Warning

WARNING/CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

WARNING:

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

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:

TO PREVENT FIRE OR SHOCK HAZARDS, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

FCC NOTICE

- **A Class B digital device**

  This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
  - Reorient or relocate the receiving antenna.
  - Increase the separation between the equipment and receiver.
  - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
  - Consult the dealer or an experienced radio/TV technician for help.

- **Any changes or modifications not expressly approved by the party responsible for compliance could void the user’s warranty.**

CAUTION:

Do not attempt to modify this product in any way without written authorization from LG Electronics. Unauthorized modification could void the user’s warranty.

COMPLIANCE:

The responsible party for this product’s compliance is:
LG Electronics U.S.A., Inc
1000 Sylvan Avenue, Englewood Cliffs, NJ 07632
1-800-243-0000
http://www.lgusa.com

Safety Instructions

IMPORTANT SAFETY INSTRUCTIONS

Important safety instructions shall be provided with each apparatus. This information shall be given in a separate booklet or sheet, or be located before any operating instructions in an instruction for installation for use and supplied with the apparatus.

This information shall be given in a language acceptable to the country where the apparatus is intended to be used.

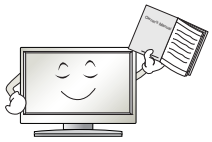
The important safety instructions shall be entitled “Important Safety Instructions”. The following safety instructions shall be included where applicable, and, when used, shall be verbatim as follows. Additional safety information may be included by adding statements after the end of the following safety instruction list. At the manufacturer’s option, a picture or drawing that illustrates the intent of a specific safety instruction may be placed immediately adjacent to that safety instruction :

1. Read these instructions.

2. Keep these instructions.

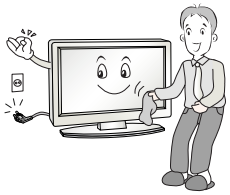
3. Heed all warnings.

4. Follow all instructions.

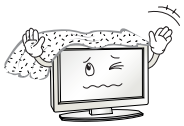


5. Do not use this apparatus near water.

6. Clean only with dry cloth.



7. Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.



8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers)that produce heat.

9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong, The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

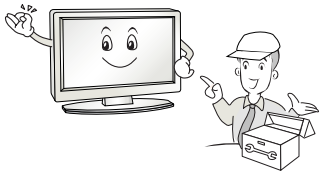
11. Only use attachments/accessories specified by the manufacturer.

12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

PORTABLE CART WARNING

13. Unplug this apparatus during lightning storms or when unused for long periods of time.

14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has exposed to rain or moisture, does not operate normally, or has been dropped.



15. CAUTION concerning the Power Cord :

Most appliances recommend they be placed upon a dedicated circuit; that is, a single outlet circuit which powers only that appliance and has no additional outlets or branch circuits. Check the specification page of this owner's manual to be certain.

Do not overload wall outlets. Overloaded wall outlets, loose or damaged wall outlets, extension cords, frayed power cords, or damaged or cracked wire insulation are dangerous. Any of these conditions could result in electric shock or fire. Periodically examine the cord of your
appliance, and if its appearance indicates damage or deterioration, unplug it, discontinue use of the appliance, and have the cord replaced with an exact replacement part by an authorized servicer.

Protect the power cord from physical or mechanical abuse, such as being twisted, kinked, pinched, closed in a door, or walked upon. Pay particular attention to plugs, wall outlets, and the point where the cord exits the appliance.

16. Outdoor Use Marking :

WARNING - To Reduce The Risk Of Fire Or Electric Shock, Do Not Expose This Appliance To Rain Or Moisture.

17. Wet Location Marking :

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

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After reading this manual, keep it handy for future reference.

Introduction

Features Of This Monitor

What is a Plasma Monitor ?

If voltage is applied to gas within glass panels, ultraviolet rays are produced and fused with a fluorescent substance. At that instant, light is emitted. A Plasma Display is a next generation flat Display using this phenomenon.

160° - Wide angle range of vision

Your flat panel plasma screen offers an exceptionally broad viewing angle -- over 160 degrees. This means that the display is clear and visible to viewers anywhere in the room.

Wide Screen

The screen of the Plasma Display is 71" so wide that your viewing experience is as if you are in a theater.

Multimedia

Connect your plasma display to a PC and you can use it for conferencing, games, and internet browsing. The Picture-in-Picture feature allows you to view your PC and video images simultaneously.

Versatile

The light weight and thin size makes it easy to install your plasma display in a variety of locations where conventional TVs would not fit.

The Plasma Monitor Manufacturing Process: Why minute colored dots may be present on the Plasma Monitor screen

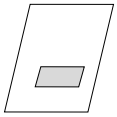
The Plasma Display Panel which is the display device of this product is composed of 0.9 to 2.2 million cells. A few cell defects will normally occur in the Plasma Monitor manufacturing process. Several minute colored dots visible on the screen should be acceptable. This also occurs in other Plasma Monitor manufacturers' products and the tiny dots appearing does not mean that this Plasma Monitor is defective. Thus a few cell defects are not sufficient cause for the Plasma Monitor to be exchanged or returned. Our production technology is designed to minimize cell defects during the manufacture and operation of this product.

Cooling Fan Noise

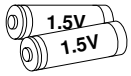
In the same way that a fan is used in a PC computer to keep the CPU (Central Processing Unit) cool, the Plasma Monitor is equipped with cooling fans to cool the Monitor and improve its reliability. Therefore, a certain level of noise could occur while the fans are operating and cooling the Plasma Monitor.
The fan noise doesn't have any negative effect on the Plasma Monitor's efficiency or reliability. The noise from these fans is normal during the operation of this product. We hope you understand that a certain level of noise from the cooling fans is acceptable and is not sufficient cause for the Plasma Monitor to be exchanged or returned.

Accessories

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



Owner's Manual



Batteries

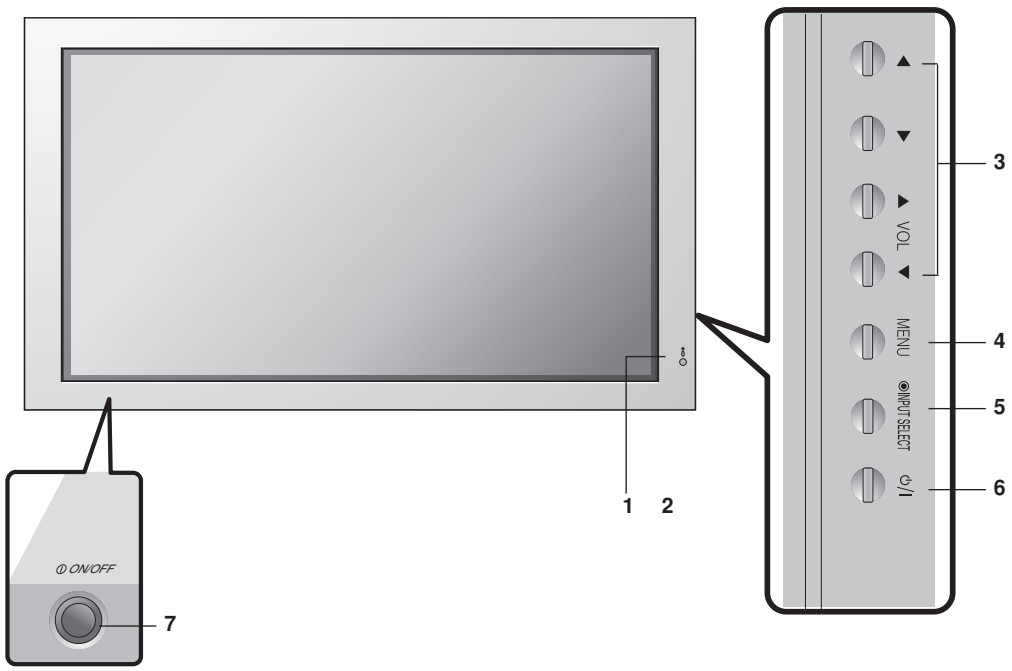
Remote Control

D-sub 15 pin cable

Power Cord

Controls

- This is a simplified representation of front panel.
- This picture shown below may be somewhat different from your monitor.



1. Power Standby Indicator
Illuminates red in standby mode, Illuminates green when the Set is turned on.

2. Remote Control Sensor

3. VOLUME (◄,►) Buttons
▼, ▲ Buttons

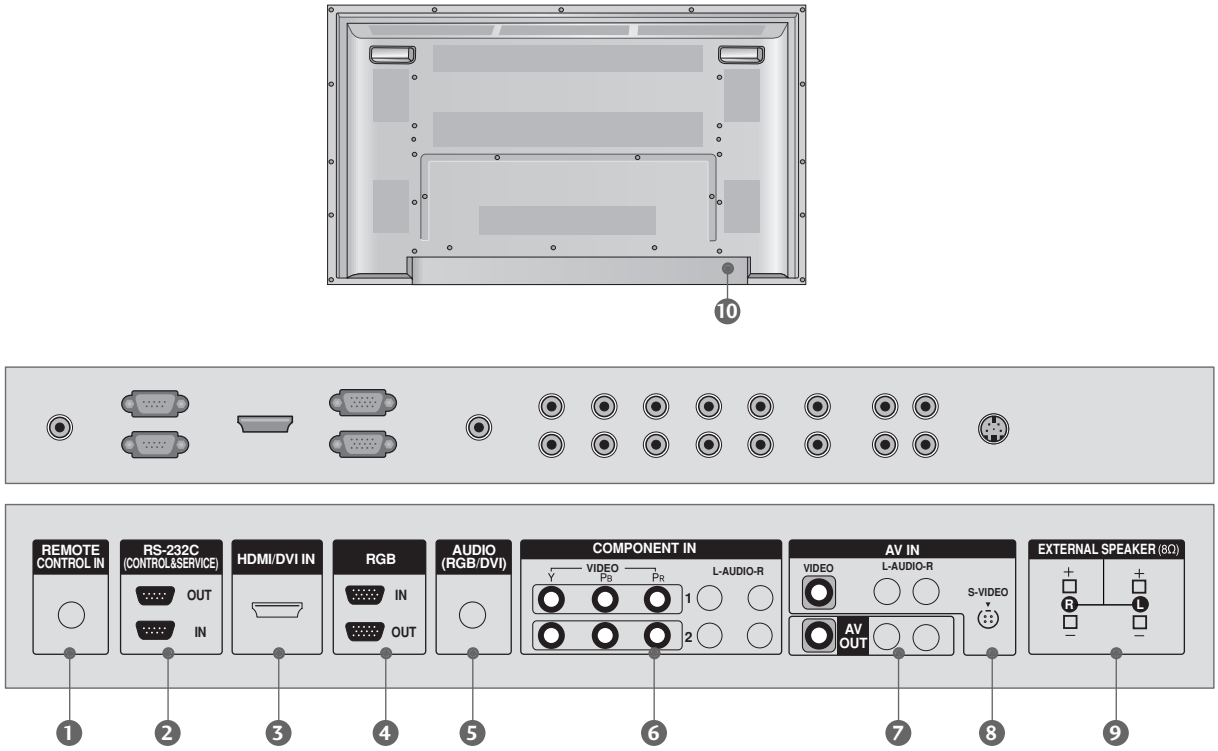
4. MENU Button

5. INPUT SELECT Button

6. Main Power Button
Switches the set on from standby or off to standby.

Connection Options

- Connection panels shown may be somewhat different from your Monitor.



1 REMOTE CONTROL IN

Connect your wired remote control.

2 RS-232C IN (CONTROL & SERVICE) PORT

Connect to the RS-232C port on a PC.

3 HDMI/DVI IN

Connect a HDMI signal to 1(DVI) or 2.

Or DVI(VIDEO) signal to the 1(DVI) port with a DVI to HDMI cable.

4 RGB INPUT

Connect the set output connector from a PC to the appropriate input port.

RGB OUTPUT

You can watch the RGB signal on another set, connect RGB OUTPUT to another set's PC input port.

5 AUDIO (RGB/DVI)

Connect the monitor output from a PC to the appropriate input port.

6 COMPONENT IN

Connect a component video/audio device to these jacks.

7 AV OUTPUT

Connect a second Set or monitor.

8 VIDEO IN

Connect audio/video output from an external device to these jacks.

S-VIDEO

Connect S-Video out from an S-VIDEO device.

9 EXTERNAL SPEAKER (8 ohm output)

Connect to optional external speaker(s).

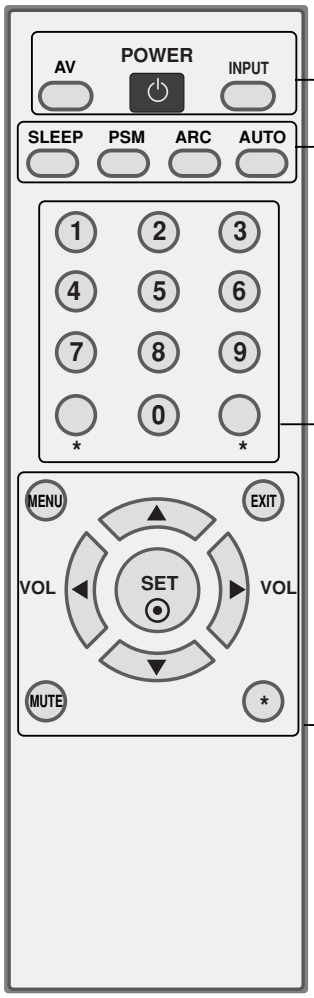
* For further information, refer to 'Speaker & Speaker Stand' manual.

10 POWER CORD SOCKET

This Monitor operates on an AC power. The voltage is indicated on the Specifications page. Never attempt to operate the Monitor on DC power.

Remote Control Key Functions

- When using the remote control, aim it at the remote control sensor on the monitor.
- Under certain conditions such as if the remote IR signal is interrupted, the remote control may not function. Press the key again as necessary.



AV
Selects: AV, Component 1-2, RGB, HDMI/DVI input sources.

POWER
Turns your monitor or any other programmed equipment on or off, depending on mode.

INPUT
Selects: AV, Component 1-2, RGB, HDMI/DVI input sources.

SLEEP
Sets the Sleep Timer.

PSM
Adjusts the factory preset picture according to the room.

ARC
Changes the picture format.

AUTO
Automatic adjustment function

NUMBER buttons
Dosen't work for monitor mode.

*****
Not functional

MENU
Brings up the main menu to the screen.

EXIT
Clears all on-screen displays and returns to monitor viewing from any menu.

THUMBSTICK (Up/Down/Left/Right/SET)
Navigate the on-screen menus and adjust the system settings to your preference.

VOLUME UP/DOWN
Increases/decreases the sound level.

MUTE
Switches the sound on or off.

*****
Not functional

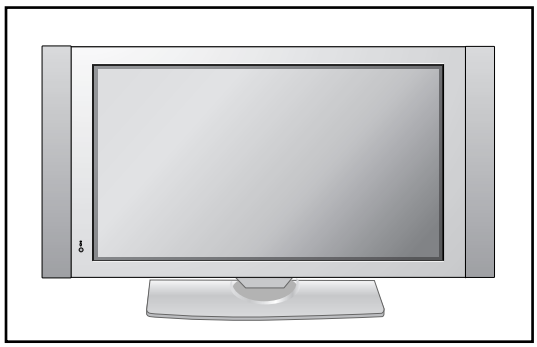
Installing Batteries

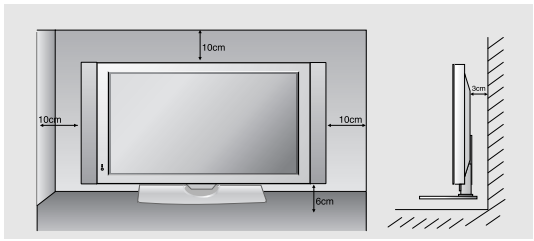
- Open the battery compartment cover on the back side and install the batteries matching correct polarity (+ with +, - with -).
- Install two 1.5V AA batteries. Don't mix old or used batteries with new ones.
  Replace cover.

Installation

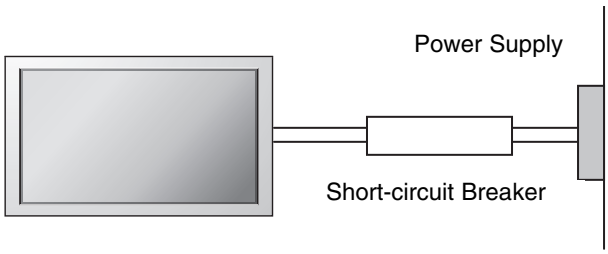
Desktop Pedestal Installation

For proper ventilation, allow a clearance of 4inches on each side from the wall.





- This picture shown below may be somewhat different from your monitor.



GROUNDING

Ensure that you connect the grounding / earth wire to prevent possible electric shock. If grounding methods are not possible, have a qualified electrician install a separate circuit breaker. Do not try to ground the unit by connecting it to telephone wires, lightening rods, or gas pipes.

External Equipment Connections

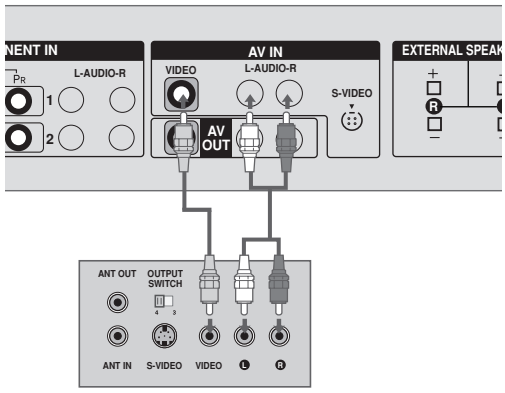
NOTE: Not all cables shown are included with the plasma display.

VCR Setup

- To avoid picture noise (interference), leave an adequate distance between the VCR and monitor.
- Use the ISM Method (on the Special menu) feature to avoid having a fixed image remain on the screen for a long period of time. Typically a frozen still picture from a VCR. If the 4:3 picture format is used; the fixed images on the sides of the screen may remain visible on the screen.

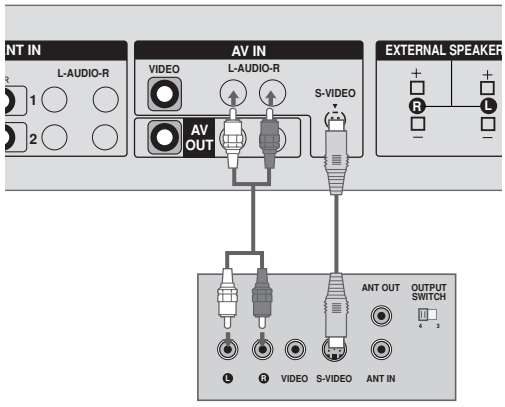
Connection Option

1. Connect the audio and video cables from the VCR's output jacks to the set input jacks, as shown in the figure.
   When connecting the set to VCR, match the jack colors (Video = yellow, Audio Left = white, and Audio Right = red).
   If you connect an S-VIDEO output from VCR to the S-VIDEO input, the picture quality is improved; compared to connecting a regular VCR to the Video input.
2. Insert a video tape into the VCR and press PLAY on the VCR. (Refer to the VCR owner's manual.)
3. Select the input source with using the **INPUT** button on the remote control.



VCR

Do not connect to both Video and S-Video at the same time. In the event that you connect both Video and the S-Video cables, only the S-Video will work.



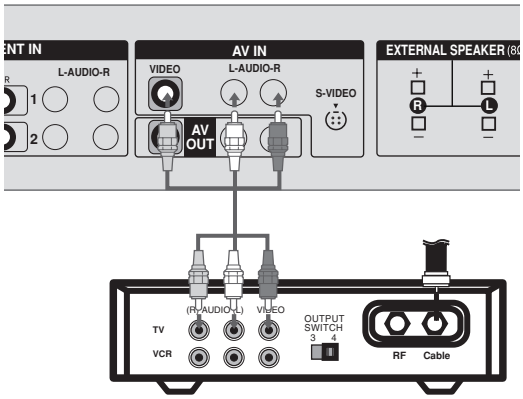
VCR

Cable TV Setup

- After subscribing to a cable monitor service from a local provider and installing a converter, you can watch cable TV programming. The monitor cannot display monitor programming unless a TV tuner device or cable TV converter box is connected to the Monitor.
- For further information regarding cable monitor service, contact your local cable TV service provider(s).

How to connect

1. Connect the audio and video cables from the Cable Box's output jacks to the monitor input jacks, as shown in the figure.
   When connecting the monitor to a Cable Box, match the jack colors (Video = yellow, Audio Left = white, and Audio Right = red).
   Or, connect the Euro scart socket of the Cable box to the Euro scart socket of the set.



Cable Box

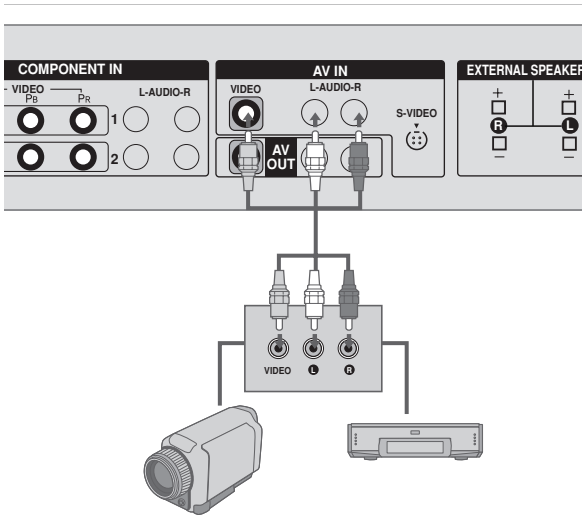
How to use

1. Use the **INPUT** button on the remote control to select **AV**.
2. Select your desired channel with the remote control for cable box.

External A/V Source Setup

How to connect

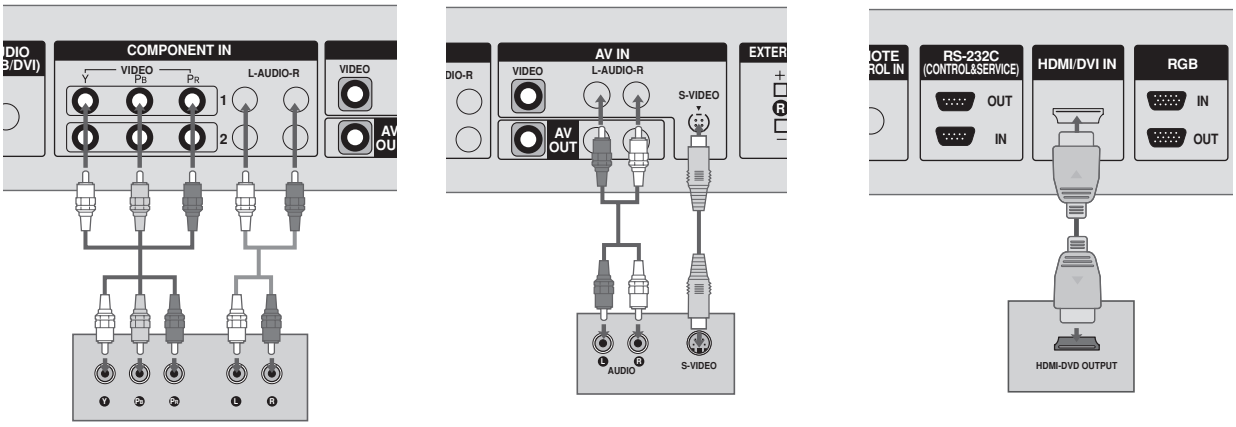
1. Connect the audio and video cables from the external equipment's output jacks to the monitor input jacks, as shown in the figure.
   When connecting the monitor to external equipment, match the jack colors (Video = yellow, Audio Left = white, and Audio Right = red).
   Or, connect the Euro scart socket of the External A/V to the Euro scart socket of the set.



How to use

1. Use the **INPUT** button on the remote control to select **AV**.
2. Operate the corresponding external equipment. Refer to external equipment operating guide.

DVD Setup



DVD

How to connect

1. Connect the DVD video outputs to the COMPONENT (Y, P_B, P_R) or HDMI IN 1(DVI) jacks and connect the DVD audio outputs to the AUDIO INPUT jacks on the monitor, as shown in the figure.
2. If your DVD only has an S-Video output jack, connect this to the S-VIDEO input on the monitor and connect the DVD audio outputs to the AUDIO INPUT jacks on the monitor, as shown in the figure.

How to use

1. Turn on the DVD player, insert a DVD.
2. Use the **INPUT** button on the remote control to select **Component 1, Component 2, or HDMI/DVI**. (If connected to S-VIDEO, select the **AV** external input source.)
3. Refer to the DVD player's manual for operating instructions.

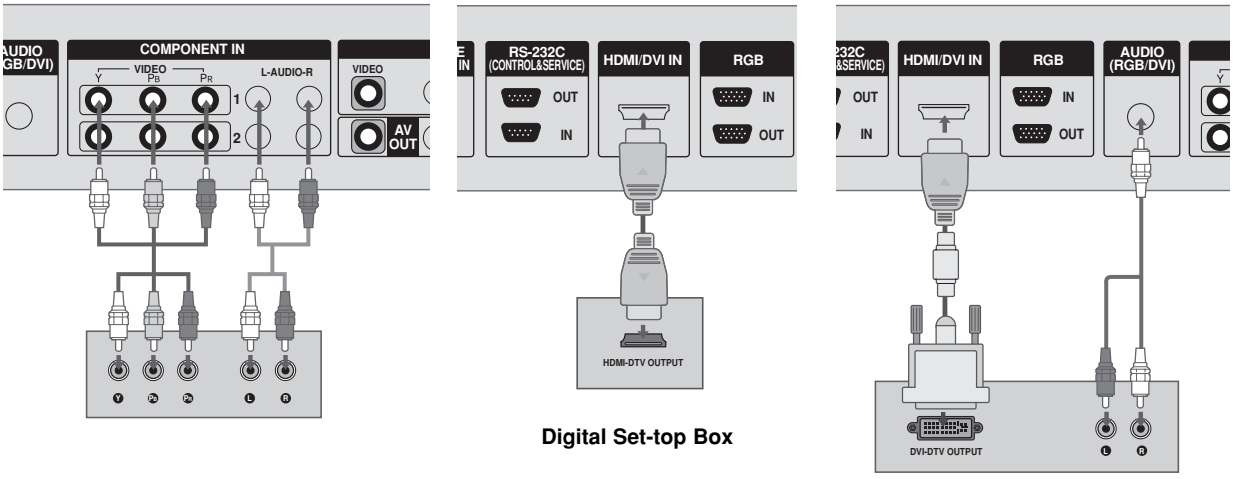
- **Component Input ports**
  To get better picture quality, connect a DVD player to the component input ports as shown.

Component ports of the Monitor	Y	P_B	P_R

Video output ports of DVD player			
	Y	Pb	Pr
	Y	B-Y	R-Y
	Y	Cb	Cr
	Y	P_B	P_R

DTV Setup

- To watch digitally broadcast programs, purchase and connect a digital set-top box.
- This monitor supports HDCP (High-bandwidth Digital Contents Protection) protocol for HDMI/DVI-DTV (480p,720p,1080i, 1080p) mode.



Digital Set-top Box

How to connect

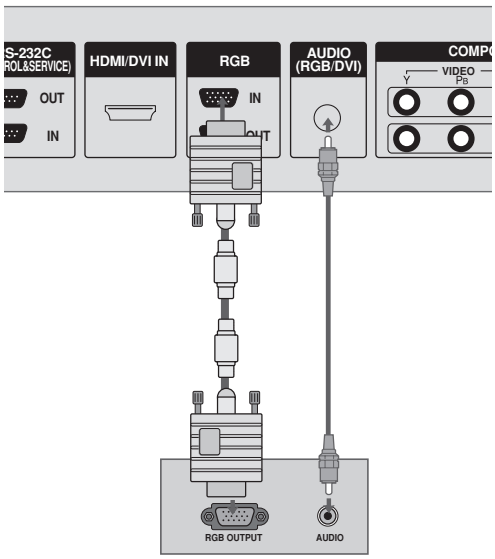
1. Use the monitor's COMPONENT (Y, P_B, P_R) INPUT, RGB or HDMI IN 1(DVI) to HDMI jack for video connections, depending on your set-top box connector. Then, make the corresponding audio connections.

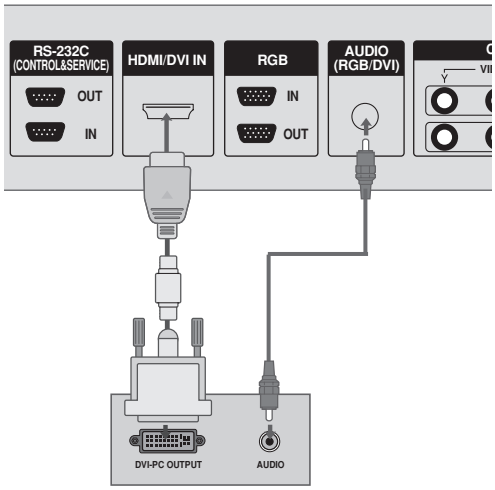
How to use

1. Turn on the digital set-top box. (Refer to the owner's manual for the digital set-top box.)
2. Use **INPUT** on the remote control to select **Component 1**, **Component 2**, **RGB**, or **HDMI/DVI**.

PC Setup

- This monitor provides Plug and Play capability, meaning that the PC adjusts automatically to its settings. The monitor sends configuration information (EDID) to the PC using the Video Electronics Standard Association (VESA) Display Data Channel (DDC) protocol.
- The monitor perceives 640x480, 60Hz as DTV 480p based on the PC graphic card. In this case, change the screen scanning rate for the graphic card.





How to connect

1. To get the best picture quality, adjust the PC graphics card to a 1600x1200, 60Hz.
2. Use the monitor's RGB INPUT or HDMI IN 1(DVI) port for video connections, depending on your PC connector.
   If the graphic card on the PC does not output analog and digital RGB simultaneously, connect only one of either RGB IN or HDMI IN 1(DVI) to display the PC on the monitor.
   If the graphic card on the PC does output analog and digital RGB simultaneously, set the monitor to either RGB or HDMI1/DVI; (the other mode is set to Plug and Play automatically by the monitor.)
3. Then, make the corresponding audio connections. If using a sound card, adjust the PC sound as required.

How to use

1. Turn on the PC and the monitor.
2. Turn on the display by pressing the POWER button on the monitor's remote control.
3. Use the **INPUT** button on the remote control to select **RGB** or **HDMI/DVI**.
4. Check the image on your monitor. There may be noise associated with the resolution, vertical pattern, contrast or brightness in PC mode. If noise is present, change the PC mode to another resolution, change the refresh rate to another rate or adjust the brightness and contrast on the menu until the picture is clear. If the refresh rate of the PC graphic card can not be changed, change the PC graphic card or consult the manufacturer of the PC graphic card.

NOTES: • Avoid keeping a fixed image on the monitor's screen for a long period of time. The fixed image may become permanently imprinted on the screen. Use the Orbiter screen saver when possible.
• The synchronization input form for Horizontal and Vertical frequencies is separate.

Monitor Display Specifications (RGB-PC / HDMI/DVI-PC Mode)

Resolution	Horizontal Frequency(KHz)	Vertical Frequency(Hz)
640x480	31.469	70.08
720x400	31.468	70.08
640x480	31.469	59.94
	37.500	75.00
	43.269	85.00
800x600	37.879	60.31
	46.875	75.00
	53.674	85.06
832x624	49.725	74.55
1024x768	48.363	60.00
	60.023	75.02
	68.68	85.00
1280x720	44.442	60.00
1280x768	47.00	60.00
1360x768	47.72	60.00
1366x768	47.00	60.00
1280x1024	63.981	60.00
	79.98	75.00
1600x1200	75.00	60.00

Operation

Turning on the Monitor

Turning on the Monitor just after installation

1. Connect power cord correctly. At this moment, the Monitor is switched to standby mode.
2. Press the **INPUT** or ⏻ button on the Monitor or press the **POWER**, **INPUT** button on the remote control and then the Monitor will switch on.

Menu Language Selection

- The menus can be shown on the screen in the selected language. First select your language.

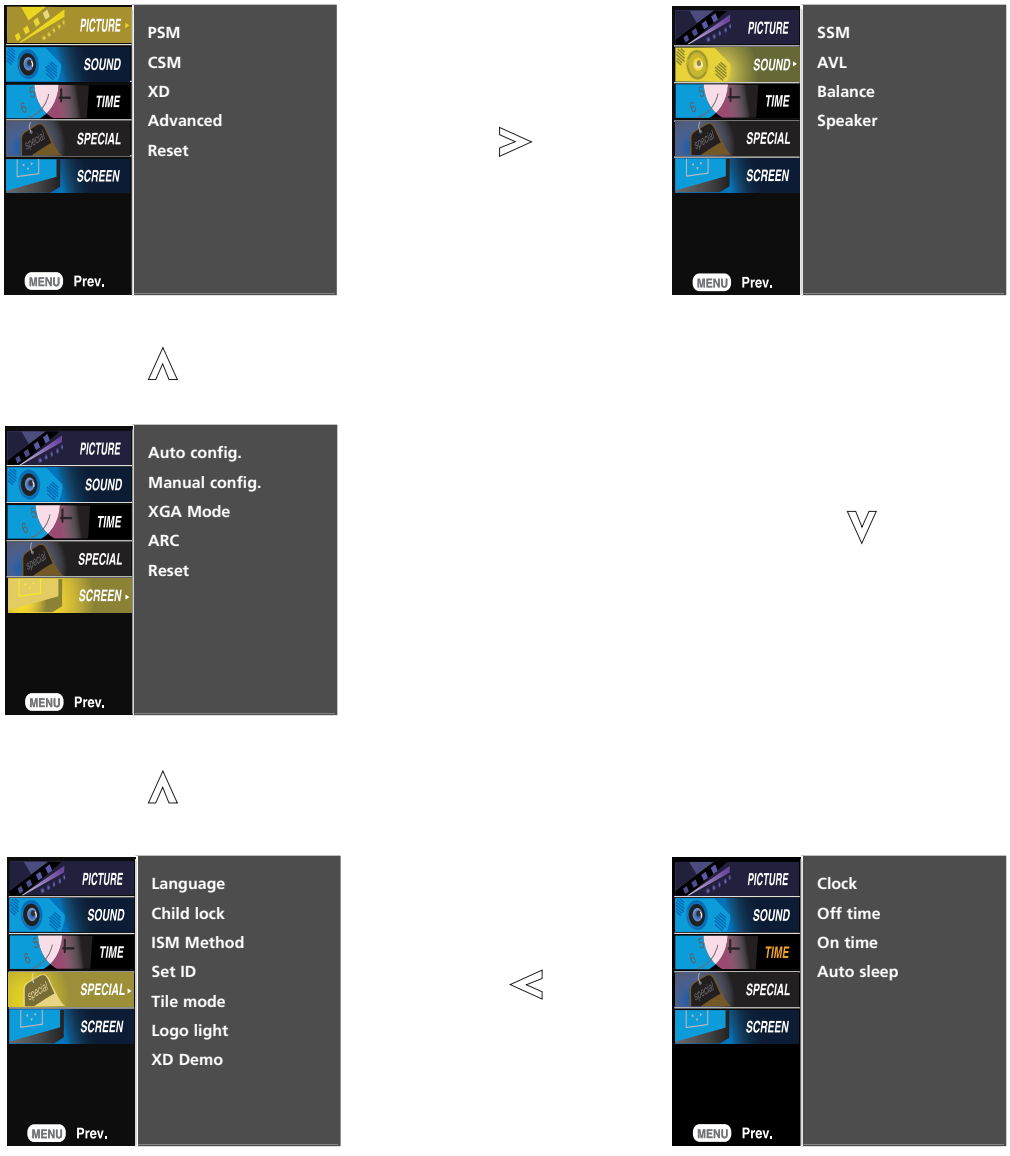
1. Press the **MENU** button and then use ▲ / ▼ button to select the **SPECIAL** menu.
2. Press the ▶ button and then use ▲ / ▼ button to select **Language**.
3. Press the ▶ button and then use ▲ / ▼ button to select your desired language.
   From this point on, the on-screen menus will be shown in the language of your choice.
4. Press the **ENTER** button to save.

• Press the **MENU** button to return to the previous menu.

On Screen Menus Selection

Your TV's OSD (On Screen Display) may differ slightly from what is shown in this manual.

1. Press the **MENU** button and then use ▲ / ▼ button to select the each menu.
2. Press the ► button and then use ▲ / ▼ / ◄ / ► button to display the available menus.

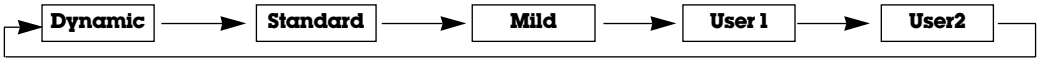


Picture Menu Options

Picture Status Memory (PSM)

- PSM adjusts the Monitor for the best picture appearance.
- When adjusting Picture menu options (contrast, brightness, color, sharpness, and tint) manually, PSM automatically changes to **User**.

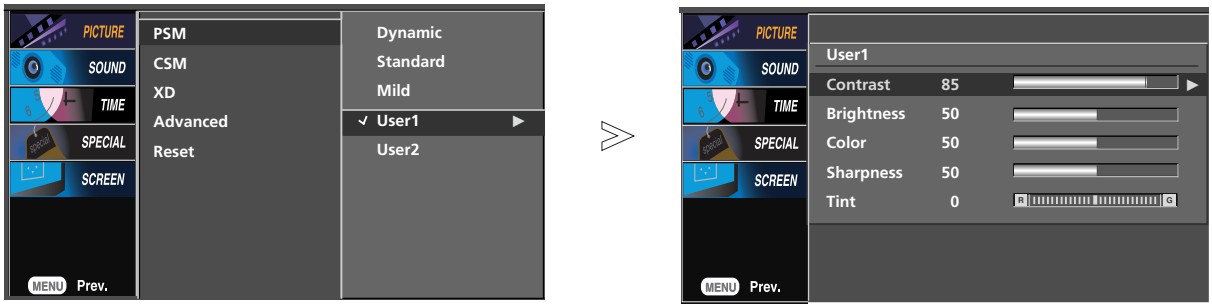
1. Press the **PSM** button repeatedly to select the picture appearance setup option as shown below.



- You can also select **Dynamic**, **Standard**, **Mild**, **User 1** or **User 2** in the **PICTURE** menu.
- **Dynamic**, **Standard**, and **Mild** settings are preset for optimum picture quality at the factory and cannot be changed.

Manual Picture Control (PSM - **User** option)

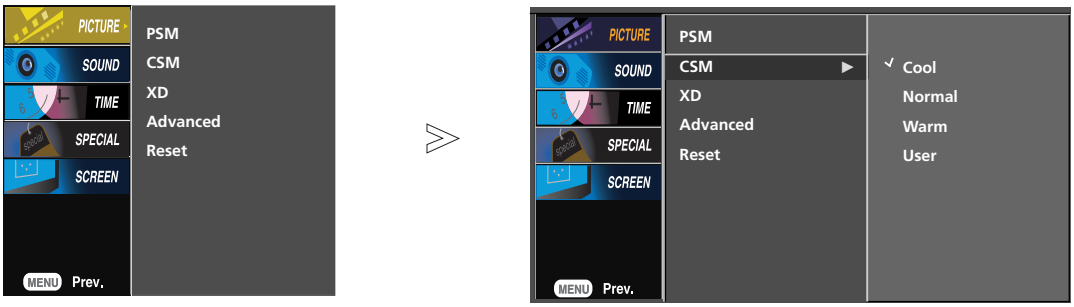
- You can adjust picture contrast, brightness, colour, sharpness, and tint to the levels you prefer.



1. Press the **MENU** button and then use ▲ / ▼ button to select the **PICTURE** menu.
2. Press the ► button and then use ▲ / ▼ button to select the desired picture option (**Contrast**, **Brightness**, **Color**, **Sharpness** or **Tint**).
3. Press the ► button and then use ◄ / ► button to make appropriate adjustments.
4. Press the **ENTER** button to save the new settings.

Color Status Memory (CSM)

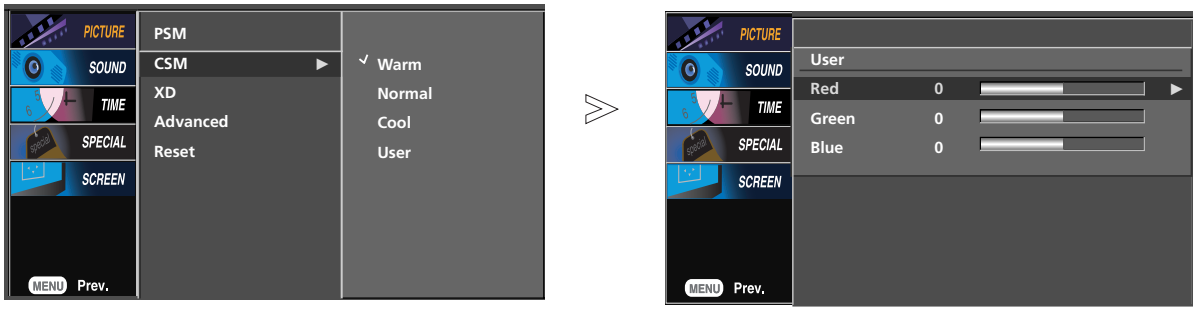
- To initialize values (reset to default settings), select the **Cool** option.



1. Press the **MENU** button and then use ▲ / ▼ button to select the **PICTURE** menu.
2. Press the ► button and then use ▲ / ▼ button to select **CSM**.
3. Press the ► button and then use ▲ / ▼ button to select either **Cool**, **Normal**, **Warm**, or **User**.
4. Press the **ENTER** button to save the new settings.

Manual Color Temperature control (CSM - **User** option)

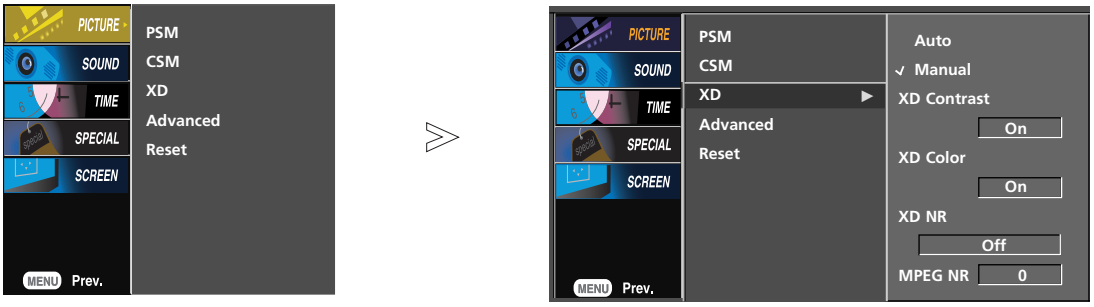
- You can adjust red, green, or blue to any color temperature you prefer.



1. Press the **MENU** button and then use ▲ / ▼ button to select the **PICTURE** menu.
2. Press the ► button and then use ▲ / ▼ button to select **CSM**.
3. Press the ► button and then use ▲ / ▼ button to select **User**.
4. Press the ► button and then use ▲ / ▼ button to select **Red**, **Green** or **Blue**.
5. Use the ◄ / ► button to make appropriate adjustments.
   • The adjustment range of **Red**, **Green** and **Blue** is -10 ~ +10.
6. Press the **ENTER** button to save the new settings.

XD (Picture Improvement Technology)

- XD is LG Electronic's unique picture improving technology to display a real HD source through an advanced digital signal processing algorithm.
- When selecting PSM options (**Dynamic**, **Standard**, **Mild**), XD is automatically changed to Auto.
- When selecting PSM options (**User 1** or **User 2**), you can choose the Auto / Manual.
- When selecting the Manual, you can adjust the XD Contrast, XD color and XD Noise.



1. Press the **MENU** button and then use ▲ / ▼ button to select the **PICTURE** menu.
2. Press the ► button and then use ▲/ ▼ button to select **XD**.
3. Press the ► button and then use ▲ / ▼ button to select either **Auto** or **Manual**.

Selecting the Manual

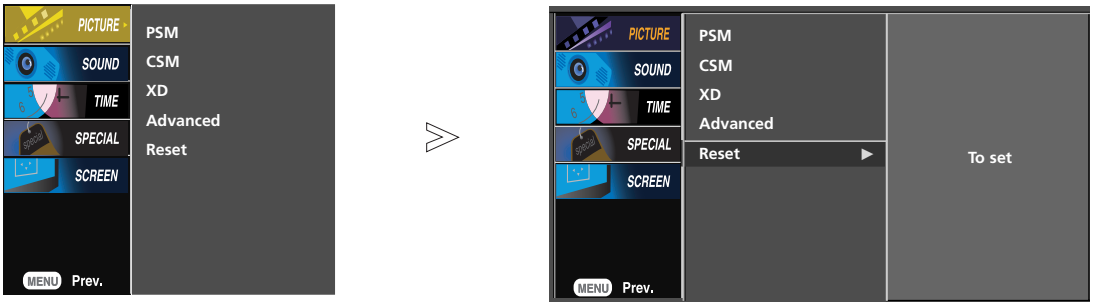
a. Press the ► button and then use ◄ / ► button to select **XD Contrast**, **XD Color** or **XD Noise**.
- **XD Contrast:** Optimizing the contrast automatically according to the brightness of the reflection.
- **XD Color:** Adjusting the colors of the reflection automatically to reproduce as closely as possible to the natural colors.
- **XD NR:** Removing the noise up to the point where it does not damage the original picture.
- **MPEG NR:** You can select it to reduce the picture noise which may appear on the screen while watching the AV.

b. Use the ▲ / ▼ button to select **On** or **Off**.

4. Press the **ENTER** button to save the new settings.

Picture Reset

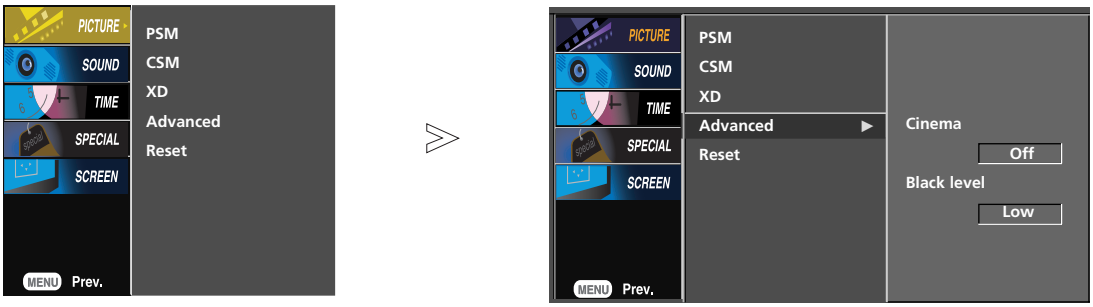
- Use to quickly reset all the Video menu options to their original factory preset values.



1. Press the **MENU** button and then use ▲ / ▼ button to select the **PICTURE** menu.
2. Press the ► button and then use ▲ / ▼ button to select **Reset**.
3. Press the ► button to reset the Picture menu options to original values.

Advanced - Cinema 3:2 Pull down Mode

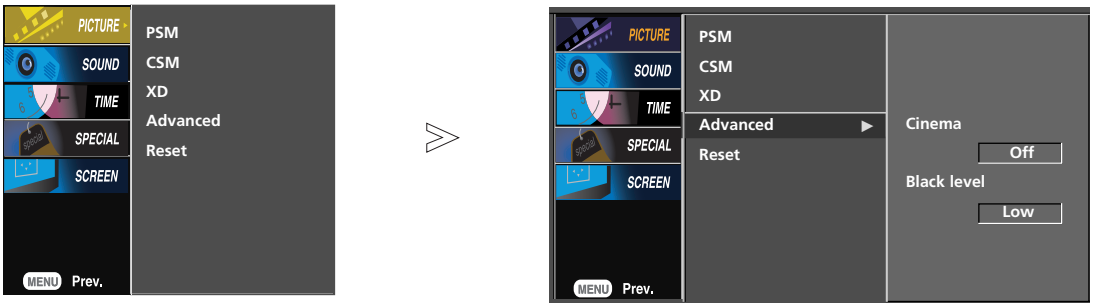
- Set up the TV for the best picture appearance for viewing movies.
- When you operate Cinema 3:2 Mode (3:2 Pull-Down Mode or Cinema Correction Mode), the TV will adjust 24 fps video from movies to 30 fps video for display.
- This feature operates only in Analog, AV, and Component 480i mode.



1. Press the **MENU** button and then use ▲ / ▼ button to select the **PICTURE** menu.
2. Press the ► button and then use ▲ / ▼ button to select **Advanced**.
3. Press the ► button and then use ▲ / ▼ button to select **Cinema**.
4. Press the ► button and then use ▲ / ▼ button to select **On** or **Off**.
5. Press the **ENTER** button to save the new settings.

Advanced - Black (Darkness) Level

- Adjusting the contrast and the brightness of the screen using the black level of the screen.
- This feature operates only in AV or HDMI mode.

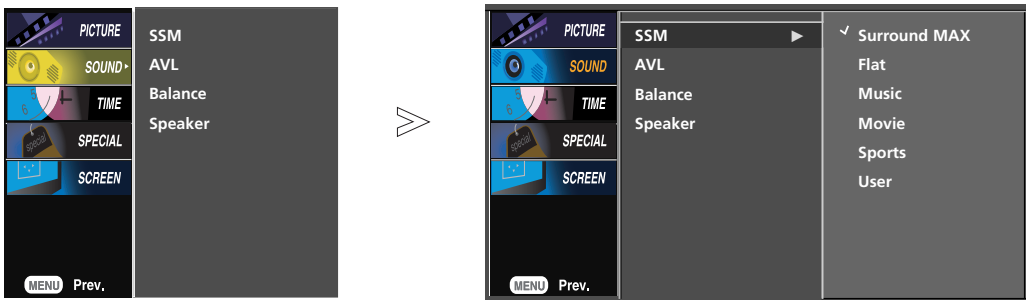


1. Press the **MENU** button and then use ▲ / ▼ button to select the **PICTURE** menu.
2. Press the ► button and then use ▲ / ▼ button to select **Advanced**.
3. Press the ► button and then use ▲ / ▼ button to select **Black level**.
4. Press the ► button and then use ▲ / ▼ button to select **Low** or **High**.
   - **Low:** The screen gets darker.
   - **High:** The screen gets brighter.
5. Press the **ENTER** button to save the new settings.

Sound Menu Options

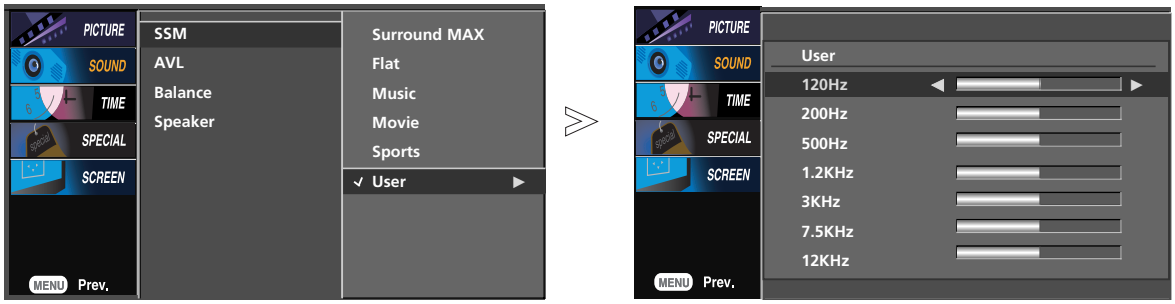
Sound Status Memory (SSM)

- SSM lets you enjoy the best sound without any special adjustment because the Monitor has the appropriate sound options based on the program content.
- When adjusting sound options (treble, bass) manually, DASP automatically changes to **Off**.



1. Press the **MENU** button and then use ▲ / ▼ button to select the **SOUND** menu.
2. Press the ► button and then use ▲ / ▼ button to select **SSM**.
3. Press the ► button and then use ▲ / ▼ button to select **Surround MAX**, **Flat**, **Music**, **Movie**, **Sports**, or **User**.
4. Press the **ENTER** button to save the new settings.

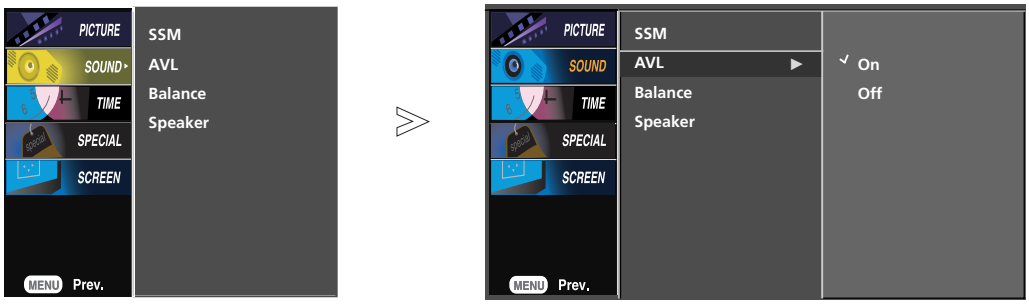
Manual Sound Control (SSM - **User** option)



1. Press the **MENU** button and then use ▲ / ▼ button to select the **SOUND** menu.
2. Press the ► button and then use ▲ / ▼ button to select the desired sound option (**Treble** or **Bass**).
3. Press the ► button and then use ◄ / ► button to make appropriate adjustments.
4. Press the **ENTER** button to save the new settings.

AVL (Auto Volume Leveler)

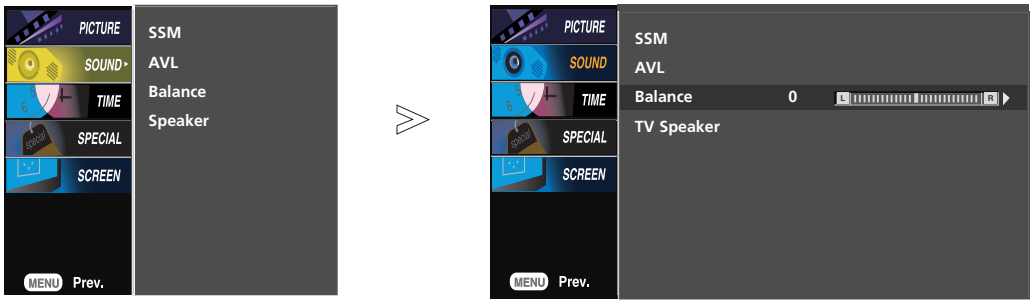
- This feature maintains an equal volume level; even if you change channels.



1. Press the **MENU** button and then use ▲ / ▼ button to select the **SOUND** menu.
2. Press the ► button and then use ▲ / ▼ button to select **AVL**.
3. Press the ► button and then use ▲ / ▼ button to select **On** or **Off**.
4. Press the **ENTER** button to save the new settings.

Balance

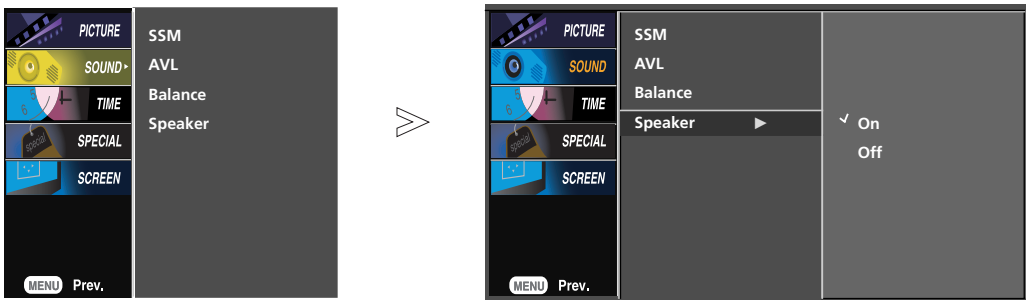
- Adjust the left/right sound of speaker to suit your taste and room situations.



1. Press the **MENU** button and then use ▲ / ▼ button to select the **SOUND** menu.
2. Press the ► button and then use ▲ / ▼ button to select **Balance**.
3. Press the ► button and then use ◄ / ► button to make appropriate adjustments.
4. Press the **ENTER** button to save the new settings.

TV Speakers On/Off Setup

- Turn the TV speakers off if using external audio equipment.

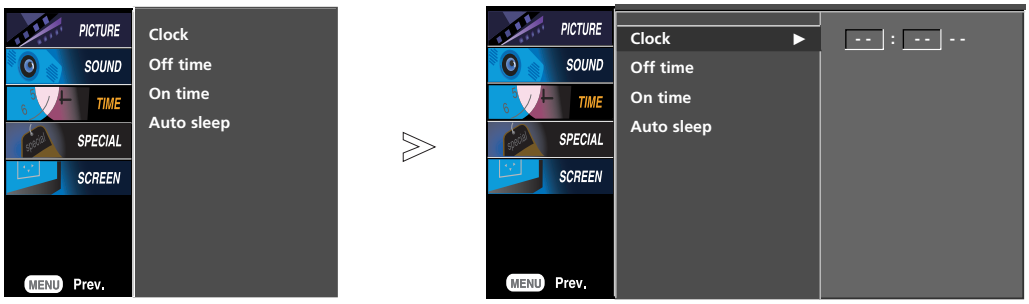


1. Press the **MENU** button and then use ▲ / ▼ button to select the **SOUND** menu.
2. Press the ► button and then use ▲ / ▼ button to select **Speaker**.
3. Press the ► button and then use ▲ / ▼ button to select **On** or **Off**.
4. Press the **ENTER** button to save the new settings.

Timer Menu Options

Clock Setup

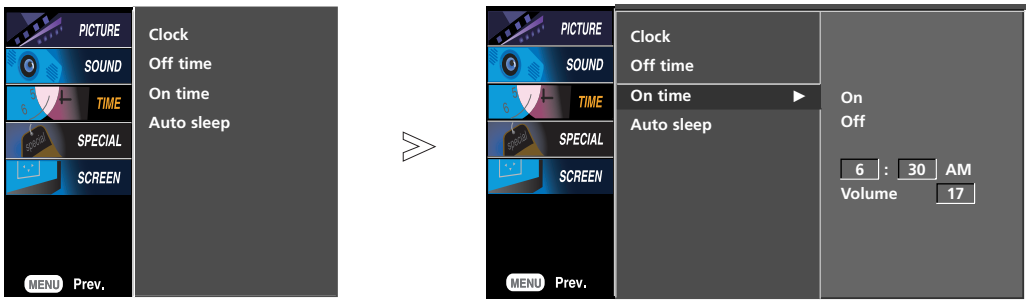
- If current time setting is wrong, correct the clock setting.



1. Press the **MENU** button and then use ▲ / ▼ button to select the **TIME** menu.
2. Press the ► button and then use ▲ / ▼ button to select **Clock**.
3. Press the ► button and then use ▲ / ▼ button to set the hour.
4. Press the ► button and then use ▲ / ▼ button to set the minutes.
5. Press the **ENTER** button to save the new settings.

On/Off Timer Setup

- Timer function operates only if current time has already been set.
- Off-Timer function overrides On-Timer function if they are set to the same time.
- If you do not press any button within 2 hours after the monitor turns on with the On Timer function, the monitor will automatically revert to standby mode.

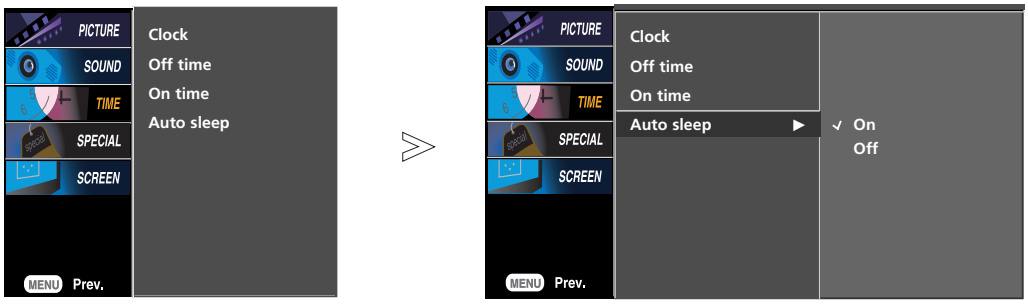


1. Press the **MENU** button and then use ▲ / ▼ button to select the **TIME** menu.
2. Press the ► button and then use ▲ / ▼ button to select **Off time** or **On time**.
3. Press the ► button and then use ▲ / ▼ button to select **On**.
   • To cancel **On/Off timer** function, select **Off**.
4. Press the ► button and then use ▲ / ▼ button to set the hour.
5. Press the ► button and then use ▲ / ▼ button to set the minutes.

   For only On timer function; Press the ► button and then use ▲ / ▼ button to set volume level.
6. Press the **ENTER** button to save the new settings.

Auto Sleep

- If there is no input signal, the Monitor turns off automatically after 10 minutes.



1. Press the **MENU** button and then use ▲ / ▼ button to select the **TIME** menu.
2. Press the ▶ button and then use ▲ / ▼ button to select **Auto sleep**.
3. Press the ▶ button and then use ▲ / ▼ button to select **On** or **Off**.
4. Press the **ENTER** button to save the new settings.

Sleep Timer

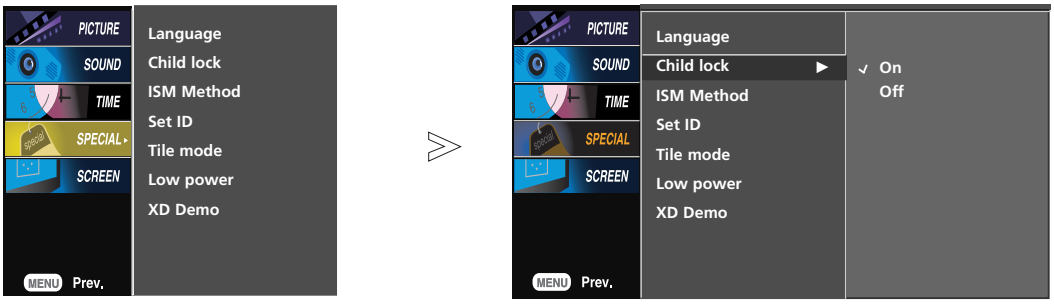
- The sleep timer turns the Monitor off at a preset time. Note that this setting is cleared when the monitor is turned off.

1. Press the **SLEEP** button repeatedly to select the number of minutes. First the --- **Min** option appears on the screen, followed by the following sleep timer options: 10, 20, 30, 60, 90, 120, 180, and 240 minutes.
2. When the number of minutes you want is displayed on the screen, press the **ENTER** button. The timer begins to count down from the number of minutes selected.
3. To check the remaining minutes before the monitor turns off, press the **SLEEP** or **ENTER** button once.
4. To cancel the Sleep Timer, press the **SLEEP** button repeatedly until -- **Min** appears.

Special Menu Options

Child Lock

- The monitor can be set up so that it can only be used with the remote control.
- This feature can be used to prevent unauthorized viewing by disabling the front panel controls.
- This Monitor is programmed to remember which option it was last set to even if you turn the monitor off.

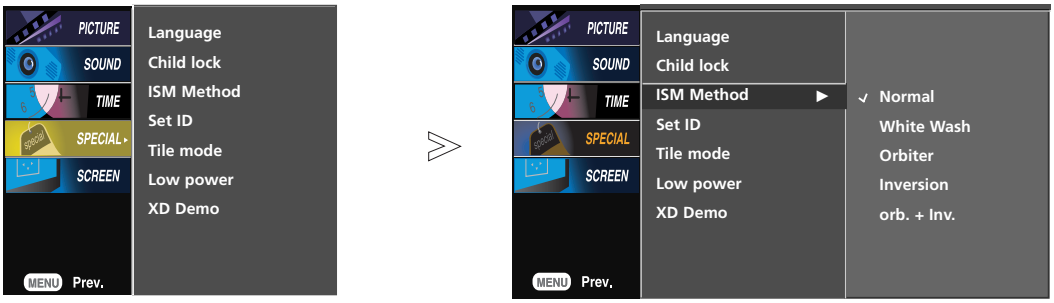


1. Press the **MENU** button and then use ▲ / ▼ button to select the **SPECIAL** menu.
2. Press the ▶ button and then use ▲ / ▼ button to select **Child lock**.
3. Press the ▶ button and then use ▲ / ▼ button to select **On** or **Off**.

   • When you select **On**, the display '⚠ **Key lock**' appears on the screen if any button on the front panel is pressed.
4. Press the **ENTER** button to save the new settings.

Image Sticking Minimization (ISM) Method

- A frozen still picture from a PC/video game displayed on the screen for prolonged periods will result in an ghost image remaining; even when you change the image. Avoid allowing a fixed or still image to remain on the Monitor's screen for a long period of time.

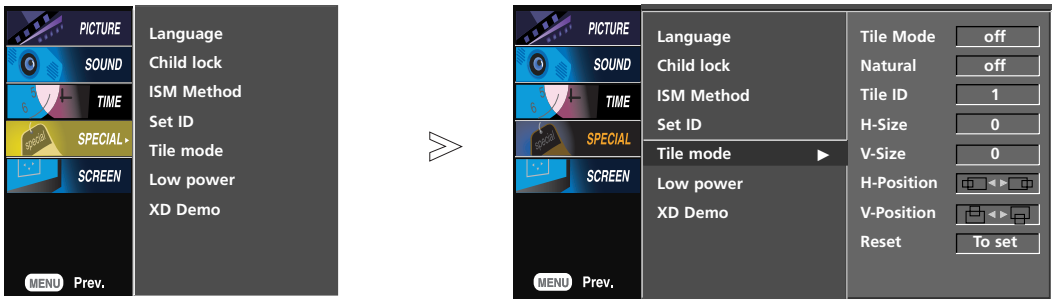


1. Press the **MENU** button and then use ▲ / ▼ button to select the **SPECIAL** menu.
2. Press the ▶ button and then use ▲ / ▼ button to select **ISM Method**.
3. Press the ▶ button and then use ▲ / ▼ button to select either **Normal**, **White wash**, **Orbiter**, or **Inversion**.

   • **Normal**
   If image sticking is never a problem, ISM is not necessary - set this to Normal.
   • **White wash**
   White Wash removes permanent images from the screen. Note: An excessive permanent image may be impossible to clear completely using White Wash. To return to normal viewing, press the any button.
   • **Orbiter**
   Orbiter may help prevent ghost images. However, it is best not to allow any fixed image to remain on the screen. To avoid a permanent image on the screen, the image will move every 2 minutes.
   • **Inversion**
   Inversion will automatically invert the Plasma Monitor color every 30 minutes.
   • **Orb. + Inv.**
   This function Inverts the panel color of the screen and may help prevent ghost image. The panel color is automatically inverted every 30 minutes and the screen will move every 2 minutes.
4. Press the **ENTER** button to save the new settings.

Tile Mode

- Must be displayed with various other products.
- Must be in a function that can be connected to RS-232C or RGB Out.
- It is used to enlarge the screen and also used with several products to view screen.

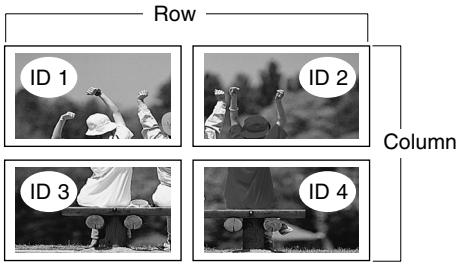


Tile mode and choose Tile alignment and set the ID of the current product to set location.
Only after pressing the SET button the adjustments made to the settings will be saved.

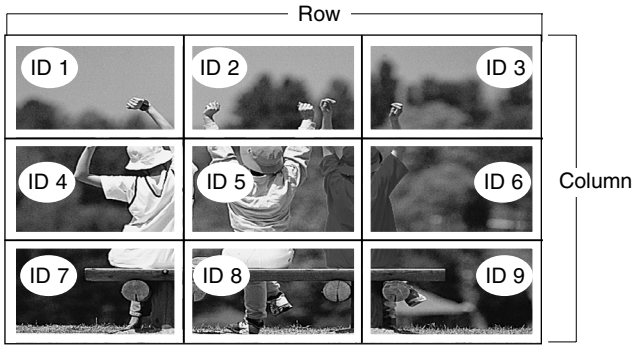
- **Tile ID**
  Select the location of the Tile by setting an ID.
- **H Size**
  Adjust the horizontal size of the screen taking into account the size of the bezel.
- **V Size**
  Adjust the vertical size of the screen taking into account the size of the bezel.
- **H-Position**
  Moving the screen position horizontally.
- **V-Position**
  Moving the screen position vertically.
- **Reset**
  Function to initialize and release Tile.
  All Tile setting are released when selecting Tile recall and the screen returns to Full screen.

- Tile mode : row x column (r = 1, 2, 3, 4 c = 1, 2, 3, 4)
- 4 x 4 available.
- Configuration of an integration screen is also available as well as configuration of One by one Display.

- Tile mode (product 1 ~ 4) : r(2) x c(2)

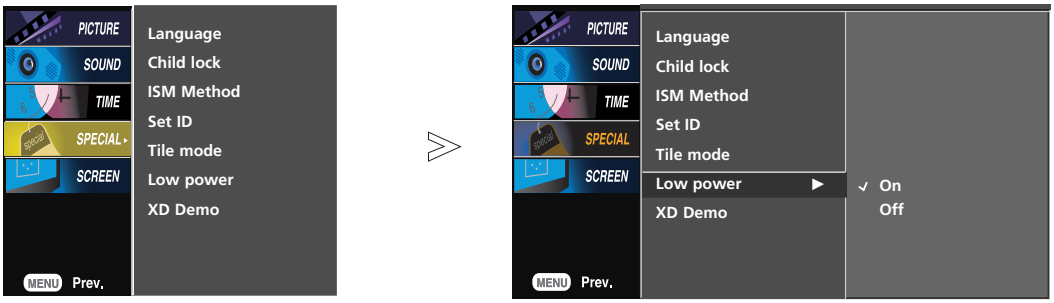


- Tile mode (product 1 ~16) : r(4) x c(4)



Low Power

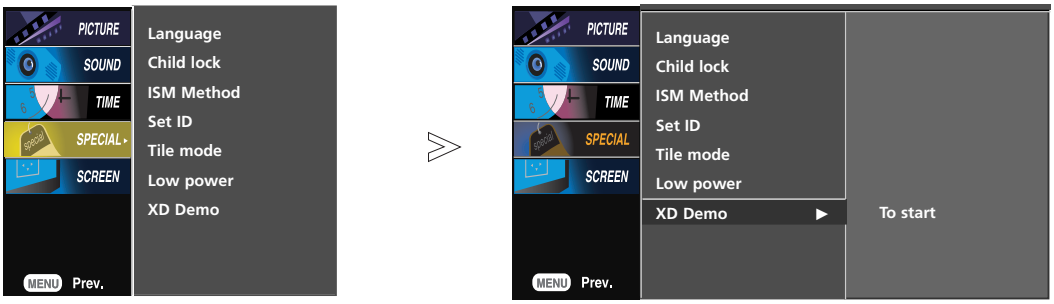
- Low power reduces the plasma display's power consumption.



1. Press the **MENU** button and then use ▲ / ▼ button to select the **SPECIAL** menu.
2. Press the ► button and then use ▲ / ▼ button to select **Low power**.
3. Press the ► button and then use ▲ / ▼ button to select **On** or **Off**.
   • When you select **On**, the screen darkens.
4. Press the **ENTER** button to save the new settings.

XD Demo

- Use it to see the difference between XD Demo on and XD Demo off.
- XD demo is not available for RGB (PC) and HDMI (PC) sources.

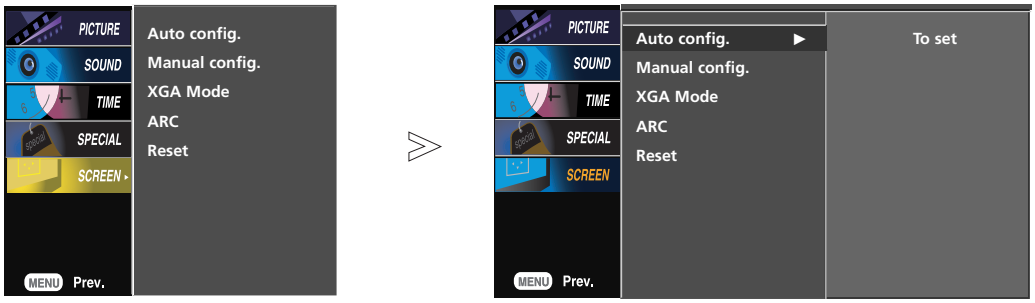


1. Press the **MENU** button and then use ▲ / ▼ button to select the **SPECIAL** menu.
2. Press the ► button and then use ▲ / ▼ button to select **XD Demo**.
3. Press the ► button to begin **XD Demo**.
4. Press the **EXIT** button to stop **XD Demo**.

Screen Menu Options

Auto Adjustment

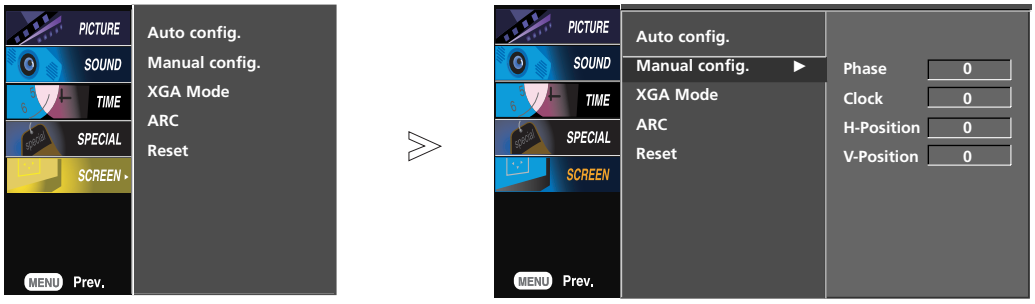
- RGB (PC) mode only
- Automatically adjusts picture position and minimizes image shaking.
- After adjustment, if the image is still not correct, your set is functioning properly but needs further adjustment.
- The **Auto config.** and **Manual config.** are not active in HDMI mode.



1. Press the **MENU** button and then use ▲ / ▼ button to select the **SCREEN** menu.
2. Press the ▶ button and then use ▲ / ▼ button to select **Auto config.**.
3. Press the ▶ button to run Auto configure.
   - When **Auto config.** has finished, **OK** will be seen on the screen.
   - If the position of the image is still not correct, try Auto adjustment again.
4. In RGB (PC) mode, if the image needs to be adjusted more after using **Auto config.**, you can make further adjustments with the **Manual config.** option.

Manual Configure (RGB-PC mode only)

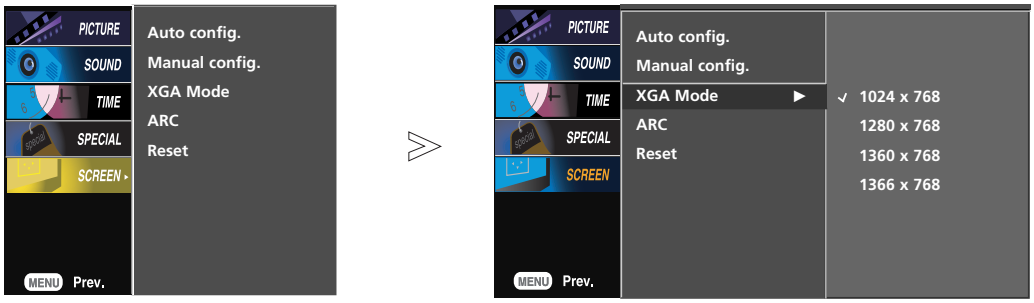
- If the image still isn't clear after auto adjustment is completed and especially if characters are still jittery, adjust the picture **Phase** manually.
- To correct the screen size, adjust **Clock**.



1. Press the **MENU** button and then use ▲ / ▼ button to select the **SCREEN** menu.
2. Press the ▶ button and then use ▲ / ▼ button to select **Manual config.**.
3. Press the ▶ button and then use ▲ / ▼ button to to select **Phase**, **Clock**, **H-Position** or **V-Position**.
4. Use the ◀ / ▶ button to make appropriate adjustments.
   - The **Phase** adjustment range is 0 ~ 63.
   - The **Clock** adjustment range is -128 ~ +128.
5. Press the **ENTER** button to save.

Selecting XGA mode

- To see a normal picture, match the resolution of XGA mode (1024x768, 1280x768, 1360x768, 1366x768) with the selection for XGA mode in the **SCREEN** menu.



1. Press the **MENU** button and then use ▲ / ▼ button to select the **SCREEN** menu.
2. Press the ▶ button and then use ▲ / ▼ button to select **XGA Mode**.
3. Press the ▶ button and then use ▲ / ▼ button to select the desired XGA resolution.
4. Press the **ENTER** button to save.

Picture Size (Aspect Ratio) Control

- This feature allows an analog picture with a 4:3 aspect ratio is displayed on your TV. When you receive an analog picture with a 4:3 aspect ratio on your 16:9 TV, you need to specify how the picture is to be displayed.
- If a fixed image is displayed on the screen for a long time, the image may become imprinted on the screen This phenomenon is common to all manufactures and in consequence the manufactures warranty does not cover the product bearing this phenomenon.

1. Press the **ARC** button repeatedly to select the desired picture format. You can also select picture format in the **SCREEN** menu.

• 4:3
- Choose **4:3** when you want to view a picture with an original 4:3 aspect ratio, with black bars appearing at both the left and right sides.

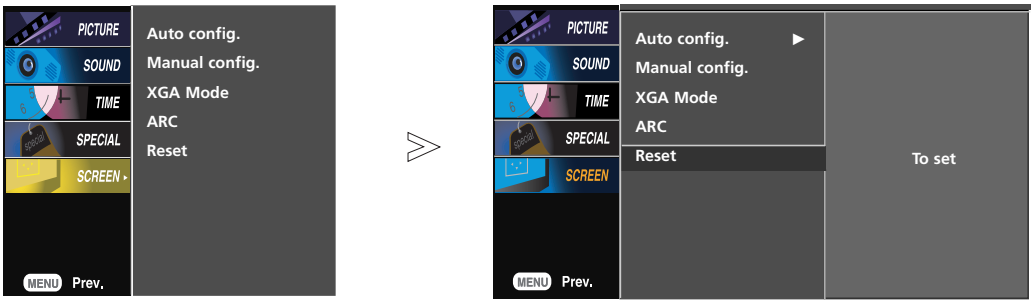
• 16:9
- Choose **16:9** when you want to adjust the picture horizontally, in a linear proportion to fill the entire screen.

• Zoom 1
- Choose **Zoom 1** when you want to view the picture without any alteration. However, the top and bottom portions of the picture will be cropped.

• Zoom 1
- Choose **Zoom 2** when you want the picture to be altered, both vertically extended and cropped. The picture taking a halfway trade off between alteration and screen coverage.

Initializing (Reset to original factory value)

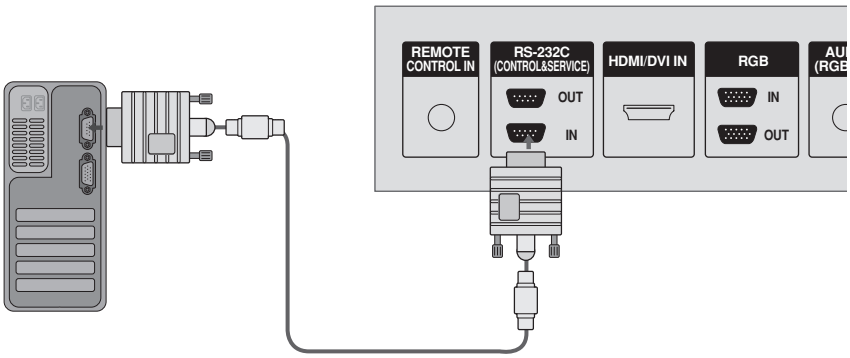
- Use the Reset option to initialize the adjusted settings.



1. Press the **MENU** button and then use ▲ / ▼ button to select the **SCREEN** menu.
2. Press the ▶ button and then use ▲ / ▼ button to select **Reset**.
3. Press the ▶ button.

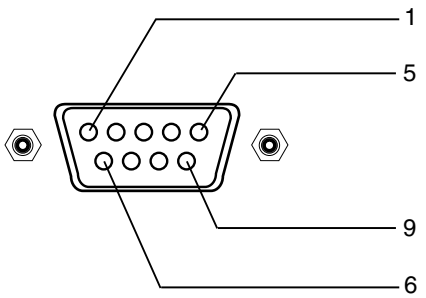
External Control Device Setup

- Connect the RS-232C input jack to an external control device (such as a computer or an A/V control system) and control the Monitor's functions externally.
- Connect the serial port of the control device to the RS-232C jack on the Monitor back panel.
- RS-232C connection cables are not supplied with the Monitor.



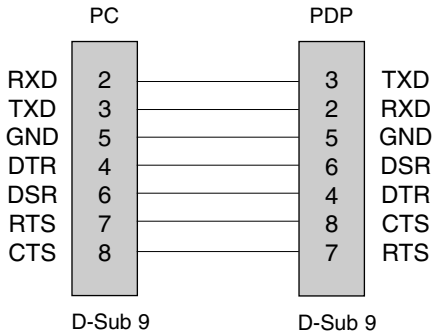
Type of Connector: D-Sub 9-pin Male

No.	Pin Name
1	No Connection
2	RXD (Receive data)
3	TXD (Transmit data)
4	DTR (DTE side ready)
5	GND
6	DSR (DCE side ready)
7	RTS (Ready to send)
8	CTS (Clear to send)
9	No Connection

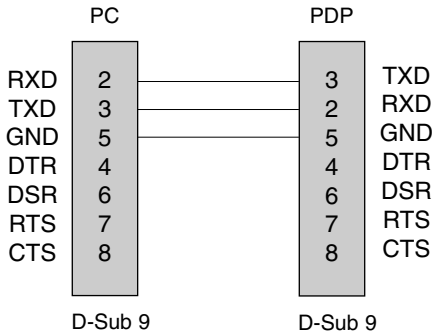


RS-232C Configurations

7-Wire Configuration
(Standard RS-232C cable)

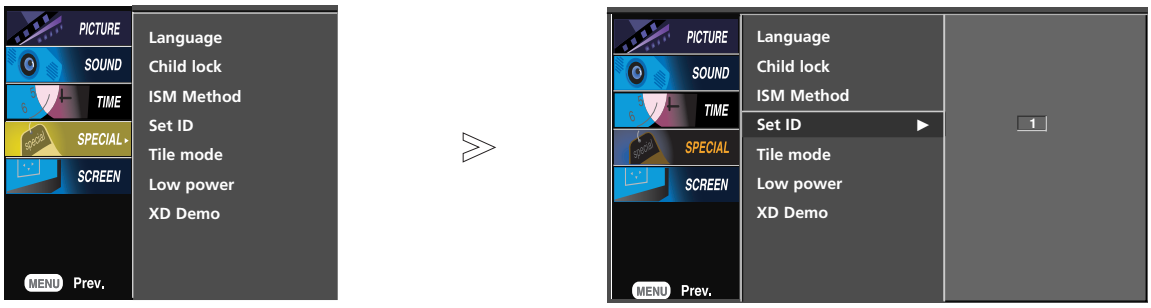


3- Wire Configuration
(Not standard)



Set ID

- Use this function to specify a monitor ID number.
- Refer to 'Real Data Mapping 1'. See page 38.



1. Press the **MENU** button and then use the ▲ / ▼ button to select the **SPECIAL** menu.
2. Press the ▶ button and then use ▲ / ▼ button to select **Set ID**.
3. Press the ▶ button and then use ◀ / ▶ button to adjust **Set ID** to choose the desired monitor ID number.
   - The adjustment range of **Set ID** is 1 ~ 99.

Communication Parameters

- Baud rate : 9600 bps (UART)
- Data length : 8 bits
- Parity : None
- Stop bit : 1 bit
- Communication code : ASCII code

Command Reference List

	COMMAND 1	COMMAND 2	DATA (Hexadecimal)
01. Power	k	a	0 ~ 1
02. Input Select	k	b	1 ~ 9
03. Aspect Ratio	k	c	0 ~ 3
04. Screen Mute	k	d	0 ~ 1
05. Volume Mute	k	e	0 ~ 1
06. Volume Control	k	f	0 ~ 64
07. Contrast	k	g	0 ~ 64
08. Brightness	k	h	0 ~ 64
09. Color	k	i	0 ~ 64
10. Tint	k	j	0 ~ 64
11. Sharpness	k	k	0 ~ 64
12. OSD Select	k	l	0 ~ 1
13. Remote Control Lock Mode	k	m	0 ~ 1
14. PIP/DW	k	n	0 ~ 3
15. PIP Position	k	q	0 ~ 3
16. Treble	k	r	0 ~ 64
17. Bass	k	s	0 ~ 64
18. Balance	k	t	0 ~ 64
19. Color Temperature	k	u	0 ~ 3
20. Red adjustment	k	v	0 ~ 14
21. Green adjustment	k	w	0 ~ 14
22. Blue adjustment	k	$	0 ~ 14
23. PIP Input Select	k	y	1 ~ 9
24. Abnormal State	k	z	0 ~ a
25. ISM Method	j	p	0 ~ 3
26. Low Power	j	q	0 ~ 1
27. Picture Size Setting for DW mode	j	t	0 ~oa
28. Auto Configure	j	u	1
29. Key	m	c	Key code

Transmission / Receiving Protocol

Transmission

[Command1][Command2][ ][Set ID][ ][Data][Cr]

* [Command 1]: k, j, m
* [Command 2]: To control PDP set.
* [Set ID]: You can adjust the set ID to choose desired monitor ID number in Special menu. Adjustment range is 1 ~ 99. When selecting Set ID '0', every connected PDP set is controlled. Set ID is indicated as decimal (1~99) on menu and as Hexa decimal (0x0~0x63) on transmission/receiving protocol.
* [DATA]: To transmit command data.
  Transmit 'FF' data to read status of command.
* [Cr]: Carriage Return
  ASCII code '0x0D'
* [ ]: ASCII code 'space (0x20)'

OK Acknowledgement

[Command2][ ][Set ID][ ][OK][Data][x]

* The Monitor transmits ACK (acknowledgement) based on this format when receiving normal data. At this time, if the data is data read mode, it indicates present status data. If the data is data write mode, it returns the data of the PC computer.

Error Acknowledgement

[Command2][ ][Set ID][ ][NG][x]

* The Monitor transmits ACK (acknowledgement) based on this format when receiving abnormal data from non-viable functions or communication errors.

Data 1: Illegal Code
2: Not supported function

01. Power (Command 2:a)

▶ To control Power On/Off of the Monitor.

Transmission

[k][a][ ][Set ID][ ][Data][Cr]

Data 0 : Power Off 1 : Power On

Acknowledgement

[a][ ][Set ID][ ][OK][Data][x]

▶ To show Power On/Off.

Transmission

[k][a][ ][Set ID][ ][FF][Cr]

Data 0 : Power Off 1 : Power On

Acknowledgement

[a][ ][Set ID][ ][OK][Data][x]

* In a like manner, if other functions transmit 'FF' data based on this format, Acknowledgement data feedback presents status about each function.

02. Input Select (Command 2:b) (Main Picture Input)

▶ To select input source for the Monitor.
You can also select an input source using the INPUT button on the Monitor's remote control.

Transmission

[k][b][ ][Set ID][ ][Data][Cr]

Data 2 : AV
4 : Component1
5 : Component2
6 : RGB (DTV)
7 : RGB (PC)
8 : HDMI (DTV)
9 : HDMI (PC)

Acknowledgement

[b][ ][Set ID][ ][OK][Data][x]

Data 2 : AV
4 : Component1
5 : Component2
6 : RGB (DTV)
7 : RGB (PC)
8 : HDMI (DTV)
9 : HDMI (PC)

03. Aspect Ratio (Command 2:c) (Main picture format)

▶ To adjust the screen format.
You can also adjust the screen format using the ARC (Aspect Ratio Control) button on remote control or in the Screen menu.

Transmission

[k][c][ ][Set ID][ ][Data][Cr]

Data 0 : Normal screen (4:3)
1 : Wide screen (16:9)
2 : Wide screen (Horizon)
3 : Full screen (Zoom)

Acknowledgement

[c][ ][Set ID][ ][OK][Data][x]

04. Screen Mute (Command 2:d)

▶ To select screen mute on/off.

Transmission

[k][d][ ][Set ID][ ][Data][Cr]

Data 0 : Screen mute off (Picture on)
1 : Screen mute on (Picture off)

Acknowledgement

[d][ ][Set ID][ ][OK][Data][x]

Data 0 : Screen mute off (Picture on)
1 : Screen mute on (Picture off)

05. Volume Mute (Command 2:e)

▶ To control volume mute on/off.
You can also adjust mute using the MUTE button on remote control.

Transmission

[k][e][ ][Set ID][ ][Data][Cr]

Data 0 : Volume mute on (Volume off)
1 : Volume mute off (Volume on)

Acknowledgement

[e][ ][Set ID][ ][OK][Data][x]

Data 0 : Volume mute on (Volume off)
1 : Volume mute off (Volume on)

06. Volume Control (Command 2:f)

▶ To adjust volume.
You can also adjust volume with the volume buttons on remote control.

Transmission

[k][f][ ][Set ID][ ][Data][Cr]

Data Min : 0 ~ Max : 64

• Refer to 'Real data mapping 1'. See page 38.

Acknowledgement

[f][ ][Set ID][ ][OK][Data][x]

Data Min : 0 ~ Max : 64

07. Contrast (Command 2:g)

▶ To adjust screen contrast.
You can also adjust contrast in the picture menu.

Transmission

[k][g][ ][Set ID][ ][Data][Cr]

Data Min : 0 ~ Max : 64

• Refer to 'Real data mapping 1'. See page 38.

Acknowledgement

[g][ ][Set ID][ ][OK][Data][x]

Data Min : 0 ~ Max : 64

08. Brightness (Command2:h)

▶ To adjust screen brightness.
You can also adjust brightness in the Picture menu.

Transmission

[k][h][ ][Set ID][ ][Data][Cr]

Data Min : 0 ~ Max : 64

• Refer to 'Real data mapping 1'. See page 38.

Acknowledgement

[h][ ][Set ID][ ][OK][Data][x]

Data Min : 0 ~ Max : 64

09. Color (Command2:i)

▶ To adjust the screen color.
You can also adjust color in the Picture menu.

Transmission

[k][i][ ][Set ID][ ][Data][Cr]

Data Min : 0 ~ Max : 64

• Refer to 'Real data mapping 1'. See page 38.

Acknowledgement

[i][ ][Set ID][ ][OK][Data][x]

Data Min : 0 ~ Max : 64

10. Tint (Command2:j)

▶ To adjust the screen tint.
You can also adjust tint in the Picture menu.

Transmission

[k][j][ ][Set ID][ ][Data][Cr]

Data Red : 0 ~ Green : 64

• Refer to 'Real data mapping 1'. See page 38.

Acknowledgement

[j][ ][Set ID][ ][OK][Data][x]

Data Red : 0 ~ Green : 64

11. Sharpness (Command2:k)

▶ To adjust the screen sharpness.
You can also adjust sharpness in the Picture menu.

Transmission

[k][k][ ][Set ID][ ][Data][Cr]

Data Min: 0 ~ Max: 64

• Refer to 'Real data mapping 1'. See page 38.

Acknowledgement

[k][ ][Set ID][ ][OK][Data][x]

Data Min : 0 ~ Max : 64

12. OSD Select (Command2:l)

▶ To select OSD (On Screen Display) on/off.

Transmission

[k][l][ ][Set ID][ ][Data][Cr]

Data 0: OSD off 1: OSD on

Acknowledgement

[l][ ][Set ID][ ][OK][Data][x]

Data 0: OSD off 1: OSD on

13. Remote Control Lock Mode (Command2:m)

▶ To lock the remote control and front panel controls on the monitor

Transmission

[k][m][ ][Set ID][ ][Data][Cr]

Data 0: lock off 1: lock on

Acknowledgement

[m][ ][Set ID][ ][OK][Data][x]

Data 0: lock off 1: lock on

• If you're not using the remote control and front panel controls on the monitor, use this mode. When main power is on/off, remote control lock is released.

14. Balance (Command2:t)

▶ To adjust balance.
You can also adjust balance in the Sound menu.

Transmission

[k][t][ ][Set ID][ ][Data][Cr]

Data Min: 0 ~ Max: 64

• Refer to 'Real data mapping 1'. See page 38.

Acknowledgement

[t][ ][Set ID][ ][OK][Data][x]

Data Min: 0 ~ Max: 64

15. Color Temperature (Command2:u)

▶ To adjust color temperature.
You can also adjust ACC in the Picture menu.

Transmission

[k][u][ ][Set ID][ ][Data][Cr]

Data 0: Normal 1: Cool 2: Warm 3: User

Acknowledgement

[u][ ][Set ID][ ][OK][Data][x]

Data 0: Normal 1: Cool 2: Warm 3: User

16. Abnormal State (Command2:z)

▶ To recognize an abnormal state.

Transmission

[k][z][ ][Set ID][ ][FF][Cr]

Data FF:Read

Acknowledgement

[z][ ][Set ID][ ][OK][Data][x]

Data 0: Power on(signal)
1: Power on(No signal)
2: Remote control off
3: Sleep time off
4: RS-232C off
5: 5V monitor off
6: AC detect off
7: Fan Alarm off
8: Off timer off
9: No signal off
a: Connection Detect off

* If you do not press any button within 2 hours after the monitor turns on with the On Timer function, the monitor will automatically revert to standby mode.

17. ISM Method (Command2:p)

▶ To avoid having a fixed image remain on screen.

Transmission

[j][p][ ][Set ID][ ][Data][Cr]

Data 1: Inversion
2: Orbiter
3: Orb.+Inv.
4: White Wash
8: Normal

Acknowledgement

[p][ ][Set ID][ ][OK][Data][x]

Data 1: Inversion
2: Orbiter
3: Orb.+Inv.
4: White Wash
8: Normal

18. Auto Configure (Command2:u)

▶ To adjust picture position and minimize image shaking automatically. Auto Configure only works in RGB-PC mode.

Transmission

[j][u][ ][Set ID][ ][Data][Cr]

Data 1

• Refer to 'Real data mapping1'. See page 38.

Acknowledgement

[u][ ][Set ID][ ][OK][Data][x]

Data 1

19. Key (Command2:c)

▶ To adjust Key code for IR remote control.

Transmission

[m][c][ ][Set ID][ ][Data][Cr]

Data Key code : Refer to See page 41.

Acknowledgement

[c][ ][Set ID][ ][OK][Data][x]

20. Tile Mode (Command : d d)

▶ Change a Tile Mode.

Transmission

[d][d][ ][Set ID][ ][Data][Cr]

Data 0: Tile mode is off.
12: 1 x 2 mode (column x row)
13: 1 x 3 mode
14: 1 x 4 mode
⋮
44: 4 x 4 mode

Acknowledgement

[d][ ][Set ID][ ][OK][Data][x]

Data 0: Tile mode is off.
12: 1 x 2 mode (column x row)
13: 1 x 3 mode
14: 1 x 4 mode
⋮
44: 4 x 4 mode

*** Real data mapping 1**

0 : Step 0

A : Step 10 (SET ID 10)

F : Step 15 (SET ID 15)
10 : Step 16 (SET ID 16)

63 : Step 99 (SET ID 99)
64 : Step 100

*** Real data mapping 2**

0 : -10
1 : - 9
2 : - 8
⋮ ⋮
A : 0
⋮ ⋮
12 : + 8
13 : + 9
14 : + 10

21. Tile H Size (Command : d g)

▶ To set the Horizontal size.

Transmission

[d][g][ ][Set ID][ ][Data][Cr]

Data Min: 0 ~ Max: 64

Acknowledgement

[g][ ][Set ID][ ][OK][Data][x]

Data Min: 0 ~ Max: 64

22. Tile V Size (Command : d h)

▶ To set the Vertical size.

Transmission

[d][h][ ][Set ID][ ][Data][Cr]

Data Min: 0 ~ Max: 64

Acknowledgement

[h][ ][Set ID][ ][OK][Data][x]

Data Min: 0 ~ Max: 64

23. Tile ID Set (Command : d i)

▶ To assign the Tile ID for Tiling function.

Transmission

[d][i][ ][Set ID][ ][Data][Cr]

Data Min: 0 ~ Max: 64

Acknowledgement

[i][ ][Set ID][ ][OK][Data][x]

Data Min: 0 ~ Max: 64

24. Elapsed time return (Command : d l)

▶ To read the elapsed time.

Transmission

[d][l][ ][Set ID][ ][Data][Cr]

* The data is always FF(in Hex).

Acknowledgement

[l][ ][Set ID][ ][OK][Data][x]

* The data means used hours. (Hexadecimal code)

26. Low Power (Command2:q)

▶ To control the low power function on/off.

Transmission

[j][q][ ][Set ID][ ][Data][Cr]

Data 0: Low power off
1: Low power on

Acknowledgement

[q][ ][Set ID][ ][OK][Data][x]

Data 0: Low power off
1: Low power on

IR Code

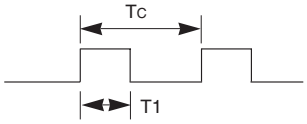
How to Connect

▶ Connect your wired remote control to the Remote Control port on the Monitor.

Remote Control IR Code

▶ **Output waveform**

Single pulse, modulated with 37.917KHz signal at 455KHz



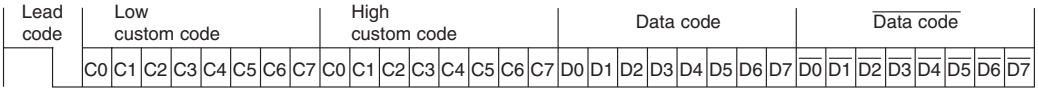
Carrier frequency

$F_{CAR} = 1/T_C = f_{OSC}/12$

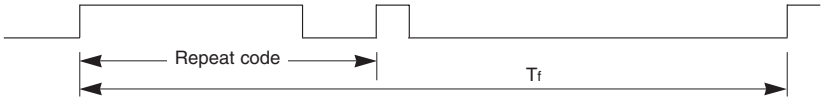
Duty ratio = T1/Tc = 1/3

▶ **Configuration of frame**

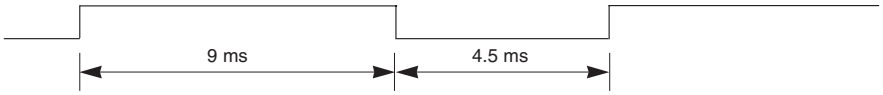
• 1st frame



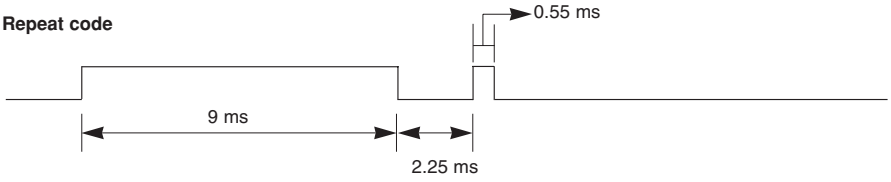
• Repeat frame



▶ **Lead code**

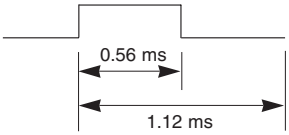


▶ **Repeat code**

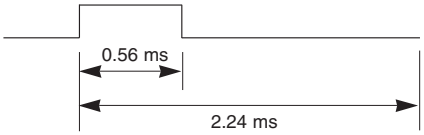


▶ **Bit description**

• Bit “0”

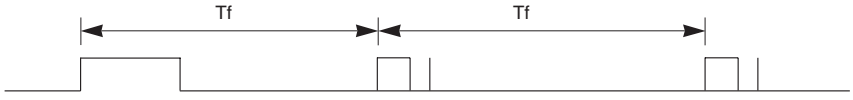


• Bit “1”



▶ **Frame interval : Tf**

The waveform is transmitted as long as a key is depressed.



Tf=108ms @455KHz

Code (Hexa)	Function	Note
10	Number Key 0	R/C Button
11	Number Key 1	R/C Button
12	Number Key 2	R/C Button
13	Number Key 3	R/C Button
14	Number Key 4	R/C Button
15	Number Key 5	R/C Button
16	Number Key 6	R/C Button
17	Number Key 7	R/C Button
18	Number Key 8	R/C Button
19	Number Key 9	R/C Button
0E	SLEEP	R/C Button
09	MUTE	R/C Button
08	POWER	R/C Button (Power On/Off)
02	VOL+	R/C Button
03	VOL-	R/C Button
00	CH+	R/C Button
01	CH-	R/C Button
4D	APC	R/C Button
52	DASP	R/C Button
44	ENTER (■)	R/C Button
0B	All INPUT SELECT	R/C Button
43	MENU	R/C Button
79	ARC	R/C Button (4:3/16:9/Horizon/Zoom mode Selection)
62	Window Position	R/C Button
64	Window Size	R/C Button
07	◄	R/C Button
06	►	R/C Button
40	▲	R/C Button
41	▼	R/C Button
5B	EXIT	R/C Button
60	PIP	R/C Button
92	XD	R/C Button
61	PIP Input	R/C Button
6B	DW	R/C Button
CD	Video	R/C Button
CE	HDMI2	R/C Button
3E	Key lock	R/C Button
75	Index	R/C Button
99	Auto config.	Discrete IR Code (Only RGB mode)
5A	Input video1	Discrete IR Code (Input Video 1 Selection)
D0	Input video2	Discrete IR Code (Input Video 2 Selection)
BF	Input Component 1	Discrete IR Code (Input Component 1 Selection)
D4	Input Component 2	Discrete IR Code (Input Component 2 Selection)
D5	Input RGB	Discrete IR Code (Input RGB Selection)
C6	Input HDMI1/DVI	Discrete IR Code (Input HDMI1/DVI Selection)

Troubleshooting Checklist

The operation does not work normally.	
The remote control doesn't work	• Check to see if there is any object between the product and the remote control causing obstruction. • Are batteries installed with correct polarity (+ to +, - to -)? • Correct remote operating mode set: TV, VCR etc.? • Install new batteries.
Power is suddenly turned off	• Is the sleep timer set? • Check the power control settings. Power interrupted • No broadcast on station tuned with Auto off activated.

The video function does not work.	
No picture & No sound	• Check whether the product is turned on. • Try another channel. The problem may be with the broadcast. • Is the power cord inserted into wall power outlet? • Check your antenna direction and/or location. • Test the wall power outlet, plug another product's power cord into the outlet where the product's power cord was plugged in.
Picture appears slowly after switching on	• This is normal, the image is muted during the product startup process. Please contact your service center, if the picture has not appeared after five minutes.
No or poor color or poor picture	• Adjust Color in menu option. • Keep a sufficient distance between the product and the VCR. • Try another channel. The problem may be with the broadcast. • Are the video cables installed properly? • Activate any function to restore the brightness of the picture.
Horizontal/vertical bars or picture shaking	• Check for local interference such as an electrical appliance or power tool.
Poor reception on some channels	• Station or cable product experiencing problems, tune to another station. • Station signal is weak, reorient antenna to receive weaker station. • Check for sources of possible interference.
Lines or streaks in pictures	• Check antenna (Change the direction of the antenna).

The audio function does not work.	
Picture OK & No sound	• Press the **VOL** or **VOLUME** button. • Sound muted? Press **MUTE** button. • Try another channel. The problem may be with the broadcast. • Are the audio cables installed properly?
No output from one of the speakers	• Adjust Balance in menu option.
Unusual sound from inside the product	• A change in ambient humidity or temperature may result in an unusual noise when the product is turned on or off and does not indicate a fault with the product.

There is a problem in PC mode. (Only PC mode applied)	
The signal is out of range.	• Adjust resolution, horizontal frequency, or vertical frequency. • Check the input source.
Vertical bar or stripe on back-ground & Horizontal Noise & Incorrect position	• Work the Auto configure or adjust clock, phase, or H/V position. (Option)
Screen color is unstable or single color	• Check the signal cable. • Reinstall the PC video card.

Maintenance

- Early malfunctions can be prevented. Careful and regular cleaning can extend the amount of time you will have your new TV. Be sure to turn the power off and unplug the power cord before you begin any cleaning.

Cleaning the Screen

1. Here's a great way to keep the dust off your screen for a while. Wet a soft cloth in a mixture of lukewarm water and a little fabric softener or dish washing detergent. Wring the cloth until it's almost dry, and then use it to wipe the screen.

2. Make sure the excess water is off the screen, and then let it air-dry before you turn on your TV.

Cleaning the Cabinet

To remove dirt or dust, wipe the cabinet with a soft, dry, lint-free cloth.
Please do not use a wet cloth.

Extended Absence

If you expect to leave your TV dormant for a long time (such as a vacation), it's a good idea to unplug the power cord to protect against possible damage from lightning or power surges.

Product Specifications

MODELS		42PM4M (42PM4M-WA)
Width (inches / mm)		42.0 / 1066.0
Height (inches / mm)		25.6 / 650.0
Depth (inches / mm)		3.8 / 97.5
Weight (pounds / kg)		66.1 / 30.0
Power requirement		AC100-240V ~ 50/60Hz
Resolution		1920 x 1080 (Dot)
Environmental condition	Operating Temperature	32 ~ 104°F (0 ~ 40°C)
	Operating Humidity	Less than 80%
	Storage Temperature	-4 ~ 140°F (-20 ~ 60°C)
	Storage Humidity	Less than 85%

- The specifications shown above may change without notice for quality improvement.