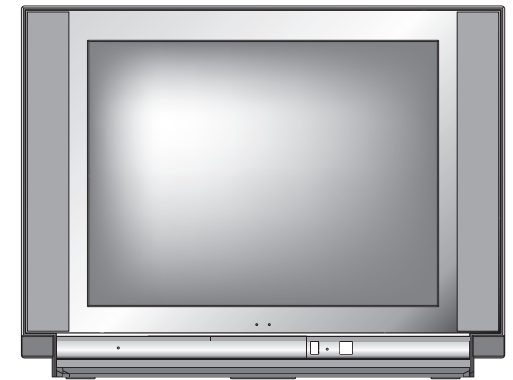


# DIGITAL READY TV

## INSTRUCTION MANUAL



**MODEL: 29GG400**

**KEC**  
WWW.KEC.CO.KR

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## EXCELLENT PICTURE AND SOUND QUALITY, MULTIPLE FUNCTION READY TELEVISION FOR DIGITAL BROADCASTING

### FEATURES

#### EXCELLENT PICTURE QUALITY

- **640 × 480** Resolution !
- **Flickerless** picture and NTSC image conversion to **progressive scan**!
- You can view an analog broadcasts with the best picture quality .
- Receive digital broadcasts by connecting with a **ATSC set-top box**!
- High-performance adaptive **4H comb filters** and **vertical peaking** create vivid pictures ever for the sub display window.
- Motion adaptive spatial and temporal noise reduction(**3D-NR**) reduces a lot of noise in the picture!
- Scan velocity modulation circuit **improves the contour** between black and white pictures!
- ABC Circuit(Automatic Brightness Control) always enables you to see the best picture regardless of the surrounding brightness conditions.

#### EXCELLENT SOUND QUALITY

- A digital sound processor.
- Sound output power equal to a mini component.
- **BTSC(MTS M) Stereo** signal decoder!
- Spatial surround effect for a spectacular listening experience!
- Loudness effect a grand bass sound.
- **AVC**(Automatic Volume Correction) equalizes varying sound volume levels.
- Independent volume and source control for headphones!

## MISCELLANEOUS FUNCTIONS

<b>DOUBLE WINDOW</b>	Watch main and sub picture simultaneously!
<b>PERSONAL COMPUTER INPUT</b>	It can display a 640 × 480 VGA PC signal!
<b>WIDE</b>	Watch TV at wide display state.
<b>BOOSTER</b>	When the antenna input signal is weak, booster amplifies the power of signal!
<b>TILT</b>	compensates for the picture display for tilting to either the left or right because of the geomagnetic effects.
<b>CLOCK AND TIMER</b>	Set the time, minutes and then use like a clock and timer!
<b>SLEEP</b>	The television automatically turns off after the set sleep time.
<b>AUTOMATIC POWER-OFF</b>	Turned off automatically after 15 minutes in the absence of picture signal!
<b>DISPLAY</b>	Display the channel number, picture and sound state, mts and clock!
<b>QUICK VIEW</b>	Switches the current channel to the previously viewed channel.
<b>PIP</b>	Two tuner PIP allows simultaneously display of VIDEO and TV, TV and TV, 2 VIDEO sources.
<b>CHANNEL INDEX</b>	Check other broadcasting pictures in sequence while watching the main picture!
<b>STROBE</b>	View the action frame by frame in still quick shots!

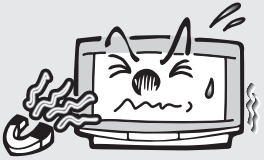
## MISCELLANEOUS FUNCTIONS

- Closed Caption Decoder : A Built-In Closed Caption Decoder(CCD) detects broadcasts with encoded closed caption signals and displays their content on the screen.
- Built-In V-Chip(Violence Chip) : This "Blocking V-Chip" Allows adults to block television programs, movies, and videos which they feel are inappropriate for children.
- Power saving function : The power consumption in the stand-by state is below 3 watts!

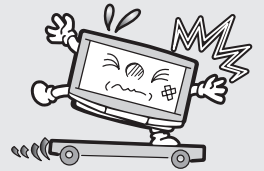
## PRECAUTIONS



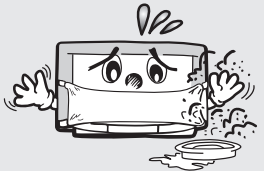
- Select an area where sunlight or bright indoor illumination will not fall directly on the picture screen.



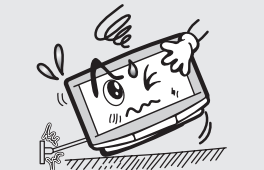
- Separate TV set from magnetic materials like speaker, telephone.  
Take due care not to use this TV close to other electric apparatus.



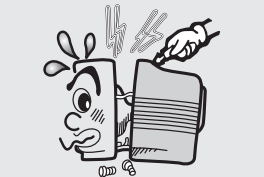
- Place TV set on a flat and stable spot.



- Avoid places that has much moisture and dust.

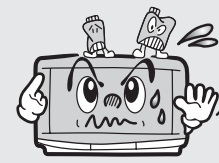


- Avoid changing the direction of the TV set in a state of power-on, any color-blur may happen.  
In such case, plug it off and plug it on after an hour.

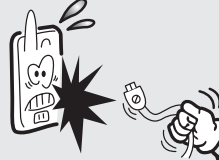


- Don't open the rear cover.  
This may expose you to very high voltages and other hazards.

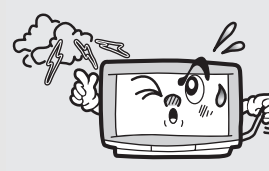
## PRECAUTIONS



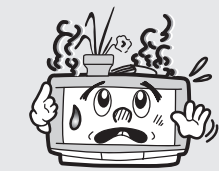
- Don't use a volatile solvents like benzene in cleaning.  
Clean TV with a piece of dry cloth.



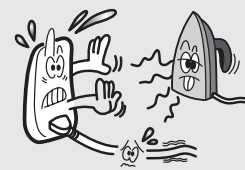
- Don't pull the power cord out.



- When there is thunder and lightning or when you don't watch for a long time, pull the power plug out.



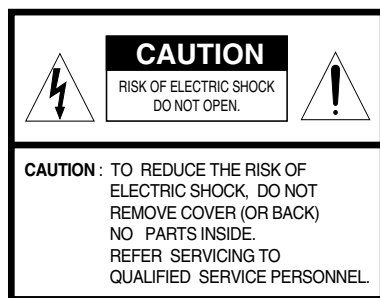
- Don't place heavy objects on the TV.  
Don't cover air holes with a towel or any materials.



- Keep TV set away from an iron.

## PRECAUTIONS

### GRAPHICAL SYMBOLS EXPLANATION



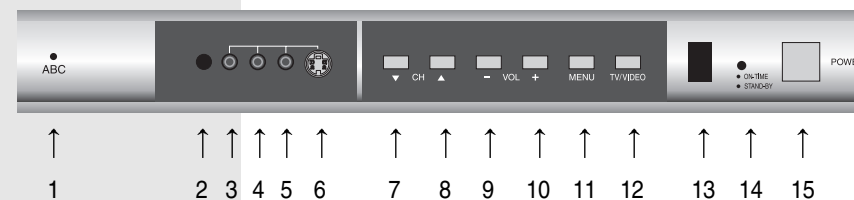
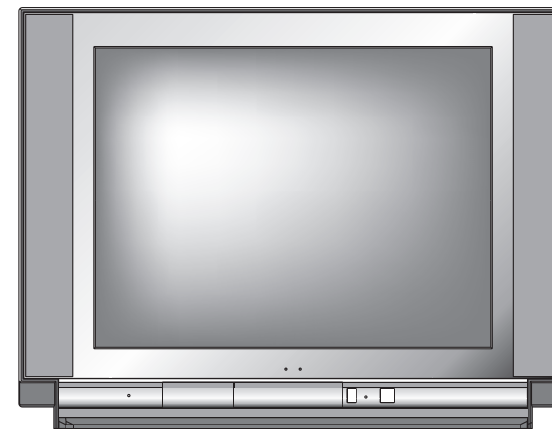
This lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (Servicing) instructions in the literature accompanying the appliance.

## LOCATION OF CONTROLS

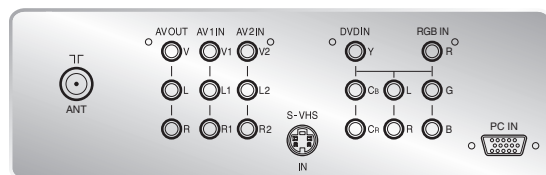
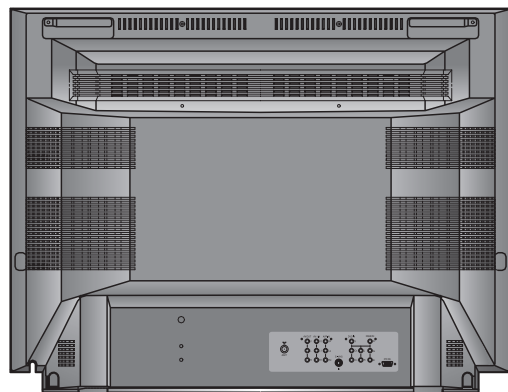
### FRONT PANEL VIEW(LIST OF KEY SWITCHES, CONNECTORS)



- |                                     |                              |
|-------------------------------------|------------------------------|
| 1. ABC Sensor                       | 9. Volume Down(▼) Button     |
| 2. Headphone Terminal               | 10. Volume Up(▲) Button      |
| 3. R Sound Input Terminal(3)        | 11. Menu Button              |
| 4. L Sound Input Terminal(3) : MONO | 12. TV/Video Button          |
| 5. Video Input Terminal(3)          | 13. Remote Controller Sensor |
| 6. S-VHS Input Terminal(3)          | 14. Stand-by Indicator       |
| 7. Channel Down(▼) Button           | 15. Power Button             |
| 8. Channel Up(▲) Button             |                              |

## LOCATION OF CONTROLS

### REAR PANEL VIEW



↑      ↑      ↑      ↑      ↑      ↑      ↑      ↑      ↑  
1      2      3      4      5      6      7      8      9

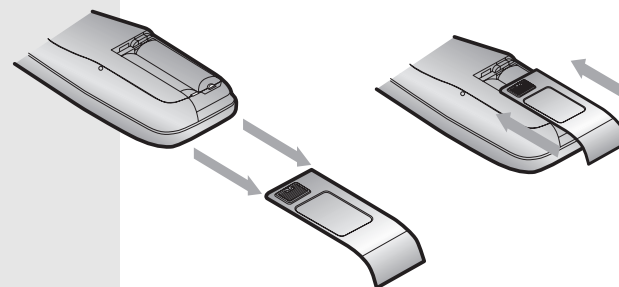
1. Antenna Input(75 ohm)
2. Video/Audio Output Terminals
3. Video/Audio Input Terminals(1)
4. Video/Audio Input Terminals(2)
5. S-VHS Input Jack(2)
6. Component Video Input Terminals(DVD IN)
7. Audio Input Jacks(In Case of DVD, RGB, PC Mode)
8. R, G, B Input Terminals
9. Personal Computer Input Terminal  
(D-Sub Connector)

## THE USE OF THE REMOTE CONTROLLER

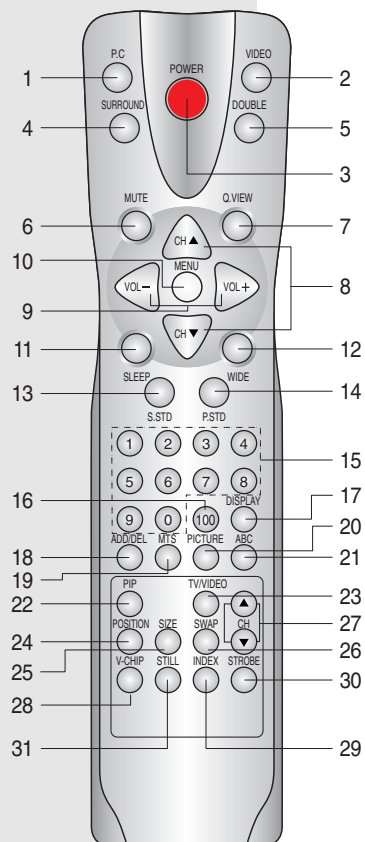
- Point to the remote controller sensor of the TV set.
- The maximum operatable distance is approximately 20 feet from the remote controller sensor, and not more than 30° to either side of the center.
- The operation of the remote controller is most effective when there's no obstruction between it and the remote controller sensor.
- The duration of the batteries is approximately 6 months to 1 year.  
Replace the batteries when the remote operation becomes unstable.

### BATTERY INSTALLATION

- Open up the cover.
- Correctly install the batteries, observing (+/-) polarity as shown in the compartment.
- Do not use a combination of old and new batteries or different type of batteries.
- If batteries become weak, remove and replace them soon.
- When battery leakage occurs, clean the battery compartment with a soft cloth and replace the batteries.



## THE FUNCTIONS OF THE REMOTE CONTROLLER



1. P.C Mode Selection Button
2. Video Mode Selection Button  
(VIDEO1→VIDEO2→VIDEO3→YUV→RGB→TV)
3. Power Button
4. Surround Button
5. Double Window Button
6. Mute Button
7. Quick View Button
8. Channel Up(▲) / Down(▼) Button
9. Volume Up(+) / Down(-) Button
10. Menu Button
11. Sleep Button
12. Wide Display Button
13. Sound Standard Button
14. Picture Standard Button
15. 10 Digit Keys
16. CATV 100 Channel Selection Key
17. State Display Button
18. Channel Add/Delete Button
19. Mono→ Stereo→ SAP Selection Button
20. Picture State Control Button
21. Automatic Brightness Control Button
22. PIP On/Off Button
23. PIP TV→VIDEO1→VIDEO2→VIDEO3→YUV→  
RGB Selection Button
24. PIP Position Selection Button
25. PIP Window Size Selection Button
26. Main←Sub Window Swap Button
27. PIP Channel Up(▲) and Down(▼) Button
28. V-CHIP Button
29. PIP Channel Index Button
30. PIP Strobe Button
31. PIP Still Button

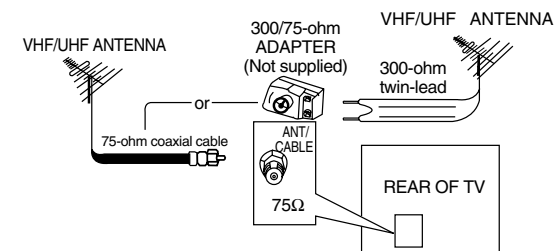
## ANTENNA CONNECTION

### OUTDOOR ANTENNA CONNECTION

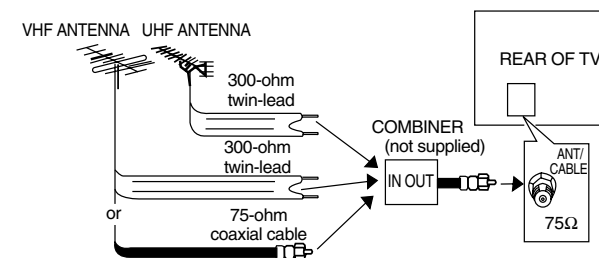
- Use one of the following two diagrams if you connect an outdoor antenna.
  - A. Using a VHF/UHF combination outdoor antenna.
  - B. Using separate VHF AND/OR UHF outdoor antenna.

- Connect an outdoor antenna cable LEAD-IN to the coaxial cable connector on the rear of the TV set.

#### A. Combination VHF/UHF Antennas



#### B. Separated VHF/UHF Antennas



## ANTENNA CONNECTION

### CABLE TV(CATV) CONNECTION

- Some cable TV companies offer premium pay channels. Since the signals of these premium pay channels are scrambled, a cable TV converter / descrambler is generally provided to the subscriber by the cable TV company. This converter / descrambler is necessary for normal watching of the scrambled channels.

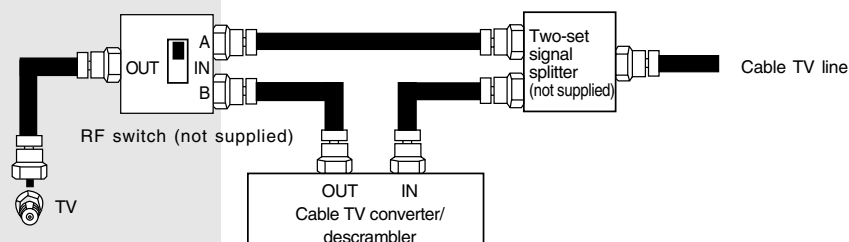
**NOTE :** An RF switch equipped with position A/B (not provided) is required.

"A" position on the RF switch (not supplied)

:You can view all unscrambled channels using the TV's channel keys.

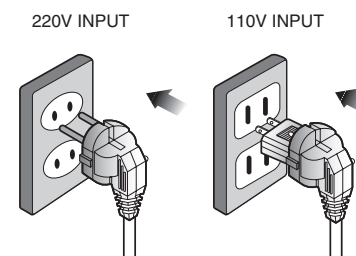
"B" position on the RF switch (not supplied)

:You can view the scrambled channels via the converter/descrambler using the converter's channel keys.



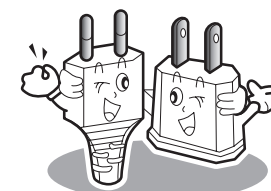
## POWER SUPPLY

- In case that the power cord is 110V AC, Insert the AC cord plug into a standard 110V polarized AC outlet.
- In case that the type of power cord is like as shown below, insert the AC cord plug into the AC outlet. The input power supply of this television is automatically regulated.



INSERT 110V ADAPTER INTO AC POWER PLUG.

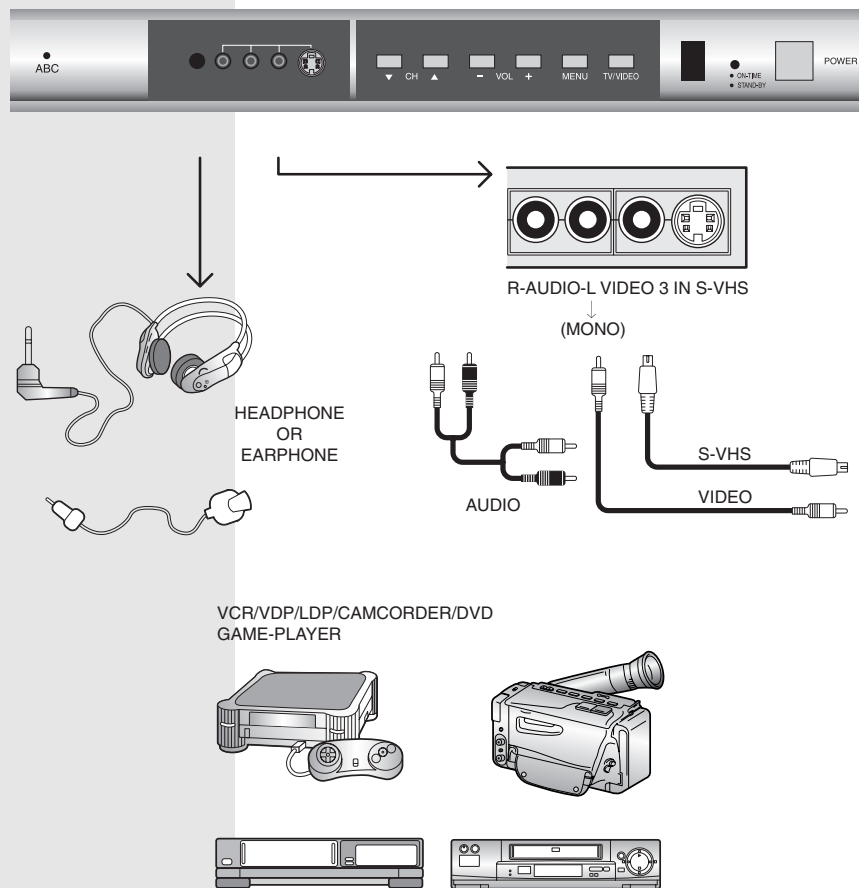
It is designed for convenient use in any 110V/220V power source without switching an input voltage selector.



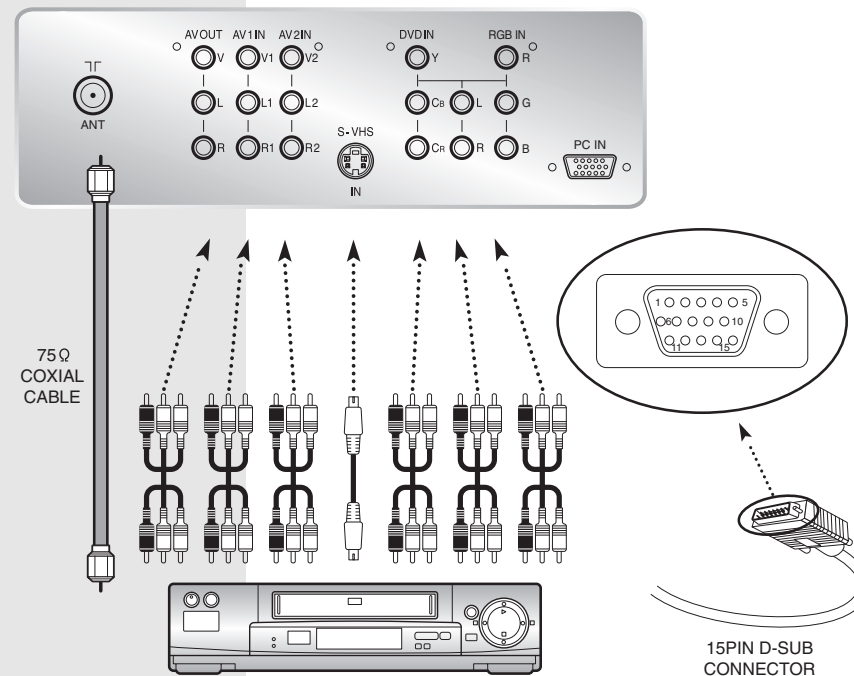


## VIDEO /AUDIO CONNECTION

- Please use the front terminals(VIDEO 3) for a GAME-PLAYER or CAMCODER.
- S-VHS Input has priority over VIDEO 3 input.  
Push the video button in sequence until **VIDEO 3** appears on the picture.
- Listen to the sound of main picture or sub picture with headphone or earphone.



## VIDEO /AUDIO CONNECTION



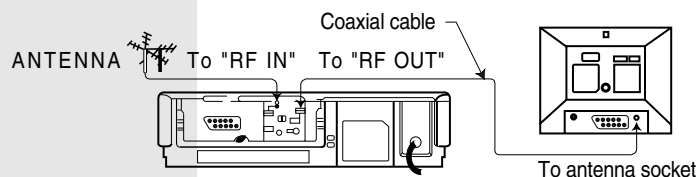
1. **AV OUT** : Connect this A/V output terminals to another monitor input.
2. **AV 1 IN** : Push the video button in sequence until **VIDEO 1** appears on the picture.  
Source input for composite video and audio signal of VCR, LDP(Laser Disc Player) or set-top box.
3. **AV 2 IN** : Push the video button in sequence until **VIDEO 2** appears on the picture.  
Source input for composite video and audio signal of VCR, LDP(Laser Disc Player) or set-top box.

## VIDEO /AUDIO CONNECTION

4. **S-VHS IN** : At either video 2 or video 3 mode, insert S-VHS cable from set-top box or VCR into S-VHS terminal.  
And the display will change from video 2 to S-VHS 2 or video 3 to S-VHS 3.  
S-VHS input has priority over video 2 input.
5. **DVD IN** : Insert A/V cables from DVD player. Be Careful in connecting the jacks for Y,CB,CR.
6. **L,R** : In case of DVD, RGB or PC mode, input the audio signals into this L,R JACKS if necessary.
7. **RGB IN** : Insert A/V cables from DVD player or set-top box.

**NOTE** : The SYNC signal is on **G SIGNAL** and the input frequency is **15.734KHZ**.

8. **PC IN** : Connect personal computer to the TV set via a D-SUB connector.  
Set PC with 640 × 480 mode.
9. **YOU CAN ALSO CONNECT A HOME VCR TO TV.**  
Connect the antenna lead-in cable from antenna to the RF IN socket of VCR.  
and then connect the coaxial cable from the RF OUT socket of the VCR to the antenna socket of TV set.



## STARTING OPERATION

1. Push the power button on the front panel or on the remote controller.  
If power plug is inserted into an AC outlet, the stand-by indicator will be red.
2. Select the channel you want to watch by CH ▲/▼ button or 10 digit keys.
  - Channels can be selected directly by using 10 digit keys.
  - For example, to select channel 5, press "0" first, then press "5".
  - For channel 120 in CATV mode, press 100 button first, then press "2", then "0".

**NOTE** : Certain channels have been pre-set at the factory.  
It may be necessary to add or delete some channels.  
See "MENU / SETUP / ANTENNA / AUTOPROGRAM" on page 29 for adding channels in memory.

3. Adjust the volume of sound.

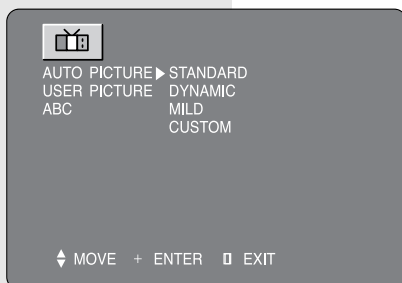
## PICTURE ADJUSTMENT

### AUTOMATIC PICTURE ADJUSTMENT

- By pressing the P.STD button on the remote controller, sequentially select any one of 4 picture standard pre-sets.
- Press menu button and then select **PICTURE** icon by VOL +/-KEY.



1. Press CH ▼ button

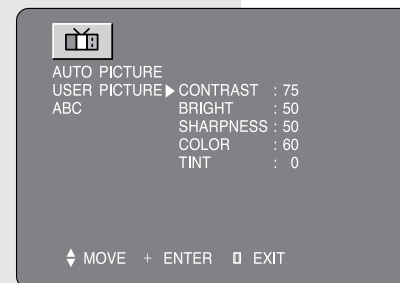


2. Select the picture state, using VOL + and CH ▲/▼ button.

- ♣ **STANDARD** : Select this mode to watch TV at standard state.
- ♣ **DYNAMIC** : Select this mode to watch in a room with bright illumination.
- ♣ **MILD** : Select this mode when the room is dark or to lessen eye fatigue.
- ♣ **CUSTOM** : Select this mode to view the picture to your set picture state preference.

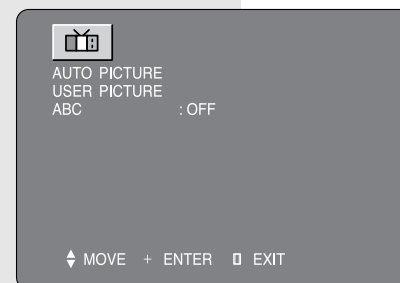
## PICTURE ADJUSTMENT

### MANUAL PICTURE ADJUSTMENT



- Adjust the picture state one by one, using VOL + and CH ▲/▼ button. Pressing **PICTURE** button on the remote controller, the same display will appear.

### ABC(AUTOMATIC BRIGHTNESS AND CONTRAST CONTROL)

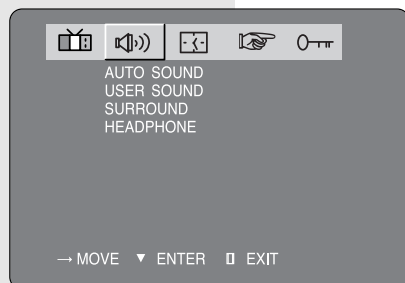


- If you set ABC on, the brightness and contrast will automatically be adjusted to optimum levels according to the surroundings.
- Pressing ABC button on the remote controller, the same function will operate.

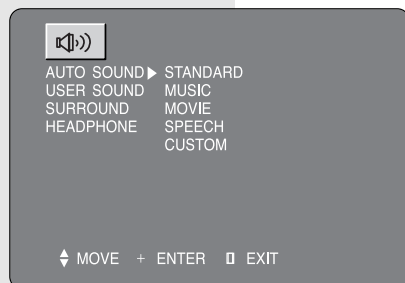
## SOUND ADJUSTMENT

### AUTOMATIC SOUND ADJUSTMENT

- By pressing the S.STD button on the remote controller, sequentially select any one of 4 SOUND standard pre-sets.
- Press menu button and then select **SOUND** icon by VOL +/- Key.



1. Press CH ▼ button

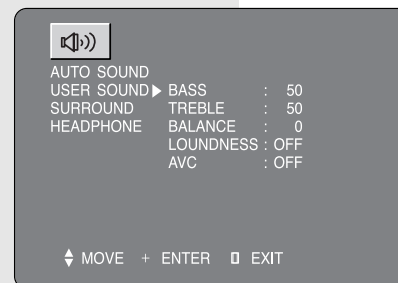


2. Adjust the Sound state, using VOL + and CH ▲/▼ button.

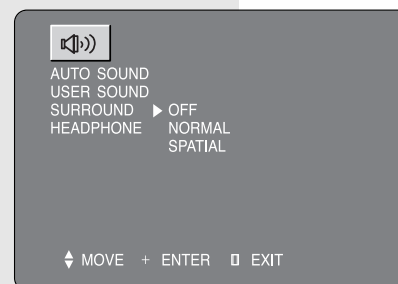
- ♣ **STANDARD** : Select this mode to listen to TV at standard state.
- ♣ **MUSIC** : Select this mode to listen to music.
- ♣ **MOVIE** : Select this mode when viewing a movie.
- ♣ **SPEECH** : Select this mode to hear voices clearly.
- ♣ **CUSTOM** : Select this mode to listen to the sound at your set sound state preference.

## SOUND ADJUSTMENT

### MANUAL SOUND ADJUSTMENT



- Adjust the sound state one by one, using VOL + and CH ▲/▼ button.



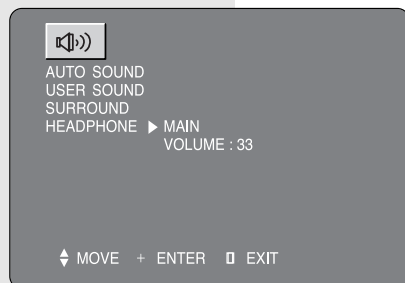
- **LOUDNESS** : Loudness effects for a grand bass sound.
- **AVC(AUTOMATIC VOLUME CORRECTION)** : different sound sources fairly do not have the same volume level. This results in annoying volume changes. AVC solves this problem by equalizing the volume levels.

### SURROUND EFFECTS

1. If the incoming signal is mono, pseudo stereo effects is active. So, normal mode is the same amplitude and phase as spatial mode.
2. For stereo signal, stereo base width enlargement is effective. The spatial surround effects provides a spectacular listening environment !

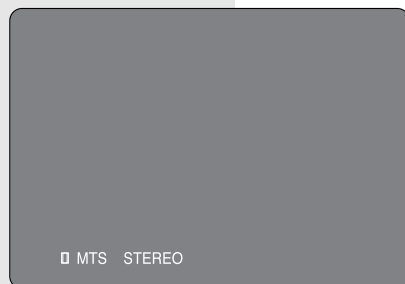
## SOUND ADJUSTMENT

### HEADPHONE



- Adjust the volume of sound by VOL + and CH ▲/▼ button.

### STEREO SOUND SYSTEM



This TV has a built-in BTSC system(Zenith DBX System) decoder to receive stereo broadcast and SAP(Secondary Audio Program) such as a bilingual broadcast.

- Whenever MTS button is pressed, the reception mode will change as below.  
**MONO → STEREO → SAP**
- The “[[S]], ◇” symbols indicate that a broadcasting station is transmitting a multiplex sound broadcast.  
[[S]] → STEREO SYMBOL  
◇ → SAP SYMBOL

## SOUND ADJUSTMENT

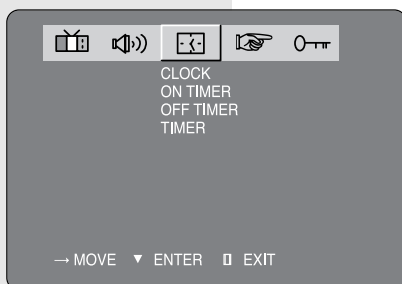
### STEREO SOUND SYSTEM

- When the power is switched on or channel changes, “[[S]], ◇” symbols are automatically displayed, depending on the current broadcast signal.
- If the receiving signal is weak, noise may be heard.  
In such case, press MTS button and set the sound mode mono for better sound reception.

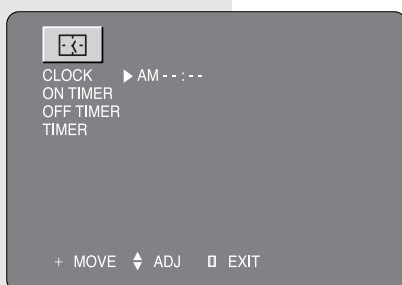
## CLOCK SETTING

Set the time and minutes and use as a clock and timer!

- Set the **current time** before you set the automatic On/Off timer.
- The current time will be displayed by pressing **Display** button on the remote controller.
- Press menu button and then select **CLOCK** icon by VOL +/- Key.



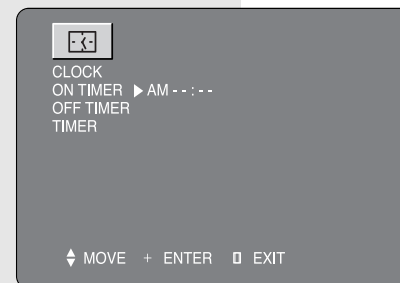
1. Press CH ▼ button.



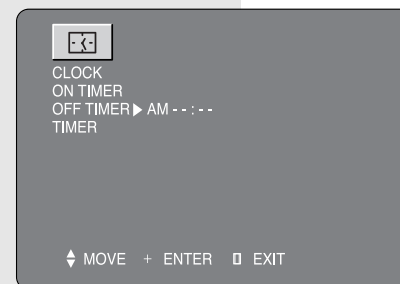
2. Set the current time and minutes, using VOL + and CH ▲/▼ button.

## CLOCK SETTING

The On/Off timer lets you use alarm and automatic off-functions .



- Set **ON TIMER'S** time and minutes, using VOL+ and CH ▲/▼ button.



- Set **OFF TIMER'S** time and minutes, using VOL+ and CH ▲/▼ button.

- If you have not yet set the television's clock, the message "CLOCK STOPPED" will be displayed when activating the timer.
- The message "ON" appears to indicate that the timer function is already operating. And notice the color of stand-by indicator becomes green.

## CLOCK SETTING



- When the power is off(stand-by mode) after timer is set, the color of stand-by indicator changes from green to orange.
- If on timer and off timer is set at the same time and minutes, **ON TIMER** has priority over off timer when power is off
- You can activate timer function and channel, using VOL + and CH ▲/▼ button.

### SLEEP TIMER

Select a sleep time period from 15 to 90 minutes.

The television automatically is turned off after the set sleep time has elapsed.

Whenever sleep button is pressed, the time period change as shown below

OFF → 15 → 30 → 45 → 60 → 90.

### AUTOMATIC POWER -OFF OPERATION

Set is turned off automatically after 15 minutes in the absence of picture signal.

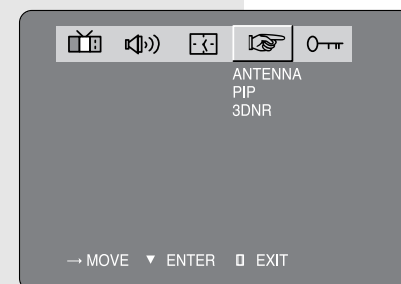
## SET UP

### ANTENNA SELECTION

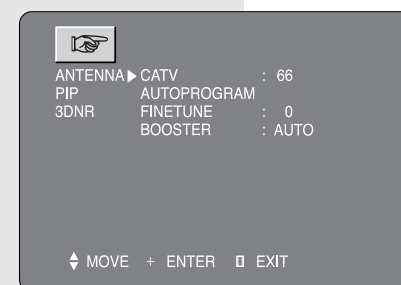
#### CATV ↔ TV

In this mode, you can change the broadcast mode between TV (For regular VHF/UHF channel) and CATV (For cable channel).

- Press menu button and select set-up icon by VOL +/- Key.



1. Press CH ▼ button.



2. Change the broadcast mode by VOL + button.