

Digital

1. How to connect

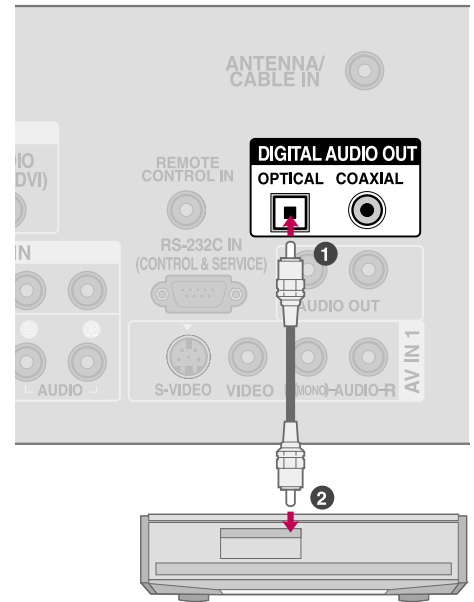
- 1 Connect one end of the optical or coaxial cable to the TV's **OPTICAL** or **COAXIAL** port of **DIGITAL AUDIO OUT**.
- 2 Connect the other end of the optical cable to the digital audio input on the audio equipment.
- 3 Set the "TV Speaker option - Off" in the **AUDIO** menu. (▶p.53). See the external audio equipment instruction manual for operation.

! NOTE

- ▶ When connecting with external audio equipments, such as amplifiers or speakers, you can turn the TV speakers off in the menu. (▶p.53)

! CAUTION

- ▶ Do not look into the optical output port. Looking at the laser beam may damage your vision.
- ▶ Block the SPDIF out (optical) 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.

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

BRIGHT -/+ Adjust the brightness on screen.

TIMER Select the amount of time before your TV turns off automatically. ▶p.64

VOLUME UP /DOWN Increase/decrease the sound level.

MUTE Switch the sound on or off. ▶p.32

FAV Scroll through the programmed Favorite channels. ▶p.36

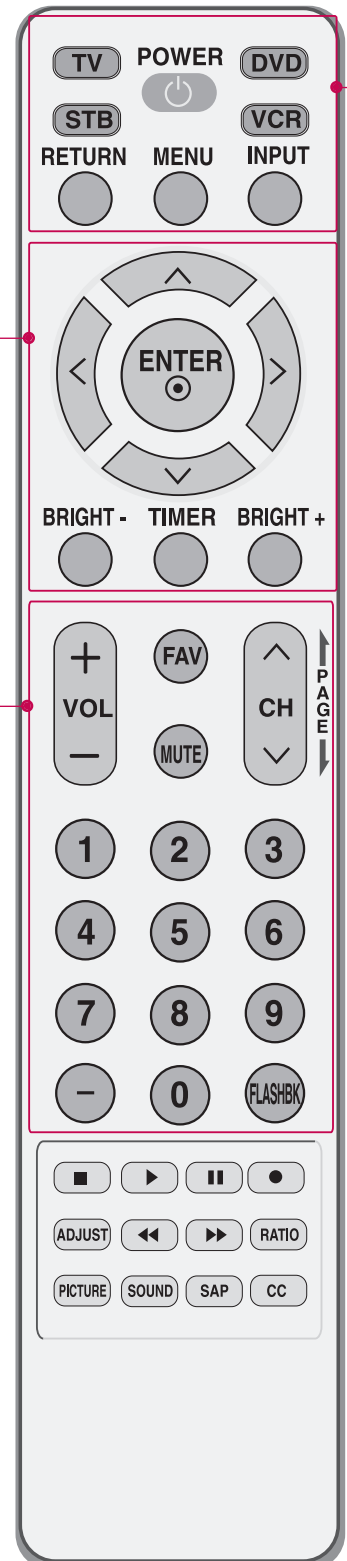
CHANNEL UP/DOWN Select available channels.

PAGE UP/DOWN Move from one full set of screen information to the next one.

NUMBER button

BACK Tune to the last channel viewed.

— (DASH) Used to enter a program number for multiple program channels such as 2-1, 2-2, etc.



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

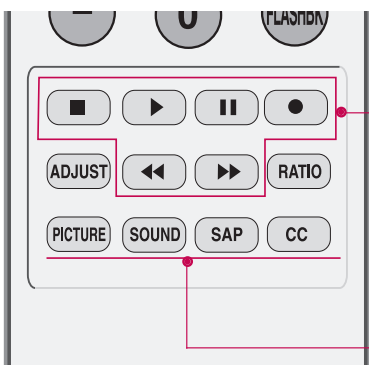
MODE Select the remote operating mode: TV, DVD, VCR, AUDIO, or STB.

*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.

RETURN Allows the user to move return one step in an interactive application or other user interaction function.

MENU Displays the main menu.

INPUT External input modes rotate in regular sequence: Antenna, Cable, AV 1-2, Component 1-2, RGB-PC, HDMI1, HDMI2, HDMI3 (AV 1-2, Component 1-2, RGB-PC, HDMI1, HDMI2, HDMI3 input sources are linked automatically, only if these are connected).



VCR/DVD Control buttons Control video cassette recorders or DVD players.

ADJUST Adjustment for screen Resolution, Position, Size, and Phase. ▶p.26-27

RATIO Change the aspect ratio. ▶p.40

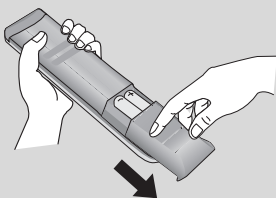
PICTURE Adjust the factory preset picture depend on the viewing environment. ▶p.41

SOUND Select the appropriate type of sound for type of program. ▶p.50

SAP Select MTS sound: Mono, Stereo, and SAP analog mode. Change the audio language DTV mode. ▶p.54

CC Select the Caption On/Off. ▶p.57

Installing Batteries



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

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 $\phi/1$, **INPUT**, **CH** (\blacktriangle or \blacktriangledown) button on the TV or press the **POWER**, **INPUT**, **CH** (\wedge or \vee), **Number (0~9)** button on the remote control.
- 2** Select the viewing source by using the **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** (\wedge or \vee) 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.

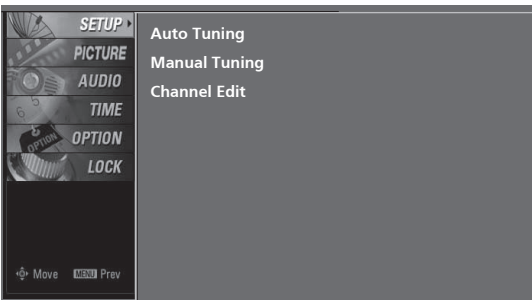


ON-SCREEN MENUS SELECTION

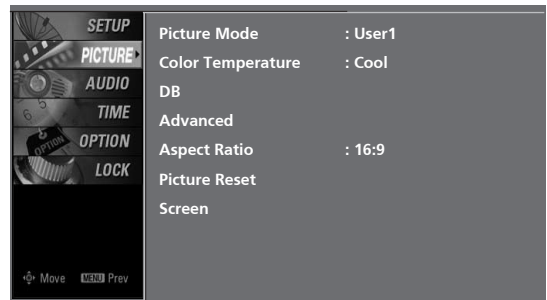
Your TV's OSD (On Screen Display) may differ slightly from what is shown in this manual.

- 1 Press the **MENU** button and then use \wedge or \vee button to select each menu.
- 2 Press the \triangleright button and then use \wedge \vee \triangleleft \triangleright button to display the available menus.

SETUP

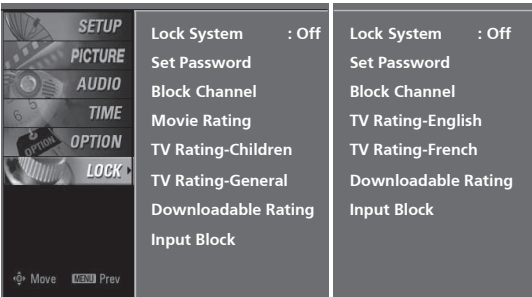


PICTURE

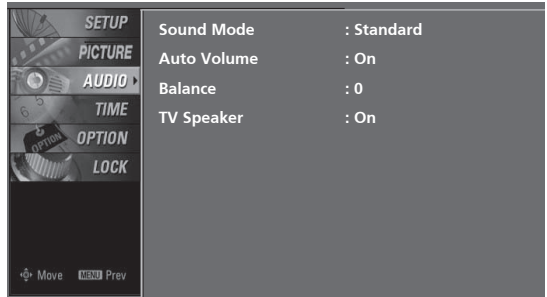


LOCK

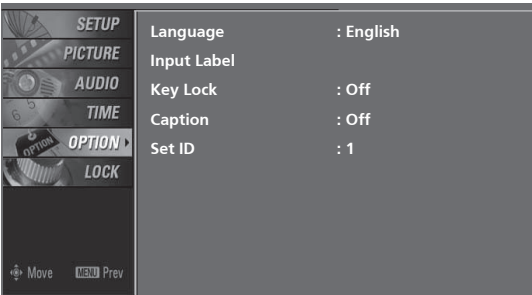
For USA For Canada



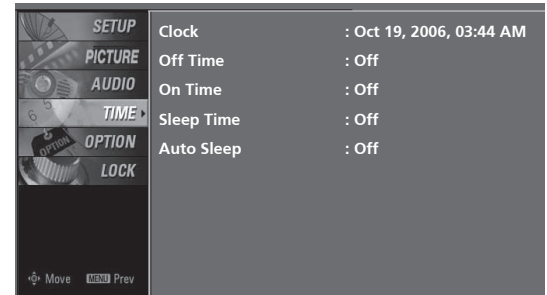
AUDIO



OPTION



TIME



WATCHING TV / CHANNEL CONTROL

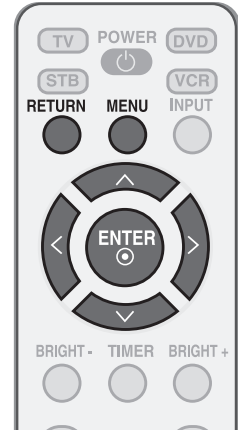
CHANNEL SETUP

Auto Scan (Auto Tuning)

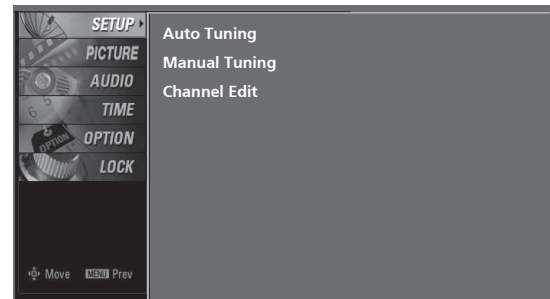
Automatically finds all channels available through antenna or cable inputs, and stores them in memory on the channel list.

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

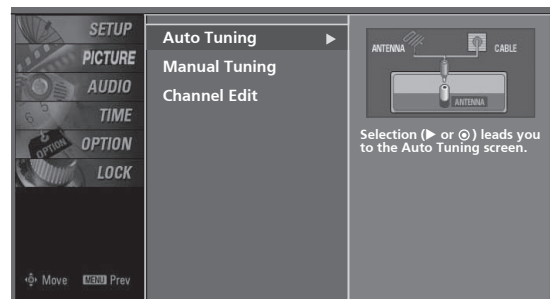
A password is required to gain access to Auto Tuning menu if the Lock System is turned on.



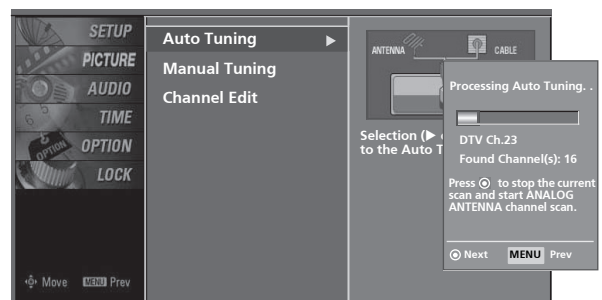
- 1 Press the **MENU** button and then use \wedge or \vee button to select the **SETUP** menu.
- 2 Press the \triangleright button and then use \wedge or \vee button to select **Auto Tuning**.
- 3 Press the **ENTER** button to begin the channel search. Allow **Auto Tuning** to complete the channel search cycle for **ANTENNA** and **CABLE**.



1



2



3

NOTE



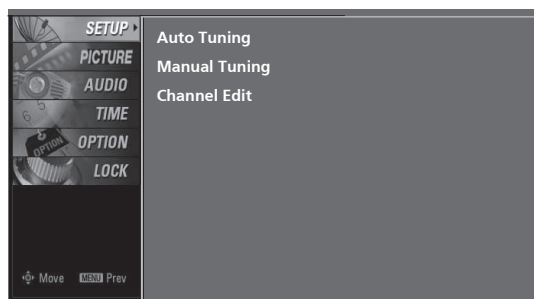
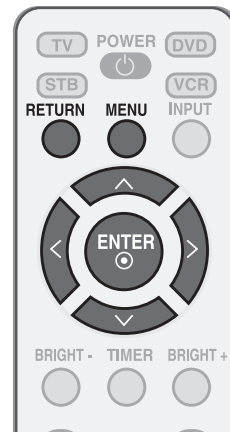
DTV (Digital DTV antenna)
TV (Analog TV antenna)
CADTV (Digital CADTV cable)
CATV (Analog CATV cable)

Add/Delete Channel (Manual Tuning)

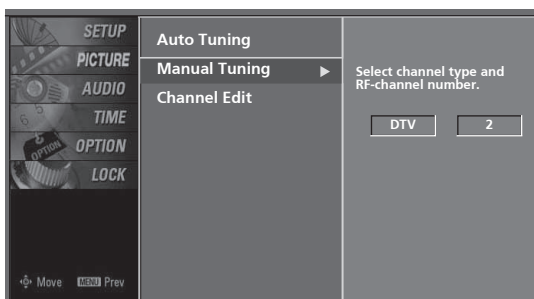
A password is required to gain access to Manual Tuning menu if the Lock System is turned on.

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 \wedge or \vee button to select the **SETUP** menu.
- 2 Press the $\>$ button and then use \wedge or \vee button to select **Manual Tuning**.
- 3 Press the $\>$ button and then use \wedge or \vee button to select **TV**, **DTV**, **CATV**, and **CADTV**.
- 4 Press the $\>$ button and then use \wedge or \vee button to select channel you want to add or delete.
- 5 Press the **ENTER** button to add or delete the channel.
- 6 Press **RETURN** button to return to TV viewing or press **MENU** button to return to the previous menu.



1



2



3 4 5

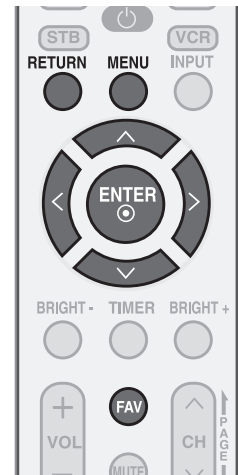
WATCHING TV / CHANNEL CONTROL

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.



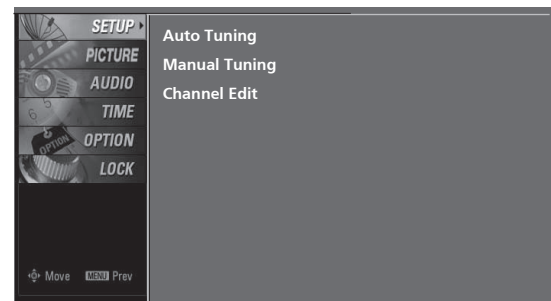
1 Press the **MENU** button and then use **^** or **∨** button to select the **SETUP** menu.

2 Press the **>** button and then use **^** or **∨** button to select **Channel Edit**.

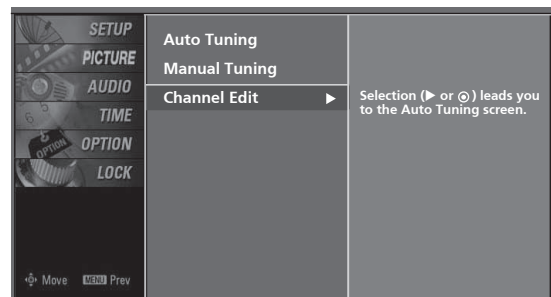
3 Press the **>** button. You will now see a screen filled with channel numbers and a preview picture. To move to the next or previous page, press the **CH** (**^** or **∨**) button.

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.

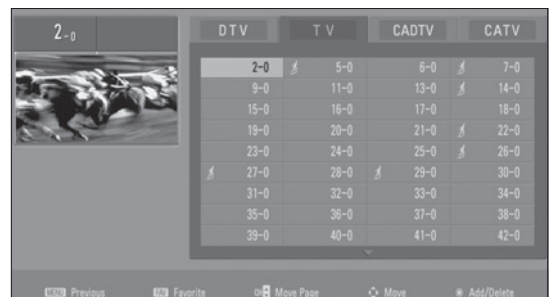
5 Press **RETURN** button to return to TV viewing or press **MENU** button to return to the previous menu.



1



2

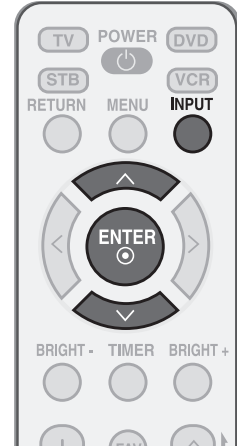
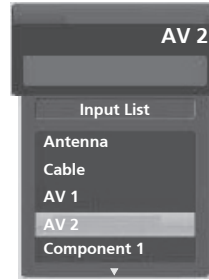


3 4

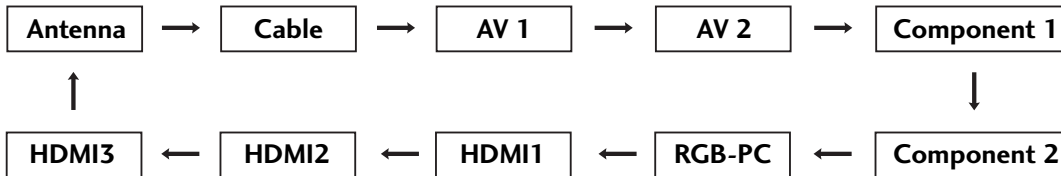
INPUT LIST

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 **v** button to select the input source.



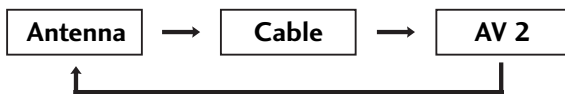
1 If all external input sources are connected:



2 If no external input sources are connected:



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

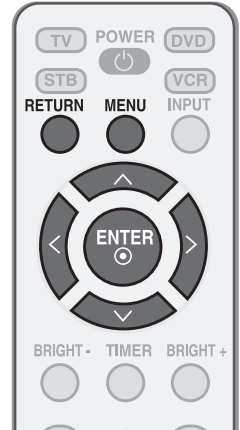


- **Antenna:** Select it to watch over-the-air broadcasts.
- **Cable:** Select it to watch cable and digital cable.
- **AV 1-2:** Select them to watch a VCR or other external equipment.
- **Component 1-2:** Select them to watch DVD or a Digital set-top box.
- **RGB-PC:** Select it to view PC input.
- **HDMI1-3:** Select them to watch high definition devices.

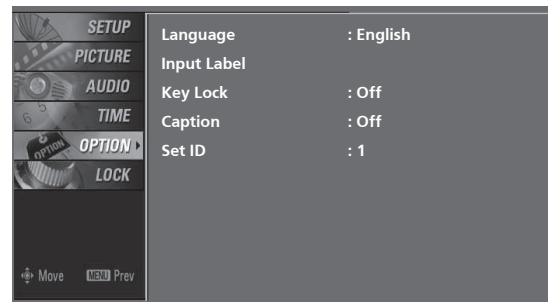
WATCHING TV / CHANNEL CONTROL

INPUT LABEL

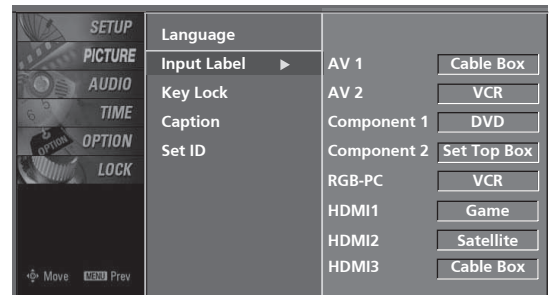
You can set a label for each input source when it's not in use.



- 1 Press the **MENU** button and then use \wedge or \vee button to select the **OPTION** menu.
- 2 Press the $\>$ button and then use \wedge or \vee button to select **Input Label**.
- 3 Press the $\>$ button and then use \wedge or \vee button to select the source: AV 1, AV 2, Component 1, Component 2, RGB-PC, HDMI1, HDMI2 or HDMI3.
- 4 Press the \leftarrow or \rightarrow button to select the label.
- 5 Press **RETURN** button to return to TV viewing or press **MENU** button to return to the previous menu.



1



2 3 4

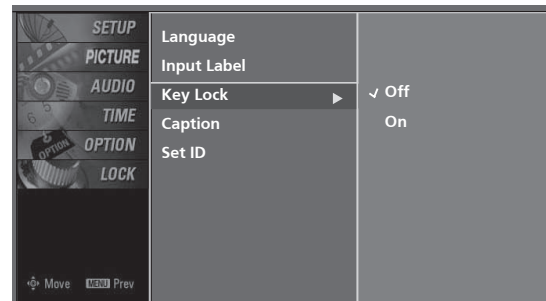
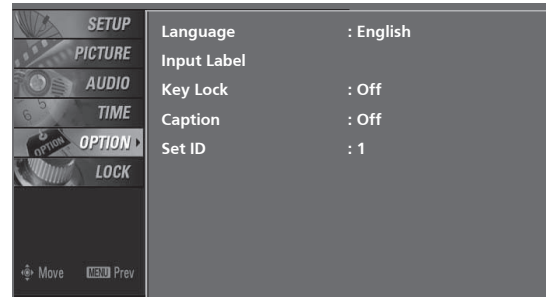
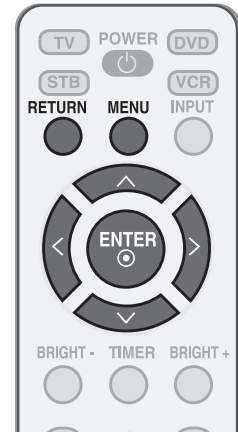
KEY LOCK

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 \wedge or \vee button to select the **OPTION** menu.
- 2 Press the $\>$ button and then use \wedge or \vee button to select **Key Lock**.
.....
- 3 Press the $\>$ button and then use \wedge or \vee button to select **On** or **Off**.
- 4 Press **RETURN** button to return to TV viewing or press **MENU** button to return to the previous menu.



3

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.

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

NOTE

- ▶ If a fixed image is displayed on the screen for a long time, the image could become imprinted on the screen and remain visible. This phenomenon is common to all manufacturers and is not covered by warranty. Although, after watching video that did not fill the screen, any afterimage from the black bars will normally dissipate after a few minutes.



- 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.

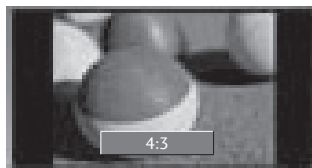
(4:3 → 4:3)

(16:9 → 16:9)



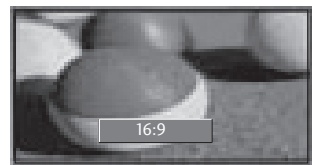
4:3

Choose 4:3 when you want to view a picture with an original 4:3 aspect ratio.



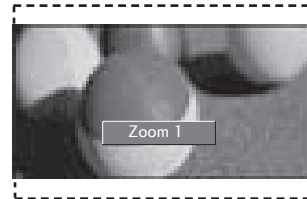
16:9

Adjust the picture horizontally, in a linear proportion to fill the entire screen.



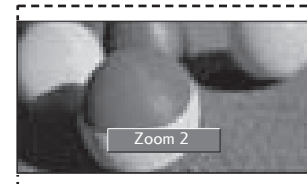
Zoom 1

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.

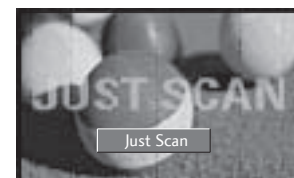


Just Scan

Following selection will lead you to view the picture of best quality without loss of original picture in high resolution image.

Notes: If there are noise in original picture, you can see the noise at the edge.

Just Scan operates only in DTV/CADTV (720p/1080i/1080p), HDMI-DTV, DVI-DTV input source.



PRESET PICTURE SETTINGS

Picture Mode - Preset

There are factory presets for picture settings available in the user menus. You can use a preset, change each setting manually, or use the Intelligent Sensor.

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, backlight.



- 1 Press the **PICTURE** button repeatedly to select the picture appearance setup option as below :
Dynamic, Standard, Mild, User1 (your own settings), and **User2** (your own settings).
- 2 Press the **RETURN** button to save and return to TV viewing.

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



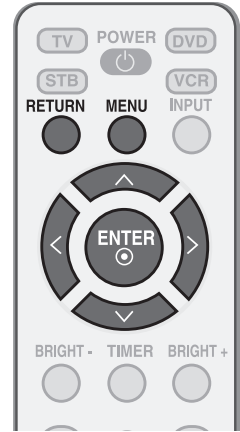
PICTURE CONTROL

Color Tone - Preset

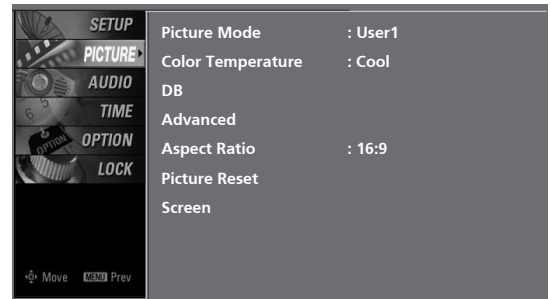
Choose one of three automatic color adjustments. Set to Warm to enhance hotter colors such as red, or set to Cool to see less intense colors with more blue.

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

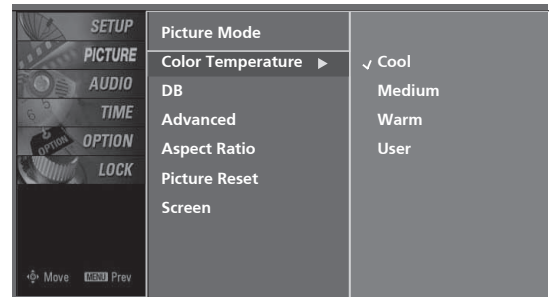
When selecting Picture Mode options (User1 and User2), you can choose the Color Temperature.



- 1 Press the **MENU** button and then use \wedge or \vee button to select the **PICTURE** menu.
- 2 Press the \gt button and then use \wedge or \vee button to select **Color Temperature**.
- 3 Press the \gt button and then use \wedge or \vee button to select either **Cool, Medium, Warm** or **User**.
- 4 Press **RETURN** button to return to TV viewing or press **MENU** button to return to the previous menu.



1

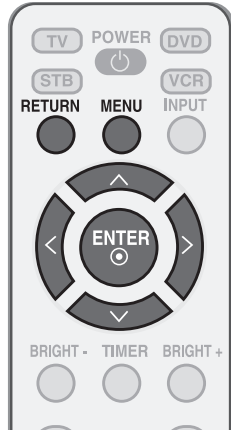


2 3

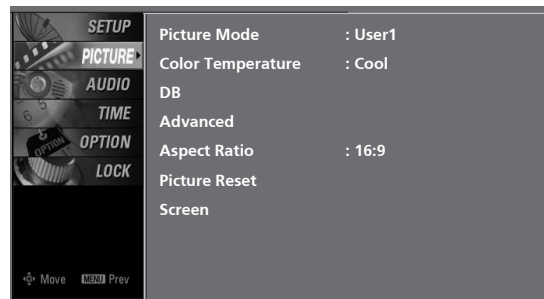
MANUAL PICTURE ADJUSTMENT

Picture Mode - User Mode

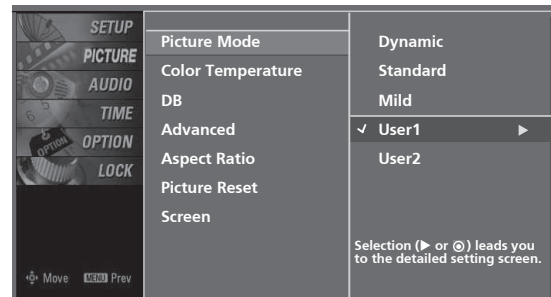
Adjust the picture appearance to suit your preference and viewing situations.



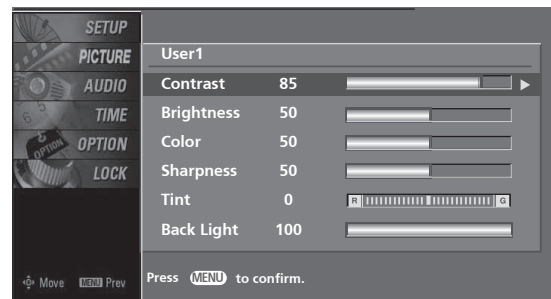
- 1 Press the **MENU** button and then use \wedge or \vee button to select the **PICTURE** menu.
- 2 Press the \triangleright button and then use \wedge or \vee button to select **Picture Mode**.
- 3 Press the \triangleright button and then use \wedge or \vee button to select **User1** or **User2**.
- 4 Press the \triangleright button and then use \wedge or \vee button to select the desired picture option (**Contrast**, **Brightness**, **Color**, **Sharpness**, **Tint**, or **Back Light**).
 - **Back Light**
To control the brightness of the screen, adjust the brightness of LCD panel.
- 5 Press the \triangleright button and then use \triangleleft or \triangleright button to make appropriate adjustments.
- 6 Press **RETURN** button to return to TV viewing or press **MENU** button to return to the previous menu.



1



2 3



4



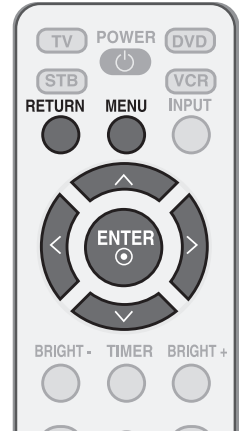
5

PICTURE CONTROL

Color Tone - User Mode

You can also adjust the detailed settings (Red, Green, Blue) by selecting the **Color Temperature-User** menu.

When selecting Picture Mode options (User1 and User2), you can choose the **Color Temperature**.



1 Press the **MENU** button and then use \wedge or \vee button to select the **PICTURE** menu.

2 Press the $\>$ button and then use \wedge or \vee button to select **Color Temperature**.

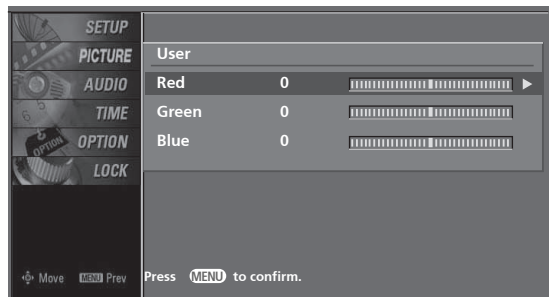
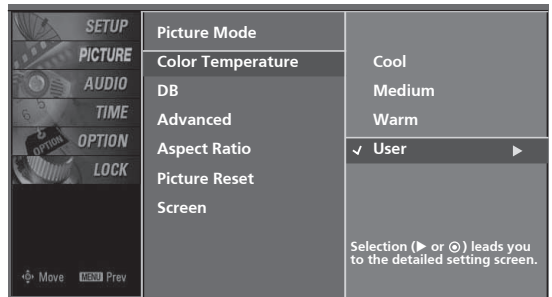
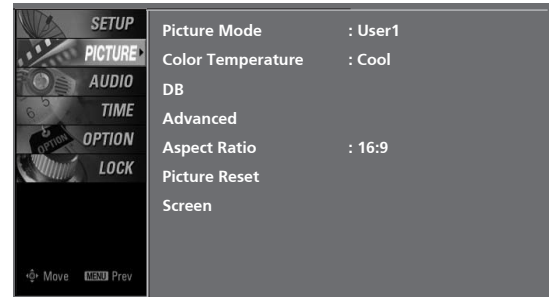
3 Press the $\>$ button and then use \wedge or \vee button to select **User**.

4 Press the $\>$ button and then use \wedge or \vee button to select **Red, Green, or Blue**.

5 Press the $\>$ button and then use \leftarrow or \rightarrow button to make appropriate adjustments.

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

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



DB - PICTURE IMPROVEMENT TECHNOLOGY

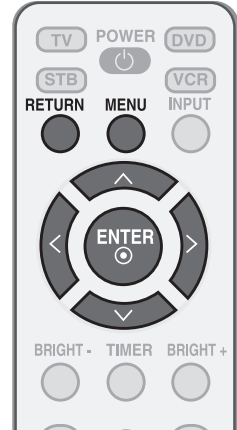
DB is Zenith's unique picture improving technology to display a real HD source through an advanced digital signal processing algorithm.

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

When selecting Picture Mode options (User1 and User2), you can choose the Auto / Manual.

When selecting the Manual, you can adjust the DB Contrast, DB Color and DB Noise.

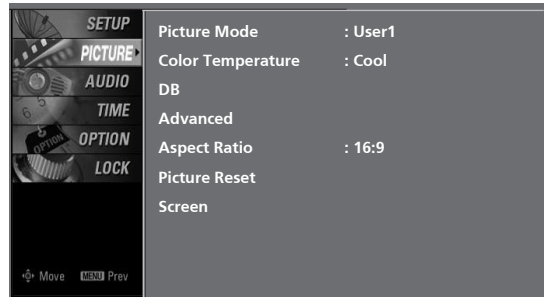
It's not available to use this function in RGB-PC input source.



1 Press the **MENU** button and then use \wedge or \vee button to select the **PICTURE** menu.

2 Press the $\>$ button and then use \wedge or \vee button to select **DB**.

3 Press the $\>$ button and then use \leftarrow or \rightarrow button to select either **Auto** or **Manual**.



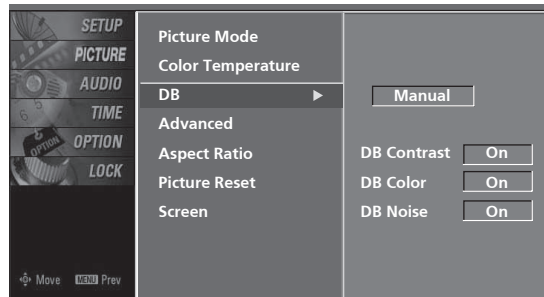
1

Selecting the Manual

1. Press the $\>$ button and then use the \wedge or \vee button to select **DB Contrast**, **DB Color** or **DB Noise**.

- **DB Contrast:** Optimizing the contrast automatically according to the brightness of the reflection.
- **DB Color:** Adjusting the colors of the reflection automatically to reproduce as closely as possible to the natural colors.
- **DB Noise:** Removing the noise up to the point where it does not damage the original picture.

2. Use the \leftarrow or \rightarrow button to select **On** or **Off**.



2 3

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

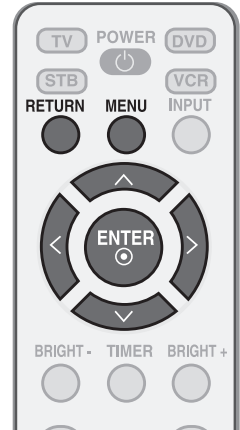
PICTURE CONTROL

ADVANCED - CINEMA 3:2 PULLDOWN MODE

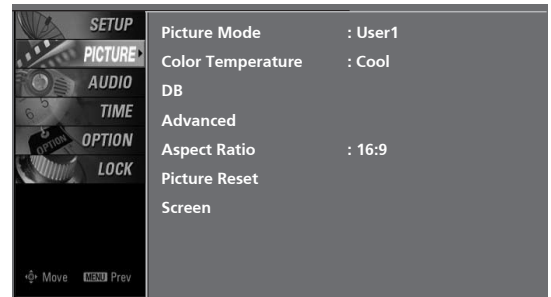
Set up the TV for the best picture appearance for viewing movies.

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.

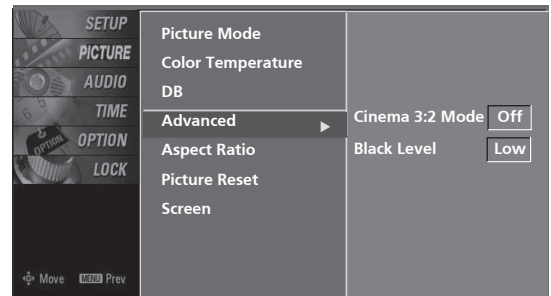
This feature operates only in TV (Analog TV/CATV, Digital DTV/CADTV), AV1, AV2, Component 480i/1080i, and HDMI 1080i mode.



- 1 Press the **MENU** button and then use \wedge or \vee button to select the **PICTURE** menu.
- 2 Press the $\>$ button and then use \wedge or \vee button to select **Advanced**.
- 3 Press the $\>$ button and then use \wedge or \vee button to select **Cinema 3:2 Mode**.
- 4 Use \lt or \gt button to select **On** or **Off**.
- 5 Press **RETURN** button to return to TV viewing or press **MENU** button to return to the previous menu.



1



2 3 4