When connecting HDMI to DVI cable
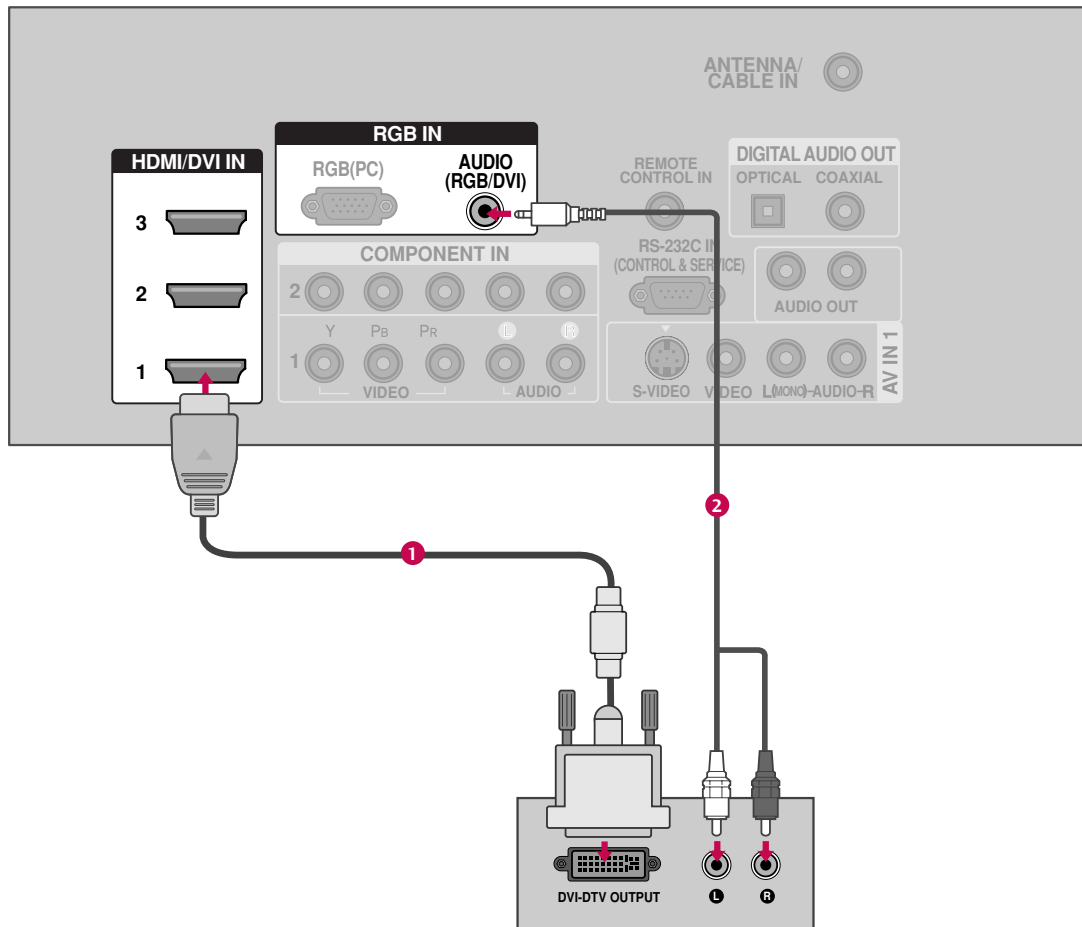

1. How to connect

1 Connect the DVI output of the digital set-top box to the **HDMI/DVI IN1**, **2** or **3** jack on the set.

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

2. How to use

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

■ Select **HDMI1**, **HDMI2** or **HDMI3** input source with using the **INPUT** button on the remote control.

DVD SETUP

When connecting Component cable

1. How to connect

① Connect the video outputs (Y, P$_B$, P$_R$) of the DVD to the **COMPONENT IN VIDEO1** jacks on the set.
Match the jack colors
(Y = green, P$_B$ = blue, and P$_R$ = red).

② Connect the audio outputs of the DVD to the **COMPONENT IN AUDIO1** jacks on the set.

2. How to use

■ Turn on the DVD player, insert a DVD.

■ Select **Component 1** input source by using the **INPUT** button on the remote control.

■ If connected to **COMPONENT IN 2** input, select **Component 2** input source.

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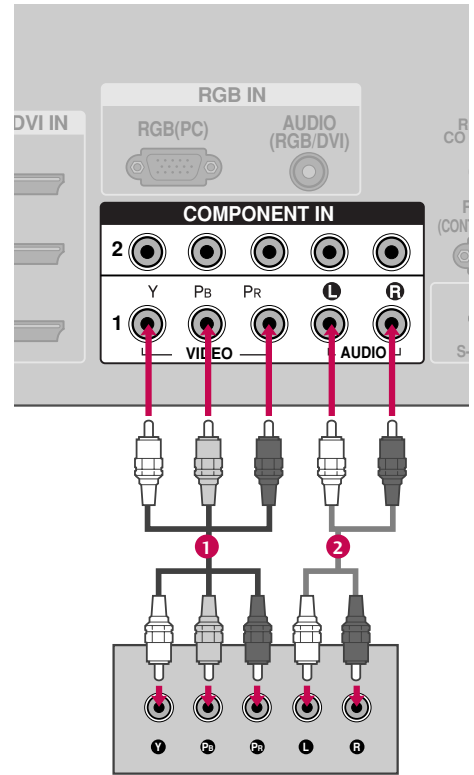
Component Input ports
To get better picture quality, connect a DVD player to the component input ports as shown below.

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

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

When connecting with an S-Video cable

1. How to connect

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.

2. How to use

- Turn on the DVD player, insert a DVD.
- Select **AV1** input source by using the **INPUT** button on the remote control.
- If connected to **AV IN2**, select **AV2** input source.
- Refer to the DVD player's manual for operating instructions.
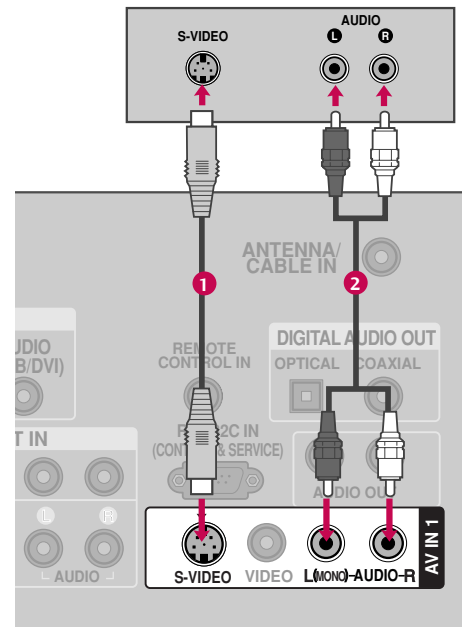
When connecting HDMI cable

1. How to connect

1 Connect the HDMI output of the DVD to the **HDMI/DVI IN 1**, **2**, or **3** jack on the set.

2 No separated audio connection is necessary. HDMI supports both audio and video.

2. How to use

- Select **HDMI1**, **HDMI2**, or **HDMI3** input source by using the **INPUT** button on the remote control.
- Refer to the DVD player's manual for operating instructions.
- If the DVD does not support Auto HDMI, you need to set the output resolution appropriately.
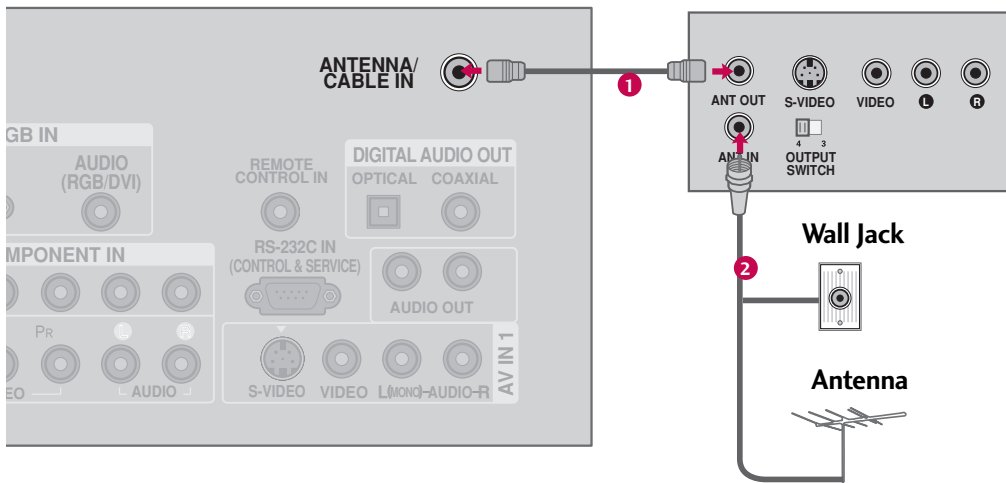
EXTERNAL EQUIPMENT SETUP

EXTERNAL EQUIPMENT SETUP
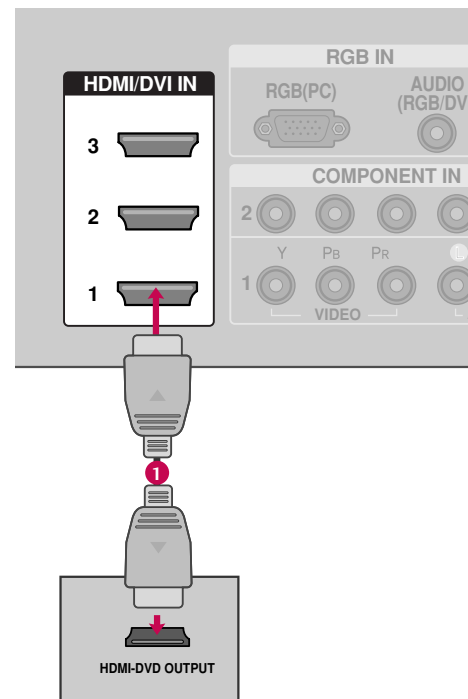
EXTERNAL EQUIPMENT SETUP

VCR SETUP

- To avoid picture noise (interference), leave an adequate distance between the VCR and TV.
- Use the ISM feature in the Option menu to avoid having a fixed image remain on the screen for a long period of time (Only Plasma TV model). If the 4:3 picture format is used; the fixed images on the sides of the screen may remain visible on the screen. This phenomenon is common to all manufactures and in consequence the manufactures warranty does not cover the product bearing this phenomenon.

When connecting with an antenna

ANTENNA/CABLE IN

ANT OUT   S-VIDEO   VIDEO   L   R

ANT IN   OUTPUT SWITCH   4   3

Wall Jack

Antenna

RGB IN
AUDIO (RGB/DVI)
REMOTE CONTROL IN
DIGITAL AUDIO OUT
OPTICAL   COAXIAL

COMPONENT IN
RS-232C IN (CONTROL & SERVICE)
AUDIO OUT

PR
VIDEO   AUDIO   S-VIDEO   VIDEO   L(MONO) AUDIO R   AV IN 1

1. How to connect

① Connect the RF antenna out socket of the VCR to the **ANTENNA/CABLE IN** socket on the set.

② Connect the antenna cable to the RF antenna in socket of the VCR.

2. How to use

- Set VCR output switch to 3 or 4 and then tune TV to the same channel number.
- Insert a video tape into the VCR and press PLAY on the VCR. (Refer to the VCR owner's manual.)
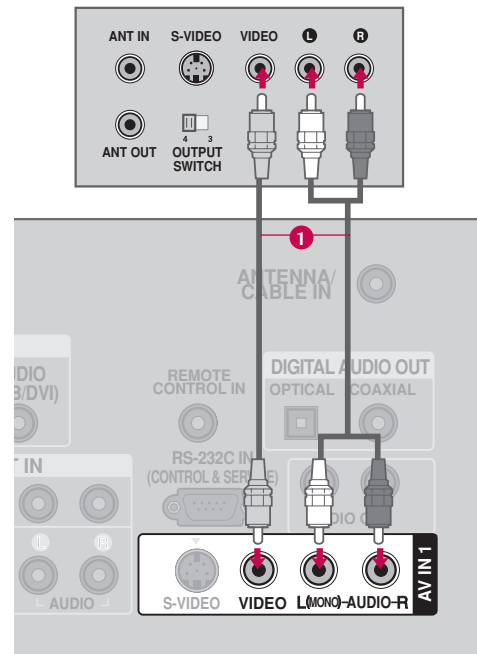
When connecting with a RCA cable

1. How to connect

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

2. How to use

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

■ Select **AV1** input source by using the **INPUT** button on the remote control.

■ If connected to **AV IN2**, select **AV2** input source.

> **!** **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. How to connect

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

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

2. How to use

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

■ Select **AV1** input source by using the **INPUT** button on the remote control.

■ If connected to **AV IN2**, select **AV2** input source.

> **!** **NOTE**
>
> ► The picture quality is improved: compared to normal composite (RCA cable) input.
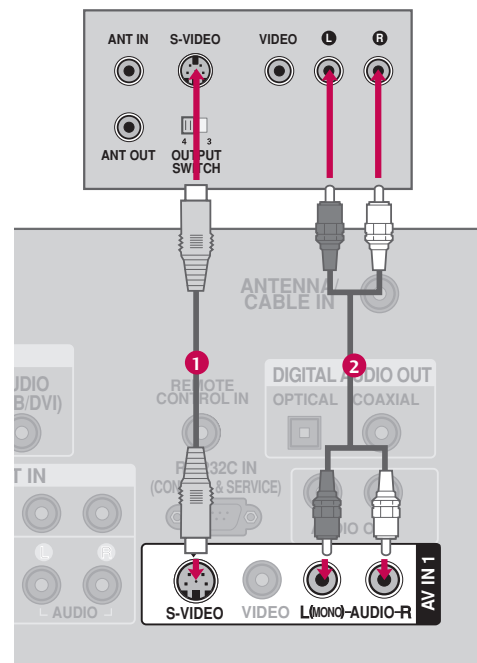
> **⚠ CAUTION**
>
> ► Do not connect to both Video and S-Video at the same time. In the event that you connect both Video and the S-Video cables, only the S-Video will work.

OTHER A/V SOURCE SETUP

1. How to connect

1 Connect the **AUDIO/VIDEO** jacks between TV and external equipment. Match the jack colors.

(Video = yellow, Audio Left = white, and Audio Right = red)

2. How to use

- Select **AV2** input source by using the **INPUT** button on the remote control.

- If connected to **AV IN1** input, select **AV1** input source.

- Operate the corresponding external equipment.

Camcorder

Video Game Set
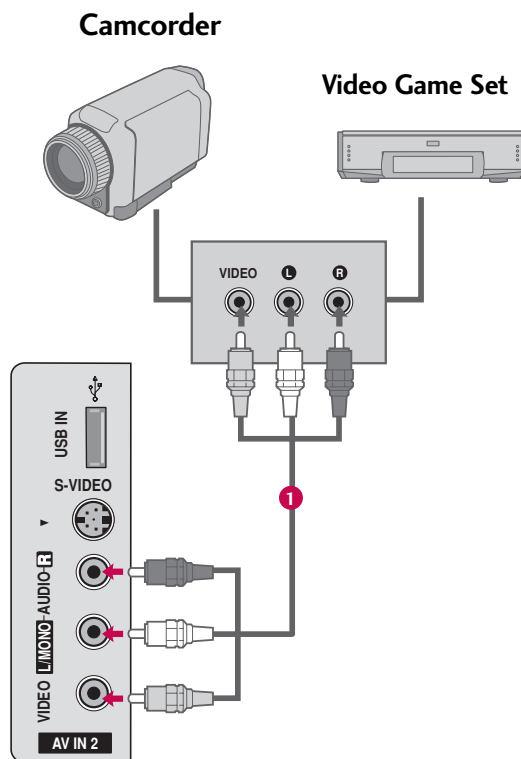
PC SETUP

This TV provides Plug and Play capability, meaning that the PC adjusts automatically to the TV's settings.
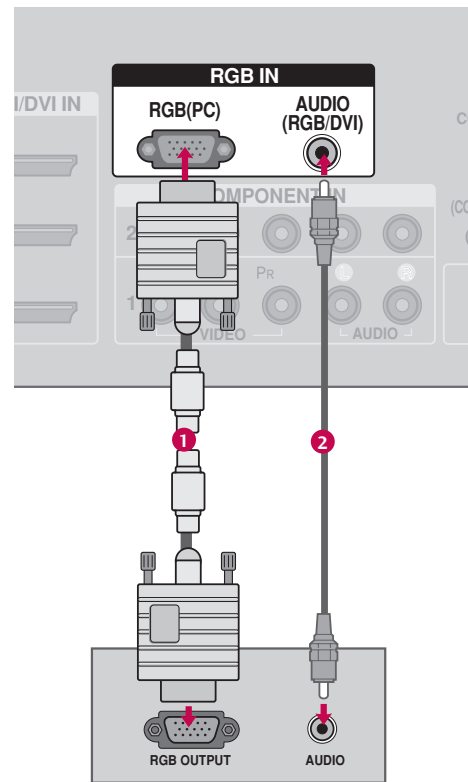
When connecting D-sub 15 pin cable

1. How to connect

① Connect the RGB output of the PC to the **RGB (PC)** jack on the set.

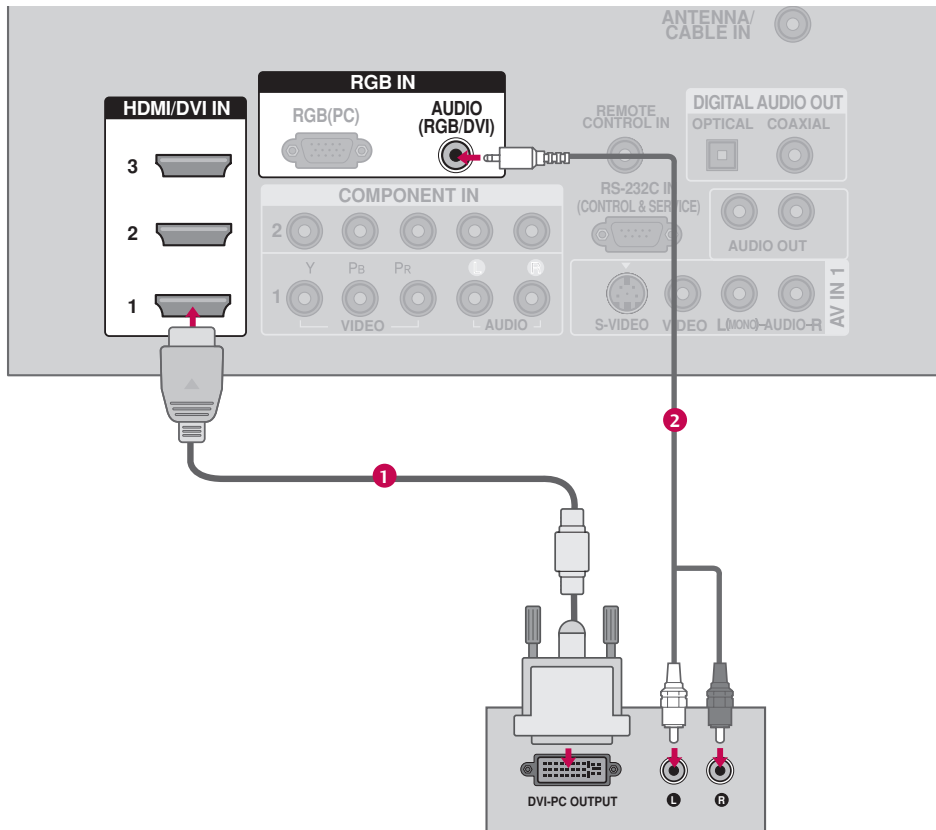② Connect the PC audio output to the **AUDIO (RGB/DVI)** jack on the set.

2. How to use

■ Turn on the PC and the TV.

■ Select **RGB-PC** input source by using the **INPUT** button on the remote control.

EXTERNAL EQUIPMENT SETUP

When connecting HDMI to DVI cable

1. How to connect

1 Connect the DVI output of the PC to the **HDMI/DVI IN1**, **2** or **3** jack on the set.
(Use the HDMI to DVI cable)

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

2. How to use

■ Turn on the PC and the TV.

■ Select **HDMI1**, **HDMI2** or **HDMI3** input source by 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.

❗ NOTES

▶ To get the the best picture quality, adjust the PC graphics card to 1920x1080, 60Hz.

▶ Depending on the graphics card, DOS mode may not work if a HDMI to DVI Cable is in use.

▶ Check the image on your TV. There may be noise associated with the resolution, vertical pattern, contrast or brightness in PC mode. If noise is present, change the PC output to another resolution, change the refresh rate to another rate or adjust the brightness and contrast on the VIDEO menu until the picture is clear. If the refresh rate of the PC graphic card can not be changed, change the PC graphic card or consult the manufacturer of the PC graphic card.

▶ Avoid keeping a fixed image on the screen for a long period of time. The fixed image may become permanently imprinted on the screen.

▶ The synchronization input form for Horizontal and Vertical frequencies is separate.

Supported Display Specifications

RGB-PC, HDMI-PC

Resolution	Horizontal Frequency(KHz)	Vertical Frequency(Hz)
640x350	31.468	70.09
720x400	31.469	70.08
640x480	31.469	59.94
	37.861	72.80
	37.500	75.00
800x600	35.156	56.25
	37.879	60.31
	48.077	72.18
	46.875	75.00
1024x768	48.363	60.00
	56.476	70.06
	60.023	75.02
1280x768	47.776	59.870
	60.289	74.893
1360x768	47.712	60.015
1280x1024	63.981	60.020
	79.976	75.025
1600x1200	75.00	60.00
1920x1080	67.50	60.00

* RGB-PC mode only
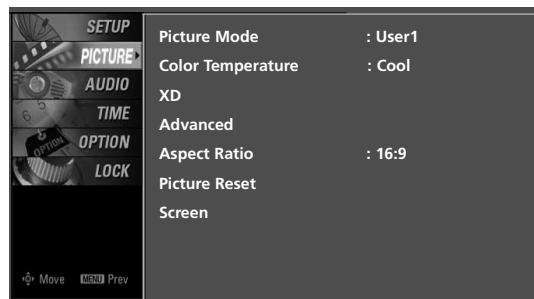
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Screen Setup for PC mode

Overview

When the RGB input, of the set is connected to a PC Output, Select RGB-PC with using the INPUT button on the remote control.

When you change the resolution, select the proper resolution in present input to see the best picture appearance.
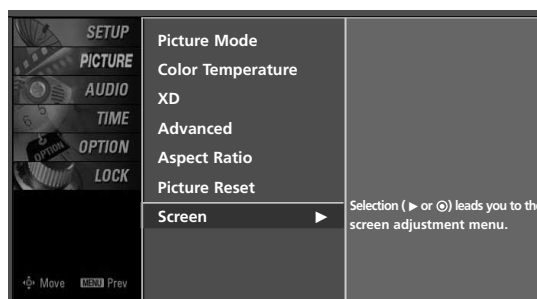
1 Press the **MENU** button and then use ▲ or ▼ button to select the **PICTURE** menu.

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

3 Press the ► button to enter the screen adjustment menu.

SETUP		
PICTURE	Picture Mode	: User1
AUDIO	Color Temperature	: Cool
TIME	XD	
OPTION	Advanced	
LOCK	Aspect Ratio	: 16:9
	Picture Reset	
	Screen	

Move   MENU Prev

1

SETUP	
PICTURE	Picture Mode
AUDIO	Color Temperature
TIME	XD
OPTION	Advanced
LOCK	Aspect Ratio
	Picture Reset
	Screen ►

Selection (► or ◉) leads you to the screen adjustment menu.
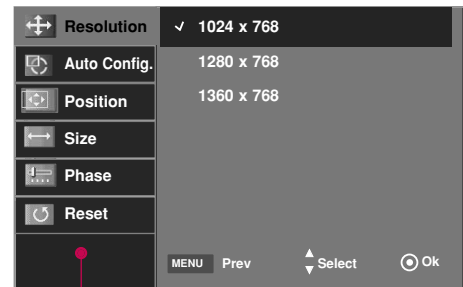
Move   MENU Prev

2 **3**

Adjustment for screen Resolution, Position, Size, and Phase

1 Use ▲ or ▼ button to select **Resolution**, **Position**, **Size**, or **Phase**.

2 Press the **ENTER** button and then use ▲ ▼ ◄ ► button to make appropriate adjustments.
- The **Phase** adjustment range is **-16 ~ +16**.
- The **Size** adjustment range is **-30 ~ +30**.

3 Press the **ENTER** button.

Resolution	✓ 1024 x 768
Auto Config.	1280 x 768
Position	1360 x 768
Size	
Phase	
Reset	
	MENU Prev ▲▼ Select ⊙ Ok

❶ ❷ ❸

Auto Config.	This function is to adjust picture position and minimizes image shaking automatically.
Resolution	XGA(1024, 1280, 1360) isn't distinguished because of having the same H/V Sync Time. This function is you to select the Default Sync Time.
Position	This function is to adjust picture to left/right and up/down as you prefer.
Size	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.
Reset	This function is to initialize the adjusted value.

# Auto Configuration and Initializing (Reset to original factory values)

1 Use ▲ or ▼ button to select **Reset** or **Auto**.

2 Press the **ENTER** button and then use ◄ or ► button to select **Yes**.

3 Press the **ENTER** button.

Resolution	
Auto Config.	
Position	
Size	**Auto config.**
Phase	
Reset	Yes No
	MENU Prev ◄► Select ⊙ OK

Resolution	
Auto Config.	
Position	
Size	**Initialize Settings.**
Phase	
Reset	Yes No
	MENU Prev ◄► Select ⊙ OK

❶ ❷ ❸

USB IN SETUP

The TV has a special signal output capability which allows you to hook up the second TV or monitor.
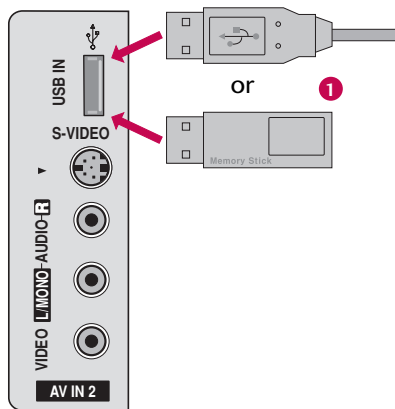
1. How to connect

1 Connect the USB device to the **USB IN** (or **USB**) jack on the side of TV.

2. How to use

■ After connecting the **USB IN** (or **USB**) jack, you use the *MEDIA*HOST function. (▶ **p.46**)

AUDIO OUT SETUP

Send the TV's audio to external audio equipment via the Digital Audio Output (Optical) port.

Analog

1. How to connect

1 Connect audio outputs to the TV's **AUDIO OUT** jacks.

2 Set the "TV Speaker option - Off" in the AUDIO menu. (▶ **p.69**). See the external audio equipment instruction manual for operation.

Digital

1. How to connect

1 Connect one end of the optical or coaxial cable to the TV's **OPTICAL** or **COAXIAL** port of **DIGITAL AUDIO OUT**.

2 Connect the other end of the optical or coaxial cable to the digital audio input on the audio equipment.

3 Set the "TV Speaker option - Off" in the AUDIO menu. (▶ **p.69**). See the external audio equipment instruction manual for operation.

❶ NOTE

▶ When connecting with external audio equipments, such as amplifiers or speakers, please turn the TV speakers off. (▶ **p.69**)

⚠ CAUTION

▶ Do not look into the optical output port. Looking at the laser beam may damage your vision.
▶ Block the SPDIF out(optical/coaxial) about the contents with ACP(Audio Copy Protection) function.
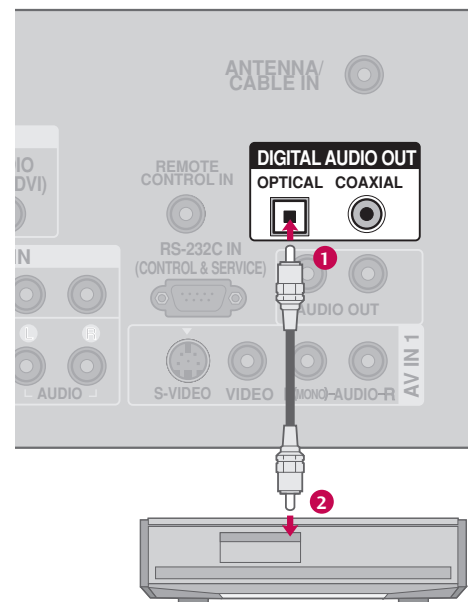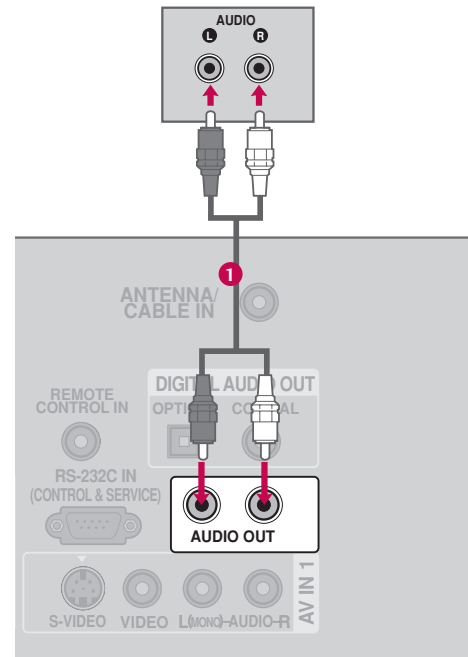
WATCHING TV / CHANNEL CONTROL

REMOTE CONTROL FUNCTIONS

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

|	
MODE	Select the remote operating mode: TV, DVD, VCR, AUDIO, CABLE or STB. If the mode of another product is selected, a button on the remote control which is not used for the selected product can control the TV.
***MEDIA*HOST**	Enter to the ***MEDIA*HOST** mode.
***MEDIA*HOST** , **VCR/DVD buttons**	● Controls the ***MEDIA*HOST** mode. ● Control video cassette recorders or DVD players.
MENU	Displays the main menu.
BRIGHT +/-	● Adjust brightness on screen. ● It turns to the default settings brightness by changing mode source.
THUMBSTICK (Up/Down/Left Right/ENTER)	Navigate the on-screen menus and adjust the system settings to your preference.
EXIT	Clear all on-screen displays and return to TV viewing from any menu.
TIMER	Select the amount of time before your TV turns off automatically. ▶ **p.80**
RATIO	Change the aspect ratio. ▶ **p.53**
SIMPLINK	See a list of AV devices connected to TV. When you toggle this button, the SimpLink menu appears at the screen. ▶ **p.42**
VOLUME UP /DOWN	Increase/decrease the sound level.
MUTE	Switch the sound on or off. ▶ **p.36**
FAV	Scroll through the programmed Favorite channels. ▶ **p.40**
CHANNEL UP/DOWN	Select available channels.
NUMBER button	
— (DASH)	Used to enter a program number for multiple program channels such as 2-1, 2-2, etc.
BACK	Tune to the last channel viewed.

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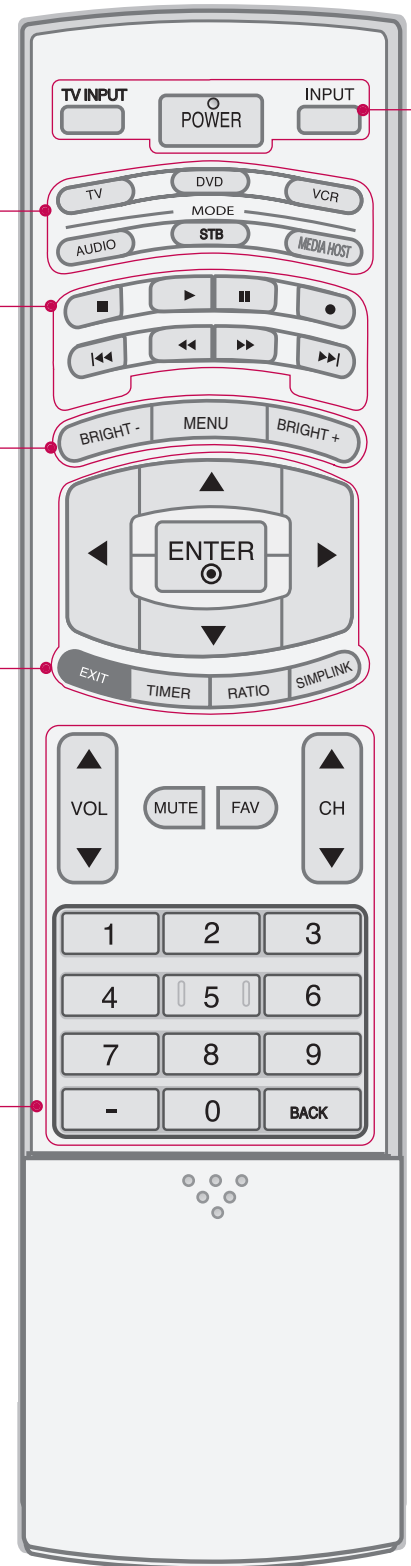
POWER	Turns your TV or any other programmed equipment on or off, depending on the mode.
TV INPUT	In AV 1-2, Component 1-2, RGB-PC, HDMI1, HDMI2 and HDMI3 input sources, screen returns to the last TV channel.
INPUT	External input modes rotate in regular sequence: Antenna, Cable, AV1-2, Component 1-2, RGB-PC, HDMI1, HDMI2, HDMI3 (Antenna, Cable, AV 1-2, Component 1-2, RGB-PC, HDMI1, HDMI2, HDMI3 input sources are linked automatically, only if these are connected).

Inside the Sliding Cover
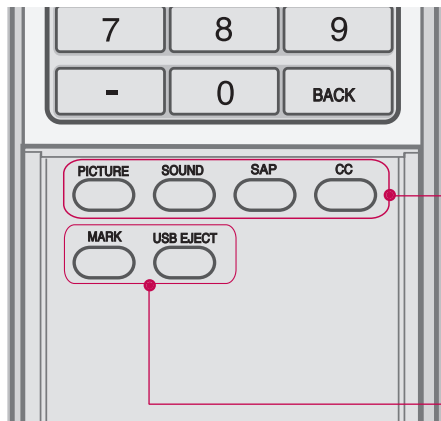
|	
PICTURE	Adjust the factory preset picture depend on the viewing environment. ▶ **p.54**
SOUND	Select the appropriate type of sound for type of program. ▶ **p.66**
SAP	Analog mode: Selects MTS sound (Mono, Stereo, or a SAP) ▶ **p.70**
	DTV mode: Changes the audio language.
CC	Select the Caption On/Off. ▶ **p.73**
MARK	Enter the selected functions. ▶ **p.48**
USB EJECT	Remove the USB device. ▶ **p.32**

Installing Batteries
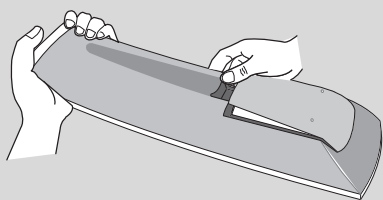
■ Open the battery compartment cover on the back side and install the batteries matching correct polarity (+ with +, - with -).

■ Install two 1.5V AA batteries. Don't mix old or used batteries with new ones.

■ Close cover.

Remote control effective range
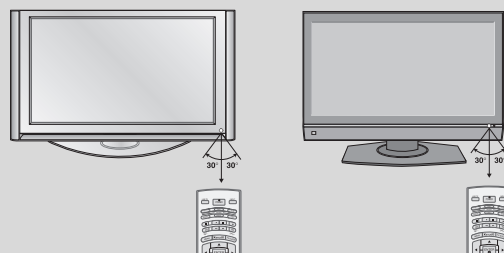
■ Use a remote control up to 7 meters distance and 30 degree (left/right) within the receiving unit scope.

■ Dispose of used batteries in a recycle bin to pre-serve environment.

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WATCHING TV / CHANNEL CONTROL

TURNING ON TV

1 First, connect power cord correctly.
At this moment, the TV switches to standby mode.
- In standby mode to turn TV on, press the ⏻/|, **INPUT**, **CH (▲ or ▼)** button on the TV or press the **POWER, INPUT, TV INPUT, CH(▲ or ▼), Number (0~9)** button on the remote control.

2 Select the viewing source by using the **TV INPUT, INPUT** button on the remote control.
- This TV is programmed to remember which power state it was last set to, even if the power cord is out.

3 When finished using the TV, press the **POWER** button on the remote control. The TV reverts to standby mode.

! NOTE

▶ If you intend to be away on vacation, disconnect the power plug from the wall power outlet.

CHANNEL SELECTION

1 Press the **CH (▲ or ▼)** or **NUMBER** buttons to select a channel number.

VOLUME ADJUSTMENT

Adjust the volume to suit your personal preference.

1 Press the **VOL (▲ or ▼)** 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** or **VOL (▲ or ▼)** button.
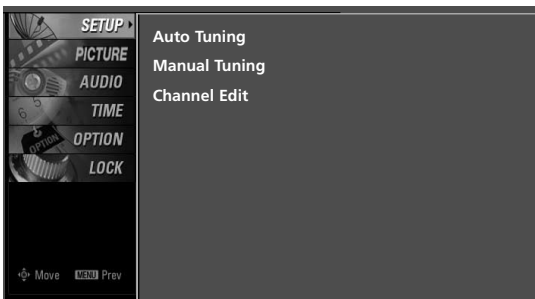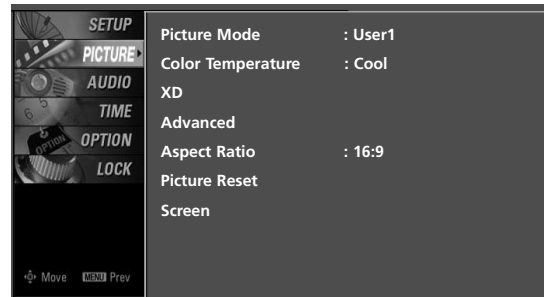
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ON-SCREEN MENUS SELECTION

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

1 Press the **MENU** button and then use ▲ or ▼ button to select the each menu.

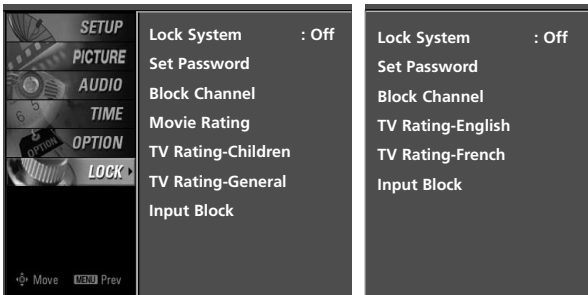**2** Press the ▶ button and then use ▲ ▼ ◀ ▶ button to display the available menus.

SETUP

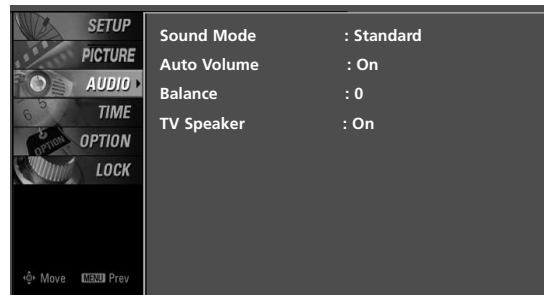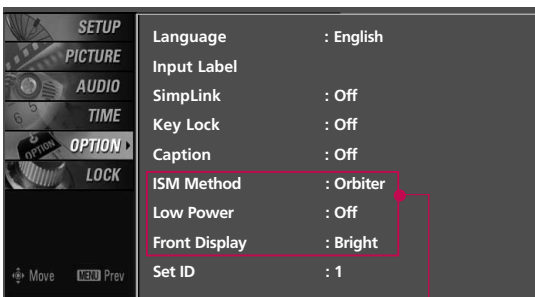| SETUP | Auto Tuning |
PICTURE	Manual Tuning
AUDIO	Channel Edit
TIME	
OPTION	
LOCK	

Move MENU Prev

PICTURE

SETUP	Picture Mode	: User1
PICTURE	Color Temperature	: Cool
AUDIO	XD	
TIME	Advanced	
OPTION	Aspect Ratio	: 16:9
LOCK	Picture Reset	
	Screen	

Move MENU Prev

LOCK

	For USA		For Canada	
SETUP	Lock System	: Off	Lock System	: Off
PICTURE	Set Password		Set Password	
AUDIO	Block Channel		Block Channel	
TIME	Movie Rating		TV Rating-English	
OPTION	TV Rating-Children		TV Rating-French	
LOCK	TV Rating-General		Input Block	
	Input Block			

Move MENU Prev

AUDIO

SETUP	Sound Mode	: Standard
PICTURE	Auto Volume	: On
AUDIO	Balance	: 0
TIME	TV Speaker	: On
OPTION		
LOCK		

Move MENU Prev

OPTION

SETUP	Language	: English
PICTURE	Input Label	
AUDIO	SimpLink	: Off
TIME	Key Lock	: Off
OPTION	Caption	: Off
LOCK	ISM Method	: Orbiter
	Low Power	: Off
	Front Display	: Bright
	Set ID	: 1

Move MENU Prev

Only Plasma TV model

TIME

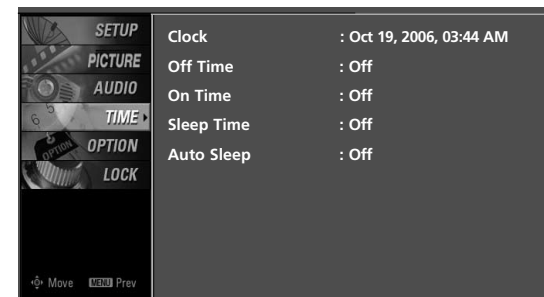| SETUP | Clock | : Oct 19, 2006, 03:44 AM |
PICTURE	Off Time	: Off
AUDIO	On Time	: Off
TIME	Sleep Time	: Off
OPTION	Auto Sleep	: Off
LOCK		

Move MENU Prev
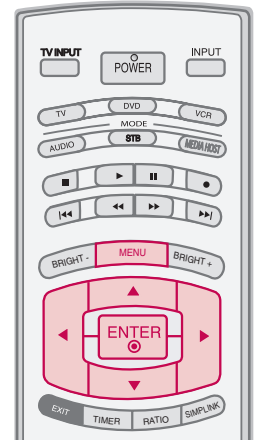
WATCHING TV / CHANNEL CONTROL

CHANNEL SETUP

Auto Scan (Auto Tuning)

Automatically finds all channels available through antenna or cable inputs, and stores them in memory on the channel list.

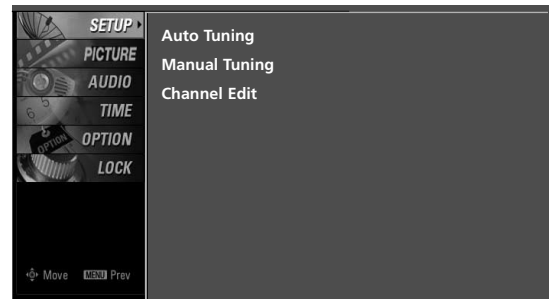Run Auto Tuning again after any Antenna/Cable connection changes.

A password is required to gain access to Auto Tuning menu if the Lock System is turned on.
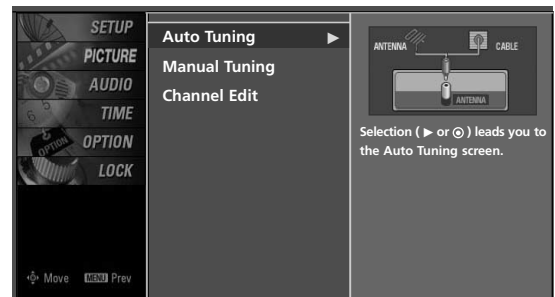
1 Press the **MENU** button and then use ▲ or ▼ button to select the **SETUP** menu.

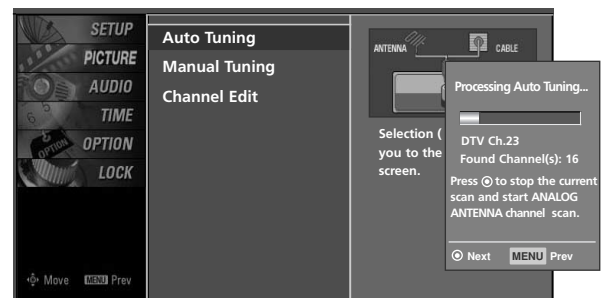**2** Press the ► button and then use ▲ or ▼ button to select **Auto Tuning**.

3 Press the **ENTER** button to begin the channel search. Allow **Auto Tuning** to complete the channel search cycle for **ANTENNA** and **CABLE**.

! NOTE

Analog TV antenna
Digital DTV antenna
Analog CATV cable
Digital CADTV cable

1

SETUP
PICTURE
AUDIO
TIME
OPTION
LOCK

Auto Tuning
Manual Tuning
Channel Edit

Move MENU Prev

2

SETUP
PICTURE
AUDIO
TIME
OPTION
LOCK

Auto Tuning ►
Manual Tuning
Channel Edit

ANTENNA CABLE
ANTENNA

Selection (► or ◉) leads you to the Auto Tuning screen.

Move MENU Prev

3

SETUP
PICTURE
AUDIO
TIME
OPTION
LOCK

Auto Tuning
Manual Tuning
Channel Edit

ANTENNA CABLE

Selection (
you to the
screen.

Processing Auto Tuning...
DTV Ch.23
Found Channel(s): 16
Press ◉ to stop the current scan and start ANALOG ANTENNA channel scan.
◉ Next   MENU Prev

Move MENU Prev
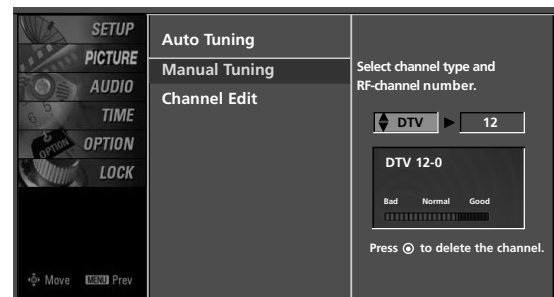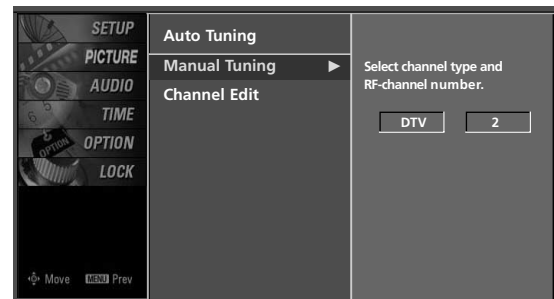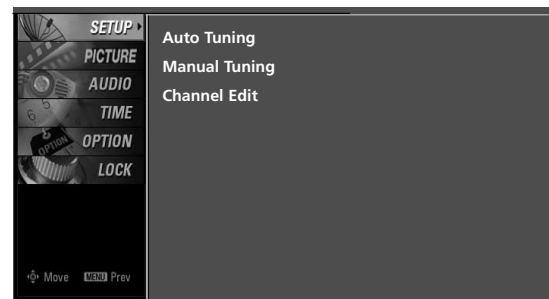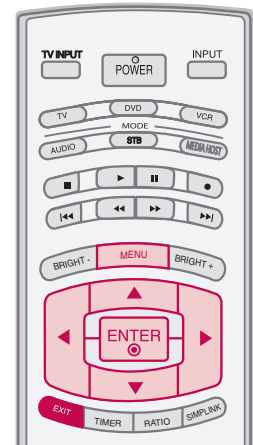
38

Add/Delete Channel (Manual Tuning)

A password is required to gain access to Manual Tuning menu if the Lock System is turned on.

If selecting DTV or CADTV input signal, you can view the on-screen signal strength monitor to see the quality of the signal being received.

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

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

3 Press the ▶ button and then use ▲ or ▼ button to select **TV**, **DTV**, **CATV**, and **CADTV**.

4 Press the ▶ button and then use ▲ or ▼ button to select channel you want to add or delete.

5 Press the **ENTER** button to add or delete the channel.

6 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

❗ NOTE

▶ This digital channel number is a physical channel number, which is different from the normal channel number shown in Channel Edit.

SETUP PICTURE AUDIO TIME OPTION LOCK

Auto Tuning
Manual Tuning
Channel Edit

Move MENU Prev

❶

SETUP **PICTURE** AUDIO TIME OPTION LOCK

Auto Tuning
Manual Tuning ▶
Channel Edit

Select channel type and RF-channel number.

DTV   2

Move MENU Prev

❷

SETUP **PICTURE** AUDIO TIME OPTION LOCK

Auto Tuning
Manual Tuning
Channel Edit

Select channel type and RF-channel number.

DTV ▶ 12

DTV 12-0

Bad   Normal   Good

Press ⦿ to delete the channel.

Move MENU Prev

❸ ❹ ❺

Channel Editing

From the default channel list created from the Auto Tuning channel search, you can create two different types of channel lists in memory: "custom list" and "favorite channel list".

A custom list can be created by toggling each channel on or off with ENTER button. The channels in the Custom List are displayed in black and the channels deleted from the Custom List are displayed in gray. Once a channel is highlighted you can add or delete the channel by referring to the small window at the top-left corner of the screen.
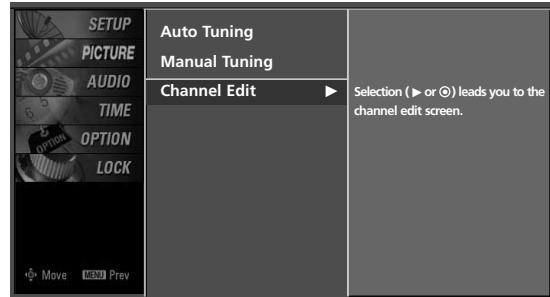
You can create your own Favorite List. Use the FAV button on the remote control when a channel is highlighted and then add or delete the channel to/from your Favorite List.
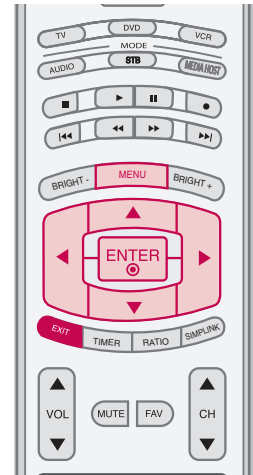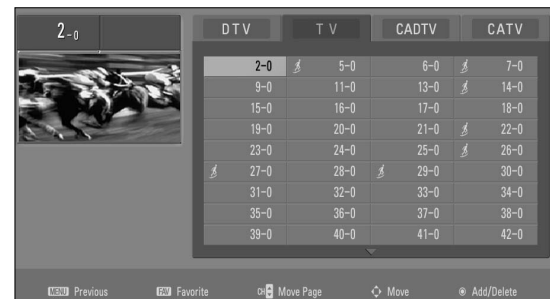
1 Press the MENU button and then use ▲ or ▼ button to select the SETUP menu.
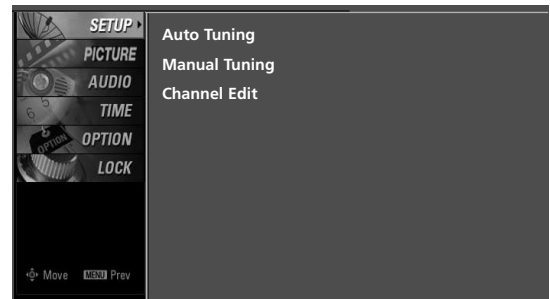
2 Press the ► button and then use ▲ or ▼ button to select Channel Edit.

3 Press the ► button. You will now see a screen filled with channel numbers and a preview picture.

**4** Use ▲ ▼ ◄ ► button to select a channel and then use the ENTER button to add or delete it. Press FAV button to add the channel to the Favorite List. The surfing icon will appear in front of that channel number.

5 Press EXIT button to return to TV viewing or press MENU button to return to the previous menu.

SETUP	Auto Tuning
PICTURE	Manual Tuning
AUDIO	Channel Edit
TIME	
OPTION	
LOCK	

⬩ Move   MENU Prev

1

SETUP	Auto Tuning	
PICTURE	Manual Tuning	
AUDIO	Channel Edit ►	Selection (► or ◉) leads you to the channel edit screen.
TIME		
OPTION		
LOCK		

⬩ Move   MENU Prev

2

2-0

DTV	TV	CADTV	CATV
2-0	5-0	6-0	7-0
9-0	11-0	13-0	14-0
15-0	16-0	17-0	18-0
19-0	20-0	21-0	22-0
23-0	24-0	25-0	26-0
27-0	28-0	29-0	30-0
31-0	32-0	33-0	34-0
35-0	36-0	37-0	38-0
39-0	40-0	41-0	42-0

MENU Previous   FAV Favorite   CH Move Page   ⬩ Move   ◉ Add/Delete
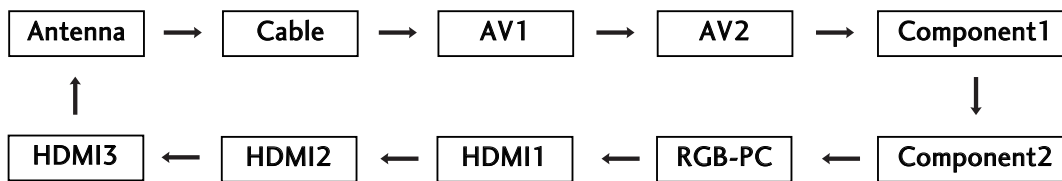
3 **4**

INPUT LIST

Press the **INPUT** button to display external device that is connected to the unit, on screen.

Press the **ENTER** button to change the input to the active external device. Use the ▲ or ▼ button to select the input source.
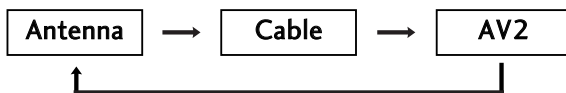
AV 2

Input List

Antenna
Cable
AV 1
AV 2
Component1
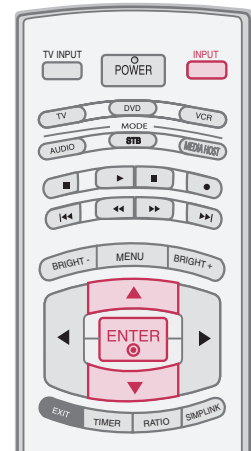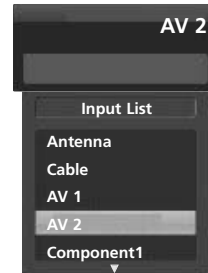
① If all external input sources are connected:

| Antenna | → | Cable | → | AV1 | → | AV2 | → | Component1 |

HDMI3 ← HDMI2 ← HDMI1 ← RGB-PC ← Component2

② If no external input sources are not connected:

Antenna ⟷ Cable

③ If there is any external input source connected:
(ex: When connected only to AV 2)

Antenna → Cable → AV2

Antenna : Select it when watching the DTV/TV.
Cable: Select it when watching the CADTV/CATV.
AV 1, AV 2 : Select it when watching the VCR or external equipment.
Component 1-2 : Select it when using the DVD or the Digital set-top box depend on connector.
RGB-PC : Select it when using PC depend on connector.
HDMI, HDMI2, HDMI3 : Select it when using DVD, PC or Digital set-top box depend on connector.

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.**

SimpLink Preparations

1 Connect the HDMI/DVI IN 1, 2 or 3 terminal of the TV
to the rear terminal (HDMI output) of the Simplink
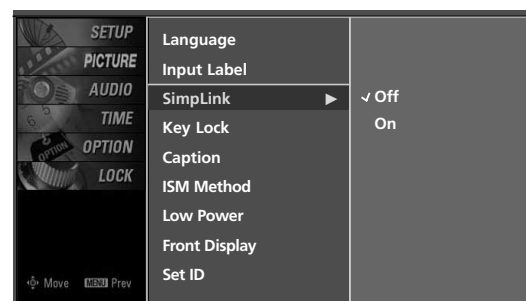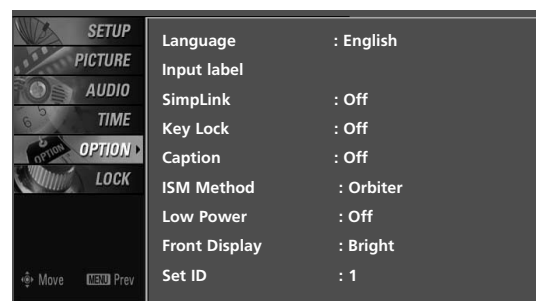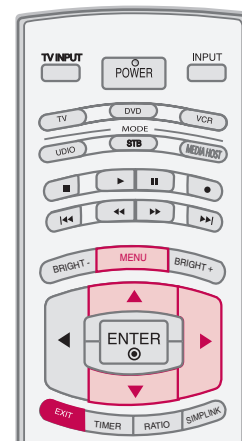device with the HDMI cable.

After connecting the HDMI jack for the home theater
with simplink function in the above method, connect
the DIGITAL AUDIO OUT OPTICAL on the back of the
TV to the DIGITAL AUDIO IN terminal on the back of
the simplink device with the Optical cable.

2 Press the **MENU** button and then use ▲ or ▼ button
to select the **OPTION** menu.

3 Press the ► button and then use ▲ or ▼ button to
select **SimpLink**.

4 Press the ► button and then use ▲ or ▼ button to
select **On**.

5 Press **EXIT** button to return to TV viewing or press
MENU button to return to the previous menu.

Language	: English	
Input label		
SimpLink	: Off	
Key Lock	: Off	
Caption	: Off	
ISM Method	: Orbiter	
Low Power	: Off	
Front Display	: Bright	
Set ID	: 1	

Language		
Input Label		
SimpLink	►	✓ Off
Key Lock		On
Caption		
ISM Method		
Low Power		
Front Display		
Set ID		

! NOTE

► When operating the external device with SimpLink, press the TV button among the MODE button on the
remote control.

► When you switch the Input source with the INPUT button on the remote control, you can stop the opera-
tion of device worked by SimpLink.

► When you select or operate the media device with home theater function, the speaker automatically switch-
es to home theater speaker (HT speaker).

► When you execute 'Photo List, Music List 'function during DVD playback included in home theater sup-
ported the SimpLink stops and the applicable function is executed after switching the input to TV.

SimpLink 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.
- **Disc playback:** Control connected AV devices by pressing the ▶ , ■ , ❙❙ , ◀◀ , ▶▶ , ❙◀◀ , ▶▶❙ , ▲ ▼ ◀ ▶, **ENTER** buttons and buttons for play, stop, pause, fast reverse, fast forward, chapter skip.
- **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.
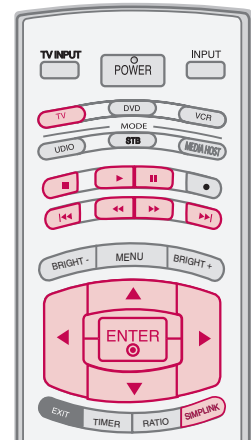
(A device, which is connected to TV through HDMI cable but does not support SimpLink, does not provide this function)

❶ After selecting the **TV** button of the MODE on the remote control, press the **SIMPLINK** button.

❷ Use ▲ ▼ ◀ ▶ button to select the desired device and then press the **ENTER** button.

❸ Control connected AV devices by pressing the ▶ , ❙❙ , ■ , ❙◀◀ , ▶▶❙ , ◀◀ , ▶▶ , ▲▼◀ ▶, **ENTER** buttons.
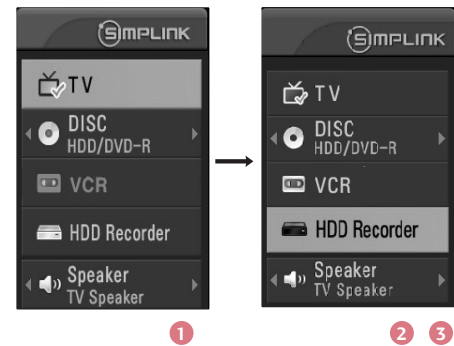
SimpLink Menu

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

❷ **DISC playback**: Select and play discs. When multiple discs are available, the titles of 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 HT speaker/Audio Out to TV**: Select HT speaker or TV speaker for Audio Out.

▶ Selected Device

▶ When no device is connected (displayed in gray)

▶ When a device is connected (displayed in bright color)

INPUT LABEL

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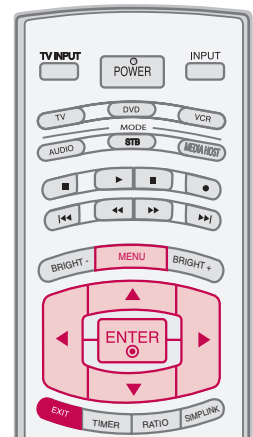
1 Press the **MENU** button and then use ▲ or ▼ button to select the **OPTION** menu.

2 Press the ▶ button and then use ▲ or ▼ button to select **Input Label**.

3 Press the ▶ button and then use ▲ or ▼ button to select the source: AV1, AV2, Component1, Component2, RGB-PC, HDMI1, HDMI2 or HDMI3.

4 Press the ◀ or ▶ button to select the label.

5 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

| SETUP	Language	: English
PICTURE	Input label	
AUDIO	SimpLink	: Off
TIME	Key Lock	: Off
OPTION ▶	Caption	: Off
LOCK	ISM Method	: Orbiter
	Low Power	: Off
	Front Display	: Bright
Move MENU Prev	Set ID	: 1

①

SETUP	Language		
PICTURE	Input label ▶	AV1	Cable Box
AUDIO	SimpLink	AV2	VCR
TIME	Key Lock	Component1	DVD
OPTION	Caption	Component2	Set Top Box
LOCK	ISM Method	RGB-PC	VCR
	Low Power	HDMI1	Game
	Front Display	HDMI2	Satellite
Move MENU Prev	Set ID	HDMI3	Cable Box
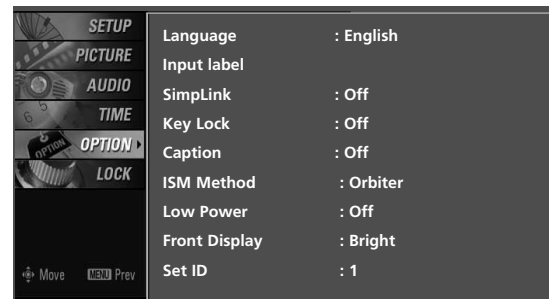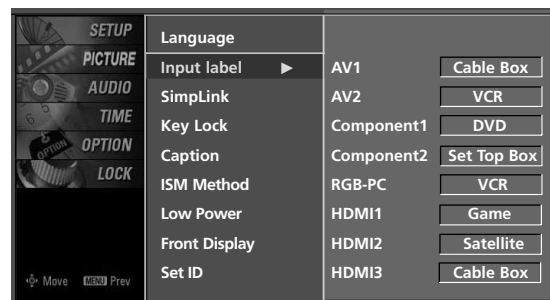
② **③** **④**

KEY LOCK

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

This feature can be used to prevent unauthorized viewing by locking out the front panel controls.

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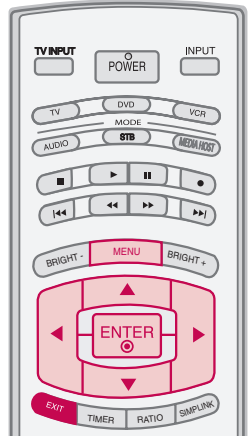
1 Press the **MENU** button and then use ▲ or ▼ button to select the **OPTION** menu.

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

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

4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

SETUP		
PICTURE	Language	: English
AUDIO	Input label	
TIME	SimpLink	: Off
OPTION ►	Key Lock	: Off
LOCK	Caption	: Off
	ISM Method	: Orbiter
	Low Power	: Off
	Front Display	: Bright
⊕ Move MENU Prev	Set ID	: 1

❶

SETUP		
PICTURE	Language	
AUDIO	Input Label	
TIME	SimpLink	
OPTION	Key Lock ►	√ Off
LOCK	Caption	On
	ISM Method	
	Low Power	
	Front Display	
⊕ Move MENU Prev	Set ID	

❷ ❸

MEDIA*HOST*
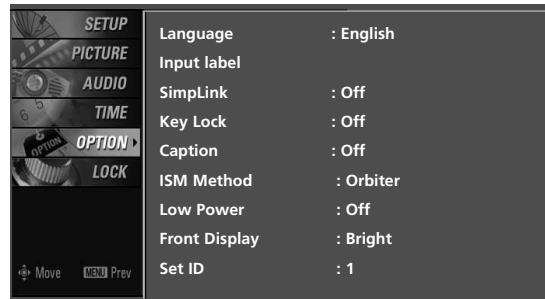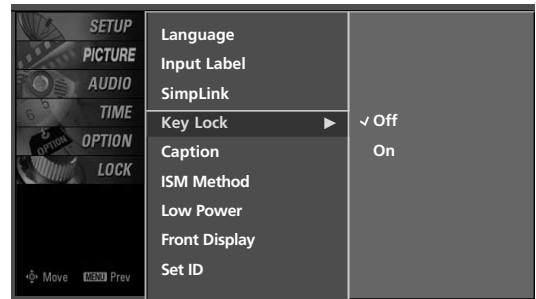
ENTRY MODES

When you connect a USB device or press the ⬭MEDIAHOST button, this screen is displayed, automatically.

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

Media Host Menu

1   Press the ▲ or ▼ button to select the desired item.

2   Press the **ENTER** button to move to **Photo List** or **Music List** of USB device.

3   Press the **USB EJECT** button of remote control before removing the USB device.
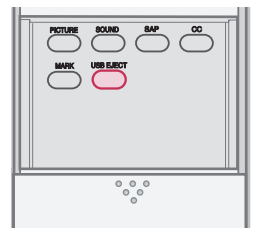
❗ NOTE

▶ Press the **USB EJECT** button of remote control before removing 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 program 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. To unplug the USB storage device, please press the **USB EJECT** button on the remote control, and then unplug it safely.

▶ 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 FAT or a NTFS file system provided with the Windows operating system. In case of a storage device formatted as a different utility program which is not supported by Windows, it may not be recognized.

▶ In case of a hard disk drive (HDD) formatted as NTFS, writing and deletion are not allowable.

▶ 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.
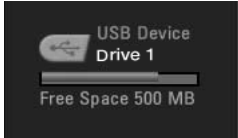
PHOTO LIST

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.

Screen Components

① Usable USB memory

```
USB Device
Drive 1

Free Space 500 MB
```

② Current page/Total pages
③ Total number of marked thumbnail photos
④ Corresponding buttons on the remote control

Photo List	Page 1/1	☑ No Marked			*MEDIA HOST*

USB Device Drive 1
Free Space 500 MB ①

Without ... ⦿   U Got It Bad   World Of ...   Wherever ...   Star Guita...

All Rise   In The End   Insatiable   Can't Get ...   A New Day...

Get The P...   Whenever...   Something...   How You ...   Freeek

UP FOLDER

MEDIA HOST Media Host   ⬦ Navigate   ⦿ PopUp Menu   CH▲▼ Move Page   **MARK** Mark   **EXIT** Exit

④

MEDIA*HOST*

Photo Selection and PopUp Menu

As shown, up to 15 thumbnail photos are listed per page.

Use the **CH ▲** or **▼** button to navigate in the thumb-nail photo page.

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.

Use **▲ ▼ ◄ ►** button to navigate the appropriate thumbnail photos, then press the **ENTER** button to show the PopUp menu.

▶ **View** : Display the selected item.
▶ **Mark All** : Mark all photos on the screen.
▶ **Delete** : Delete the selected photo item.
▶ **Cancel** : Close the pop-up menu.

Repeatedly, press **EXIT** button to return to TV viewing or press the (MEDIAHOST) button to return to the Media Host menu.

MEDIA HOST

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.

1 Use the **CH ▲** or **▼** button to navigate the thumbnail photo page.

2 Use **▲ ▼ ◄ ►** button to navigate the appropriate thumbnail photos, then press the **ENTER** button to show the PopUp menu.

3 Use **▲** or **▼** button to Move to the **View** menu, then press the **ENTER** button.

4 The selected photo is displayed in full size.
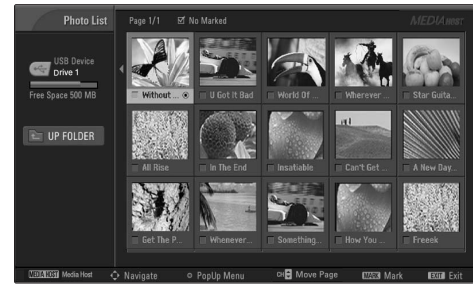
▶ **Slide Show**: When no picture is selected, all photos in the current folder are displayed during slide show. When selected, the selected photos are displayed during slide show. To start slide show, press **ENTER** button on `Slideshow ▷`

  ■ Set the time interval of the slide show in **Option**.

  ■ A slide show continues for a maximum of 4 hours. After 4 hours, the slide show will end and go to TV mode or external input mode.

▶ **BGM**: Listen to music while viewing photos in full size. To start BGM, press **ENTER** button on `BGM ▷` .

  ■ Set the BGM device and album in **Option**.

▶ ↻ **(Rotate)**: Rotate photos.

  ■ Rotates the photo 90°, 180°, 270°, 360° clockwise upon **ENTER** button on ↻ **(Rotate)**.

▶ **Delete**: Delete photos. Use **◄** or **►** button to select **Delete** and press **ENTER** button.

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

MEDIA HOST

49
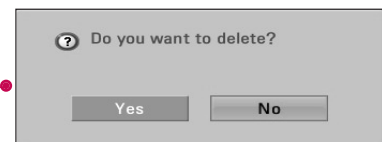
▶ **Option**: Set values for **Slide Speed** and **Music folder**. Use ◀ or ▶ button to select **Option** and press **ENTER** button.

■ Use ◀ or ▶ button and **ENTER** button to set values. Then go to ⬚Enter⬚ and press **ENTER** to save the settings.

■ You cannot change **Music Folder** while BGM is playing.

▶ **Hide**: Hide the menu on the full-sized screen. Use ◀ or ▶ button to select **Hide** and press **ENTER** button.

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

ⓘ Press ◀ ▶ to set the time interval between slides.

| Slide Speed | ◀ Fast ▶ |
| Music Folder | **Drive 1** |

Enter   Cancel
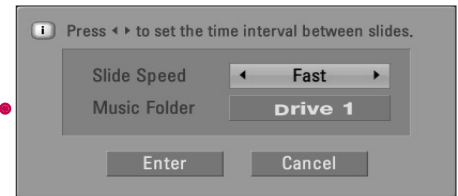
5 Use ▲ ▼ ◀ ▶ button to select the previous or next photo.
Use ▲ ▼ ◀ ▶ button to select and control the menu on the full-sized screen.

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

7 Repeatedly, press **EXIT** button to return to TV viewing or press ⬚MEDIA HOST⬚ button to return to the Media Host menu.

❶ NOTE

▶ If it is Progressive JPEG format, some photos may be not decoded.

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.
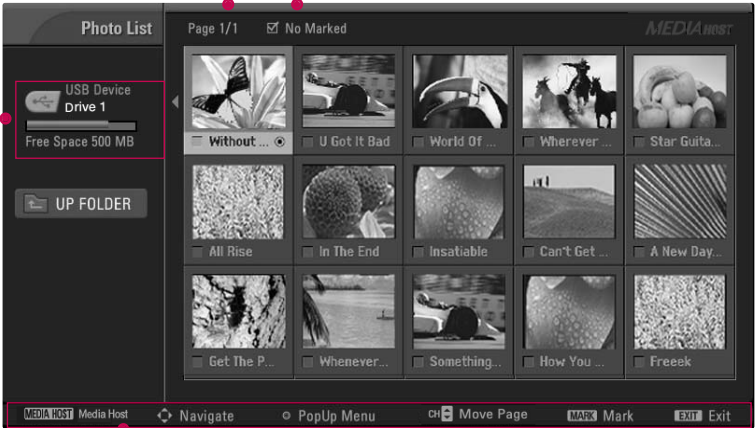
Screen Components

① Usable USB memory

USB Device
Drive 1
Free Space 500 MB
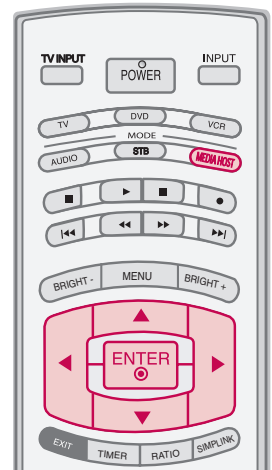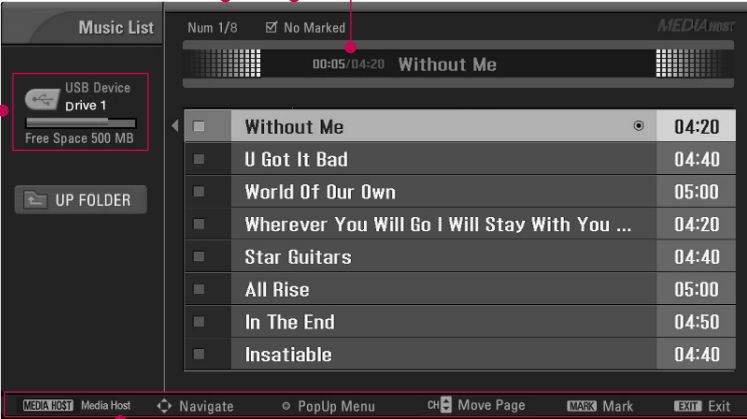
② Current page/Total pages
③ Total number of marked music
④ Current playing time/Total playing time
⑤ Corresponding buttons on the remote control

Music List	Num 1/8	☑ No Marked	*MEDIA HOST*

00:05/04:20 **Without Me**

USB Device
Drive 1
Free Space 500 MB

📁 UP FOLDER

Without Me	◉	**04:20**
U Got It Bad		04:40
World Of Our Own		05:00
Wherever You Will Go I Will Stay With You ...		04:20
Star Guitars		04:40
All Rise		05:00
In The End		04:50
Insatiable		04:40

MEDIA HOST Media Host   ✧ Navigate   ◉ PopUp Menu   CH⊟ Move Page   MARK Mark   EXIT Exit

MEDIA*HOST*

Music Selection and PopUp Menu

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

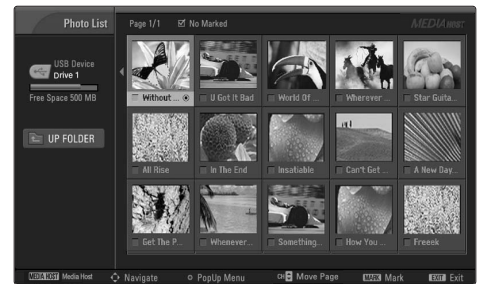**1** Use the **CH ▲** or **▼** button to navigate in the music titles page.

2 Use **MARK** button to mark or unmark a music. When one or more music files are marked, the marked music 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.

3 Use **▲ ▼** button to navigate the appropriate music, then press the **ENTER** button to show up the pop-up menu.

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

4 Repeatedly, press **EXIT** button to return to TV viewing or press ⬭ button to return to the Media Host menu.

- ■ If you don't press any button for a while during the playing, 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**

Music List
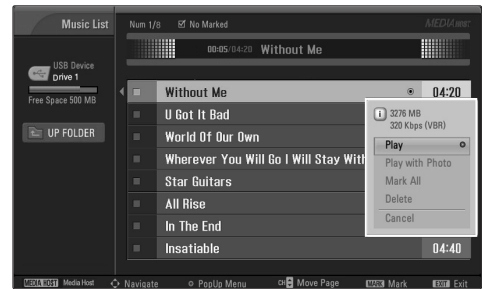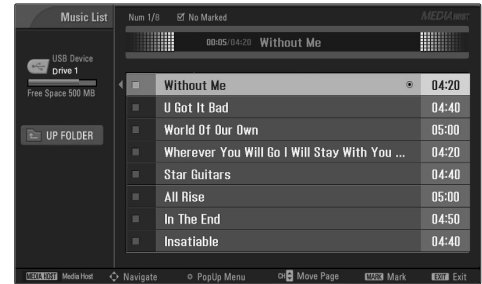
① ② ③

⊙ 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 inappropriate information in playtime.
> ▶ If you press **ENTER**, ■ , **EXIT** buttons, screen saver is stopped.
> ▶ The ▶ , ❙❙ , ■ , ◀◀ , ▶▶ buttons on the remote control are also available in this mode.
> ▶ It's not available to play MP3 file under 16Kbyte.

PICTURE CONTROL

PICTURE SIZE (ASPECT RATIO) CONTROL

This feature lets you choose the way an analog picture with a 4:3 aspect ratio is displayed on your TV. When you receive an analog picture with a 4:3 aspect ratio on your 16:9 TV, you need to specify how the picture is to be displayed.

■ RGB-PC input source use 4:3 or 16:9 aspect ratio.

■ DTV, CADTV, HDMI, or DVI input source use **Just Scan**.
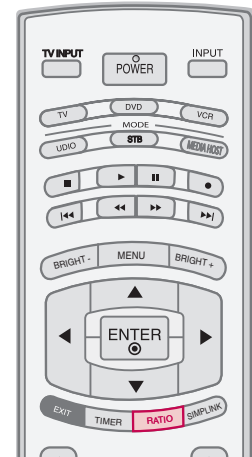
> ❶ **NOTE**
>
> ▶ If a fixed image is displayed on the screen for a long time, the image may become imprinted on the screen and remain visible.
> This phenomenon is common to all manufactures and in consequence the manufactures warranty does not cover the product bearing this phenomenon.

1 Press the **RATIO** button repeatedly to select the desired picture format.

■ You can also adjust **Aspect Ratio** in the **PICTURE** menu.

Set by program
Selects the proper picture proportion to match the source's image.

(4:3 ➝ 4:3)   (16:9 ➝ 16:9)

4:3
Choose 4:3 when you want to view a picture with an original 4:3 aspect ratio.
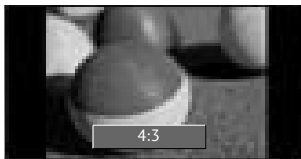
16:9
Adjust the picture horizontally, in a linear proportion to fill the entire screen.
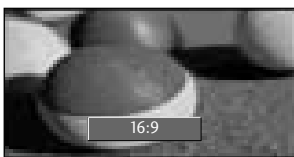
Zoom 1
Choose Zoom 1 when you want to view the picture without any alteration. However, the top and bottom portions of the picture will be cropped.
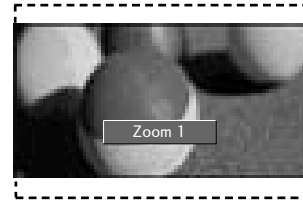
Zoom 2
Choose Zoom 2 when you want the picture to be altered, both vertically extended and cropped. The picture taking a halfway trade off between alteration and screen coverage.
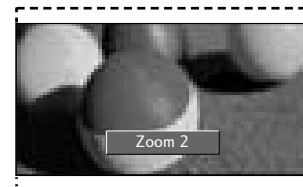
Just Scan
Following selection will lead to you view the picture of best quality without loss of original picture in high resolution image.

PRESET PICTURE SETTINGS

Picture Mode - Preset

Picture Mode adjusts the TV for the best picture appearance. Select the preset value in the Picture Mode menu based on the program category.
Intelligent Eye, **Dynamic**, **Standard**, **Mild** Settings are preset for the optimum picture quality at the factory and are not adjustable.
In the **User1** and **User2** modes only, user can directly adjust the contrast, brightness, color, sharpness, tint.
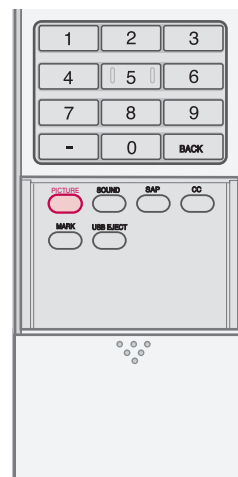
1 Press the **PICTURE** button repeatedly to select the picture appearance setup option as below :
Intelligent Eye (LCD TV only), **Dynamic**, **Standard**, **Mild**, **User1**, and **User2** (your own settings).

2 Press the **EXIT** button to save and return to TV viewing.

■ You can also use the **PICTURE** menu to adjust **Picture Mode**.

SETUP	Picture Mode	: User1
PICTURE	Color Temperature	: Cool
AUDIO	XD	
TIME	Advanced	
OPTION	Aspect Ratio	: 16:9
LOCK	Picture Reset	
	Screen	

SETUP	Picture Mode ▶	Intelligent Eye
PICTURE	Color Temperature	Dynamic
AUDIO	XD	Standard
TIME	Advanced	Mild
OPTION	Aspect Ratio	✓ User 1
LOCK	Picture Reset	User 2
	Screen	
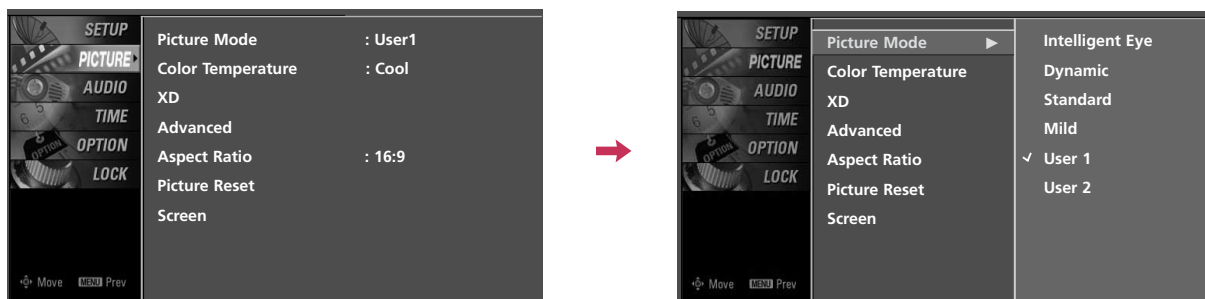
Color Tone - Preset

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

When selecting Picture Mode options (Dynamic, Standard and Mild), **Color Temperature** is automatically change.

When selecting Picture Mode options (User 1 and User 2), you can choose the **Color Temperature**.

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

2 Press the ► button and then use ▲ or ▼ button to select **Color Temperature**.

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

4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

SETUP	Picture Mode	: User1
PICTURE	Color Temperature	: Cool
AUDIO	XD	
TIME	Advanced	
OPTION	Aspect Ratio	: 16:9
LOCK	Picture Reset	
	Screen	

◆ Move MENU Prev

❶

SETUP	Picture Mode	
PICTURE	Color Temperature ►	✓ Cool
AUDIO	XD	Medium
TIME	Advanced	Warm
OPTION	Aspect Ratio	User
LOCK	Picture Reset	
	Screen	

◆ Move MENU Prev

❷ ❸
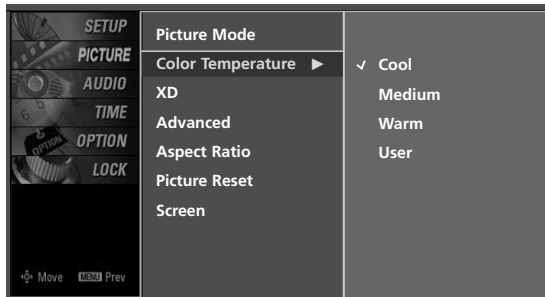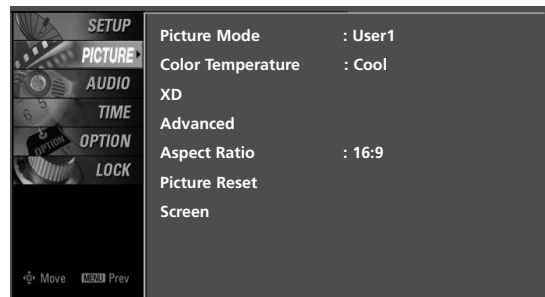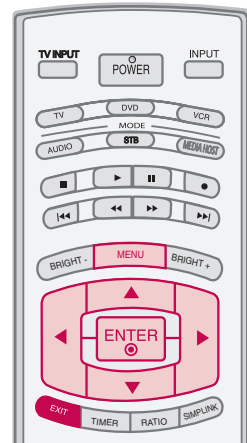
MANUAL PICTURE ADJUSTMENT

Picture Mode - User Mode

Adjust the picture appearance to suit your preference and viewing situations.
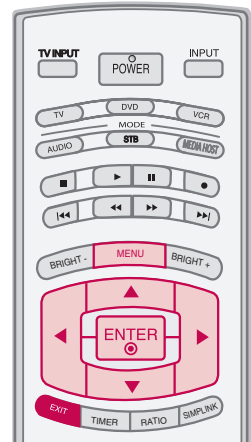
1 Press the **MENU** button and then use ▲ or ▼ button to select the **PICTURE** menu.
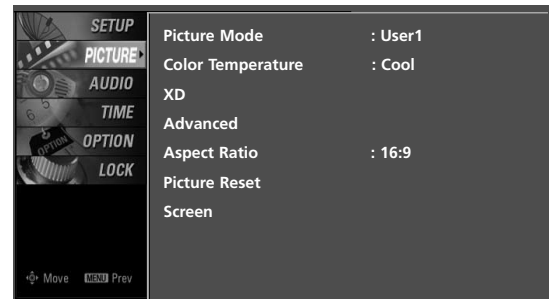
2 Press the ▶ button and then use ▲ or ▼ button to select **Picture Mode**.

3 Press the ▶ button and then use ▲ or ▼ button to select **User 1** or **User2**.

4 Press the ▶ button and then use ▲ or ▼ button to select the desired picture option (**Contrast**, **Brightness**, **Color**, **Sharpness**, **Tint**, or **Back Light** (LCD TV only)).

   ■ **Back Light** (LCD TV only)
   To control the brightness of the screen, adjust the brightness of LCD panel.

5 Press the ▶ button and then use ◀ or ▶ button to make appropriate adjustments.

6 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

SETUP	Picture Mode	: User1
PICTURE	Color Temperature	: Cool
AUDIO	XD	
TIME	Advanced	
OPTION	Aspect Ratio	: 16:9
LOCK	Picture Reset	
	Screen	

⊕ Move MENU Prev

①

SETUP	Picture Mode	Intelligent Eye
PICTURE	Color Temperature	Dynamic
AUDIO	XD	Standard
TIME	Advanced	Mild
OPTION	Aspect Ratio	√User 1 ▶
LOCK	Picture Reset	User 2
	Screen	

Selection (▶ or ◉) leads you to the detailed setting screen.

⊕ Move MENU Prev

② **③**

SETUP	User1	
PICTURE	Contrast	85
AUDIO	Brightness	50
TIME	Color	50
OPTION	Sharpness	50
LOCK	Tint	0
	Back Light	100

Press MENU to confirm.

⊕ Move MENU Prev

④

SETUP	▲	
PICTURE	Contrast	85
AUDIO	▼	
TIME		
OPTION		
LOCK		

⑤

⊕ Move MENU Prev

Color Tone - User Mode

You can also adjust the detailed settings (Red, Green, Blue) by selecting the **Color Temperature-User** menu.
This feature operate only if the picture mode set **User 1** or **User 2**.

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

2 Press the ▶ button and then use ▲ or ▼ button to select **Color Temperature**.

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

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

5 Press the ▶ button and then use ◀ or ▶ button to make appropriate adjustments.

- The adjustment range of **Red**, **Green**, or **Blue** is -20~ +20.

6 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

SETUP	Picture Mode	: User1
PICTURE	Color Temperature	: Cool
AUDIO	XD	
TIME	Advanced	
OPTION	Aspect Ratio	: 16:9
LOCK	Picture Reset	
	Screen	

Move **MENU** Prev

❶

SETUP	Picture Mode	
PICTURE	Color Temperature	Cool
AUDIO	XD	Medium
TIME	Advanced	Warm
OPTION	Aspect Ratio	✓ User ▶
LOCK	Picture Reset	
	Screen	

Move **MENU** Prev

Selection (▶ or ◉) leads you to the detailed setting screen.

❷ **❸**

SETUP	User	
PICTURE		
AUDIO	Red	0
TIME	Green	0
OPTION	Blue	0
LOCK		

Move **MENU** Prev

Press **MENU** to confirm.

❹

SETUP		
PICTURE	▲	
AUDIO		
TIME	Red	0
OPTION	▼	
LOCK		

Move **MENU** Prev

❺

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PICTURE CONTROL

XD - PICTURE IMPROVEMENT TECHNOLOGY

XD is LG Electronic's unique picture improving technology to display a real HD source through an advanced digital signal processing algorithm.

When selecting Picture Mode options (Dynamic, Standard, and Mild), XD is automatically changed to Auto.

When selecting Picture Mode options (User 1 and User 2), you can choose the Auto / Manual.

When selecting the Manual, you can adjust the XD Contrast, XD color and XD Noise.
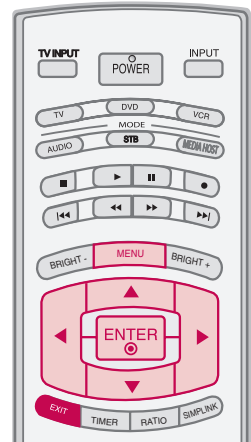
1 Press the **MENU** button and then use ▲ or ▼ button to select the **PICTURE** menu.

2 Press the ▶ button and then use ▲ or ▼ button to select **XD**.

3 Press the ▶ button and then use ◀ or ▶ button to select **Auto** or **Manual**.
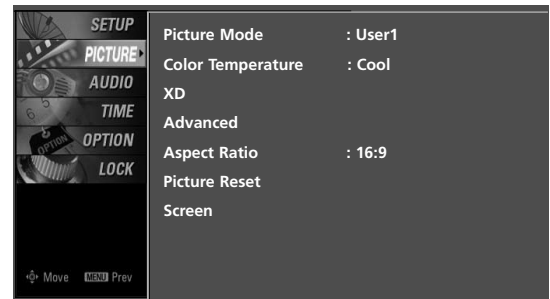
Selecting the Manual

1. Press the ▼ button and then use ▲ or ▼ button to select **XD Contrast**, **XD Color** or **XD Noise**.
   - ■ **XD Contrast:** Optimizing the contrast automatically according to the brightness of the reflection.
   - ■ **XD Color:** Adjusting the colors of the reflection automatically to reproduce as closely as possible to the natural colors.
   - ■ **XD Noise :** Removing the noise up to the point where it does not damage the original picture.
2. Use the ◀ or ▶ button to select **On** or **Off**.
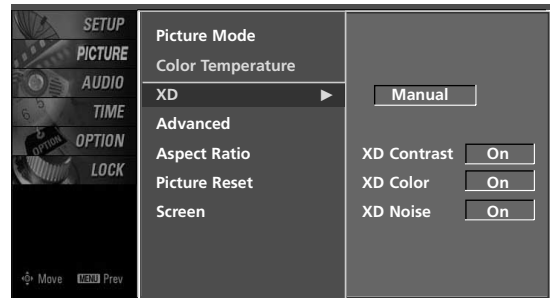
4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

SETUP	Picture Mode	: User1
PICTURE	Color Temperature	: Cool
AUDIO	XD	
TIME	Advanced	
OPTION	Aspect Ratio	: 16:9
LOCK	Picture Reset	
	Screen	

◆ Move   MENU Prev

❶

SETUP	Picture Mode		
PICTURE	Color Temperature		
AUDIO	XD	▶	Manual
TIME	Advanced		
OPTION	Aspect Ratio		XD Contrast — On
LOCK	Picture Reset		XD Color — On
	Screen		XD Noise — On

◆ Move   MENU Prev

❷ ❸

ADVANCED - CINEMA 3:2 PULL DOWN MODE

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

When you operate Cinema 3:2 Mode (3:2 Pull-Down Mode or Cinema Correction Mode), the TV will adjust 24 fps video from movies to 30 fps video for display.

This feature operates only in TV (Analog, DTV), AV1, AV2, and Component 480i mode.
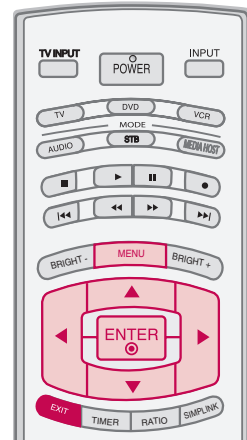
1 Press the **MENU** button and then use ▲ or ▼ button to select the **PICTURE** menu.

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

3 Press the ▶ button and then use ▲ or ▼ button to select **Cinema 3:2 Mode**.

4 Use ◀ or ▶ button to select **On** or **Off**.

**5** Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

SETUP	
PICTURE	Picture Mode : User1
AUDIO	Color Temperature : Cool
TIME	XD
	Advanced
OPTION	Aspect Ratio : 16:9
LOCK	Picture Reset
	Screen

Move MENU Prev

1

SETUP	
PICTURE	Picture Mode
AUDIO	Color Temperature
TIME	XD
	Advanced ▶ Cinema 3:2 Mode Off
OPTION	Aspect Ratio Black Level Low
LOCK	Picture Reset
	Screen

Move MENU Prev

2 **3** **4**

PICTURE CONTROL

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ADVANCED - BLACK (DARKNESS) LEVEL

Adjusting the contrast and the brightness of the screen using the black level of the screen.

This feature operates only in AV1, AV2, HDMI1, HDMI2, or HDMI3 mode.
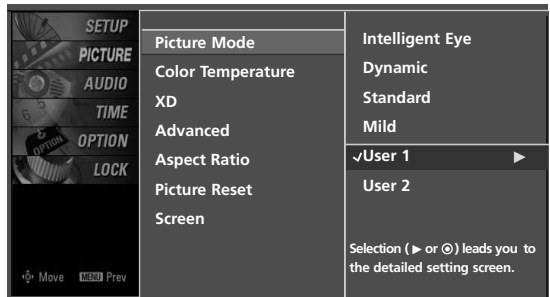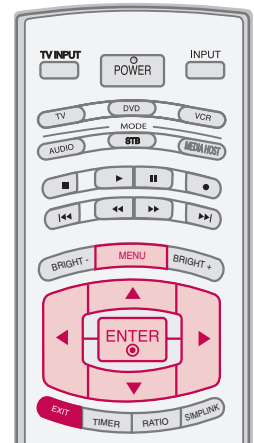
1 Press the **MENU** button and then use ▲ or ▼ button to select the **PICTURE** menu.

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

3 Press the ► button and then use ▲ or ▼ button to select **Black level**.

4 Use ◄ or ► button to select **Low** or **High**.

■ **Low**

The screen gets darker.

■ **High**

The screen gets brighter.

5 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

SETUP
PICTURE
AUDIO
TIME
OPTION
LOCK

Picture Mode	: User1
Color Temperature	: Cool
XD	
Advanced	
Aspect Ratio	: 16:9
Picture Reset	
Screen	

✧ Move   MENU Prev

❶

SETUP
PICTURE
AUDIO
TIME
OPTION
LOCK

Picture Mode
Color Temperature
XD
Advanced ►
Aspect Ratio
Picture Reset
Screen

Cinema 3:2 Mode   Off
Black Level   Low

✧ Move   MENU Prev

❷ ❸ ❹

PICTURE RESET

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

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

② Press the ▶ button and then use ▲ or ▼ button to select **Picture Reset**.

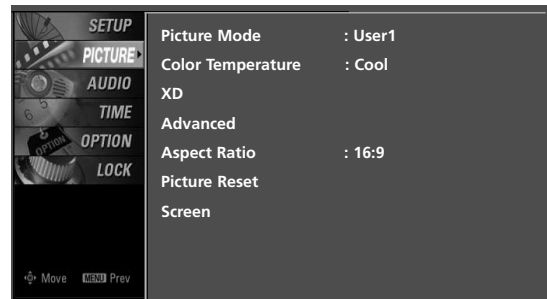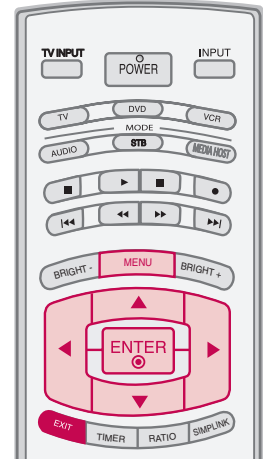③ Press the ▶ button to reset the Picture menu options to original values.

SETUP		
PICTURE	**Picture Mode**	**: User1**
AUDIO	**Color Temperature**	**: Cool**
TIME	**XD**	
OPTION	**Advanced**	
LOCK	**Aspect Ratio**	**: 16:9**
	Picture Reset	
	Screen	

◆ Move MENU Prev

①

SETUP		
PICTURE	**Picture Mode**	
AUDIO	**Color Temperature**	
TIME	**XD**	
OPTION	**Advanced**	
LOCK	**Aspect Ratio**	
	Picture Reset ▶	**Selection (▶ or ◉) resets to the factory settings(defaults).**
	Screen	

◆ Move MENU Prev

② ③
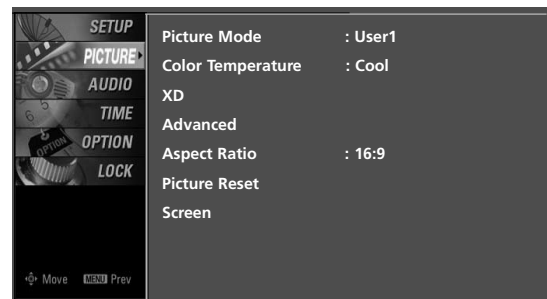
IMAGE STICKING MINIMIZATION (ISM) METHOD - *Plasma TV only*

A frozen still picture from a PC/video game displayed on the screen for prolonged periods will result in a ghost image. Use our unique method to minimize any fixed image on the screen.

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

2 Press the ► button and then use ▲ or ▼ button to select **ISM Method**.

3 Press the ► button and then use ▲ or ▼ button to select either **Normal**, **Orbiter**, **Inversion**, or **White Wash**.

■ **Normal**

If image sticking is never a problem, ISM is not necessary - set to Normal.

■ **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 ghost image on the screen, the image will move once per 2 minutes : Left → Right → Upside → Downside → Right → Left → Downside → Upside.

■ **Inversion**

Inversion will automatically invert the plasma display panel color every 30 minutes.

■ **White Wash**

White Wash removes ghost images from the screen.

Use sparingly. Watch the TV normally for a while before using this feature to see if the ghost image disappears on its own.

❗ NOTE

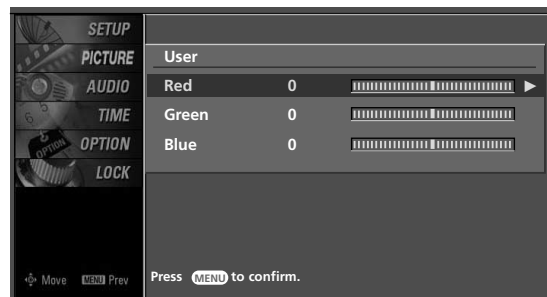► An excessive ghosted image may be impossible to clear entirely with White Wash. To return to normal viewing, press the any button.

4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

SETUP
PICTURE
AUDIO
TIME
OPTION
LOCK

Language	: English
Input Label	
SimpLink	: Off
Key Lock	: Off
Caption	: Off
ISM Method	: Orbiter
Low Power	: Off
Front Display	: Bright
Set ID	: 1

Move MENU Prev

SETUP
PICTURE
AUDIO
TIME
OPTION
LOCK

Language
Input Label
SimpLink
Key Lock
Caption
ISM Method ►
Low Power
Front Display
Set ID

Normal
✓ Orbiter
Inversion
White Wash

Move MENU Prev

PICTURE CONTROL
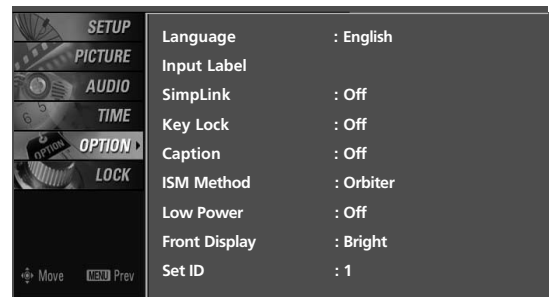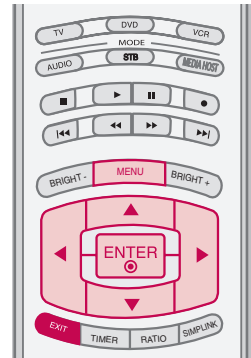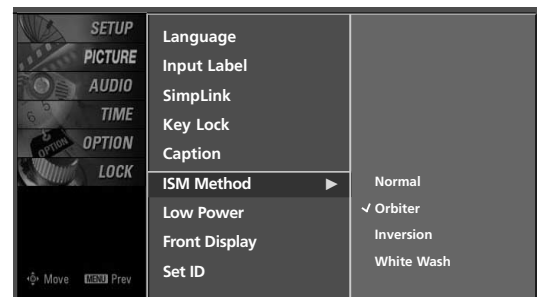
LOW - POWER PICTURE MODE *- Plasma TV only*

Low power reduces the plasma display power consumption.
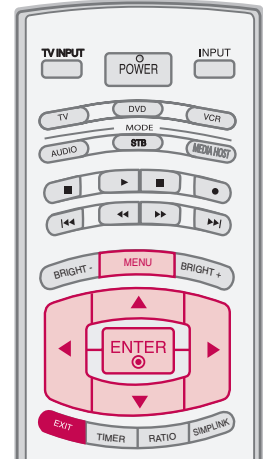
① Press the **MENU** button and then use ▲ or ▼ button to select the **OPTION** menu.

② Press the ► button and then use ▲ or ▼ button to select **Low Power**.

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

■ When you select **On**, the screen darkens.

④ Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

SETUP	Language	: English
PICTURE	Input Label	
AUDIO	SimpLink	: Off
TIME	Key Lock	: Off
OPTION ►	Caption	: Off
LOCK	ISM Method	: Orbiter
	Low Power	: Off
	Front Display	: Bright
◁·Move MENU Prev	Set ID	: 1

①

SETUP	Language	
PICTURE	Input Label	
AUDIO	SimpLink	
TIME	Key Lock	
OPTION	Caption	
LOCK	ISM Method	
	Low Power ►	✓ Off
	Front Display	On
◁·Move MENU Prev	Set ID	

② ③

PICTURE CONTROL

FRONT DISPLAY *- Plasma TV only*

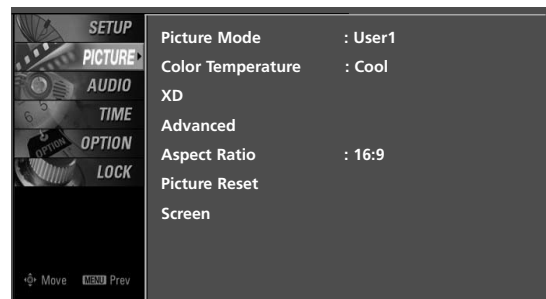**Illuminates brightly when the set is turned on. The LED displays current TV status.**
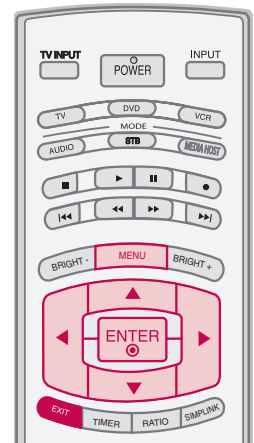
1 Press the **MENU** button and then use ▲ or ▼ button to select the **OPTION** menu.

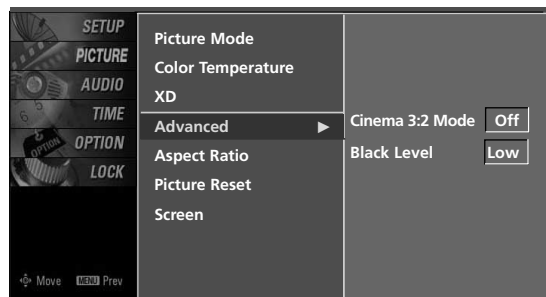**2** Press the ▶ button and then use ▲ or ▼ button to select **Front Display**.

3 Press the ▶ button and then use ▲ or ▼ button to select **Off**, **Dark** or **Bright**.

**4** Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

SETUP	Language : English
PICTURE	Input Label
AUDIO	SimpLink : Off
TIME	Key Lock : Off
OPTION ▶	Caption : Off
LOCK	ISM Method : Orbiter
	Low Power : Off
	Front Display : Bright
Move MENU Prev	Set ID : 1

1

SETUP	Language	
PICTURE	Input Label	
AUDIO	SimpLink	
TIME	Key Lock	
OPTION	Caption	
LOCK	ISM Method	
	Low Power	Off
	Front Display ▶	Dark
Move MENU Prev	Set ID	✓ Bright

2 **3** **4**

64

SOUND & LANGUAGE CONTROL

AUTO VOLUME LEVELLER (AUTO VOLUME)

Scans for changes in sound levels during commercials, then adjusts the sound to match the specified audio level.

Auto Volume makes sure that the volume level remains consistent whether you are watching a commercial or a regular TV program.
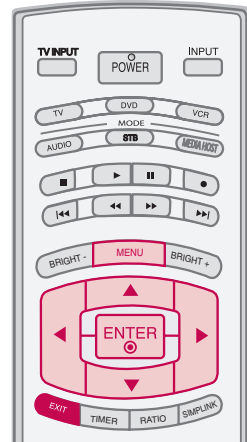
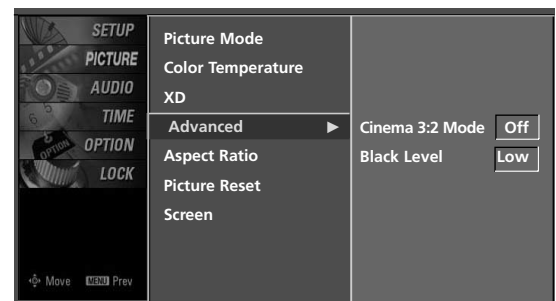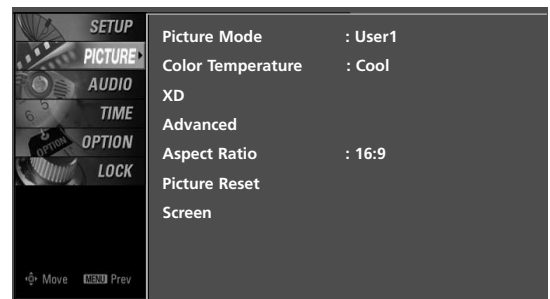**1** Press the **MENU** button and then use ▲ or ▼ button to select the **AUDIO** menu.

2 Press the ► button and then use ▲ or ▼ button to select **Auto Volume**.

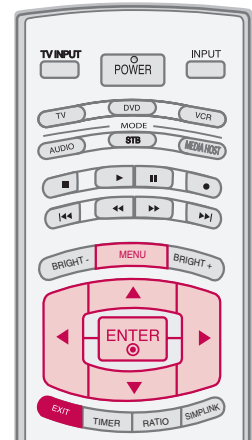**3** Press the ► button and then use ▲ or ▼ button to select **On** or **Off**.

4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

65
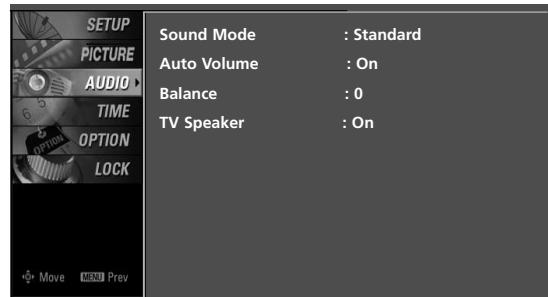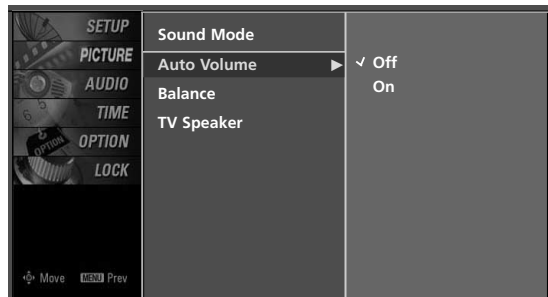
PRESET SOUND SETTINGS (SOUND MODE)

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

Standard, **Music**, **Movie**, and **Sports** are preset for good sound quality at the factory and are not adjustable.
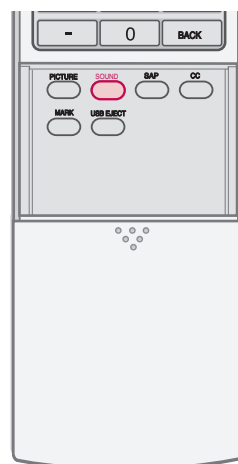
1 Press the **SOUND** button repeatedly to select the appropriate sound setup as below :
Standard, **Music**, **Movie**, **Sports**, and **User** (your own settings).

2 Press **EXIT** button to return to TV viewing.

■ You can also adjust **Sound Mode** in the **AUDIO** menu.

SETUP		
PICTURE		
AUDIO ▶	Sound Mode	: Standard
TIME	Auto Volume	: On
OPTION	Balance	: 0
LOCK	TV Speaker	: On

♦ Move **MENU** Prev

SETUP		
PICTURE	Sound Mode ▶	✓ Standard
AUDIO	Auto Volume	Music
TIME	Balance	Movie
OPTION	TV Speaker	Sports
LOCK		User

♦ Move **MENU** Prev

SOUND SETTING ADJUSTMENT - USER MODE

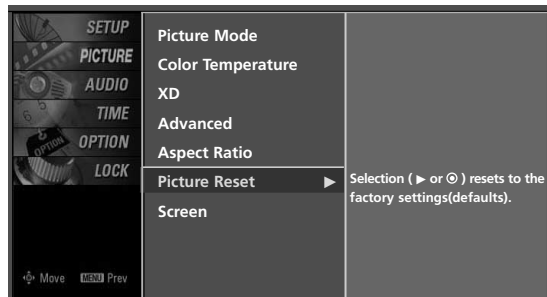**Adjust the sound to suit your taste and room situations.**

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

2 Press the ▶ button and then use ▲ or ▼ button to select **Sound Mode**.

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

4 Press the ▶ button and then use ▲ or ▼ button to select the desired sound option (**Treble**, **Bass**, or **Front Surround**).

5 Press the ▶ button and then use ◄ or ▶ button to make appropriate adjustments.

Selecting the Front surround

Press the ▶ button and then use ◄ or ▶ button to select **Off**, **3D EchoSound System** or **SRS** (Sound Retrieval System) **TruSurround XT**.

6 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

SRS TruSurround XT

Takes advantage of any multi-channel format without needing to add extra speakers or equipment. Dialog clarity, bass enrichment, and the addition of stereo audio enhancement produces an immersive sound experience from standard stereo material.

3D EchoSound System

Creates a stunning simulated stereo effect from any mono sound and a realistic three-dimensional sound with a very wide and deep sound stage.

SETUP	Sound Mode	: Standard
PICTURE	Auto Volume	: On
AUDIO ▶	Balance	: 0
TIME	TV Speaker	: On
OPTION		
LOCK		

◆ Move MENU Prev

❶

SETUP	Sound Mode	Standard
PICTURE	Auto Volume	Music
AUDIO	Balance	Movie
TIME	TV Speaker	Sports
OPTION		√ User ▶
LOCK		

Selection (▶ or ◉) leads you to the detailed setting screen.

◆ Move MENU Prev

❷ ❸

SETUP	
PICTURE	User
AUDIO	Treble 50 ▶
TIME	Bass 50
OPTION	Front Surround Off
LOCK	

Press MENU to confirm.

◆ Move MENU Prev

❹

SETUP	
PICTURE	
AUDIO	
TIME	Front Surround ◄ 3D EchoSound System ▶
OPTION	
LOCK	

◆ Move MENU Prev

❺

SOUND & LANGUAGE CONTROL

BALANCE

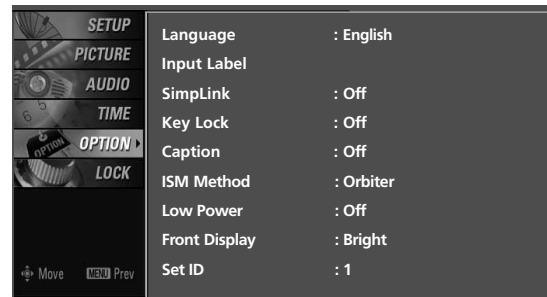**Adjust the left/right sound of speaker to suit your taste and room situations.**
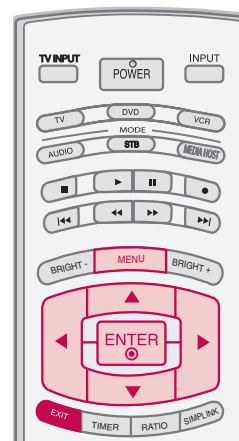
1 Press the **MENU** button and then use ▲ or ▼ button to select the **AUDIO** menu.

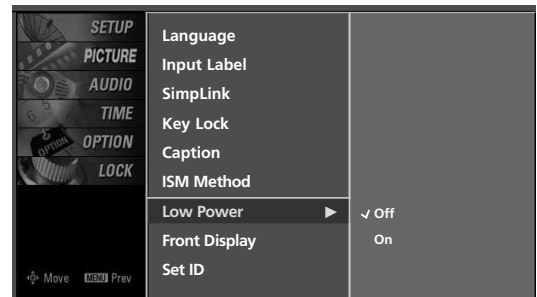**2** Press the ► button and then use ▲ or ▼ button to select **Balance**.

3 Press the ► button and then use ◄ or ► button to make appropriate adjustments.

4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

Sound Mode	: Standard
Auto Volume	: On
Balance	: 0
TV Speaker	: On

Sound Mode
Auto Volume
Balance   0   L ───────── R
TV Speaker

Balance   0   ◄ L ───────── R ►

TV SPEAKERS ON/OFF SETUP

Turn the TV speakers off if using external audio equipment.
Feature turns the TV Speakers option On or Off.

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

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

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

4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

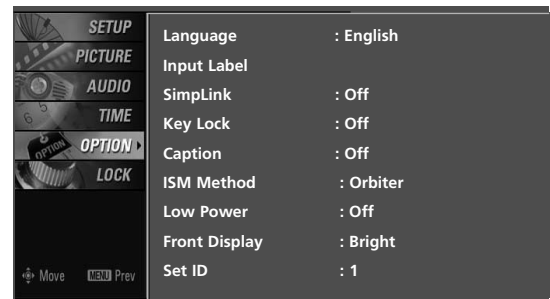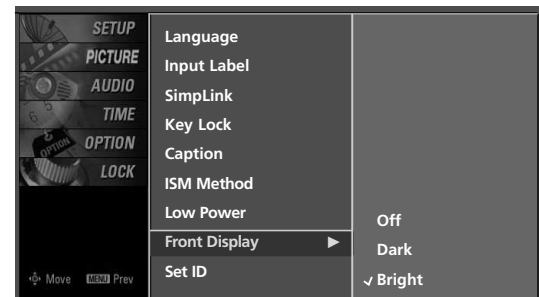| SETUP PICTURE AUDIO TIME OPTION LOCK | Sound Mode | : Standard |
	Auto Volume	: On
	Balance	: 0
	TV Speaker	: On
⬦ Move MENU Prev		

❶

SETUP PICTURE AUDIO TIME OPTION LOCK	Sound Mode	
	Auto Volume	
	Balance	
	TV Speaker ▶	✓ Off
		On
⬦ Move MENU Prev		

❷ ❸

STEREO/SAP BROADCAST SETUP

This TV can receive MTS stereo programs and any SAP (Secondary Audio Program) that accompanies the stereo program if the station transmits an additional sound signal as well as the original one and when you select Stereo or SAP on the remote control.

Mono sound is automatically received if the broadcast is only in Mono; even though Stereo or SAP has been selected.

Select Mono if you want to listen to the mono sound in remote areas during stereo/SAP broadcasting.

Stereo or SAP can be received in Analog channel.
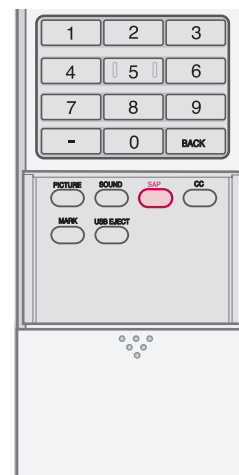
1   Use the **SAP** button to select your desired MTS mode in analog signal. Each time you press the **SAP** button, **Mono**, **Stereo**, or **SAP** appear in turn.

■ If other languages available on the digital signal, select them with the **SAP** button.

2   Press **EXIT** button to save and return to TV viewing.

AUDIO LANGUAGE

Other languages may be available if a digital signal is pro-
vided by the broadcasting station.
This feature operates only in DTV/CADTV mode.
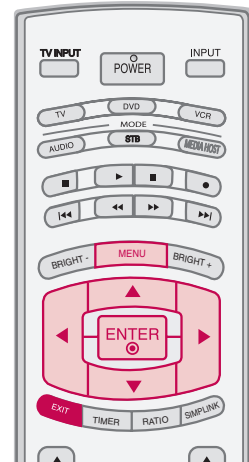
**1** Press the **MENU** button and then use ▲ or ▼ button
to select the **OPTION** menu.

2 Press the ▶ button and then use ▲ or ▼ button to
select **Language**.

3 Press the ▶ button and then use ▲ or ▼ button to
select **Audio**.

4 Use ◀ or ▶ button to select : **English**, **Spanish**, or
French.

5 Press **EXIT** button to return to TV viewing or press
MENU button to return to the previous menu.

ON-SCREEN MENUS LANGUAGE SELECTION

The menus can be shown on the screen in the selected language. First select your language.
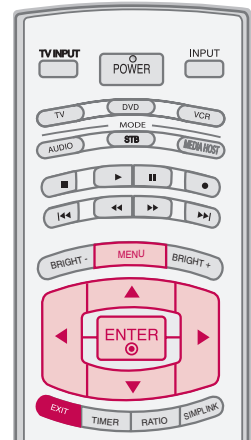
1 Press the **MENU** button and then use ▲ or ▼ button to select the **OPTION** menu.

2 Press the ► button and then use ▲ or ▼ button to select **Language.**

3 Press the ► button and then use ▲ or ▼ button to select **Menu.**

4 Use ◄ or ► button to select your desired language. From this point on, the on-screen menus will be shown in the selected language.

5 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

Language	: English
Input Label	
SimpLink	: Off
Key Lock	: Off
Caption	: Off
ISM Method	: Orbiter
Low Power	: Off
Front Display	: Bright
Set ID	: 1

1

Language	►	
Input Label		Menu English
SimpLink		Audio English
Key Lock		
Caption		
ISM Method		
Low Power		
Front Display		
Set ID		

2 3

Language		
Input Label		Menu ◄ English ►
SimpLink		Audio English
Key Lock		
Caption		
ISM Method		
Low Power		
Front Display		
Set ID		

4

CAPTION MODE

Caption must be provided to help people with hearing loss watch TV.

1 Use the **CC** button to select Caption **On** or **Off**.

   ■ When selecting **Off**, Sub-menus for Analog, DTV, and Digital Option become disabled.

2 Press **EXIT** to save and return to TV viewing.

■ You can also adjust **Caption** in the **OPTION** menu.

SETUP	
PICTURE	Language : English
AUDIO	Input Label
TIME	SimpLink : Off
OPTION ▶	Key Lock : Off
LOCK	Caption : Off
	ISM Method : Orbiter
	Low Power : Off
	Front Display : Bright
♦ Move MENU Prev	Set ID : 1

SETUP		
PICTURE	Language	
AUDIO	Input Label	
TIME	SimpLink	
OPTION	Key Lock	
LOCK	Caption ▶	Mode On
	ISM Method	Analog Text1
	Low Power	Digital Service3
	Front Display	Digital Option
♦ Move MENU Prev	Set ID	

SOUND &LANGUAGE CONTROL

Analog Broadcasting System Captions

Select a caption mode for displaying captioning information if provided on a program. Analog caption displays information at any position on the screen and is usually the program's dialog.

Caption/Text, if provided by the broadcaster, would be available for both digital and analog channels on the Antenna/Cable.

This TV is programmed to memorize the caption/text mode which was last set when you turn the power off.

This function is only available when **Caption** Mode is set **On**.
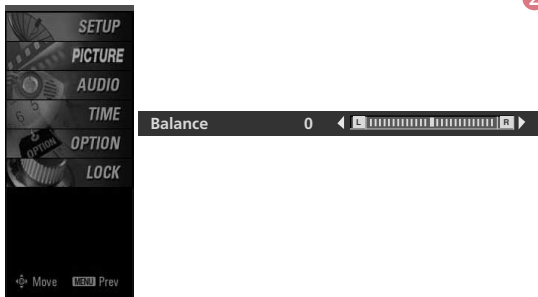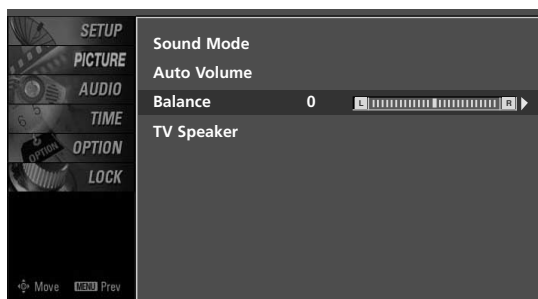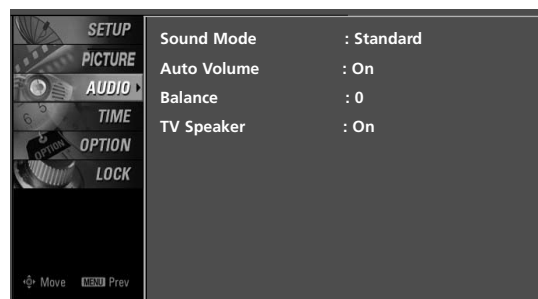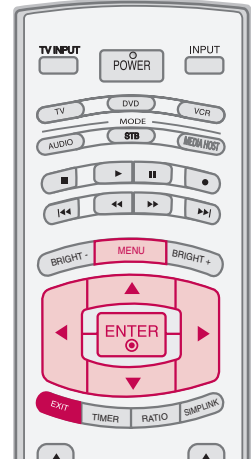
---

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

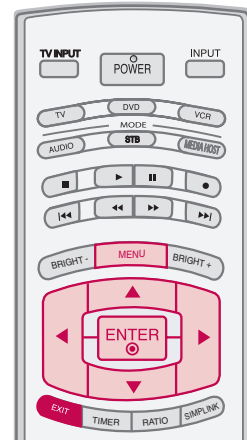**2** Press the ► button and then use ▲ or ▼ button to select **Caption.**

---

3 Press the ► button and then use ▲ or ▼ button to select **Analog.**

---

4 Use ◄ or ► button to select **CC1**, **CC2**, **CC3**, **CC4**, **Text1**, **Text2**, **Text3** or **Text4**

■ **CAPTION**
The term for the words that scroll across the bottom of the TV screen; usually the audio portion of the program provided for the hearing impaired.

■ **TEXT**
The term for the words that appear in a large black frame and almost cover the entire screen; usually messages provided by the broadcaster.

---

5 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

SETUP		
PICTURE	Language	: English
AUDIO	Input Label	
TIME	SimpLink	: Off
OPTION	Key Lock	: Off
LOCK	Caption	: Off
	ISM Method	: Orbiter
	Low Power	: Off
	Front Display	: Bright
◆ Move MENU Prev	Set ID	: 1

❶

SETUP		
PICTURE	Language	
AUDIO	Input Label	
TIME	SimpLink	
OPTION	Key Lock	
LOCK	Caption	Mode On
	ISM Method	Analog ◄ Text1 ►
	Low Power	Digital Service3
	Front Display	Digital Option
◆ Move MENU Prev	Set ID	

❷ ❸ ❹
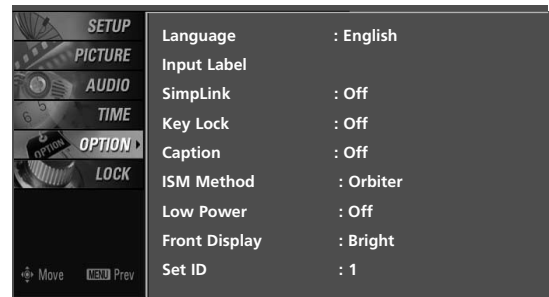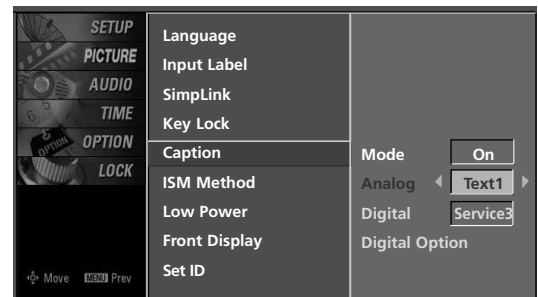
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Digital Broadcasting System Captions

Choose the language you want the DTV/CADTV Captions to appear in.

Other Languages can be chosen for digital sources only if they are included on the program.

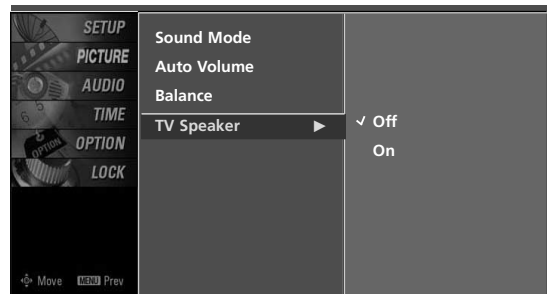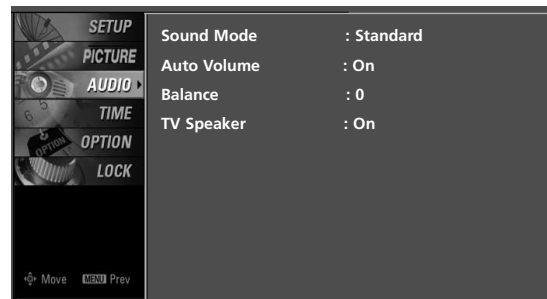This function in only available when **Caption** Mode is set **On**.

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

2 Press the ► button and then use ▲ or ▼ button to select **Caption**.

3 Press the ► button and then use ▲ or ▼ button to select **Digital**.

4 Use ◄ or ► button to select **Service1 ~ Service6**.

5 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

SETUP	Language	: English
PICTURE	Input Label	
AUDIO	SimpLink	: Off
TIME	Key Lock	: Off
OPTION	Caption	: Off
LOCK	ISM Method	: Orbiter
	Low Power	: Off
	Front Display	: Bright
Move MENU Prev	Set ID	: 1

1

SETUP	Language		
PICTURE	Input Label		
AUDIO	SimpLink		
TIME	Key Lock		
OPTION	Caption	Mode	On
LOCK	ISM Method	Analog	Text1
	Low Power	Digital ◄ Service3 ►	
	Front Display	Digital Option	
Move MENU Prev	Set ID		

2 **3** **4**

Caption Option

Customize the DTV/CADTV captions that appear on your screen.
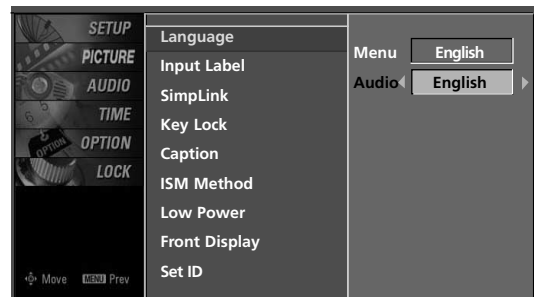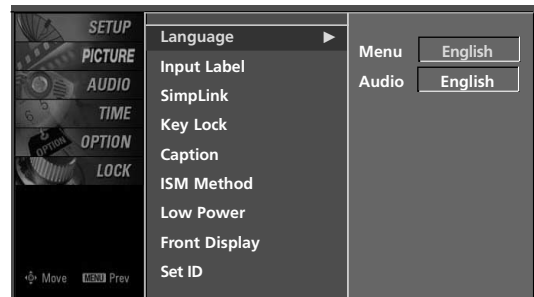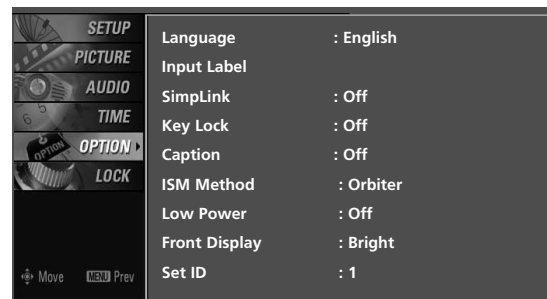**This function in only available when Caption Mode is set On.**
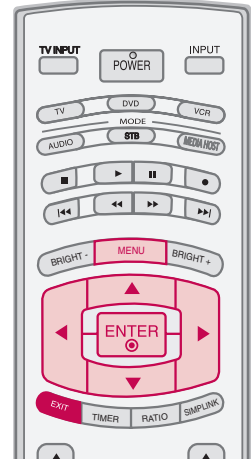
1 Press the **MENU** button and then use ▲ or ▼ button to select the **OPTION** menu.

2 Press the ► button and then use ▲ or ▼ button to select **Caption**.

3 Press the ► button and then use ▲ or ▼ button to select **Digital Option**.

4 Press the ► button and then use ◄ or ► button to select **Custom**.

5 Use ▲ or ▼ button to customize the **Style**, **Font**, etc., to your preference.
A preview icon is provided at the bottom of the screen, use it to see the caption language.

- ■ **Size** : Set the word size.
- ■ **Font** : Select a typeface for the text.
- ■ **Text Color** : Choose a color for the text.
- ■ **Text Opacity** : Specify the opacity for the text color.
- ■ **Bg (Background) Color** : Select a background color.
- ■ **Bg (Background) Opacity** : Select the opacity for the background color.
- ■ **Edge Type** : Select an edge type.
- ■ **Edge Color** : Select a color for the edges.

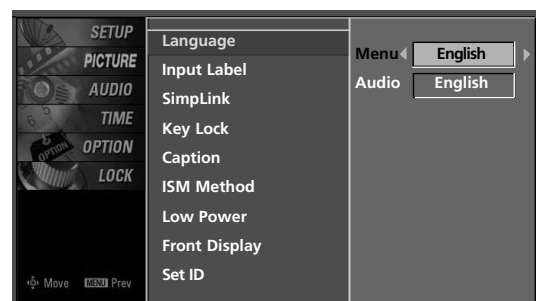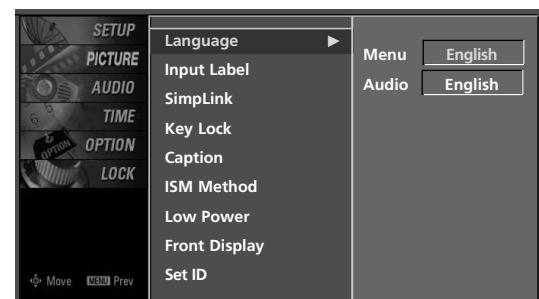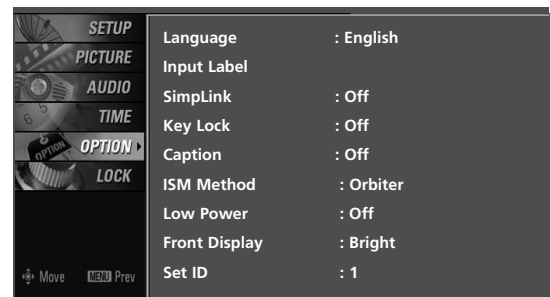**6** Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

Screen 1

SETUP / PICTURE / AUDIO / TIME / OPTION / LOCK	
Language	: English
Input Label	
SimpLink	: Off
Key Lock	: Off
Caption	: Off
ISM Method	: Orbiter
Low Power	: Off
Front Display	: Bright
Set ID	: 1

Move　MENU Prev

Screen 2 / 3

Language / Input Label / SimpLink / Key Lock / **Caption** / ISM Method / Low Power / Front Display / Set ID

Mode	On
Analog	Text1
Digital	Service3
Digital Option	►

Selection (► or ⊙) leads you to the Caption Option screen.

Screen 4 / 5

Style	◄ Custom ►
Size	Ⓐ Standard
Font	Font 0
Text Color	White
Text Opacity	Solid
Bg Color	Black
Bg Opacity	Solid
Edge Type	None
Edge Color	Black

TIME SETTING

CLOCK SETTING

Auto Clock Setup

The time is set automatically from a digital channel signal.

The digital channel signal includes information for the current time provided by the broadcasting station.

Set the clock manually if the current time is set incorrectly by the auto clock function.
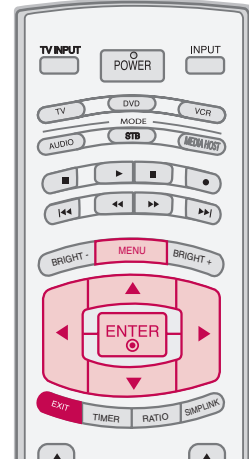
1 Press the **MENU** button and then use ▲ or ▼ button to select the **TIME** menu.

2 Press the ► button and then use ▲ or ▼ button to select **Clock**.

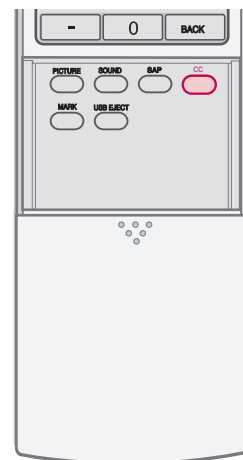**3** Press the ► button and then use ▲ or ▼ button to select **Auto**.

4 Press the ► button and then use ▲ or ▼ button to select your viewing area time zone:

　U.S.A : **Eastern**, **Central**, **Mountain**, **Pacific**,
　　　　　 Alaska or **Hawaii**.

　Canada : **Eastern**, **Central**, **Mountain**, **Pacific**,
　　　　　 New F.land or **Atlantic**.

5 Press the ► button and then use ▲ or ▼ button to select **Auto**, **Off**, **On**, depending on whether or not your viewing area observes Daylight Saving time.

6 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.
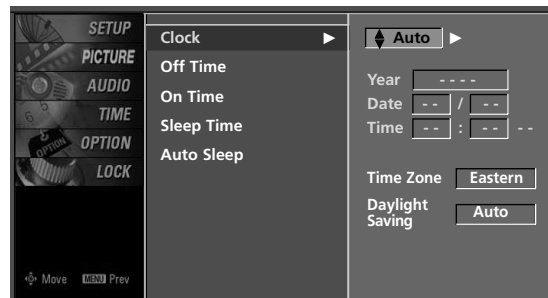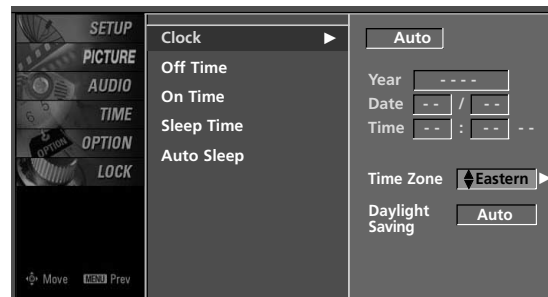
Manual Clock Setup

If the current time setting is wrong, reset the clock manually.
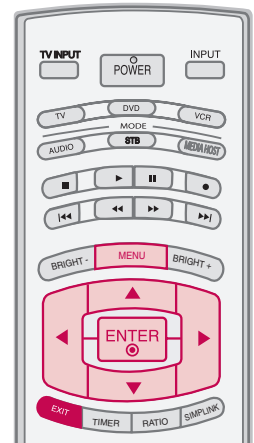
① Press the **MENU** button and then use ▲ or ▼ button to select the **TIME** menu.

② Press the ▶ button and then use ▲ or ▼ button to select **Clock**.

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

④ Press the ▶ button and then use ◀ or ▶ button to select either the year, date, or time option. Once selected, use the ▲ or ▼ button to set the year, date, and time options.

⑤ Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

SETUP		
PICTURE	Clock	: Oct 19, 2007, 03:44 AM
AUDIO	Off Time	: Off
TIME ▶	On Time	: Off
OPTION	Sleep Time	: Off
LOCK	Auto Sleep	: Off

◈ Move   MENU Prev

❶

SETUP	Clock ▶	◆ Manual ▶
PICTURE	Off Time	
AUDIO	On Time	Year - - - -
TIME	Sleep Time	Date - - / - -
OPTION	Auto Sleep	Time - - : - - - -
LOCK		

◈ Move   MENU Prev

❷ ❸

78
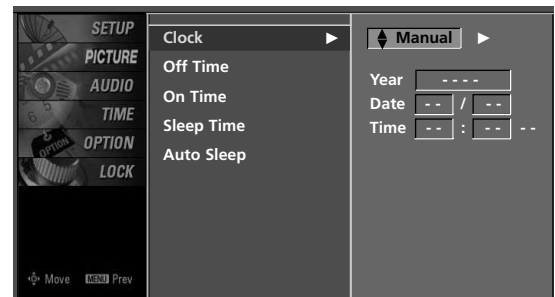
AUTO ON/OFF TIME SETTING

This function operates only if the current time has been set.
The **Off Time** function overrides the **On Time** function if they are both set to the same time.
The TV must be in standby mode for the **On Time** to work.
If you do not press any button within 2 hours after the TV turns on with the **On Time** function, the TV will automatically revert to standby mode.
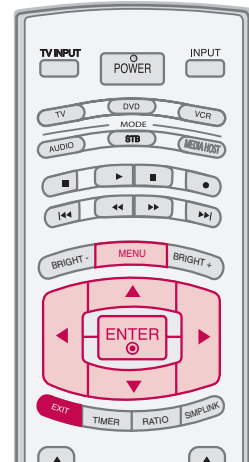
1 Press the **MENU** button and then use ▲ or ▼ button to select the **TIME** menu.

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

3 Press the ▶ button and then use ▲ or ▼ button to select **On**.
■ To cancel the **On/Off time** function, select **Off**.

4 Press the ▶ button and then use ▲ or ▼ button to the hour.

5 Press the ▶ button and then use ▲ or ▼ button to the minutes.

6 **Only On Time**
Press the ▶ button and then use ▲ or ▼ button to select the channel at turn-on.

Press the ▶ button and then use ▲ or ▼ button to the sound level at turn-on.

7 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

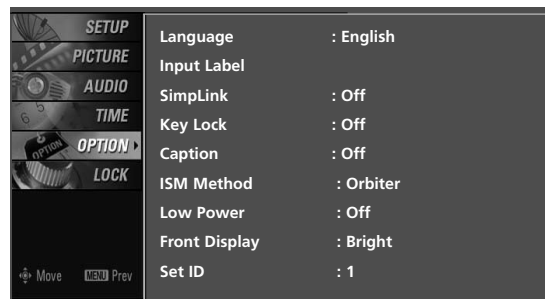|	
Clock	: Oct 19, 2007, 03:44 AM
Off Time	: Off
On Time	: Off
Sleep Time	: Off
Auto Sleep	: Off

Clock
Off Time
On Time ▶ Off
Sleep Time ✓ On
Auto Sleep

Time 6 : 30 AM
Ch. TV 2-0
Vol 17
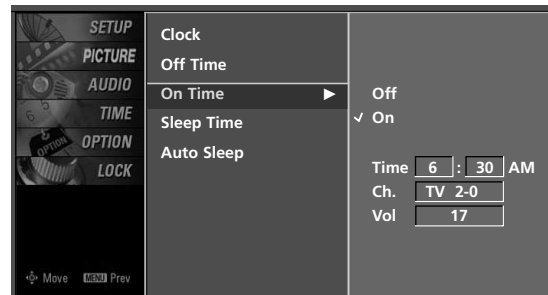
TIME SETTING

SLEEP TIME SETTING

The Sleep Time turns the TV off at the preset time.
Note that this setting is cleared when the TV is turned off.
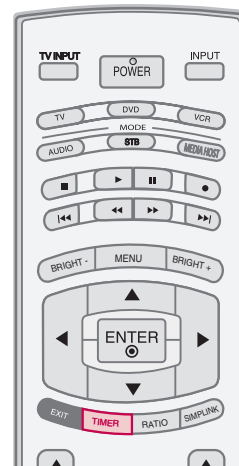
1 Press the **TIMER** button repeatedly to select the number of minutes. First the **Off** option appears on the screen, followed by the following sleep time options : 10, 20, 30, 60, 90, 120, 180, and 240 minutes.

2 When the number of minutes you want is displayed on the screen, press the **ENTER** button. The timer begins to count down from the number of minutes selected.

3 To check the remaining minutes before the TV turns off, press the **TIMER** button once.

4 To cancel the Sleep Time, press the **TIMER** button repeatedly to select **Off**.

■ You can also set up the **Sleep Time** in the **TIME** menu.

SETUP	Clock	: Oct 19, 2006, 03:44 AM
PICTURE	Off Time	: Off
AUDIO	On Time	: Off
TIME	Sleep Time	: Off
OPTION	Auto Sleep	: Off
LOCK		

SETUP	Clock	✓ Off
PICTURE	Off Time	10 min
AUDIO	On Time	20 min
TIME	Sleep Time ▶	30 min
OPTION	Auto Sleep	60 min
LOCK		90 min
		120 min
		180 min
		240 min

TIME SETTING

80
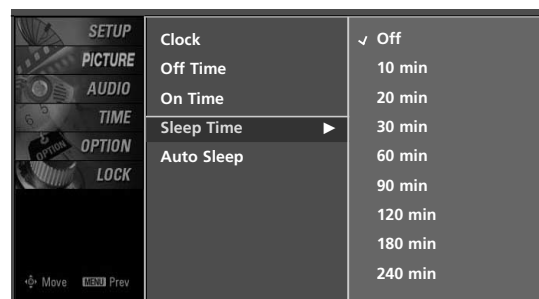
AUTO SHUT-OFF SETTING

TV will be automatically turned off, in case of No Signal for 10 minutes.
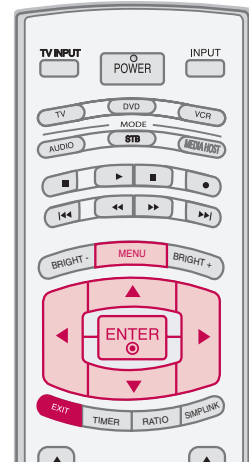
❶ Press the **MENU** button and then use ▲ or ▼ button to select the **TIME** menu.

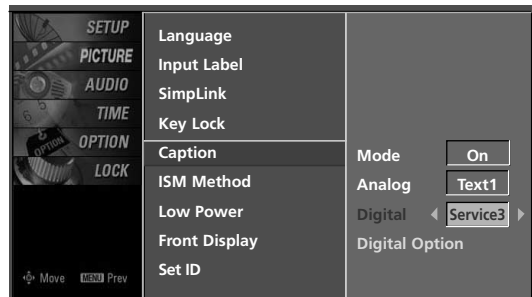❷ Press the ► button and then use ▲ or ▼ button to select **Auto Sleep**.

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

❹ Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

SETUP	Clock	: Oct 19, 2007, 03:44 AM
PICTURE	Off Time	: Off
AUDIO	On Time	: Off
TIME ▸	Sleep Time	: Off
OPTION	Auto Sleep	: Off
LOCK		

◈ Move MENU Prev

❶

SETUP	Clock	
PICTURE	Off Time	
AUDIO	On Time	**TV will be automatically turned off, in case of No Signal for 10 minutes.**
TIME	Sleep Time	
OPTION	Auto Sleep ►	✓ Off
LOCK		On

◈ Move MENU Prev

❷ ❸

TIME SETTING

81
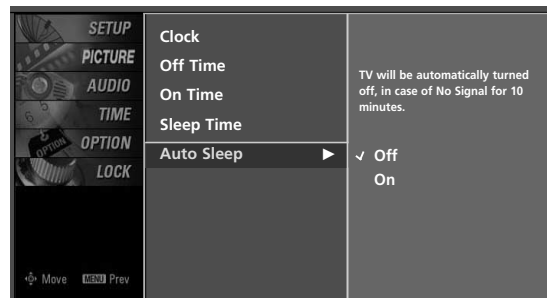
PARENTAL CONTROL / RATINGS

Parental Control can be used to block specific channels, ratings and other viewing sources.

The Parental Control Function (V-Chip) is used to block program viewing based on the ratings sent by the broadcasting station. The default setting is to allow all programs to be viewed. Viewing can be blocked by choosing the type of the program and the categories. It is also possible to block all program viewing for a time period. To use this function, the following must be done :

1. Set ratings and categories to be blocked.
2. Specify a password
3. Enable the lock

V-Chip rating and categories

Rating guidelines are provided by broadcasting stations. Most television programs and television movies can be blocked by TV Rating and/or Individual Categories. Movies that have been shown at the theaters or direct-to-video movies use the Movie Rating System (MPAA) only.

Ratings for Television programs including made-for-TV movies :

- TV-G   (General audience)
- TV-PG (Parental guidance suggested)
- TV-14 (Parents strongly cautioned)

- TV-MA (Mature audience only)
- TV-Y   (All children)
- TV-Y7 (Children 7 years older)

SET PASSWORD & LOCK SYSTEM

Setting up Your Password

Set up blocking schemes to block specific channels, ratings, and external viewing sources.
A password is required to gain access to this menu.

1 Press the **MENU** button and then use the ▲ or ▼ button to select the **LOCK** menu. Then, press the ▶ button.

- Enter the password as requested.
- The TV is set up with the initial password "0-0-0-0".

Enter Password

| * | * | * | * |
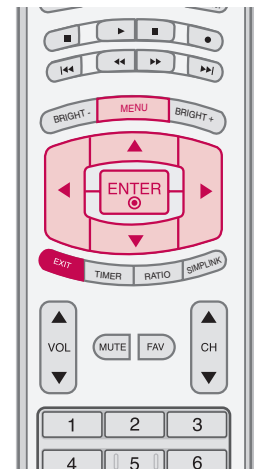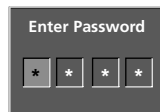
Set Password

Change the password by inputting a new password twice.

1 After inputting the password, use the ▲ or ▼ button to choose **Set password**.

2 Press the ► button and then choose any 4 digits for your new password.

As soon as the 4 digits are entered, re-enter the same 4 digits on the **Confirm**.

Then your changed password has been memorized.

3 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

For USA

SETUP PICTURE AUDIO TIME OPTION LOCK	Lock System : Off Set Password Block Channel Movie Rating TV Rating-Children TV Rating-General Input Block

For Canada

Lock System : Off Set Password Block Channel TV Rating-English TV Rating-French Input Block

1

SETUP PICTURE AUDIO TIME OPTION LOCK	Lock System Set Password ► Block Channel Movie Rating TV Rating-Children TV Rating-General Input Block	New * * * * Confirm * * * *
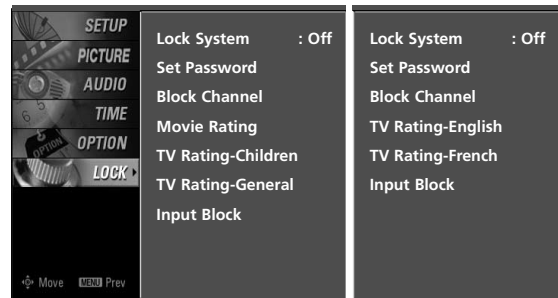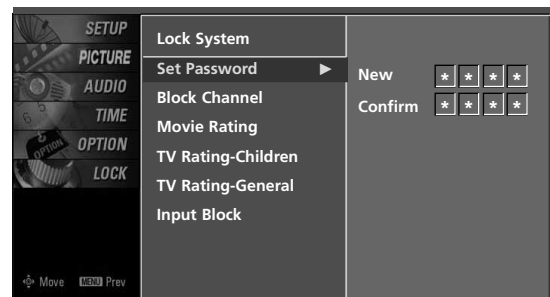
2

Lock System

Enables or disables the blocking scheme you set up previously.

1 After inputting the password, use the ▲ or ▼ button to choose **Lock System**.

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

■ When you select **On**, the Lock System is enable.

3 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

For USA

SETUP PICTURE AUDIO TIME OPTION LOCK	Lock System : Off Set Password Block Channel Movie Rating TV Rating-Children TV Rating-General Input Block

For Canada

Lock System : Off Set Password Block Channel TV Rating-English TV Rating-French Input Block

1

SETUP PICTURE AUDIO TIME OPTION LOCK	Lock System ► Set Password Block Channel Movie Rating TV Rating-Children TV Rating-General Input Block	✓ Off On

2
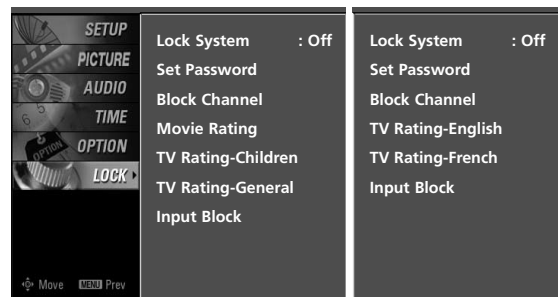
CHANNEL BLOCKING

Blocks any channels that you do not want to watch or that you do not want your children to watch.

1 After inputting the password, use the ▲ or ▼ button to choose **Block Channel**.

2 Press the ▶ button. You will now see a screen filled with channel numbers and a preview picture.

3 Use ▲ ▼ ◀ ▶ button to select a channel and then use the **ENTER** button to block or unblock it.

4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.
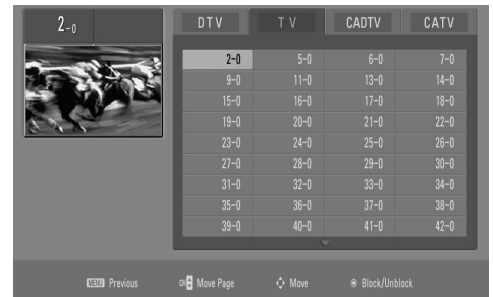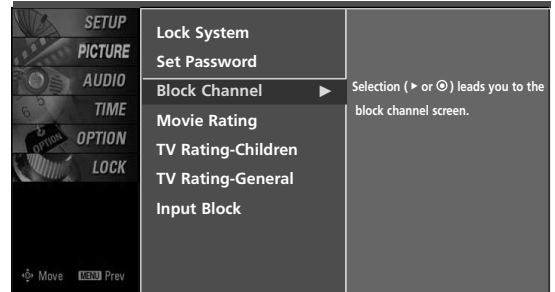
EXTERNAL INPUT BLOCKING

Enables you to select a source to block from the external source devices you have hooked up.

1 After inputting the password, use the ▲ or ▼ button to choose **Input Block**.

2 Press the ▶ button and then use the ▲ or ▼ button to select a source.

3 Use the ◀ or ▶ button to select **On** or **Off** on the each source.

4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.
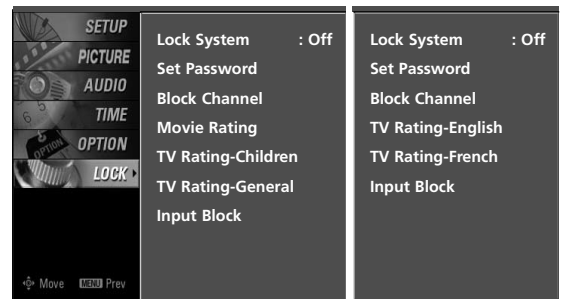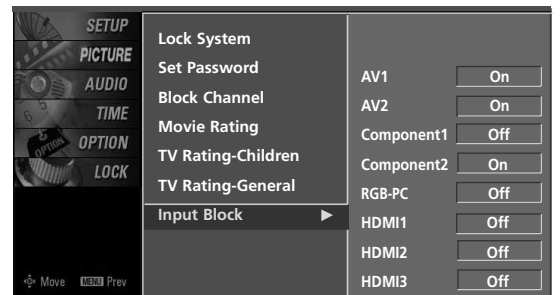
MOVIE & TV RATING

Movie Rating (MPAA) *- for USA only*

Blocks movies according to the movie ratings limits speci-
fied, so children cannot view certain movies. You can set
the ratings limit by blocking out all the movies with the
ratings above a specified level. Keep in mind that the
movie ratings limit only applies to movies shown on TV,
not TV programs, such as soap operas.
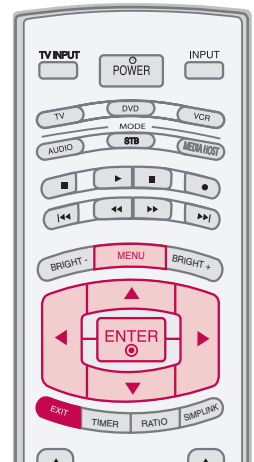
1 After inputting the password, use the ▲ or ▼ button
to choose **Movie Rating**.

2 Press the ▶ button and then use the ▲ or ▼ button
to select **G**, **PG**, **PG-13**, **R**, **NC-17** or **X**.

- ■ G (General audience)
- ■ PG (Parental guidance suggested)
- ■ PG-13 (Parents strongly cautioned)
- ■ R (Restricted)
- ■ NC-17 (No one 17 and under admitted)
- ■ X (Adult only)
- ■ Blocking Off (Permits all programs)

▶ If you set PG-13 : G and PG movies will be available,
PG-13, R, NC-17 and X will be blocked.

3 Press **EXIT** button to return to TV viewing or press
MENU button to return to the previous menu.

SETUP	Lock System	: Off
PICTURE	Set Password	
AUDIO	Block Channel	
TIME	Movie Rating	
OPTION	TV Rating-Children	
LOCK ▸	TV Rating-General	
	Input Block	

⬩ Move **MENU** Prev

❶

SETUP	Lock System	Blocking off : permits all programs
PICTURE	Set Password	
AUDIO	Block Channel	
TIME	Movie Rating ▶	G
OPTION	TV Rating-Children	PG
LOCK	TV Rating-General	PG-13
	Input Block	R
		NC-17
		X
		Blocking Off

⬩ Move **MENU** Prev

❷
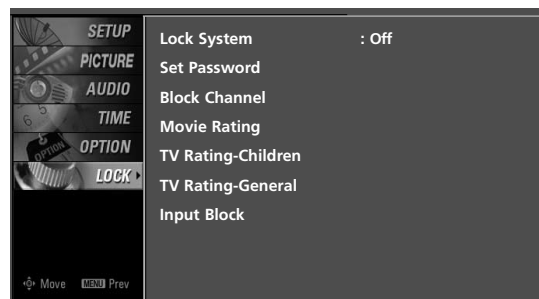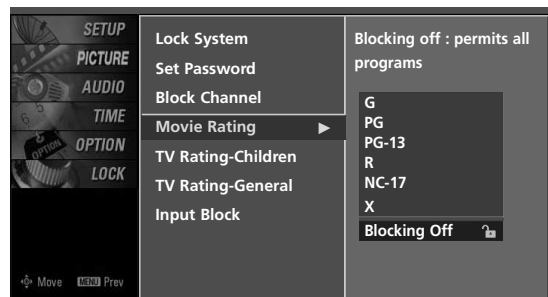
PARENTAL CONTROL /RATINGS

TV Rating Children - *for USA only*

Prevents children from watching certain children's TV programs, according to the ratings limit set. The children rating does not apply to other TV programs. Unless you block certain TV programs intended for mature audiences in the TV Rating - sub menu, your children can view those programs.

1 After inputting the password, use the ▲ or ▼ button to choose **TV Rating-Children**.

2 Press the ▶ button and then use the ▲ or ▼ button to select **Age**, or **Fantasy Violence**.
Press the ▶ button and then use the ▲ or ▼ button to select block options.

- ■ Age(applies to TV-Y, TV-Y7)
- ■ Fantasy Violence(applies to TV-Y7)

3 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

SETUP		
PICTURE	Lock System	: Off
AUDIO	Set Password	
TIME	Block Channel	
OPTION	Movie Rating	
LOCK ▸	TV Rating-Children	
	TV Rating-General	
	Input Block	

◆ Move [MENU] Prev

①

SETUP		
PICTURE	Lock System	
AUDIO	Set Password	
TIME	Block Channel	
OPTION	Movie Rating	
LOCK	TV Rating-Children ▶	✓ Age
	TV Rating-General	Fantasy Violence
	Input Block	

◆ Move [MENU] Prev
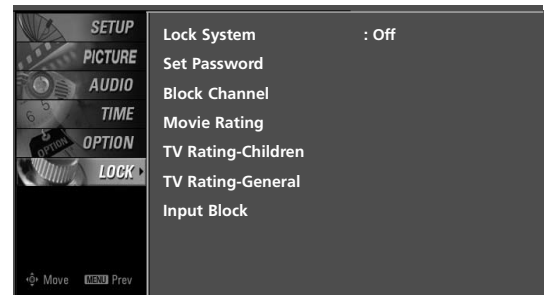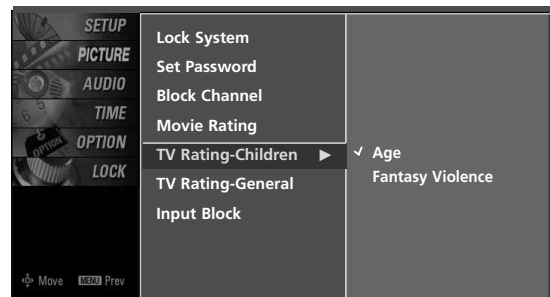
②

TV Rating General - *for USA only*

Based on the ratings, blocks certain TV programs that you and your family do not want to view.

1 After inputting the password, use the ▲ or ▼ button to choose **TV Rating-General**.

2 Press the ▶ button and then use the ▲ or ▼ button to select **Age**, **Dialogue**, **Language**, **Sex** or **Violence**.
Press the ▶ button and then use the ▲ or ▼ button to select block options.

- ■ Age(applies to TV-G,TV-PG,TV-14,TV-MA)
- ■ Dialogue-sexual dialogue (applies to TV-PG,TV-14)
- ■ Language-adult language (applies to TV-PG,TV-14,TV-MA)
- ■ Sex-sexual situations (applies to TV-PG,TV-14,TV-MA)
- ■ Violence (applies to TV-PG,TV-14,TV-MA)

3 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

SETUP		
PICTURE	Lock System	: Off
AUDIO	Set Password	
TIME	Block Channel	
OPTION	Movie Rating	
LOCK ▸	TV Rating-Children	
	TV Rating-General	
	Input Block	

◆ Move [MENU] Prev

①

SETUP		
PICTURE	Lock System	
AUDIO	Set Password	
TIME	Block Channel	
OPTION	Movie Rating	
LOCK	TV Rating-Children	✓ Age
	TV Rating-General ▶	Dialogue
	Input Block	Language
		Sex
		Violence

◆ Move [MENU] Prev
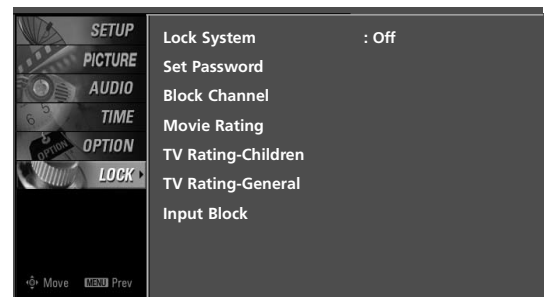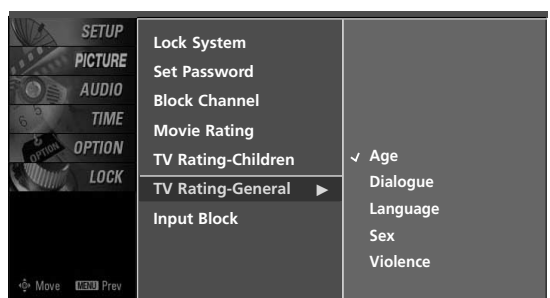
②

TV Rating English - *for CANADA only*

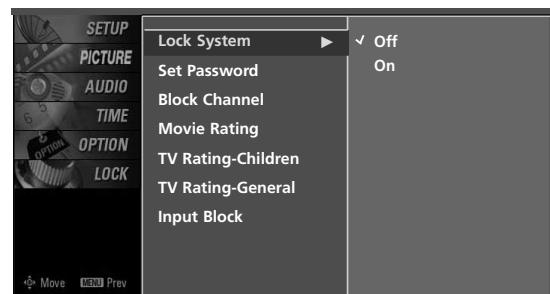**Selecting canadian english language rating system.**

1 After inputting the password, use the ▲ or ▼ button to choose **TV Rating-English**.

2 Press the ▶ button and then use the ▲ or ▼ button to select **E**, **C**, **C8+**, **G**, **PG**, **14+**, **18+**, or **Blocking Off**.

- ■ E (Exempt)
- ■ C (Children)
- ■ C8+ (Children eight years and older)
- ■ G (General programming, suitable for all audiences)
- ■ PG (Parental Guidance)
- ■ 14+ (Viewers 14 years and older)
- ■ 18+ (Adult programming)
- ■ Blocking Off (Permits all programs)

3 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

SETUP	Lock System	: Off
PICTURE	Set Password	
AUDIO	Block Channel	
TIME	TV Rating-English	
OPTION	TV Rating-French	
LOCK	Input Block	

◆ Move [MENU] Prev

❶

SETUP	Lock System	Blocking off : permits all programs
PICTURE	Set Password	
AUDIO	Block Channel	E
TIME	TV Rating-English ▶	C
OPTION	TV Rating-French	C8+
LOCK	Input Block	G
		PG
		14+
		18+
		Blocking Off

◆ Move [MENU] Prev

❷
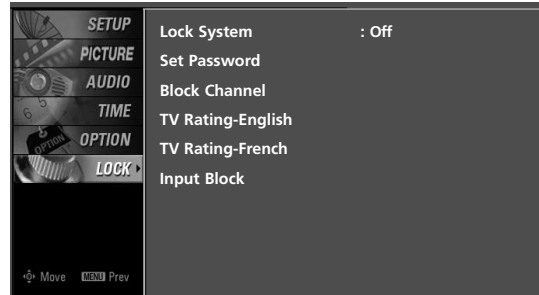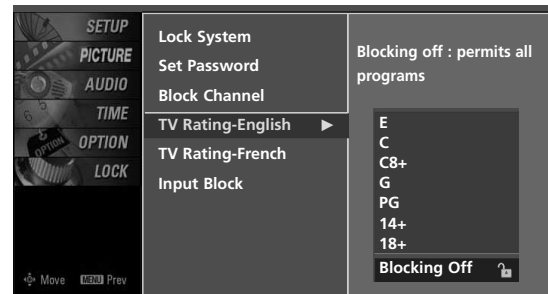
TV Rating French - *for CANADA only*

Selecting canadian french language rating system.

1 After inputting the password, use the ▲ or ▼ button to choose **TV Rating-French**.

2 Press the ▶ button and then use the ▲ or ▼ button to select **E**, **G**, **8ans+**, **13ans+**, **16ans+**, **18ans+**, or **Blocking off**.

- ■ E(Exempt)
- ■ G(General)
- ■ 8ans+ (General-Not convenient for little children)
- ■ 13ans+ (Not convenient for children of 13 years and younger)
- ■ 16ans+ (Not convenient for children of 16 years and younger)
- ■ 18ans+ (This programs is only for adults)
- ■ Blocking off (Permits all programs)

3 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

| SETUP	Lock System	: Off
PICTURE	Set Password	
AUDIO	Block Channel	
TIME	TV Rating-English	
OPTION	TV Rating-French	
LOCK	Input Block	

◆ Move [MENU] Prev

❶

SETUP	Lock System	Blocking off : permits all programs
PICTURE	Set Password	
AUDIO	Block Channel	E
TIME	TV Rating-English	G
OPTION	TV Rating-French ▶	8 ans+
LOCK	Input Block	13 ans+
		16 ans+
		18 ans+
		Blocking Off

◆ Move [MENU] Prev

❷
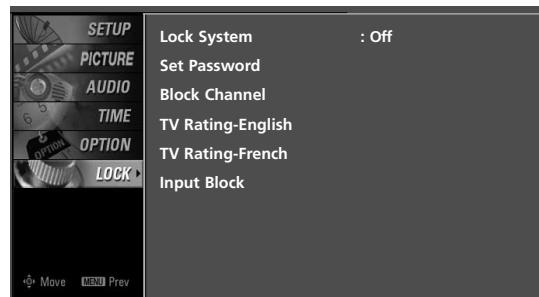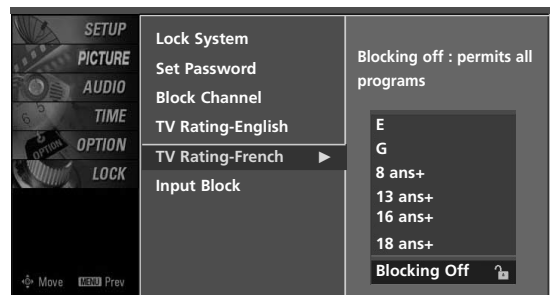
APPENDIX

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. Ensure you are pointing the remote control directly at the TV. ■ Ensure that the batteries are installed with correct polarity (+ to +, - to -). ■ Ensure that the correct remote operating mode is set: TV, VCR etc. ■ Install new batteries.
Power is suddenly turned off	■ Is the sleep timer set? ■ Check the power control settings. Power interrupted. ■ No broadcast on station tuned with Auto off activated.

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

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

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

MAINTENANCE

Early malfunctions can be prevented. Careful and regular cleaning can extend the amount of time you can enjoy your new TV.
Caution: 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.

PRODUCT SPECIFICATIONS

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

MODELS		47LC7DF (47LC7DF-UK)	50PY3D (50PY3DF-UJ)	60PY3D (60PY3DF-UJ)
Dimensions (Width x Height x Depth)	with stand	45.1 x 32.5x 12.1 inches 1144.3 x 825.5 x 306.4mm	53.5 x 35.0 x 14.6 inches 1360.0 x 887.0 x 370.0 mm	63.5 x 40.8 x 17.8 inches 1613.6 x 1036.8 x 452.0 mm
	without stand	45.1 x 29.7 x 4.1 inches 1144.3 x 754.7 x 103.0 mm	53.5 x 32.4 x 3.8 inches 1360.0 x 822.8 x 95.5 mm	63.5 x 38.2 x 3.9 inches 1613.6 x 970.0 x 98.5 mm
Weight	with stand without stand	82.9 pounds / 37.6 kg 69.4 pounds / 31.5 kg	126.8 pounds / 57.5kg 107.0 pounds / 48.5kg	178.6 pounds / 81.0kg 143.3 pounds / 65.0kg
Power requirement Television System Program Coverage External Antenna Impedance		AC100-240V ~ 50/60Hz NTSC-M, ATSC, 64 & 256 QAM VHF 2-13, UHF 14-69, CATV 1-135, DTV 2-69, CADTV 1-135 75 ohm		
Environment condition	Operating Temperature Operating Humidity	32 ~ 104°F (0 ~ 40°C) Less than 80%		
	Storage Temperature Storage Humidity	-4 ~ 140°F (-20 ~ 60°C) Less than 85%		

APPENDIX

MODELS		37LB5D (37LB5DF-UL)	42LB5D (42LB5DF-UL)	47LB5D (47LB5DF-UL)	52LB5D (52LB5DF-UL)
Dimensions (Width x Height x Depth)	with stand	36.5 x 27.3 x 11.1 inches 927.0 x 692.8 x 283.2 mm	40.7 x 29.5 x 11.3 inches 1033.1 x 750.0 x 287.6 mm	45.1 x 32.5 x 13.0 inches 1144.5 x 825.6 x 331.0 mm	50.6 x 35.5 x 14.1 inches 1284.6 x 901.8 x 356.9 mm
	without stand	36.5 x 24.8 x 3.5 inches 927.0 x 630.0 x 88.0 mm	40.7 x 27.0 x 3.5 inches 1033.1 x 686.5 x 88.5 mm	45.1 x 29.7 x 4.1 inches 1144.5 x 754.9 x 103.0 mm	50.6 x 32.7 x 4.4 inches 1284.6 x 831.6 x 111.5 mm
Weight	with stand without stand	44.1 lbs / 20.0kg 35.3 lbs / 16.0kg	60.6 lbs / 27.5kg 50.7 lbs / 23.0kg	82.7 lbs / 37.5kg 69.2 lbs / 31.4kg	106.0 lbs / 48.1kg 89.3 lbs / 40.5kg
Power requirement Television System Program Coverage External Antenna Impedance		AC100-240V ~ 50/60Hz NTSC-M, ATSC, 64 & 256 QAM VHF 2-13, UHF 14-69, CATV 1-135, DTV 2-69, CADTV 1-135 75 ohm			
Environment condition	Operating Temperature Operating Humidity	32 ~ 104°F (0 ~ 40°C) Less than 80%			
	Storage Temperature Storage Humidity	-4 ~ 140°F (-20 ~ 60°C) Less than 85%			

PROGRAMMING THE REMOTE CONTROL

The provided universal remote control can be programmed to operate most remote-controllable devices.
Note that the remote may not control all models of other brands.

Programming a code into a remote mode

1 To find out whether your remote control can operate each device without programming, turn on the device (such as a VCR) and press the corresponding mode button on the remote.
After that, press the **POWER** button. If the device is turned off and it responds properly the remote control need not be programmed. If not, the remote should be programmed to operate the device. The programming procedures are explained below.

2 Press the **MENU** and **MUTE** button continuously at the same time for two seconds; the currently selected device button is illuminated.
If you don't press any button for 20 seconds, the light on the mode button will be turned off. In that case, you have to repeat from step 2.

3 Enter the appropriate code from the code table on the following pages. When pressing the button, the light blinks at a time. If the device turned off, the programming is successful.

4 Press the **MENU** button to store the code. After blinking twice, this code is stored.

5 Test the remote control functions to see if the device responds properly. If not, steps 2-5.

Remote Control Code

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													

HDSTB

Brand	Codes				Brand	Codes				Brand	Codes			
ALPHASTAR DSR	123				HOUSTON TRACKER	033	037	039	051	PROSAT	072			
AMPLICA	050					057	104			RCA	066	106		
BIRDVIEW	051	126	129		HUGHES	068				REALISTIC	043	074		
CHANNEL MASTER	013	014	015	018	JANIEL	060	147			SAMSUNG	123			
	036	055			JERROLD	061				SATELLITE SERVICE CO	028	035	047	057
CHAPARRAL	008	009	012	077	KATHREIN	108					085			
CITOH	054				LEGEND	057				SCIENTIFIC ATLANTA	032	138		
CURTIS MATHES	050	145			LG	001				SONY	103			
DRAKE	005	006	007	010	LUTRON	132				STARCAST	041			
	011	052	112	116	LUXOR	062	144			SUPER GUIDE	020	124	125	
	141				MACOM	010	059	063	064	TEECOM	023	026	075	087
DX ANTENNA	024	046	056	076		065					088	090	107	130
ECHOSTAR	038	040	057	058	MEMOREX	057					137			
	093	094	095	096	NEXTWAVE	028	124	125		TOSHIBA	002	127		
	097	098	099	100	NORSAT	069	070			UNIDEN	016	025	042	043
	122				PACE SKY SATELLITE	143					044	045	048	049
ELECTRO HOME	089				PANASONIC	060	142				078	079	080	086
EUROPLUS	114				PANSAT	121					101	135	136	
FUJITSU	017	021	022	027	PERSONAL CABLE	117				VIEWSTAR	115			
	133	134			PHILIPS	071				WINEGARD	128	146		
GENERAL INSTRUMENT	003	004	016	029	PICO	105				ZENITH	081	082	083	084
	031	059	101		PRESIDENT	019	102				091	120		
HITACHI	139	140			PRIMESTAR	030	110	111						

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					

Audio

Brand	Codes	Brand	Codes	Brand	Codes
AIWA	014 028 070 096		157 158 159 160	RCX	092
	125 129 139 229		189 207 222 224	REALISTIC	103 106
	230		225 226 227 243	SAMSUNG	124 145 146 182
AKAI	163		247		193 194 195 203
ANAM	003 014 017 023	LOTTE	014 016 036 098		204 244 245 246
	059 106 189 216		100 172 173 174	SANSUI	011 135 138 144
	217 235 236		175 176 177 178	SANYO	019 083 234
BURMECTER	252		179 180 181 183	SCOTT	106 186
CARVER	086		201 202 208 213	SHARP	031 032 051 052
CLARION	199		214 219 223 232		072 082 117 119
DAEWOO	027 053 060 084		238 240		156 184 199 200
	102 148 198 221	LXI	103		206 209
DENON	015 075 130 143	MAGNAVOX	111	SHERWOOD	005 006 158
FANTASIA	071	MARANTZ	002 018 020 025	SONY	044 045 109 114
FINEARTS	022		034 041 081 090		118 126 248 249
FISHER	089 099		097 112	TAEKWANG	012 020 073 074
LG(GOLDSTAR)	001 021 024 029	MCINTOSH	049		076 077 105 161
	087 107 108 110	MCS	104		162 163 164 165
	190 191 192 210	MEMOREX	107		166 167 168 169
	211 212 239	NAD	046		205 231 233 242
HAITAI	034 035 188 222	ONKYO	013 040 041 047		
HARMAN/KARDON	068		048 056 057 132	TEAC	010 085 106 136
JVC	004 013 141		133 140		185 187 237
KEC	185 186 187	OPTIMUS	158	TECHNICS	101 113 128 134
KOHEL	030	PANASONIC	007 033 064 113		147 218
NAD	045 046		142 220 241 251	TOSHIBA	137
KENWOOD	038 050 067 089	PENNEY	104	THE	061
	170 171 197 206	PHILIPS	026 112 143	VICTOR	088 131
	215 222	PIONEER	039 042 043 063	WARDS	089
INKEL	037 058 062 069		065 091 093 094	YAMAHA	054 055 066 092
	078 079 095 121		115 123 127 250		199
	122 149 150 151	QUASAR	113		
	152 153 154 155	RCA	080		

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
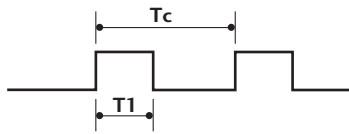
Carrier frequency

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
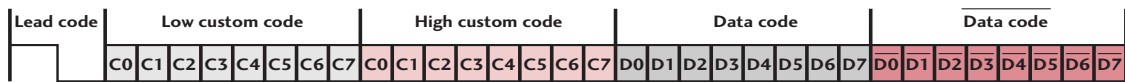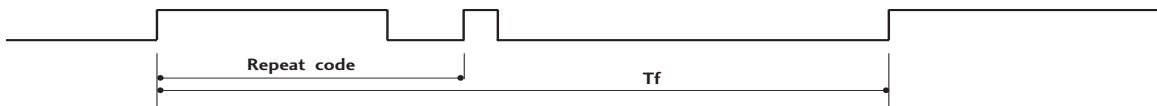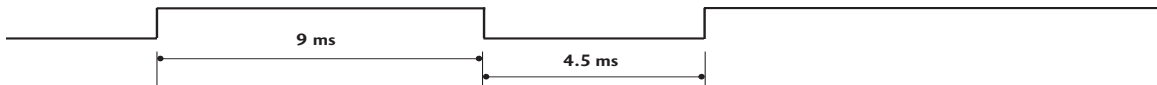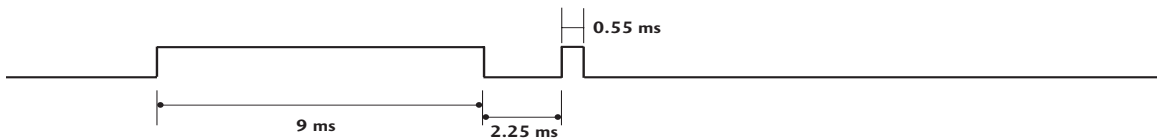
■ **Bit description**

Bit "0"

0.56 ms

1.12 ms

Bit "1"

0.56 ms

2.24 ms
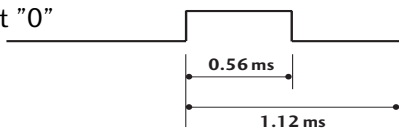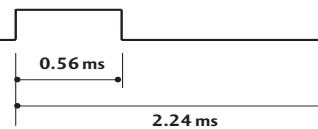
■ **Frame interval: Tf**

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

Tf

Tf

Tf=108ms @455KHz
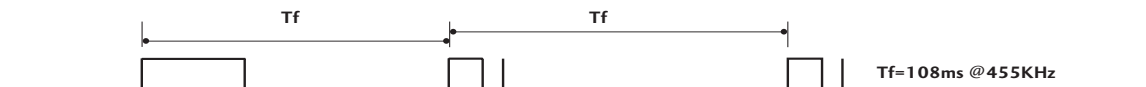
Code (Hexa)	Function	Note	Code (Hexa)	Function	Note
0F	TV INPUT	Remote control Button	BF	COMPONENT1	Discrete IR Code (Component1 Input Selection)
0B	INPUT	Remote control Button			
08	POWER	Remote control Button (Power On/Off)	D4	COMPONENT2	Discrete IR Code (Component2 Input Selection)
79	RATIO	Remote control Button			
0E	TIMER	Remote control Button	D5	RGB-PC	Discrete IR Code (RGB-PC Input Selection)
10-19	Number Key 0-9	Remote control Button			
4C	- (Dash)	Remote control Button	CE	HDMI1	Discrete IR Code (HDMI1 Input Selection)
1A	BACK	Remote control Button			
09	MUTE	Remote control Button	CC	HDMI2	Discrete IR Code (HDMI2 Input Selection)
02	VOL ▲	Remote control Button			
03	VOL ▼	Remote control Button	76	Ratio 4:3	Discrete IR Code (Only 4:3 Mode)
00	CH ▲	Remote control Button			
01	CH ▼	Remote control Button	77	Ratio 16:9	Discrete IR Code (Only 16:9 Mode)
1E	FAV	Remote control Button			
39	CC	Remote control Button	AF	Ratio Zoom	Discrete IR Code (Only Zoom1 Mode)
40	▲	Remote control Button			
41	▼	Remote control Button	C4	POWER ON	Discrete IR Code (Only Power On)
07	◄	Remote control Button			
06	►	Remote control Button	C5	POWER OFF	Discrete IR Code (Only Power Off)
44	ENTER	Remote control Button			
E1	BRIGHT-	Remote control Button	B0	PLAY	Remote control Button
43	MENU	Remote control Button	BA	PAUSE	Remote control Button
E0	BRIGHT+	Remote control Button	B1	STOP	Remote control Button
52	SOUND	Remote control Button	BD	REC	Remote control Button
4D	PICTURE	Remote control Button	8F	REW	Remote control Button
5B	EXIT	Remote control Button	8E	FF	Remote control Button
7E	SIMPLINK	Remote control Button	B2	GO TO PREV	Remote control Button
0A	SAP	Remote control Button	B3	GO TO NEXT	Remote control Button
D6	TV	Discrete IR Code (TV Input Selection)	7C	MEDIA HOST	Remote control Button
			7D	MARK	Remote control Button
5A	AV1	Discrete IR Code (AV1 Input Selection)	CA	USB EJECT	Remote control Button
D0	AV2	Discrete IR Code (AV2 Input Selection)			

EXTERNAL CONTROL THROUGH RS-232C

The RS-232C port allows you connect the RS-232C input jack to an external control device (such as a computer or an A/V control system) to control the TV's functions externally.

■ Note: RS-232C on this unit is intended to be used with third party RS-232 control hardware and software. The instructions below are provided to help with programming software or to test functionality using telenet software.

RS-232C Setup

PC
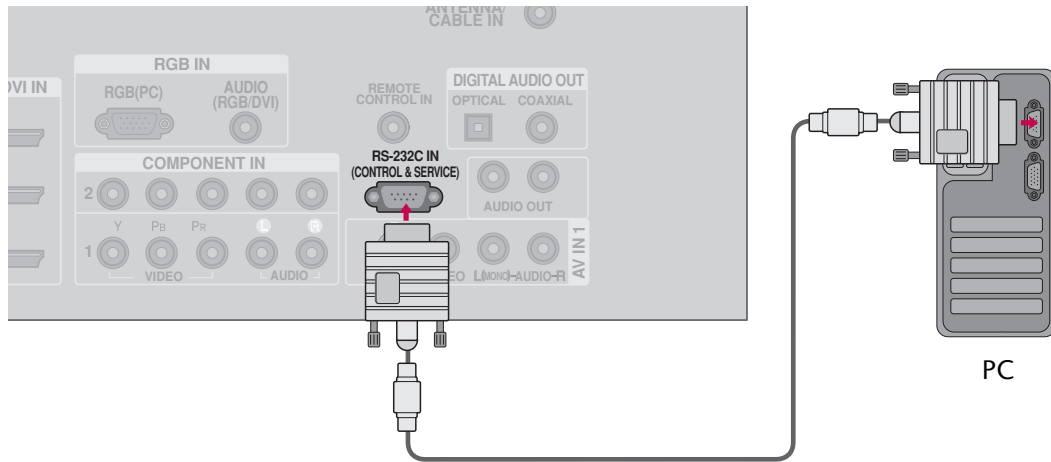
Type of Connector; D-Sub 9-Pin Male

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
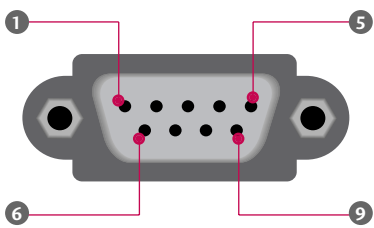
RS-232C Configurations

Either cable below can be used.

7-Wire Configuration (Serial female-female NULL modem cable)			
	PC	TV	
RXD	2	3	TXD
TXD	3	2	RXD
GND	5	5	GND
DTR	4	6	DSR
DSR	6	4	DTR
RTS	7	8	CTS
CTS	8	7	RTS
	D-Sub 9	D-Sub 9	

3-Wire Configurations (Not standard)			
	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	
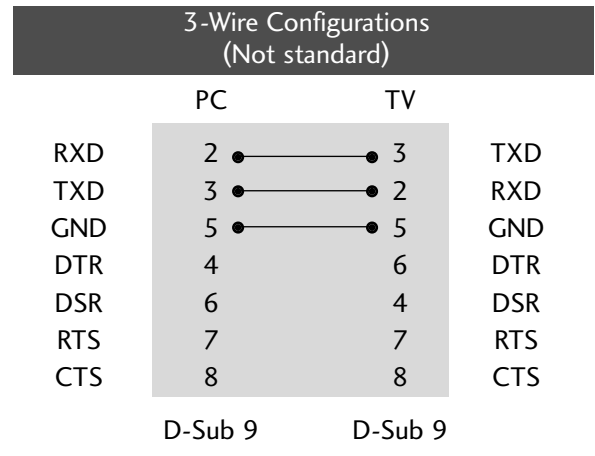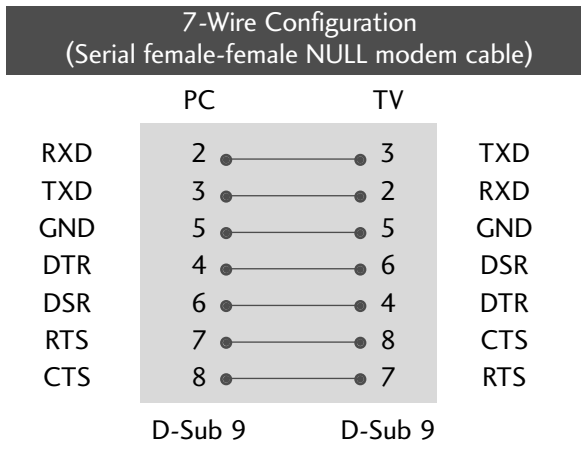
Set ID

Use this function to specify a TV ID number.
Refer to 'Real Data Mapping1'. ▶ p.102.
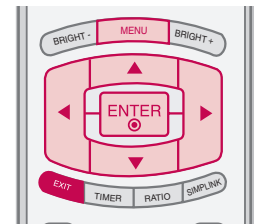
BRIGHT -	MENU	BRIGHT +
	ENTER	
EXIT	TIMER RATIO SIMPLINK	

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

SETUP / PICTURE / AUDIO / TIME / OPTION ▶ / LOCK	
Language	: English
Input Label	
SimpLink	: Off
Key Lock	: Off
Caption	: Off
ISM Method	: Orbiter
Low Power	: Off
Front Display	: Bright
Set ID	: 1

❶

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

3 Press the ▶ button and then use ▲ or ▼ button to adjust **Set ID** to choose the desired TV ID number. The adjustment range of Set ID is 1~99.

SETUP / PICTURE / AUDIO / TIME / OPTION / LOCK	
Language	
Input label	
SimpLink	
Key Lock	
Caption	
ISM Method	
Low Power	
Front Display	
Set ID	▶ 1

4 Press **EXIT** button to return to TV viewing or press **MENU** button to return to the previous menu.

❷ ❸
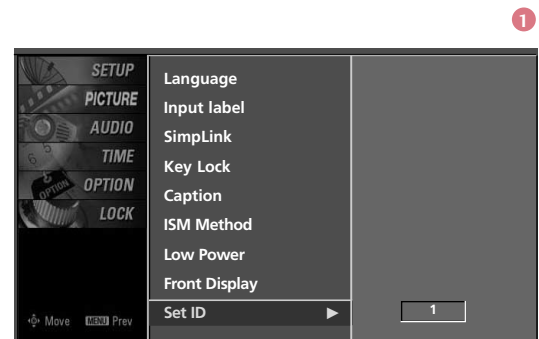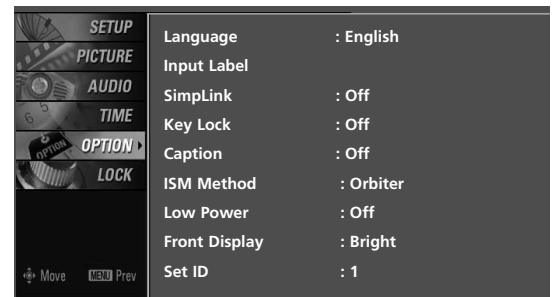
Communication Parameters

■ Baud rate : 9600 bps (UART)
■ Data length : 8 bits
■ Parity : None

■ Stop bit : 1 bit
■ Communication code : ASCII code
■ Use a crossed (reverse) cable.

🛈 **NOTE** ▶ This product has command echo back in the RS-232C Command.

APPENDIX

Command Reference List

	COMMAND1	COMMAND2	DATA (Hexadecimal)		COMMAND1	COMMAND2	DATA (Hexadecimal)
01. Power	k	a	0 ~ 1	13. Remote Control Lock Mode	k	m	0 ~ 1
02. Input Select	k	b	0 ~ 9				
03. Aspect Ratio	k	c	(▶ p.102)	14. Treble	k	r	0 ~ 64
04. Screen Mute	k	d	0 ~ 1	15. Bass	k	s	0 ~ 64
05. Volume Mute	k	e	0 ~ 1	16. Balance	k	t	0 ~ 64
06. Volume Control	k	f	0 ~ 64	17. Color Temperature	k	u	0 ~ 3
07. Contrast	k	g	0 ~ 64	18. Red Adjustment	k	v	0 ~ C8
08. Brightness	k	h	0 ~ 64	19. Green Adjustment	k	w	0 ~ C8
09. Color	k	i	0 ~ 64	20. Blue Adjustment	k	$	0 ~ C8
10. Tint	k	j	0 ~ 64	21. ISM Method	j	p	(▶ p.104)
11. Sharpness	k	k	0 ~ 64	22. Low Power	j	q	0 ~ 1
12. OSD Select	k	l	0 ~ 1				

Plasma TV Model Only

	COMMAND1	COMMAND2	DATA0 (Hexadecimal)	DATA1 (Hexadecimal)	DATA2 (Hexadecimal)	DATA3 (Hexadecimal)	DATA4 (Hexadecimal)	DATA5 (Hexadecimal)
23. Channel Tuning	m	a	physical program high	major program low	major low	minor high	minor low	attribute
24. Channel Add/Del	m	b	0 ~ 1					
25. Key	m	c	(▶ p.105)					
26. Input Select	x	b	(▶ p.105)					
27. Back Light	m	g	0~64					

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 TV ID number in Setup menu. Adjustment range is 1~ 99. When selecting Set ID '0', every connected the TV 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.

* In this model, TV will not send the status during the standby mode.

[Cr] : Carriage Return
ASCII code '0x0D'

[ ] : ASCII code 'space (0x20)'

OK Acknowledgement

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

The TV 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.

* In this model, TV will not send the status during the standby mode.

* Data Format

[Command 2] : Use as command.

[Set ID] : Use the small character, if set ID is 10, it will send the '0', 'a'.

[DATA] : Use the small character, if data is 0 x ab, it will send the 'a', 'b'.

[OK] : Use the large character.

* In this model, TV will send the echo, CR, LF with acknowledgement message.

* When it send the power on acknowledgement message, it will be like below.

ex) ka 01 01 (CR) (LF) a 01 OK 01 x (CR) (LF)

Error Acknowledgement

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

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

Data1: Illegal Code
Data2: Not supported function
Data3: Wait more time

* In this model, TV will not send the status during the standby mode.

* Data Format

[Command 2] : Use as command.

[Set ID] : Use the small character, if set ID is 10, it will send the '0', 'a'.

[DATA] : Use the small character, if data is 0 x ab, it will send the 'a', 'b'.

[NG] : Use the large character

* In this model, TV will send the echo, CR, LF with acknowledgement message.

* When it send the power on acknowledgement message, it will be like below.

ex) ka 01 01 (CR) (LF) a 01 NG 01 x (CR) (LF)

APPENDIX

01. Power (Command2:a)

To control Power On/Off of the TV.

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

Data 0: Power Off   Data 1: Power On

Acknowledgement [a][ ][Set ID][ ][OK/NG][Data][x]

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

* Note: In this model, TV will send the Acknowledge after power on processing completion.

There might be a time delay between command and acknowledge.

02. Input Select (Command2:b) (Main Picture Input)

To select input source for the TV.

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

Data 0: DTV	Data 1: Analog
Data 2: AV1	Data 3: AV2
Data 4: Component 1	Data 5: Component 2
Data 6: RGB-PC	Data 7: HDMI1
Data 8: HDMI2	Data 9: HDMI3

Acknowledgement [b][ ][Set ID][ ][OK/NG][Data][x]

03. Aspect Ratio (Command2:c)

To adjust the screen format.

You can also adjust the screen format using the RATIO button on remote control or in the Picture menu.

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

Data 1: 4:3   4: Zoom 1
     2: 16:9   5: Zoom 2
                          6: Set by program
                          ⋮
                          Reserved

Acknowledgement [c][ ][Set ID][ ][OK/NG][Data][x]

04. Screen Mute (Command2:d)

To select screen mute on/off.

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

Data 0: Screen mute off (Picture on)

Data 1: Screen mute on (Picture off)

Acknowledgement [d][ ][Set ID][ ][OK/NG][Data][x]

05. 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/NG][Data][x]

06. Volume Control (Command2: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' as shown below.

Acknowledgement [f][ ][Set ID][ ][OK/NG][Data][x]

07. Contrast (Command2: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' as shown below.

Acknowledgement [g][ ][Set ID][ ][OK/NG][Data][x]

08. Brightness (Command2:h)

To adjust screen brightness.

You can also adjust brightness in the Picture menu.

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

Data Min : 0 ~ Max : 64(*transmit by Hexadecimal code)

*Refer to 'Real data mapping 1' as shown below.

Acknowledgement [h][ ][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)
 ⋮
63 : Step 99 (SET ID 99)
64 : Step 100

09. Color (Command2:i)

To adjust the screen color.

You can also adjust color in the Picture menu.

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

Data Min : 0 ~ Max : 64

*Refer to 'Real data mapping 1'. See page 102.

Acknowledgement [i][ ][Set ID][ ][OK/NG][Data][x]

10. Tint (Command2:j)

To adjust the screen tint.

You can also adjust tint in the Picture menu.

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

Data Red: 0 ~ Green: 64

*Refer to 'Real data mapping 1'. See page 102.

Acknowledgement [j][ ][Set ID][ ][OK/NG][Data][x]

11. Sharpness (Command2:k)

To adjust the screen sharpness.

You can also adjust sharpness in the Picture menu.

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

Data Min: 0 ~ Max: 64

*Refer to 'Real data mapping 1'. See page 102.

Acknowledgement [k][ ][Set ID][ ][OK/NG][Data][x]

12. OSD Select (Command2:l)

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

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

Data 0: OSD off   Data 1: OSD on

Acknowledgement [l][ ][Set ID][ ][OK/NG][Data][x]

13. Remote Control Lock Mode (Command2:m)

To lock the remote control and the front panel controls on the set.

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

Data 0: Lock off   Data 1: Lock on

Acknowledgement [m][ ][Set ID][ ][OK/NG][Data][x]

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

14. Treble (Command2:r)

To adjust treble.

You can also adjust treble in the Audio menu.

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

Data Min: 0 ~ Max: 64 (*transmit by Hexadecimal code)

*Refer to 'Real data mapping 1'. See page 104.

Acknowledgement [r][ ][Set ID][ ][OK/NG][Data][x]

15. Bass (Command2:s)

To adjust bass.

You can also adjust bass in the Audio menu.

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

Data Min: 0 ~ Max: 64(*transmit by Hexadecimal code)

*Refer to 'Real data mapping 1'. See page 102.

Acknowledgement [s][ ][Set ID][ ][OK/NG][Data][x]

16. Balance (Command2: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(*transmit by Hexadecimal code)

*Refer to 'Real data mapping 1'. See page 102.

Acknowledgement [t][ ][Set ID][ ][OK/NG][Data][x]

17. Color Temperature (Command2:u)

To adjust color temperature.

You can also adjust color temperature in the Picture menu.

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

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

Acknowledgement [u][ ][Set ID][ ][OK/NG][Data][x]

18. Red Adjustment (Command:v)

To adjust red in color temperature

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

Data Min:0 ~ Max:C8

*Refer to 'Real data mapping 2' as shown below.

Acknowledgement [v][ ][Set ID][ ][OK/NG][Data][x]

19. Green Adjustment (Command:w)

To adjust green in color temperature.

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

Max: C8

*Refer to 'Real data mapping 2' as shown below.

Acknowledgement [w][ ][Set ID][ ][OK/NG][Data][x]

*Real data mapping 2

0 : -20

5 : -19

A : -18

⋮

5F: -1

64: 0

69: +1

⋮

C3 : +19

C8 : +20

APPENDIX

20. Blue Adjustment (Command:$)

To adjust blue in color temperature.

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

Data Min:0 ~ Max:C8

*Refer to 'Real data mapping 2'. See page 103.

Acknowledgement [$][ ][Set ID][ ][OK/NG][Data][x]]

21. ISM Method (Command2:p)

(Only Plasma TV model)

To avoid having a fixed image remain on screen.

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

Data 1: Inversion   2: Orbiter

    4: White Wash   8: Normal

Acknowledgement [p][ ][Set ID][ ][OK/NG][Data][x]

22. Low Power (Command2:q)

(Only Plasma TV model)

To control the low power function on/off.

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

Data 0: low power off

    1: low power on

Acknowledgement [q][ ][Set ID][ ][OK/NG][Data][x]

23. Channel Tuning (Command: m a)

To tune channel to following physical/major/minor number.

Transmission [m][a][ ][Set ID][ ][Data0][ ][Data1]
[ ][Data2][ ][Data3][ ][Data4][ ][Data5][Cr]

Digital channels have a Physical, Major, and Minor channel number. The Physical number is the actual digital channel number, the Major is the number that the channel should be mapped to, and the Minor is the sub-channel. Since the ATSC tuner automatically maps the channel to the Major number, the Physical number is not required when sending a command.

Data 0: Physical Channel Number

        NTSC air: 02~45, NTSC cable: 01, 0E~7D

        ATSC air: 01~45, ATSC cable: 01~87

Data1 & 2: Major Channel Number

    Data1: High byte   Data2: Low byte

    Two bytes are available for the Major and Minor, normally only the second byte is used.

Data3 & 4: Minor Channel Number

     Not needed for NTSC.

Data5:

7 Main/Sub Picture	6 Two/One Part Channel	5 Using Physical Channel	4 Reserved	3	2	1	0	Step
0 Main	0 Two	0 Use	x	0	0	0	0	NTSC Air
1 Sub	1 One	1 No Use	x	0	0	0	1	NTSC Cable
			x	0	0	1	0	ATSC Air
			x	0	0	1	1	ATSC Cable_std
			x	0	1	0	0	ATSC Cable_hrc
			x	0	1	0	1	ATSC Cable_irc
			x	0	1	1	0	ATSC cable_auto
			x	0	1	1	1	Reserved
			x	x	x	x	x	...
			x	1	1	1	1	Reserved

The table above lists the binary code which must be converted to Hexadecimal before sending. For example: The binary code to tune the sub source to an NTSC cable channel is "1000 0001", which translates to "81" in Hex.

* 7th bit : For which source do you want to change the channel.

* 6th bit: Use a two part or one part channel. Most cases just use 0 since it's ignored when using NTSC.

* 5th bit: Use 0 with NTSC since it can only use the physical channel number. Normally use 1 for ATSC since most times it doesn't matter what the physical number is.

* 4th bit: Set to 0.

* 3-0 bits: Choose signal type.

* Tune Command Examples:

1. Tune to the analog (NTSC) cable channel 35.
   Data 0 = Physical of 35 = 23
   Data 1 & 2 = No Major = 00 00
   Data 3 & 4 = No Minor = 00 00
   Data 5 = 0000 0001 in binary = 01
   Total = ma 00 23 00 00 00 00 01

2. Tune to the digital (ATSC) local channel 30-3.
   Data 0 = Don't know Physical = 00
   Data 1 & 2 = Major is 30 = 00 1E
   Data 3 & 4 = Minor is 3 = 00 03
   Data 5 = 0010 0010 in binary = 22
   Total = ma 00 00 00 1E 00 03 22

Acknowledgement [a] [ ] [Set ID] [ ] [OK] [Data0] [Data1] [Data2] [Data3] [Data4] [x] [a] [ ] [Set ID] [ ] [NG] [Data0] [x]

24. Channel Add/Del (Command: m b)

To add and delete the channels

Transmission [m] [b] [ ] [Set ID] [ ] [Data] [Cr]

Data 0: Channel Delete   Data 1: Channel Add

Acknowledgement [b] [ ] [Set ID] [ ] [OK/NG] [Data] [x]

25. Key (Command: m c)

To send IR remote key code.

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

Data Key code: Refer to page 100.

Acknowledgement [c] [ ] [Set ID] [ ] [OK/NG] [Data] [x]

26. Input Select (Command: x b)

To select input source for TV.

Transmission [x] [b] [ ] [Set ID] [ ] [Data] [Cr]

Data 00 : DTV (Antenna)   Data 01 : DTV (Cable)
Data 10 : Analog (Antenna) Data 11 : Analog (Cable)
Data 20 : AV1   Data 21 : AV2
Data 40 : Component 1   Data 41 : Component 2
Data 60 : RGB-PC   Data 90 : HDMI1
Data 91 : HDMI2   Data 92 : HDMI3

Acknowledgement [b] [ ] [Set ID] [ ] [OK/NG] [Data] [x]

27. Back Light (Command: m g)

To adjust screen back light.

Transmission [m] [g] [ ] [Set ID] [ ] [Data] [Cr]

Data Min:0 ~ Max:64

Acknowledgement [g] [ ] [Set ID] [ ] [OK/NG] [Data] [x]

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