PLASMA TV
OWNER'S MANUAL

PLASMA TV MODELS
42PT8*
50PT8*

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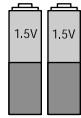Record model number and serial number of the set.
See the label attached on the back cover and quote this information to your dealer when you require service.

Life's Good

ACCESSORIES

Ensure that the following accessories are included with your TV. If an accessory is missing, please contact the dealer where you purchased the product.
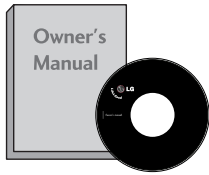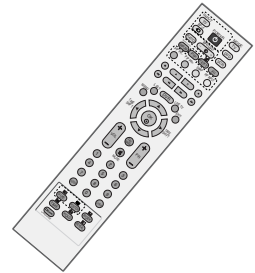
Owner's Manual

Batteries

Power Cord

Remote Control

This feature is not available for all models.

2-Wall brackets   **2-eye-bolts**

Polishing Cloth
Polish the screen with the cloth

*Slightly wipe stained spot on the exterior only with the cleansing cloths for the product exterior if there is stain or fingerprint on surface of the exterior.

Do not wipe roughly when removing stain. Please be cautious of that excessive power may cause scratch or discoloration.

CONTENTS

PICTURE CONTROL

SOUND & LANGUAGE CONTROL

TIME SETTING

TELETEXT

APPENDIX

PREPARATION

HOME MENU

This menu is a contents guide.
In Home Menu, you enter the Recorded list of DVR, Manual Recording of the DVR, Schedule List ,Photo List, Music List, Movie List or TV Menu.

DVR	Home

Free Space
HIGH 19h 03m
NORMAL 32h 36m

Recorded TV ▶p.46

Manual Record

Schedule List

Photo List ▶p.62~70

Music List

Movie List

TV Menu
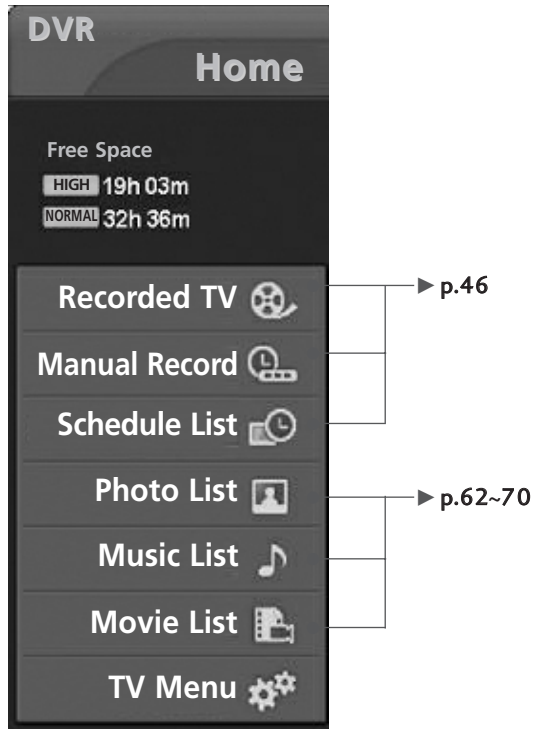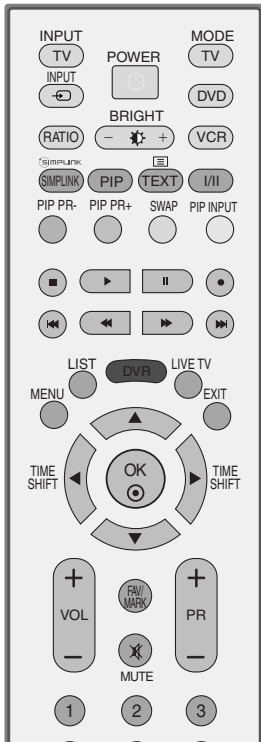
FRONT PANEL CONTROLS

■ This is a simplified representation of the front panel. Here shown may be somewhat different from your TV.
■ If your product has a protection film attached, remove the film and then wipe the product with a polishing cloth.
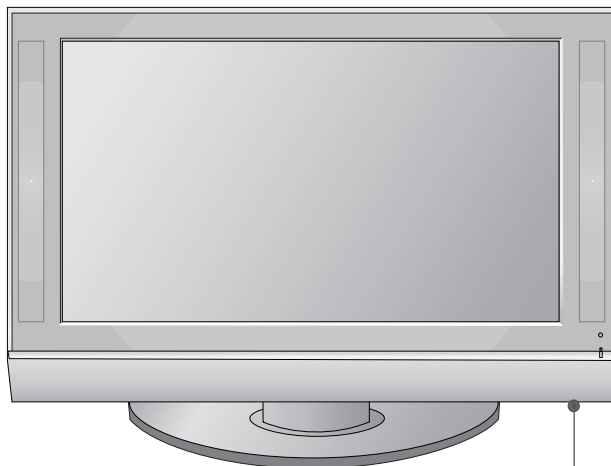
Remote Control Sensor

Power/Standby Indicator
• illuminates red in standby mode.
• illuminates green when the set is switched on.
• illuminates orange when the set is switched off during recording.

| ⏻/ | | INPUT | MENU | OK◉ | ◄ VOL ► | ▼ PR ▲ |

| POWER | INPUT | MENU | OK | VOLUME | PROGRAMME |
| Button | Button | Button | Button | Buttons | Buttons |
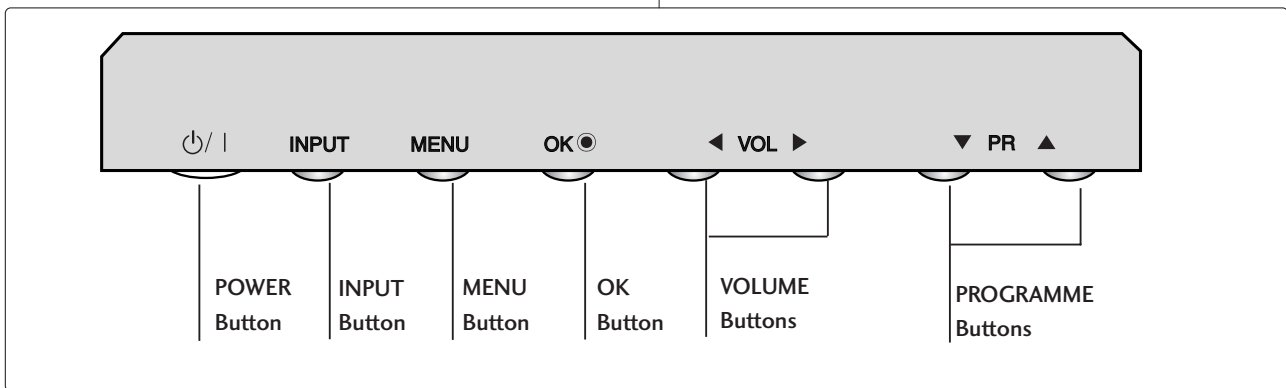
BACK PANEL INFORMATION

■ This is a simplified representation of the back panel. Here shown may be somewhat different from your TV.

AV IN 3

USB

USB Input

S-VIDEO

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

VIDEO L/MONO AUDIO R

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

❽

❶ ❷

HDMI/DVI IN HDMI IN
1   2

RGB IN
RGB   AUDIO
(PC)   (RGB/DVI)

AV 1 **AV 2**

ANTENNA IN

VIDEO   AUDIO
Y   PB   PR   L   R

VARIABLE AUDIO OUT
L   R

RS-232C IN
(CONTROL&SERVICE)

COMPONENT IN

❸   ❹   ❺   ❻   ❼
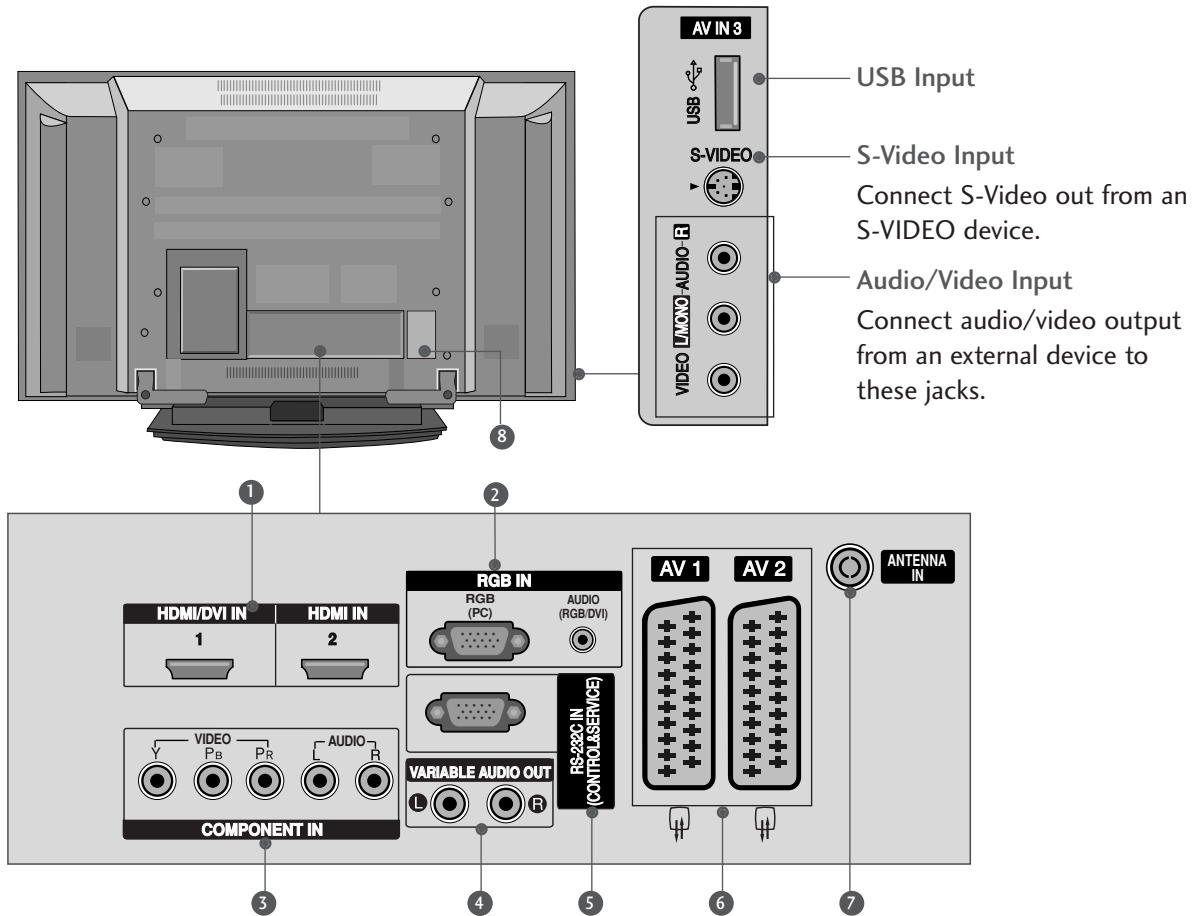
❶ **HDMI/DVI1, HDMI2 Input**
Connect a HDMI signal to HDMI IN.
Or DVI(VIDEO)signal to HDMI/DVI port with DVI to HDMI cable.

❷ **RGB/Audio Input**
Connect the monitor output from a PC to the appropriate input port.

❸ **Component Input**
Connect a component video/audio device to these jacks.

❹ **Variable Audio Output**
Connect an external amplifier or add a subwoofer to your surround sound system.

❺ **RS-232C Input(CONTROL&SERVICE)Port**
Connect to the RS-232C port on a PC.

❻ **Euro Scart Socket (AV1/AV2)**
Connect scart socket input or output from an external device to these jacks.

❼ **Antenna Input**
Connect over-the-air signals to this jack.

❽ **Power Cord Socket**
This TV operates on an AC power. The voltage is indicated on the Specifications page. Never attempt to operate the TV on DC power.

ATTACHING THE TV TO A WALL(This feature is not available for all models.)

■ Set it up close to the wall so the product doesn't fall over when it is pushed backwards.
■ The instructions shown below is a safer way to set up the product, which is to fix it on the wall so the product doesn't fall over when it is pulled in the forward direction. It will prevent the product from falling for-ward and hurting people. It will also prevent the product from damage caused by fall. Please make sure that children don't climb on or hang from the product.
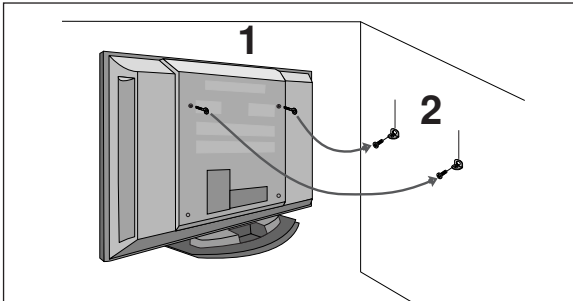
① Use the eye-bolts or TV brackets/bolts to fix the product to the wall as shown in the picture.
   (If your product has the bolts in the eye-bolts position before inserting the eye-bolts, loosen the bolts.)
   * Insert the eye-bolts or TV brackets/bolts and tighten them securely in the upper holes.

② Secure the wall brackets with the bolts (not provided as parts of the product, must purchase separately) on the wall. Match the height of the bracket that is mounted on the wall.
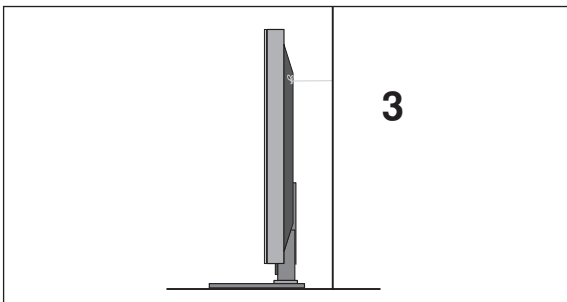
③ Use a sturdy rope (not provided as parts of the product, must purchase separately) to tie the product. It is safer to tie the rope so it becomes horizontal between the wall and the product.

❶ NOTE

► When moving the product to another place undo the ropes first.
► Use a product holder or a cabinet that is big and strong enough for the size and weight of the product.
► To use the product safely make sure that the height of the bracket that is mounted on the wall is same as that of the product.

BACK COVER FOR WIRE ARRANGEMENT

1 Hold the **CABLE MANAGEMENT** with hands and push it as shown.
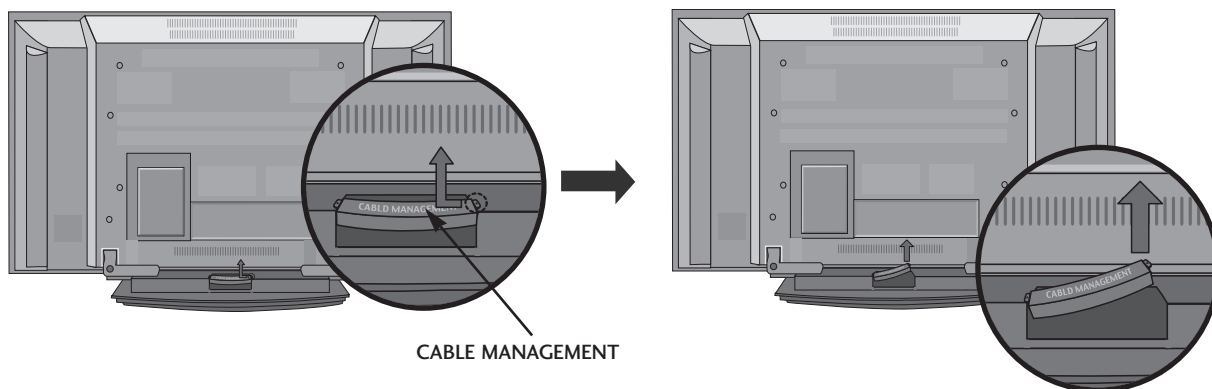
CABLE MANAGEMENT

2 Connect the cables as necessary.
To connect an additional equipment, see the **External equipment Setup** section.
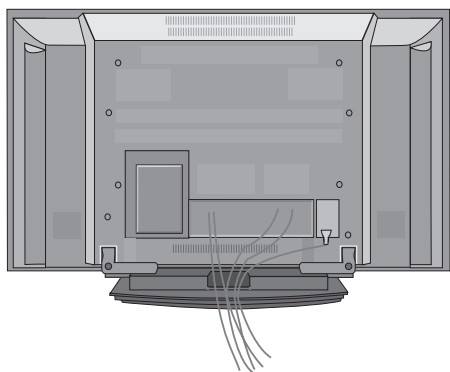
3 Reinstall the **CABLE MANAGEMENT** as shown.
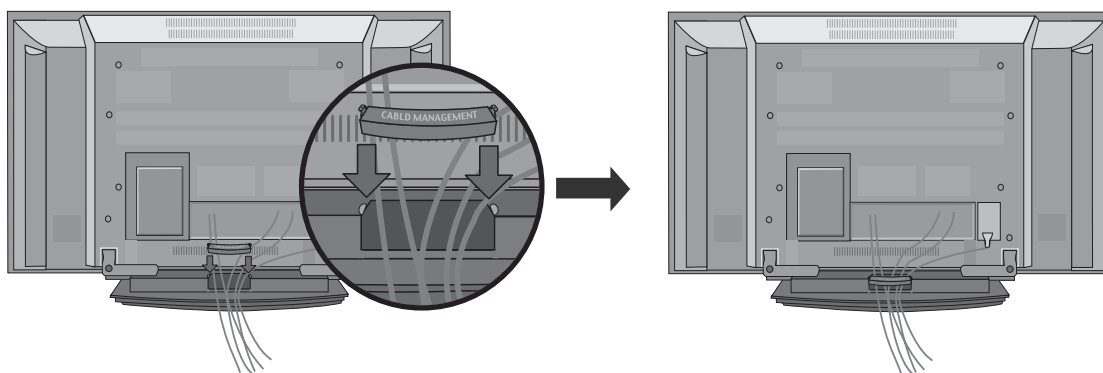
- **The TV can be installed in various ways such as on a wall, or on a desktop etc.**
- **The TV is designed to be mounted horizontally.**

GROUNDING

Ensure that you connect the earth ground wire to prevent possible electric shock. If grounding methods are not possible, have a qualified electrician install a separate circuit breaker.

Do not try to ground the unit by connecting it to telephone wires, lightening rods, or gas pipes.

Power Supply

Short-circuit Breaker
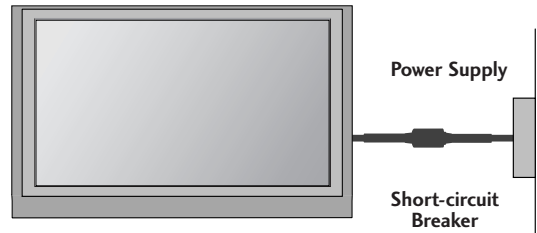
DESKTOP PEDESTAL INSTALLATION

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

4 inches

4 inches   4 inches   4 inches
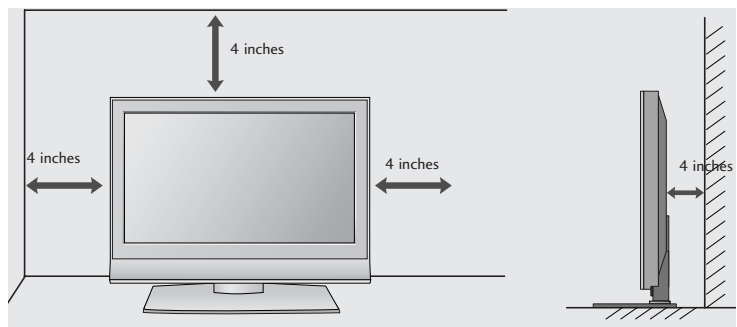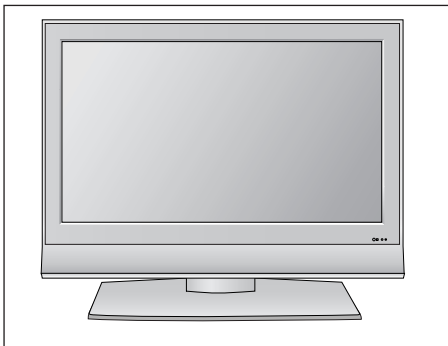
WALL MOUNT: HORIZONTAL INSTALLATION

For proper ventilation, allow a clearance of 4" on each side and from the wall. Detailed installation instructions are available from your dealer, see the optional Tilt Wall Mounting Bracket Installation and Setup Guide.

4 inches

4 inches   4 inches   4 inches

4 inches
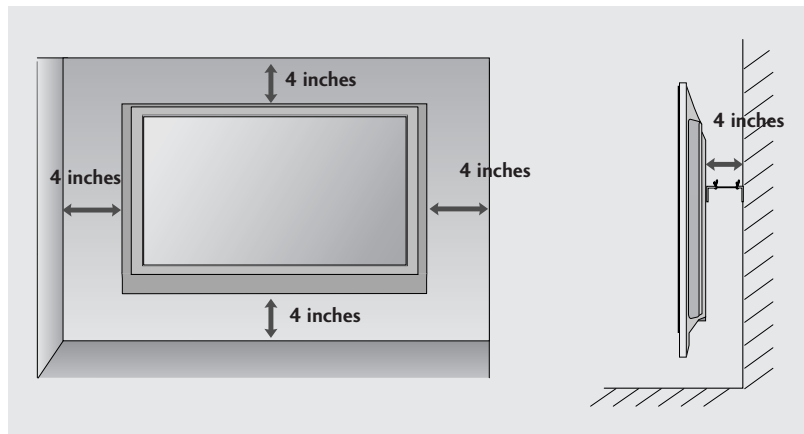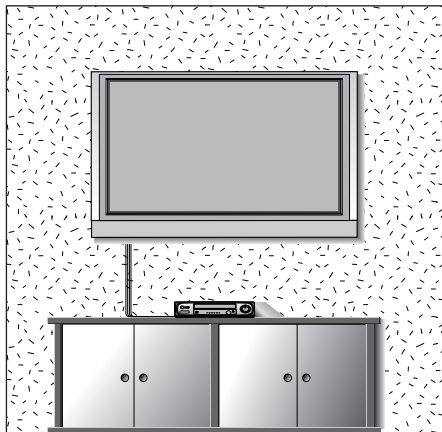
PREPARATION

■ To prevent the equipment damage, never plug in any power cords until you have finished connecting all equipment.

ANTENNA CONNECTION

■ For optimum picture quality, adjust antenna direction.
■ An antenna cable and converter are not supplied.

**Multi-family Dwellings/Apartments
(Connect to wall antenna socket)**

Wall
Antenna
Socket

RF Coaxial Wire (75 ohm)

Outdoor
Antenna

ANTENNA
IN

**Single-family Dwellings /Houses
(Connect to wall jack for outdoor antenna)**

UHF

ANTENNA
IN

Antenna

Signal
Amplifier

VHF
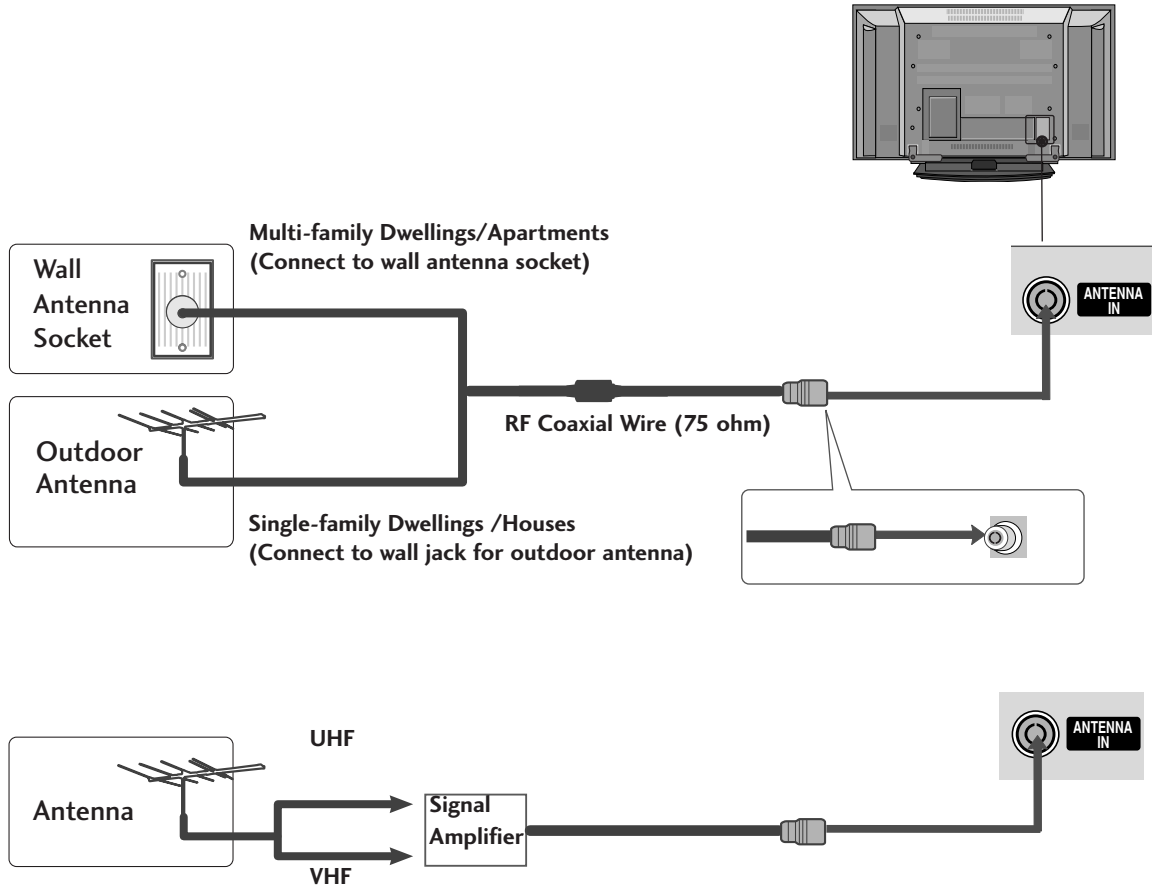
■ In poor signal areas,to get better picture quality, install a signal amplifier to the antenna as shown to the right.
■ If signal needs to be split for two TVs,use an antenna signal splitter for connection.

EXTERNAL EQUIPMENT SETUP

■ To prevent the equipment damage, never plug in any power cords until you have finished connecting all equipment.
■ Here shown may be somewhat different from your TV.

HD RECEIVER SETUP

When connecting with a component cable

1 Connect the video outputs (Y, P_B, P_R) of the digital set top box to the **COMPONENT IN VIDEO** jacks on the set.

2 Connect the audio output of the digital set-top box to the **COMPONENT IN AUDIO** jacks on the set.

3 Turn on the digital set-top box.
(Refer to the owner's manual for the digital set-top box.)

4 Select **Component** input source with using the **INPUT** button on the remote control.
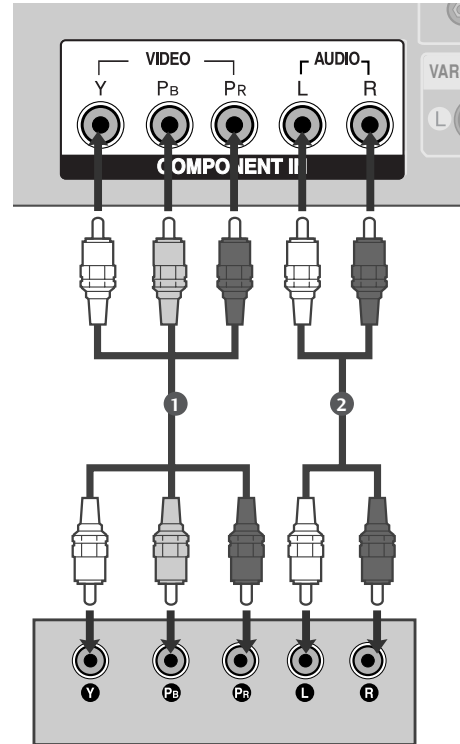
Signal	Component	HDMI1/DVI, HDMI2
480i/576i	Yes	No
480p/576p	Yes	Yes
720p/1080i	Yes	Yes
1080p(50/60Hz)	Yes	Yes

EXTERNAL EQUIPMENT SETUP

When connecting with a HDMI cable

1 Connect the HDMI output of the digital set-top box to the **HDMI/DVI IN 1** or **HDMI IN 2** jack on the set.

2 Select **HDMI1/DVI** or **HDMI2** input source with using the **INPUT** button on the remote control.

3 Turn on the digital set-top box.
(Refer to the owner's manual for the digital set-top box.)
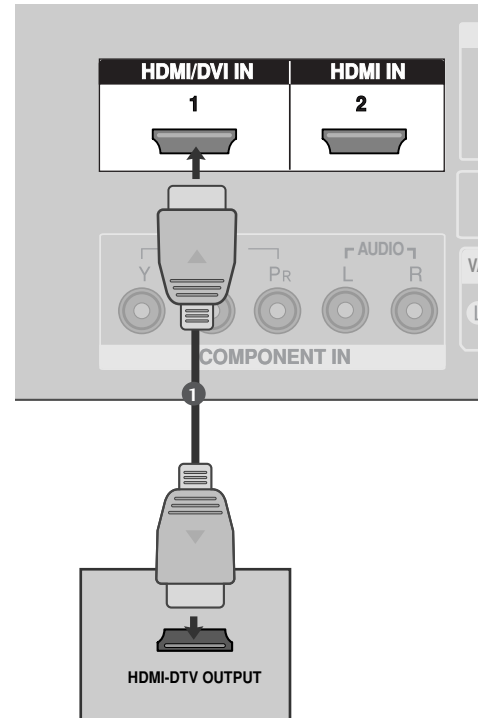
When connecting with a HDMI to DVI cable
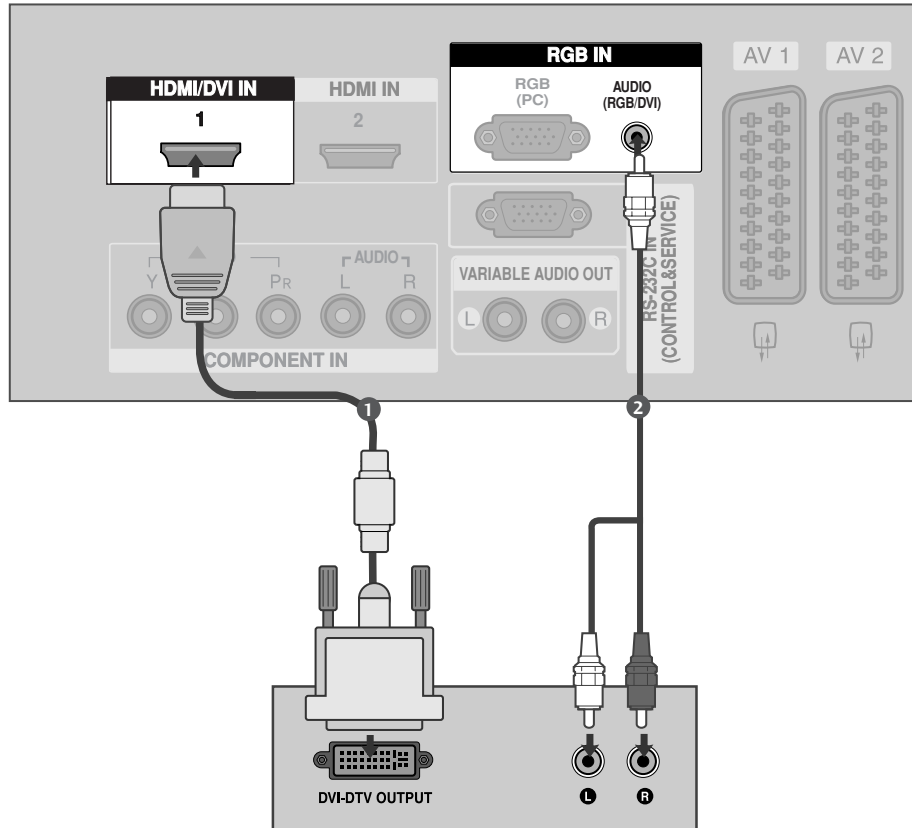
1 Connect the DVI output of the digital set-top box to the **HDMI/DVI IN 1** jack on the set.

2 Connect the audio output of the digital set-top box to the **AUDIO(RGB/DVI)** jack on the set.

3 Turn on the digital set-top box. (Refer to the owner's manual for the digital set-top box.)

4 Select **HDMI1/DVI** input source with using the **INPUT** button on the remote control.

DVD SETUP

When connecting with a component cable

1 Connect the video outputs (Y, P$_B$, P$_R$) of the DVD to the **COMPONENT IN VIDEO** jacks on the set.

2 Connect the audio outputs of the DVD to the **COMPO- NENT IN AUDIO** jacks on the set.

3 Turn on the DVD player, insert a DVD.

4 Select **Component** input source with using the **INPUT** button on the remote control.

5 Refer to the DVD player's manual for operating instructions.
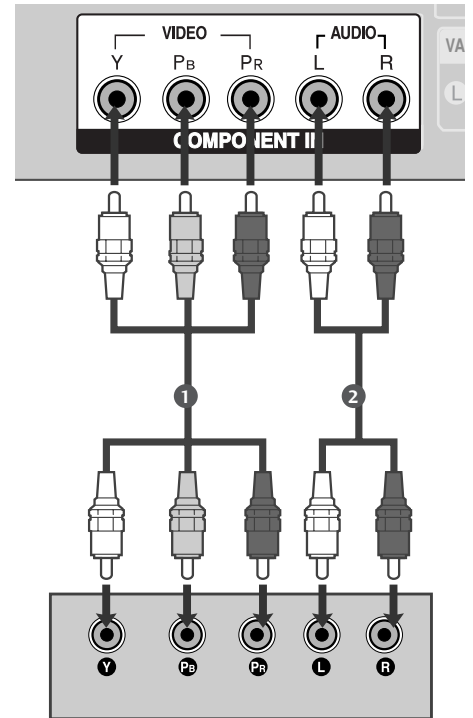
Component Input ports
To get better picture quality, connect a DVD player to the component input ports as shown below.

Component ports on the TV	Y	P$_B$	P$_R$

Video output ports on DVD player	Y	P$_B$	P$_R$
	Y	B-Y	R-Y
	Y	Cb	Cr
	Y	Pb	Pr

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When connecting with a Euro Scart

1 Connect the Euro scart socket of the DVD to the **AV1** Euro scart socket on the set.

2 Turn on the DVD player, insert a DVD.

3 Select **AV1** input source with using the **INPUT** button on the remote control.
If connected to **AV2** Euro scart socket, select **AV2** input source.

4 Refer to the DVD player's manual for operating instructions.
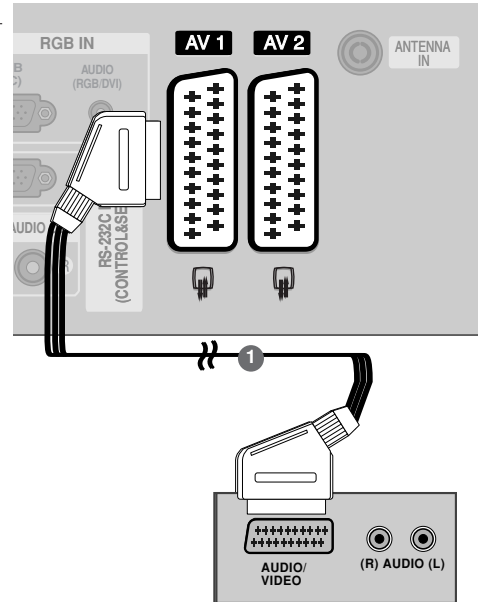
❗ NOTE
► Please use the shield scart cable.

When connecting with an S-Video cable

1 Connect the S-VIDEO output of the DVD to the **S-VIDEO** input on the set.

2 Connect the audio outputs of the DVD to the **AUDIO** input jacks on the set.

3 Turn on the DVD player, insert a DVD.

4 Select **AV3** input source with using the **INPUT** button on the remote control.

5 Refer to the DVD player's manual for operating instructions.
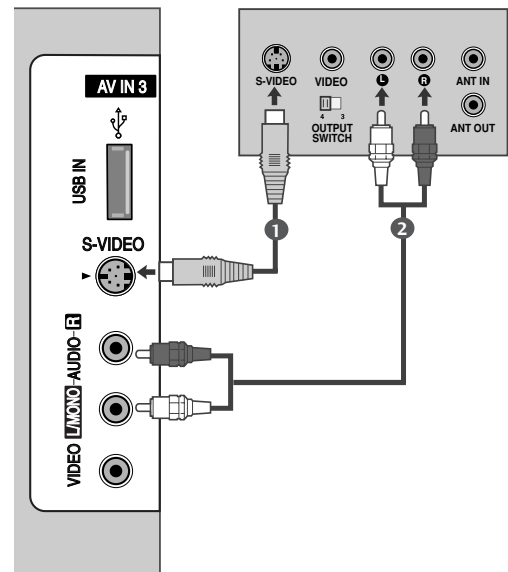
EXTERNAL EQUIPMENT SETUP

When connecting HDMI cable

1 Connect the HDMI output of the DVD to the
HDMI/DVI IN 1 or **HDMI IN 2** jack on the set.

2 Select **HDMI1/DVI** or **HDMI2** input source with
using the **INPUT** button on the remote control.

3 Refer to the DVD player's manual for operating
instructions.

HDMI/DVI IN | HDMI IN
1 | **2**

Y   P R   AUDIO L   R

COMPONENT IN

HDMI-DVD OUTPUT

! NOTE

▶ TV can receive the video and audio signal simultaneously
with using a HDMI cable.
▶ If the DVD does not support Auto HDMI, you need to set
the output resolution appropriately.

16
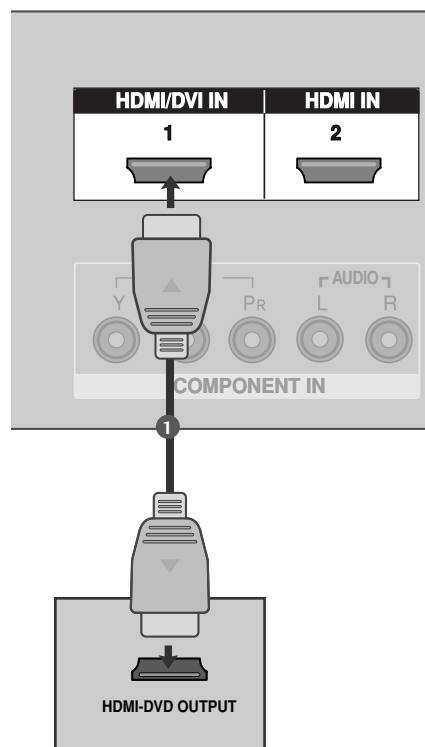
VCR SETUP

ⁿ To avoid picture noise (interference), leave an adequate distance between the VCR and TV.
ⁿ Typically a frozen still picture from a VCR. If the 4:3 picture format is used; the fixed images on the sides of the screen may remain visible on the screen.

When connecting with an antenna

RGB IN | AV 1 | AV 2 | ANTENNA IN

GB C) | AUDIO (RGB/DVI)

RS-232C IN (CONTROL&SERVICE)

AUDIO OUT | R

ANT OUT | S-VIDEO | VIDEO | L | R

ANT IN | OUTPUT SWITCH 4 3

Wall Jack
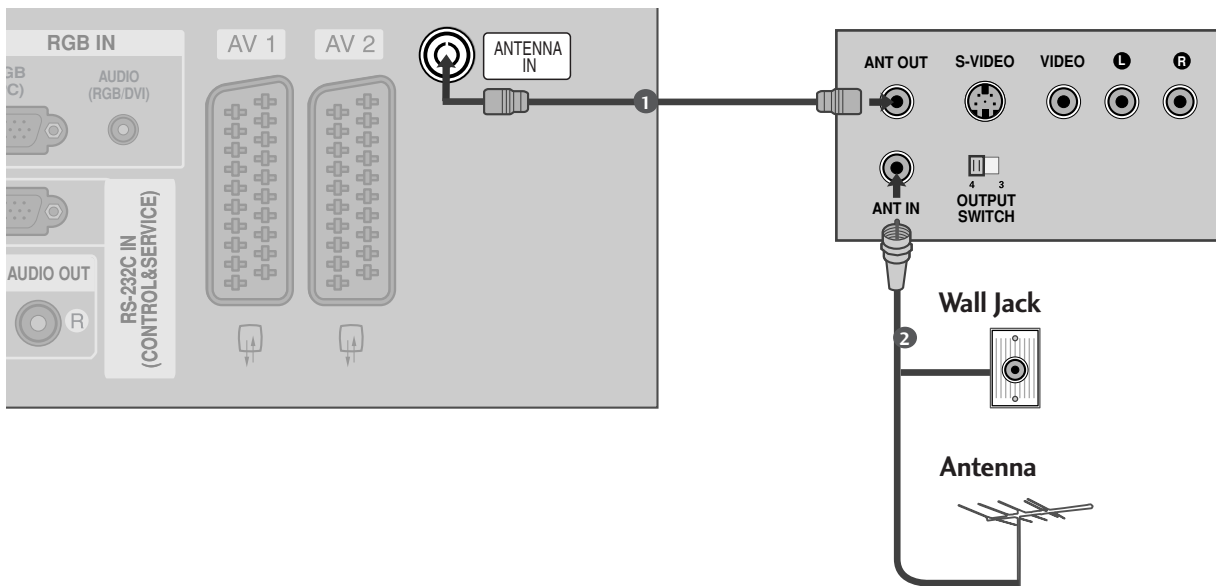
Antenna

① Connect the **ANT OUT** socket of the VCR to the **ANTENNA IN** socket on the set.

② Connect the antenna cable to the **ANT IN** socket of the VCR.

③ Press the **PLAY** button on the VCR and match the appropriate programme between the TV and VCR for viewing.

When connecting with a Euro Scart

① Connect the Euro scart socket of the VCR to the **AV1** Euro scart socket on the set.

② Insert a video tape into the VCR and press PLAY on the VCR. (Refer to the VCR owner's manual.)

③ Select **AV1** input source with using the **INPUT** button on the remote control.
If connected to **AV2** Euro scart socket, select **AV2** input source.

RGB IN

AUDIO
(RGB/DVI)

AV 1   AV 2

ANTENNA
IN

RS-232C
(CONTROL&SE

AUDIO

①

AUDIO/
VIDEO
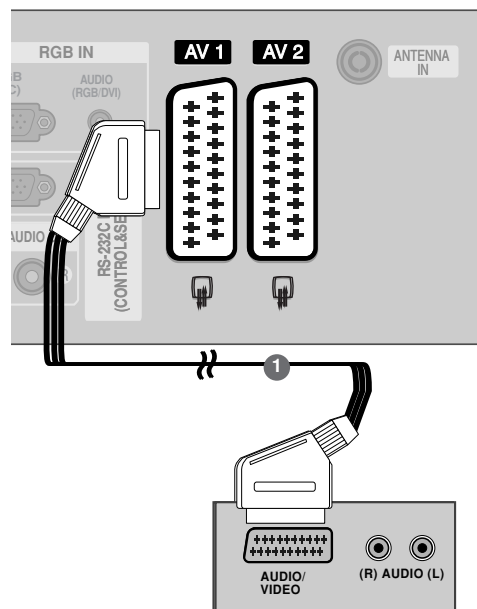
(R) AUDIO (L)

❶ NOTE

▶ If you want to use the EURO scart cable, you have to use the signal shielded Euro scart cable.

When connecting with a RCA cable

1 Connect the **AUDIO/VIDEO** jacks between TV and VCR. Match the jack colours (Video = yellow, Audio Left = white, and Audio Right = red)

2 Insert a video tape into the VCR and press PLAY on the VCR. (Refer to the VCR owner's manual.)

3 Select **AV3** input source using the **INPUT** button on the remote control.

❗ NOTE

▶ If you have a mono VCR, connect the audio cable from the VCR to the **AUDIO L/MONO** jack of the set.
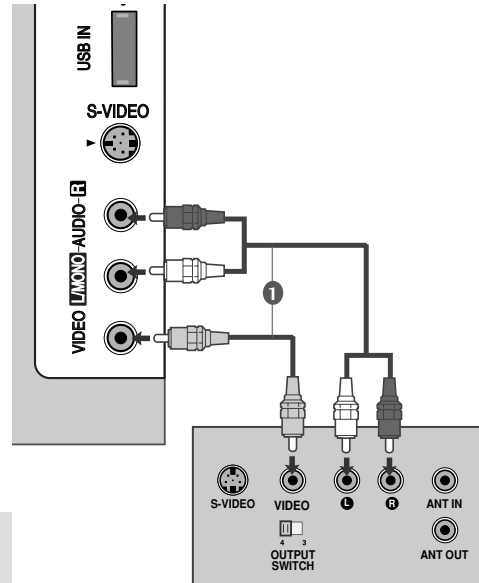
When connecting with an S-Video cable

1 Connect the S-VIDEO output of the VCR to the **S-VIDEO** input on the set. The picture quality is improved; compared to normal composite (RCA cable) input.

2 Connect the audio outputs of the VCR to the **AUDIO** input jacks on the set.

3 Insert a video tape into the VCR and press PLAY on the VCR. (Refer to the VCR owner's manual.)

4 Select **AV3** input source with using the **INPUT** button on the remote control.

❗ NOTE

▶ If both S-VIDEO and VIDEO sockets have been connected to the S-VHS VCR simultaneously, only the S-VIDEO can be received.
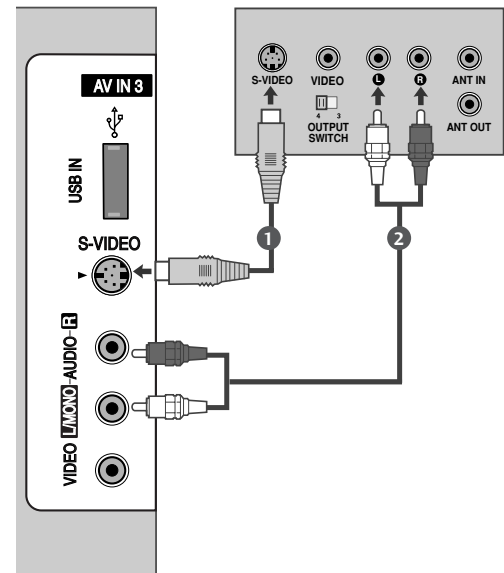
EXTERNAL EQUIPMENT SETUP

OTHER A/V SOURCE SETUP

Camcorder

Video Game Set

AV IN 3

USB IN

S-VIDEO

VIDEO L/MONO AUDIO-R
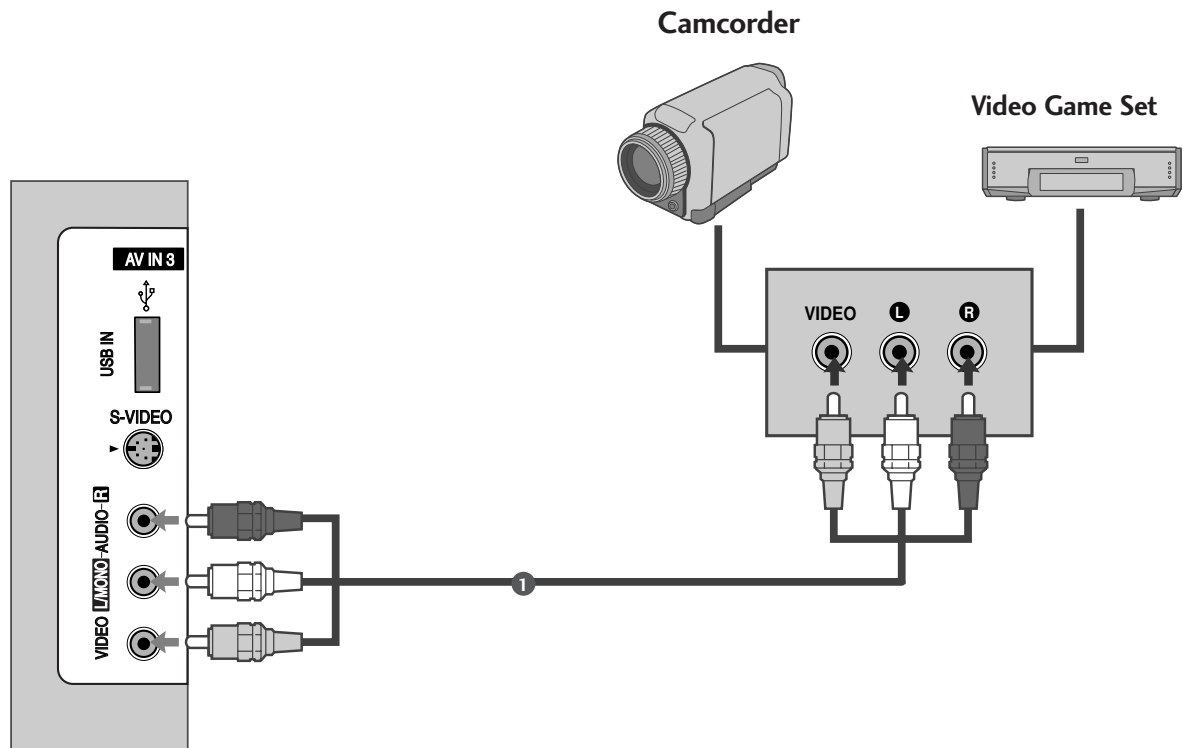
VIDEO Ⓛ Ⓡ

1 Connect the **AUDIO/VIDEO** jacks between TV and external equipment. Match the jack colours. (Video = yellow, Audio Left = white, and Audio Right = red)

2 Select **AV3** input source with using the **INPUT** button on the remote control.

3 Operate the corresponding external equipment. Refer to external equipment operating guide.

EXTERNAL STEREO SETUP

Use to connected either an external amplifier, or add a sub-woofer to your surround sound system.

① Connect the input jack of the stereo amplifier to the **VARIABLE AUDIO OUT** jacks on the set.

② Set up your speakers through your analog stereo amplifier, according to the instructions provided with the amplifier.

❶ NOTE

▶ When connecting with external audio equipments, such as amplifiers or speakers, please turn the TV speakers off.
(▶ **p.92**)
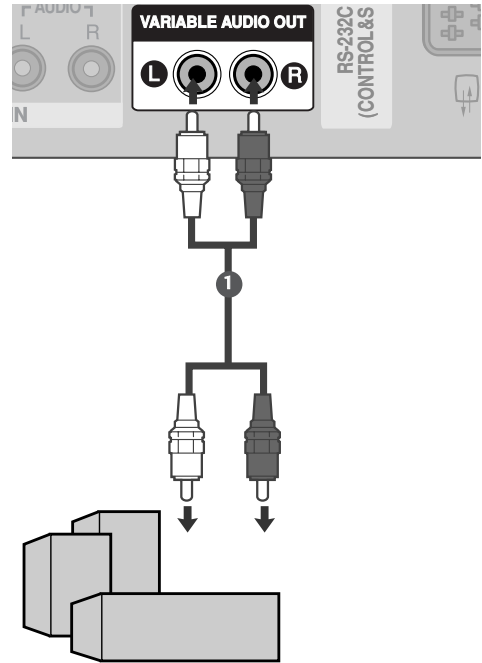
EXTERNAL EQUIPMENT SETUP

USB IN SETUP
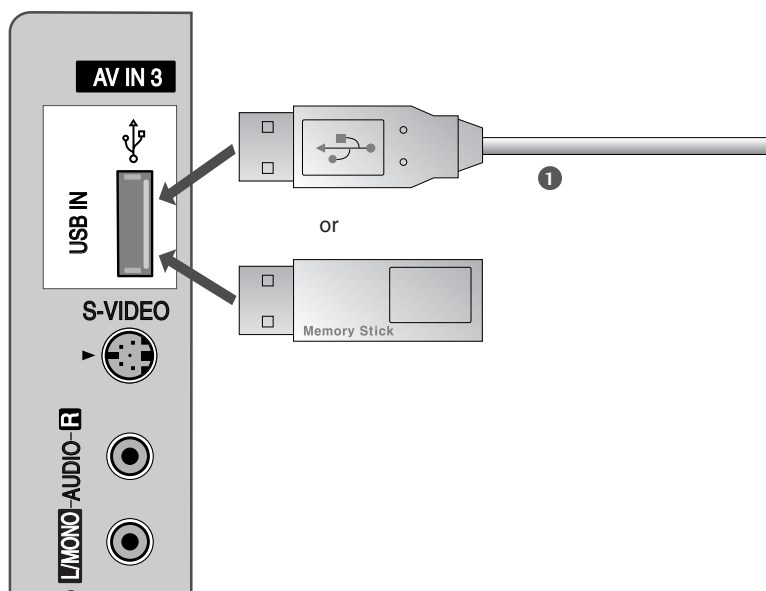
AV IN 3

USB IN

or

Memory Stick

S-VIDEO

AUDIO

L/MONO–AUDIO–R

❶

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❶ Connect the USB device to the **USB IN** jacks on the side of TV.

❷ After connecting the **USB IN** jacks, you use the **DVR** function. (▶ **p.54**)

PC SETUP

This TV provides Plug and Play capability, meaning that the PC adjusts automatically to the TV's settings.

When connecting with a D-sub 15 pin cable
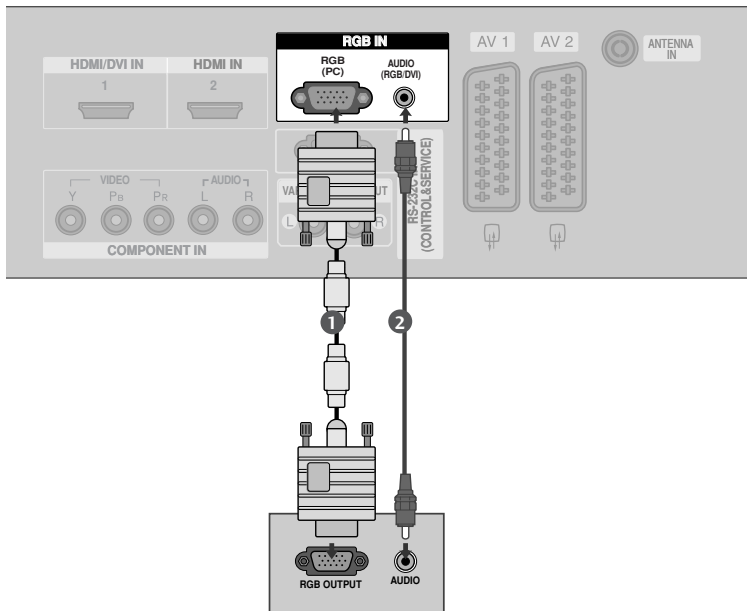
1   Connect the RGB output of the PC to the **RGB (PC)** jack on the set.

2   Connect the PC audio output to the **AUDIO(RGB/DVI)** jack on the set.

3   Turn on the PC and the set.

4   Select **RGB** input source with using the **INPUT** button on the remote control.

EXTERNAL EQUIPMENT SETUP

When connecting with a HDMI to DVI cable
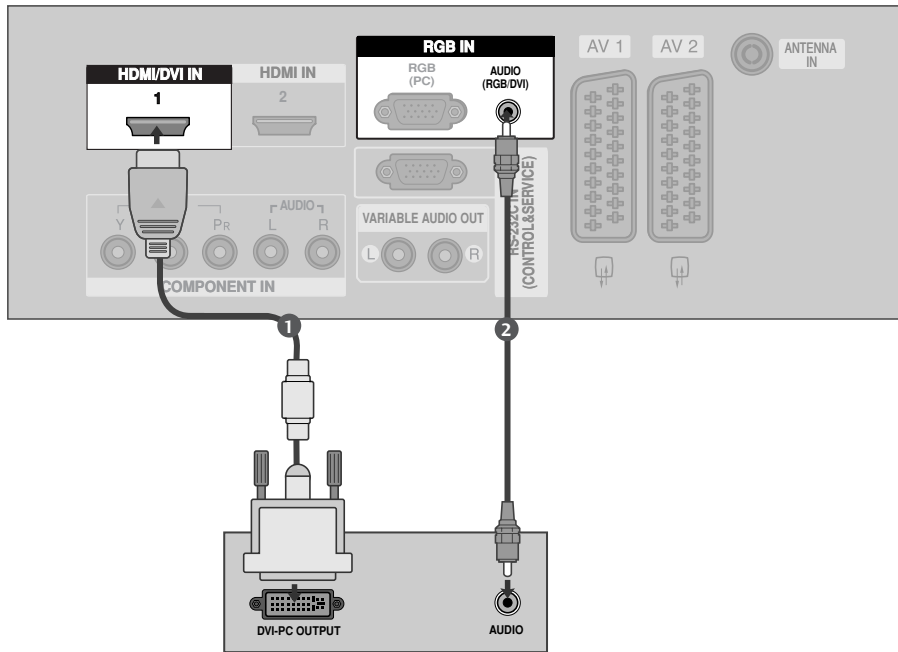
1 Connect the DVI output of the PC to the **HDMI/DVI IN 1** jack on the set.

2 Connect the PC audio output to the **AUDIO(RGB/DVI)** jack on the set.

3 Turn on the PC and the set.

4 Select **HDMI1/DVI** input source with using the **INPUT** button on the remote control.

🛈 NOTE

▶ If the PC has a DVI output and no HDMI output, a separated audio connection is necessary.

▶ If the PC does not support Auto DVI, you need to set the output resolution appropriately.

Supported Display Resolution (RGB /HDMI[PC]mode)

Resolution	Horizontal Frequency(kHz)	Vertical Frequency(Hz)
720x400	31.469	70.08
640x480	31.469	59.94
	37.500	75.00
800x600	37.879	60.31
	46.875	75.00
1024x768	48.363	60.00
	56.476	70.06
	60.023	75.02
1280x768	47.693	59.99
1360x768	47.700	60.00
1366x768	47.700	60.00

ⓘ NOTE

► To enjoy vivid picture and sound, connect a PC to the set.
► Avoid keeping a fixed image on the set'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 (PC) or HDMI IN (or HDMI/DVI IN) port of the set; change the resolution output of PC accordingly.
► There might be noise according to some resolution, vertical pattern, contrast or brightness in PC mode. Change the PC mode into another resolution or change the refresh rate into another 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.
► The synchronization input waveform for Horizontal and Vertical frequencies are separate.
► We recommend using 1024x768, 60Hz (42 inch PLASMA TV models)/ 1360x768, 60Hz (50 inch PLASMA TV models) for the PC mode, they provide the best picture quality.
► Connect the signal cable from the monitor output port of the PC to the RGB (PC/DTV) port of the set or the signal cable from the HDMI output port of the PC to the HDMI IN (or HDMI/DVI IN) port

on the set.
► Connect the audio cable from the PC to the Audio input on the set. (Audio cables are not included with the set).
► If using a sound card, adjust PC sound as required.
► This set uses a VESA Plug and Play Solution. The set provides EDID data to the PC system with a DDC protocol. The PC adjusts automatically when using this set.
► DDC protocol is preset for RGB (Analog RGB) and HDMI (Digital RGB) mode.
► If required, adjust the settings for Plug and Play functionally.
► If graphic card on the PC does not output analog and digital RGB simultaneously, connect only one of either RGB or HDMI IN (or HDMI/DVI IN) to display the PC on the set.
► If graphic card on the PC does output analog and digital RGB simultaneously, set the set to either RGB or HDMI; (the other mode is set to Plug and Play automatically by the set.)
► DOS mode may not work depending on video card if you use a HDMI to DVI cable.
► When you use too long RGB-PC cable, there might be a noise on the screen. We recommend using under 5m of the cable. It provides the best picture quality.

Screen Setup for PC mode

Auto Configure (RGB mode only)

Automatically adjusts picture position and minimizes image shaking.After adjustment, if the image is still not correct, your set is functioning properly but needs further adjustment.

Auto configure

This function is for the automatic adjustment of the screen position, clock, and phase. The displayed image will unstable for a few seconds while the auto configuration is in progress.

1 Press the **MENU** button and then use ▲ / ▼ button to select the **PICTURE** menu.

2 Press the ► button and then use ▲ / ▼ button to select **Screen**.

3 Press the ► button and then use ▲ / ▼ button to select **Auto Config.**.

4 Press the ► button to start **Auto Config.**.

• When **Auto config.** has finished, OK will be shown on screen.
• If the position of the image is still not correct, try Auto adjustment again.

• If picture needs to be adjusted more after Auto adjustment in RGB, you can adjust the **Manual Config.**.

5 Press the **EXIT** button to return to TV viewing.

SETUP	Picture Mode
PICTURE ►	Colour Temperature
AUDIO	XD
TIME	Advanced
	Aspect Ratio
OPTION	Picture Reset
DVR	Screen
	XD Demo

Menu   Prev.

❶

Picture Mode
Colour Temperature
XD
Advanced
Aspect Ratio
Picture Reset
Screen ►   To Set
XD Demo

❷

Screen

Auto Config. ►   To Set
Manual Config.
XGA Mode
Reset

❸ ❹
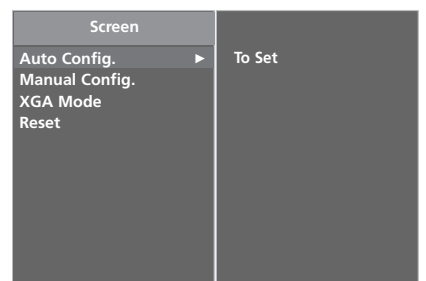
Adjustment for screen Phase, Clock, Position

If the picture isn't clear after auto adjustment and especially if characters are still trembling, adjust the picture phase manually.

To correct the screen size, adjust **Clock**.

This function works in the following mode : RGB, COMPONENT (480p/576p/720p/1080i/1080p), HDMI (480p/576p/720p/1080i/1080p).

It's not available to use Phase, Clock function in COMPONENT (480p/576p/720p/1080i/1080p), HDMI (480p/576p/720p/1080i/1080p).

Clock This function is to minimize any vertical bars or stripes visible on the screen background. And the horizontal screen size will also change.

Phase This function allows you to remove any horizontal noise and clear or sharpen the image of characters.
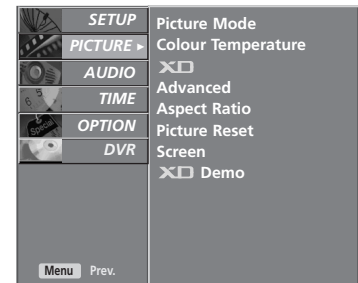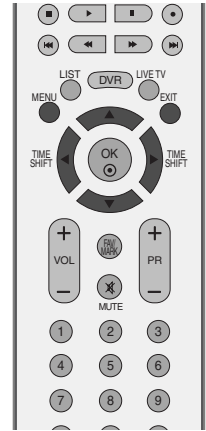
---

1 Press the **MENU** button and then use ▲ / ▼ button to select the **PICTURE** menu.

---

2 Press the ▶ button and then use ▲ / ▼ button to select **Screen**.

---

3 Press the ▶ button and then use ▲ / ▼ button to select **Manual Config.**.

---

4 Press the ▶ button and then use ▲ / ▼ button to select **Phase**, **Clock**, **H-Position** or **V-Position**.

---

5 Press the ◀ / ▶ button to make appropriate adjustments.

---

6 Press the **EXIT** button to return to TV viewing.

SETUP	Picture Mode
PICTURE ▶	Colour Temperature
AUDIO	XD
TIME	Advanced
OPTION	Aspect Ratio
DVR	Picture Reset
	Screen
	XD Demo

Menu Prev.

❶

Picture Mode	
Colour Temperature	
XD	
Advanced	
Aspect Ratio	
Picture Reset	
Screen ▶	To Set
XD Demo	

❷

Screen	
Auto Config.	
Manual Config. ▶	Phase 0
XGA Mode	Clock 0
Reset	H-Position 0
	V-Position 0

❸ ❹ ❺

27
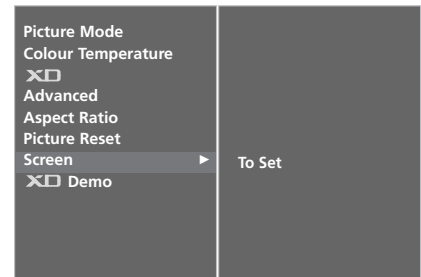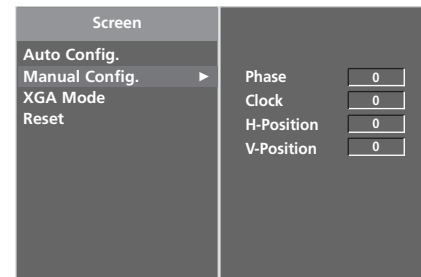
Selecting Wide XGA mode

To see a normal picture, match the resolution of RGB mode and selection of XGA mode.

This function works in the following mode: RGB mode.
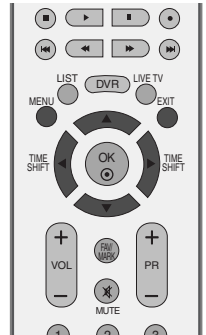
1 Press the **MENU** button and then use ▲ / ▼ button to select the **PICTURE** menu.
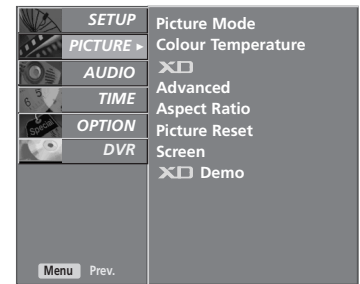
2 Press the ▶ button and then use ▲ / ▼ button to select **Screen**.

3 Press the ▶ button and then use ▲ / ▼ button to select **XGA Mode**.

4 Press the ▶ button and then use ▲ / ▼ button to select the desired XGA resolution.

5 Press the **EXIT** button to return to TV viewing.

SETUP	Picture Mode
PICTURE ▶	Colour Temperature
AUDIO	XD
TIME	Advanced
OPTION	Aspect Ratio
DVR	Picture Reset
	Screen
	XD Demo

Menu   Prev.

❶

Picture Mode
Colour Temperature
XD
Advanced
Aspect Ratio
Picture Reset
Screen   ▶   To Set
XD Demo

❷

Screen	
Auto Config.	
Manual Config.	
XGA Mode ▶	√ 1024 X 768
Reset	1280 X 768
	1360 X 768
	1366 X 768

❸ ❹
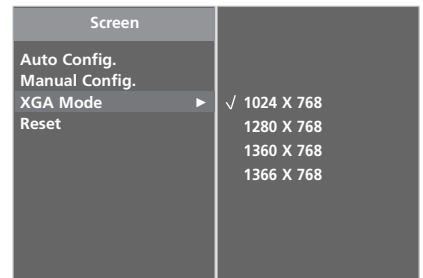
Initializing
(Reset to original factory settings)

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

1 Press the MENU button and then use ▲ / ▼ button to select the **PICTURE** menu.

2 Press the ▶ button and then use ▲ / ▼ button to select **Screen**.

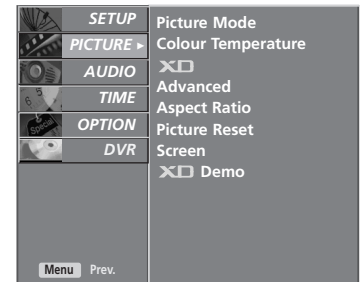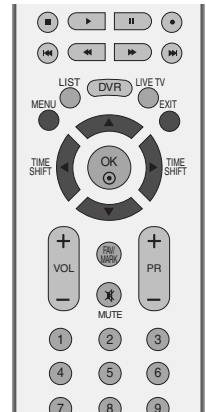3 Press the ▶ button and then use ▲ / ▼ button to select **Reset**.

4 Press the ▶ button.

5 Press the **EXIT** button to return to TV viewing.

SETUP	Picture Mode
PICTURE ▶	Colour Temperature
AUDIO	XD
TIME	Advanced
	Aspect Ratio
OPTION	Picture Reset
DVR	Screen
	XD Demo

Menu   Prev.

❶

Picture Mode	
Colour Temperature	
XD	
Advanced	
Aspect Ratio	
Picture Reset	
Screen ▶	To Set
XD Demo	

❷

Screen	
Auto Config.	
Manual Config.	
XGA Mode	
Reset ▶	To Set

❸ ❹
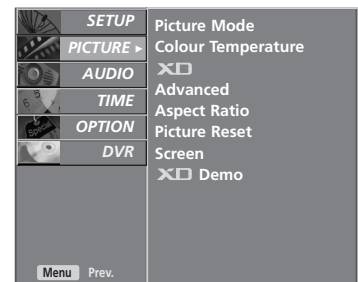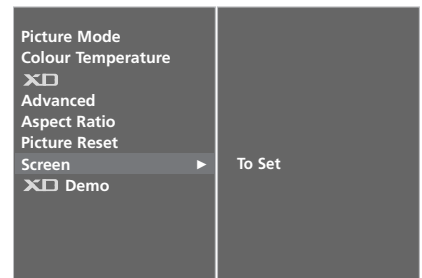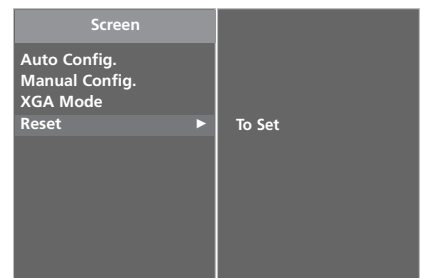
REMOTE CONTROL KEY FUNCTIONS

When using the remote control, aim it at the remote control sensor on the TV.

POWER	Switches the set on from standby or off to standby.
TV INPUT	Returns to the TV viewing from any mode. Switches the set on from standby.
INPUT	If you press the button once, the input source OSD will appear on screen as shown. Press the ▲ / ▼ button and then OK button to select the desired input source (TV, AV1, AV2, AV3, Component, RGB, HDMI1/DVI or HDMI2).

RATIO	Selects your desired picture format.
Brightness adjustment	Adjusts screen brightness. It returns to the default settings brightness by changing mode source.

1

PIP	Switches the sub picture PIP, DW mode.
PIP PR - /+	Selects a programme for the sub picture.
SWAP	Exchanges the main/sub images in PIP/Double window.
PIP INPUT	Selects the input source for the sub picture in PIP/DW picture mode.
SIZE	Adjusts the sub picture size.
POSITION	Moves the sub picture.

DVR/VCR/DVD control buttons	Controls some video cassette recorders or DVD players when you have already selected DVD or VCR mode button. Control connected AV devices by pressing the ▲ / ▼ / ◄ / ►, **OK** buttons and buttons for play, stop, pause, fast reverse, fast forward, chapter skip. (The ⊙ button does not provide such functions.) Use for DVR record or trick play.

MENU	Selects a menu.
LIST	Displays the programme list.
DVR	Brings up the Home menu.
LIVE TV	In Delayed mode, the screen returns to Live programme from TV, AV1, AV2, AV3 and Component modes.
EXIT	Clears all on-screen displays and returns to TV viewing from any menu.

2

DivX	Selects a DivX Audio Language or Subtitle Language
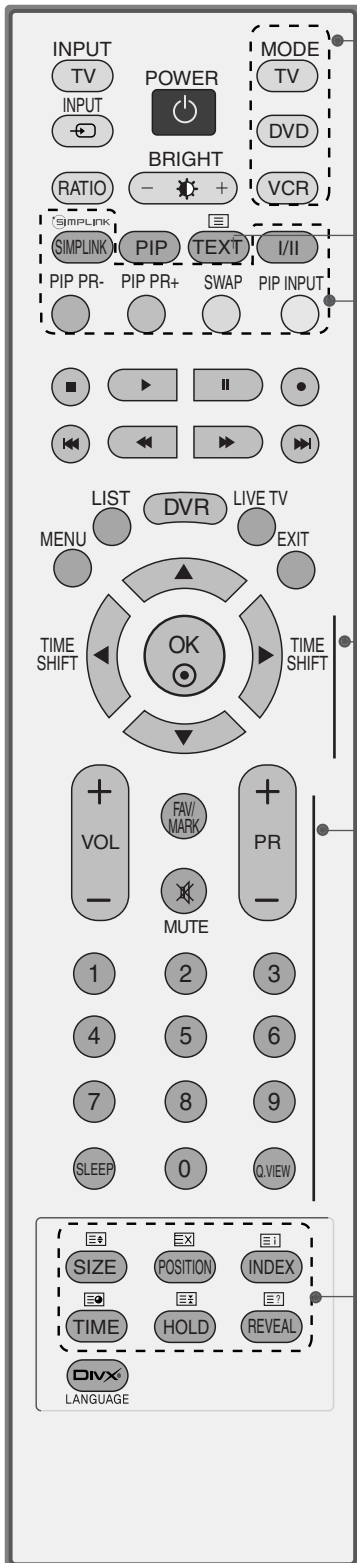
MODE	Selects the remote operating modes.

3 TELETEXT BUTTONS	These buttons are used for teletext. For further details, see the 'Teletext' section.

SIMPLINK	See a list of AV devices connected to TV. When you toggle this button, the Simplink menu appears at the screen.(▶ **p.44**)
I/II	Selects the sound output.
Coloured buttons	These buttons are used for teletext (only **TELETEXT** models) or **Programme edit**.

THUMBSTICK (Up/Down/Left Right) (TIME SHIFT)	Allows you to navigate the on-screen menus and adjust the system settings to your preference.
OK	Accepts your selection or displays the current mode.

VOLUME UP/DOWN	Adjusts the volume.
FAV	Displays the selected favourite programme.
MARK	Check and un-check programmes in the recorded TV menu.
MUTE	Switches the sound on or off.
Programme UP/DOWN	Selects a programme.
0~9 number buttons	Selects a programme. Selects numbered items in a menu.
SLEEP	Sets the sleep timer.
Q.VIEW	Returns to the previously viewed programme.
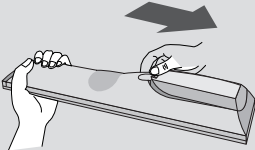
Installing Batteries

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

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TURNING ON THE TV

If your TV will be turned on, you will be able to use its features.

1 First, connect power cord correctly.
At this moment, the TV switches to standby mode.

  ■ In standby mode to turn TV on, press the ⏻/I , **INPUT**, **PR ▲ /▼** button on the TV or press the **POWER**, **TV**, **INPUT**, **PR + / -**, **Number(0~9)** button on the remote control and then the TV will switch on.
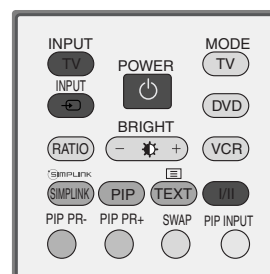
PROGRAMME SELECTION

1 Press the **PR + / -** or **NUMBER** buttons to select a programme number.

VOLUME ADJUSTMENT

1 Press the **VOL + / -** button to adjust the volume.

2 If you want to switch the sound off, press the **MUTE** button.

3 You can cancel the Mute function by pressing the **MUTE**, **VOL + / -** or **I/II** button.

ON SCREEN MENUS SELECTION AND ADJUSTMENT

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

1 Press the **MENU** button and then ▲ / ▼ button to display each menu.

2 Press the ▶ button and then ▲ / ▼ button to select a menu item.

3 Change the setting of an item in the sub or pull-down menu with ◄ / ► button.
You can move to the higher level menu by pressing the **OK** or **MENU** button.

SETUP ►	Auto Tuning
PICTURE	Manual Tuning
AUDIO	Programme Edit
TIME	Favourite Prog.
OPTION	
DVR	

Menu Prev.

SETUP MENU

SETUP	Picture Mode
PICTURE ►	Colour Temperature
AUDIO	XD
TIME	Advanced
OPTION	Aspect Ratio
DVR	Picture Reset
	Screen
	XD Demo

Menu Prev.

PICTURE MENU

SETUP	Sound Mode
PICTURE	Auto Volume
AUDIO ►	Balance 0
TIME	TV Speaker
OPTION	
DVR	

Menu Prev.

AUDIO MENU

SETUP	TimeShift Mode
PICTURE	Record Quality
AUDIO	Recorded TV
TIME	Schedule List
OPTION	Manual Record
DVR ►	HDD Format
	DivX Reg. Code
	USB Backup
	USB HDD Format
	Subtitle

Menu Prev.

DVR MENU

SETUP	Language
PICTURE	Country
AUDIO	Input Label
TIME	SIMPLINK
OPTION ►	Key Lock
DVR	ISM Method
	Low Power
	Set ID

Menu Prev.

OPTION MENU

SETUP	Clock
PICTURE	Off Time
AUDIO	On Time
TIME ►	Sleep Time
OPTION	Auto Sleep
DVR	

Menu Prev.

TIME MENU

> ## ⓘ NOTE
> ►. The OSD (On Screen Display) function enables you to adjust the screen status conveniently since it pro-
>   vides graphical presentation.
> ► In this manual, the OSD (On Screen Display) may be different from your TV's because it is just example to
>   help the TV operation.
> ►. In the teletext mode, menus are not displayed
> ► It's not available to use **SETUP** menu on playing recorded programme.

WATCHING TV / PROGRAMME CONTROL

33

AUTO PROGRAMME TUNING

Up to 100 TV stations can be stored by programme numbers (0 to 99).
Once you have preset the stations, you will be able to use the PR **+** / **-**
or NUMBER buttons to scan the stations you have programmed.
Stations can be tuned using automatic or manual modes.

All stations that can be received are stored by this method. It is recom-
mended that you use auto programme during installation of this set.

It's not available to use this function on recording programme.

1 Press the **MENU** button and then ▲ / ▼ button to select the
SETUP menu.

2 Press the ▶ button and then ▲ / ▼ button to select **Auto
Tuning**.

3 Press the ▶ button and then ▲ / ▼ button to select **System**.

4 Press the ◀ / ▶ button to select a TV system menu;
BG : PAL B/G, SECAM B/G (Europe / East Europe / Asia /
NewZealand / M.East / Africa / Australia)
I   : PAL I/II (U.K. / Ireland / Hong Kong / South Africa)
DK : PAL D/K, SECAM D/K (East Europe / China / Africa / CIS)
L   : SECAM L/L' (France)
M : (USA / Korea / Philippines) (option)

5 Press the ▲ / ▼ button to select **Storage From**.

6 Press the ◀ / ▶ button or NUMBER buttons to select the
beginning programme number. If you use NUMBER buttons, any
number under 10 is entered with a numeric '0' in front of it,
i.e.'**0 5**' for 5.

7 Press the ▲ / ▼ button to select **Start**.

8 Press the ▶ button to begin auto tuning.
All receivable stations are stored. The station name is stored for
stations which broadcast VPS (Video Programme Service), PDC
(Programme Delivery Control) or TELETEXT data. If no station
name can be assigned to a station, the channel number is
assigned and stored as C (V/UHF 01-69) or S (Cable 01-47),
followed by a number.

To stop auto tuning, press the **MENU** button.
When auto tuning is completed, the Programme edit menu
appears on the screen. See the Programme edit section to edit
the stored programme.

9 Press the **EXIT** button to return to normal TV viewing.

SETUP ▶	Auto Tuning
PICTURE	Manual Tuning
AUDIO	Programme Edit
TIME	Favourite Prog.
OPTION	
DVR	

Menu Prev.

❶

Auto Tuning ▶	System	BG
Manual Tuning		
Programme Edit	Storage From	5
Favourite Prog.		
	Start	

❷ ❸ ❹ ❺ ❻ ❼

Auto Tuning

Name	C 04
System	M
Storage	1

0 %

MENU Stop

❽
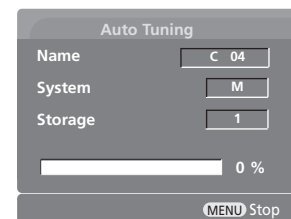
MANUAL PROGRAMME TUNING

Manual programme lets you manually tune and arrange the stations in whatever order you desire.

It's not available to use this function in TimeShift Mode On mode.

It's not available to use this function on recording programme.

1 Press the **MENU** button and then ▲ / ▼ button to select the **SETUP** menu.

2 Press the ▶ button and then ▲ / ▼ button to select **Manual Tuning**.

3 Press the ▶ button and then ▲ / ▼ button to select **Storage**.

4 Press the ◀ / ▶ button or NUMBER buttons to select the desired programme number (0 to 99). If you use NUMBER buttons, any number under 10 is entered with a numeric '0' in front of it, i.e. '**05**' for 5.

5 Press the ▲ / ▼ button to select **System**.

6 Press the ◀ / ▶ button to select a TV system menu;
BG : PAL B/G, SECAM B/G (Europe / East Europe / Asia / NewZealand / M.East / Africa / Australia)
I   : PAL I/II (U.K. / Ireland / Hong Kong / South Africa)
DK : PAL D/K, SECAM D/K (East Europe / China / Africa / CIS)
L   : SECAM L/L' (France)
M   : (USA / Korea / Philippines) (option)

7 Press the ▲ / ▼ button to select **Band**.

8 Press the ▶ button and then ◀ / ▶ button to select **V/UHF** or **Cable**.

9 Press the ▲ / ▼ button to select **Channel**.

10 You can select the desired programme number with the ◀ / ▶ button or number buttons. If possible, select the programme number directly with the number buttons. Any number under 10 is entered with a numeric '0' in front of it, i.e. '**05**' for 5.
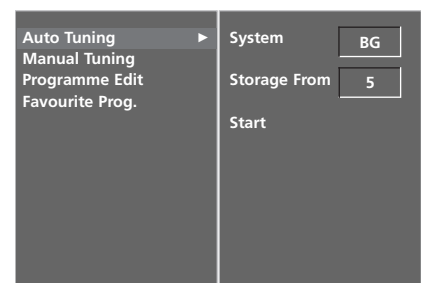
11 Press the ▲ / ▼ button to select **Search**.

12 Press the ◀ / ▶ button to commence searching. If a station is found the search will stop.

13 Press the **OK** button to store it.

14 To store another station, repeat steps **3** to **13**.

15 Press the **EXIT** button to return to normal TV viewing.

SETUP ▶	Auto Tuning
PICTURE	Manual Tuning
AUDIO	Programme Edit
TIME	Favourite Prog.
OPTION	
DVR	

Menu   Prev.

❶

Auto Tuning		Storage	◀ ▶5
Manual Tuning	▶	System	BG
Programme Edit		Band	V/UHF
Favourite Prog.		Channel	5
		Fine	
		Search	
		Name	
			C 05
		Booster	Off

◎ Store

❷ ❸ ❹ ❺ ❻ ❼
❽ ❾ ❿ ⓫ ⓬

35
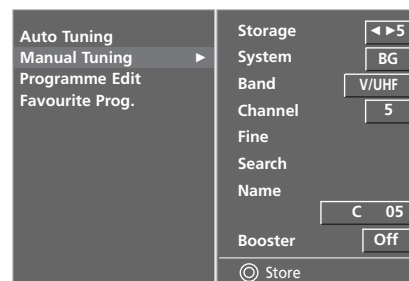
FINE TUNING

Normally fine tuning is only necessary if reception is poor.

1 Press the **MENU** button and then ▲ / ▼ button to select the **SETUP** menu.

2 Press the ▶ button and then ▲ / ▼ button to select **Manual Tuning**.

3 Press the ▶ button and then ▲ / ▼ button to select **Fine**.

4 Press the ◀ / ▶ button to fine tune for the best picture and sound.

5 Press the **OK** button to store it.

6 Press the **EXIT** button to return to normal TV viewing.

SETUP ▶	Auto Tuning
PICTURE	Manual Tuning
AUDIO	Programme Edit
TIME	Favourite Prog.
OPTION	
DVR	

Menu   Prev.

❶

Auto Tuning	Storage	5
Manual Tuning ▶	System	BG
Programme Edit	Band	V/UHF
Favourite Prog.	Channel	5
	Fine	◀ ▶
	Search	
	Name	
		C 05
	Booster	Off

◎ Store

❷ ❸ ❹ ❺

ASSIGNING A STATION NAME

You can assign a station name with five characters to each pro-
gramme number.

1 Press the **MENU** button and then ▲ / ▼ button to select
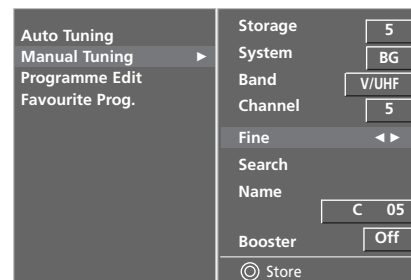the **SETUP** menu.

2 Press the ► button and then ▲ / ▼ button to select
Manual Tuning.

3 Press the ► button and then ▲ / ▼ button to select
Name.

4 Press the ► button and then ▲ / ▼ button. You can use a
blank, **+**, **-**, the number **0** to **9** and the alphabet **A** to **Z**.

5 Press the ◄ / ► button to select the position and make
your choice of the second character, and so on.

6 Press the **OK** button to store it.

7 Press the **EXIT** button to return to normal TV viewing.

SETUP ►	Auto Tuning
PICTURE	Manual Tuning
AUDIO	Programme Edit
TIME	Favourite Prog.
OPTION	
DVR	

Menu   Prev.

❶

Auto Tuning	Storage	5
Manual Tuning ►	System	BG
Programme Edit	Band	V/UHF
Favourite Prog.	Channel	5
	Fine	
	Search	
	Name ►	
		C 05
	Booster	Off

◎ Store   ► Edit

❷ ❸ ❹ ❺ ❻

BOOSTER

In some models, **Booster** is an optional function. Only a set with **Booster** can perform this function.

If the reception is poor at the fringe area of TV signal, select **Booster** to **On**.

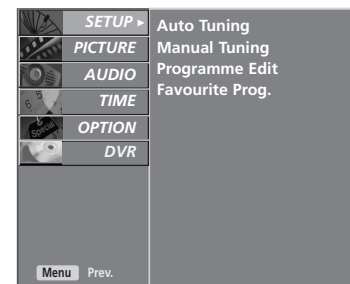**1**   Press the **MENU** button and then ▲ / ▼ button to select the **SETUP** menu.

2   Press the ► button and then ▲ / ▼ button to select **Manual Tuning**.

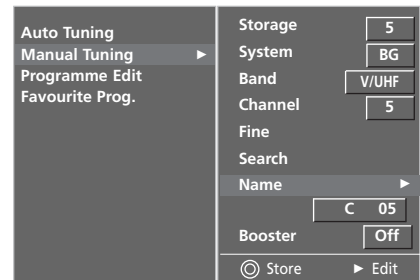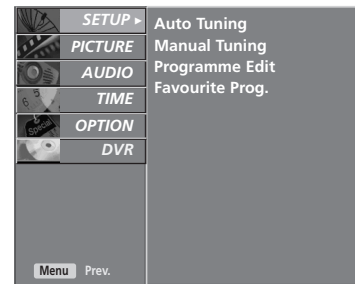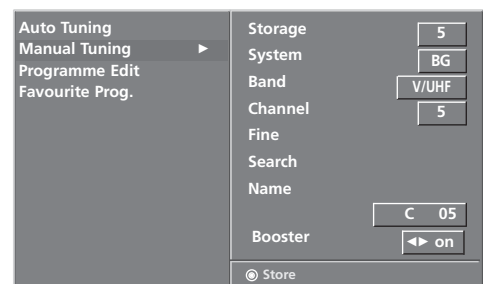**3**   Press the ► button and then use ▲ / ▼ button to select **Booster**.

4   Press the ► button and then use ◄ / ► button to select **On** or **Off**.

5   Press the **EXIT** button to return to normal TV viewing.

PROGRAMME EDIT

This function enables you to delete or skip the stored pro-
grammes. Also you can move some stations to other programme
numbers or copy a blank station data into the selected pro-
gramme number.

It's not available to use this function on recording programme.

1 Press the **MENU** button and then ▲ / ▼ button to select the **SETUP** menu.

2 Press the ▶ button and then ▲ / ▼ button to select **Programme Edit**.

3 Press the ▶ button to display the Programme edit menu.

■ **Deleting a programme**
1.Select a programme to be deleted with the ▲ / ▼ / ◀ / ▶ button.
2.Press the RED button twice.
   The selected programme is deleted, all the following programmes are shifted up one position.

■ **Copying a programme**
1.Select a programme to be copied with the ▲ / ▼ / ◀ / ▶ button.
2.Press the GREEN button.
   All the following programmes are shifted down one position.

■ **Moving a programme**
1.Select a programme to be moved with the ▲ / ▼ / ◀ / ▶ button.
2.Press the YELLOW button.
3.Move the programme to the desired programme number with the ▲ / ▼ / ◀ / ▶ button.
4.Press the YELLOW button again to release this function.

■ **Skipping a programme number**
1.Select a programme number to be skipped with the ▲ / ▼ / ◀ / ▶ button.
2.Press the BLUE button. The skipped programme turns to blue.
3.Press the BLUE button again to release the skipped pro-gramme.
   When a programme number is skipped it means that you will be unable to select it using the ▲ / ▼ button during normal TV viewing. If you want to select the skipped programme, directly enter the programme number with the NUMBER but-tons or select it in the programme edit or table menu.
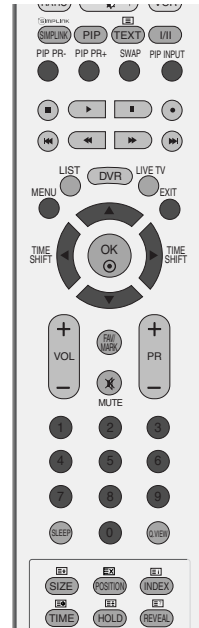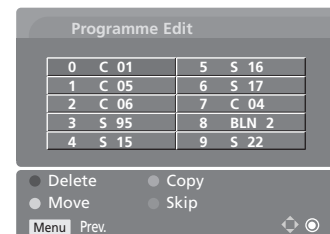
4 Press the **EXIT** button to return to normal TV viewing.

SETUP ▶	Auto Tuning
PICTURE	Manual Tuning
AUDIO	Programme Edit
TIME	Favourite Prog.
OPTION	
DVR	

Menu Prev.

❶

Auto Tuning	
Manual Tuning	
Programme Edit ▶	To Set
Favourite Prog.	

❷

Programme Edit

0	C 01	5	S 16
1	C 05	6	S 17
2	C 06	7	C 04
3	S 95	8	BLN 2
4	S 15	9	S 22

● Delete   ● Copy
● Move   ● Skip
Menu Prev.

❸

FAVOURITE PROGRAMME

This function lets you select your favourite programmes directly.

Repeatedly press the **FAV** button to select stored favourite programmes.

1 Press the **MENU** button and then ▲ / ▼ button to select the **SETUP** menu.

2 Press the ► button and then ▲ / ▼ button to select **Favourite Prog.**.

3 Press the ► button.

4 Press the ▲ / ▼ button to select - - - - - - -.

5 Select a desired programme with the ◄ / ► button or NUMBER buttons. Any number under 10 is entered with a numeric '0'in front of it, i.e.'**0 5**' for 5.

6 To store another programme, repeat steps **4** to **5**.
You can store up to 8 programmes.

7 Press the **EXIT** button to return to normal TV viewing.

40
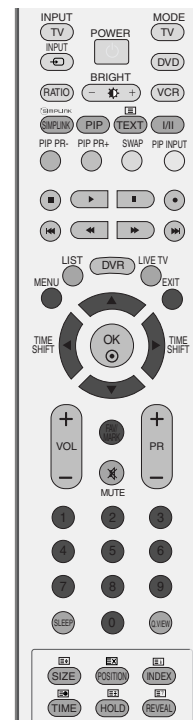
CALLING THE PROGRAMME TABLE

You can check the programmes stored in the memory by displaying the programme Table.

■ Displaying programme Table

Press the **LIST** button to display the Programme Table menu.

The programme list appears on the screen.

One programme list contains ten programmes as shown.

> ### ❗ NOTE
>
> a. You may find some blue programmes. They have been set up to be skipped by auto programming or in the programme edit mode.
>
> b. Some programmes with the channel number shown in the programme list indicate there is no station name assigned.

■ Selecting a programme in the programme Table

Select a programme with the ▲ / ▼ / ◄ / ► button.

Then press the **OK** button. The set switches to the chosen programme number.

■ Paging through a programme Table

There are 10 programme list pages in which contain 100 programmes. Pressing the ▲ / ▼ / ◄ / ► button repeatedly turns the pages.

Press the **LIST** button to return to normal TV viewing.

Programme List

0	-----	5	S 02
1	C 01	6	S 04
2	C 04	7	C 08
3	C 05	8	S 11
4	BLN 2	9	S 28

WATCHING TV / PROGRAMME CONTROL

INPUT SOURCE SELECTION

Sets a label to each input source which is not in use.
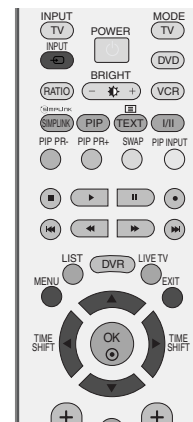
1 Press the **MENU** button and then use ▲ / ▼ button to select the **OPTION** menu.

2 Press the ► button and then use ▲ / ▼ button to select **Input Label**.

3 Press the ► button and then use ▲ / ▼ button to select the source: AV1, AV2, AV3, Component, RGB, HDMI1/DVI or HDMI2.

4 Press the ► button and then use ▲ / ▼ button to select the label.

5 Press **EXIT** button to return to normal TV viewing.

WATCHING TV / PROGRAMME CONTROL
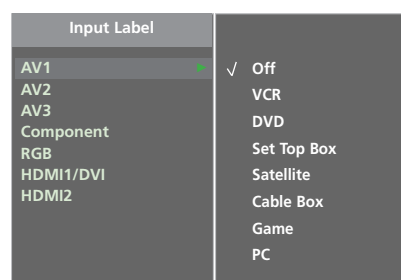
KEY LOCK

The TV can be set so that the remote control is needed to control it.

This feature can be used to prevent unauthorized viewing.

This set is programmed to remember which option it was last set to even if you turn the set off.
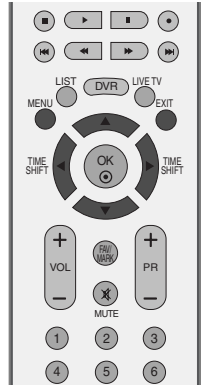
1 Press the **MENU** button and then ▲ / ▼ button to select the **OPTION** menu.

2 Press the ► button and then ▲ / ▼ button to select **Key Lock**.

3 Press the ► button and then ▲ / ▼ button to select **On** or **Off**.

4 Press the **EXIT** button to return to normal TV viewing.

SETUP	**Language**
PICTURE	**Country**
AUDIO	**Input Label**
TIME	**SIMPLINK**
OPTION ►	**Key Lock**
DVR	**ISM Method**
	Low Power
	Set ID

Menu   Prev.

❶

Language	
Country	
Input Label	
SIMPLINK	
Key Lock ►	√ **Off**
ISM Method	**On**
Low Power	
Set ID	

❷ ❸
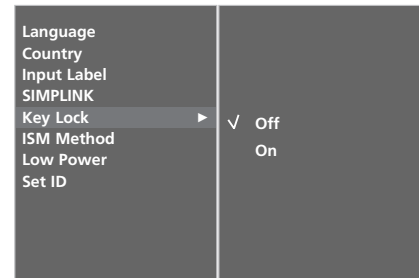
⓪ NOTE

► In **Key Lock 'On'**, if the set is turned off, press the ⏻ / I, **INPUT, PR ▲ / ▼** button on the set or **POWER, INPUT, TV, PR +/-** or NUMBER buttons on the remote control then the set will be turned on.

► With the **Key Lock On**, the display '⚠ **Key Lock On**' appears on the screen if any button on the front panel is pressed while viewing the set.

SIMPLINK

This operates only for the devices with the SIMPLINK logo.
Please check the SIMPLINK logo.

This allows you to control and play other AV devices connected
to the display through HDMI cable without additional cables
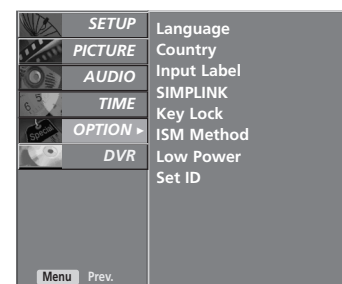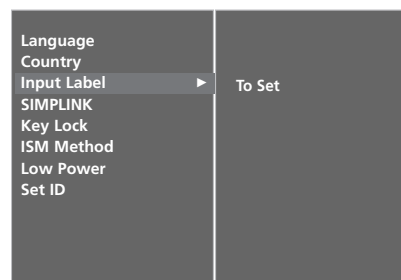and settings.

If you do not want SIMPLINK menu, select "Off".
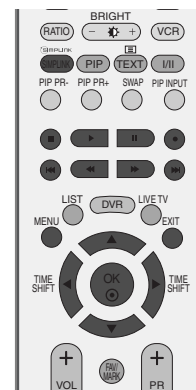
1 Press the **MENU** button and then ▲ / ▼ button to select the
OPTION menu.

2 Press the ▶ button and then ▲ / ▼ button to select **SIM-
PLINK**.

3 Press the ▶ button and then ▲ / ▼ button to select **On** or
Off.

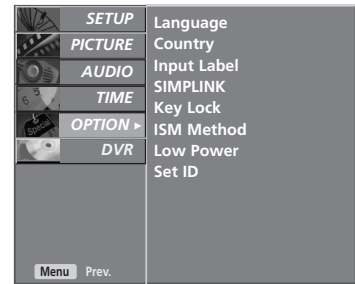**4** Press the **EXIT** button to return to normal TV viewing.

SETUP	Language
PICTURE	Country
AUDIO	Input Label
TIME	SIMPLINK
OPTION ▶	Key Lock
DVR	ISM Method
	Low Power
	Set ID

Menu   Prev.

1

Language	
Country	
Input Label	
SIMPLINK ▶	√ Off
Key Lock	On
ISM Method	
Low Power	
Set ID	
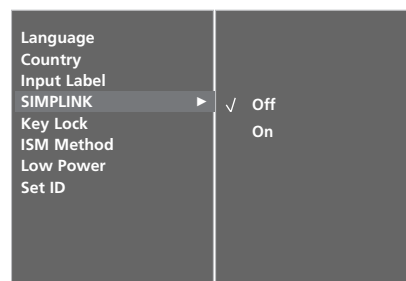
2 3

SIMPLINK Functions

Disc playback

Control connected AV devices by pressing the ▲ / ▼ / ◄ / ►, **OK** buttons and buttons for play, stop, pause, fast reverse, fast forward, chapter skip.(The ⊙ button does not provide such functions)

Direct Play

After connecting AV devices to TV, you can directly control the devices and play media without additional settings.

Select AV device

Enables you to select one of AV devices connected to TV and play it.

Power off all devices

When you power off TV, all connected devices are turned off.

Switch audio-out

Offers an easy way to switch audio-out.

* A device, which is connected to TV through HDMI cable but does not support Simplink, does not provide this function.

SIMPLINK Menu

Press the ▲ / ▼ / ◄ / ► button and then OK button to select the desired SIMPLINK source.

❶ **TV viewing :** Switch to the previous TV programme regardless of the current mode.

❷ **DISC playback :** Select and play discs. When multiple discs are available, the titles of the discs are conveniently displayed at the bottom of the screen.

❸ **VCR playback :** Play and control the connected VCR.

❹ **HDD Recordings playback :** Play and control recordings stored in HDD.

❺ **Audio Out to Home theater/Audio Out to TV :** Select Home theater or TV speaker for Audio Out.

► Selected Device

►When no device is connected (displayed in gray)

►When a device is connected (displayed in bright colour)

DVR (DIGITAL VIDEO RECORDER)

TIMESHIFT MODE(PAUSE & REPLAY OF LIVE TV)

This function allows the unit to automatically record live TV and make it available for reviewing at any time.

With Timeshift turned on, you may pause and rewind normal TV viewing at any time without missing any of the live broadcast.

(TimeShift Mode and Recording functions might not work if the signal strength is weak.)

1 Press the **MENU** button and then use ▲ / ▼ button to select the **DVR** menu.

2 Press the ► button and then use ▲ / ▼ button to select the **TimeShift Mode**.

3 Press the ► button and then use ▲ / ▼ button to select **On** or **Off**.

4 Press the **EXIT** button to return to normal TV viewing.

SETUP	TimeShift Mode
PICTURE	Record Quality
AUDIO	Recorded TV
TIME	Schedule List
OPTION	Manual Record
DVR ►	HDD Format
	DivX Reg. Code
	USB Backup
	USB HDD Format
Menu Prev.	Subtitle

❶

TimeShift Mode ►	✓ Off
Record Quality	On
Recorded TV	
Schedule List	
Manual Record	
HDD Format	
DivX Reg. Code	
USB Backup	
USB HDD Format	
Subtitle	

❷ ❸

Using the TimeShift Mode function

`LIVE  0:49:32` [progress bar with markers 1 2 3 4]
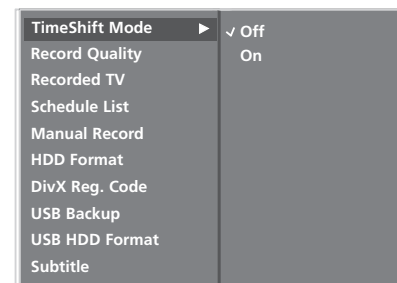
① After selecting the **TimeShift Mode On**, press the **OK** button.

- As soon as Timeshift starts, a progress bar indicating the current recording status is displayed in the bottom of the screen.
- Press the **EXIT** button to hide the 'Progress Bar' or press the **OK** button to display the 'Progress Bar'.
- This function is preserved even change a programme on progressing the Timeshift.

The 'Progress Bar'?

This function indicates a possible DVR reshowing section ,a current on-screen and real live broadcasting position.

① Status of current displayed video.
② Current save time.
③ 15 minute intervals from TimeShift Mode start time. (Total - one hour).
④ Indicates current TimeShift Mode position.

---

② When finishing the Timeshift function, enter the **DVR** menu and turn **TimeShift Mode Off**.

❗ NOTE

▶ DVR (Digital Video Recorder) : A device which records and plays broadcast programme contents onto a hard disk in set or SET TOP BOX.

▶ In order to save hard-disk space, nothing is saved when there is no signal.

▶ The total storage space of the hard-disk is 80 GB. 4 GB minimum is reserved for TimeShift Mode.

▶ When turning power on, it may take up to a maximum of 3 minutes to initialize the HDD.

▶ The Recording function will not initiate for a copy-protected programme.

▶ Because an analog broadcast is transfered to a digital signal, video that contains rapid movement may show "cross stripes". This happens when the analog signal is compressed and then restored in the digital signal. The unit will attempt to reduce this excessive picture noise.

▶ When using the PIP/DW mode, Timeshift is stopped.

▶ TimeShift Mode is available in TV, AV1, AV2, AV3, Component(480i/480p/576i/576p/720p/1080i) mode.

▶ TimeShift Mode is not available for Audio only channels.

▶ Maximum recording file size is up to 16GB(4Hr).

Using the TimeShift Mode function, play

- When in timeshift mode, the following options are available.

DELAYED -0:17:58

Indicates that the current broadcast and displayed video differ.

▶   ‖
Play   Pause

■ When pressing the ● button delaying Timeshift, Timeshift is dumped. And delayed time is recording.
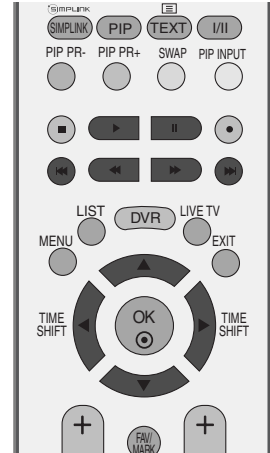
Using the remote control

You can shift playback to any point within the recorded programme

◀◀ / ▶▶	When playing, repeatedly, press the **REW(◀◀)** button to speed up ◀◀ -> ◀◀◀ -> ◀◀◀◀ -> ◀◀◀◀◀ ->◀◀◀◀◀◀ . repeatedly, press the **FF(▶▶)** button to speed up ▶▶-> ▶▶▶ -> ▶▶▶▶ -> ▶▶▶▶▶ -> ▶▶▶▶▶▶. ■ Pressing these buttons repeatedly increases the fast forward/reverse speed.
I◀◀ / ▶▶I	Press the ▶▶I button to jump about 20 seconds forward. ■ Pressing the I◀◀ button to jump about 8 seconds backward.
‖	During playback, press the **Pause(‖)** button. ■ Still screen is displayed. ■ Repeatedly press the **Pause(‖)** button to advance frame by frame. ■ Press the **Pause(‖)** button and then use the **FF(▶▶)** button for slow motion (the � icon is displayed.) ■ Press the **Pause(‖)** button and then use the **FF(◀◀)** button for slow motion (the ◀I icon is displayed.)
◀ / ▶	■ When using the ◀ or ▶ button during playback a cursor indicating the position can be viewed on the screen.
PLAY(▶)	Press the **PLAY(▶)** button to return to normal playback.
LIVE TV	If you want to return to the current live broadcast, press the **LIVE TV** button.

FORMAT HARD DISK

Erases all programmes and initializes the hard disk.
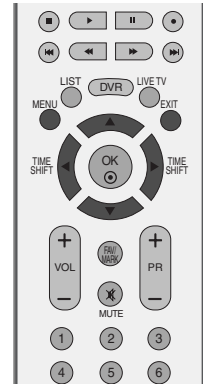
1 Press the **MENU** button and then use ▲ / ▼ button to select the **DVR** menu.

2 Press the ▶ button and then use ▲ / ▼ button to select **HDD Format**.

3 Press the ▶ button to start **HDD Format**.

■ if you press the ▶ button, this message is displayed.

> Do you want to format HDD?
>
> Yes   No

■ if you select Yes, this message is displayed.

> ⓘ   HDD formatting is started

■ When completing, this message is displayed.

> ⓘ   HDD formatting is completed.

4 Press the **EXIT** button to return to normal TV viewing.

SETUP	TimeShift Mode
PICTURE	Record Quality
AUDIO	Recorded TV
TIME	Schedule List
OPTION	Manual Record
DVR▶	HDD Format
	DivX Reg. Code
	USB Backup
	USB HDD Format
Menu Prev.	Subtitle

❶

TimeShift Mode	
Record Quality	
Recorded TV	
Schedule List	
Manual Record	
HDD Format ▶	To set
DivX Reg. Code	
USB Backup	
USB HDD Format	
Subtitle	

❷ ❸
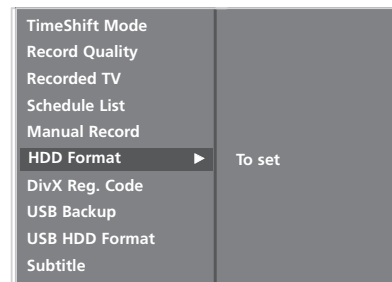
DVR (DIGITAL VIDEO RECORDER)

DVR (DIGITAL VIDEO RECORDER)

INSTANT RECORDING

Use this function to record the programme you are watching on the main screen.

Instant Record

This function records the currently displayed programme.

---

1 Select the programme you wish to record and then press the ● button. During recording [● **REC** 0:00:00/2:00:00 ▭▭▭▭▭] is displayed. Use this feature to record up to 2 hours of programming.

---

2 If you want to stop recording, press the ■ button.

■ While recording, if you press the ■ button less than 10 seconds after recording started, this message is displayed.

> ⚠ Recording is not completed.
> Recording time must exceed 10 seconds.

■ If you press the ■ button more than 10 seconds after recording started, this message is displayed.

> ⓘ Recording is completed.

---

3 You can increase or decrease recording time by pressing the ● button while recording. After pressing the ● button, press the ◄ / ► buttons repeatedly to increase or decrease the recording time. Each time you press ◄ / ► button the recording duration changes as shown below.

```
            ➚ +10min ⇨ +20min ⇨ +30min ⇨ +40min ⇨ +50min ⇨ +60min
 No Change
            ➘ -10min ⇨ -20min ⇨ -30min ⇨ -40min ⇨ -50min ⇨ -60min
```
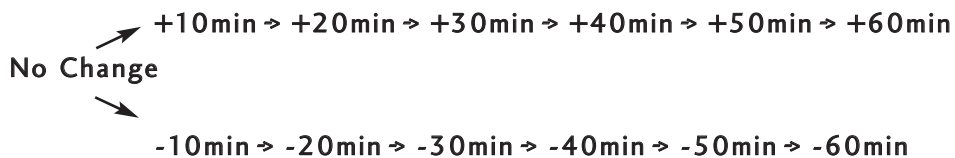
The extra recording time added to existing setting equals the final recording time.

4 After adjusting the recording time, select **OK**. The Status bar will be displayed.

Total recording duration

REC 0:00:00/2:00:00

Elapsed recording time
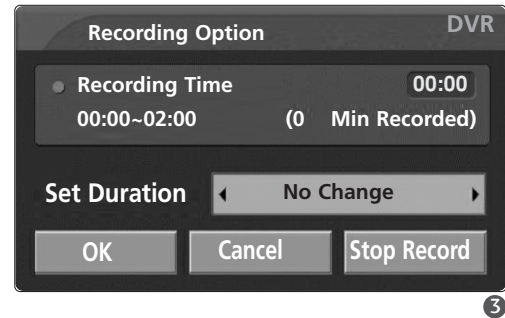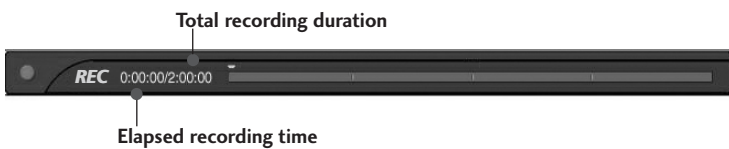
■ Press the **EXIT** button to hide the Status bar. Press the **OK** button to display the Status bar.

5 Recording stops when the selected duration is reached or when you press the ■ button.
Although recording has stopped, the Timeshift feature remains active.

Recording Option	DVR

● **Recording Time**   00:00
   00:00~02:00   (0   Min Recorded)

Set Duration ◄   **No Change**   ►

| OK | Cancel | Stop Record |

③

⚠ NOTE

▶ When recording, if the available storage space becomes low, the recording will be automatically stopped.

▶ Recordings of less than 10 seconds will not be saved.

▶ To save disk space while recording broadcasts, no data will be saved if there is no signal.

▶ The recording function will not initiate for a copy-protected programme.

▶ The displayed time may differ slightly from the actual time.

▶ In there is no signal or a film source is being viewed, the displayed time may differ slightly from the actual time.

▶ Timeshift recording is not possible with copy-protected programmes.

ⓘ Stop recording due to copy protection.
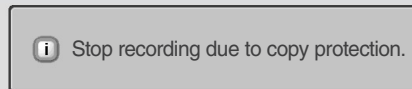
▶ When a poor quality external source is recorded (old VHS tape for example) the quality of the recording will not be as good as it could be.

▶ Programmes are stored separately according to the colour system that they are using. e.g. PAL/NTSC.

▶ Manual Recording available time is maximum 4 hours and minimum 5 minutes.

MANUAL RECORD

This function is easy to register to reserved recording.

This function is available to use in DVR menu.

When Manual Record, it's stored the default sound of the set.
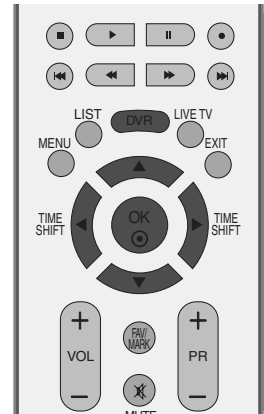
1 Press the **DVR** button to display **Home** menu. Use the ▲ / ▼ button to select the **Manual Record** and then use the **OK** or ▶ button.

2 **Manual Record** screen is displayed as shown below. Use the ▲ / ▼ / ◄ / ▶ button to set the **Input**, **PR**, **Date**, **Time**, **Duration**, **Frequency** .

> ▶ **Input** : Select the input source from the TV, AV1, AV2, AV3,Component(480i/576i).
> ▶ **PR** : Select either the current programme or a scanned pro-gramme.
> ▶ **Date** : You can select a date up to one month in the future.
> ▶ **Time /Duration** : Ensure you have set correctly.
> ▶ **Frequency** : Choose among Once, Daily and Weekly.

3 After setting the **Manual Record** , press the **OK** button.
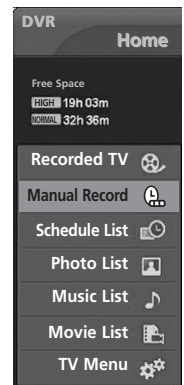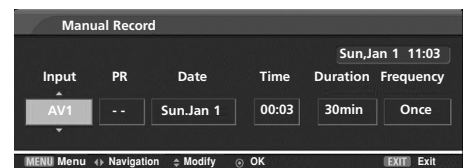
52

SCHEDULE LIST

This function is used to show scheduled recordings.
This function is available to use in DVR menu.

You can store up to 8 programmes.
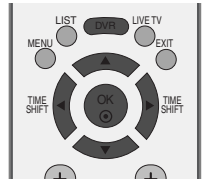
1 Press the **DVR** button to display **Home** menu. Use the ▲ / ▼ button to select the **Schedule List** and then use the **OK** or ► button.

2 **Schedule List** screen is displayed as shown below. Use the ▲ / ▼ button to select recorded programme.
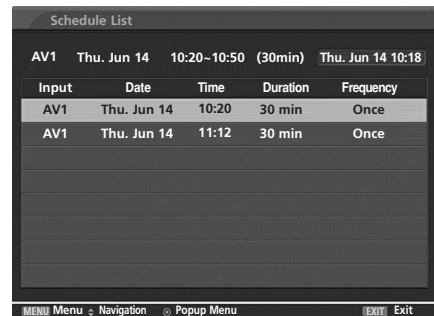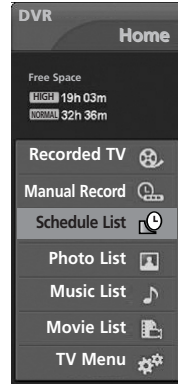
RECORD QUALITY

When recording analogue broadcasts and external input signals, the Record Quality can be selected.
This function is not available while a recording is taking place.

1 Press the **MENU** button and then use ▲ / ▼ button to select the **DVR** menu.

2 Press the ► button and then use ▲ / ▼ button to select **Record Quality**.

3 Press the ► button and then use ▲ / ▼ button to select **High** or **Normal**.

4 Press the **EXIT** button to return to normal TV viewing.
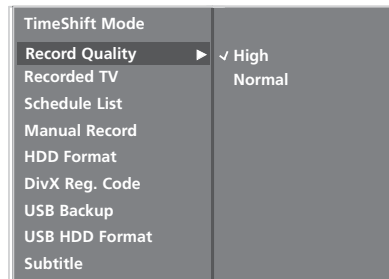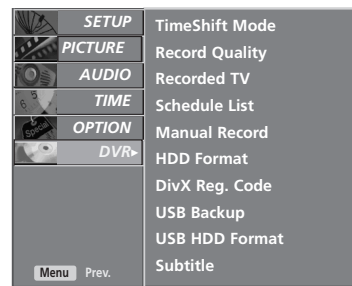
TO USE THE USB DEVICE

Precautions when using the USB device

▶ Only a USB storage device is recognizable.

▶ If the USB storage device is connected through a USB hub, the device is not recognizable.

▶ A USB storage device using an automatic recognition programme may not be recognized.

▶ A USB storage device which uses its own driver may not be recognized.

▶ In case of a card reader, up to four memory cards are concurrently recognizable.

▶ The recognition speed of a USB storage device may depend on each device.

▶ Please do not turn off the TV or unplug the USB device when the connected USB storage device is working. When such device is suddenly separated or unplugged, the stored files or the USB storage device may be damaged.

▶ Please do not connect the USB storage device which was artificially maneuvered on the PC. The device may cause the product to malfunction or fail to be played. Never forget to use only a USB storage device which has normal music files or image files.

▶ Please use only a USB storage device which was formatted as a FAT32 file system provided with the Windows operating system. In case of a storage device formatted as a different utility programme which is not supported by Windows, it may not be recognized.

▶ Please connect power to a USB storage device which requires an external power supply. If not, the device may not be recognized.

▶ Please connect a USB storage device with cable is offered by USB maker. If connected with cable is not offered by USB maker or an excessively long cable, the device may not be recognized.

▶ Some USB storage devices may not be supported or operated smoothly.

▶ If the name of a folder or file is too long, it will not be displayed or recognized.

▶ Please backup the important file because a data of USB device may be damaged. Data management is consumer's responsibility and in consequence the manufactures does not cover the product bearing data damage.

▶ Supported maximum external HDD size is up to 400GB.

▶ Supported maximum USB memory stick size is up to 32GB.

When connecting the USB device

Enjoy the recorded media, photo, music and Movie stored in the USB device. When you connect a USB device, this screen is displayed, automatically.

In USB device, you can not add a new folder or delete the existing folder.

1 Connect the USB device to the **USB IN** jacks on the side of TV.

2 Press the ▲ / ▼ button to select the desired item.

3 Press the **OK** button.

USB HDD

USB memory stick

ℹ USB is connected. Select a menu.
Photo List
Music List
Movie List
Cancel

2 3
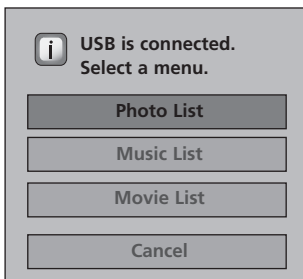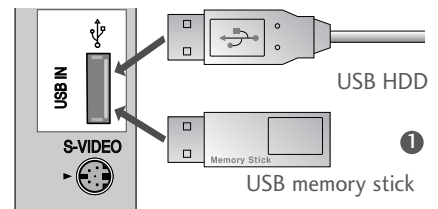
For the case when the USB which contains photo, music, and movie files is connected

ℹ USB HDD is connected. Select a menu.
Recorded TV
USB Backup
Cancel

2 3
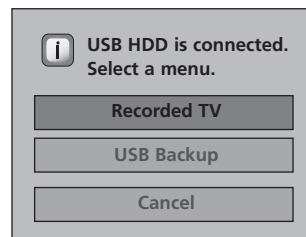
For the case when the USB which defaulted to backup use of the record list

To use the recorded list with USB storage device

1 Connect the USB device to the **USB IN** jacks on the side of TV.
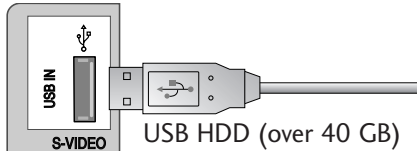
USB HDD (over 40 GB)

■ Only USB HDD that are over 40 GB and 1 partition can be used for USB Backup.

2 To use the USB storage device (over 40 GB) for USB Backup, execute the "USB HDD Format"

■ It initialises the HDD connected to the USB as disk mode for backup.

■ It is activated only when the USB HDD available for backup is connected.

■ When "USB HDD Format" is executed, all the data stored in the USB storage device is deleted.

■ While performing "USB HDD Format", do not remove the USB storage device. It may cause error on the TV and the storage device.

1 Press the **MENU** button and then use ▲ / ▼ button to select the **DVR** menu.

2 Press the ▶ button and then use ▲ / ▼ button to select **USB HDD Format**.

3 Press the ▶ button to start **USB HDD Format**.

SETUP	TimeShift Mode
PICTURE	Record Quality
AUDIO	Recorded TV
TIME	Schedule List
OPTION	Manual Record
DVR ▶	HDD Format
	DivX Reg. Code
	USB Backup
	USB HDD Format ▶ To set
	Subtitle
Menu Prev.	

■ if you press the ▶ button, this message is displayed.

Do you want to initialise USB HDD?
Yes   No
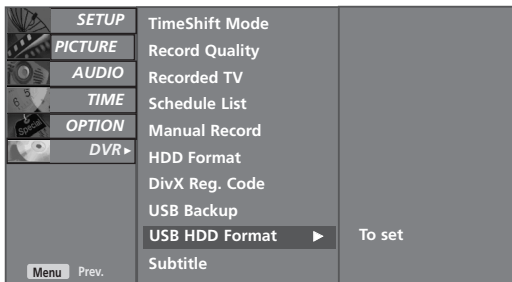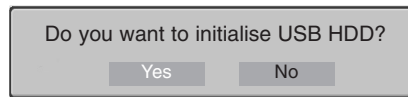
When 'Yes' is selected, a pop-up notice appears containing a message to initialise the connected USB HDD.

When initialisation is complete, a pop-up notice of completion is displayed and the connected USB HDD is available for backup.

■ Depending on the capacity of the USB storage device, the initialisation time may vary.

■ The initialised USB storage device only operates in the "Recorded List".

■ The initialised USB storage device is not recognised by the PC.

■ When a USB storage device of less than 40 GB is connected, the "USB HDD Format" is not activated.

■ Supported maximum external HDD size for back-up is up to 400GB.

ⓘ NOTE

▶ When attempting to access the USB Backup of the DVR menu after the initialisation, an alert message is displayed and access is blocked because there are no backed up items.

▶ When even a single backed up file exists through 'Copy to USB HDD' from the 'Recorded TV' of the DVR menu, the access to USB Backup is allowed.

3 Press the **DVR** button to display **HOME** menu.
Use the ▲ / ▼ button to select **Recorded TV** and then use the **OK** or ▶ button.

DVR
Home
Free Space
HIGH 19h 03m
NORMAL 32h 36m
Recorded TV
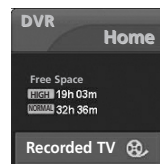
RECORDED TV PROGRAMME LIST

You can view the recorded programme list at a glance.
This function is also available in DVR menu.
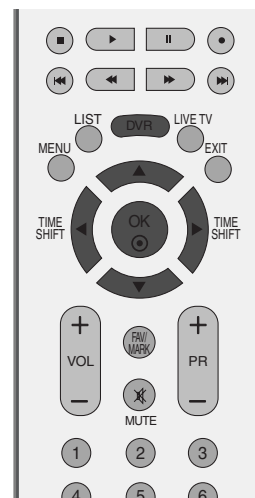
1 Press the **DVR** button to display **HOME** menu.
Use the ▲ / ▼ button to select **Recorded TV** and then use
the **OK** or ▶ button.

Screen Components

❶ Usable HDD space
❷ Current page/Total pages
❸ Marked title or programme
❹ Corresponding buttons on the
remote control
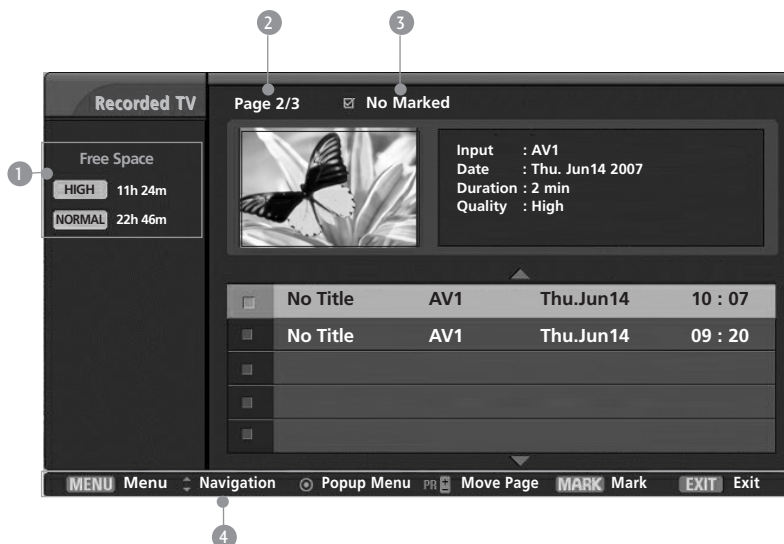
Recorded programme Selection and Popup Menu

The recorded programme stored in the internal HDD or the
USB storage device can be played.

The preview recorded list is shown above.
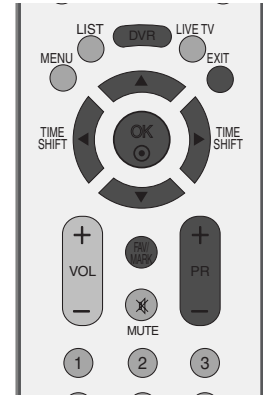
1 Use the **PR +/-** button for page up/down navigation.

2 Use the **MARK** button to delete from the list. A ☑ is dis-
played next to the preview window if an item is marked.

3 Use ▲ / ▼ button to navigation the appropriate Recorded
programme, then press the **OK** button to open the Pop-up
Menu.
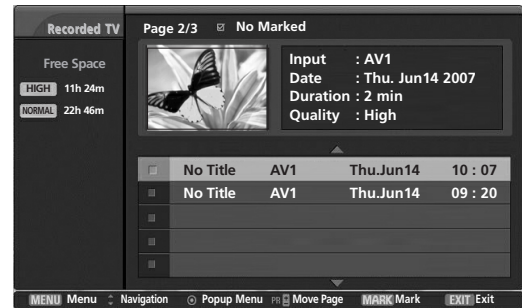
> ▶ **Play** : Begin playback of selected recorded programme.
> ▶ **Mark All** : mark all recorded programmes on the screen.
> ▶ **Unmark All** : Change marked recorded programmes to
>   unmarked recorded programmes.
> ▶ **Delete** : Delete the selected recorded programmes.
> ▶ **Rename** : Edit recorded programme title.
> ▶ **Copy to USB HDD** : Copies the recorded programme
>   in the internal HDD to the USB storage device.
>   It is activated only when a USB HDD available for backup
>   is connected.
>
>   <HDD Backup process screen>
>
>   > ⓘ **USB Backup is started.**
>   >   **Copying to USB HDD**   (1/1)
>   >
>   >   ┌─────────────────────────── 75% ──┐
>   >
>   >   **EXIT** Close   ■ Stop
>
>   ■ if you press the ■ button, this message is displayed.
>
>   > ⓘ **Do you really want to cancel the backup?**
>   >   Yes   No

Recorded TV	Page 2/3 ☑ No Marked
Free Space	Input : AV1
HIGH 11h 24m	Date : Thu. Jun14 2007
NORMAL 22h 46m	Duration : 2 min
	Quality : High

☐	No Title	AV1	Thu.Jun14	10 : 07
■	No Title	AV1	Thu.Jun14	09 : 20
■				
■				
■				

MENU Menu ↕ Navigation ⊙ Popup Menu PR ▢ Move Page MARK Mark EXIT Exit

❶

Recorded TV	Page 2/3 ☑ No Marked
Free Space	Input : AV1
HIGH 11h 24m	Date : Thu. Jun14 2007
NORMAL 22h 46m	Duration : 2 min
	Quality : High

| ☐ | No Title | AV1 | Thu.Jun14 | 10 : 07 |
| ■ | No Title | AV1 | | |

ⓘ AV1
10:07~10:09
Play ◉
Mark All
Delete
Rename
Copy to USB HDD
Cancel

MENU Menu ↕ Navigation ⊙ Popup Menu PR ▢ Move Pag

❷ ❸

■ When 'Yes' is selected, the backup is cancelled and is converted back to input mode. If more than two files are transferred, the transferred file is stored, and the back-up operations on the files in progress of transferring and scheduled for backup are cancelled.

■ When 'No' is selected, returns to the backup process screen.

Copying   0%(1/1)

While backup is being performed in the back-ground, the status of the copy progress can be checked by pressing the 'OK' button.

▶ **Cancel** : Close the Pop-up menu.

---

4 Repeatedly, press **EXIT** button to return to TV viewing or press **DVR** button to return to the **Home** menu.

■ If the HDD has a problem performing a recording related function, this message is displayed.

ⓘ   HDD initialisation is in progress.

■ If the temperature is below zero (0°), a warning message is displayed and you will not be able to use the DVR functions.

⚠ Cannot operate DVR at low temperature.

4

USB BACKUP

- When the Recorded List is stored exceeding the capacity of the internal HDD, the USB backup feature allows the backup of Recorded List of the internal HDD to the external HDD for backup connected through USB.
- To use USB backup function, be sure to initialize the USB HDD using DVR menu-USB HDD format.
- To use USB Backup, USB HDD is necessary more than 40 GB, 1 partition disk, and FAT32 system.
- It only supports file backup features; therefore, playback of the Recorded List directly from the current OSD is not allowed. In order to play the recorded contents, the files must be moved to the internal HDD through the 'Copy to Recorded List' from the popup menu.
- View the list of the backed up recorded programme by using the 'Copy to USB HDD' from the 'Recorded TV'.
- It moves to the external HDD list for backup connected by USB.
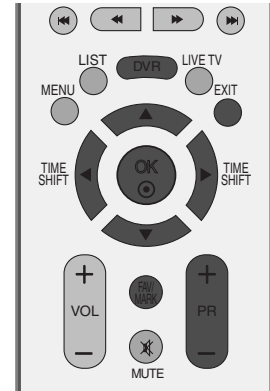
1 Press the **MENU** button and then use ▲ / ▼ button to select the **DVR** menu.

2 Press the ▶ button and then use ▲ / ▼ button to select **USB Backup**.

3 Press the ▶ button to start **USB Backup** .

4 **Recorded TV** screen is displayed as shown.
Use the **PR +/-** button to navigation in the recorded programme.
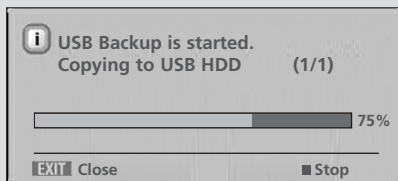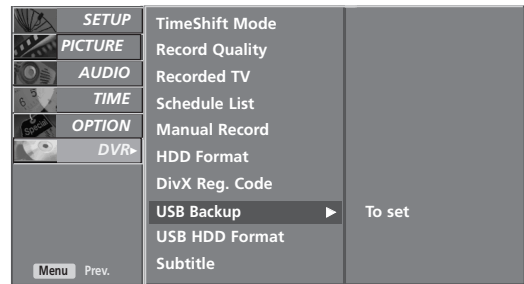
Use **MARK** button to mark or unmark a recorded programme.
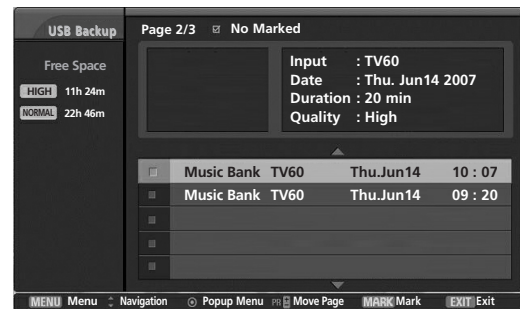
Use ▲ / ▼ button to navigation the appropriate recorded programme, then press the **OK** button to show up the pop-up menu.

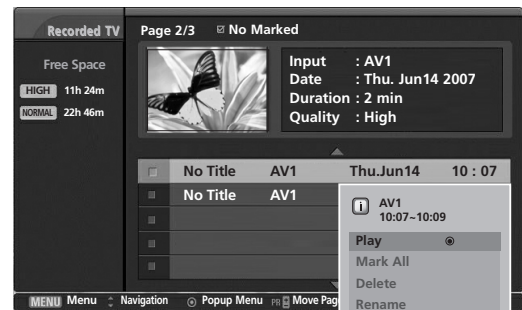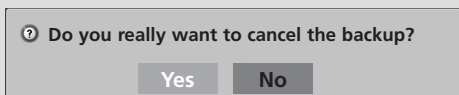▶ **Mark All** : mark all recorded programmes on the screen.
▶ **Unmark All** : Change marked recorded programmes to unmarked recorded programmes.
▶ **Delete** : Delete the selected recorded programmes.

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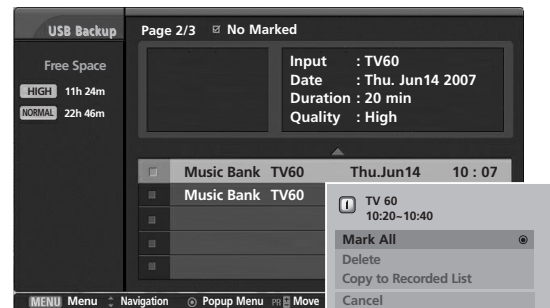
► **Copy to Recorded List** :Restores the Recorded Programme to the internal HDD.
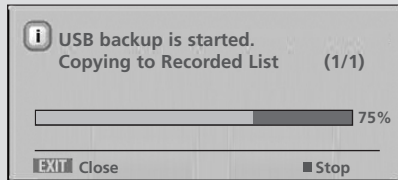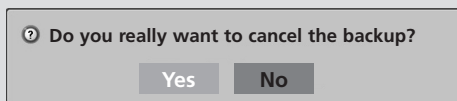
<HDD Backup process screen>

> ⓘ USB backup is started.
>   Copying to Recorded List   (1/1)
>
>   [_____] 75%
>
>   **EXIT** Close   ■ Stop

■ if you press the ■ button, this message is displayed.

> ⓘ **Do you really want to cancel the backup?**
>   Yes   No

■ When 'Yes' is selected, the backup is cancelled and is converted back to input mode. If more than two files are transferred, the transferred file is stored, and the backup operations on the files in progress of transferring and scheduled for backup are cancelled.

■ When 'No' is selected, returns to the backup process screen.

While backup is being performed in the background, the status of the copy progress can be checked by pressing the 'OK' button.

> Copying   0%(1/1)

► **Cancel** : Close the pop-up menu.

⑤ Repeatedly, press **EXIT** button to return to TV viewing or press the **DVR** button to return to the **Home** menu.

⚠ **CAUTION**

► If you turn the power off on Copying or recording, this message is displayed as shown below.

<coping>

> ⓘ   **Powering off during HDD backup.**
>   **Continue HDD backup?**
>   Yes   No

<Copying and recording>

> ⓘ   **Powering off while recording and HDD backup.**
>   **Continue recording and HDD backup?**
>   Yes   No

► If you selects No, Copying stops and then power is off.

► If you selects Yes, Copying continues and the power is turned off.

► If you press the **EXIT** button to disappear this message.

ⓘ **NOTE**

► When even a single back up file exists in the initialised USB HDD (from the USB HDD Format menu) through 'Copy to USB HDD' from the 'Recorded TV', the access to the USB Backup is allowed.

► If Manual or Instant Record operates while a recorded programme is transferring from USB HDD to Recorded TV, Copying will pause.

Then, press the OK button, and '--%' will be displayed in Record message, and after recording is completed, Copying will continue again.

► Playback is not available while recording along with USB Backup.

Playing recorded programmes

- You can play the selected programme in the recorded programme list.

① Play a recorded programme.

② While playing, You will see a playback screen as shown below.

■ To stop displaying the recorded programmes icon, press the **EXIT** button.

Using the remote control

You can shift playback to any point within playing the recorded programme.

◄◄ / ►►	When playing, repeatedly, press the **REW(◄◄)** button to speed up ◄◄ -> ◄◄◄ -> ◄◄◄◄ -> ◄◄◄◄◄ ->◄◄◄◄◄◄ . repeatedly, press the **FF(►►)** button to speed up ►►-> ►►► -> ►►►► -> ►►►►► -> ►►►►►► . ■ Pressing these buttons repeatedly increases the fast forward/reverse speed.
I◄◄ / ►►I	Press the ►►I button to jump about 20 seconds forward. ■ Pressing the I◄◄ button to jump about 8 seconds backward.
II	During playback, press the **Pause(II)** button. ■ Still screen is displayed. ■ Repeatedly press the **Pause(II)** button to advance frame by frame. ■ Press the **Pause(II)** button and then use the **FF(►►)** button for slow motion (the ▐► icon is displayed.) ■ Press the **Pause(II)** button and then use the **FF(◄◄)** button for slow motion (the ◄▌ icon is displayed.)
◄ / ►	■ When using the ◄ or ► button during playback a cursor indicating the position can be viewed on the screen.
PLAY(►)	Press the **PLAY(►)** button to return to normal playback.
LIVE TV	Press the **LIVE TV** button to jump at the front of the programme.
STOP(■)	■ If you press the **STOP(■)** button, you can watch set.

DVR (DIGITAL VIDEO RECORDER)

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PHOTO LIST

It's available to playback the photo file(∗.jpg) in the USB device.

The On Screen Display may be different from your set. Images are an example to assist with the TV operation.

Supports up to four drives.

PHOTO(∗.JPEG) supporting file

Baseline: width<=4800, height is no limit
• You can play JPEG files only.
• Only baseline scan is supported among JPEG.
• Non-supported files are displayed in the form of icon.
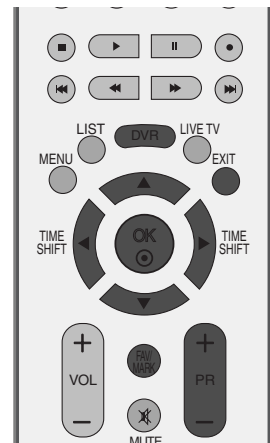
Screen Components

■ Press the **DVR** button and then use ▲ / ▼ button to select the **Photo List** menu.
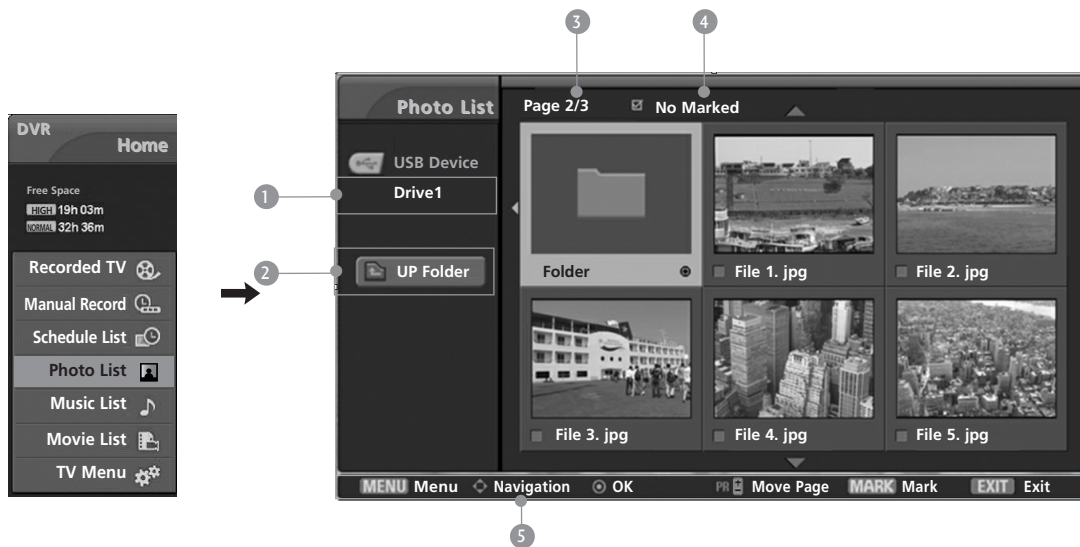
❶ Displays the selected drive
❷ Moves to upper level file
❸ Current page/Total pages
❹ Total number of marked thumbnail photos
❺ Corresponding buttons on the remote control

Photo Selection and PopUp Menu

As shown, up to 6 thumbnail photos are listed per page.

1 Use ▲ / ▼ / ◄ / ► buttons to select the target folder or drive then press **OK** .

2 Use the **PR +/-** button to navigation in the thumbnail photo page.

3 Use the **MARK** button to mark or unmark a photo. When one or more photos are marked, you can view individual photos or a slide show of the marked photos. If no photos are marked, you can view all photos individually or all photos in the folder in a slide show.

4 Use ▲ / ▼ / ◄ / ► button to navigation the appropriate thumbnail photos, then press the **OK** button to show the PopUp menu.

> ► **View** : Display the selected item.
>
> ► **Mark All** : Mark all photos on the screen.
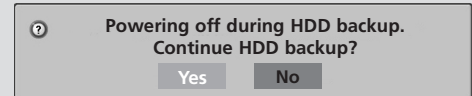> ► **Unmark All** : Deselect all marked photos.
> ► **Cancel** : Close the pop-up menu.

5 Repeatedly, press **EXIT** button to return to TV viewing or press the **DVR** button to return to the **Home** menu.
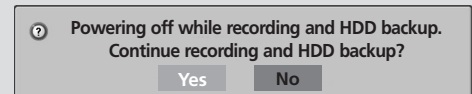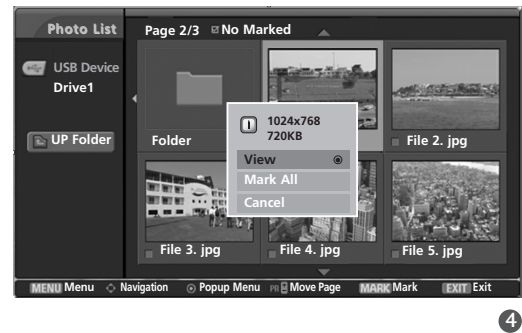
DVR (DIGITAL VIDEO RECORDER)

Set up the menu in Full-Sized Screen

You can change the settings to display photos stored on a USB device, on a full-sized screen.
Detailed operations are available on full-sized photo view screen.

❶ ❷ ❸ ❹

1 Use ▲ / ▼ / ◀ / ▶ buttons to select the target folder or drive then press **OK** .

2 Use the **PR +/-** button to navigation the thumbnail photo page.

3 Use ▲ / ▼ / ◀ / ▶ button to navigation the appropriate thumbnail photos, then press the **OK** button to show the PopUp menu.

❺

4 Use ▲ / ▼ button to Move to the **View** menu, then press the **OK** button.

5 The selected photo is displayed in full size.

▶ **Slide Show** : When no picture is selected, all photos in the current folder are displayed during slide show. When selected, the selected photos are displayed during slide show. To start slide show, press **OK** button on `Slideshow ▷` .
  ▪ Set the time interval of the slide show in **Option**.

▶ **BGM** : Listen to music while viewing photos in full size. To start BGM, press **OK** button on `BGM ▷` .
  ▪ Set the BGM device and album in **Option** .

▶ `↻` **(Rotate)** : Rotate photos.
  ▪ Rotates the photo 90° clockwise upon **OK** button on `↻` **(Rotate)**.

The aspect ratio of a photo may change the size of the photo displayed on the screen in full size.

❺

▶ **Option** : Set values for **Slide Speed** and **Music folder**. Use ◄ / ► button to select **Option** and press **OK** button.

  ■ Use ◄ / ► button and **OK** button to set values. Then go to ▭ **0k** ▭ and press **OK** to save the settings.
  ■ You cannot change **Music Folder** while BGM is playing.

▶ **Hide** : Hide the menu on the full-sized screen. Use ◄ / ► button to select **Hide** and press **OK** button.

  ■ To see the menu again on the full-sized screen, press **OK** button to display.

> ⓘ **Change slide speed using** ◄►
>
> Slide Speed   ◄   **Fast**   ►
> Music Folder   **Music**
>
>   OK   Cancel
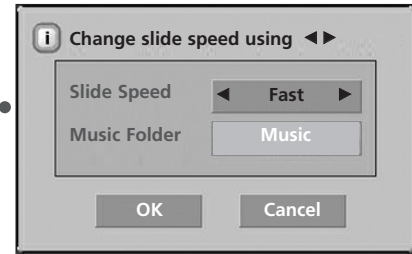
6 Use ▲ / ▼ / ◄ / ► button to select the previous or next photo.
Use ▲ / ▼ / ◄ / ► button to select and control the menu on the full-sized screen.

7 Use **EXIT** button to go back to the photo list from the full-sized screen.

8 Repeatedly, press **EXIT** button to return to TV viewing or press the **DVR** button to return to the **Home** menu.

⚠ **NOTE**
▶ If it is Progressive JPEG format, some photos may be not decorded.

DVR (DIGITAL VIDEO RECORDER)

MUSIC LIST

Purchased music files(*.MP3) may contain copyright restrictions.
Playback of these files may not be supported by this model.
Music file on your USB device can be played by this unit.

The On Screen Display may be different from your set. Images
are an example to assist with the TV operation.

Supports up to four drives.

MUSIC(∗.MP3) supporting file
Bitrate range 8Kbps ~ 320Kbps
•Sampling rate
  MPEG1 : 32000, 44100, 48000Hz
  MPEG2 : 16000, 24000, 22050Hz
  MPEG2.5 : 8000, 11025, 12000Hz

Screen Components

■ Press the **DVR** button and then use ▲ / ▼ button to select the **Music List** menu.

DVR Home	**Music List** Page1/11 ☑ No Marked
Free Space	USB Device
HIGH 19h 03m	00:00/**04:02** Mariah Carey-Emotions.mp3
NORMAL 32h 36m	Drive1
Recorded TV	UP Folder
Manual Record	
Schedule List	
Photo List	
Music List	
Movie List	
TV Menu	

☐ Mariah Carey-Emotions.mp3	◉	04:02
☐ BH-I Love You.mp3		03:40
☐ BSB-I´ll Be Missing You(Live).mp3		04:30
☐ BSB-Your Style.mp3		03:30
☐ BSB-I´ll Never Break your Heart.mp3		04:45
☐ Bon Jovi – Never Say Goodbye.mp3		03:57
☐ Buzz-Don´t Cry.mp3		04:41
☐ Mariah Carey – Hero.mp3		04:20

MENU Menu ◇ Navigation ◉ Popup Menu PR ▤ Move Page **MARK** Mark **EXIT** Exit

❶ Displays the selected drive

❷ Moves to upper level file

❸ Current page/Total pages

❹ Current playing time/Total playing time

❺ Total number of marked musics

❻ Corresponding buttons on the remote control

Music Selection and PopUp Menu

As shown , up to 8 music titles are listed per page.

① Use ▲ / ▼ / ◄ / ► buttons to select the target folder or drive then press **OK** .

② Use the **PR +/-** button to navigation in the music titles page.

③ Use **MARK** button to mark or unmark a music. When one or more music files are marked, the marked musics will be played in sequence. For example, if you want to listen to only one music repeatedly, just mark the music only and play it. If no music is marked, all the music in the folder will be played in sequence.

④ Use ▲ / ▼ button to navigation the appropriate musics, then press the **OK** button to show up the pop-up menu.

> ► **Play** (During stop) : Play the selected musics.
> Once a music finishes playing, the next selected one will be played. When there are no selected musics to play, the next one in the current folder will be played. If you go to a different folder and press the **OK** button, the current music in playback will stop.
> ► **Play Marked** : Play the selected musics. Once a music finishes playing, the next selected one will be played automatically.
> ► **Stop Play** (During playback) : Stop the playing musics.
> ► **Play With Photo** : Start playing the selected musics and then move to the Photo List.
> ► **Mark All** : Mark all musics in the folder.
> ► **Unmark All** : Deselect all marked musics.
> ► **Cancel** : Close the pop-up menu.

⑤ Repeatedly, press **EXIT** button to return to TV viewing or press the **DVR** button to return to the **Home** menu.

Screen 1

Music List	Page 1/1 ☑	No Marked
	Folder : MUSIC	

USB Device Drive1

📁 Vacation Photo
📁 MOVIE
📁 MUSIC ◉
📁 PHOTO

UP Folder

MENU Menu ◇ Navigation ⊙ OK PR Move Page MARK Mark EXIT Exit

① ②

Screen 2

Music List	Page 1/11 ☑ No Marked
	00:00 04:02 Mariah Carey-Emotions.mp3

USB Device Drive1

Mariah Carey-Emotions.mp3 ◉ 04:02
BH-I Love You.m 03:40
BSB-I´ll Be Miss 04:30
BSB-Your Style.m 03:30
BSB-I´ll Never B 04:45
Bon Jovi − Neve 03:57
Buzz-Don´t Cry.mp3 04:41
Mariah Carey − Hero.mp3 04:20

ℹ 5690 KB
192 Kbps
Play ◉
Play With Photo
Mark All
Cancel

UP Folder

MENU Menu ◇ Navigation ⊙ Popup Menu PR Move Page MARK Mark EXIT Exit

③ ④

■ If you don't press any button for a while during the play-
ing, the play information box (as shown in the below) will
float as a screen saver.

■ The 'Screen Saver'?
Screen saver is to prevent screen pixel damage due to an
fixed image remaining on the screen for a extended period
of time.

▶ 00:20/04:20 **Without Me**

❗ NOTE

▶ When music is playing, 🎵 is displayed in front of the music title.

▶ A damaged or corrupted music does not play but displays 00:00 in playtime.

▶ A music downloaded from a paid service with copyright protection does not start but displays inappropri-
ate information in playtime.

▶ If you press **OK**, ■ , **EXIT** buttons, screen saver is stopped.

▶ The **PLAY(▶)**, **Pause(II)**, ■ , I◀◀ , ▶▶I buttons on the remote control are also available in this mode.

MOVIE LIST

The movie list is activated once USB is detected. It is used when playing
movie files on TV.

Displays the movies in the USB folder and supports Play.

Allows playback of all movies in the folder and user desired files.

Editing such as delete and add is not allowed.

It is a movie list that displays folder information and Divx file.

Supports up to four drives.
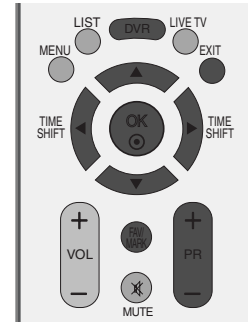
MOVIE(∗.avi/∗.Divx) supporting file

Video format : DivX3.xx, DivX4.xx, DivX5.xx , XVID1.1.1, XVID1.1.2, XVID1.1.3 , 3IV1, 3IV2, FVFW, DMK2, RMP4, DIV3,
              DIV4, DIV5, DIV6, MP43, COL1, AP41, nAVI, DX50

Audio format : Mpeg, Mp3, PCM, AC3
              Sampling frequency : within 8~48 khz(MP3)
              Bit rate : within 8~320 kbps(MP3)

Subtitle format : ∗.smi/ ∗.srt/ ∗.sub(microsub, svsub)/ ∗.ass/ ∗.ssa/∗.txt(subtext, dvdss)

• DivX may not be played depending on its types or recording methods.

• If the video and audio structure of recorded file is not interleaved, either video or audio is outputted.

• Max bitrate of playable DivX is 4 M.

• Maximum FPS (Frame Per Second) can be reached only at SD level. FPS is 25 FPS (720*576) or 30 FPS (720*480)
  depending on Resolution.

• Files of 25 FPS or 30 FPS of higher may not be played properly.

• If the file is recorded with GMC, the unit supports only 1 point of recorded level.

 (GMC is the acronym for Global Motion Compensation, a technique used to compensate MPEG Video files.)

Screen Components

■ Press the **DVR** button and then use ▲ / ▼ button to select the **Movie List** menu.
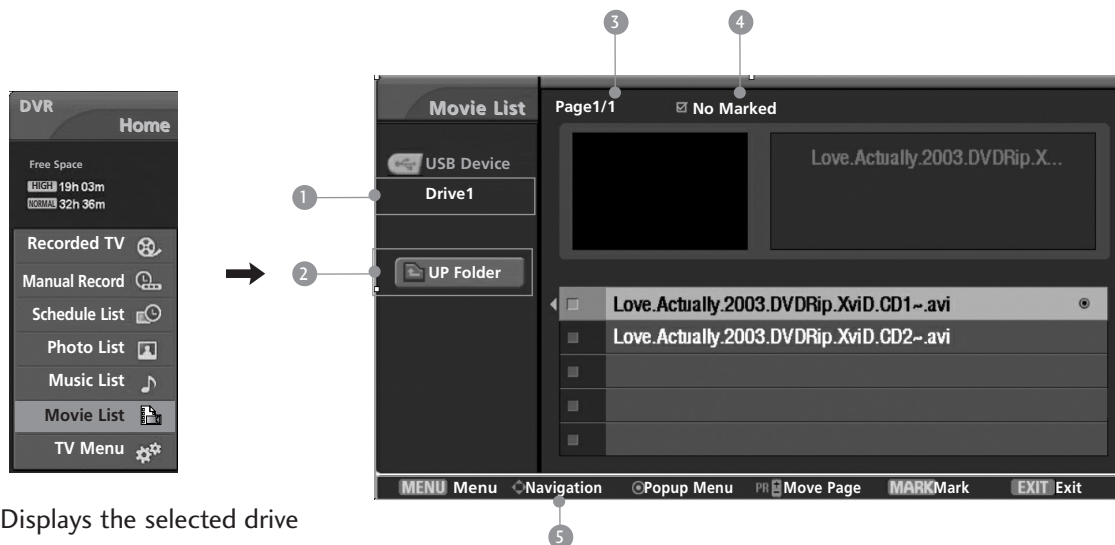
❶ Displays the selected drive

❷ Moves to upper level file

❸ Current page/Total pages

❹ Total number of marked movies

❺ Corresponding buttons on the remote control

Movie Selection and PopUp Menu

1 Use ▲ / ▼ / ◄ / ► buttons to select the target folder or drive then press **OK** .

2 Use the **PR +/-** button to navigation in the movie titles page.

3 Use **MARK** button to mark or unmark a movie. When one or more movie files are marked, the marked movies will be played in sequence.

4 Use ▲ / ▼ button to navigation the appropriate movies, then press the **OK** button to show up the pop-up menu.

> ▶ **Preview**: Displays the preview video of the current file.
> ▶ **Play** : Play the selected movie.
>   Divx Play is executed while screen changes.
> ▶ **Mark All** : Mark all Movie in the folder.
> ▶ **Unmark All** : Deselect all marked Movies.
> ▶ **Cancel** : Close the pop-up menu.

5 Repeatedly, press **EXIT** button to return to TV viewing or press the **DVR** button to return to the **Home** menu.

Movie List	Page 1/1	☑ No Marked	
USB Device Drive1		Folder : LoveActually	
UP Folder			
	📁 BB Project		
	📁 LoveActually		◉
	📁 Radio Star		
	📁 The Wedding Date		

MENU Menu ◇ Navigation ◉ OK PR⊟ Move Page **MARK** Mark **EXIT** Exit

❶ ❷

Movie List	Page 1/1	☑ No Marked	
USB Device Drive1		Love.Actually.2003.DVDRip.X...	
UP Folder			

Love. Act...
No Marked
Preview ◉
Play
Mark All
Cancel

MENU Menu ◇ Navigation ◉ Popup Menu PR⊟ Move Page **MARK**Mark **EXIT**Exit

❸ ❹
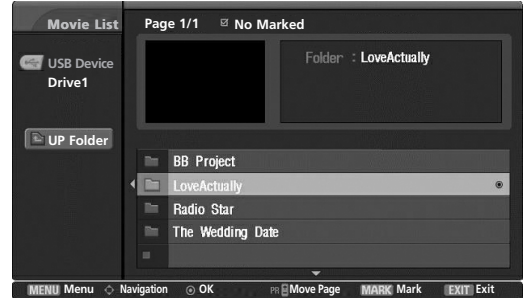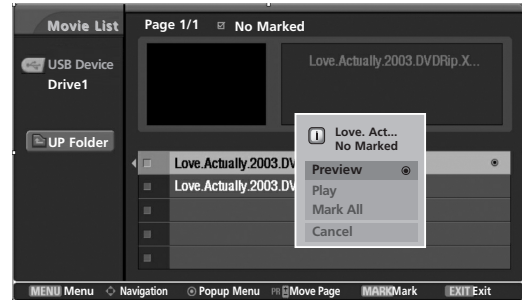
❗ NOTE

▶ In the case of files not supported, a message regarding non-supported file is displayed.

DivX Audio Language & Subtitle Language

▶ When DivX is playing, if you press the **DivX** button, this message is displayed.

> **ⓘ Choose from options below**
>
> **Audio Language**
> ◄ **Mpeg(1/1)** ►   OK
>
> **Subtitle Language**
> - - - - (0/0)   OK
>
> ◇ Navigation ◉ OK **EXIT** Exit
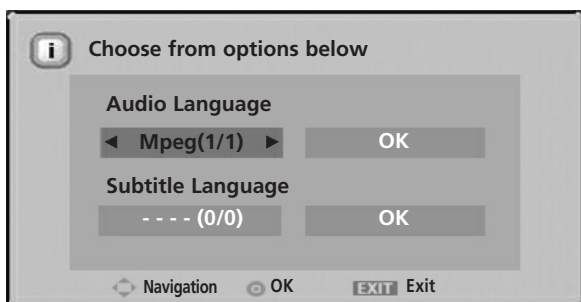
Press the ▲ / ▼ / ◄ / ► button to select the desired option.
Supports up to Mpeg, Mp3, PCM, AC3 file.

SUBTITLE

Turns the subtitle control during movie play.
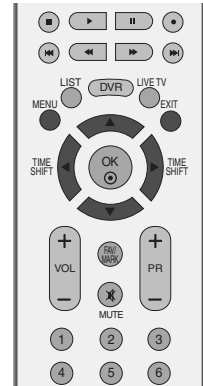
1. Press the **MENU** button and then use ▲ / ▼ button to select the **DVR** menu.

2. Press the ▶ button and then use ▲ / ▼ button to select **Subtitle**.

3. Press the ▶ button to start **Subtitle**.

4. Press the ▲ / ▼ / ◀ / ▶ button to select the desired subtitle option.

On	**Off**	
Control	**Language**	**Sync**	**Position**
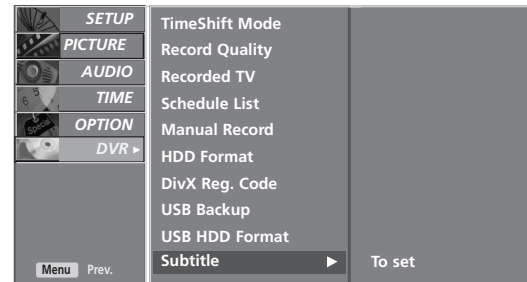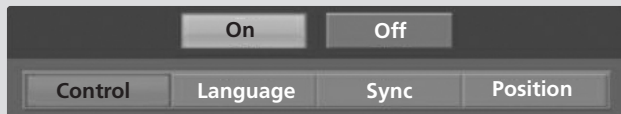
- **Control** : Turns the position of the subtitle on and off during movie play.
- **Language** : Changes the Language Group of the subtitle during movie play.
- **Sync** : Adjusts the time synchronisation of the subtitle from -10 secs ~ +10 secs by steps of 1 secs during movie play.
- **Position** : Changes the position of the subtitle either up or down during movie play.

SETUP	**TimeShift Mode**
PICTURE	**Record Quality**
AUDIO	**Recorded TV**
TIME	**Schedule List**
OPTION	**Manual Record**
DVR ▶	**HDD Format**
	DivX Reg. Code
	USB Backup
	USB HDD Format
Menu Prev.	**Subtitle** ▶ To set

❶ ❷ ❸

DIVX REGISTRATION CODE

Confirm the DivX registration code number of the TV. Using the registration number, movies can be rented or purchased at www.divx.com/vod.

With a DivX registration code from other TV, playback of rented or purchased DivX file is not allowed. (Only DivX files matched with the registration code of the purchased TV are playable.)

1 Press the **MENU** button and then use ▲ / ▼ button to select the **DVR** menu.

2 Press the ► button and then use ▲ / ▼ button to select **DivX Reg. Code**.

3 Press the ► button to start **DivX Reg. Code**.

> ⓘ DivX Registration Code : xxxxxxx
> Yes

SETUP	**TimeShift Mode**
PICTURE	**Record Quality**
AUDIO	**Recorded TV**
TIME	**Schedule List**
OPTION	**Manual Record**
DVR ►	**HDD Format**
	DivX Reg. Code ► **To set**
	USB Backup
	USB HDD Format
Menu Prev.	**Subtitle**

❶ ❷ ❸
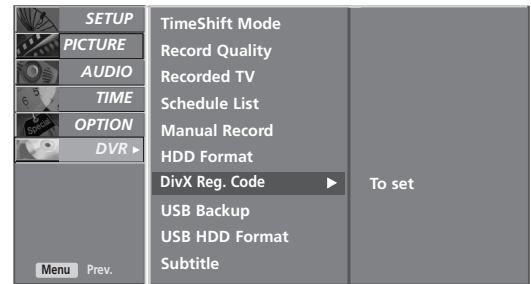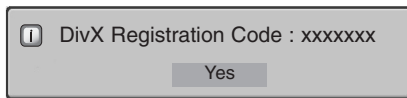
4 Press the **EXIT** button to return to normal TV viewing.

- Official DivX® Certified Product
- Plays all version of DivX® video (including DivX® 6) with standard playback of DivX® media files
- "DivX, DivX Certified, and associated logos are trademarks of DivX, and are under license."

PICTURE CONTROL

WATCHING PIP(PICTURE-IN-PICTURE)

It's not available to use this function on recording programme.

PIP lets you view 2 different inputs (sources) on your TV screen at the same time. One source will be large, and the other source will show a smaller inset image.
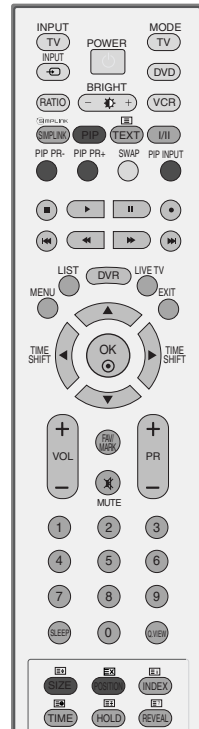
Watching PIP/Double Window

Press the **PIP** button to access the sub picture.
Each press of PIP changes the PIP options as shown below.

PIP Mode

DW1 Mode

DW2 Mode

PIP Off
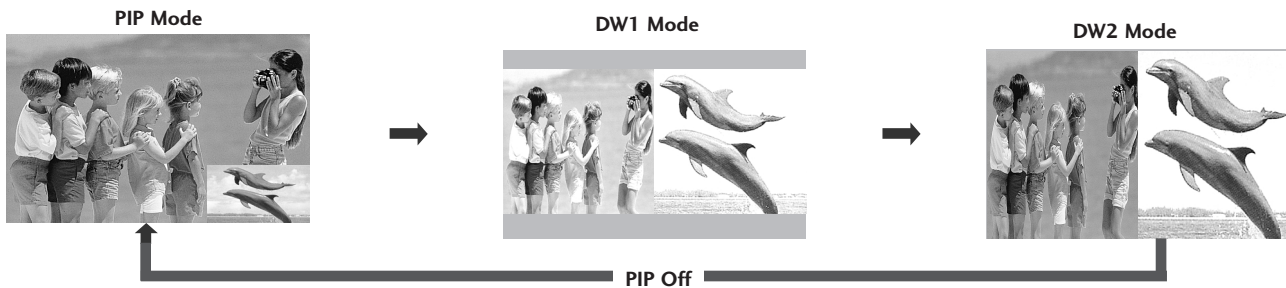
Programme Selection for Sub Picture

Press the **PIP PR +/-** button to select a programme for the sub picture.

The selected programme number is displayed just below the programme number of main picture.

PICTURE CONTROL

Input Source Selection for Sub Picture

Press the **PIP INPUT** button to select the input source for the sub picture.
Each press of **PIP INPUT** button is pressed, each input source for the sub picture is displayed.

Sub Picture Size Adjustment (PIP mode only)

Press the **SIZE** button to adjust the sub picture size.
With **SIZE** button in PIP mode, sub picture is adjusted.

Moving the Sub Picture (PIP mode only)

Press the **POSITION** button.
Repeatedly press the **POSITION** button then sub picture moves left.
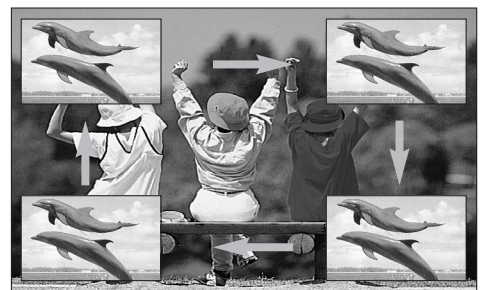
PICTURE SIZE (ASPECT RATIO)CONTROL

You can watch the screen in various picture formats; **16:9**, **Original**, **4:3**, **14:9** and **Zoom1/2**.

If a fixed image is displayed on the screen for a long time, that fixed image may become imprinted on the screen and remain visible.

You can adjust the enlarge proportion using ▲ / ▼ button.

This function works in the following signal.
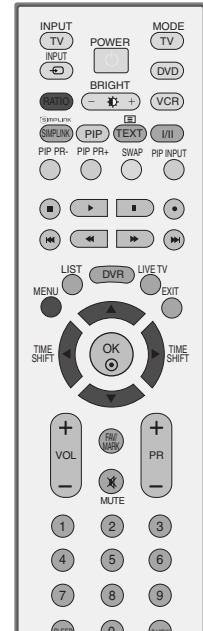
1 Press the **RATIO** button repeatedly to select the desired picture format.
You can also adjust **Aspect Ratio** in the **PICTURE** menu.

• **16:9**

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).
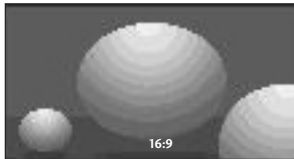
• **Original**

When your TV receives the wide screen signal, it will be automatically changed to the picture format to be sent.
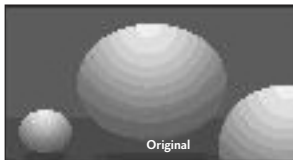
• **4:3**

Following selection will lead you to view a picture with an original 4:3 aspect ratio, with gray bars appearing at both the left and right sides.
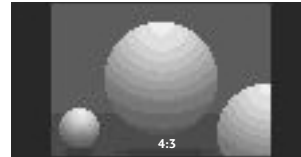
• **14:9**

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.

• Zoom1

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.
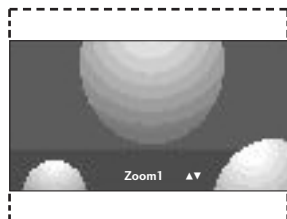
Zoom1 ▲▼

• Zoom2

Choose Zoom2 when you want the picture to be altered, both horizontally extended and vertically cropped. The picture taking a halfway trade off between alteration and screen coverage.
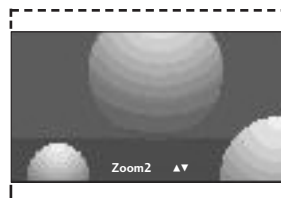
Zoom2 ▲▼

❗ NOTE

► You can only select **16:9** (Wide), **4:3**, Zoom 1/2 in Component, HDMI(DTV) mode.
► You can only select **16:9** (Wide), **4:3**, in RGB/HDMI(PC) mode only.
► You can select **4:3**, **16:9**, **Zoom1**, **Zoom2** in Recorded TV, Movie List, Play back mode only.
► In Timeshift Delay/Recording Delay function, TV displays the aspect ratio of previous input mode.
► It's available 16:9 when viewing a jpeg file in photo list.

PRESET PICTURE SETTINGS

Picture Mode-Preset

Dynamic	Select this option to display with a sharp image.
Standard	The most general and natural screen display status.
Mild	Select this option to display with a mild image.
User 1/2	Select this option to use the user-defined setting.
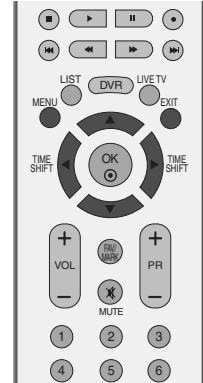
1 Press the **MENU** button and then ▲ / ▼ button to select the **PICTURE** menu.

2 Press the ► button and then ▲ / ▼ button to select **Picture Mode**.

3 Press the ► button and then ▲ / ▼ button to select **Dynamic, Standard, Mild, User 1** or **User 2**.

4 Press the **EXIT** button to return to normal TV viewing.

• Picture Mode adjusts the TV for the best picture appearance. Select the preset value in the **Picture Mode** menu based on the programme category.

• Dynamic, Standard and Mild are programmed for optimum picture reproduction at the factory and cannot be changed.

Auto Colour Tone Control(Warm/Medium/Cool)

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

Choose one of three automatic colour adjustments. Set to warm to enhance hotter colours such as red, or set to cool to see less intense colours with more blue.

It's available to use this function in "**User1/2**" of **Picture mode** only.
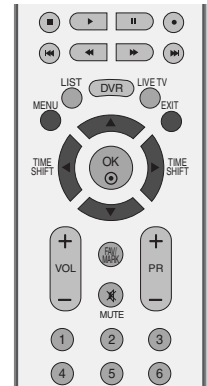
1 Press the **MENU** button and then ▲ / ▼ button to select the **PICTURE** menu.

2 Press the ► button and then ▲ / ▼ button to select **Colour Temperature**.

3 Press the ► button and then ▲ / ▼ button to select either **Cool**, **Medium**, **Warm** or **User**.

4 Press the **EXIT** button to return to normal TV viewing.

MANUAL PICTURE ADJUSTMENT

Picture Mode-User option

Contrast   Adjusts the difference between the light and dark levels in the picture.

Brightness   Increases or decreases amount of white in the your picture.

Colour   Adjusts intensity of all colours.

Sharpness   Adjusts the level of crispness in the edges between the light and dark areas of the picture. The lower the level, the softer the image.

Tint   Adjusts the balance between red and green levels.

1 Press the **MENU** button and then ▲ / ▼ button to select the **PICTURE** menu.

2 Press the ► button and then ▲ / ▼ button to select **Picture Mode**.

3 Press the ► button and then ▲ / ▼ button to select **User 1** or **User 2**.

4 Press the ► button and then ▲ / ▼ button to select the desired picture option (**Contrast**, **Brightness**, **Colour**, **Sharpness** and **Tint**).

5 Press the ◄ / ► button to make appropriate adjustments.

6 Press the **EXIT** button to return to normal TV viewing.

ⓘ NOTE

► You can't adjust colour, sharpness and tint in the RGB mode to the levels you prefer.

SETUP	Picture Mode
PICTURE ►	Colour Temperature
AUDIO	XD
TIME	Advanced
	Aspect Ratio
OPTION	Picture Reset
DVR	Screen
	XD Demo

Menu Prev.

❶

Picture Mode ►	Dynamic
Colour Temperature	Standard
XD	Mild
Advanced	√ User 1
Aspect Ratio	User 2
Picture Reset	
Screen	
XD Demo	

❷ ❸

User 1

Contrast	100	►
Brightness	50	
Colour	50	
Sharpness	50	
Tint	0	R ‖‖‖‖‖‖‖‖‖‖‖ G

❹ ❺

Colour Tone - User option

To adjust red, green, blue to any colour temperature you prefer.

It's available to use this function in "User1/2" of Picture mode only.

1 Press the **MENU** button and then ▲ / ▼ button to select the **PICTURE** menu.

2 Press the ▶ button and then ▲ / ▼ button to select **Colour Temperature**.

3 Press the ▶ button and then ▲ / ▼ button to select **User**.

4 Press the ▶ button and then ▲ / ▼ button to select **Red**, **Green** or **Blue**.

5 Press the ◀ / ▶ button to make appropriate adjustments.

6 Press the **EXIT** button to return to normal TV viewing.

SETUP	Picture Mode
PICTURE ▶	Colour Temperature
AUDIO	XD
TIME	Advanced
OPTION	Aspect Ratio
DVR	Picture Reset
	Screen
	XD Demo

Menu   Prev.

❶

Picture Mode	
Colour Temperature ▶	Cool
XD	Medium
Advanced	Warm
Aspect Ratio	√ User
Picture Reset	
Screen	
XD Demo	

❷ ❸

User		
Red	0	▶
Green	0	
Blue	0	

❹ ❺
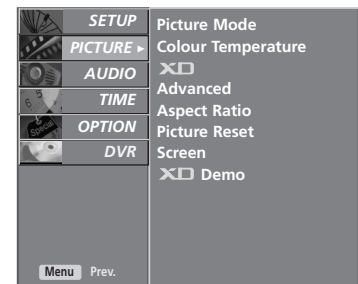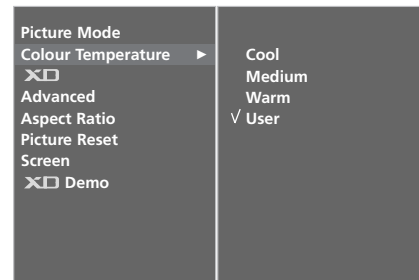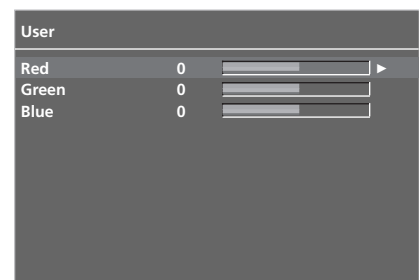
XD - PICTURE IMPROVEMENT TECHNOLOGY

XD is LG electronic's unique picture improving technology to display a real HD source through an advanced digital signal processing algorithm.
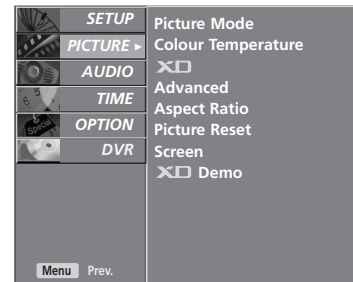
It's not available to use this function in RGB/HDMI-PC mode.
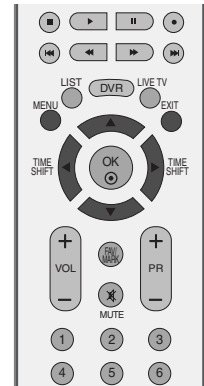
1 Press the MENU button and then ▲ / ▼ button to select the **PICTURE** menu.

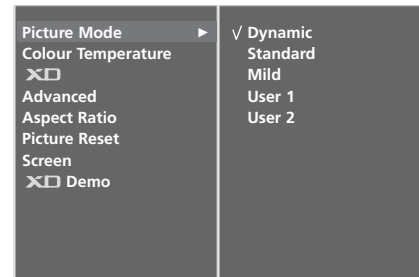**2** Press the ► button and then ▲ / ▼ button to select **XD**.

3 Press the ► button and then ▲ / ▼ button to select **Auto** or **Manual**.

4 Press the **EXIT** button to return to TV viewing.

* Selecting the Manual

This menu is activated after selecting the **User1** or **User2** of **Picture Mode**.

1 Press the ► button and then ▲ / ▼ button to select **XD Contrast**, **XD Colour** or **XD NR**.

2 Press the ► button and then ▲ / ▼ button to select **On** or **Off**.

3 Press the **EXIT** button to return to normal TV viewing.

■ **XD Contrast :** Optimizing the contrast automatically according to the brightness of the reflection.
■ **XD Colour :** Adjusting the colours of the reflection automatically to reproduce as closely as possible to the natural colours.
■ **XD NR :** Removing the noise up to the point where it does not damage the original picture.

SETUP	Picture Mode
PICTURE ►	Colour Temperature
AUDIO	XD
TIME	Advanced
OPTION	Aspect Ratio
DVR	Picture Reset
	Screen
	XD Demo

Menu   Prev.

❶

Picture Mode	
Colour Temperature	
XD ►	√ Auto
Advanced	Manual
Aspect Ratio	XD Contrast
Picture Reset	
Screen	On
XD Demo	XD Colour On
	XD NR On

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PICTURE CONTROL

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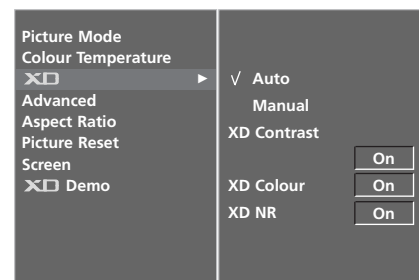
PICTURE CONTROL

✕◻ DEMO

Use it to see the difference between XD Demo on and XD Demo off.

It's not available to use this function in RGB/HDMI-PC mode.
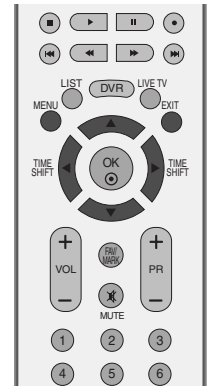
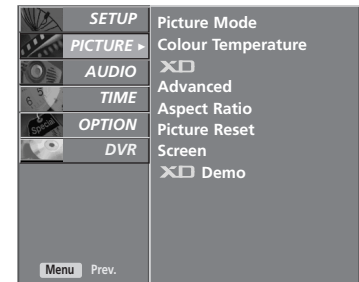1. Press the MENU button and then ▲ / ▼ button to select the **PICTURE** menu.

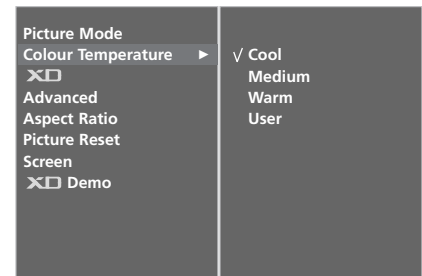2. Press the ► button and then ▲ / ▼ button to select **XD Demo**.

3. Press the ► button to begin **XD Demo**.

4. To stop **XD Demo**, press the **MENU** button.
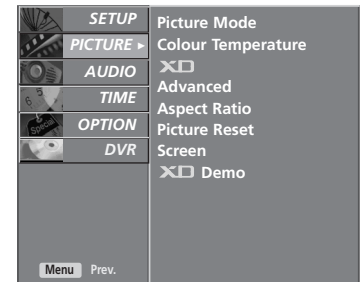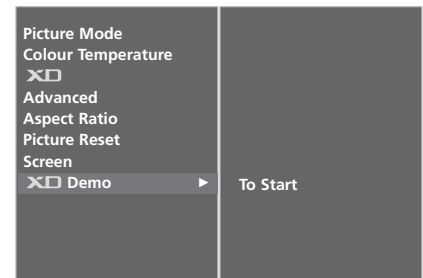
ADVANCED - CINEMA

Set up the TV for the best picture appearance for viewing movies.

This feature operates only in Analog TV, AV and Component 480i/576i mode.
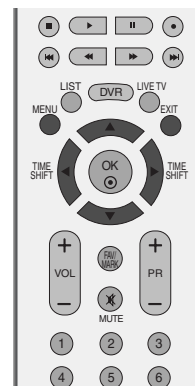
1 Press the **MENU** button and then ▲ / ▼ button to select the **PICTURE** menu.

2 Press the ▶ button and then ▲ / ▼ button to select **Advanced**.

3 Press the ▶ button and then ▲ / ▼ button to select **Cinema**.

4 Press the ▶ button and then ▲ / ▼ button to select **On** or **Off**.

5 Press the **EXIT** button to return to normal TV viewing.

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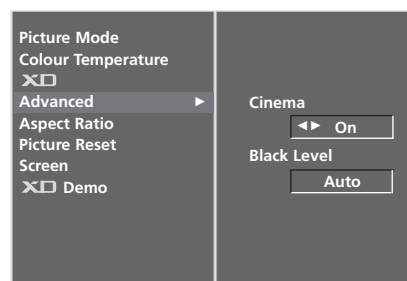
ADVANCED - BLACK(DARKNESS) LEVEL

When you watch the movie, this function adjusts the set to the best picture appearance. Adjusting the contrast and the brightness of the screen using the black level of the screen.
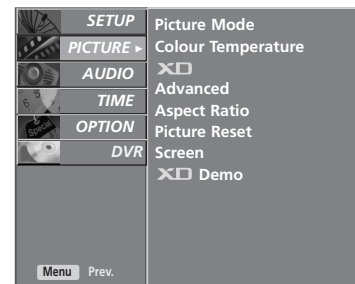
This function works in the following mode: AV (NTSC-M) or HDMI.
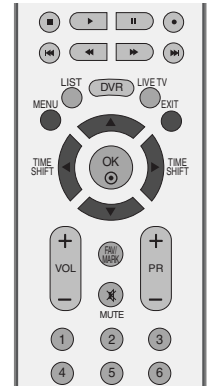
1 Press the **MENU** button and then ▲ / ▼ button to select the **PICTURE** menu.

2 Press the ► button and then ▲ / ▼ button to select **Advanced**.

3 Press the ► button and then ▲ / ▼ button to select **Black Level**.

4 Press the ► button and then ▲ / ▼ button to select **Low** or **High**.

■ **Low** : The reflection of the screen gets darker.
■ **High** : The reflection of the screen gets brighter.

5 Press the **EXIT** button to return to normal TV viewing.
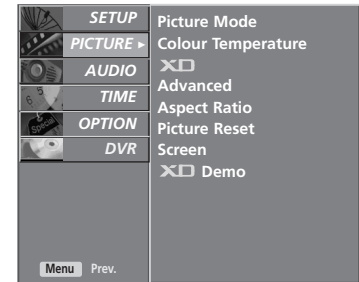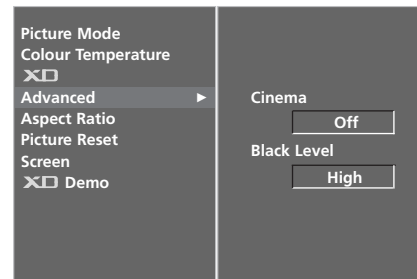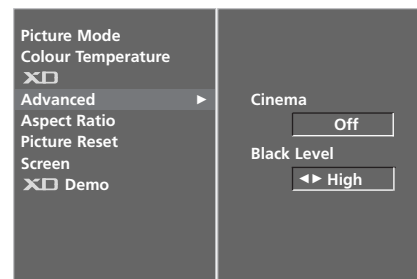
❶ NOTE

■ **Auto**

Realizing the black level of the screen and set it to High or Low automatically.

PICTURE CONTROL

PICTURE RESET

**Returns to the default settings Picture Mode, Colour
Temperature, XD, Advanced, Aspect Ratio at the factory.**
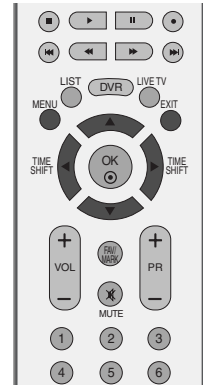
SETUP	Picture Mode
PICTURE ▸	Colour Temperature
AUDIO	XD
TIME	Advanced
	Aspect Ratio
OPTION	Picture Reset
DVR	Screen
	XD Demo

Menu   Prev.

❶

① Press the **MENU** button and then ▲ / ▼ button to select
the **PICTURE** menu.

② Press the ▶ button and then ▲ / ▼ button to select
Picture Reset.

Picture Mode	
Colour Temperature	
XD	
Advanced	
Aspect Ratio	
Picture Reset ▶	To Set
Screen	
XD Demo	

③ Press the ▶ button to initialize the adjusted value.

④ Press the **EXIT** button to return to normal TV viewing.

❷ ❸

PICTURE CONTROL

85
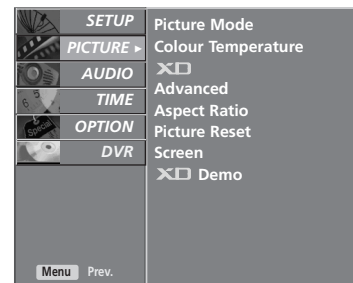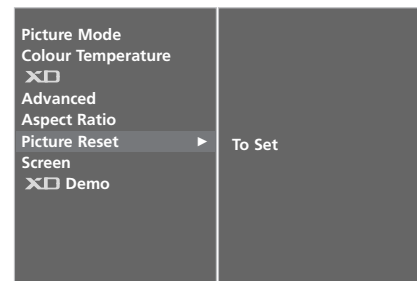
IMAGE STICKING MINIMIZATION(ISM)METHOD

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

White wash

White wash removes permanent images from the screen.

Note: An excessive permanent image may be impossible to clear entirely with White Wash.

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 2 minutes.

Inversion

This is the function to invert the panel colour of the screen. The panel colour is automatically inverted every 30 minutes.
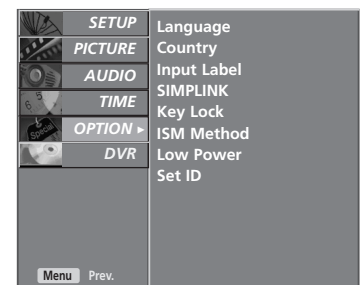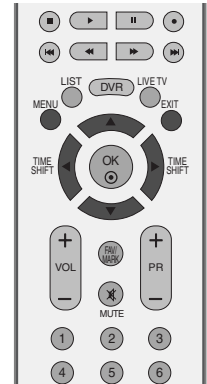
1 Press the **MENU** button and then ▲ / ▼ button to select the **OPTION** menu.
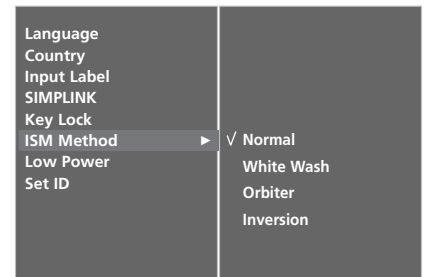
2 Press the ▶ button and then ▲ / ▼ button to select **ISM Method**.

3 Press the ▶ button and then ▲ / ▼ button to select either **Normal**, **White Wash**, **Orbiter** or **Inversion**. If you unnecessary to set this function, set **Normal**.

4 Press the **EXIT** button to return to TV viewing.

LOW-POWER PICTURE MODE
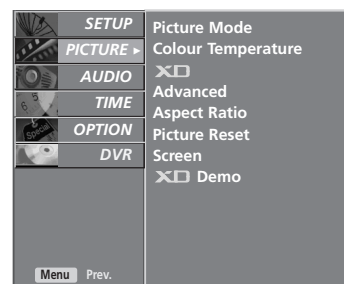
This is the function to reduce the power consumption of the set.
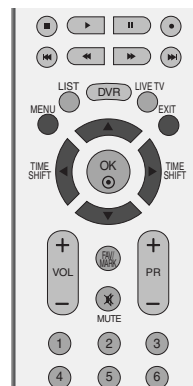
1 Press the **MENU** button and then ▲ / ▼ button to select the **OPTION** menu.
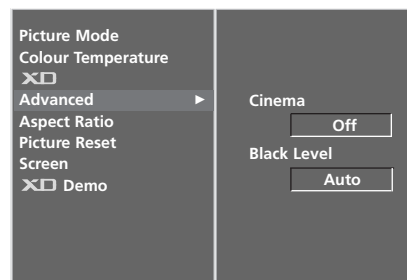
2 Press the ► button and then ▲ / ▼ button to select **Low Power**.

3 Press the ► button and then ▲ / ▼ button to select **On** or **Off**.

4 Press the **EXIT** button to return to TV viewing.

SETUP   Language
PICTURE   Country
AUDIO   Input Label
TIME   SIMPLINK
OPTION ► Key Lock
DVR   ISM Method
        Low Power
        Set ID

Menu   Prev.

❶

Language
Country
Input Label
SIMPLINK
Key Lock
ISM Method
Low Power   ► √ Off
Set ID   On

❷ ❸

PICTURE CONTROL

SOUND & LANGUAGE CONTROL

AUTO VOLUME LEVELER

Auto Volume automatically keeps on an equal volume level even if you change programmes.

---

1 Press the **MENU** button and then ▲ / ▼ button to select the **AUDIO** menu.

---

2 Press the ▶ button and then ▲ / ▼ button to select **Auto Volume**.

---

3 Press the ▶ button and then ▲ / ▼ button to select **On** or **Off**.

---

4 Press the **EXIT** button to return to normal TV viewing.
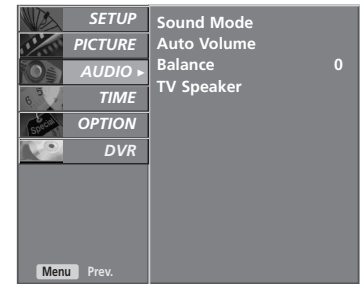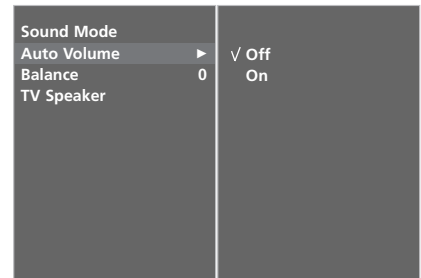
# PRESET SOUND SETTINGS-SOUND MODE

You can select your preferred sound setting; SRS TSXT, Standard, Music, Movie or Sports and you can also adjust the sound frequency of the equalizer.

Sound Mode lets you enjoy the best sound without any Special adjustment because the TV sets the appropriate sound options based on the programme content.

SRS TSXT, **Standard**, **Music**, **Movie**, and **Sports** are preset for good sound quality at the factory and are not adjustable.

SRS TSXT Select this option to sound realistic.
Standard The most commanding and natural audio.
Music   Select this option to enjoy the original sound when lis tening to the music.
Movie   Select this option to enjoy sublime sound.
Sports   Select this option to watch sports broadcasting.
User   Select this option to use the user-defined audio set tings.
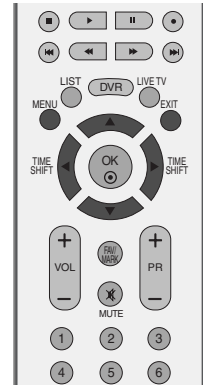
1   Press the **MENU** button and then ▲ / ▼ button to select the **AUDIO** menu.
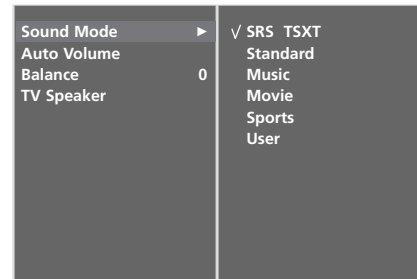
2   Press the ▶ button and then ▲ / ▼ button to select **Sound Mode**.

3   Press the ▶ button and then ▲ / ▼ button to select **SRS TSXT**, **Standard**, **Music**, **Movie**, **Sports** or **User**.

4   Press the **EXIT** button to return to normal TV viewing.

▶ **SRS** TruSurround XT is a trademark of SRS Labs, Inc.
▶ TruSurround XT technology is incorporated under license from SRS Labs, Inc.

SOUND & LANGUAGE CONTROL

SOUND & LANGUAGE CONTROL

SOUND SETTING ADJUSTMENT -USER MODE

Adjust the sound equalizer.
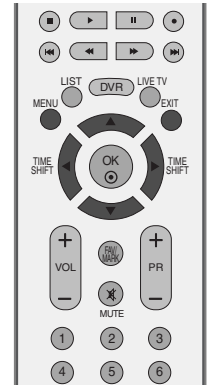
1 Press the **MENU** button and then ▲ / ▼ button to select the **AUDIO** menu.

2 Press the ► button and then ▲ / ▼ button to select **Sound Mode**.

3 Press the ► button and then ▲ / ▼ button to select **User**.

4 Press the ► button.

5 Select a sound band by pressing the ◄ / ► button. Make appropriate sound level with the ▲ / ▼ button.

6 Press the **EXIT** button to return to normal TV viewing.

SETUP	Sound Mode	
PICTURE	Auto Volume	
AUDIO ►	Balance	0
TIME	TV Speaker	
OPTION		
DVR		

Menu   Prev.

❶

Sound Mode	►	SRS TSXT
Auto Volume		Standard
Balance	0	Music
TV Speaker		Movie
		Sports
		√ User

❷ ❸ ❹

User	
120Hz	◄▬▬▬▬▬►
200Hz	
500Hz	
1. 2KHz	
3KHz	
7. 5KHz	
12KHz	

❺

SOUND & LANGUAGE CONTROL
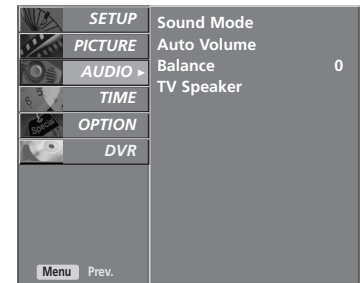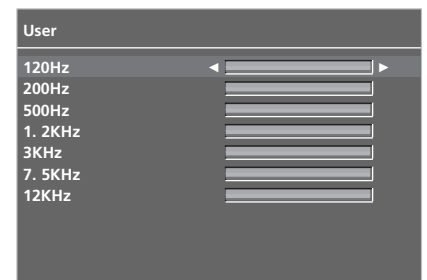
BALANCE

You can adjust the sound balance of speaker to the levels you prefer.
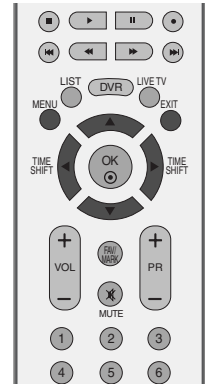
① Press the **MENU** button and then ▲ / ▼ button to select-the **AUDIO** menu.

② Press the ▶ button and then ▲ / ▼ button to select *Balance*.

③ Press the ▶ button and then ◀ / ▶ button to make desired adjustment.

④ Press the **EXIT** button to return to normal TV viewing.

SETUP	Sound Mode
PICTURE	Auto Volume
AUDIO ▶	Balance 0
TIME	TV Speaker
OPTION	
DVR	

Menu   Prev.

❶

Sound Mode
Auto Volume
Balance   0 ▶   L ▯▯▯▯▯▯▯▯▯▯|▯▯▯▯▯▯▯▯▯ R
TV Speaker

❷ ❸
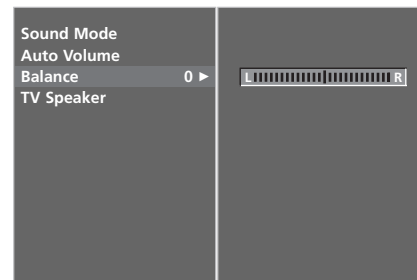
TV SPEAKER ON/OFF SETUP

You can adjust the internal speaker status.

In AV, COMPONENT, RGB and HDMI mode, internal speaker audio can be outputted even though there is no video signal.

If you want to use your external hi-fi stereo system, turn off the internal speakers of the set.

1 Press the **MENU** button and then ▲ / ▼ button to select-the **AUDIO** menu.

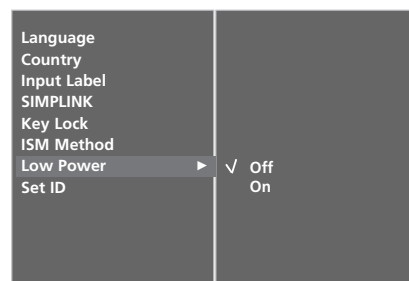**2** Press the ▶ button and then ▲ / ▼ button to select **TV Speaker**.

3 Press the ▶ button and then ▲ / ▼ button to select **On** or **Off**.
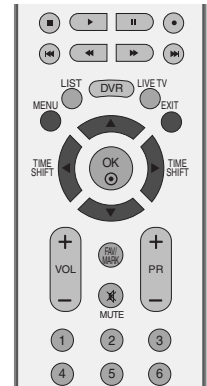
**4** Press the **EXIT** button to return to normal TV viewing.
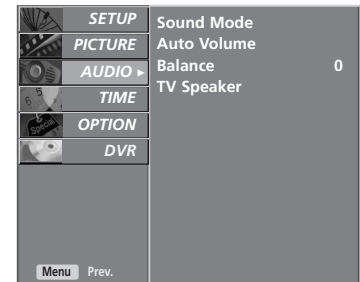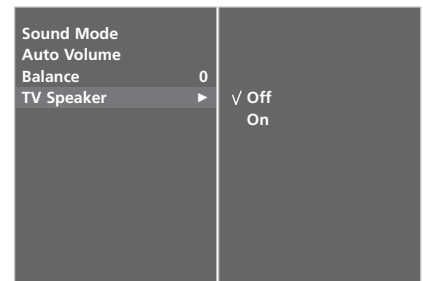
I/II

Stereo/Dual Reception

When a programme is selected, the sound information for the station appears after the programme number and station name disappear.

Broadcast	On Screen Display
Mono	MONO
Stereo	STEREO
Dual	DUAL I
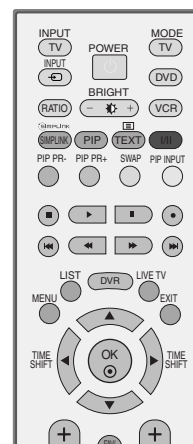
■ Mono sound selection

If the stereo signal is weak in stereo reception, you can switch to mono by pressing the **I/II** button twice. In mono reception, the depth of sound is improved. To switch back to stereo, press the **I/II** button twice again.

■ Language selection for dual language broadcast

If a programme received two languages (dual language), you can switch to **DUAL I**, **DUAL II** or **DUAL I+II** by pressing the **I/II** button repeatedly.

DUAL I   Sends the primary broadcast language to the loudspeakers.
DUAL II   Sends the secondary broadcast language to the loudspeakers.
DUAL I+II Sends a separate language to each loudspeaker.

SOUND & LANGUAGE CONTROL

NICAM Reception

If the set is equipped with the receiver for NICAM reception, the high quality NICAM (Near Instantaneous Companding Audio Multiplex) digital sound can be received.

Sound output can be selected according to the type of received broadcast as follows by pressing the I/II button repeatedly.

1 When **NICAM mono** is received, you can select **NICAM MONO** or **FM MONO**.

2 When **NICAM** stereo is received, you can select **NICAM STEREO** or **FM MONO**.
If the stereo signal is weak, switch to **FM MONO**.

3 When NICAM dual is received, you can select **NICAM DUAL I**, **NICAM DUAL II** or **NICAM DUAL I+II** or **MONO**.

Speaker Sound Output Selection

In AV, Component, RGB and HDMI mode, you can select output sound for the left and right loud-speakers.

Repeatedly press the **I/II** button to select the sound output.

L+R: Audio signal from audio L input is sent to the left loudspeaker and audio signal from audio R input is sent to the right loudspeaker.
L+L: Audio signal from audio L input is sent to left and right loudspeakers.
R+R: Audio signal from audio R input is sent to left and right loudspeakers.

ON-SCREEN MENU LANGUAGE / COUNTRY SELECTION

Installation guide menu appears on TV screen when it is turned on for the first time.

1 Press the ▲ / ▼ / ◄ / ► button and then, **OK** button to select your desired language.

2 Press the ▲ / ▼ / ◄ / ► button and then, **OK** button to select your country.

* If you want to change Language/ Country selection

1 Press the **MENU** button and then use ▲ / ▼ button to select the **OPTION** menu.

2 Press the ► button and then use ▲ / ▼ button to select **Language**. The menus can be shown on the screen in the selected language.
Or, Press the ► button and then use ▲ / ▼ button to select **Country**.

3 Press the ► button and then use ▲ / ▼ button to select your desired language or country.

4 Press the **OK** button.

5 Press the **EXIT** button to return to normal TV viewing.

> **🛈 NOTE**
> ► If you don't finish set up **Installation Guide** by pressing **EXIT** button or time out of OSD (On Screen Display) display, it will continuously appear until completing set up whenever the set is turned on.
> ► If you select wrong local country, the teletext may not appear correctly on the screen and some problem may happen during teletext operation.

TIME SETTING

CLOCK SETUP

You must set the time correctly before using on/off time function.

If current time setting is erased by a power failure or the set is unplugged, reset the clock.

1 Press the **MENU** button and then ▲ / ▼ button to select the **TIME** menu.

2 Press the ► button and then ▲ / ▼ button to select **Clock**.
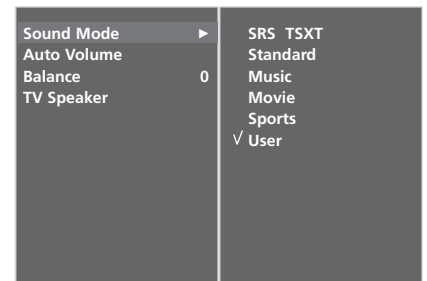
3 Press the ► button and then ◄ / ► button to select either the year, date, or time option.

4 Once selected, use the ▲ / ▼ button to set the year, date, and time options.

5 Press the **EXIT** button to return to normal TV viewing.

SETUP	Clock
PICTURE	Off Time
AUDIO	On Time
TIME ►	Sleep Time
OPTION	Auto Sleep
DVR	

Menu Prev.

➊

Clock ►	Year	2007
Off Time	Date	12 / 10
On Time	Time	20 : 14
Sleep Time		
Auto Sleep		

➋ ➌ ➍
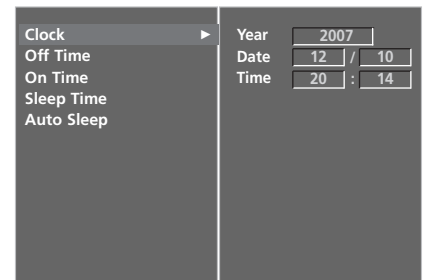
TIME SETTING

AUTO ON/OFF TIMER SETTING

The Off Time automatically switches the set to standby at the preset time.

Two hours after the set is switched on by the on time function it will automatically switch back to standby mode unless a button has been pressed.

Once the on time/off time is set, these functions operate daily at the preset time.

Off Time function overrides On Timer function if they are set both to the same time.
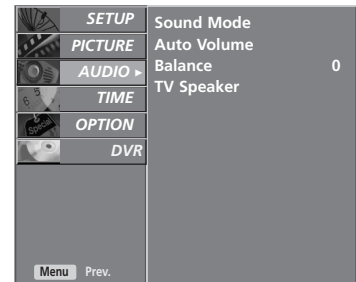
The set must be in standby mode for the On Timer to work.

**1** Press the **MENU** button and then ▲ / ▼ button to select the **TIME** menu.

2 Press the ▶ button and then ▲ / ▼ button to select **On/Off Time.**

3 Press the ▶ button and then ▲ / ▼ button to select **On.**
• To cancel **On/Off Time** function, select **Off.**

4 Press the ▶ button and then ▲ / ▼ button to set the hour.

5 Press the ▶ button and then ▲ / ▼ button to set the minutes.

6 **For only On Time function**
• **Programme**: Press the ▶ button and then ▲ / ▼ button to select the programme.
• **Volume**: Press the ▶ button and then ▲ / ▼ button to adjust volume level at turn-on.

7 Press the **EXIT** button to return to normal TV viewing.
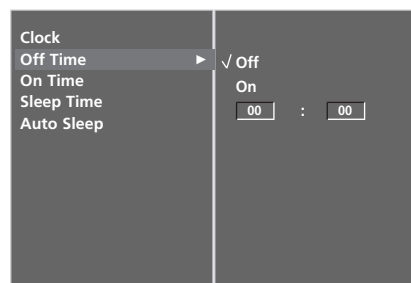
TIME SETTING

SLEEP TIMER SETTING

You don't have to remember to switch the set off before you go to sleep. The sleep timer automatically switches the set to standby after the preset time has elapsed.

1 Press the **SLEEP** button repeatedly to select the number of minutes. The display ' ⊙ᶻᶻ - - -Min ' will appear on the screen, followed by 10, 20, 30, 60, 90, 120, 180 and 240.

2 When the number of minutes you want is displayed on the screen, the timer begins to count down from the number of minutes selected.
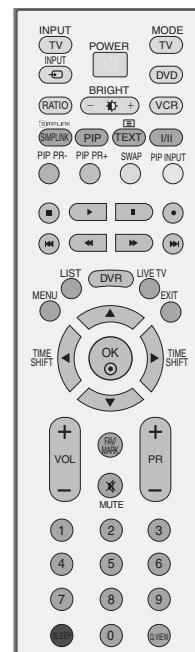
■ You can also set up the Sleep Time in the **TIME** menu.
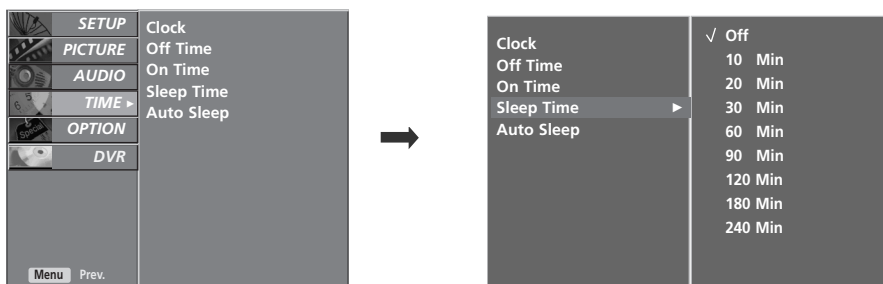
SETUP	**Clock**
PICTURE	**Off Time**
AUDIO	**On Time**
TIME ▶	**Sleep Time**
OPTION	**Auto Sleep**
DVR	
Menu Prev.	

Clock	√ **Off**
Off Time	**10 Min**
On Time	**20 Min**
Sleep Time ▶	**30 Min**
Auto Sleep	**60 Min**
	90 Min
	120 Min
	180 Min
	240 Min

TIME SETTING

AUTO SHUT-OFF SETTING

If set to on and there is no input signal, the TV turns off auto-matically after 10 minutes.
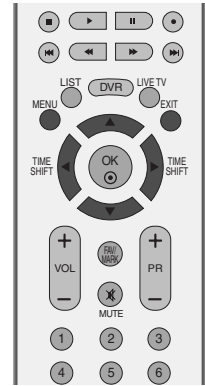
1 Press the **MENU** button and then ▲ / ▼ button to select the **TIME** menu.

2 Press the ► button and then ▲ / ▼ button to select **Auto Sleep.**

3 Press the ► button and then ▲ / ▼ button to select **On** or **Off.**

4 Press the **EXIT** button to return to normal TV viewing.

SETUP	**Clock**
PICTURE	**Off Time**
AUDIO	**On Time**
TIME ►	**Sleep Time**
OPTION	**Auto Sleep**
DVR	

Menu   Prev.

❶

Clock	
Off Time	
On Time	
Sleep Time	
Auto Sleep ►	√ **Off**
	On

❷ ❸

TELETEXT

This feature is not available in all countries.

Teletext is a free service broadcast by most TV stations which gives up-to-the-minute information on news, weather, television programmes, share prices and many other topics.

The teletext decoder of this TV can support the SIMPLE, TOP and FASTEXT systems. SIMPLE (standard teletext) consists of a number of pages which are selected by directly entering the corresponding page number. TOP and FASTEXT are more modern methods allowing quick and easy selection of teletext information.

SWITCH ON/OFF

Press the **TEXT** button to switch to teletext. The initial page or last page appears on the screen.
Two page numbers, TV station name, date and time are displayed on the screen headline. The first page number indicates your selection, while the second shows the current page displayed.
Press the **TEXT** or **EXIT** button to switch off teletext. The previous mode reappears.

SIMPLE TEXT

■ **Page selection**

❶ Enter the desired page number as a three digit number with the NUMBER buttons. If during selection you press a wrong number, you must complete the three digit number and then re-enter the correct page number.
❷ The **PR +/-** button can be used to select the preceding or following page.

TOP TEXT

The user guide displays four fields-red, green, yellow and blue at the bottom of the screen. The yellow field denotes the next group and the blue field indicates the next block.

■ Block / group / page selection

❶ With the blue button you can progress from block to block.
❷ Use the yellow button to proceed to the next group with automatic overflow to the next block.
❸ With the green button you can proceed to the next existing page with automatic overflow to the next group. Alternatively the **P R +** button can be used.
❹ The red button permits to return to previous selection. Alternatively the **P R** - button can be used.

■ Direct page selection

Corresponding to the SIMPLE teletext mode, you can select a page by entering it as a three digit number using the NUMBER buttons in TOP mode.

FASTEXT

The teletext pages are colour coded along the bottom of the screen and are selected by pressing the corresponding coloured button.

■ Page selection

❶ Press the ▤ button to select the index page.
❷ You can select the pages which are colour coded along the bottom line with the same coloured buttons.
❸ Corresponding to the SIMPLE teletext mode, you can select a page by entering its three digit page number with the NUMBER buttons in FASTEXT mode.
❹ The **P R** +/- button can be used to select the preceding or following page.

SPECIAL TELETEXT FUNCTIONS

■ REVEAL

Press this button to display concealed information, such as solutions of riddles or puzzles.

Press this button again to remove the information from the display.

■ SIZE

Selects double height text.

Press this button to enlarge the top half of the page.

Press this button again to enlarge the bottom half of the page.

Press this button again to return to the normal display.

■ UPDATE

Displays the TV picture on the screen while waiting for the new teletext page. The display will appear at the top left hand corner of the screen. When the updated page is available then display will change to the page number. Press this button to view the updated teletext page.

■ TIME

When viewing a TV programme, press this button to display the time at the top right hand corner of the screen. Press this button again to remove the display. In the teletext mode, press this button to select a sub page number. The sub page number is displayed at the bottom of the screen. To hold or change the sub page, press the RED/GREEN, PR +/- or NUMBER buttons.

Press again to exit this function.

■ HOLD

Stops the automatic page change which will occur if a teletext page consists of 2 or more sub pages. The number of sub pages and the sub page displayed is, usually, shown on the screen below the time. When this button is pressed the stop symbol is displayed at the top left-hand corner of the screen and the automatic page change is inhibited. To continue press this button again.

APPENDIX

TROUBLESHOOTING

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

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

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

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

MAINTENANCE

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

Cleaning the Screen

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

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

Cleaning the Cabinet

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

Extended Absence

⚠ **CAUTION**

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

APPENDIX

PRODUCT SPECIFICATIONS

MODELS		42PT8∗	50PT8∗
		42PT81-ZB	50PT81-ZB
Dimensions (Width x Height x Depth)	with stand	1130.0 x 768.1 x 310.4 mm 44.5 x 30.2 x 12.2 inches	1308.0 x 906.1 x 370.0mm 51.5 x 35.7 x 14.6 inches
	without stand	1130.0 x 715.0 x 85.0 mm 44.5 x 28.1 x 3.3 inches	1308.0x 845 x 89.5 mm 51.5 x 33.2 x 3.5 inches
Weight	with stand	31.05kg / 68.5 lbs	42.72kg / 94.2 lbs
	without stand	27.05kg / 59.6lbs	38.02kg / 83.8lbs
Power requirement Power Consumption		AC100-240V~ 50/60Hz 3.5A 330W	AC100-240V~ 50/60Hz 4.5A 450W
Television System Program Coverage External Antenna Impedance		PAL/SECAM B/G/D/K, PAL I/II, SECAM L/L' VHF: E2~E12, UHF: E21 ~ E69, CATV: S1 ~ S20, HYPER: S21 ~ S47 75 Ω	
Environment condition	Operating Temperature Operating Humidity	0 ~ 40°C / 32 ~ 104°F Less than 80%	
	Storage Temperature Storage Humidity	-20 ~ 60°C / -4 ~ 140°F Less than 85%	

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

PROGRAMMING THE REMOTE CONTROL

The remote is a multi-brand or a universal remote. It can be programmed to operate most remote-controllable devices of other manufacturers.
Note that the remote may not control all models of other brands.

Programming a code into a remote mode

1 Test your remote control.
To find out whether your remote control can operate the component without programming, turn on the component such as a VCR and press the corresponding mode button (such as a **DVD** or **VCR**) on the remote control, while pointing at the component. Test the **POWER** and **PR ＋ / -** buttons to see if the component responds properly. If not, the remote requires programming to operate the device.

2 Turn on the component to be programmed, then press the corresponding mode button (such as a **DVD** or **VCR**) on the remote control. The remote control button of desired device is lighted.

3 Press the **MENU** and **MUTE** buttons simultaneously, the remote control is ready to be programmed for the code.

4 Enter a code number using the number buttons on the remote control. Programming code numbers for the corresponding component can be found on the following pages. Again, if the code is correct, the device will turn off.

5 Press the **MENU** button to store the code.

6 Test the remote control functions to see if the component responds properly. If not, repeat from step 2.

VCR

Brand	Codes				Brand	Codes				Brand	Codes			
AIWA	034				MAGNAVOX	031	033	034	041	SAMSUNG	032	040	102	104
AKAI	016	043	046	124		067	068				105	107	109	112
	125	146			MARANTZ	012	031	033	067		113	115	120	122
AMPRO	072					069					125			
ANAM	031	033	103		MARTA	101				SANSUI	022	043	048	135
AUDIO DYNAMICS	012	023	039	043	MATSUI	027	030			SANYO	003	007	010	014
BROKSONIC	035	037	129		MEI	031	033				102	134		
CANON	028	031	033		MEMOREX	003	010	014	031	SCOTT	017	037	112	129
CAPEHART	108					033	034	053	072		131			
CRAIG	003	040	135			101	102	134	139	SEARS	003	008	009	010
CURTIS MATHES	031	033	041		MGA	045	046	059			013	014	017	020
DAEWOO	005	007	010	064	MINOLTA	013	020				031	042	073	081
	065	108	110	111	MITSUBISHI	013	020	045	046		101			
	112	116	117	119		049	051	059	061	SHARP	031	054	149	
DAYTRON	108					151				SHINTOM	024			
DBX	012	023	039	043	MTC	034	040			SONY	003	009	031	052
DYNATECH	034	053			MULTITECH	024	034				056	057	058	076
ELECTROHOME	059				NEC	012	023	039	043		077	078	149	
EMERSON	006	017	025	027		048				SOUNDESIGN	034			
	029	031	034	035	NORDMENDE	043				STS	013			
	036	037	046	101	OPTONICA	053	054			SYLVANIA	031	033	034	059
	129	131	138	153	PANASONIC	066	070	074	083		067			
FISHER	003	008	009	010		133	140	145		SYMPHONIC	034			
FUNAI	034									TANDY	010	034		
GE	031	033	063	072	PENTAX	013	020	031	033	TATUNG	039	043		
	107	109	144	147		063				TEAC	034	039	043	
GO VIDEO	132	136			PHILCO	031	034	067		TECHNICS	031	033	070	
HARMAN KARDON		012	045		PHILIPS	031	033	034	054	TEKNIKA	019	031	033	034
HITACHI	004	018	026	034		067	071	101			101			
	043	063	137	150	PILOT	101				THOMAS	034			
INSTANTREPLAY	031	033			PIONEER	013	021	048		TMK	006			
JCL	031	033			PORTLAND	108				TOSHIBA	008	013	042	047
JCPENNY	012	013	015	033	PULSAR	072					059	082	112	131
	040	066	101		QUARTZ	011	014			TOTEVISION	040	101		
JENSEN	043				QUASAR	033	066	075	145	UNITECH	040			
JVC	012	031	033	043	RCA	013	020	033	034	VECTOR RESEARCH	012			
	048	050	055	060		040	041	062	063	VICTOR	048			
	130	150	152			107	109	140	144	VIDEO CONCEPTS	012	034	046	
KENWOOD	014	034	039	043		145	147			VIDEOSONIC	040			
	047	048			REALISTIC	003	008	010	014	WARDS	003	013	017	024
LG (GOLDSTAR)	001	012	013	020		031	033	034	040		031	033	034	040
	101	106	114	123		053	054	101			053	054	131	
LLOYD	034				RICO	058				YAMAHA	012	034	039	043
LXI	003	009	013	014	RUNCO	148				ZENITH	034	048	056	
	017	034	101	106	SALORA	014					058	072	080	101
MAGIN	040													

DVD

Brand	Codes				Brand	Codes		Brand	Codes		
APEX DIGITAL	022				MITSUBISHI	002		RCA	005	006	
DENON	020	014			NAD	023		SAMSUNG	011	015	
GE	005	006			ONKYO	008	017	SONY	007		
HARMAN KARDON	027				PANASONIC	003	009	THOMPSON	005	006	
JVC	012				PHILIPS	013		TOSHIBA	019	008	
LG	001	010	016	025	PIONEER	004	026	YAMAHA	009	018	
MAGNAVOX	013				PROCEED	021		ZENITH	010	016	025
MARANTZ	024				PROSCAN	005	006				

APPENDIX

IR CODES

1. How to Connect

■ Connect your wired remote control to the Remote Control port on the TV.

2. Remote Control IR Codes

■ **Output waveform**

Single pulse, modulated with 37.917KHz signal at 455KHz

Tc

T1
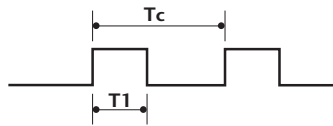
Carrier frequency

FCAR = 1/TC = fOSC/12

Duty ratio = T1/TC = 1/3

■ **Configuration of frame**

1st frame

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 frame

Repeat code

Tf

■ **Lead code**

9 ms

4.5 ms

■ **Repeat code**

0.55 ms

9 ms

2.25 ms

■ **Bit description**

Bit "0"

0.56 ms

1.12 ms

Bit "1"

0.56 ms

2.24 ms
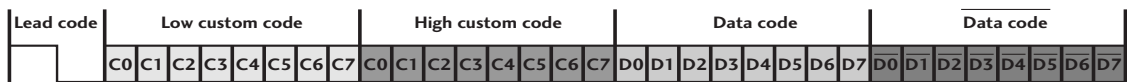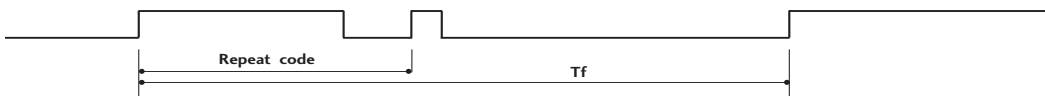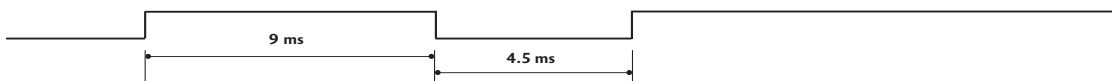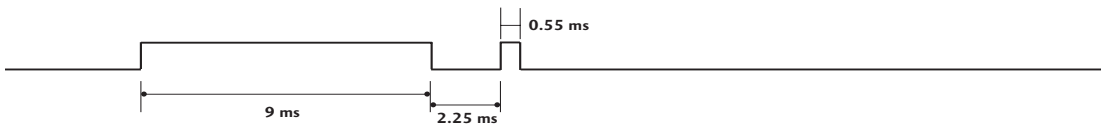
■ **Frame interval: Tf**

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

Tf

Tf

Tf=108ms @455KHz
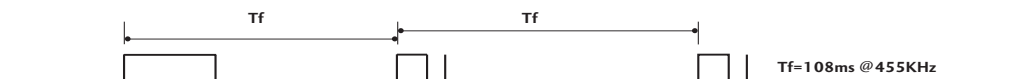
Code (Hexa)	Function	Note
0F	TV	R/C BUTTON
08	POWER	R/C BUTTON(POWER ON/OFF)
0B	INPUT	R/C BUTTON
79	RATIO	R/C BUTTON
E0	BRIGHTNESS +	R/C BUTTON
E1	BRIGHTNESS -	R/C BUTTON
7E	SIMPLINK	R/C BUTTON
60	PIP	R/C BUTTON
20	TEXT	R/C BUTTON
0A	I/II	R/C BUTTON
72	PIP PR-(RED)	R/C BUTTON
71	PIP PR+(GREEN)	R/C BUTTON
63	SWAP(YELLOW)	R/C BUTTON
61	PIP INPUT(CYAN)	R/C BUTTON
B1	DVR STOP(■)	R/C BUTTON
B0	DVR PLAY(►)	R/C BUTTON
BA	DVR PAUSE(II)	R/C BUTTON
BD	DVR REC(●)	R/C BUTTON
B2	I◄◄	R/C BUTTON
8F	◄◄	R/C BUTTON
8E	►►	R/C BUTTON
B3	►►I	R/C BUTTON
43	MENU	R/C BUTTON
53	LIST	R/C BUTTON
C8	DVR	R/C BUTTON
9E	LIVE TV	R/C BUTTON
5B	EXIT	R/C BUTTON
40	UP(▲)	R/C BUTTON
41	DOWN(▼)	R/C BUTTON
07	LEFT(◄)	R/C BUTTON
06	RIGHT(►)	R/C BUTTON
44	OK(◉)	R/C BUTTON
02	VOL +	R/C BUTTON
03	VOL -	R/C BUTTON
00	PR +	R/C BUTTON
01	PR -	R/C BUTTON
1E	FAV/MARK	R/C BUTTON
09	MUTE	R/C BUTTON
11	Number Key 1	R/C BUTTON
12	Number Key 2	R/C BUTTON
13	Number Key 3	R/C BUTTON
14	Number Key 4	R/C BUTTON
15	Number Key 5	R/C BUTTON
16	Number Key 6	R/C BUTTON
17	Number Key 7	R/C BUTTON
18	Number Key 8	R/C BUTTON
19	Number Key 9	R/C BUTTON
10	Number Key 0	R/C BUTTON
0E	SLEEP	R/C BUTTON
1A	Q.VIEW	R/C BUTTON
64	SIZE	R/C BUTTON
62	POSITION	R/C BUTTON
70	INDEX	R/C BUTTON
26	TIME	R/C BUTTON
65	HOLD	R/C BUTTON
2A	REVEAL	R/C BUTTON
91	DviX	R/C BUTTON

APPENDIX

EXTERNAL CONTROL DEVICE SETUP

It's not available to use this function in DVR mode.

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

RS-232C Setup
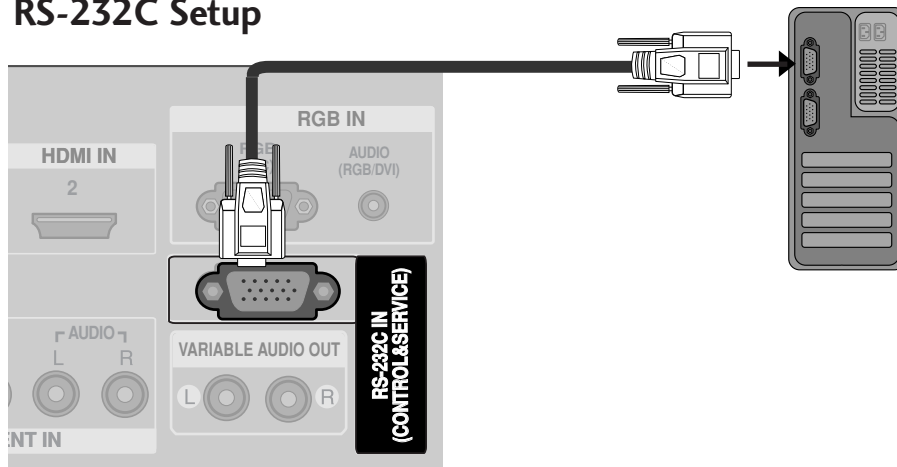
Type of Connector; D-Sub 9-Pin Male

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
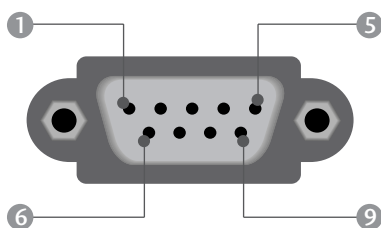
RS-232C Configurations

Please make sure the RS-232C configuration below.
If you use different kind of RS-232C cable, system error may occur.

3-Wire Configurations		
	PC	TV
RXD	2 ——●———●—— 3	TXD
TXD	3 ——●———●—— 2	RXD
GND	5 ——●———●—— 5	GND
DTR	4	6	DTR
DSR	6	4	DSR
RTS	7	7	RTS
CTS	8	8	CTS
	D-Sub 9	D-Sub 9

Set ID

Use this function to specify a set ID number.
Refer to 'Real Data Mapping'1. See page **p.117**

SETUP	Language
PICTURE	Country
AUDIO	Input Label
TIME	SIMPLINK
OPTION ▶	Key Lock
DVR	ISM Method
	Low Power
	Set ID

Menu   Prev.

➊

1   Press the **MENU** button and then use ▲ / ▼ button to select the **OPTION** menu.

2   Press the ▶ button and then use ▲ / ▼ button to select **Set ID**.

Language	
Country	
Input Label	
SIMPLINK	
Key Lock	
ISM Method	
Low Power	
Set ID	◄► 1

➋ ➌

3   Press the ▶ button and then use ◄ / ▶ button to adjust **Set ID** to choose the desired TV ID number.
• The adjustment range of SET ID is 1~99.

4   Press **EXIT** button to return to normal TV viewing.
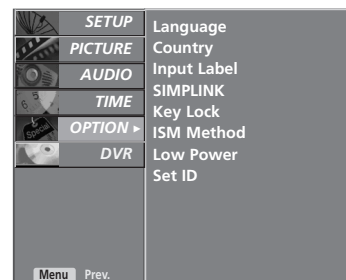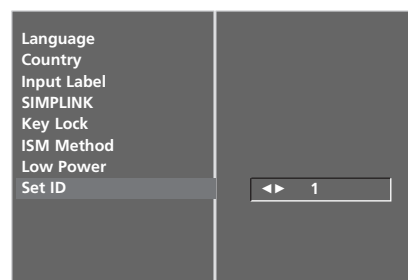
APPENDIX

Communication Parameters

- ■ Baud rate : 9600 bps (UART)
- ■ Data length : 8 bits
- ■ Parity : None
- ■ Stop bit : 1 bit
- ■ Communication code : ASCII code
- ■ Use a crossed (reverse) cable.

Command Reference List

	COMMAND 1	COMMAND 2	DATA (Hexadecimal)
01. Power	k	a	0 ~ 1
02. Aspect Ratio	k	c	*
03. Screen Mute	k	d	0 ~ 1
04. Volume Mute	k	e	0 ~ 1
05. Volume Control	k	f	0 ~ 64
06. Contrast	k	g	0 ~ 64
07. Brightness	k	h	0 ~ 64
08. Colour	k	i	0 ~ 64
09. Tint	k	j	0 ~ 64
10. Sharpness	k	k	0 ~ 64
11. OSD Select	k	l	0 ~ 01
12. Remote control lock mode	k	m	0 ~ 01
13. PIP/DW	k	n	*
14. PIP Position	k	q	0 ~ 03
15. Balance	k	t	0 ~ 64
16. Colour Temperature	k	u	0 ~ 3
17. Red Adjustment	k	v	0 ~ 50
18. Green Adjustment	k	w	0 ~ 50
19. Blue Adjustment	k	$	0 ~ 50
20. Tune Command	m	a	Refer to p. 117
21. Abnormal Status	k	z	FF
22. ISM Method	j	p	0 ~ 3
23. Low Power	j	q	0 ~ 1
24. Auto Configure	j	u	1
25. Key	m	c	Key Code
26. Input select (Main)	x	b	*
27. Input select (PIP)	x	y	*

Transmission / Receiving Protocol

Transmission

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

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

OK Acknowledgement

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

* The set 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][Data][x]

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

Data 1: Illegal Code
2: not support function
3: Wait more time

01. Power (Command 2 : a)

► To control Power On/Off of the set.

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. Aspect Ratio (Command2:c)

► 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 PICTURE menu.

Transmission

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

Date 1: Normal screen (4:3)   5: Zoom2
      2: Wide screen (16:9)   6: Original
      4: Zoom1   7: 14:9

Ack

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

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

03. 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]

04. Volume Mute (Command2: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)

Data 1 : Volume mute off (Volume on)

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

05. 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 117.

Ack

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

06. 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 117.

Ack

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

07. 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 117.

Ack

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

08. 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 117.

Ack

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

9. Tint (Command 2 : j)

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

Transmission

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

Data Red : 0 ~ Green : 64
     * Refer to 'Real data mapping 1'. See page 117.

Ack

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

APPENDIX

10. 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 117.

Ack

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

11. OSD Select (Command 2 : l)

► To select OSD (On Screen Display) on/off when con-
   trolling remotely.

Transmission

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

 Data 0 : OSD off   1 : OSD on

Ack

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

12. 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.

13. PIP / DW (Command2:n)

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

Transmission

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

Data   0: PIP/DW off   2: DW1
       1: PIP   3: DW2

Ack

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

14. PIP Position (Command2:q)

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

Transmission

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

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

Ack

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

15. Balance (Command 2 : t)

► To adjust balance.
   You can also adjust balance in the AUDIO menu.

Transmission

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

Data Min : 0 ~ Max : 64
      * Refer to 'Real data mapping 1'. See page 117.

Ack

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

16. Colour Temperature (Command 2 : u)

► To adjust colour temperature. You can also adjust Colour
   Temperature in the PICTURE menu.

Transmission

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

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

Ack

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

17. Red Adjustment (Command 2 : v)

► To adjust red in colour temperature.

Transmission

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

Data Min : 0 ~ Max : 50
      * Refer to 'Real data mapping 2'. See page 117.

Ack

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

18. Green Adjustment (Command 2 : w)

► To adjust green in colour temperature.

Transmission

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

Data Min : 0 ~ Max : 50
      * Refer to 'Real data mapping 2'. See page 117.

Ack

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

19. Blue Adjustment (Command 2 : $)

► To adjust blue in colour temperature.

Transmission

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

Data Min : 0 ~ Max : 50

     ∗ Refer to 'Real data mapping 2'. See page 117.

Ack

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

20 . Tune Command/Channel Tuning (Command1:m, Command2:a)

► To select a programme for the main picture.

Transmission

[m][a][ ][Set ID][ ][Data0][ ][Data1][ ][Data2][Cr]

Data 0: Min: 0 ~ Max: 63 (0~C7, 200 Pr is on)

       Refer to 'Real data mapping 1'.

    1: Don't care

    2: 0 : Main

      1 : Sub

Ack

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

21. Abnormal State (Command 2 : z)

► To recognize an abnormal state.

   This feature is not available for all models.

Transmission

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

Data FF : Read

Ack

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

Data 0: Normal (Power on and signal exist)

     1: No signal (Power on)

     2: Turn the TV off by remote control

     3: Turn the TV off by sleep time function

     4: Turn the TV off by RS-232C function

     5: 5V down

     6: AC down

     7: Turn the TV off by Fan Alarm function

     8: Turn the TV off by Off time function

     9: Turn the TV off by Auto sleep function

     a: Turn the TV off by AV board detect

* This function is "read only".

22. ISM Method (Command 1 : j, Command 2 : p)

► To control the ISM method. You can also adjust ISM Method in OPTION menu.

Transmission

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

Data 0: Normal   2: Orbiter

      1: White wash   3: Inversion

Ack

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

23. Low Power (Command 1 : j, Command 2 : q)

► To reduce the power consumption of the set. You can also adjust Low Power in OPTION menu.

Transmission

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

Data 0 : Off

      1 : On

Ack

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

24. 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/NG][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

   ⋮

 6E : Step 110

   ⋮

 73 : Step 115

 74 : Step 116

   ⋮

 C7 : Step 199

   ⋮

 FE : Step 254

 FF : Step 255

∗ **Real data mapping 2**

 0 : -40

 1 : -39

 2 : -38

  ⋮

 28 :0

  ⋮

 4E : +38

 4F : +39

 50 : +40

APPENDIX

25. Key (Command1:m, Command2:c)

► To send IR remote key code.
Transmission

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

Data Key code - Refer to page 111.

Ack

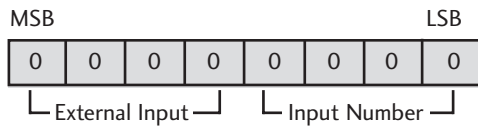[c][ ][Set ID][ ][OK][Data][x]

26. Input select (Command1:x, Command2:b)
(Main Picture Input)

► To select input source for set.
Transmission

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

Data Structure

MSB   LSB

| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

└ External Input ┘   └ Input Number ┘

External Input				Data
0	0	0	1	Analog
0	0	1	0	AV
0	1	0	0	Component
0	1	1	0	RGB-PC
1	0	0	1	HDMI

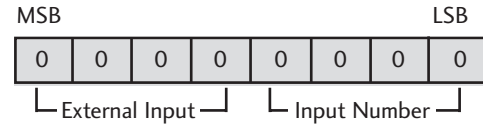| Input Number				Data
0	0	0	0	Input1
0	0	0	1	Input2
0	0	1	0	Input3
0	0	1	1	Input4

Ack

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

27. PIP Input select (Command1:x, Command2:y)

► To adjust input source for sub picture in PIP mode
Transmission

[x][y][ ][Set ID][ ][Data][Cr]

Data Structure

MSB   LSB

| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

└ External Input ┘   └ Input Number ┘

External Input				Data
0	0	0	1	Analog
0	0	1	0	AV
0	1	0	0	Component
0	1	1	0	RGB-PC
1	0	0	1	HDMI

Input Number				Data
0	0	0	0	Input1
0	0	0	1	Input2
0	0	1	0	Input3
0	0	1	1	Input4

Ack

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

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