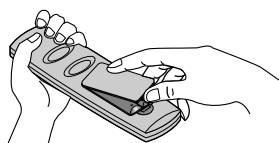# Using the remote control

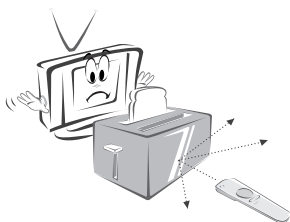## Installing batteries

- Open the battery compartment cover on the back of the remote control and insert the batteries with correct polarity, match "+" with "+", and match "-" with "-".

- Install two 1.5V "AAA" alkaline batteries. Don't mix used batteries with new batteries.

Notes for using the remote control

Make sure these are no objects between the remote control and its sensor.

Don't place the remote control near a heater or damp place. Strong impact on the remote control may cause operation failure.
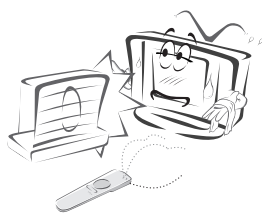
Signal from the remote control may be disturbed by sun light or other strong light. In this case, turn the set to other direction.

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 main **ON/OFF** button on the Monitor. At this moment, the Monitor is switched to standby mode. Press the ⏻/I or **INPUT SELECT** button on the Monitor or press the **POWER** or **INPUT SELECT** button on the remote control and then the Monitor will be turned on.

Turning on the Monitor (power cord is still connected)

1 **If the Monitor is turned off with the ⏻/I button on the Monitor**

Press the ⏻/I or **INPUT SELECT** button on the Monitor or press the **POWER** or **INPUT SELECT** button on the remote control and then the Monitor will be turned on.

2 **If the Monitor is turned off with the ON/OFF button on the Monitor**
- Press the main **ON/OFF** button on the Monitor to turn on the Monitor.

3 **If the Monitor is turned off with the remote control and also the ON/OFF button on the Monitor**
- Press the main **ON/OFF** button on the Monitor and then press the ⏻/I or **INPUT SELECT** button on the Monitor or press the **POWER** or **INPUT SELECT** button on the remote control and then the Monitor will be turned on.
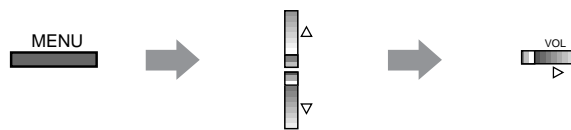
Tips
- **Adjusting volume level**
The volume(▶) button increases the sound and the volume(◀) button reduces the level of sound.
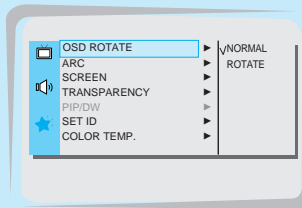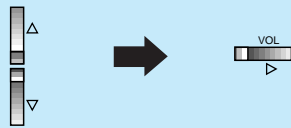
OSD Display Rotation

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Special features

Others

READY

Press the **MENU** button and then press the ▲ / ▼ button to select ☆⁻ menu. Press the ▶ button.

MENU   △▽   VOL ▷

1 Press the ▲ / ▼ button to select **OSD ROTATE** and then press the ▶ button.

△▽   VOL ▷

🔲	OSD ROTATE ▶	√NORMAL
	ARC ▶	ROTATE
	SCREEN ▶	
🔊	TRANSPARENCY ▶	
	PIP/DW ▶	
⭐	SET ID ▶	
	COLOR TEMP. ▶	

2 Press the ▲ / ▼ button to select **NORMAL** or **ROTATE**.

△▽

🔲	OSD ROTATE ▶	▶√NORMAL
	ARC ▶	ROTATE
	SCREEN ▶	
🔊	TRANSPARENCY ▶	
	PIP/DW ▶	
⭐	SET ID ▶	
	COLOR TEMP. ▶	
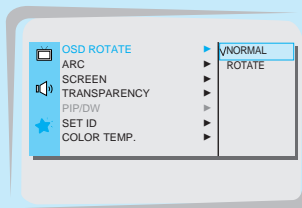
- Select **NORMAL** when mounting the monitor horizontally.
- Select **ROTATE** when mounting the monitor vertically.

3 Press the **OK** button to exit.

OK

Checking features

- **Use the remote control to make adjustments.**
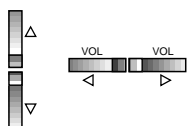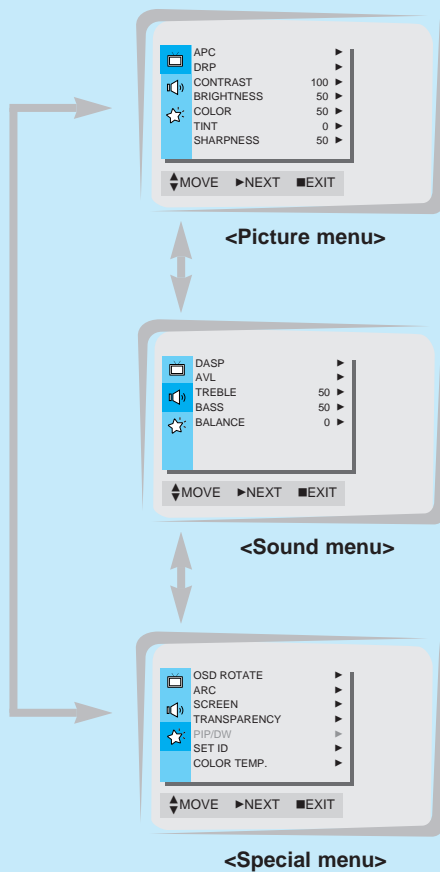- **Select VIDEO input source**

MENU

1 Press the **MENU** button.

2 Press the ▲ / ▼ button.
- Each press will cycle through the menus shown below.

APC	►
DRP	►
CONTRAST	100 ►
BRIGHTNESS	50 ►
COLOR	50 ►
TINT	0 ►
SHARPNESS	50 ►

⬍MOVE ►NEXT ■EXIT

<Picture menu>

DASP	►
AVL	►
TREBLE	50 ►
BASS	50 ►
BALANCE	0 ►

⬍MOVE ►NEXT ■EXIT

<Sound menu>

OSD ROTATE	►
ARC	►
SCREEN	►
TRANSPARENCY	►
PIP/DW	►
SET ID	►
COLOR TEMP.	►

⬍MOVE ►NEXT ■EXIT

<Special menu>

VOL   VOL
◄   ►

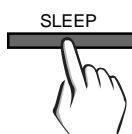**3** Press the ► button to select a feature to adjust, and then press the ▲ / ▼ or ◄ / ► buttons to adjust the selected item.
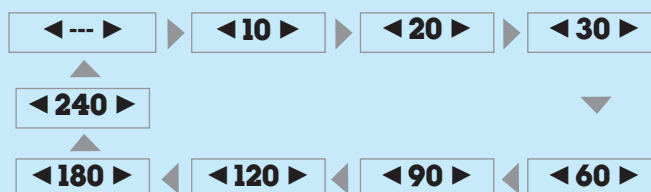- Press the **OK** button to exit.

Setting Sleep Timer

Sleep Timer turns the Monitor off after a preset time

SLEEP

Press the **SLEEP** button to set sleep time.
Each time you press **SLEEP** button, the next pre-set setting time is changed as follows:

◀ --- ▶ → ◀ 10 ▶ → ◀ 20 ▶ → ◀ 30 ▶

◀ 240 ▶

◀ 180 ▶ ← ◀ 120 ▶ ← ◀ 90 ▶ ← ◀ 60 ▶

SLEEP   ◀ 30 ▶

- To release sleep time setting, press the **SLEEP** or ◀ / ▶ button repeatedly to select ◀ --- ▶.
- ' ⚠ **SLEEP 1**' will be displayed one minute before the Monitor is due to switch off.

Tips

- When the sleep time you want is displayed on the screen, don't press the **SLEEP** button. After 20 seconds, the screen display disappears and sleep time is set.
- To check remaining sleep time after setting, press the **SLEEP** or **OK** button just once.
- If you turn the Monitor off after setting the sleep timer, the setting is erased. The sleep timer will then have to be set again.
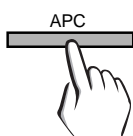
Auto picture control
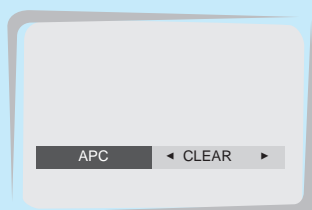## Use APC to set the Monitor for the best picture appearance

- **APC is not available in RGB or PIP/TWIN PICTURE modes.**

● APC (Auto Picture Control)

1 Press the **APC** button.

APC

2 Press the **APC** or ◄ / ► buttons to select your desired picture condition.

| APC | ◄ CLEAR ► |

- Each press of ◄ / ► buttons changes the screen display as shown below.

CLEAR ◄———► **SOFT** ◄———► **USER**

- You can also select **CLEAR**, **SOFT** or **USER** in the **PICTURE** menu. User refers to adjustments you made to the picture menu items. See next page.

Adjusting picture appearance

Safety instructions

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Special features

Others

- PIP and Twin picture inset settings are not adjustable.

READY

Press the **MENU** button and then press the ▲ / ▼ button to select ⬜ menu. Press the ▶ button.

MENU   △
                ▽   VOL ▷

① Example : Changing the contrast.
Press the ▲ / ▼ button to select **CON-TRAST** and then press the ▶ button.

APC	►
DRP	►
CONTRAST	100 ►
BRIGHTNESS	50 ►
COLOR	50 ►
TINT	0 ►
SHARPNESS	50 ►

△
▽   VOL ▷
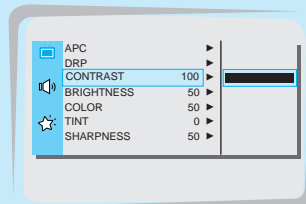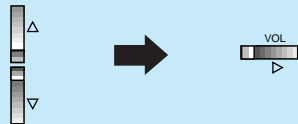
② Use the ◄ / ► buttons to make appropriate adjustments and then press the **OK** button.

• Press the ▲ / ▼ buttons to select other items.

APC	►
DRP	►
CONTRAST	70 ►
BRIGHTNESS	50 ►
COLOR	0 ►
TINT	0 ►
SHARPNESS	50 ►

VOL ◁   VOL ▷   OK
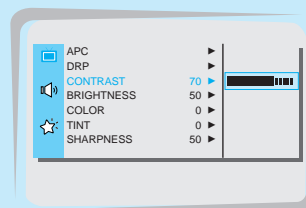
• Adjust **BRIGHTNESS**, **COLOR**, **TINT** and **SHARPNESS** in the same way.

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DRP (Digital Reality Picture)

DRP improves image outlines in dark screens.

- **This function works in video, component 480i mode.**

READY

Press the **MENU** button and then press the ▲ / ▼ button to select ☐ menu. Press the ▶ button.

MENU ➡ △ ▽ ➡ VOL ▷

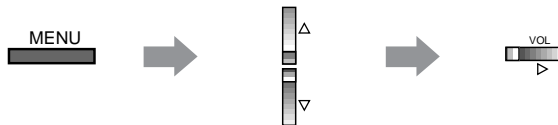**1** Press the ▲ / ▼ button to select **DRP** and then press the ▶ button.

△ ▽ ➡ VOL ▷

	APC	▶	
	DRP	▶	√CLEAR
	CONTRAST	100 ▶	SOFT
	BRIGHTNESS	50 ▶	
	COLOR	50 ▶	
	TINT	0 ▶	
	SHARPNESS	50 ▶	
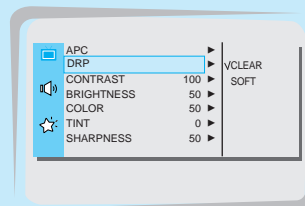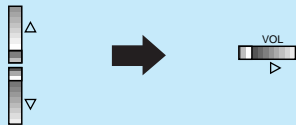
2 Press the ▲ / ▼ button to select **CLEAR** or **SOFT**.

△ ▽

	APC	▶	
	DRP	▶	√CLEAR
	CONTRAST	100 ▶	SOFT
	BRIGHTNESS	50 ▶	
	COLOR	50 ▶	
	TINT	0 ▶	
	SHARPNESS	50 ▶	

3 Press the **OK** button to exit.

OK
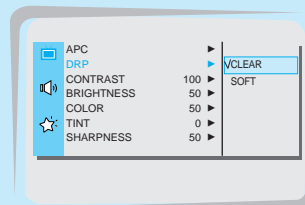
Adjusting sound
Manual setting

Safety instructions

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Picture & Sound

Special features

Others

READY

Press the **MENU** button and then press the ▲ / ▼ button to select ◨◁)) menu. Press the ► button.

MENU

VOL
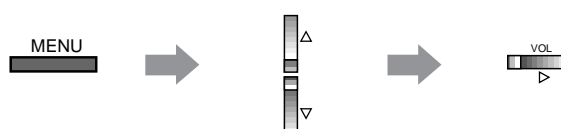
1 Example : Adjustment treble
Use the ▲ / ▼ buttons to select **TREBLE** and then press the ► button.

DASP	►
AVL	►
TREBLE	50 ►
BASS	50 ►
BALANCE	0 ►

VOL
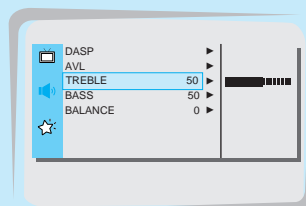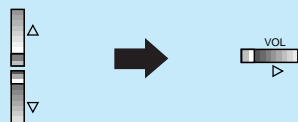
2 Use the ◄ / ► buttons to make appropriate adjustment and then press the **OK** button to exit.
• Press the ▲ / ▼ buttons to select other options.

DASP	►
AVL	►
TREBLE	70 ►
BASS	50 ►
BALANCE	0 ►

VOL   VOL

OK
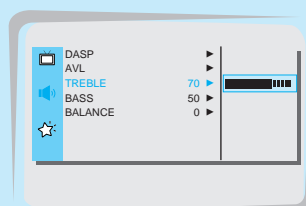
• Adjust **BASS** and **BALANCE** in the same way.

Auto Sound Control

● DASP (Digital Auto Sound Processing)

- This function lets you enjoy the best sound without any manual adjustment because the Monitor automatically selects the appropriate audio tone levels based on the program content.
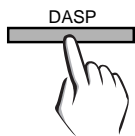
DASP

1 Press the **DASP** button.

2 Press the **DASP** or ◄ / ► buttons to select a sound setup.

DASP	◄ USER ►

- Each press of **DASP** or ◄ / ► buttons changes the screen display as shown below.

FLAT ◄—► **SPORTS** ◄—► **CINEMA**
USER ◄—► **MUSIC**
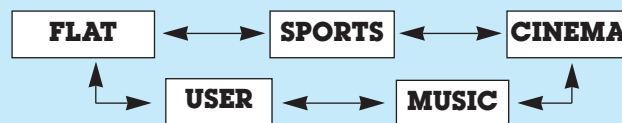
- You can also select **FLAT**, **SPORTS**, **CINEMA**, **MUSIC** or **USER** in the **SOUND** menu.

AVL (Auto Volume Leveler)

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

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Others

READY

Press the **MENU** button and then press the ▲ / ▼ button to select 🔊)) menu. Press the ► button.

MENU

VOL

---
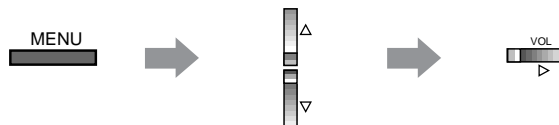
1 Press the ▲ / ▼ button to select **AVL** and then press the ► button.

VOL

DASP	►	
AVL		ON
TREBLE	50 ►	✓OFF
BASS	50 ►	
BALANCE	0 ►	

---
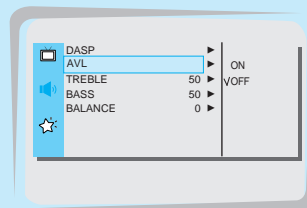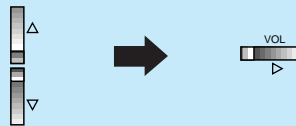
2 Press the ▲ / ▼ button to select **ON** or **OFF**.

DASP	►	
AVL	►	✓ON
TREBLE	50 ►	OFF
BASS	50 ►	
BALANCE	0 ►	

---

3 Press the **OK** button to exit.

OK
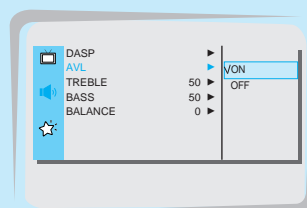
Using Still function

- **This feature isn't available for RGB input source.**
- **Use with A/V or COMPONENT video inputs.**
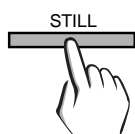
STILL

1 Press the **STILL** button.
- The image displayed is frozen(still).
- The sub picture is stilled in PIP or Twin picture mode.
- In PIP or TWIN PICTURE modes, the sub (inset) picture is frozen.

<Moving image>

<Still image>
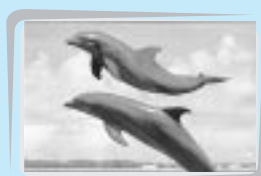
2 To return to normal viewing, press the **STILL** button again.

Tips

- If still picture is on the screen for more than 5 minutes, the image becomes dark.
  If another function is activated, normal brightness of the screen is restored.
- This is a protective feature designed to reduce a ghost image burning into the monitor.
- This feature does not work with RGB source.
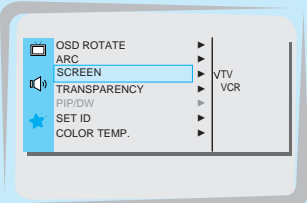
Using the screen options

- **This function works only in the video mode.**
- **Use this option if there are a trembling or instability of a video tape on screen during viewing the video.**

READY

Press the **MENU** button and then press the ▲ / ▼ button to select ☆ menu. Press the ► button.

MENU ➡ △▽ ➡ VOL ▷
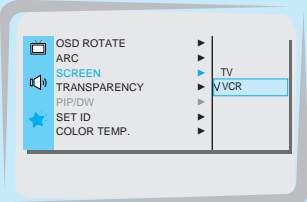
1 Use the ▲ / ▼ button to select **SCREEN** and then press the ► button.

△▽ ➡ VOL ▷

OSD ROTATE	►	
ARC	►	
SCREEN	►	√TV
TRANSPARENCY	►	VCR
PIP/DW	►	
SET ID	►	
COLOR TEMP.	►	

2 Use the ▲ / ▼ buttons to select **TV** or **VCR**.
- Select the **VCR** option if watching a VCR.
- Select the **TV** option for other equipment.(Except VCR)
- Each time you press the ▲ / ▼ button you toggle between **TV** and **VCR**.

△▽ ➡ VOL ▷

OSD ROTATE	►	
ARC	►	
SCREEN	►	TV
TRANSPARENCY	►	√VCR
PIP/DW	►	
SET ID	►	
COLOR TEMP.	►	

3 Press the **OK** button to exit.

OK

Adjusting OSD Transparency

To make the menus clear or opaque

READY

Press the **MENU** button and then press the ▲ / ▼ button to select ☆ menu. Press the ► button.

MENU ➡ △ ▽ ➡ VOL ▷
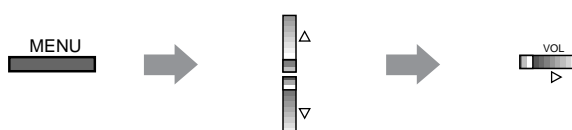
1 Press the ▲ / ▼ button to select **TRANSPARENCY** and then press the ► button.

△ ▽ ➡ VOL ▷

	OSD ROTATE	►	
	ARC	►	
	SCREEN	►	
🔊	TRANSPARENCY	►	5
	PIP/DW	►	
	SET ID	►	
⭐	COLOR TEMP.	►	
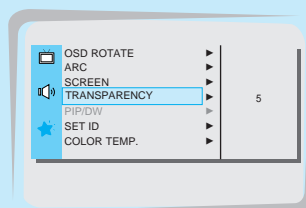
2 Press the ◄ / ► buttons to adjust OSD transparency.

• The adjustment range of **TRANSPARENCY** is 0 ~ 5.

VOL ◁ VOL ▷

	OSD ROTATE	►	
	ARC	►	
	SCREEN	►	
🔊	TRANSPARENCY	►	3
	PIP/DW	►	
	SET ID	►	
⭐	COLOR TEMP.	►	

3 Press the **OK** button to exit.

OK
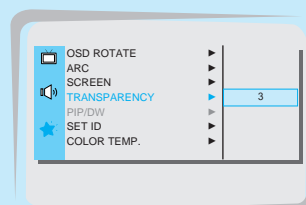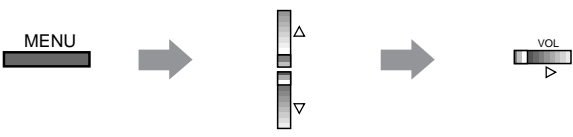
Adjusting color temperature

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Others

- Adjustments also affect the color temperature of other input sources. Readjust color temperature for PC input (RGB) if necessary.
- To initialize adjusted value, select '0' in RED, GREEN and BLUE.

READY

Press the **MENU** button and then press the ▲ / ▼ button to select ⭐ menu. Press the ► button.

MENU

VOL

---

1 Press the ▲ / ▼ button to select **COLOR TEMP.** and then press the ► button.

VOL

OSD ROTATE ►
ARC ►
SCREEN ►
TRANSPARENCY ►
PIP/DW ►
SET ID ►
COLOR TEMP. ► ► TO SET

---
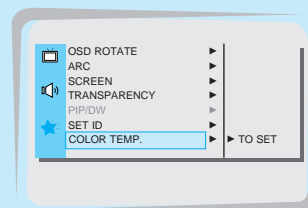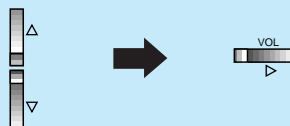
2 Press the ▲ / ▼ button to select **RED** and then press the ► button.
(to adjust RED setting)

VOL

RED ► 0
GREEN ►
BLUE ►
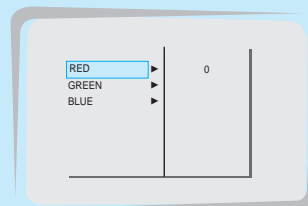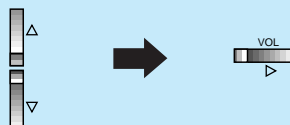
• Adjust **GREEN** and **BLUE** in the same way.

---

3 Use the ◄ / ► button to make appropriate adjustments and then press the **OK** button.

VOL VOL OK

• The adjustment range of **RED**, **GREEN** and **BLUE** is -5 ~ +5.

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Setting picture format

- **With the RGB-PC input, you can select either 16:9 or 4:3 screen aspect ratios.**
- **With the RGB-DTV (720p, 1080i) input, you can select only 16:9 screen aspect ratios.**
- **If 4:3 mode is used for a long time, the outline of the image may remain on the screen after you change to the 16:9 screen.**
- **Don't display 4:3 picture format or TWIN PICTURE for more than 10 hours continuously.**

ARC
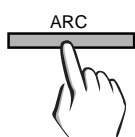
Press the **ARC** button to select a desired picture format.

• Each time you press **ARC** or ◄ / ► buttons, you can select **16:9**, **4:3** or **ZOOM** alternatively.

ARC ◄ 16 : 9 ►

<16:9>

ARC ◄ 4 : 3 ►

<4:3>

ARC ◄ ZOOM ►

<Zoom>

• You can also select **16:9**, **4:3** or **ZOOM** in the **SPECIAL** menu.

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.**
- **When you connect a control (RS-232C) cable to this monitor, use control cable attached the ferrite core. If you do not do this, this monitor will not conform to mandatory CISPR22 (EN55022) standards.**

How to connect external control equipment

- 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.
- The Monitor remote control and front panel controls (except main power) will not be functional if the Monitor is controlled by a PC computer or other external device.

Monitor Rear Connections Panel
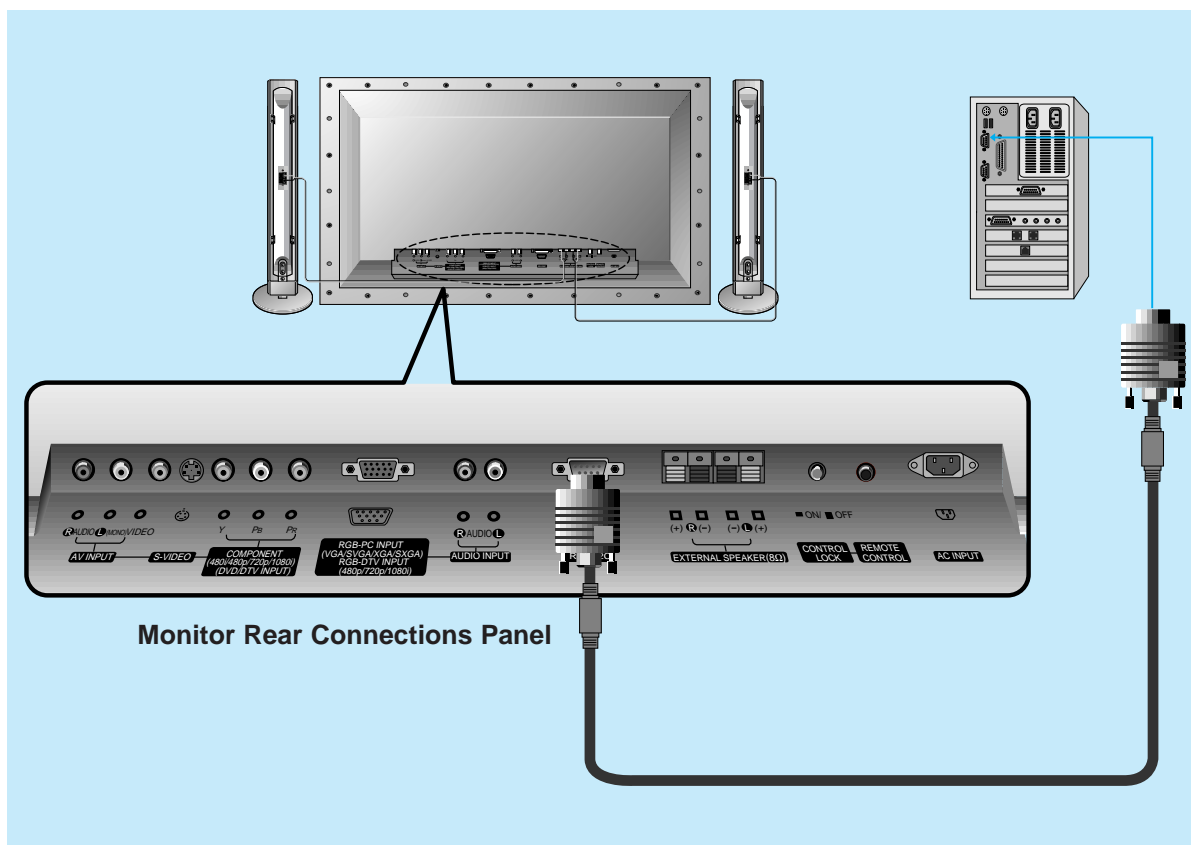
External Control Device Setup

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

Pin No.4 and Pin No.6 must be connected on monitor side.

1
5
9
6
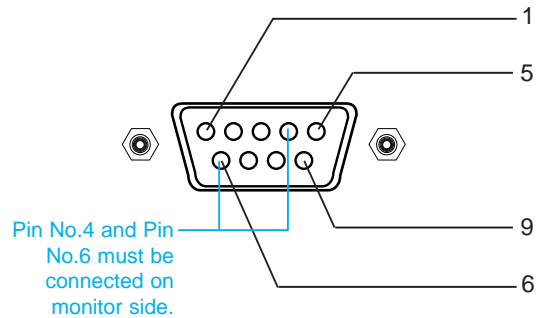
* Use a null modem cable.
  Wire the 7-Wire cable so that each pair of data lines cross between the two devices. These data line pairs are RXD (Receive data) and TXD (Transmit data), DTR (DTE side ready) and DSR (DCE side ready), and RTS (Ready to send) and CTS (Clear to send).
  When using the 3-Wire cable connected to RXD, TXD and GND; Pin No. 4 (DTR) and Pin No. 6 (DSR) must be connected to the monitor. (The cable must be disconnected from the Monitor to be able to use the remote control and Monitor front panel controls.)
* With the RS-232 input connected, the Monitor cannot be controlled by both an external control device and the remote control at the same time. The Monitor can only be controlled by either the remote control or the external control device.

RS-232C configurations

7-wire configuration
(Standard RS-232C cable)

PC			PDP	
RXD	2	3	TXD	
TXD	3	2	RXD	
GND	5	5	GND	
DTR	4	6	DSR	
DSR	6	4	DTR	
RTS	7	8	CTS	
CTS	8	7	RTS	
DB 9		Control line	DB 9	

3-wire configuration
(Not standard)

PC			PDP	
RXD	2	3	TXD	
TXD	3	2	RXD	
GND	5	5	GND	
DTR	4	4	DTR	
DSR	6	6	DSR	
RTS	7	7	RTS	
CTS	8	8	CTS	
DB 9			DB 9	
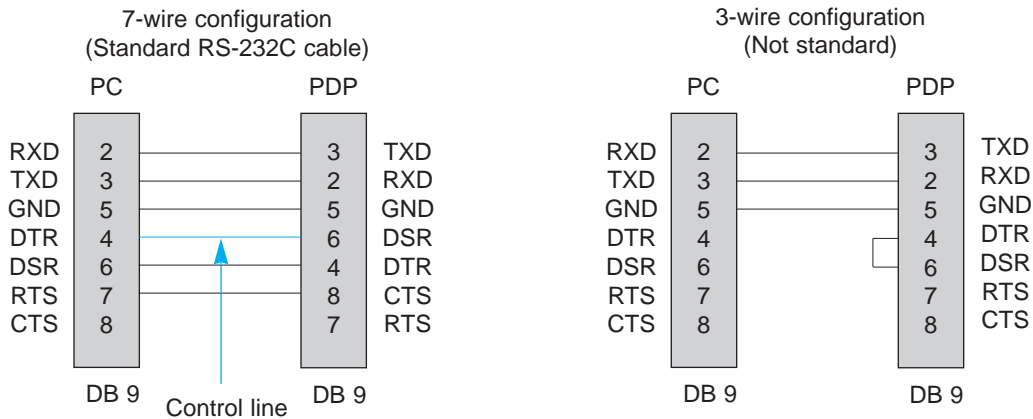
7-Wire Cable Configuration
• The Monitor is available to switch between external adjustment and remote control adjustment using a control line.
Note: If the control line is high, the monitor is controlled by the external control device. If the control line is low, the Monitor is controlled by the Monitor's remote control.

3-Wire Cable Configuration
• When using a 3-Wire cable configuration there is no control line. The external control device must put the Monitor into the "change into remote control adjustment mode" (see page 54). The Monitor will then be able to be controlled by the remote control. If the Monitor is turned back on, it will revert back to external device control.

SET ID

• Use this function to specify a monitor ID number.

READY

Press the **MENU** button and then press the ▲ / ▼ button to select ☆ menu. Press the ► button.

MENU

△
▽

VOL
▷
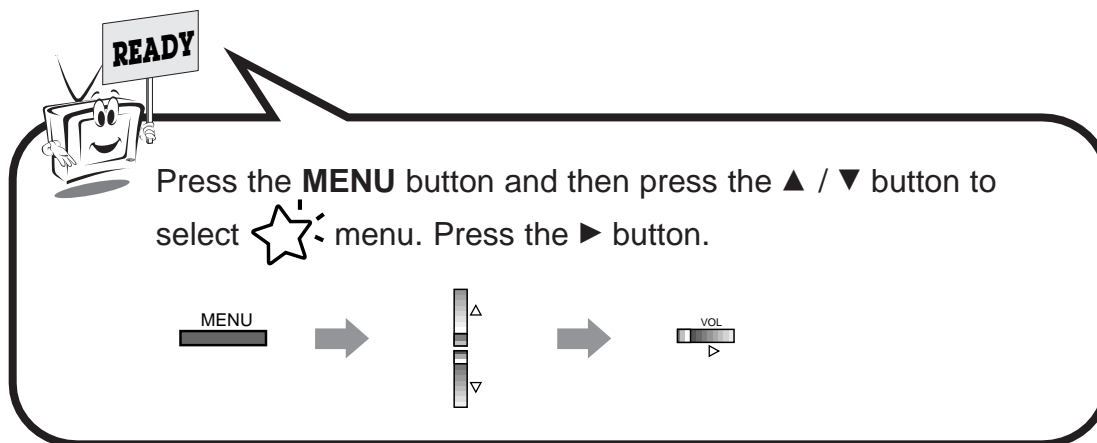
① Use the ▲ / ▼ buttons to select **SET ID** and then press the ► button.

△
▽

VOL
▷

OSD ROTATE	►	
ARC	►	
SCREEN	►	
TRANSPARENCY	►	
PIP/DW	►	
SET ID	►	1
COLOR TEMP.	►	
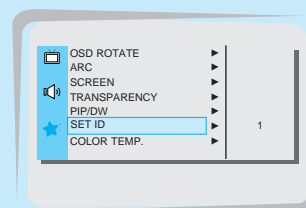
② Use the ◄ / ► button to adjust **SET ID** to choose the desired monitor ID number.

• The adjustment range of **SET ID** is 1 ~ 99.

VOL   VOL
◁   ▷

OK

OSD ROTATE	►	
ARC	►	
SCREEN	►	
TRANSPARENCY	►	
PIP/DW	►	
SET ID	►	1
COLOR TEMP.	►	
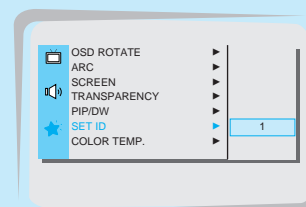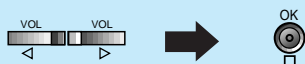
External Control Device Setup

- **The RS-232C input jack is used to control the Monitor's functions using an external control device.**

Communication Parameters

- Baud rate : 2400 bps (UART)
- Data length : 8 bits
- Parity : None
- Stop bit : 1 bit
- Communication code : ASCII code

* If the command interval is interrupted for more than 4 seconds, only Command 1 will be recognized. Be careful when using the power command.

Command Reference List

NAME	COMMAND	DATA RANGE
01. Power	p	0 ~ 1
02. Input Select	i	0 ~ 3
03. Aspect Ratio	r	0 ~ 2
04. Screen mute	m	0 ~ 1
05. Volume mute	w	0 ~ 1
06. Volume control	v	0 ~ 64
07. Contrast	k	0 ~ 64
08. Brightness	b	0 ~ 64
09. Color	c	0 ~ 64
10. Tint	t	0 ~ 64
11. Sharpness	s	0 ~ 64
12. OSD select	d	0 ~ 1
13. Abnormal state	a	0 ~ 1
14. PIP/DW	z	0 ~ 3
15. PIP input select	e	0 ~ 1
16. PIP sound select	u	0 ~ 1
17. PIP position	x	0 ~ 3
18. remote control adjustment mode	j	0 ~ 1

Transmission / Receiving Protocol

Transmission

[Command][ ][Set ID][ ][Data][Cr]

* [Command]   : To control PDP set.
* [Set ID]   : You can adjust the set ID to choose desired monitor ID number in special menu. See page 49. 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

[Set ID][:][OK][x][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

[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:p)

► To control Power On/Off of the Monitor.

Transmission

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

Data 0 : Power Off
     1 : Power On

* Example : Power on for set ID No.3.
  Type : P 3 1 '0x0D'

Acknowledgement

[Set ID][:][OK][x][Data][x]

Data 0 : Power Off
     1 : Power On

* In example : Monitor Acknowledges power on for set ID No.3.

► To show Power On/Off.

Transmission

[p][ ][Set ID][ ][FF][Cr]

Acknowledgement

[Set ID][:][OK][x][Data][x]

Data 0 : Power Off
     1 : Power On (RGB)
     2 : Power On (Video)
     3 : Power On (Component)
     4 : Power On (S-Video)

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

02. Input select (Command:i)

► 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

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

Data 0 : RGB
     1 : AV (Video)
     2 : Component
     3 : S-AV (S-Video)

Acknowledgement

[Set ID][:][OK][x][Data][x]

Data 0 : RGB
     1 : AV (Video)
     2 : Component
     3 : S-AV (S-Video)

03. Aspect Ratio (Command:r)

► 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 Special menu.

Transmission

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

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

Acknowledgement

[Set ID][:][OK][x][Data][x]

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

* Using the PC input, you select either 16:9 or 4:3 screen aspect ratio.
* Using the DTV 720p/1080i input, you can only select 16:9 screen aspect ratio.

04. Screen mute (Command:m)

► To select screen mute on/off.

Transmission

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

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

Acknowledgement

[Set ID][:][OK][x][Data][x]

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

05. Volume mute (Command:w)

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

Transmission

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

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

Acknowledgement

[Set ID][:][OK][x][Data][x]

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

External Control Device Setup

06. Volume control (Command:v)

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

Transmission

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

Data   Min : 0 ~ Max : 64
  * Refer to 'Real data mapping' as shown below.

Acknowledgement

[Set ID][:][OK][x][Data][x]

Data   Min : 0 ~ Max : 64

07. Contrast (Command:k)

► To adjust screen contrast.
  You can also adjust contrast in the Picture menu.

Transmission

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

Data   Min : 0 ~ Max : 64
  * Refer to 'Real data mapping' as shown below.

Acknowledgement

[Set ID][:][OK][x][Data][x]

Data   Min : 0 ~ Max : 64

08. Brightness (Command:b)

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

Transmission

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

Data   Min : 0 ~ Max : 64
  * Refer to 'Real data mapping' as shown below.

Acknowledgement

[Set ID][:][OK][x][Data][x]

Data   Min : 0 ~ Max : 64

09. Color (Command:c)

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

Transmission

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

Data   Min : 0 ~ Max : 64
  * Refer to 'Real data mapping' as shown below.

Acknowledgement

[Set ID][:][OK][x][Data][x]

Data   Min : 0 ~ Max : 64

10. Tint (Command:t)

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

Transmission

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

Data   Red : 0 ~ Green : 64
  * Refer to 'Real data mapping' as shown below.

Acknowledgement

[Set ID][:][OK][x][Data][x]

Data   Red : 0 ~ Green : 64

11. Sharpness (Command:s)

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

Transmission

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

Data   Min : 0 ~ Max : 64
  * Refer to 'Real data mapping' as shown below.

Acknowledgement

[Set ID][:][OK][x][Data][x]

Data   Min : 0 ~ Max : 64

* **Real data mapping**

  0 : Step 0
  ⋮
  A : Step 10
  ⋮
  F : Step 15
  10 : Step 16
  ⋮
  64 : Step 100

12. OSD select (Command:d)

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

Transmission

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

Data 0 : OSD off
        1 : OSD on

Acknowledgement

[Set ID][:][OK][x][Data][x]

Data 0 : OSD off
        1 : OSD on

* The remote control and Monitor front panel controls
  (except main power) are not operable when the Monitor
  is set up to be controlled by the PC computer.

13. Abnormal state (Command:a)

► To recognize an abnormal state.

Transmission

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

Acknowledgement

[Set ID][:][OK][x][Data][x]

Data 0 : OK
        1 : Fan alarm
        2 : 5V down
        3 : AC down

* This function is "read only".

14. PIP / DW (Command:z)

► To control PIP (Picture-in-Picture) or twin picture (DW).
  You can also control PIP/DW using the pip/twin picture
  button on remote control or in the Special menu.

Transmission

[z][ ][Set ID][ ][Data][Cr]

Data 0 : PIP/ DW off
        1 : PIP (small)
        2 : PIP (large)
        3 : Twin picture (DW)

Acknowledgement

[Set ID][:][OK][x][Data][x]

Data 0 : PIP/ DW off
        1 : PIP (small)
        2 : PIP (large)
        3 : Twin picture (DW)

* PIP only works in the following resolutions:
  RGB PC 640x480 (VGA) / 800x600(SVGA) / 1024x768
  (XGA) (only in vertical frequency 60Hz),
  Component 480p / 720p / 1080i.
* Twin picture works only in the following resolutions:
  RGB PC 640x480 (VGA) (only in vertical frequency 60Hz),
  RGB DTV, Component 480p/720p/1080i.

15. PIP input select (Command:e)

► To select input source for sub picture in PIP mode.
  You can also select source using PIP input button on
  the remote control or in the Special menu.

Transmission

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

Data 0 : AV (VIDEO)
        1 : COMPONENT
        2 : S-AV (S-VIDEO)

Acknowledgement

[Set ID][:][OK][x][Data][x]

Data 0 : AV (VIDEO)
        1 : COMPONENT
        2 : S-AV (S-VIDEO)

* COMPONENT source only works with 480i input signal.

External Control Device Setup

16. PIP sound select (Command:u)

► To select main or sub (inset) sound for PIP/Twin picture.
You can also select sound select in PIP/DW on the
special menu.

Transmission

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

Data 0 : Main picture sound
　　 1 : Sub picture sound

Acknowledgement

[Set ID][:][OK][x][Data][x]

Data 0 : Main picture sound
　　 1 : Sub picture sound

* COMPONENT source only works in 480i input signal.

17. PIP position (Command:x)

► To select sub picture position for PIP.
You can also adjust the sub picture position using the
position button on the remote control or in PIP/DW on
the Special menu.

Transmission

[x][ ][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

Acknowledgement

[Set ID][:][OK][x][Data][x]

Data 0 : Right down on screen
　　 1 : Left down on screen
　　 2 : Left up on screen
　　 3 : Right up on screen

18. Change into Remote control adjustment mode (Command:j)

► To control the Monitor with the remote control while
the cable is still connected.

Transmission

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

Data 1 : Remote control adjustment mode

Acknowledgement

[Set ID][:][OK][x][Data][x]

Data 0 : PC adjustment mode
　　 1 : Remote control adjustment mode

* If external equipment commands the Monitor to
"change into remote control adjustment mode", the
Monitor can only be adjusted by the remote control.
To revert the Monitor control to external control device
adjustment, turn the Monitor off and then on again.
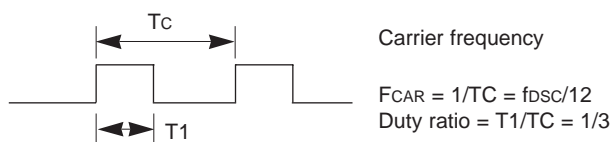
IR CODE (NEC format)

How to connect

► Connect your wired remote control to remote control jack on the monitor with a remote control cable.
Set the control lock 'on' on the monitor to work wired remote control.
Set the control lock 'off' on the monitor to work remote control.
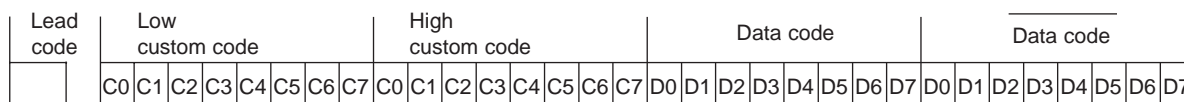
Remote control IR code (NEC format)

► **Output waveform**

Singlepulse, modulate with 37.917kHz signal at 455kHz

Carrier frequency

$F_{CAR} = 1/TC = f_{DSC}/12$
Duty ratio = T1/TC = 1/3

► **Configuration of flame**

• 1st flame

Lead code	Low custom code								High custom code								Data code								Data code							
	C0	C1	C2	C3	C4	C5	C6	C7	C0	C1	C2	C3	C4	C5	C6	C7	D0	D1	D2	D3	D4	D5	D6	D7	D0	D1	D2	D3	D4	D5	D6	D7

• Repeat flame

Repeat code   Tf

► **Lead code**

9 ms   4.5 ms

► **Repeat code**

0.55 ms

9 ms   2.25 ms
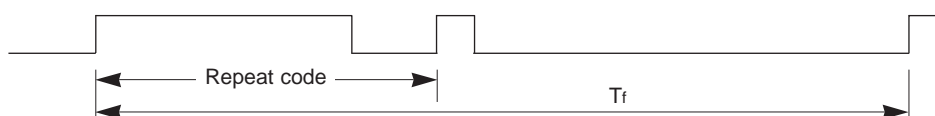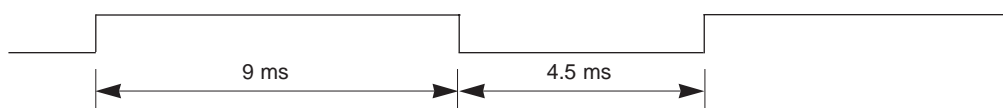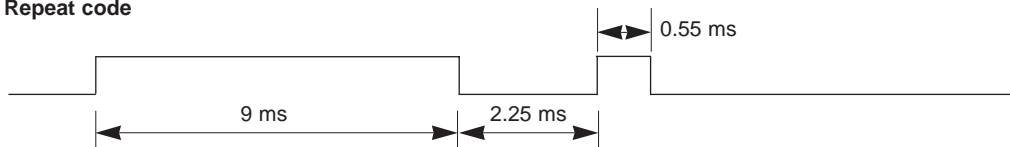
IR CODE (NEC format)

▶ **Beat description**

- Beat "0"

    0.56 ms

    1.12 ms

- Beat "1"

    0.56 ms

    2.24 ms
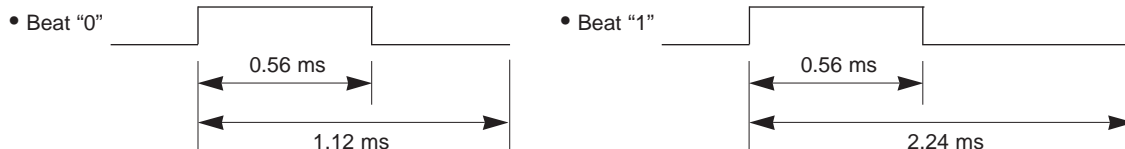
▶ **Flame interval : Tf**

The transmitted waveform as long as a key is depressed.

Tf   Tf

Tf=108ms @455kHz
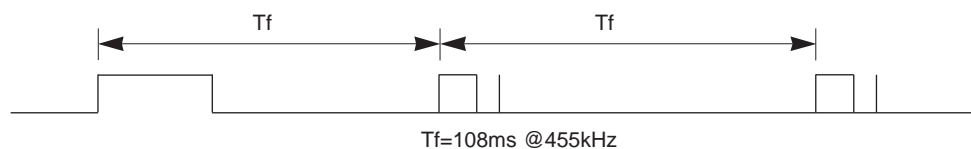
Code (Hexa)	Function	Note
00H	UP (▲)	R/C Button
01H	DOWN (▼)	R/C Button
02H	VOL+ (►)	R/C Button
03H	VOL- (◄)	R/C Button
08H	POWER	Power On/Off Toggle
C4H	POWER ON	R/C (Only Power On)
C5H	SYSTEM OFF	R/C (Only System Off)
09H	MUTE	R/C Button
0BH	INPUT SELECT	R/C Button
98H	RGB	Discrete (Input RGB & Power On)
5AH	VIDEO	Discrete (Input VIDEO & Power On)
51H	S-VIDEO	Discrete (Input S-VIDEO & Power On)
BFH	COMPONENT	Discrete (Input COMPONENT & Power On)
0EH	SLEEP	R/C Button
1BH or 44H	OK (■)	R/C Button
42H	MENU	R/C Button
47H	DASP	R/C Button
4DH	APC	R/C Button
60H	PIP	R/C Button
61H	PIP INPUT	R/C Button
62H	(PIP)POSITION	R/C Button
65H or BCH	STILL	R/C Button
6BH	TWIN PICTURE	R/C Button
79H	ARC	R/C Button
77H	ARC (16: 9)	Discrete (Only 16:9 mode)
76H	ARC (4 : 3)	Discrete (Only 4:3 mode)
AFH	ARC (ZOOM)	Discrete (Only ZOOM mode)

Maintenance

- **Early malfunction can be prevented. Careful and regular cleaning can extend the amount of time you will have with your new Monitor. 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 Monitor.

Cleaning the cabinet

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

Extended absence

If you leave your Monitor 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.

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.31) • Install new batteries. (Refer to p.31)

No or Poor color or Poor picture	• Select **COLOR** in the **PICTURE** menu and press the **VOLUME** (▶) button. (Refer to p.37) • Increase the 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.)

No output from one of the speakers	• Adjust **BALANCE** in the **SOUND** menu. (Refer to p.39)

Product specifications

MODEL	MU-60PZ12V/VA/VB/VK/VS
Width (inches / mm)	57.3 / 1455
Height (inches / mm)	34.8 / 883
Depth (inches / mm)	3.9 / 99
Weight (pounds / kg)	154.3 / 70
Power requirement	120V, 60Hz
Resolution	1280 x 720 (Dot)
Color	16,770,000 (256 steps of each R, G and B)
Temperature (In operation)	0 ~ 40°C
Humidity (In operation)	under 80%

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