



PLASMA MONITOR OWNER'S MANUAL

Please read this manual carefully before operating your set.
Retain it for future reference.
Record model number and serial number of the set.
See the label attached on the back cover and quote this information to your dealer when you require service.

Model number :
Serial number :

LG Plasma Monitor

What is a Plasma Display ?

If voltage is inputted to gas in glass panels, ultraviolet rays is outputted and fused with a fluorescent substance. At this moment, light is emitted. A Plasma Display is a next generation flat Display using this phenomenon.

160° - Wide angle range of vision

A Plasma Display provides more than 160° angle range of vision so that you can get a picture without distortion from any direction.

Easy installation

A Plasma Display is much lighter and smaller than other same class products so that you can install the Plasma Display at the desired place.

Big screen

The screen of a Plasma Display is 60" so that you can get vivid experience as if you are in a theater.

Multimedia Plasma Display

A Plasma Display can be connected with a computer so that you can use it as a screen for conference, game, internet and so on.

The explanation about coloured dots may be present on PDP screen

The PDP which is the display device of this product is composed of 0.9 to 2.2 million cells and a few cell defects can occur in the manufacture of the PDP. Several coloured dots visible on the screen would be acceptable, in line with other PDP manufacturers and would not mean that the PDP is faulty. We hope you will understand that the product which corresponds to this standard is regarded as acceptable. It means that it could not be changed or refunded. We promise that we'll do our best to develop our technology to minimize the cell defects.

The explanation about noise of 60" PDP

In the same way that a fan is used in a PC to keep the CPU cool, the PDP is equipped with cooling fans to improve the reliability of this product. Therefore, a certain level of noise could occur when the fan is operated. This noise doesn't have any negative effect on its efficiency and liability and it's also determined to have no difficulty while using this product. The noise from the fans is normal in the operation of this product. We hope you will understand that a certain level of noise is acceptable. It means that it is not changeable nor refundable.

WARNING

This is Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

WARNING

TO REDUCE THE RISK OF FIRE AND ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

Contents

Safety Instructions	4
Equipment Connections and Setup	
Controls of the Monitor	6
Watching External Equipments	7
Displayable Monitor Specification	10
Controls of the Remote control	11
Monitor installation	13
Basic Features Setup and Operation	
Turning on the Monitor	14
Menu language setup (option)	14
VIDEO Menu	
PSM(Picture Status Memory)	15
Adjusting Auto Colour Control	15
Manual Colour Temperature Control (User option)	15
Manual picture Control (User option)	15
AUDIO Menu	
SSM(Sound Status Memory)	16
AVL(Auto Volume Leveler)	16
Adjusting Sound (User option)	16
TIME Menu	
Setting the Clock	17
Setting the On/Off Time	17
Auto Sleep	17
Sleep Timer	17
SPECIAL Menu	
Child lock	18
ISM (Image Sticking Minimization) Method	18
Low power	19
Cinema (AV (AV1 or AV2), S-VIDEO and COMPONENT 480i mode only)	19
Menu Rotation For Vertical Viewing	19
SCREEN Menu	
Auto adjustment (RGB[PC] mode only)	20
Setting Picture Format	20
Picture Size Zoom	20
Screen Position	21
Manual Configure (RGB[PC] mode only)	21
Screen Adjustments (AV (AV1 or AV2), S-VIDEO and COMPONENT 480i mode only)	21
Initializing (Reset to factory value)	21
Selecting Wide VGA/XGA mode (RGB, DVI [PC] mode only)	22
Luminance Noise Reduction (option)	22
Split Zoom	22
PIP Function	
Watching PIP	23
PIP Aspect Ratio	23
Moving the PIP	23
Swapping the PIP	23
Main Picture Size Adjustment	23
Selecting a source input signal for the PIP	23
PIP Size	23
Main Picture Position Adjustment	23
TWIN Picture	
Main Picture Size Adjustment	24
Sub Picture Size Adjustment	24
Selecting a source for the Twin Picture	24
Swapping the Twin Picture	24
External Control Device Setup	25
Others	
IR Code (NEC Format)	31
Troubleshooting check list	34
Product specifications	35

After reading this manual, keep it in the place where the user can always contact easily.

Safety Instructions

- Use the Monitor at the place lower than the altitude of 6562 feet (2000m) to get the best quality of picture and sound.

WARNING

Do not place the Monitor in direct sunlight or near heat sources such as heat registers, stove and so on.

- This may cause a fire.

Do not use the Monitor in damp place such as a bathroom or any place where it is likely to get wet.

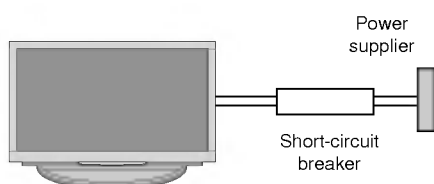
- This may cause a fire or could give an electric shock.

Bend antenna cable between inside and outside building to prevent rain from flowing in.

- This may cause water damaged inside the Monitor and could give an electric shock.

Earth wire should be connected.

- If the earth wire is not connected, there is possible a danger of electric shock caused by the current leakage.
- If grounding methods are not possible, a separate circuit breaker should be employed and installed by a qualified electrician.



- Do not connect ground to telephone wires, lightning rods or gas pipe.

Do not placing anything containing liquid on top of the Monitor.

- This may cause a fire or could give an electric shock.

Do not insert any object into the exhaust vent.

- This may cause a fire or could give an electric shock.

Do not place heavy objects on the Monitor.

- This may cause serious injury to a child or adult.

Do not use water the Monitor while cleaning.

- This may cause damaged the Monitor or could give an electric shock.

In case of smoke or strange smell from the Monitor, switch it off ,unplug it from the wall outlet and contact your dealer or service center.

- This may cause a fire or could give an electric shock.

Do not attempt to service the Monitor yourself. Contact your dealer or service center.

- This may cause damaged the Monitor or could give an electric shock.

During a lightning thunder, unplug the Monitor from the wall outlet and don't touch an antenna cable.

- This may cause damaged the Monitor or could give an electric shock.

* Safety instructions have two kinds of information, and each meaning of it is as below.

⚠ WARNING The violation of this instruction may cause serious injuries and even death.

⚠ NOTES The violation of this instruction may cause light injuries or damage of the product.

⚠ Take care of danger that may happen under specific condition.

⚠ NOTE

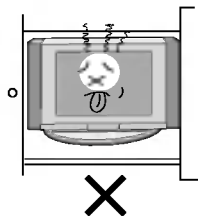
Never touch the power plug with a wet hand.

- This may cause an electric shock.

Disconnect from the mains and remove all connections before moving.

Do not place the Monitor in a built-in installation such as a bookcase or rack.

- Ventilation required.



When installing the Monitor on a table, be careful not to place the edge of its stand.

- This may cause the Monitor to fall, causing serious injury to a child or adult, and serious damage to the Monitor.

Do not place an outside antenna in the vicinity of overhead power lines or other electric light or power circuits.

- This may cause an electric shock.



There should be enough distance between an outside antenna and power lines to keep the former from touching the latter even when the antenna falls.

- This may cause an electric shock.

Do not pull the cord but the plug when unplugging.

- This may cause a fire.

Ensure the power cord doesn't trail across any hot objects like a heater.

- This may cause a fire or an electric shock.

Do not plug when the power cord or the plug is damaged or the connecting part of the power outlet is loose.

- This may cause a fire or an electric shock.

Dispose of used batteries carefully to protect a child from eating them.

- In case that it eats them, take it to see a doctor immediately.

When moving the Monitor assembled with speakers do not carry holding the speakers.

- This may cause the Monitor to fall, causing serious injury to a child or adult, and serious damage to the Monitor.

Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners.

- This may cause damaged the Monitor or could give an electric shock.

Contact the service center once a year to clean the internal part of the Monitor.

- Accumulated dust can cause mechanical failure.

The distance between eyes and the screen should be about 5 ~ 7 times as long as diagonal length of the screen.

- If not, eyes will strain.

Unplug the Monitor from the wall outlet when it is left unattended and unused for long periods of time.

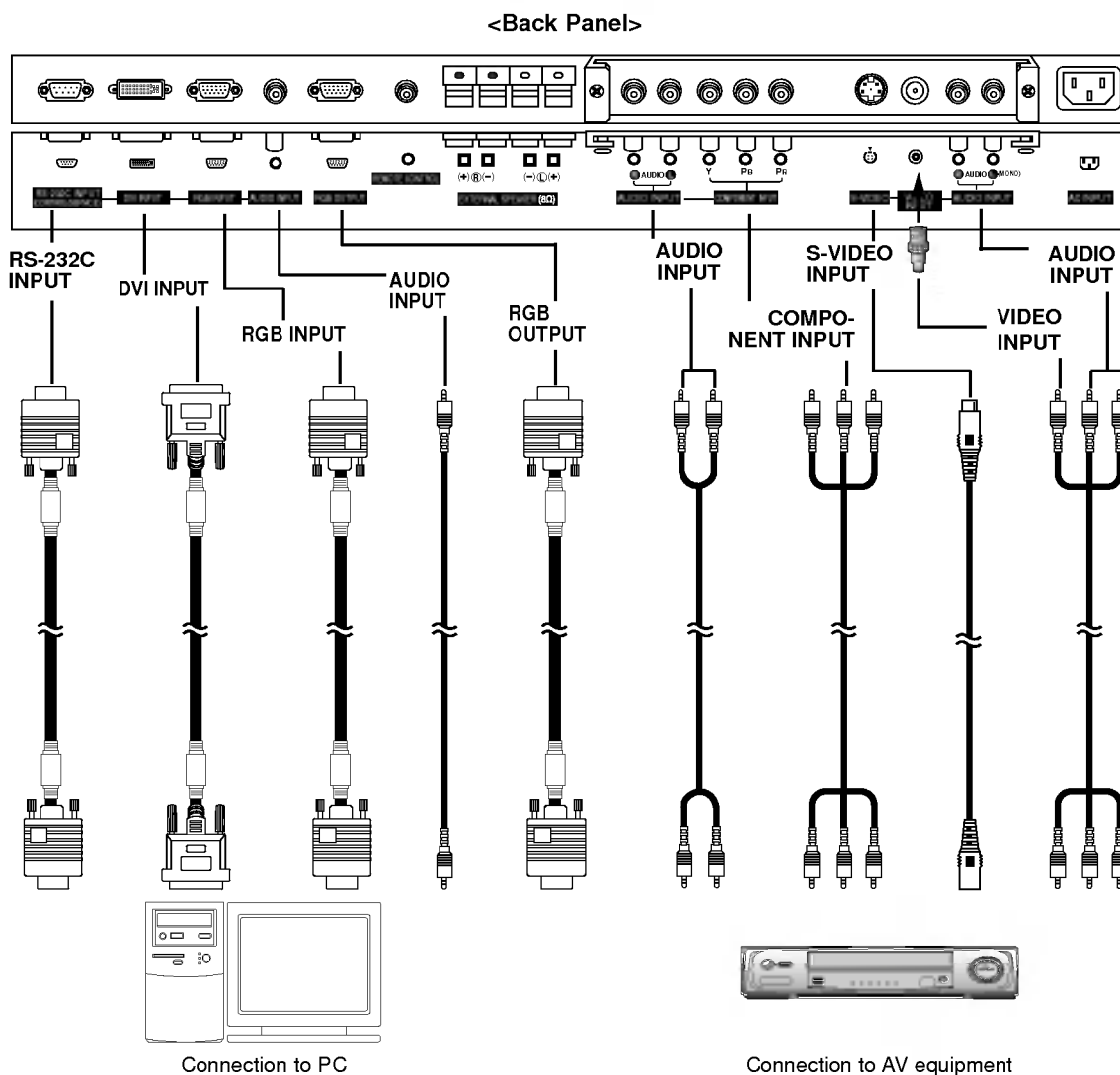
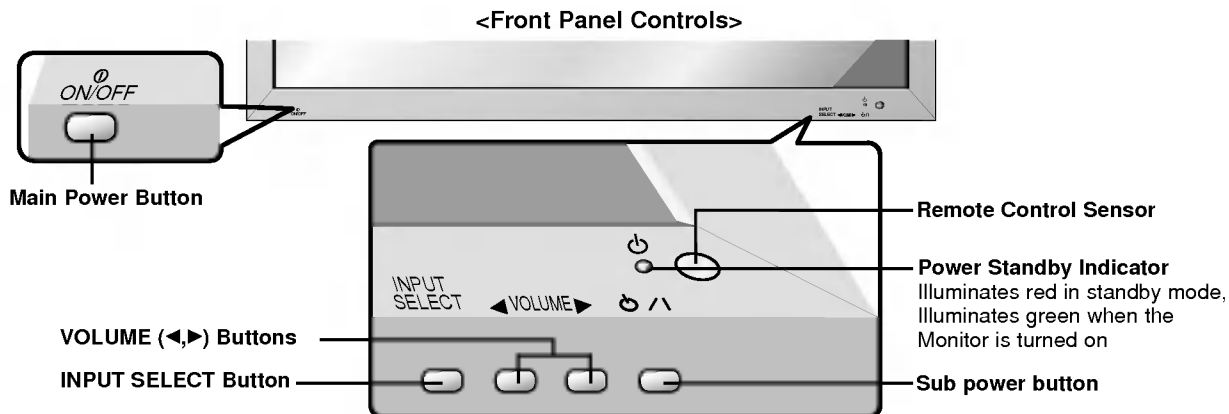
- Accumulated dust may cause a fire or an electric shock from deterioration or electric leakage.

Only use the specified batteries.

- This may cause damaged the Monitor or could give an electric shock.

Controls of the Monitor

- Shown is a simplified representation of the Monitor.
- Here shown may be somewhat different from your set.

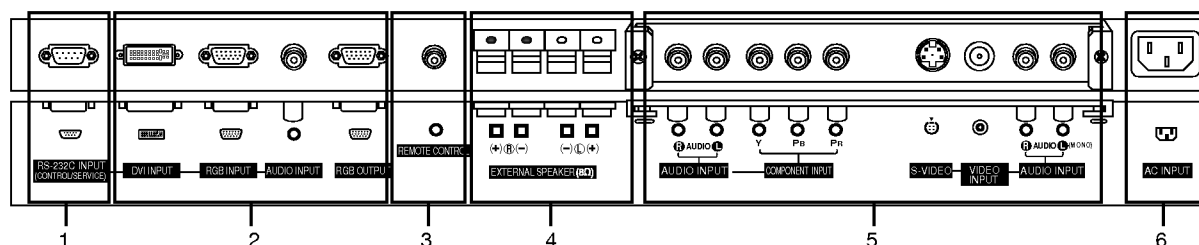


Note: The connection cables shown above to the right are not included with the Monitor.
A D-sub 15-pin cable and a DVI cable are provided to connect the Monitor to a PC.

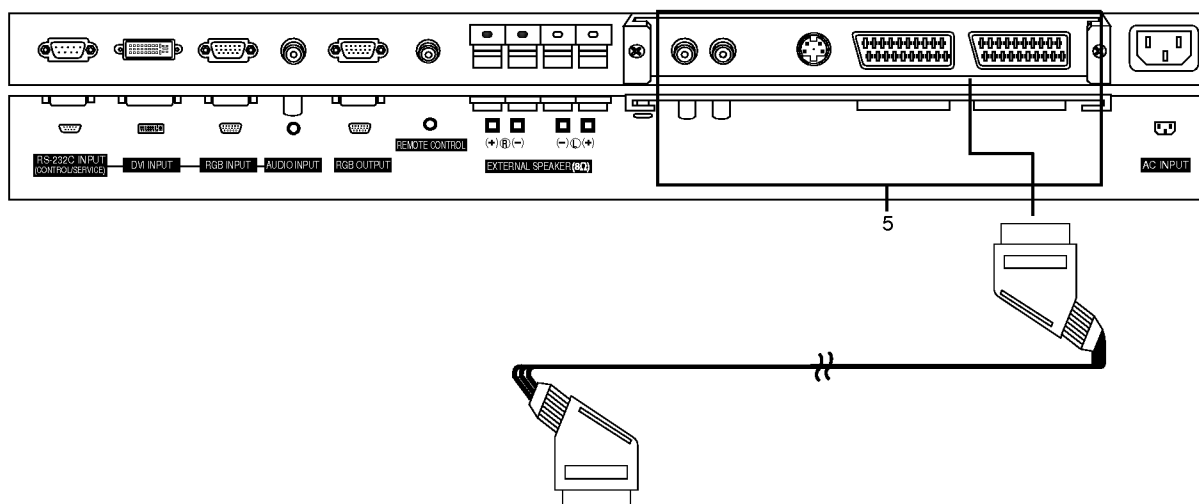
Watching External Equipments

<Back Panel>

RCA Type



Scart Type



- 1. RS-232C INPUT(CONTROL/SERVICE) PORT**
Connect to the RS-232C port on a PC.

- 2. DVI INPUT / RGB INPUT / AUDIO INPUT SOCKETS**
Connect the monitor output socket of the PERSONAL COMPUTER to this socket.

RGB OUTPUT SOCKET

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

- 3. REMOTE CONTROL**
Connect your wired remote control to the Remote port on the Monitor.

- 4. EXTERNAL SPEAKER OUTPUT (8 ohm)**
Connect to optional external speaker(s).
* For further information, refer to 'Speaker & Speaker Stand' manual.

- 5. AUDIO / COMPONENT INPUT / S-VIDEO / VIDEO INPUT / AUDIO INPUT SOCKETS**

EURO SCART SOCKET

Note : The interface board (AP-60EA30/31) is not equipped on MT/MZ-60PZ92 series models. Contact your dealer for buying this optional item.

- 6. 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.

Watching VCR (When the Interface board is installed.)

When connecting the Plasma Monitor with external equipments, match the colours of connecting ports (Video - yellow, Audio(L) - white, Audio(R) -red).
Connect the VIDEO INPUT socket(yellow) with the BNC-RCA adapter to the VIDEO INPUT socket of the set.
If you have a mono VCR, connect the audio cable from the VCR to the AUDIO(L/MONO) input of the Plasma Monitor.
If you connect an S-VIDEO VCR to the S-VIDEO input, the picture quality is improved; compared to connecting a regular VCR to the Video input.
Or, connect the Euro scart socket of the VCR to the Euro scart socket of the set.

Avoid having a fixed image remain on the screen for a long period of time. Typically a frozen still picture from a VCR, 4:3 picture format or if a CH label is present; the fixed image may remain visible on the screen.
Use the orbiter function to avoid having a fixed image. (Refer to p.18)

1. Press **INPUT SELECT** button on the remote control and select **AV** or (**AV1** or **AV2**).
(When connecting with S-Video, select the **S-Video**.)
2. Insert a video tape into the VCR and press the **PLAY** button on the VCR. (See VCR owner's manual)

Watching Cable TV (When the Interface board is installed.)

After subscribing to a cable TV service from a local provider and installing a converter, you can watch cable TV programming. This monitor cannot display TV programming without a TV tuner device or cable TV converter box connected to the monitor.

1. Press **INPUT SELECT** button on the remote control and select **AV** or (**AV1** or **AV2**).
2. Tune to cable service provided channels using the cable box.

Watching external AV source (When the Interface board is installed.)

When connecting the Plasma Monitor with external equipments, match the colours of connecting ports.
Or, connect the Euro scart socket of the VCR to the Euro scart socket of the set.

1. Press **INPUT SELECT** button on the remote control of the monitor to select **AV** or (**AV1** or **AV2**).
2. Operate the corresponding external equipment. (See external equipment operating guide.)

Watching DVD (When the Interface board is installed.)

How to connect

Connect DVD video inputs to Y, P_B, P_R of COMPONENT (DVD INPUT) and audio inputs to Audio sockets of AUDIO INPUT.
Or, connect the Euro scart socket of the VCR to the Euro scart socket of the set.

How to use

1. Press **INPUT SELECT** button on the remote control of the monitor to select **Component** or (**AV1** or **AV2**).
2. Try this after turning on the DVD player.
(Refer to the DVD player's manual for operating instructions.)

• Component Input ports

You can get better picture quality if you connect DVD player with component input ports as below.

Component ports of the Monitor	Y	P _B	P _R
--------------------------------	---	----------------	----------------

Video output ports of DVD player	Y	P _b	P _r
	Y	B-Y	R-Y
	Y	Cb	Cr
	Y	P _B	P _R

Watching DTV Setup (option)

- To watch digitally broadcast programs, purchase/connect a digital set-top box.

How to connect a user-supplied Digital Set-Top Box

- Connect DTV set-top box video output to monitor COMPONENT (DVD/DTV INPUT) or to the monitor RGB (PC/DTV INPUT) connector depending on your set-top box connectors.
- Connect DTV set-top box audio outputs to monitor AUDIO INPUT jacks.

How to use

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

• DTV Input signal

Mode \ Terminal	Component	RGB (DTV)
576p(50Hz)	o	x
1080i(50Hz)	o	o

Connecting PC

- To enjoy vivid picture and sound, connect a PC to the Monitor.
- 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 a screen saver when possible.
- Connect PC to the RGB INPUT(PC INPUT) or DVI INPUT(DIGITAL RGB INPUT) ports of the Monitor after changing the resolution of PC.
- There might be a noise according to some resolution, vertical pattern, contrast or brightness in PC mode. Then change the PC mode into other resolution or change the refresh rate into other rate or adjust the brightness and contrast on the menu until the picture is clean. If the refresh rate of the PC graphic card can not be changed, change the PC graphic card or consult it to the manufacturer of the PC graphic card.
- Synchronization input form; Separate

Setup Instructions to Connect a PC to your Monitor

- We recommend 1024x768 60Hz or 1366x768 75Hz as the PC mode providing the best picture quality.
- Connect the signal cable from the monitor output port of the PC to the RGB INPUT(PC INPUT) port of the Monitor or the signal cable from the DVI output port of the PC to the DVI INPUT(DIGITAL RGB INPUT) port on the Monitor.
- Connect the audio cable from the PC to the Audio input on the Monitor. (Audio cables are not included with the Monitor).
- If using a sound card, adjust PC sound as required.
- This monitor apply a VESA Plug and Play Solution. The monitor provides EDID data to the PC system with a DDC protocol. The PC adjusts automatically to use this monitor.
- DDC protocol is preset for RGB (Analog RGB), DVI (Digital RGB) mode.
- If required, adjust the monitor settings for Plug and Play functionally.
- If graphic card on the PC does not output analog and digital RGB simultaneously, connect only one of both RGB and DVI to display the PC on the monitor.
If graphic card on the PC does output analog and digital RGB simultaneously, set the monitor to either RGB or DVI; (the other mode is set to Plug and Play automatically by the monitor.)

PC Setup

1. Turn on the PC and apply power to the Monitor.
2. Turn on the display by pressing the **POWER** button on the Monitor's remote control.
3. Use the **INPUT SELECT** button on the remote control to select the RGB or DVI input source.
4. Set the resolution output of the PC to XGA or under (1280x1024, 63.981Hz).

- For further information regarding cable TV service, contact your local cable TV service provider(s).
- To avoid picture noise (interference), leave an adequate distance between the VCR and monitor.
- To avoid burning an image on the Monitor screen, don't have a still picture on the screen for a long period time.

Displayable Monitor Specification

RGB / DVI mode

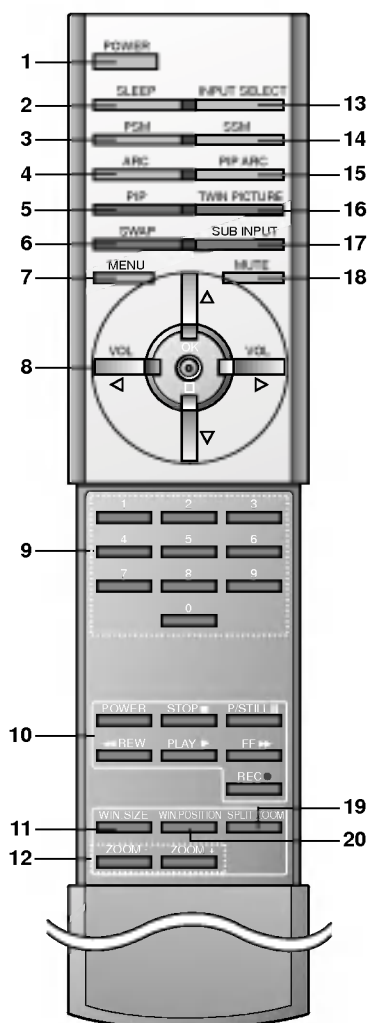
Resolution	Horizontal Frequency(KHz)	Vertical Frequency(Hz)
640x350	31.468	70.09
	37.861	85.08
720x400	31.469	70.08
	37.927	85.03
640x480	31.469	59.94
	35.000	66.66
	37.861	72.80
	37.500	75.00
848x480	43.269	85.00
	31.500	60.00
	35.000	70.00
	37.500	75.00
852x480	31.500	60.00
	35.000	70.00
	37.500	75.00
800x600	35.156	56.25
	37.879	60.31
	46.875	75.00
	53.674	85.06
832x624	49.725	74.55
1024x768	48.363	60.00
	56.476	70.06
	60.023	75.02
1360x768	47.700	60.00
	59.625	75.02
1366x768	47.700	60.00
	59.625	75.02
1152x864	54.348	60.05
	63.995	70.01
	67.500	75.00
1280x960	60.023	60.02
1280x1024	63.981	60.02

(Synchronization input form : separate)

- DOS mode may not work depending on video card if using a DVI-I cable.

Controls of the remote control

- When using the remote control aim it at the remote control sensor of the Monitor.
- There's maybe defect in consecutive operation of remote control in specified brightness according to this monitor feature.



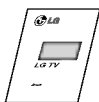
- 1. POWER**
switches the set on from standby or off to standby.
- 2. SLEEP**
sets the sleep timer.
- 3. PSM (Picture Status Memory)**
recalls your preferred picture setting.
- 4. ARC (Aspect Ratio Control)**
changes the picture format.
- 5. PIP**
switches the sub picture on or off.
- 6. SWAP**
alternates between main and sub picture.
- 7. MENU Button**
selects a menu.
- 8. ▲ / ▼**
selects a menu item.
◀ / ▶ (Volume Down/Up)
adjusts the volume.
adjusts menu settings.
OK
displays the current mode.
- 9. NUMBER BUTTONS**
- 10. VCR BUTTONS**
control a LG video cassette recorder.
- 11. WIN. SIZE**
adjusts the sub picture size.
- 12. ZOOM-/ZOOM+**
- 13. INPUT SELECT BUTTON**
selects TV, AV or PC monitor mode.
- 14. SSM (Sound Status Memory)**
recalls your preferred sound setting.
- 15. PIP ARC**
changes the picture format of PIP.
- 16. TWIN PICTURE**
- 17. SUB INPUT**
selects the input mode for the sub picture.
- 18. MUTE Button**
switches the sound on or off.
- 19. SPLIT ZOOM**
enlarge the screen with regular ration.
- 20. WIN.POSITION**
moves the sub picture to ▲ / ▼ or ◀ / ▶ direction.

Installing Batteries



- Open the battery compartment cover on the back side and insert the batteries with correct polarity.
- Apply two 1.5V alkaline batteries of AAA type. Don't mix the used batteries with new batteries.
- Install the batteries with the correct polarities.

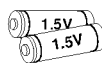
Accessories



Owner's Manual



Remote control handset



Alkaline batteries



BNC-RCA adapter (optional)



D-sub 15 pin cable



DVI cable



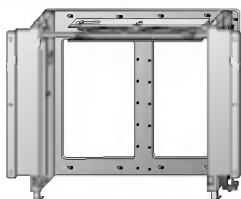
Power cord



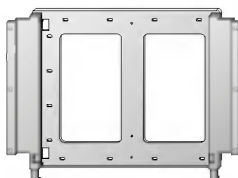
Phone scart cable (Optional)

Optional Extras

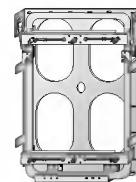
- Optional extras can be changed or modified for quality improvement without any notification new optional extras can be added.
- Contract your dealer for buying these items.



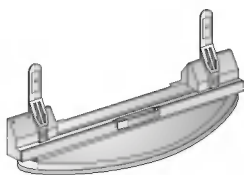
Tilt wall mounting bracket



Wall mounting bracket



Vertical Wall mounting bracket



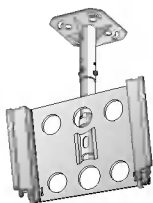
Desktop stand



Speakers



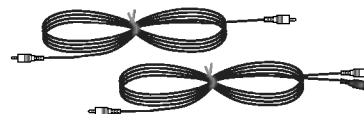
Desktop Speaker stand



Ceiling mounting bracket



Video cables

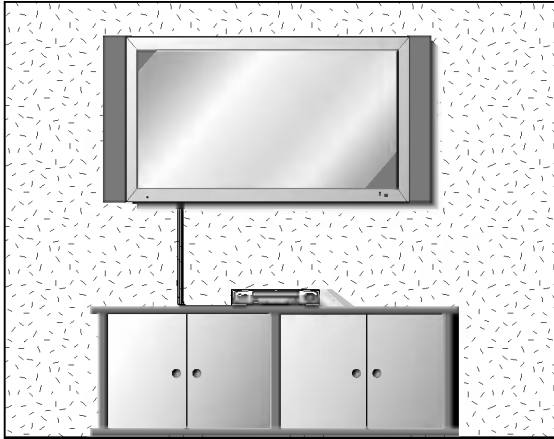


PC audio cables

Monitor Installation

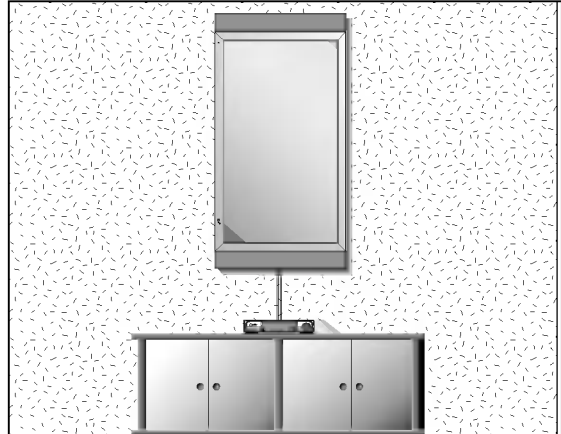
- The Monitor can be installed in various ways such as on a wall, or on a desktop etc.
- Install this monitor only in a location where adequate ventilation is available.
- This monitor is designed to be mounted horizontally or vertically.

Wall Mount: Horizontal installation



- The monitor can be installed on the wall as shown above. (For further information, refer to the optional 'Wall Mounting Bracket Installation and Setup Guide'.)
- Speakers are optional, and shown for illustration only.

Wall Mount: Vertical installation

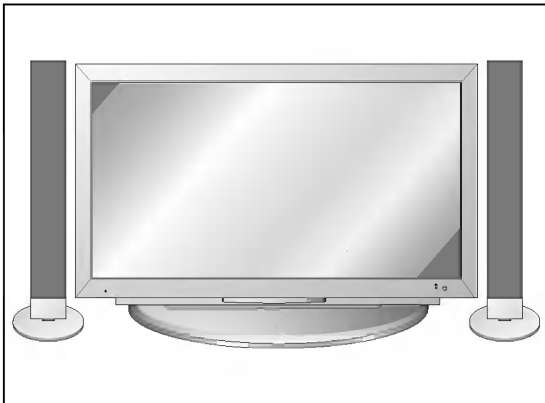


- The monitor can be installed vertically on the wall as shown above. (For further information, refer to the optional 'Wall Mounting Bracket Installation and Setup Guide'.)

Caution: When installing the monitor vertically, the front panel controls must be in the left-down side position as shown above.

- Speakers are optional, and shown for illustration only.

Desktop Pedestal Installation



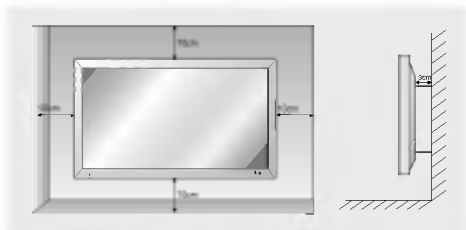
- The Monitor can be mounted on a desk as shown above. (For further information, refer to the optional Desktop Stand Installation and Setup Guide.)
- Speakers and speaker stands shown are optional, and shown for example only.

Caution

- When installing the monitor vertically, you have to change the OSD display mode so that the menus will appear correctly and also to protect the monitor from overheating (Refer to P. 19).
- Install this monitor only in a location where adequate ventilation is available.

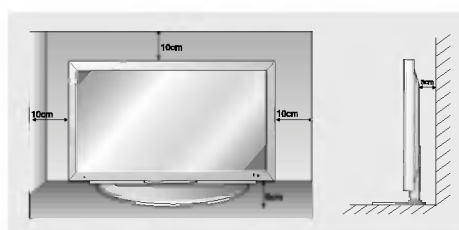
To Mount on a Wall

Wall mount minimum allowable clearances for adequate ventilation



To Install on a Desktop

Pedestal mount minimum allowable clearances for adequate ventilation



Turning on the Monitor

- When using the remote control, aim it at its sensor on the Monitor.

Turning on the Monitor just after installation

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

Turning on the Monitor (power cord is still connected)

1. If the Monitor is turned off with the **⏻/I, INPUT SELECT** button on the Monitor
 - Press the **⏻/I, INPUT SELECT** button on the Monitor to turn on the Monitor.
2. If the Monitor is turned off with the remote control and also the **⏻/I, INPUT SELECT** button on the Monitor
 - Press the **⏻/I, INPUT SELECT** button on the Monitor and then press the **⏻/I, INPUT SELECT** button on the Monitor or press the **POWER, INPUT SELECT** button on the remote control to turn on the Monitor.

• Adjusting volume level

Volume(**▶**) button increases the level of sound and volume(**◀**) button decreases the level of sound.

Menu language setup (option)

- The menu can be displayed on the screen in desired 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 display will be presented in the language of your choice.
 4. Repeatedly press the **MENU** button to return to normal viewing.

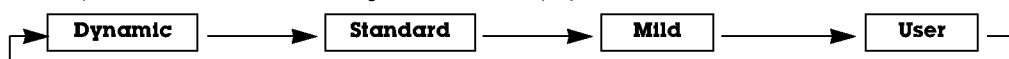
VIDEO Menu

PSM (Picture Status Memory)

- This function adjusts the Monitor to the best picture appearance.
- When adjusting picture options (contrast, brightness, colour, sharpness and tint (NTSC input only)) manually, PSM is automatically changed to **User**.

1. Press the **PSM** button.

- Each press of the **PSM** button changes the screen display as shown below.



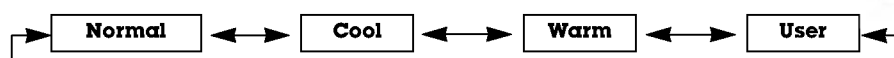
- You can also select **Dynamic**, **Standard**, **Mild** or **User** in the VIDEO menu.
- Picture options **Dynamic**, **Standard** and **Mild** are preset and programmed for good picture quality at the factory and cannot be changed.

Adjusting Auto Colour Control

- To initial values (reset to default settings), select the '**Normal**'.
- When adjusting color temperature options (red, green, or blue) manually, CSM is automatically changed to **User**.

1. Press the **MENU** button and then use **▲ / ▼** button to select the VIDEO menu.
2. Press the **▶** button and then use **▲ / ▼** button to select **CSM**.
3. Press the **▲ / ▼** button to select the desired colour temperature.
4. Repeatedly press the **MENU** button to return to normal viewing.

- Each press of **▲ / ▼** button changes the screen display as shown below.



Manual Colour Temperature Control (User option)

- You can change red, green and blue to adjust colour temperature you prefer.

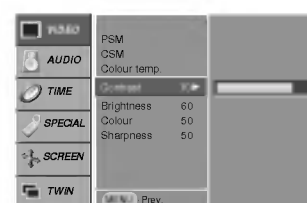
1. Press the **MENU** button and then use **▲ / ▼** button to select the VIDEO menu.
2. Press the **▶** button and then use **▲ / ▼** button to select the **Colour temp.**.
3. Press the **▶** button and then use **▲ / ▼** button to select colour temperature items.
4. Press the **◀ / ▶** button to make appropriate adjustments.
 - The adjustment range of **Red**, **Green** and **Blue** is -20~+20.
5. Repeatedly press the **MENU** button to return to normal viewing.



Manual picture control (User option)

- You can adjust picture contrast, brightness, colour, sharpness and tint to the levels you prefer.
- In the broadcasting system PAL/SECAM, the picture item TINT doesn't work.
- PIP settings are not adjustable.

1. Press the **MENU** button and then use **▲ / ▼** button to select the VIDEO menu.
2. Press the **▶** button and then use **▲ / ▼** button to select the desired picture item.
3. Press the **▶** button and then use **◀ / ▶** button to make appropriate adjustments.
4. Repeatedly press the **MENU** button to return to normal viewing.



AUDIO Menu

SSM (Sound Status Memory)

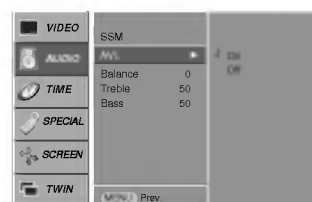
- This function lets you enjoy the best sound without any special adjustment because the Monitor automatically selects the appropriate sound option based on the program content.
 - When adjusting sound options (treble, bass, and balance) manually, SSM is automatically changed to **User**.
1. Press the **SSM** button to select the picture appearance setup.



- You can also select **Flat**, **Music**, **Movie**, **Speech** or **User** in the AUDIO menu.

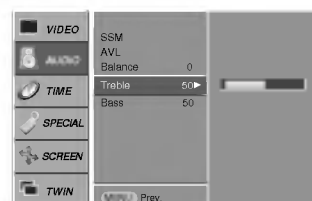
AVL (Auto Volume Leveler)

- This feature maintains an equal volume level; even if you change channels.
1. Press the **MENU** button and then use ▲ / ▼ button to select the AUDIO 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. Repeatedly press the **MENU** button to return to normal viewing.



Adjusting Sound (User option)

1. Press the **MENU** button and then use ▲ / ▼ button to select the AUDIO menu.
2. Press the ► button and then use ▲ / ▼ button to select the desired sound item.
3. Press the ► button and then use ◀ / ▶ button to make appropriate adjustments.
4. Repeatedly press the **MENU** button to return to normal viewing.

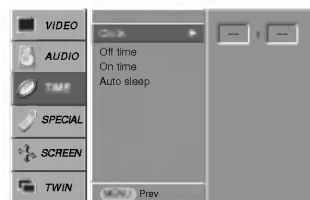


TIME Menu

Setting the Clock

- If current time setting is erased by a power failure, if TV is unplugged or if the monitor is turned off with the **ON/OFF** button on the monitor, reset the clock.

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 adjust the hour.
4. Press the **▶** button and then use **▲ / ▼** button to adjust the minute.
5. Repeatedly press the **MENU** button to return to normal viewing.



Setting the On/Off Time

- Timer function operates only if current time has been already set.
- Off-timer function overrides on-timer function if they are set to the same time.
- The monitor must be in standby mode for the On timer to work.

1. Press the **MENU** button and then use **▲ / ▼** button to select the TIME menu.
2. Press the **▶** button and then use **▲ / ▼** button to select **On time** or **Off time**.
3. Press the **▶** button and then use **▲ / ▼** button to select **On**.
4. Press the **▶** button and then use **▲ / ▼** button to adjust the hour.
5. Press the **▶** button and then use **▲ / ▼** button to adjust the minute.
6. **Only On time function:** Press the **▶** button and then use **▲ / ▼** button to adjust volume level.
7. Repeatedly press the **MENU** button to return to normal viewing.



- To cancel **Off/On time** function
Press the **▲ / ▼** button to select **Off** in step 3.

Auto Sleep

- If there is no input signal, the monitor turn 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. Repeatedly press the **MENU** button to return to normal viewing.



Sleep Timer

- Sleep timer turns the monitor off at the preset time.
- Press the **SLEEP** button to select the number of minutes. The display **zzz Min** will appear on the screen, followed by **10, 20, 30, 60, 90, 120, 180** and **240**. The timer begins to count down from the number of minutes selected.
- When the sleep time you want is displayed on the screen, press the **OK** button.

- a. To check the remaining sleep time, press the **SLEEP** or **OK** button once.
- b. To cancel the sleep time, repeatedly press the **SLEEP** button until the display **zzz Min** appears.
- c. If you turn the monitor off after setting the sleep timer, the setting will be erased.

SPECIAL Menu

Child lock

- The monitor can be set up so that it can only be used with the remote control.

 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**.
 4. Repeatedly press the **MENU** button to return to normal viewing.

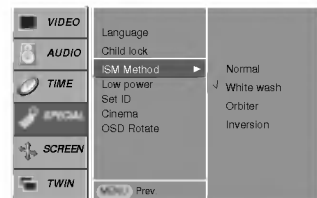


- This monitor programmed to remember which option it was last set to event if you turn the monitor off.
- In **Child lock 'On'**, if the monitor is turned off, press the ⏻ / I, **INPUT SELECT** button on the monitor or **POWER** and **INPUT SELECT** on the remote control.
- With the **Child lock On**, the display '⚠ Child lock' appears on the screen if any button on the front panel is pressed while viewing the monitor.

ISM (Image Sticking Minimization) Method

- 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 image to remain on the Monitor's screen for a long period of time.

1. Press the **MENU** button and then use 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**. If you unnecessary to set this function, set **Normal**.



• White wash :

White Wash removes permanent images from the screen. Note: An excessive permanent image may be impossible to clear entirely with 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 screen will move every 1 minutes.

• Inversion :

This is the function to invert the panel color of monitor. The panel color is automatical-ly inverted every 30 minutes.

4. Repeatedly press the **MENU** button to return to normal viewing.

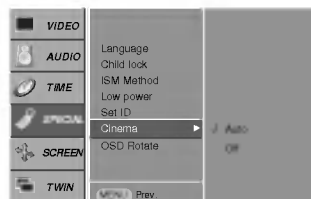
Low Power

- This is the function to reduce the power consumption of the monitor.
- 1. Press the **MENU** button and then use use ▲ / ▼ button to select the SPECIAL menu.
- 2. Press the ► button and then use use ▲ / ▼ button to select **Low power**.
- 3. Press the ► button and then use use ▲ / ▼ button to select **On** or **Off**.
- 4. Repeatedly press the **MENU** button to return to normal viewing.



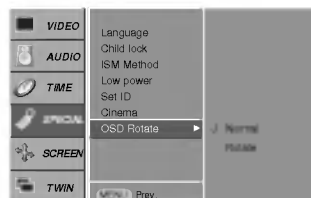
Cinema (AV (AV1 or AV2), S-VIDEO and COMPONENT 480i mode only)

- When you watch the movie, this function adjusts the set to the best picture appearance.
- 1. Press the **MENU** button and then use use ▲ / ▼ button to select the SPECIAL menu.
- 2. Press the ► button and then use use ▲ / ▼ button to select **Cinema**.
- 3. Press the ► button and then use use ▲ / ▼ button to select **Auto** or **Off**.
- 4. Repeatedly press the **MENU** button to return to normal viewing.



Menu Rotation for Vertical Viewing

- 1. Press the **MENU** button and then use ▲ / ▼ button to select the SPECIAL menu.
- 2. Press the ► button and then use ▲ / ▼ button to select **OSD Rotate**.
- 3. Press the ► button and then use ▲ / ▼ button to select **Normal** or **Rotate**.
 - Select **Normal**, if the monitor was installed horizontally.
 - Select **Rotate**, if the monitor was installed vertically.
- 4. Repeatedly press the **MENU** button to return to normal viewing.



SCREEN Menu

Auto adjustment (RGB[PC] mode only)

- Automatically adjusts picture position and minimizes image shaking.
- 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 configure**.
- 3. Press the **►** button to start **Auto configure**.
 - When **Auto configure** has finished, **OK** will be shown on screen.
 - If the position of the image is still not correct, try Auto adjustment again.
- 4. If picture needs to be adjusted more after Auto adjustment in RGB(PC), you can adjust the **Manual config.**



- Although the image is still not correct, your Monitor is functioning properly but needs further adjustment.
- The **Auto configure** and the **Manual config.** functions don't need to be run for DVI mode.
- This function doesn't work in RGB-Digital broadcast.

Setting Picture Format

- You can watch the screen in various picture formats; **4:3**, **16:9** (Wide), **14:9** and **Zoom**.
- You can repeatedly press the **ARC** button to select your desired picture format.
- You can also select **4:3**, **16:9** (Wide), **14:9** and **Zoom** in the **SCREEN** menu.

4:3

Following selection will lead you to view a picture with an original 4:3 aspect ratio, with black bars appearing at both the left and right sides.

16:9 (Wide)

Following selection will lead you to adjust the picture horizontally, in a linear proportion, to fill the entire screen (useful for viewing 4:3 formatted DVDs).

14:9

You can enjoy the picture format of 14:9 or general TV programme through the 14:9 mode. The screen 14:9 is viewed just like that the screen 4:3 is magnified to the left / right.

Zoom

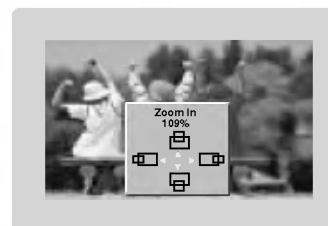
Following selection will lead you to view the picture without any alternation, while filling the entire screen. However, the top and bottom portions of the picture will be cropped.

- You can only select **4:3** and **16:9** (Wide) in RGB or DVI.

Picture Size Zoom

- When enlarging or reducing the picture, the screen may be display unnatural picture.

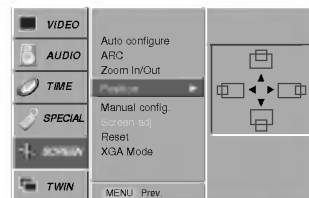
1. Press the **ZOOM+/ZOOM-** button to enlarge or reduce the picture size.
2. Adjust the main picture position with the **▲ / ▼ / ◀ / ▶** buttons in enlarged picture mode.



Screen Position

- This function works in the following mode:
RGB-PC or COMPONENT 480p,720p,1080i.
- You are available to this function after adjusting **Zoom In/Out** in AV (AV1 or AV2), S-Video or Component 480i/576i modes.

1. Press the **MENU** button and then use **▲ / ▼** button to select the SCREEN menu.
2. Press the **►** button and then use **▲ / ▼** button to select **Position**.
3. Press the **►** button and then use **▲ / ▼** or **◀ / ▶** button to adjust the position.
4. Repeatedly press the **MENU** button to return to normal viewing.



Manual Configure (RGB[PC] mode only)

- If the picture isn't clear after auto adjustment and especially that characters are still trembling, adjust the picture phase manually.
- To correct the screen size, adjust **Clock**.

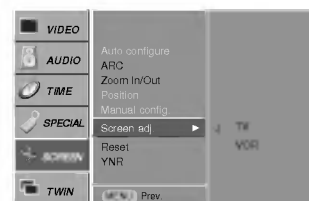
1. Press the **MENU** button and then use **▲ / ▼** button to select the SCREEN menu.
2. Press the **►** button and then use **▲ / ▼** button to select **Manual config**.
3. Press the **►** button and then use **▲ / ▼** button to select **Phase** or **Clock**.
4. Press the **◀ / ▶** button to make appropriate adjustments.
 - The adjustment range of **Phase** is 0 ~ 31.
 - The adjustment range of **Clock** is -50 ~ +50.
5. Repeatedly press the **MENU** button to return to normal viewing.



Screen Adjustments (AV (AV1 or AV2), S-VIDEO and COMPONENT 480i mode only)

- This is the function to correct trembling or picture instability while viewing a video tape.

1. Press the **MENU** button and then use **▲ / ▼** button to select the SCREEN menu.
2. Press the **►** button and then use **▲ / ▼** button to select **Screen adj**.
3. Press the **►** button and then use **▲ / ▼** button to select **TV** or **VCR**.
 - Select the **VCR** option if watching a VCR.
 - Select the **TV** option for other equipment.(Except VCR)
4. Repeatedly press the **MENU** button to return to normal viewing.



Initializing (Reset to factory value)

This function operates in every mode.
To initialize the adjusted value

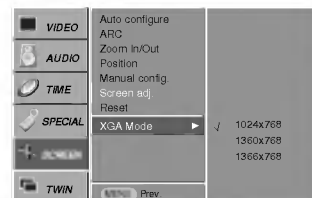
1. Press the **MENU** button and then use **▲ / ▼** button to select the SCREEN menu.
2. Press the **►** button and then use **▲ / ▼** button to select **Reset**.
3. Press the **►** button to initialize the adjusted value.
 - You can initialize ZOOM In/Out, Position, SPLIT ZOOM, PIP size, PIP position and sub picture size of twin picture.



Selecting Wide VGA/XGA mode (RGB, DVI [PC] mode only)

- To see a normal picture, match the resolution of RGB (640x480, 848x480, 852x480, 1024x768, 1360x768 or 1366x768) mode and selection of VGA or XGA mode on 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 **VGA Mode** or **XGA Mode**.
3. Press the **►** button and then use **▲ / ▼** button to select the desired VGA or XGA resolution.
4. Repeatedly press the **MENU** button to return to normal viewing.



Luminance Noise Reduction (option)

- You can select **On** or **Off** to reduce the picture noise which may appear on the screen during watching the TV.
- This function works in the following mode:
AV (AV1 or AV2), S-Video or COMPONENT 480i/576i.

1. Press the **MENU** button and then use **▲ / ▼** button to select the SCREEN menu.
2. Press the **►** button and then use **▲ / ▼** button to select **YNR**.
3. Press the **►** button and then use **▲ / ▼** button to select **On** or **Off**.
4. Repeatedly press the **MENU** button to return to normal viewing.



Split Zoom

- This is the function to enlarge the screen with regular ration.
- It's available to use this function in every input source.
- With 2-SPLIT ZOOM, you can only move the screen into upside or downside.
- If a screen is enlarged, a screen can move without selecting a section of screen.
- It's available to use this function in PIP mode.

1. Press the **SPLIT ZOOM** button.

- Each press of **SPLIT ZOOM** button changes the screen display as shown below.



In case of 9-Split Zoom:

Press the number button to select the section you enlarge.

If you choose No.5, the 5 section is enlarged and also can move the enlarged screen with using the **▲ / ▼** or **◀ / ▶** button.



In case of choosing the No.5



The 5 section is changed to a full screen.

PIP Function

- PIP lets you view 2 different inputs (sources) on your monitor screen at the same time.

Watching PIP

Press the **PIP** button to switch on the sub pictures.

- Press this button again to switch it off.



PIP Aspect Ratio

Press the **PIP ARC** button.

- The sub picture appears as below.



Moving the PIP

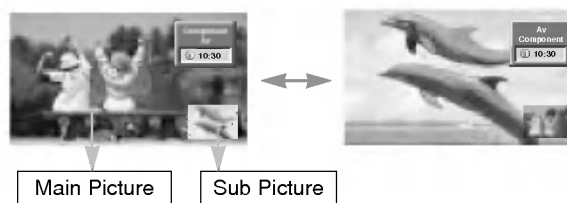
Press the **WIN.POSITION** button.

Repeatedly press the **▲ / ▼** or **◀ / ▶** button until desired position is achieved. The sub picture moves up/down or left/right.



Swapping the PIP

Press the **SWAP** button to exchange the main and sub pictures.



Main Picture Size Adjustment

Press the **ZOOM+/ZOOM-** button to enlarge or reduce the main picture size when viewing the PIP.



Selecting a source input signal for the PIP

Press the **SUB INPUT** button to select the input mode for the sub picture.



PIP Size

Press the **WIN.SIZE** button and then **◀ / ▶** button to adjust the sub picture size.

With **WIN.SIZE** button in twin picture mode, main and sub picture is adjusted simultaneously. With **WIN.SIZE** button in PIP mode, sub picture is adjusted.



Main Picture Position Adjustment

Press the **ZOOM+/ZOOM-** button. Adjust the main picture position with the **▲ / ▼** or **◀ / ▶** buttons in enlarged main picture.



TWIN Picture

Main Picture Size Adjustment

Press the **TWIN PICTURE** button.

- Each press of **TWIN PICTURE** button changes the screen display as shown below.



Sub Picture Size Adjustment

Press the **WIN.SIZE** button.

- Press the ◀ / ▶ button to adjust the sub picture size.
- WIN.POSITION function doesn't operate in twin picture mode.



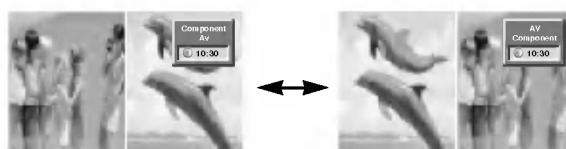
Selecting a source for the Twin picture

Press the **SUB INPUT** button to select the input mode for the sub picture.



Swapping the Twin Picture

Press the **SWAP** button to exchange the main and sub picture in twin picture mode.

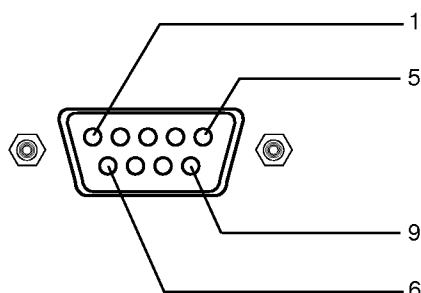


External Control Device Setup

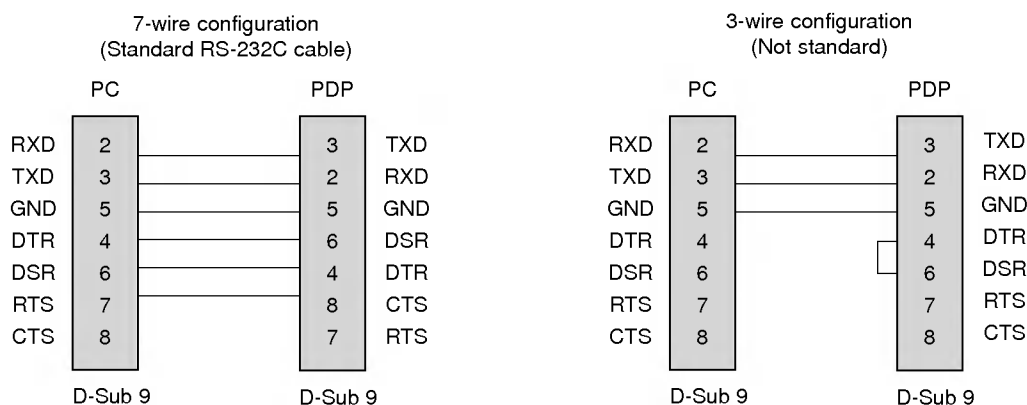
- Connect the RS-232C input jack to an external control device (such as a computer or an A/V control system) and control the Monitor's functions externally.
- Connect the serial port of the control device to the RS-232C jack on the Monitor back panel.
- RS-232C connection cables are not supplied with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



Set ID

- Use this function to specify a monitor ID number.

1. Press the **MENU** button and then use **▲** / **▼** 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.
4. • The adjustment range of **Set ID** is 1 ~ 99.
Refer to 'Real data mapping1' (See p.30).



Communication Parameters

- Baud rate : 115200 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	0 ~ 4
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. Colour	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 Picture	k	n	0 ~ 3
15. PIP Aspect Ratio	k	o	0 ~ 1
16. Split Zoom	k	p	0 ~ 99
17. PIP position	k	q	0 ~ 3
18. PIP Size Setting for Twin Picture Mode	j	t	0 ~ 64
19. Treble	k	r	0 ~ 64
20. Bass	k	s	0 ~ 64
21. Balance	k	t	0 ~ 64
22. Colour temperature	k	u	0 ~ 3
23. Red adjustment	k	v	0 ~ C8
24. Green adjustment	k	w	0 ~ C8
25. Blue adjustment	k	\$	0 ~ C8
26. PIP input source	k	y	0 ~ 4
27. Abnormal Status	k	z	0 ~ a
28. ISM Method	j	p	0 ~ 3
29. Low Power	j	q	0 ~ 1
30. Orbiter Time Setting	j	r	1 ~ FE
31. Orbiter Pixel Setting	j	s	0 ~ 9
32. Auto configure	j	u	1

Transmission / Receiving Protocol

Transmission

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

- * [Command 1] : k
- * [Command 2] : To control PDP set.
- * [Set ID] : You can adjust the set ID to choose desired monitor ID number in special menu.
See previous page.
Adjustment range is 1 ~ 99.
When selecting Set ID '0', every connected PDP set is controlled.
- * [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.

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

Ack

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

- To show Power On/Off.

Transmission

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

Ack

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

- * In like manner, if other functions transmit '0xFF' data based on this format, Acknowledgement data feed back presents status about each function.

02. Input Select (Command 2 : b)

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

Transmission

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

Data 0 : RGB 3 : S-Video
1 : Component (or AV1) 4 : DVI
2 : AV (or AV2)

Ack

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

03. Aspect Ratio (Command 2 : c) (Main Picture Size)

- ▶ To adjust the screen format. (Main picture 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 : Wide screen (16:9)
1 : Normal screen (4:3)
2 : Full screen (Zoom)
3 : 14:9

Ack

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

* Using the PC input, you select either 16:9 or 4:3 screen aspect ratio.

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)

Ack

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

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)

Ack

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

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 30.

Ack

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

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 30.

Ack

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

08. Brightness (Command 2 : 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 30.

Ack

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

09. Colour (Command 2 : i)

- ▶ To adjust the screen colour.
You can also adjust colour in the PICTURE menu.

Transmission

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

Data Min : 0 ~ Max : 64

* Refer to 'Real data mapping 1'. See page 30.

Ack

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

10. Tint (Command 2 : j) (NTSC input only)

- ▶ 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 30.

Ack

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

11. Sharpness (Command 2 : 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 30.

Ack

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

12. OSD Select (Command 2 : l)

- ▶ To select OSD (On Screen Display) on/off when controlling remotely.

Transmission

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

Data 0 : OSD off 1 : OSD on

Ack

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

13. Remote control lock mode (Command 2 : m)

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

Transmission

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

Data 0 : Lock off 1 : Lock on

Ack

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

* If you're not using the remote control, use this mode.
When main power is on/off, external control lock is released.

14. PIP / Twin (DW) (Command 2 : n)

- ▶ To control the PIP (Picture In picture)/Twin picture.
You can also control the PIP/TWIN picture using the PIP, TWIN PICTURE button on the remote control or in the TWIN menu.

Transmission

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

Data 0: PIP/DW off

1: PIP
2: DW1
3: DW2

Ack

[n][][Set ID][][OK][Data][x]

15. PIP Aspect Ratio (Command 2 : o)

- ▶ To select the PIP picture format.
You can also adjust the screen format for PIP in the TWIN menu.

Transmission

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

Data 0: Normal screen (4:3)

1: Wide screen (16:9)

Ack

[o][][Set ID][][OK][Data][x]

16. Split Zoom (Command 2 : p)

- ▶ To operate split zoom function and select the split zoom section number.

Transmission

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

Data Min: 21 ~ Max:99

ex. Data 21: Selection 1 of 2 split zoom.

• Refer to 'Real data mapping 2'.

Ack

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

* Real data mapping 2

0 : Reset split zoom
21: Selection 1 of 2 split zoom
24: Selection 4 of 2 split zoom
41: Selection 1 of 4 split zoom
42: Selection 2 of 4 split zoom
44: Selection 4 of 4 split zoom
45: Selection 5 of 4 split zoom
91: Selection 1 of 9 split zoom
⋮
99: Selection 9 of 9 split zoom

17. PIP Position (Command 2 : q)

- ▶ To select sub picture position for PIP.
You can also adjust the sub picture position using WIN.POSITION button on the remote control or in the TWIN menu.

Transmission

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

Data 0 : Right down on screen

1 : Left down on screen
2 : Left up on screen
3 : Right up on screen

Ack

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

18. PIP Size Setting for Twin Picture Mode (Command 2 : t)

- ▶ To select the PIP picture format.
You can also select the PIP picture format using the WIN.SIZE on the remote control.

Transmission

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

Data Min : 0 ~ Max : 64

* Refer to 'Real data mapping 1'. See page 30.

Ack

[to][][Set ID][][OK][Data][x]

19. Treble (Command 2 : r)

- ▶ To adjust treble.
You can also adjust treble in the SOUND menu.

Transmission

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

Data Min : 0 ~ Max : 64

* Refer to 'Real data mapping 1'. See page 30.

Ack

[r][][Set ID][][OK][Data][x]

20. Bass (Command 2 : s)

- ▶ To adjust bass.
You can also adjust bass in the SOUND menu.

Transmission

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

Data Min : 0 ~ Max : 64

* Refer to 'Real data mapping 1'. See page 30.

Ack

[s][][Set ID][][OK][Data][x]

21. Balance (Command 2 : 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 30.

Ack

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

22. Colour Temperature (Command 2 : u)

- ▶ To adjust colour temperature.
You can also adjust CSM in the PICTURE menu.

Transmission

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

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

Ack

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

23. Red Adjustment (Command 2 : v)

- ▶ To adjust red in colour temperature.

Transmission

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

Data Min : 0 ~ Max : C8

* Refer to 'Real data mapping 3'. See page 30.

Ack

[v][][Set ID][][OK][Data][x]

24. Green Adjustment (Command 2 : w)

- ▶ To adjust green in colour temperature.

Transmission

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

Data Min : 0 ~ Max : C8

* Refer to 'Real data mapping 3'. See page 30.

Ack

[w][][Set ID][][OK][Data][x]

25. Blue Adjustment (Command 2 : \$)

- ▶ To adjust blue in colour temperature.

Transmission

[k][\$][][Set ID][][Data][Cr]

Data Min : 0 ~ Max : C8

* Refer to 'Real data mapping 3'. See page 30.

Ack

[\$][][Set ID][][OK][Data][x]

26. PIP Input Select (Command 2 : y)

- ▶ To select input source for sub picture in PIP/Twin picture mode. You can also adjust input source for sub picture using PIP INPUT button on remote control.

Transmission

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

Data	0 : RGB	3 : S-Video
	1 : Component (or AV1)	4 : DVI
	2 : AV (or AV2)	

Ack

[y][][Set ID][][OK][Data][x]

27. Abnormal State (Command 2 : z)

- To recognize an abnormal state.

Transmission

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

Data 0: Normal (Power on and signal exist)

- 1: No signal (Power on)
- 2: Turn the monitor off by remote control
- 3: Turn the monitor off by sleep time function
- 4: Turn the monitor off by RS-232C function
- 5: 5V down
- 6: AC down
- 7: Turn the monitor off by Fan Alarm function
- 8: Turn the monitor off by off time function
- 9: Turn the monitor off by auto off function
- a: Turn the monitor off by AV board detect

Ack

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

* This function is "read only".

28. ISM Method

(Command 1 : j, Command 2 : p)

- To control the ISM method. You can also adjust ISM Method in SPECIAL menu.

Transmission

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

Data 0 : Normal Mode 2 : Orbiter
1 : White Wash 3 : Inversion

Ack

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

29. Low Power

(Command 1 : j, Command 2 : q)

- To reduce the power consumption of the monitor. You can also adjust Low Power in SPECIAL menu.

Transmission

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

Data 0 : Off
1 : On

Ack

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

30. Orbiter Time Setting

(Command 1 : j, Command 2 : r)

- To adjust orbiter operation time term.

Transmission

[j][r][][Set ID][][Data][Cr]

Data Min: 1 ~ Max: FE

- Refer to 'Real data mapping 1'. See page 30.

Ack

[r][][Set ID][][OK][Data][x]

31. Orbiter Pixel Setting

(Command 1 : j, Command 2 : s)

- To adjust pixel number in orbiter function.

Transmission

[j][s][][Set ID][][Data][Cr]

Data Min: 0 ~ Max: 9

- Refer to 'Real data mapping 1'. See page 30.

Ack

[s][][Set ID][][OK][Data][x]

32. Auto configure

(Command 1 : j, Command 2 : u)

- To adjust picture position and minimize image shaking automatically. It works only in RGB (PC) mode.

Transmission

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

Data 1: To Set

Ack

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

* 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)
⋮
64 : Step 100

* Real data mapping 3

0 : -20
5 : -19
A : -18
⋮
5F: -1
64: 0
69: +1
⋮
C3 : +19
C8 : +20

IR Code (NEC Format)

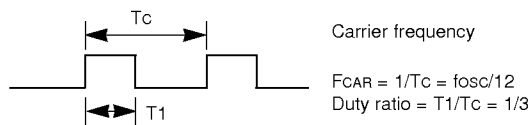
How to connect

- ▶ Connect your wired remote control to the Remote port on the Monitor.
You can make the wired remote control manually by referring the IR Code (NEC Format).

Remote Control IR Code (NEC Format)

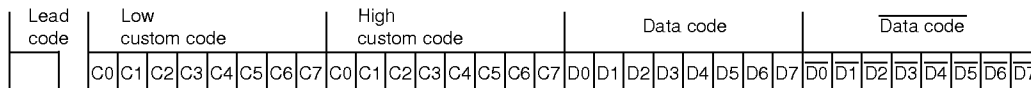
▶ Output waveform

Single pulse, modulated with 37.917KHz signal at 455KHz

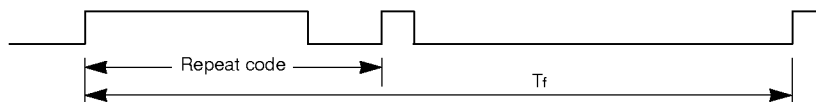


▶ Configuration of frame

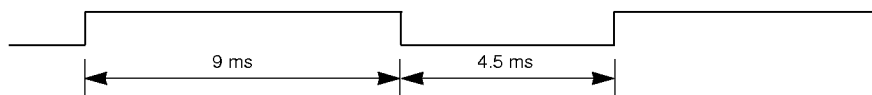
- 1st frame



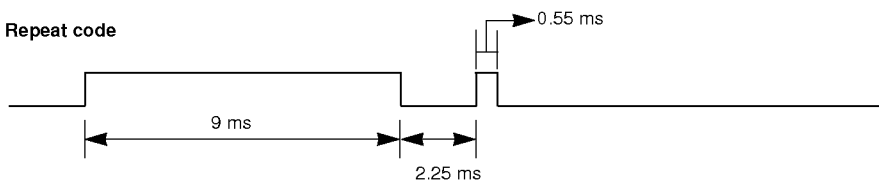
- Repeat frame



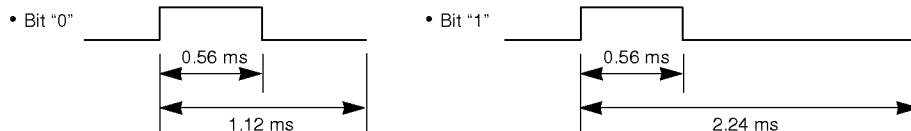
▶ Lead code



▶ Repeat code

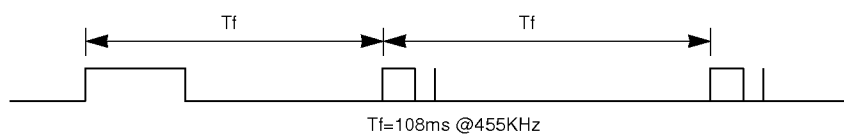


▶ Bit description



▶ Frame interval : Tf

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



Code (Hexa)	Function	Note
00H	UP (▲)	R/C Button
01H	DOWN (▼)	R/C Button
02H	VOL+ (►)	R/C Button
03H	VOL- (◄)	R/C Button
08H	POWER	R/C Button (Power On/Off)
C4H	POWER ON	Discrete IR Code (Only Power On)
C5H	POWER OFF	Discrete IR Code (Only Power Off)
09H	MUTE	R/C Button
10H	Number Key 0	R/C Button
11H	Number Key 1	R/C Button
12H	Number Key 2	R/C Button
13H	Number Key 3	R/C Button
14H	Number Key 4	R/C Button
15H	Number Key 5	R/C Button
16H	Number Key 6	R/C Button
17H	Number Key 7	R/C Button
18H	Number Key 8	R/C Button
19H	Number Key 9	R/C Button
0BH	INPUT SELECT	R/C Button
98H	MULTIMEDIA	R/C Button (Input COMPONENT, RGB or DVI Selection)
BFH	COMPONENT	Discrete (Input COMPONENT Selection)
C6H	DVI	Discrete (Input DVI Selection)
D5H	RGB	Discrete (Input RGB Selection)
5AH	AV	Discrete (Input AV Selection)
D8H	S-VIDEO	Discrete (Input S-VIDEO Selection)
0EH	SLEEP	R/C Button
43H	MENU	R/C Button
40H	ZOOM +	R/C Button
41H	ZOOM -	R/C Button
44H	OK (■)	R/C Button
4DH	PSM	R/C Button
52H	SSM	R/C Button
60H	PIP	R/C Button
61H	PIP INPUT	R/C Button
63H	SWAP	R/C Button
68H	TWIN PICTURE	R/C Button
69H	WIN.SIZE	R/C Button
6AH	WIN.POSITION	R/C Button
7BH	SPLIT ZOOM	R/C Button
79H	ARC	R/C Button (4:3/16:9 Mode Selection)
76H	ARC (4:3)	Discrete IR Code (Only 4:3 mode)
77H	ARC (16:9)	Discrete IR Code (Only 16:9 mode)
AFH	ARC (Zoom)	Discrete IR Code (Only Zoom mode)
99H	Auto configure	Discrete IR Code (Only RGB (PC) mode)



Notes

Troubleshooting check list

No picture & No sound

- Check whether the Monitor is turned on.
- Power cord inserted into wall outlet?
- Plug another product's power cord into the wall outlet where the Monitor's power cord was plugged in.

Picture OK & No sound

- Press the **VOLUME** (►) button.
- Sound muted? Press **MUTE** button.

The remote control doesn't work

- Check to see if there is any object between the Plasma Display and the remote control causing obstruction.
- Check to see if the batteries are installed with the correct polarities. (Refer to p.11)
- Install new batteries. (Refer to p.11)

Picture appears slowly, after switching on

- This is normal as the image is muted during the startup process of the monitor. Please contact your service centre, if the picture has not appeared after five minutes.

No or Poor colour or Poor picture

- Select **Colour** in the VIDEO menu and press the **VOLUME** (►) button. (Refer to p.15)
- Keep a certain distance between the Monitor and the VCR.
- Activate any function to restore the brightness of the picture. (If still picture is on the screen for more than 5 minutes, the screen gets dark.)

Horizontal/vertical bars or picture shaking

- Check for local interference such as an electrical appliance or power tool.

No output from one of the speakers

- Adjust **Balance** in the AUDIO menu. (Refer to p.16)

Unusual sound from inside the monitor

- A change in ambient humidity or temperature may result in an unusual noise at the time of switching off or on of the monitor and does not indicate a fault with the monitor.

Product specifications

MODEL	MT-60PZ90V/A/B/K/R/S MT-60PZ90M/A/B/K/R/S MT-60PZ92V/A/B/K/R/S MT-60PZ92M/A/B/K/R/S	MZ-60PZ92V/A/B/K/R/S MZ-60PZ92M/A/B/K/R/S
Width (inches / mm)	56.9 / 1455	
Height (inches / mm)	34.8 / 883	
Depth (inches / mm)	3.9 / 99	
Weight (pounds / kg)	144 / 65.3	
Power requirement	AC100-240V, 50/60Hz	
Resolution	1366 x 768 (Dot)	
Colour	16,770,000 (256 steps of each R, G and B)	
Operating Temperature Range	32 ~ 104°F (0 ~ 40°C)	
Operating Humidity Range	Less than 80%	

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

