Multiple Product

	Header (5 bytes)					Payload (4 bytes)				Checksum (1byte)
command	Prefix code #0	Prefix code #1	Set ID	Payload Type	# of payload bytes	Command	data #0	data #1	data #2	CS #0
Ack Read Input Resolution	0xCC	0x55		1	4	0xA3	Hwidth bit(11:4)	bit(7:4) Hwidth bit(3:0) bit(3:0) Vheight bit(11:8)	Vheight bit(7:0)	Header XOR Payload
Set CEC	0xCC	0x33		0	4	0xA5	0 : Off 1 : On	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set CEC	0xCC	0x55		0	4	0xA5	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read CEC	0xCC	0x33		1	4	0xA6	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read CEC	0xCC	0x55		1	4	0xA6	0xE0 : OK 0xE1 : NG	0 : Off 1 : On	reserved (0xFF)	Header XOR Payload
Set CEC Device Search	0xCC	0x33		0	4	0xA8	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set CEC Device Search	0xCC	0x55		0	4	0xA8	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read CEC Devices	0xCC	0x33		1	4	0xA8	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack CEC Device	0xCC	0x55		1	4+	0xA8	bit(7:4) : 0 for OK, others NG bit(3:0) : device number	byte1 : LA of device1 byte2~N : OSD name of device1(0 for end) byteN+1 : LA of device2 byteN+2~M : OSD name of device2(0 for end) …		Header XOR Payload
Set Reset All Settings	0xCC	0x33		0	4	0xAB	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set Reset All Settings	0xCC	0x55		0	4	0xAB	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Set DHCP	0xCC	0x33		0	4	0xAC	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Set DHCP	0xCC	0x55		0	4	0xAC	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Set Static IP	0xCC	0x33		0	21	0xAD	20 bytes (IP + Subnet Mask + Gateway + DNS1 + DNS2)			Header XOR Payload
Ack Set Static IP	0xCC	0x55		0	4	0xAD	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Static IP	0xCC	0x33		1	4	0xAD	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Static IP	0xCC	0x55		1	22	0xAD	0xE0 : OK 0xE1 : NG	20 bytes (IP + Subnet Mask + Gatway + DNS1 + DNS2)		Header XOR Payload
Read Ethernet Status	0xCC	0x33		1	4	0xAE	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Ethernet Status	0xCC	0x55		1	4	0xAE	0xE0 : OK 0xE1 : NG	0: Disconnected 1: Connected	0: DHCP 1: Static IP	Header XOR Payload
Set Wide Mode	0xCC	0x33		0	4	0xC2	0 : Normal/Full 1 : Wide 2 : Zoom 3 : Stretch/ Panoramic	reserved (0x00)	reserved (0x00)	Header XOR Payload

Controlling the Multiple Product

	Header (5 bytes)					Payload (4 bytes)				Checksum (1byte)
command	Prefix code #0	Prefix code #1	Set ID	Payload Type	# of payload bytes	Command	data #0	data #1	data #2	CS #0
Ack Set Wide Mode	0xCC	0x55		0	4	0xC2	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Wide Mode	0xCC	0x33		1	4	0xC2	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Wide Mode	0xCC	0x55		1	4	0xC2	0xE0 : OK 0xE1 : NG	0 : Normal/Full 1 : Wide 2 : Zoom 3 : Stretch/ Panoramic	reserved (0x00)	Header XOR Payload
Set Video System	0xCC	0x33		0	4	0xCC	0 : 60Hz 1 : 50Hz	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Ack Set Video System	0xCC	0x55		0	4	0xCC	0xE0 : OK 0xE1 : NG	reserved (0xFF)	reserved (0xFF)	Header XOR Payload
Read Video System	0xCC	0x33		1	4	0xCC	reserved (0x00)	reserved (0x00)	reserved (0x00)	Header XOR Payload
Ack Read Video System	0xCC	0x55		1	4	0xCC	0xE0 : OK 0xE1 : NG	0 : 60Hz 1 : 50Hz	reserved (0xFF)	Header XOR Payload

RS232C CheckSum

	Header (5 bytes)					Payload (4 bytes)				Checksum (1byte)
command	Prefix code #0	Prefix code #1	Set ID	Payload Type	# of payload bytes	Command	data #0	data #1	data #2	CS #0
Set Power	0xCC	0x33		0	4	0x10	"0 : 0ff 1 : On"	reserved (0x00)	reserved (0x00)	Header XOR Payload

X	Y	O
0	0	0
0	1	1
1	0	1
1	1	0

XOR

We can make CheckSum with Header (5 bytes) and Payload(4 bytes).

(Prefix code#0) XOR (Prefix code#1) XOR (Set ID) XOR (Command Payload Type) XOR (# of Payload bytes) XOR (Command) XOR (data #0) XOR (data #1) XOR (data#2) = CheckSum

For example:

(0xCC) XOR (0x33) XOR (0x01 = Set ID) XOR (0x00) XOR (0x04) XOR (0x10) XOR (0x01 = ON) XOR (0x00) XOR (0x00) = 0xEB

Make sure to read the Safety Precautions before using the product.
Keep the Owner's Manual(CD) in an accessible place for future reference.
The model and serial number of the SET is located on the back and one side of the SET. Record it below should you ever need service.

MODEL _____

SERIAL _____

For detail information about ISF, please refer web site:
http://www.imagingscience.com/

Temporary noise is normal when powering ON or OFF this device.