SHARP®

LC-32AV22U

LIQUID CRYSTAL TELEVISION
TÉLÉVISEUR ACL
TELEVISOR CON PANTALLA
  DE CRISTAL LÍQUIDO
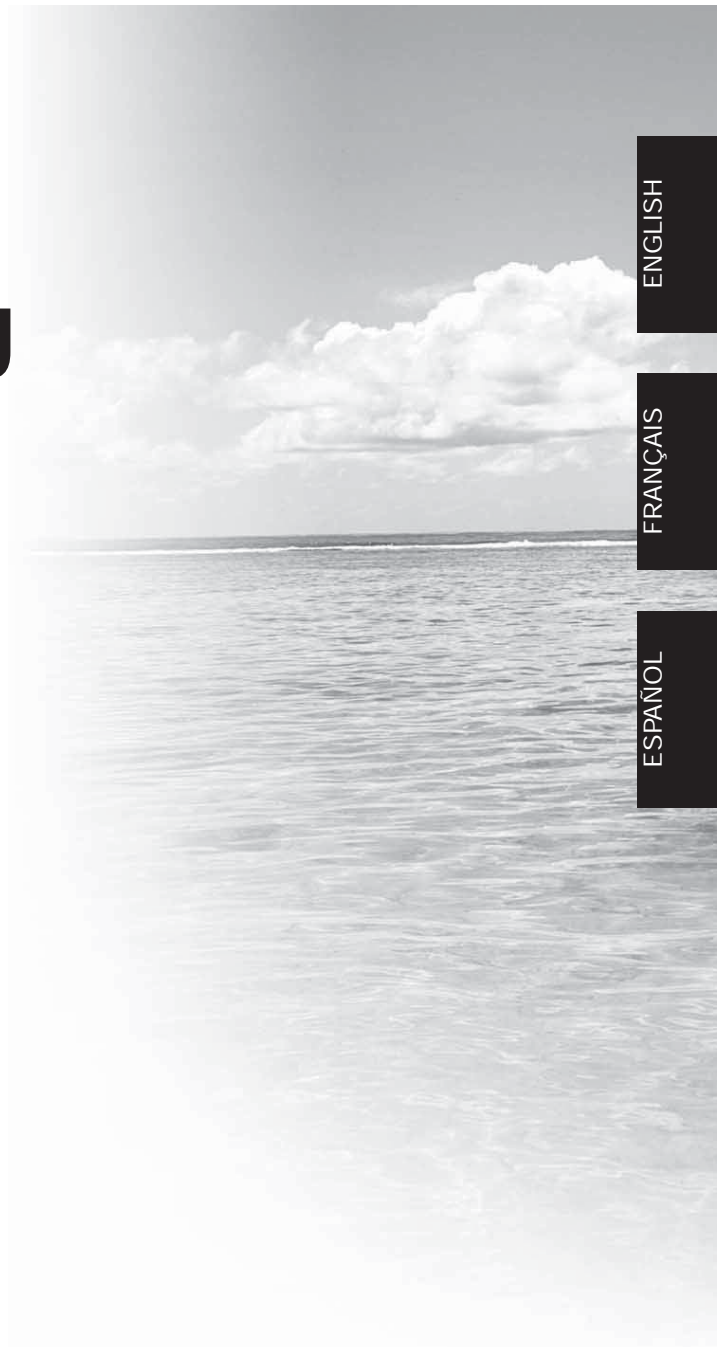
OPERATION MANUAL
MODE D'EMPLOI
MANUAL DE OPERACIÓN

ENERGY STAR

DOLBY DIGITAL

HDMI™
HIGH-DEFINITION MULTIMEDIA INTERFACE

HDTV
HIGH-DEFINITION TELEVISION

LC-32AV22U

LIQUID CRYSTAL TELEVISION

ENGLISH

OPERATION MANUAL

- The illustrations and on-screen displays in this operation manual are for explanation purposes and may vary slightly from the actual operations.
- Menu items that are not selectable are grayed out.

IMPORTANT:
To aid reporting in case of loss or theft, please record the TV's model and serial numbers in the space provided. The numbers are located at the rear of the TV.

Model No.:
Serial No.:

IMPORTANT INFORMATION

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrow-head 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 a triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

IMPORTANT INFORMATION

| **CAUTION:** TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT. |

CAUTION:

DO NOT PLACE THIS PRODUCT ON AN UNSTABLE CART, STAND, TRIPOD, BRACKET, OR TABLE. THE PRODUCT MAY FALL CAUSING SERIOUS PERSONAL INJURY AND SERIOUS DAMAGE TO THE PRODUCT. USE ONLY WITH A CART, STAND, TRIPOD, BRACKET, OR TABLE RECOMMENDED BY THE MANUFACTURER OR SOLD WITH THE PRODUCT. FOLLOW THE MANUFACTURER'S INSTRUCTIONS WHEN INSTALLING THE PRODUCT AND USE MOUNTING ACCESSORIES RECOMMENDED BY THE MANUFACTURER. A PRODUCT AND CART COMBINATION SHOULD BE MOVED WITH CARE. QUICK STOPS, EXCESSIVE FORCE, AND UNEVEN SURFACES MAY CAUSE THE PRODUCT AND CART COMBINATION TO OVERTURN.

WARNING: FCC Regulations state that any unauthorized changes or modifications to this equipment not expressly approved by the manufacturer could void the user's authority to operate this equipment.

CAUTION:

This product satisfies FCC regulations when shielded cables and connectors are used to connect the unit to other equipment. To prevent electromagnetic interference with electric appliances such as radios and televisions, use shielded cables and connectors for connections.

DECLARATION OF CONFORMITY

SHARP LIQUID CRYSTAL TELEVISION, MODEL LC-32AV22U

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
RESPONSIBLE PARTY:
 SHARP ELECTRONICS CORPORATION
 Sharp Plaza, Mahwah, New Jersey 07430-2135
 TEL: 1-800-BE-SHARP

For Business Customers: URL http://www. sharpusa. com

INFORMATION:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help.

"Note to CATV system installer: This reminder is provided to call the CATV system installer's attention to Article 820-40 of the National Electrical Code that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical."

This product utilizes tin-lead solder, and fluorescent lamp containing a small amount of mercury. Disposal of these materials may be regulated due to environmental considerations. For disposal or recycling information, please contact your local authorities or the Electronic Industries Alliance: www.eia.org

Trademarks

• Manufactured under license from Dolby Laboratories. "Dolby" and the double-D symbol are trademarks of Dolby Laboratories.

• "HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC."

• Products that have earned the ENERGY STAR® are designed to protect the environment through superior energy efficiency.

DEAR SHARP CUSTOMER

Thank you for your purchase of the Sharp Liquid Crystal Television. To ensure safety and many years of trouble-free operation of your product, please read the Important Safety Instructions carefully before using this product.

IMPORTANT SAFETY INSTRUCTIONS

Electricity is used to perform many useful functions, but it can also cause personal injuries and property damage if improperly handled. This product has been engineered and manufactured with the highest priority on safety. However, improper use can result in electric shock and/or fire. In order to prevent potential danger, please observe the following instructions when installing, operating and cleaning the product. To ensure your safety and prolong the service life of your Liquid Crystal Television, please read the following precautions carefully before using the product.

1) Read these instructions.
2) Keep these instructions.
3) Heed all warnings.
4) Follow all instructions.
5) Do not use this apparatus near water.
6) Clean only with dry cloth.
7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11) Only use attachments/accessories specified by the manufacturer.
12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13) Unplug this apparatus during lightning storms or when unused for long periods of time.
14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Additional Safety Information

15) Power Sources—This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.
16) Overloading—Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
17) Object and Liquid Entry—Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
18) Damage Requiring Service—Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a) When the AC cord or plug is damaged,
    b) If liquid has been spilled, or objects have fallen into the product,
    c) If the product has been exposed to rain or water,
    d) If the product does not operate normally by following the operating instructions.
       Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation,
    e) If the product has been dropped or damaged in any way, and
    f) When the product exhibits a distinct change in performance - this indicates a need for service.
19) Replacement Parts—When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
20) Safety Check—Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
21) Wall or ceiling mounting—When mounting the product on a wall or ceiling, be sure to install the product according to the method recommended by the manufacturer.

IMPORTANT SAFETY INSTRUCTIONS

- Water and Moisture — Do not use this product near water - for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.

- Stand — Do not place the product on an unstable cart, stand, tripod or table. Placing the product on an unstable base can cause the product to fall, resulting in serious personal injuries as well as damage to the product. Use only a cart, stand, tripod, bracket or table recommended by the manufacturer or sold with the product. When mounting the product on a wall, be sure to follow the manufacturer's instructions. Use only the mounting hardware recommended by the manufacturer.

- Selecting the location — Select a place with no direct sunlight and good ventilation.
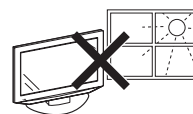
- Ventilation — The vents and other openings in the cabinet are designed for ventilation. Do not cover or block these vents and openings since insufficient ventilation can cause overheating and/or shorten the life of the product. Do not place the product on a bed, sofa, rug or other similar surface, since they can block ventilation openings. This product is not designed for built-in installation; do not place the product in an enclosed place such as a bookcase or rack, unless proper ventilation is provided or the manufacturer's instructions are followed.
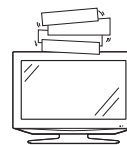
- The Liquid Crystal panel used in this product is made of glass. Therefore, it can breakwhen the product is dropped or applied with impact. Be careful not to be injured by broken glass pieces in case the panel breaks.

- Heat — The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

- The Liquid Crystal panel is a very high technology product with 3,147,264 thin film transistors, giving you fine picture details.
  Occasionally, a few non-active pixels may appear on the screen as a fixed point of blue, green or red. Please note that this does not affect the performance of your product.

**Precautions when transporting the TV**
- Be sure to always carry the TV by two people holding it with two hands — one hand on each side of the TV.
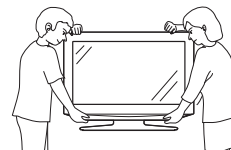
- Lightning — For added protection for this television equipment during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna. This will prevent damage to the equipment due to lightning and power-line surges.
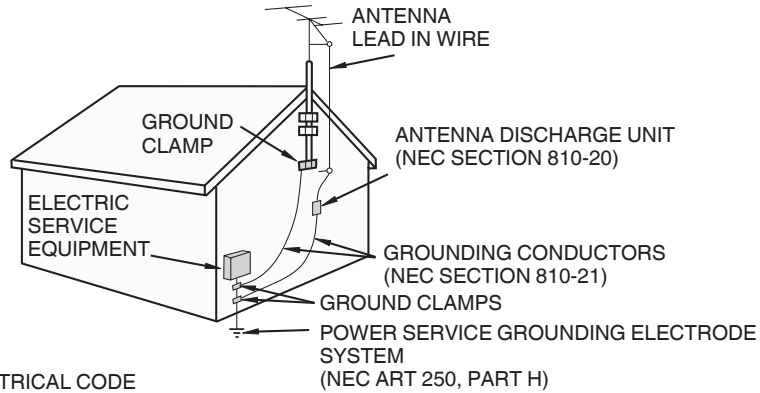
- Power Lines — An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
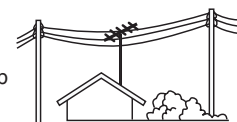
IMPORTANT SAFETY INSTRUCTIONS

- Outdoor Antenna Grounding — If an outside antenna is connected to the television equipment, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

EXAMPLE OF ANTENNA GROUNDING AS PER
NATIONAL ELECTRICAL CODE, ANSI/NFPA 70

ANTENNA
LEAD IN WIRE

GROUND
CLAMP

ANTENNA DISCHARGE UNIT
(NEC SECTION 810-20)

ELECTRIC
SERVICE
EQUIPMENT

GROUNDING CONDUCTORS
(NEC SECTION 810-21)

GROUND CLAMPS

POWER SERVICE GROUNDING ELECTRODE
SYSTEM
(NEC ART 250, PART H)

NEC — NATIONAL ELECTRICAL CODE

- To prevent fire, never place any type of candle or flames on the top or near the TV set.


- To prevent fire or shock hazard, do not expose this product to dripping or splashing. No objects filled with liquids, such as vases, should be placed on the product.

- To prevent fire or shock hazard, do not place the AC cord under the TV set or other heavy items.
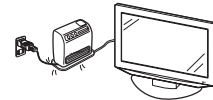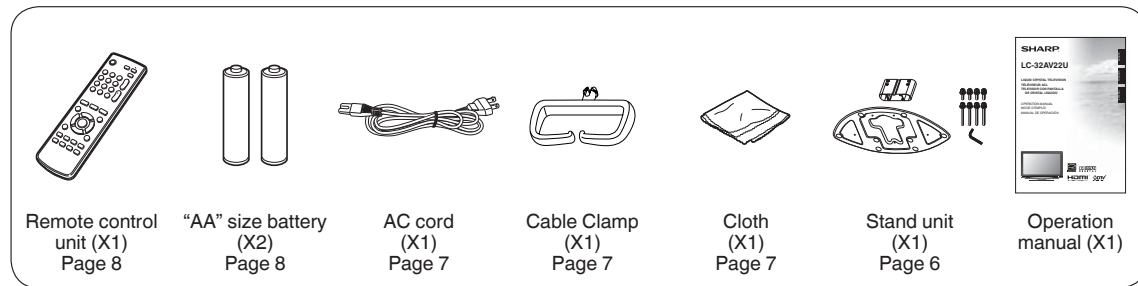

- Turn off the main power and unplug the AC cord from the wall outlet before handling.
- Use a soft cloth and gently wipe the surface of the display panel. Using a hard cloth may scratch the panel surface.
- Use a soft damp cloth to gently wipe the panel when it is really dirty. (It may scratch the panel surface when wiped strongly.)
- If the panel is dusty, use an anti-static brush, which is commercially available, to clean it.
- To protect the panel, do not use a dirty cloth, liquid cleaners or chemical cloth to clean it, such materials may damage the panel surface.
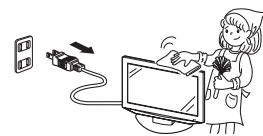
- Do not display a still picture for a long time, as this could cause an afterimage to remain.

Supplied accessories

Make sure the following accessories are provided with the product.

| Remote control unit (X1) Page 8 | "AA" size battery (X2) Page 8 | AC cord (X1) Page 7 | Cable Clamp (X1) Page 7 | Cloth (X1) Page 7 | Stand unit (X1) Page 6 | Operation manual (X1) |

NOTE

• Always use the AC cord supplied with the TV.

QUICK REFERENCE

Attaching the stand

• Before attaching (or detaching) the stand, unplug the AC cord from the AC input terminal.
• Before performing work spread cushioning over the base area to lay the TV on. This will prevent it from being damaged.

CAUTION

• **Attach the stand in the correct direction.**
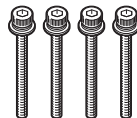• **Be sure to follow the instructions. Incorrect installation of the stand may result in the TV falling over.**

1 Confirm the 8 screws supplied with the TV.

Short screws (X4)
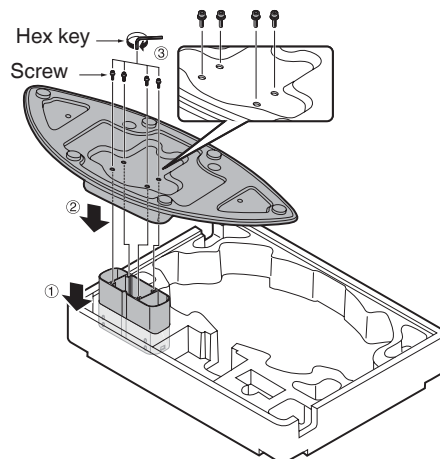(used in step 2)

**Long screws (X4)**
(used in step 3)

2 Remove the covering sheet of the stand.

① Set the post for the stand unit onto the box.
② Attach the base to the post.
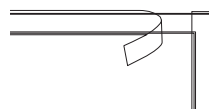③ Attach the base to the 4 screws into the 4 holes on the bottom of the base.

Hex key
Screw

3 ① Insert the stand into the openings on the bottom of the TV.
② Insert and tighten the 4 screws into the 4 holes on the rear of the TV.

② Hex key
Screw

Soft cushion
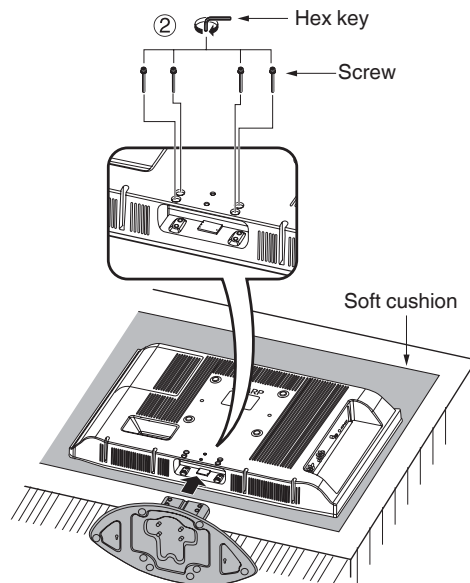
4 For protection, sheets are covering the product. Please remove these sheets before use.
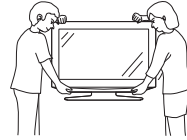
NOTE

• To detach the stand, perform the step in reverse order.

QUICK REFERENCE

STOP! To safely remove the television from the box

• It's best to use 2 people to remove the television for stability.
• Lift onto installation location as the diagram illustrates.

Ventilation & Cleaning Tips

Keep your television in a well ventilated area and make sure not to place it by a heat source or use near water.
The television is designed for AC use only and should be used with supplied AC cord.

Clean the screen by spraying a soft lint free cloth (supplied) with water to lightly moisten.
Gently wipe and avoid pressing on the screen. To clean the outer cabinet, use the same method.
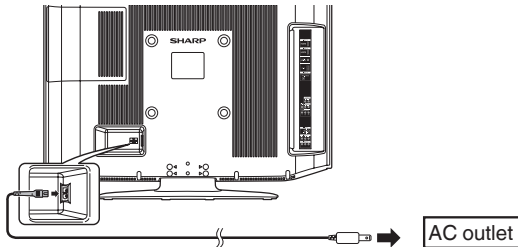Do not use liquid or aerosol cleaners.

The screen is glass and can be scratched or broken when dropped or impacted.

QUICK INSTALLATION TIPS

1. Attach your antenna to the back of the TV.
(See page 12.)

2. Connect the AC plug for the television into the wall outlet.

AC outlet

• Place the TV close to the AC outlet, and keep the power plug within reach.

✎ NOTE

• **TO PREVENT RISK OF ELECTRIC SHOCK, DO NOT TOUCH UN-INSULATED PARTS OF ANY CABLES WITH THE AC CORD CONNECTED.**

3. Bundle the cords properly with a cable clamp.
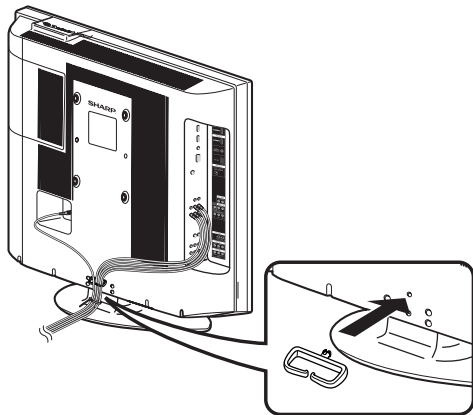
4. How to turn on the television for the first time.

A) Press **POWER** on television.

— VOL +   ∨ CH ∧   INPUT   POWER
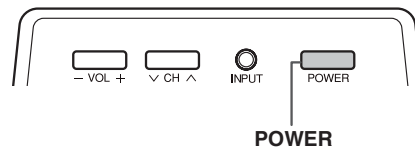
POWER

B) POWER indicator on the front of the television lights GREEN.

SHARP

POWER

POWER indicator
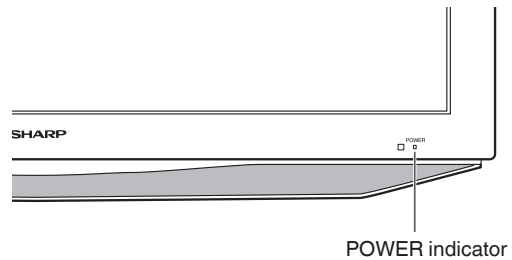
✎ NOTE

• Speaker cannot be detached from the TV.
• TV angle cannot be adjusted.

QUICK REFERENCE

If the remote control fails to operate TV functions, replace the batteries in the remote control unit.

1 Open the battery cover.

2 Insert two "AA" size batteries (supplied with the product).

3 Close the battery cover.

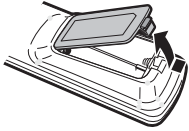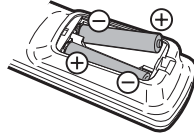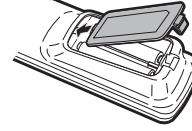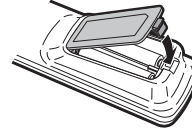• Place the batteries with their terminals corresponding to the (+) and (–) indications in the battery compartment.

NOTE

Improper use of batteries can result in chemical leakage or explosion. Be sure to follow the instructions below.
• Do not mix batteries of different types. Different types of batteries have different characteristics.
• Do not mix old and new batteries. Mixing old and new batteries can shorten the life of new batteries or cause chemical leakage in old batteries.
• Remove batteries as soon as they are worn out. Chemicals that leak from batteries that come in contact with skin can cause a rash. If you find any chemical leakage, wipe thoroughly with a cloth.
• The batteries supplied with this product may have a shorter life expectancy due to storage conditions.
• If you will not be using the remote control unit for an extended period of time, remove batteries from it.

17"(5 m)

Remote control sensor

30° 30°
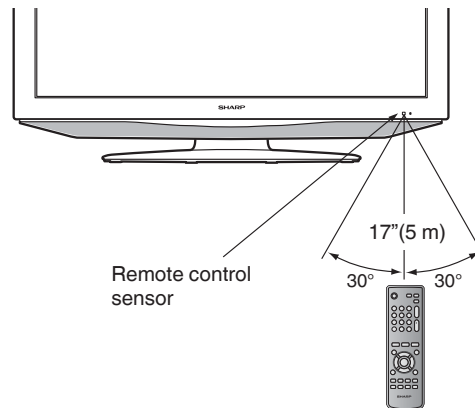
IMPORTANT:
The POWER indicator on the television should light GREEN indicating you have power to the television.

If the POWER indicator on the television still does not light up, press **POWER** on the remote control to turn the power on.
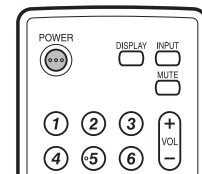
IMPORTANT:
IF THE UNIT DOES NOT POWER ON - UNPLUG THE TELEVISION FROM THE OUTLET AND REPEAT THE INSTALLATION STEPS.

IF YOU STILL ENCOUNTER NO POWER, PLEASE CONTACT US AT 1-800-BE-SHARP.

Please refer to the BASIC ADJUSTMENT SETTINGS SECTION and basic Initial setup functions and USING EXTERNAL EQUIPMENT SECTION for other device connections (DVD, VCR, AUDIO, etc) in your operation manual.

Contents

Dimensional Drawings
  • The dimensional drawings for the LCD TV set
   are shown on the inside back cover.

Part names

TV (Front)

Channel buttons (**CH** ⌄/⌃)   **POWER** button
Volume buttons (**VOL**−/+)   **INPUT** button

− VOL +   ⌄ CH ⌃   INPUT   POWER
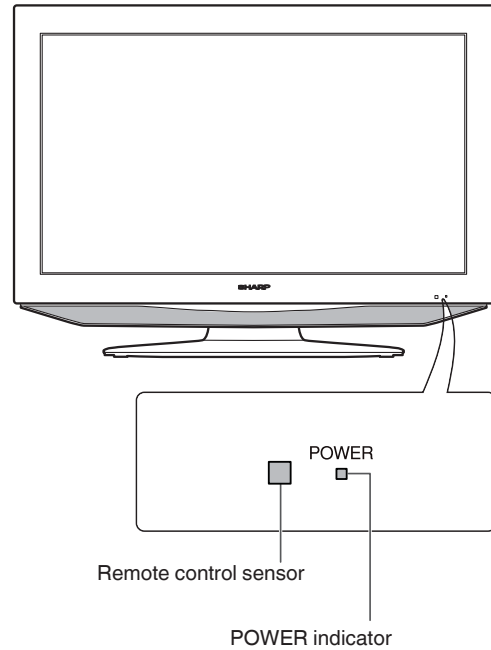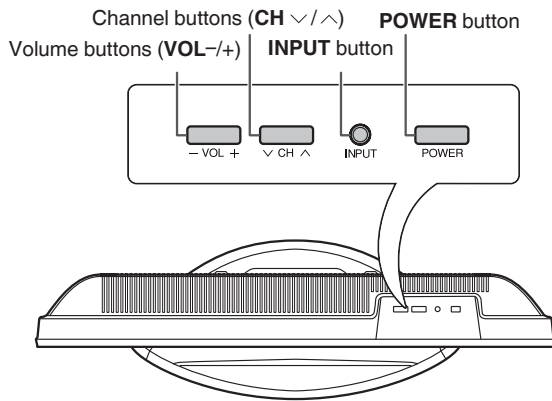
📎 **NOTE**

• **INPUT**, **CH** (⌄)/(⌃), **VOL** (−)/(+) and **POWER** on the main unit have the same functions as the same buttons on the remote control. Fundamentally, this operation manual provides a description based on operation using the remote control.

POWER

Remote control sensor

POWER indicator

TV (Rear)

SHARP

INPUT 5 ─ INPUT 5 terminal

INPUT 4 ─ INPUT 4 terminals

AUDIO HDMI/PC ─ INPUT 6 terminals

PC IN

INPUT 6

ANT./CABLE ─ ANT./CABLE in

COAXIAL DIGITAL AUDIO OUTPUT terminal

OUTPUT L-AUDIO-R ─ AUDIO OUTPUT terminals

INPUT 3 L-AUDIO-R (MONO) ─ INPUT 3 terminals

COMPONENT
Y   PB   PR

S-VIDEO
INPUT 2 INPUT 1

INPUT 1
VIDEO L-AUDIO-R ─ INPUT 1 terminals

INPUT 2
VIDEO L-AUDIO-R (MONO) ─ INPUT 2 terminals

Part names

Remote control unit
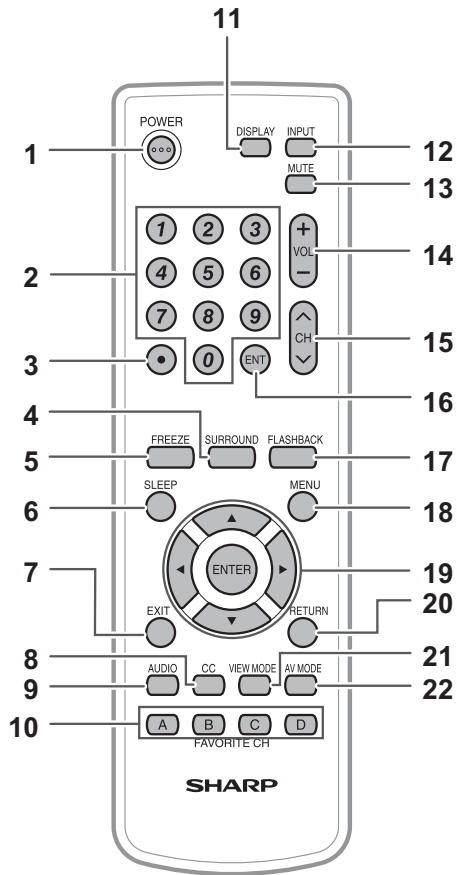
There is a protective film covering the face of the remote control. Please remove this film before use.
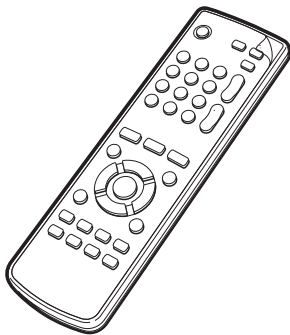
1 **POWER:** Switch the power on or enters standby mode. (See page 16.)

2 **0–9:** Set the channel. (See page 16.)

3 **• (DOT):** (See page 16.)

4 **SURROUND:** Display the surround setting menu. (See page 18.)

5 **FREEZE:** Set the still image. Press again to return to normal screen.

• The still image automatically goes out after 30 minutes.

6 **SLEEP:** Allows you to set a time when the TV automatically switches to standby. Each time you press this button, the remaining time setting switches by 10 minutes up to 2 hours. This display will disappear after a few seconds, and the sleep timer automatically starts counting down.

• If you want to adjust the sleep timer again, you can press this button repeatedly then change the time setting.
• Select "0h00m" by pressing SLEEP repeatedly to cancel the sleep timer.
• The TV will enter the standby mode when the remaining time reaches zero.

7 **EXIT:** Turn off the menu screen.

8 **CC:** Display captions during closed-caption source. (See page 26.)

9 **AUDIO:** Display the MTS setting menu. (See page 18.)

10 **FAVORITE CH**

A, B, C, D: Select 4 preset favorite channels in 4 different categories. (See page 20 for details.)

While watching, you can toggle the selected channels by pressing A, B, C and D.

11 **DISPLAY:** Display the current channel (or input source) information on the screen. (See page 18.)

12 **INPUT:** Select a TV input source. (See page 13.)

13 **MUTE:** Mute the sound. "MUTE" will be displayed on the screen, and the sound is silenced. The muting feature can be released by pressing this button again or one of the VOL +/– buttons.

14 **VOL +/–:** Set the volume. (See page 16.)

15 **CH ∧/∨:** Select the channel. (See page 16.)

16 **ENT:** Jumps to a channel after selecting with the **0–9** buttons.

17 **FLASHBACK:** Press to switch to the previously tuned channel. Press again to switch back to the currently tuned channel.

• This function will not work if no channel has been changed after the TV is turned on.

18 **MENU:** Display the menu screen.

19 **▲/▼/◄/►/ENTER:** Select a desired item on the screen.

20 **RETURN:** Return to the previous menu screen.

21 **VIEW MODE:** Select the screen size. (See page 25.)

22 **AV MODE:** Select an adjusted picture setting. (SPORTS, STANDARD, MOVIE, MEMORY.) (See page 23.)

Preparation

Using the remote control unit

Use the remote control unit by pointing it towards the remote control sensor on the TV. Objects between the remote control unit and the remote control sensor may prevent proper operation.

Cautions regarding remote control unit

- Do not expose the remote control unit to shock.
- In addition, do not expose the remote control unit to liquids, and do not place in an area with high humidity.
- Do not install or place the remote control unit under direct sunlight. The heat may cause deformation of the remote control unit.
- The remote control unit may not work properly if the remote control sensor on the TV is under direct sunlight or strong lighting. In such cases, change the angle of the lighting or the TV, or operate the remote control unit closer to the remote control sensor.
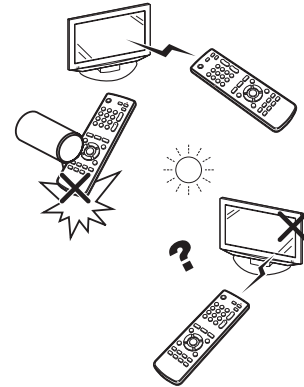
Antennas

To enjoy a clearer picture, use an outdoor antenna. The following is a brief explanation of the types of connections that are used for a coaxial cable. If your outdoor antenna uses a 75-ohm coaxial cable with an F-type connector, plug it into the antenna terminal at the rear of the TV set.

1. A 75-ohm system is generally a round cable with F-type connector that can easily be attached to a terminal without tools (Commercially available).

   F-type connector

   75-ohm coaxial cable (round)
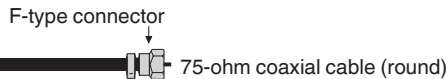
2. A 300-ohm system is a flat "twin-lead" cable that can be attached to a 75-ohm terminal through a 300/75-ohm adapter (Commercially available).

   300-ohm twin-lead cable (flat)

NOTICE **F-type connector should be finger-tightened only.**

When connecting the RF cable to the TV set, do not tighten F-type connector with tools.
If tools are used, it may cause damage to your TV set. (The breaking of internal circuit, etc.)

F-type connector

75-ohm coaxial cable
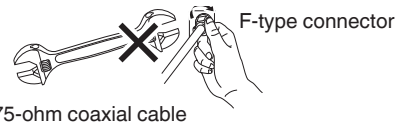
Connecting Antenna Cable

① **Cable without a CATV converter**

Cable TV lead-In

Home Antenna terminal (75-ohm)

Coaxial cable (commercially available)

② **VHF/UHF antenna**

75-ohm coaxial cable (round)

Home Antenna terminal (75-ohm)

Coaxial cable (commercially available)

③ **Combination VHF/ UHF antenna**

or 75-ohm coaxial cable (round)

300-ohm twin-lead cable (flat)

300/75-ohm adapter (commercially available)

④ **Separate VHF/ UHF antenna**

VHF ANTENNA   UHF ANTENNA

300-ohm twin-lead cable

Combiner (commercially available)

300-ohm twin-lead cable

IN OUT

or 75-ohm coaxial cable

- **Connect the antenna cable to the TV using one of the methods in the illustration as shown (①, ②, ③ or ④).**

ANT./CABLE

To TV antenna terminal

Using external equipment

You can connect many types of external equipment to your TV like a DVD player, VCR, Digital TV tuner, HDMI equipment, game console or camcorder. To view external source images, select the input source from **INPUT** on the remote control unit or on the TV.

Displaying an external equipment image

This explanation is for the setting when connecting a DVD player to the INPUT3 terminal.
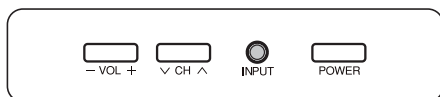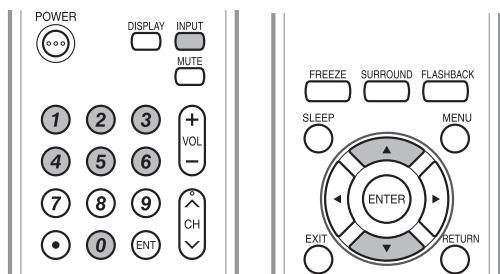
To watch a DVD image, select "INPUT3" from "SOURCE SELECTION" menu using **0–6** on the remote control.

```
SOURCE SELECTION

0.  TV
1.  INPUT1
2.  INPUT2
3.  INPUT3
4.  INPUT4
5.  INPUT5
6.  INPUT6


[0-6] : SELECT
```
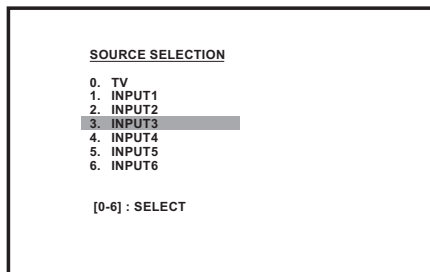
- Each time **INPUT** is pressed, "SOURCE SELECTION" item toggles.
- You can also select "SOURCE SELECTION" item by pressing ▲/▼.

CAUTION

- To protect equipment, always turn off the TV before connecting a DVD player, VCR, Digital TV tuner, HDMI equipment, game console, camcorder or other external equipment.

NOTE

- See pages 14 and 15 for external equipment connection.
- Please read the relevant operation manual (DVD player, etc.) carefully before making connections.
- Refer to your external equipment operation manual for the signal type.

- 13

Connecting a DVD player or a digital TV STB (Cable)

You can use the INPUT1–4 terminals when connecting to a DVD player, a Digital TV STB (Cable) and other audiovisual equipment.

When using component cable. (INPUT3)
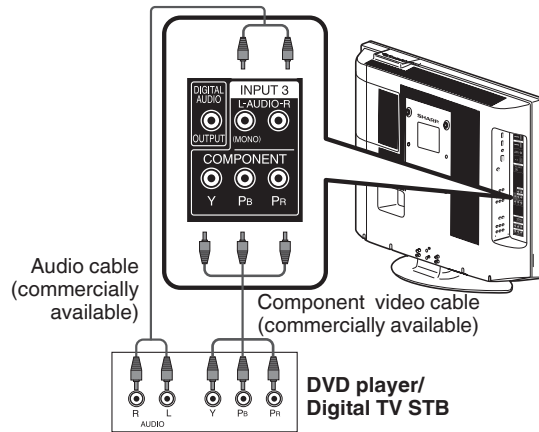
When using composite cable. (INPUT1 or 2)

Audio cable (commercially available)

Component video cable (commercially available)

DVD player/ Digital TV STB

AV cable (commercially available)

DVD player/ Digital TV STB
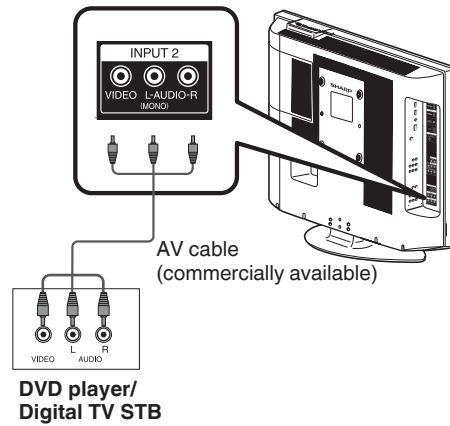
NOTE

• See page 15 for connecting a DVD player or a Digital TV STB to the HDMI terminal.

Connecting a VCR, game console or camcorder

A VCR, game console, camcorder and other audiovisual equipment can be conveniently connected using the INPUT1 or 2 terminals.

S-video cable (commercially available)

AV cable (commercially available)

VCR/Game console/ Camcorder

NOTE

• The S-video terminal takes priority over the video terminals.

Using digital audio output

It is possible to output audio through the COAXIAL DIGITAL AUDIO OUTPUT terminal. (See page 22 for details.) PCM audio outputs from the terminal.

Coaxial digital cable

To coaxial digital input of external audio devices

Connecting HDMI equipment

You can use the INPUT4 or 5 terminal when connecting HDMI equipment.

INPUT 4

HDMI

AUDIO
HDMI/PC

HDMI cable
(Commercially
available)
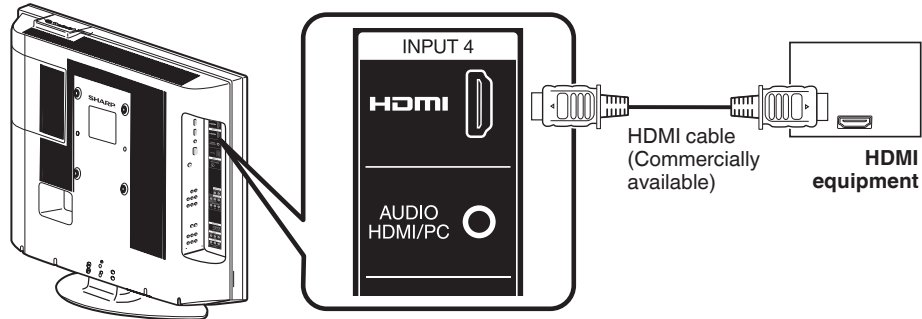
**HDMI
equipment**

When using an HDMI-DVI conversion cable, use INPUT4 and AUDIO terminal.

Displaying an image from HDMI equipment

1 To watch an HDMI equipment image, select "INPUT4 or 5" from "SOURCE SELECTION" menu using **INPUT** on the remote control unit or on the TV. (See page 13.)

```
SOURCE SELECTION

0.   TV
1.   INPUT1
2.   INPUT2
3.   INPUT3
4.   INPUT4
5.   INPUT5
6.   INPUT6


[0-6]:SELECT
```
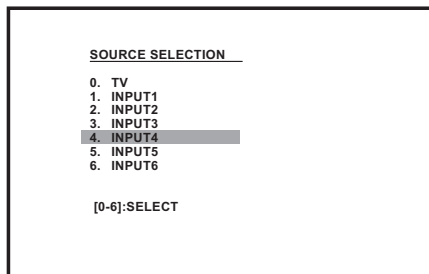
NOTE

• Refer to your external equipment operation manual for the signal type.

Selecting HDMI audio input source

1 Press **MENU** and the MENU screen displays.

2 Press ◄/► to select (AUDIO).

3 Press ▲/▼ to select "HDMI1".

4 Press ◄/► to select "HDMI" or "DVI".

```
AUDIO

HDMI1          HDMI DVI
AUDIO LANGUAGE    ►
DIGITAL OUTPUT    PCM

RESET             ►


▲▼:SELECT      ◄►:ADJUST
```
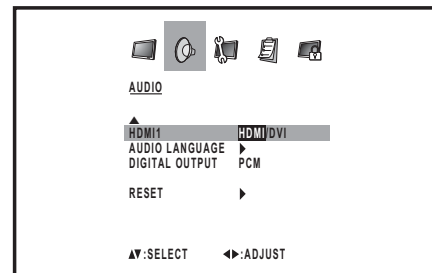
HDMI: When you connect the HDMI device to the TV, select this setting.
DVI: When you connect the DVI device to the TV with analog audio cords, select this setting.

5 Press **EXIT** to return to the normal screen.

NOTE

• Refer to your external equipment operation manual for the signal type.
• When connecting an HDMI-DVI conversion adapter/cable to the HDMI terminal, the image may not come in clearly.

Watching TV

Simple operations for watching a TV program

VOL - /+   CH ∨/∧   POWER
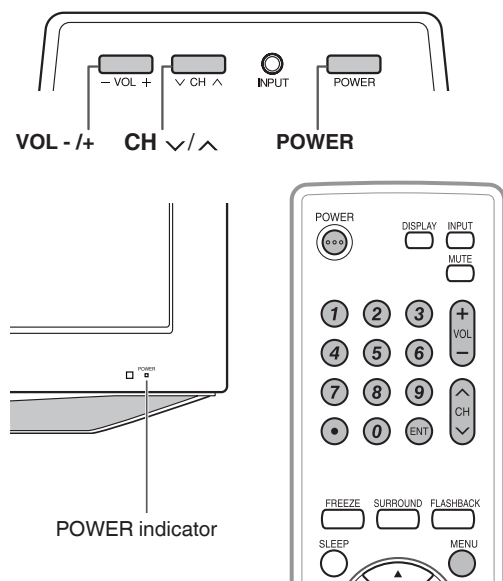
POWER indicator

TV status indicator (POWER)

ON	Lighting (Green)
OFF/Standby	Lighting (Red)

Preparation

Perform the following steps before you press **POWER** on the remote control unit.

1. Insert the batteries into the remote control unit. (See page 8.)
2. Connect the antenna cable to the TV. (See page 12.)
3. Plug in the AC cord to the AC outlet. (See page 7.)

Turning on the power

Press **POWER** on the TV, or **POWER** on the remote control.
- POWER indicator (Green): The TV is on. ("PLEASE WAIT" will appear for a few seconds on the screen.)

✎ **NOTE**
- The LANGUAGE setup menu will appear automatically when **MENU** is pressed on for the first time.

Turning off the power

Press **POWER** on the TV, or **POWER** on the remote control.
- The TV enters standby mode and the image on the screen disappears.
- The POWER indicator on the TV changes to Red.

✎ **NOTE**
- If you are not going to use this TV for a long period of time, be sure to remove the AC cord from the power outlet.
- Weak electric power is still consumed even when **POWER** is turned off.

Changing channels

You can change channels in several ways.

Method 1
Using **CH** ∧/∨ on the remote control unit or on the TV.

✎ **NOTE**
- If your cable-TV system includes analog and digital channels using the same channel number, your channel up function will scroll through the analog channel first, then the digital channel. Although it may appear as though the channel does not change, it actually moves from the analog to the digital channel in sequence. If you use channel-down, it will move in reverse, from the digital channel to the analog channel.

Method 2
Using remote control buttons **0–9**, • (DOT) to select channels for VHF/UHF/CATV/DIGITAL.

To select a 1 or 2-digit channel number (e. g., Channel 5): Press **5→ENT**

✎ **NOTE**
- When selecting a 1-digit channel number, it is not necessary to press **0** before the number.
- When you enter **0–9** only, channel selection will be made if there is no operation within a few seconds.

To select a 3-digit channel number (e. g., Channel 115): Press **1→1→5→ENT**

To select a 4-digit channel number (e. g., Channel 22.1): Press **2→2→ • (DOT) →1→ENT**

✎ **NOTE**
- When you enter **0–9** only, channel selection will be made if there is no operation within a few seconds.
- If you press **0** by itself in "AIR" reception, nothing will happen.
- Complete the above steps within a few seconds.
- When you enter **0–9** and • (DOT), channel selection will be made if there is no operation within a few seconds.

Changing volume/sound

Changing the volume
You can change the volume on the TV or on the remote control unit.

Using VOL +/–
- To increase the volume, press **VOL+**.
- To decrease the volume, press **VOL–**.

✎ **NOTE**
- **VOL+/–** on the TV operates the same as **VOL+/–** on the remote control unit.

Initial setup

Language setting
When you press MENU for the first time, the LANGUAGE setup menu will appear automatically.
Select from among 3 languages: English, French and Spanish.

1 Press ◄/► to select the desired language from the list.

```
        SETUP

        LANGUAGE        ENGLISH
                ENGLISH FRANÇAIS/ESPAÑOL
        CLOCK SET       12:00AM
        AIR/CABLE       CABLE
        AUTO CH MEMORY  ▶
        ADD/DELETE      ▶
        ▼

        ▲▼:SELECT       ◄►:ADJUST
```
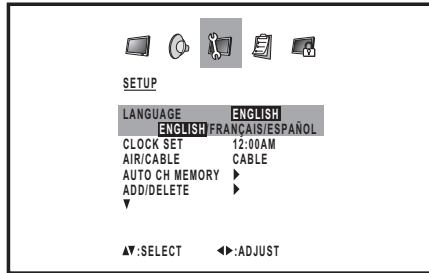
Clock setting
Please set correct time manually.

2 Press ▲/▼ to select "CLOCK SET".
Press ◄/► to select HOUR or MINUTE, then press ▲/▼ to set the present time.
After setting the time correctly, press **ENTER**.

```
        SETUP

        LANGUAGE        ENGLISH

        CLOCK SET       12:00AM
        AIR/CABLE       CABLE
        AUTO CH MEMORY  ▶
        ADD/DELETE      ▶
        ▼

        ◄►:SELECT       ▲▼:ADJUST
```
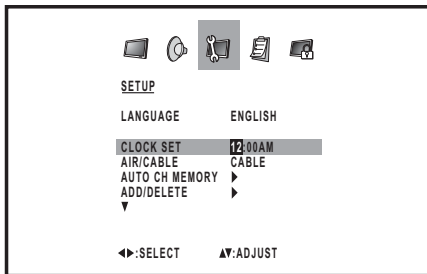
Antenna setting
Make sure what kind of connection is made with your TV when selecting "AIR" or "CABLE".

3 Press ▲/▼ to select "AIR/CABLE", then press ◄/► to select "AIR" or "CABLE".

```
        SETUP

        LANGUAGE        ENGLISH

        CLOCK SET       12:00AM
        AIR/CABLE       AIR CABLE
        AUTO CH MEMORY  ▶
        ADD/DELETE      ▶
        ▼

        ▲▼:SELECT       ◄►:ADJUST
```
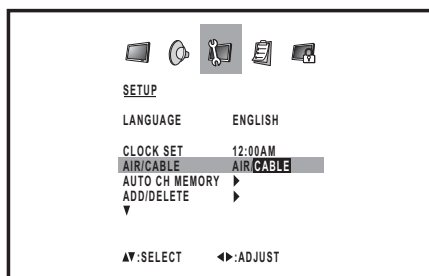
Channel search
AUTO CHANNEL MEMORY makes the TV look for all channels viewable in the set area.

4 Press ▲/▼ to select "AUTO CH MEMORY"

```
        SETUP

        LANGUAGE        ENGLISH

        CLOCK SET       12:00AM
        AIR/CABLE       CABLE
        AUTO CH MEMORY  ▶
        ADD/DELETE      ▶
        ▼

        ▲▼:SELECT       ◄►:ADJUST
```
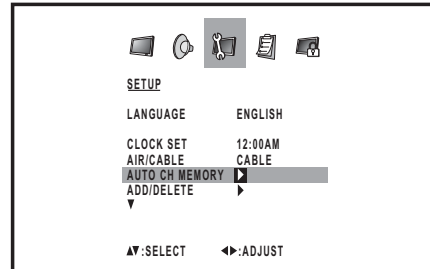
Press ◄/►. The TV will begin memorizing all the channels available in your area.

```
        AUTO CH MEMORY

        EXIT:CANCEL



        PROGRAMMING NOW
        PLEASE WAIT             CABLE
        ◄                           ►
```
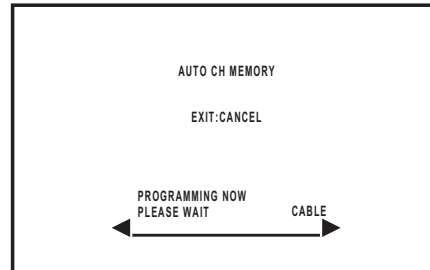
- Depending on the reception condition, it may take more than 10 minutes to complete memorizing digital cable channels, please be patient.

Skipping stored channel
You can set channel selection disabled using **CH ⌃/⌄**.

1 Press **MENU** and the MENU screen displays.

2 Press ◄/► to select (SETUP).

3 Press ▲/▼ to select "ADD/DELETE", and then press ◄/►.

4 Press ▲/▼ to select "ADD/DELETE", and then press ◄/►. Now, the channel list becomes selectable.

5 Press ▲/▼ to select the channel which you want to skip.

6 Press ◄/► to select "DELETE" for selected channel.

7 Press **EXIT** to return to the normal screen.
Now, skipping channel is applied.

- **To add a digital channel you are watching:**
Select a channel you want to add. Then select "ADDING CHANNEL" in step 4, press ◄/►.
- **To release the skipping channel:**
Select "ADD" in step 6.
- **To remove all the channels from channel memory:**
Select "CLEAR ALL" after step 3, and the press ◄/►.

Setting MTS/SAP stereo mode

The TV has a feature that allows reception of sound other than the main audio for the program. This feature is called Multi-channel Television Sound (MTS). The TV with MTS can receive mono sound, stereo sound and Secondary Audio Programs (SAP). The SAP feature allows a TV station to broadcast other information, which could be audio in another language or something completely different like weather information.

You can enjoy Hi-Fi stereo sound or SAP broadcasts where available.

• **Stereo broadcasts**
  View programs like live sporting events, shows and concerts in dynamic stereo sound.
• **SAP broadcasts**
  Receive TV broadcasts in either MAIN or SAP sound.
  MAIN sound: The normal program soundtrack (either in mono or stereo).
  SAP sound: Listen to a second language, supplementary commentary or other information. (SAP is mono sound.)

If stereo sound is difficult to hear.

• Obtain a clearer sound by manually switching to fixed mono-sound mode.

✎ NOTE

• MTS only operates while in TV mode.
• MTS is available only when receiving analog broadcasting, not when receiving digital broadcasting.
• When the TV receives a stereo or SAP broadcast, the word "STEREO" or "SAP" displays on-screen if you press **DISPLAY**.
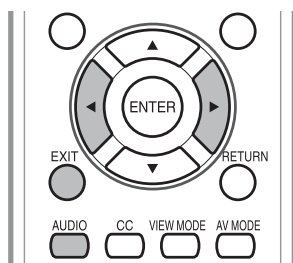
Changing MTS

You can change MTS as shown below to match the television broadcast signal.

1 Press **AUDIO** and the (AUDIO) menu screen displays. "MTS" will be highlighted.

2 Press **AUDIO** again or ◄/► to select "STR (STEREO)", "SAP" or "MONO".

```
           ▭  ◔  ▤  🗐  🖥

          AUDIO

          MTS        STR/SAP/MONO
          BASS        25
          TREBLE      25
          BALANCE      0
          SPEAKERS    ON
          SURROUND    OFF
          ▼

          ▲▼:SELECT    ◄►:ADJUST
```
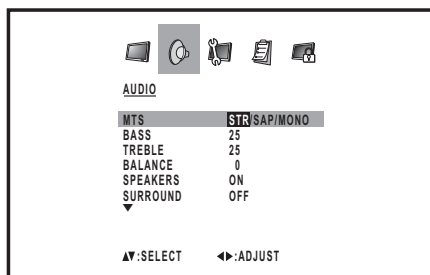
3 Press **EXIT** to return to the normal screen.

Setting surround sound
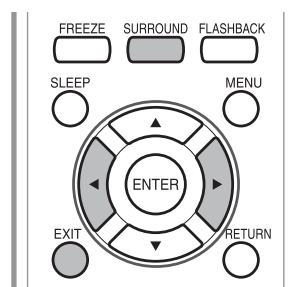
The surround sound feature expands the audio listening field wider and deeper to create exception sound quality from the TV's speakers.

1 Select STEREO mode (see "Setting MTS/SAP stereo mode").

2 Press **SURROUND** and the (AUDIO) menu screen displays. "SURROUND" will be highlighted.

3 Press ◄/► to select the "ON" or "OFF".

```
           ▭  ◔  ▤  🗐  🖥

          AUDIO

          MTS        STEREO
          BASS        25
          TREBLE      25
          BALANCE      0
          SPEAKERS    ON
          SURROUND    ON/OFF
          ▼

          ▲▼:SELECT    ◄►:ADJUST
```
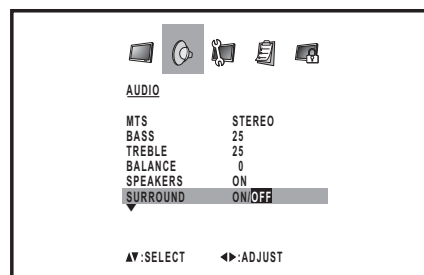
4 After your desired setting, press **EXIT** to return to the normal screen.

✎ NOTE

• You can enter to the same menu screen from (AUDIO) menu.

Display the channel information

Press **DISPLAY** to display the current channel (or input source) information on the screen.

• Channel number or VIDEO mode selected
• Station name
• Broadcast program name
• Remaining time
• V-Chip/RRT rating*
• Clock
• ▮◀ (Audio language)
• ⬤ (V-Chip mark)
• Stereo or SAP (second audio program) audio status
• View mode
* Display of RRT rating is given priority.

Basic adjustment settings

Menu operation buttons

Use the following buttons on the remote control to operate the menu.
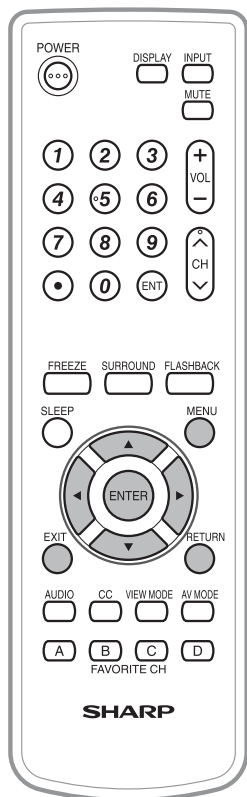
MENU: Press to open the menu screen.

▲/▼/◄/►: Press to select a desired item on the screen or adjust a selected item.

ENTER: Press to go to the next step or complete the setting.

RETURN: Press to return to the previous step.

EXIT: Press to exit from the menu screen. All changed settings will be saved.

```
▲▼:SELECT        ◄►:ADJUST
ENTER:SET        EXIT:END
```

The lower part of the menu screen is an operational guide for the remote control.
It will change in accordance with each menu setting screen.

Menu items

List of menu items to help you with operations

📺 PICTURE

AV MODE .... Page 23
BRIGHTNESS .... Page 21
CONTRAST .... Page 21
COLOR .... Page 21
TINT .... Page 21
SHARPNESS .... Page 21
COLOR TEMPERATURE .... Page 21
BACK LIGHTING .... Page 21
RESET (Picture adjustments) .... Page 21

🔊 AUDIO

MTS .... Page 18
BASS .... Page 22
TREBLE .... Page 22
BALANCE .... Page 22
SPEAKERS.. Page 24
SURROUND .... Page 18
HDMI1 .... Page 15
AUDIO LANGUAGE.................................. Page 24
DIGITAL OUTPUT .... Page 22
RESET (Sound adjustments) .... Page 22

🛠 SETUP

LANGUAGE .... Page 17
CLOCK SET.. Page 17
AIR/CABLE .... Page 17
AUTO CH MEMORY .... Page 17
ADD/DELETE.. Page 17
ANALOG CAPTION .... Page 26
DIGITAL CAPTION.................................... Page 26
CC ADVANCED .... Page 27
VIEW MODE .... Page 25
PICTURE SCROLL .... Page 25
CINEMA MODE .... Page 21
ASPECT .... Page 25
SIGNAL METER .... Page 33
AUTO SHUT OFF...................................... Page 33

📄 OPTION

ON TIMER.. Page 33
FAVORITE CH .... Page 20
CH LABEL.. Page 20
VIDEO LABEL... Page 23

🔒 LOCKS

V-CHIP SET .... Page 30
NEW PASSWORD .... Page 28

📝 NOTE

• Some menu items may not displayed depending on the selected input source.
• If no buttons are pressed for more than approx. 60 seconds, the menu screen will return to normal Monitor screen automatically.
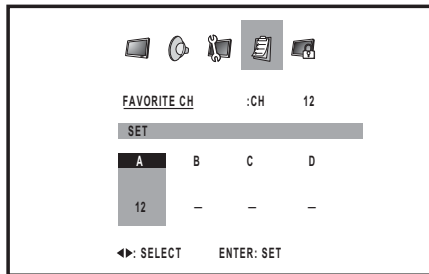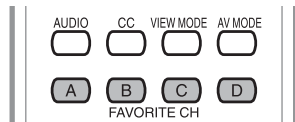
Favorite channel setting

This function allows you to program 4 favorite channels in 4 different categories. By setting the favorite channels in advance, you can select your favorite channels easily.

Programming favorite channel

1 Select the channel you want to register as a favorite channel.

2 Press **MENU**, then press ◄/► to select ▤ (OPTION).

Press ▲/▼ to select "FAVORITE CH", then press ◄/►. The FAVORITE CH menu will appear.

3 Press ◄/► to select "SET", and then press **ENTER**.

4 Press ◄/► to select the position, and then press **ENTER** to register.

```
        ▣   ◐   ▥   ▤   ▦

  FAVORITE CH        :CH    12

  SET

  ┌─────────────────────────────┐
  │ A      B      C      D       │
  └─────────────────────────────┘
  12     –      –      –

  ◄►: SELECT      ENTER: SET
```

5 Press **EXIT** to return to the normal screen.

6 You can jump to the registered favorite channels directly using four **FAVORITE CH**.

```
  AUDIO    CC   VIEW MODE  AV MODE
  ( A )  ( B )  ( C )   ( D )
         FAVORITE CH
```
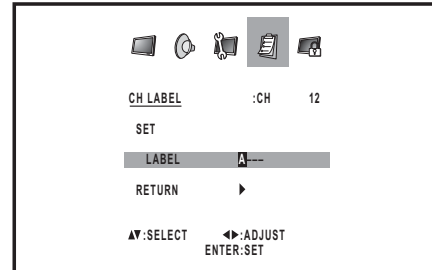
Deleting a favorite channel

1 Repeat steps 1 to 2 in above procedure.

2 Press ◄/► to select "CLEAR", and then press **ENTER**.

3 Press ◄/► to select the registered favorite channel you want to release, and then press **ENTER**.

4 Press **EXIT** to return to the normal screen.

Labeling channels

To create channel labels

1 Select a channel you want to label.

2 Press **MENU**, then press ◄/► to select ▤ (OPTION).

Press ▲/▼ to select "CH LABEL", then press ◄/►. The CH LABEL menu will appear.

3 Press ▲/▼ to select "SET/CLEAR". Press ◄/► to select "SET" then press **ENTER**.

4 Press ◄/► to enter a character in the first space. Press the button repeatedly until the character you want appears on the screen.

```
        ▣   ◐   ▥   ▤   ▦

  CH LABEL          :CH    12

  SET

  LABEL            A– – –

  RETURN            ►

  ▲▼:SELECT    ◄►:ADJUST
          ENTER:SET
```

The characters rotation as follows:

$$\rightarrow - \longleftrightarrow 0 \cdots 9 \longleftrightarrow A \cdots Z \longleftarrow$$
$$\longrightarrow + \longleftrightarrow \text{SPACE} \longleftarrow$$
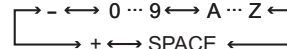
If the character which you desire appears, press **ENTER**. Repeat this step to enter the rest of the characters.

When you finish inputting the label name, press **ENTER**.

5 Press **EXIT** to return to the normal screen.

6 Repeat steps 1-5 for other channels. You can assign a label to each channel.

To erase channel labels

1 Select a channel with a label which you want to remove.

2 Press **MENU**, then press ◄/► to select ▤ (OPTION).

Press ▲/▼ to select "CH LABEL", then press ◄/► to display the CH LABEL menu.

3 Press ▲/▼ to select "SET/CLEAR". Press ◄/► to select "CLEAR", then press **ENTER**.

4 Press **EXIT** to return to the normal screen.

5 Repeat steps 1-4 to erase other channel labels.

Picture adjustments

Adjusts the picture to your preference with the following picture settings.

1 Press **MENU** and the MENU screen displays.

2 Press ◄/► to select ▭ (PICTURE).

3 Press ▲/▼ to select a specific adjustment item (BRIGHTNESS, CONTRAST, COLOR, TINT, SHARPNESS).

4 Press ◄/► to adjust the item to the desired level.

```
PICTURE

AV MODE          SPORTS

BRIGHTNESS    25  ◄█   ►
CONTRAST      50
COLOR         25
TINT           0
SHARPNESS     25
▼

▲▼:SELECT       ◄►:ADJUST
```
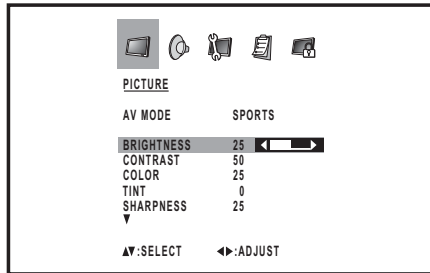
Selected item	◄ button	► button
BRIGHTNESS	For less brightness	For more brightness
CONTRAST	For less contrast	For more contrast
COLOR	For less color intensity	For more color intensity
TINT	Skin tones become purplish	Skin tones become greenish
SHARPNESS	For less sharpness	For more sharpness

5 Press **EXIT** to return to the normal screen.

✎ NOTE

• For resetting all Picture adjustment items to the factory preset values, press ▲/▼ to select "RESET", and then press ◄/►.

Factory settings:
AV MODE...SPORTS
BRIGHTNESS / COLOR / SHARPNESS.... center (25)
CONTRAST .... max (50)
TINT .... center (0)
COLOR TEMPERATURE.................................. COOL

Color temperature

For a better white balance, use color temperature correction.

1 Press **MENU** and the MENU screen displays.

2 Press ◄/► to select ▭ (PICTURE).

3 Press ▲/▼ to select "COLOR TEMPERATURE".

4 Press ◄/► to select the mode you prefer.

Selected item	Description
COOL	White with Blueish tone
MEDIUM	Neutral
WARM	White with Reddish tone

5 Press **EXIT** to return to the normal screen.

Back lighting

BACK LIGHTING adjusts the screen brightness for improved picture clarity.

1 Press **MENU** and the MENU screen displays.

2 Press ◄/► to select ▭ (PICTURE).

3 Press ▲/▼ to select "BACK LIGHTING".

4 Press ◄/► to adjust the screen brightness.

5 Press **EXIT** to return to the normal screen.

Cinema mode

A smoother motion may be obtained by setting the CINEMA MODE to FILM when you view a DVD from the DVD player.

1 Press **MENU** and the MENU screen displays.

2 Press ◄/► to select ▧ (SETUP).

3 Press ▲/▼ to select "CINEMA MODE".

4 Press ◄/► to select "FILM" or "VIDEO".

Selected item	Description
FILM	Film content viewing mode
VIDEO	Video content viewing mode

✎ NOTE

• CINEMA MODE is available only for 480i mode.

Sound adjustments

You can adjust the sound quality to your preference with the following settings.

1 Press **MENU** and the MENU screen displays.

2 Press ◄/► to select (AUDIO).

```
AUDIO

MTS           STEREO
BASS          25
TREBLE        25
BALANCE       0
SPEAKERS      ON
SURROUND      OFF
▼

▲▼:SELECT      ◄►:ADJUST
```

3 Press ▲/▼ to select a specific adjustment item (BASS, TREBLE, BALANCE).

4 Press ◄/► to adjust the item to the desired level.

Selected item	◄ button	► button
BASS	For weaker bass	For stronger bass
TREBLE	For weaker treble	For stronger treble
BALANCE	Decrease audio from the right speaker	Decrease audio from the left speaker

5 Press **EXIT** to return to the normal screen.

✎ NOTE

• For resetting all Audio adjustment items to the factory preset values, press ▲/▼ to select "RESET", and then press ◄/►.
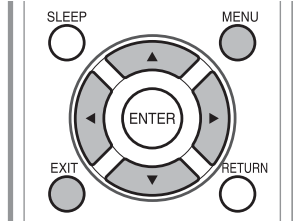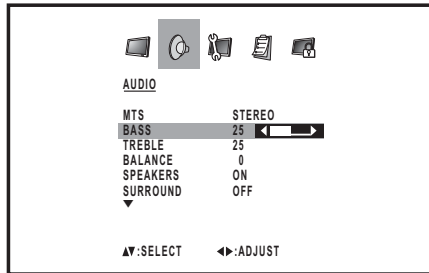
factory settings:
BASS...center (25)
TREBLE ....center (25)
BALANCE ....center (0)

Digital audio output

You can output digital audio to an AV amplifier or similar device whose DIGITAL AUDIO INPUT terminal is connected to the COAXIAL DIGITAL AUDIO OUTPUT terminal on the TV. Please select an audio output format compatible with the audio format of the program you are watching and the equipment connected.

1 Press **MENU** and the MENU screen displays.

2 Press ◄/► to select (AUDIO).

3 Press ▲/▼ to select "DIGITAL OUTPUT".

4 Press ◄/► to select "PCM" or "DOLBY DIGITAL".

```
AUDIO

▲
HDMI1          HDMI
AUDIO LANGUAGE  ►
DIGITAL OUTPUT  PCM
                PCM DOLBY DIGITAL
RESET           ►

▲▼:SELECT      ◄►:ADJUST
```
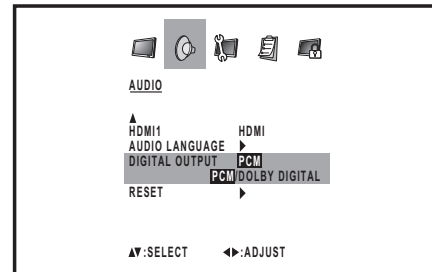
Selected item	Description
PCM	The coaxial digital audio output terminal outputs audio signal in PCM form. If your digital audio system does not support Dolby Digital, select "PCM".
DOLBY DIGITAL	The coaxial digital audio output terminal outputs audio signal in Dolby Digital form. It reproduces sound from surround program of digital.

5 Press **EXIT** to return to the normal screen.

✎ NOTE

• Digital audio output is active only when receiving digital broadcasting, not when receiving analog broadcasting.

Useful adjustment settings

Input label

Let you set the input terminal displayed when using the "SOURCE SELECTION" menu or channel display.

1 Press **MENU** and the MENU screen displays.

2 Press ◄/► to select ▣ (OPTION).

3 Press ▲/▼ to select "VIDEO LABEL", and then press ◄/►.

4 The VIDEO LABEL menu screen displays. Press ▲/▼ to select the specific input source which you want to change.

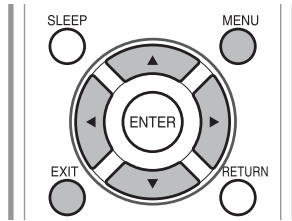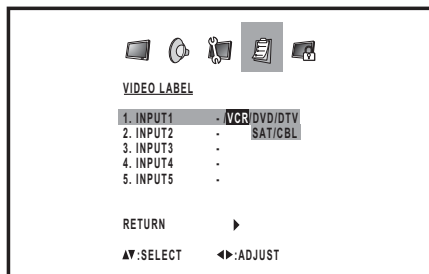**5** Press ◄/► to select the new label for the selected input source.

–	Uses the default label name
VCR	Video cassette recorder
DVD	DVD video
DTV	Digital TV set-top box
SAT	Satellite box
CBL	Cable box
HD	HDMI equipment

6 Press **EXIT** to return to the normal screen.

📝 **NOTE**

• You cannot change label for "TV" input.

AV mode

AV mode gives you four viewing options to choose from to best match the surrounding environment of the TV, which can vary due to factors like room brightness, type of program watched or the type of image input from external equipment.
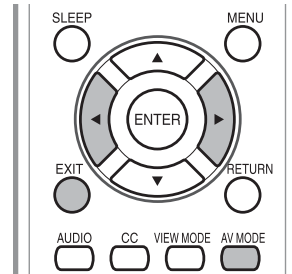
1 Press **AV MODE** and the ▣ (PICTURE) menu screen displays. "AV MODE" will be highlighted.

2 Press ◄/► to select the desired mode.
• The mode can be chosen from the list below.
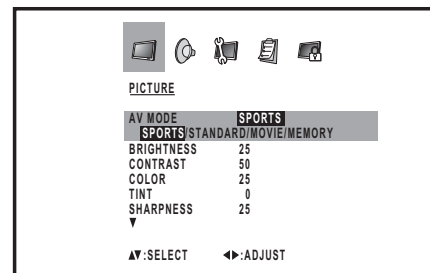
Selected item	Description
SPORTS	For a clear-cut image emphasizing high contrast, useful for sports viewing
STANDARD	For a highly defined image in a normal lighting
MOVIE	For a movie
MEMORY	Allows the user to customize settings as desired. You can set the mode for each input source.

3 Press **EXIT** to return to the normal screen.

📝 **NOTE**

• Each time **AV MODE** is pressed, AV MODE item toggles.
• You can select a different AV MODE item for TV, Composite (S-video), Component and HDMI input mode. (For example, select STANDARD for TV input and SPORTS for VIDEO input.)

Selecting the digital audio language

When two or more audio languages are included in a digital signal, you can select one of the audio languages.

1 Press **MENU** and the MENU screen displays.

2 Press ◄/► to select (AUDIO).

3 Press ▲/▼ to select "AUDIO LANGUAGE", and then press ◄/►.

```
       ▣  ⬭  ⬚  ⬚  ⬚

AUDIO

▲
HDMI1              HDMI
AUDIO LANGUAGE   ▶
DIGITAL OUTPUT     PCM

RESET            ▶

▲▼:SELECT      ◄▶:ADJUST
```

4 Press ▲/▼ to select your desired language, then press **ENTER**.

```
AUDIO LANGUAGE

0. ENGLISH 1
1. ENGLISH 2
2. FRENCH
3. SPANISH
4. NO INFO
5. NO INFO
6. NO INFO
7. NO INFO

[0-7]:SELECT
ENTER:SET
```
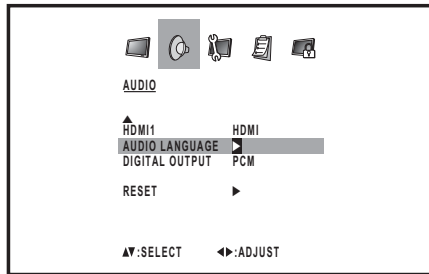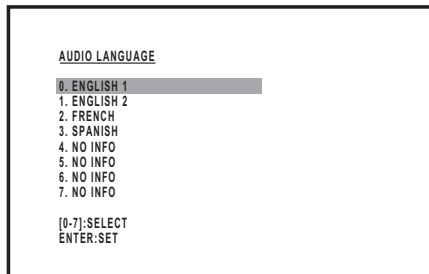
5 Press **EXIT** to return to the normal screen.

🖉 **NOTE**

• Digital audio language is active only when receiving digital boardcasting, not when receiving analog boardcasting.

Audio output select

Allows you to select what controls the audio output.

1 Press **MENU** and the MENU screen displays.

2 Press ◄/► to select (AUDIO).

3 Press ▲/▼ to select "SPEAKERS".

4 Press ◄/► to select "ON" or "OFF".

```
       ▣  ⬭  ⬚  ⬚  ⬚

AUDIO

MTS              STEREO
BASS             25
TREBLE           25
BALANCE          0
SPEAKERS         ON OFF
SURROUND         OFF
▼

▲▼:SELECT      ◄▶:ADJUST
```
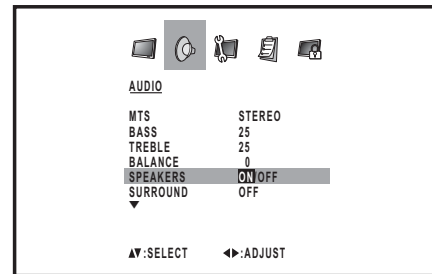
Selected item	Description
ON	• Sound via speaker is adjusted with **VOL +/–** on the remote control unit or **VOL –/+** on the TV. • Sound via the AUDIO OUTPUT terminal is not adjustable and outputs at a consistent level.
OFF	• Sound via the AUDIO OUTPUT terminal is adjusted with **VOL +/–** on the remote control unit or **VOL –/+** on the TV. • Sound via speaker is muted.

5 Press **EXIT** to return to the normal screen.

View mode for 4:3 programs

1 Press **VIEW MODE**.
- The View mode menu displays.
- The menu lists the view mode options selectable for the type of video signal currently being received.

2 Press **0–3** to select each view mode directly while the View mode menu is still on the screen.
- Each time **VIEW MODE** is pressed, VIEW MODE item toggles.
- You can also select VIEW MODE item by pressing ▲/▼.
- You can sequentially select a view mode that has its own aspect ratio.

```
VIEW MODE

0. SIDE BAR
1. S.STRETCH
2. ZOOM
3. STRETCH




[0-3]:SELECT
```
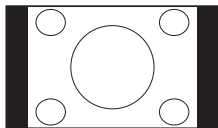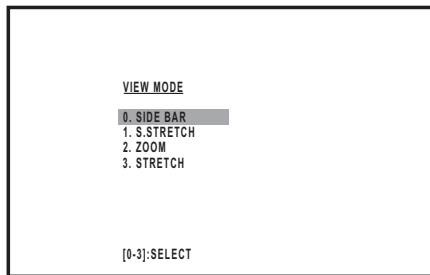
SIDE BAR:
Suitable for viewing conventional 4:3 programs in their normal format.
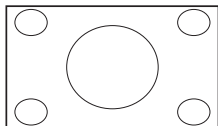
S.STRETCH (Smart stretch):
Suitable for stretching 4:3 programs to fill the screen.
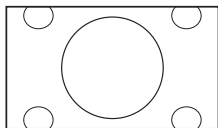
ZOOM:
Suitable for viewing wide-screen 2.35:1 anamorphic DVDs in full screen.
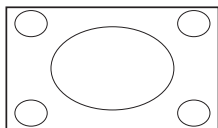
STRETCH:
This mode is useful for 1.78:1 DVDs. When viewing 1.85:1 DVDs, stretch mode will still show very thin black bands at the top and bottom of the screen.

🖉 **NOTE**

- You can enter to the same menu screen from (SETUP) menu.
- You cannot select "SIDE BAR" and "S.STRETCH" when a 720p or 1080i signal is being input.

View mode for HD programs

Stretch mode is available for HD programs.
Suitable for viewing wide-screen 1.78:1 aspect-ratio programs. When viewing 1.85:1 programs, the stretch mode will still show very thin black bands at the top and bottom of the screen.

Picture scroll

For adjusting a picture's vertical position in ZOOM mode.

1 Press **MENU** and the MENU screen displays.

2 Press ◄/► to select 🖳 (SETUP).

3 Press ▲/▼ to select "PICTURE SCROLL", and then press ◄/►.

4 SCROLL ADJUSTMENT screen displays. To raise the picture, press ▲. To lower the picture, press ▼.

```
SCROLL ADJUSTMENT   +10

▲▼ : ADJUST
```

The scroll amounts are as follows:
- 480i/480p/720p/1080i signal source: Zoom: −10 to +10

5 Press **EXIT** to return to the normal screen.

🖉 **NOTE**

- In SIDE BAR, S.STRETCH and STRETCH mode, PICTURE SCROLL will not work.

Aspect

When the ASPECT is set to ON and the TV receives a 480i signal from the INPUT 1-3 terminals, the picture size is automatically selected (as described in the following table).

1 Press **MENU** and the MENU screen displays.

2 Press ◄/► to select 🖳 (SETUP).

**3** Press ▲/▼ to select "ASPECT", and then press ◄/► to select "ON" or "OFF".

4 Press **EXIT** to return to the normal screen.

Aspect ratio of signal source	Automatic aspect size (when ASPECT is ON)
4:3 Normal	SIDE BAR
16:9 Full	STRETCH
4:3 Letter box	ZOOM
Not defined	User-set mode

🖉 **NOTE**

- ASPECT is not effective for HDMI input.
- When the connected equipment does not support the aspect signal (ID-1), automatic switch-over will not operate.

Closed captions and digital closed captions

◇ **NOTE**

• Closed Caption might not appear according to the condition of the signal from the broadcasting station.

Your TV is equipped with an internal Closed Caption decoder. It allows you to view conversations, narration and sound effects as subtitles on your TV. Closed Captions are available on some TV programs and on some VHS home video tapes at the discretion of the program provider.

Digital Closed Caption service is a new caption service available only on digital TV programs (also at the discretion of the service provider). It is a more flexible system than the original Closed Caption system, because it allows a variety of caption sizes and font styles. When the Digital Closed Caption service is in use, it will be indicated by the appearance of a 3-letter abbreviation that also indicates the language of the Digital Closed Captions: ENG (English), SPA (Spanish), FRA (French) or other language codes.

Not all programs and VHS videotapes offer closed captions. Please look for the "CC" symbol to ensure that captions will be shown.

In the Closed Caption system, there can be more than one caption service provided. Each is identified by its own number. The "C1" and "C2" services display subtitles of TV programs superimposed over the program's picture. Generally, Closed Captions in English are transmitted on C1 and Closed Captions in other languages are transmitted on C2.

In the Closed Caption system, the "Text1" or "Text2" services display text that is unrelated to the program being viewed (e.g., weather or news). These services are also superimposed over the program currently being viewed.

1 Tune the TV to the desired program.

2 Press **CC** to display "ANALOG CAPTION" or "DIGITAL CAPTION" menu.

3 Press ◄/► to select your desired Closed Caption mode.

• When an Analog signal is received, you can choose C1, C2, T1, T2 or OFF in the "ANALOG CAPTION" menu.

```
SETUP
▲
ANALOG CAPTION  OFF
                C1/C2/T1/T2/OFF
DIGITAL CAPTION  OFF

CC ADVANCED     ►
VIEW MODE       ►
▼

▲▼:SELECT      ◄►:ADJUST
```

• When a Digital signal is received, you can choose from CS1, CS2, CS3, CS4, CS5, CS6 and OFF in the "DIGITAL CAPTION" menu.

```
SETUP
▲
ANALOG CAPTION  OFF

DIGITAL CAPTION  OFF
                CS1/CS2/CS3/CS4/CS5/CS6 OFF
CC ADVANCED     ►
VIEW MODE       ►
▼

▲▼:SELECT      ◄►:ADJUST
```

• Depending on the broadcast signal, some Analog Captions will function with a Digital broadcast signal.

4 Press **EXIT** to return to the normal screen.

◇ **NOTE**

• You can enter to ANALOG CAPTION and DIGITAL CAPTION menu from (SETUP) menu.
• To turn the Closed Caption feature off, select "OFF".

```
AUDIO   CC   VIEW MODE   AV MODE

A      B      C      D
       FAVORITE CH
```

◇ **NOTE**

• If the program or video you selected is not closed-captioned, no captions will display on-screen.
• If text is not available in your viewing area, a black rectangle may appear on-screen. If this happens, set the each Closed Caption feature to "OFF".
• When selecting Closed Captions, the captioning will be delayed approx. 10 seconds.
• If no caption signal is received, no captions will appear, but the television will remain in the Caption Mode.
• Misspellings or unusual characters may occasionally appear during Closed Captioning. This is normal with Closed Captioning, especially with live programs. This is because during live programs, captions are also entered live. These transmissions do not allow time for editing.
• When Captions are being displayed, on-screen displays, such as volume and mute may be seen but may interfere with Closed Captions.
• Some Cable TV systems and copy protection systems may interfere with the Closed Captioned signal.
• If using an indoor antenna or if TV reception is very poor, the Closed Caption Decoder may not appear or may appear with strange characters or misspelled words. In this case, adjust the antenna for better reception or use an outdoor antenna.
• When a Digital TV Program has both Digital Closed Caption and Analog Closed Caption signals, Digital Closed Caption is displayed.

Caption setup

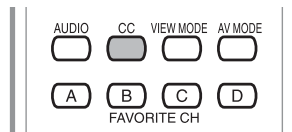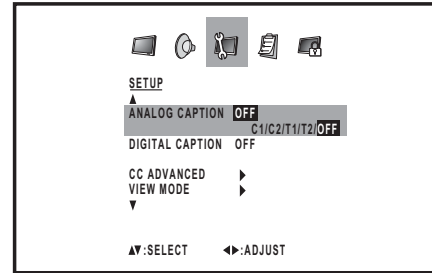This function allows you to adjust the closed caption screen appearance to suit your preference.

1 Press **MENU** and the MENU screen displays.

2 Press ◄/► to select 🔧 (SETUP).

3 Press ▲/▼ to select "CC ADVANCED", and then press ◄/►. The CC ADVANCED menu displayed.
  • You can adjust 7 items here.

```
      🖥  🔊  🔧  📄  📋

   CC ADVANCED

   TEXT SIZE              ▶
   TEXT TYPE             ▶
   TEXT COLOR            ▶
   TEXT EDGE             ▶
   BACKGROUND COLOR      ▶
   TEXT OPACITY          ▶
   BACKGROUND OPACITY    ▶


   ▲▼:SELECT      ◄►:ADJUST
```
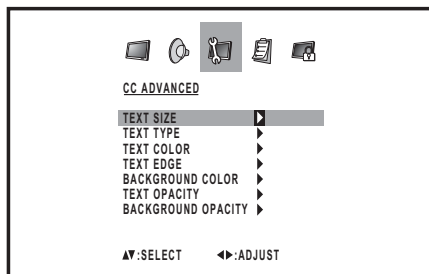
4 Press ▲/▼ to select a specific adjustment item, then press ◄/►. The selectable parameter of each items will appear.

```
      🖥  🔊  🔧  📄  📋

   TEXT SIZE

   AUTO
   SMALL
   STANDARD
   LARGE



   ▲▼:SELECT      ENTER:SET
```
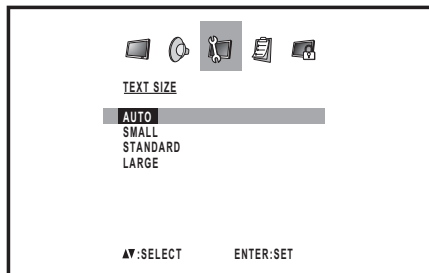
5 Press ▲/▼ to select the desired parameter.

6 Press **EXIT** to return to the normal screen.

Selectable parameters available in each adjustment item.

Item	Selectable parameter
TEXT SIZE:	AUTO, SMALL, STANDARD, LARGE
TEXT TYPE:	AUTO, DEFAULT, MONO W. SERIF, PROP. W. SERIF, MONO W/O SERIF, PROP. W/O SERIF, CASUAL, CURSIVE, SMALL CAPITALS
TEXT COLOR:	AUTO, BLACK, WHITE, RED, GREEN, BLUE, YELLOW, MAGENTA, CYAN
TEXT EDGE:	AUTO, NONE, RAISED, DEPRESSED, UNIFORM, LEFT DROP SHADOW, RIGHT DROP SHADOW
BACKGROUND COLOR:	AUTO, BLACK, WHITE, RED, GREEN, BLUE, YELLOW, MAGENTA, CYAN
TEXT OPACITY:	AUTO, TRANSPARENT, TRANSLUCENT, SOLID, FLASHING
BACKGROUND OPACITY:	AUTO, TRANSPARENT, TRANSLUCENT, SOLID, FLASHING

📝 **NOTE**

• This feature is designed to customize Digital Captions only.
• The "AUTO" value depends on the broadcasting station.

Password setting for parental control

Allows you to use a password to protect certain settings from being accidentally changed.

IMPORTANT:

Three conditions must be met to enable the V-Chip

① Password is registered.
② V-CHIP settings have been made.
③ "V-CHIP" is set to "ON".

Setting a password

1 Press **MENU** and the MENU screen displays.

2 Press ◄/► to select 🔒 (LOCKS).

3 Press ▲/▼. The password entering menu displays.

4 Select and enter a password (4 digits) using the **number buttons (0–9)**, then press **ENTER**.

LOCKS
NEW PASSWORD   ----

[0-9]:SELECT   ENTER:SET
                EXIT:END
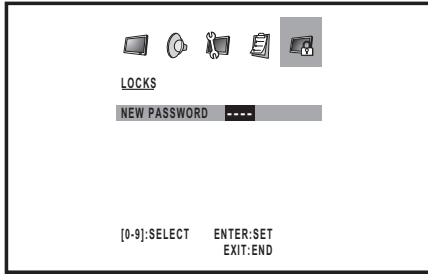
"✱" appears instead of the number.

5 Enter the same password again to confirm, then press **ENTER**, the password is now registered and the LOCKS menu will appear on the screen.

LOCKS
CONFIRM PASSWORD   ★★★★

[0-9]:SELECT   ENTER:SET
                EXIT:END
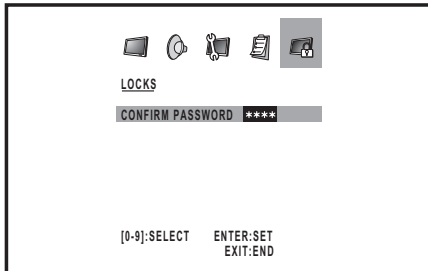
Changing the password

Allows you to change your current password.

1 Repeat steps 1 to 3 in **Setting a password**.
  • The password entering menu displays.

2 Input the 4-digit password by using **0–9**, then press **ENTER**.

3 Press ▲/▼ to select "NEW PASSWORD", then press ◄/ ►.

LOCKS

V-CHIP   OFF
  V-CHIP SET   ►
  V-CHIP SET (DTV) ►
NEW PASSWORD   ▶

▲▼:SELECT   ◄►:ADJUST
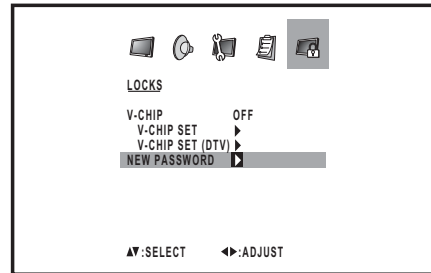
4 Enter a new password using **0–9**, then press **ENTER**.

LOCKS
NEW PASSWORD   ----

[0-9]:SELECT   ENTER:SET
                EXIT:END

5 Enter the same password again to confirm, then press **ENTER**.

LOCKS
CONFIRM PASSWORD   ★★★★

[0-9]:SELECT   ENTER:SET
                EXIT:END
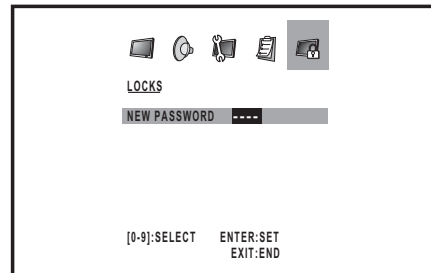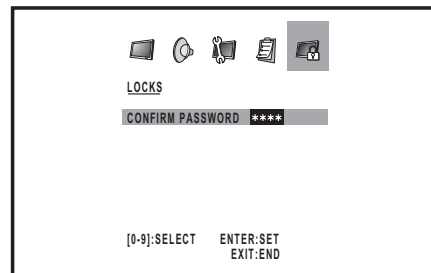
6 The screen returns to LOCKS menu. Your new password has been set.

🖉 NOTE

• **As a precautionary measure, make a note of your password and keep it in a familiar place.**
• The "V-CHIP SET (DTV)" will only be selectable when a new rating system can be downloaded via digital broadcasting in the U.S.

Useful adjustment settings

Parental control (V-CHIP)

📎 **NOTE**

V-CHIP might not function according to the condition of the signal from the broadcasting station.

V-CHIP is an electronic filtering device built into your TV. This tool gives parents a great degree of control over broadcasts accessed by their children. It allows parents to select programs judged suitable for child viewing while blocking ones judged not suitable. It does so automatically once you activate the V-CHIP feature in your TV.
V-CHIP SET menu will not be selectable from the menu if you do not first configure your password.
(See page 28 for password setting for parental control.)

- The U.S. has two rating systems for viewing content: movie ratings and TV Parental Guidelines.
- The TV Parental Guidelines work in conjunction with the V-CHIP to help parents screen out inappropriate television shows from their children.
- Movie ratings are used for original movies rated by the Motion Picture Association of America (MPAA) as watched on cable TV and not edited for television. The V-CHIP can also be set to block MPAA-rated movies.

TV Parental Guidelines

TV RATING		Content				
		FANTASY VIOLENCE	VIOLENCE	SEXUAL SITUATIONS	ADULT LANGUAGE	SEXUAL DIALOG
Suggested age	TV-Y (All children)	⊠	⊠	⊠	⊠	⊠
	TV-Y7 (Directed to older children)	X	⊠	⊠	⊠	⊠
	TV-G (General audience)		⊠	⊠	⊠	⊠
	TV-PG (Parental Guidance suggested)		X	X	X	X
	TV-14 (Parents strongly cautioned)		X	X	X	X
	TV-MA (Mature audience only)		X	X	X	

⊠: The content rating can be set, but this rating is not normally broadcast by TV stations.
X: Content rating can be set.

EXAMPLE ☞

- If you select "TV-G", this will automatically block the higher ratings "TV-PG", "TV-14" and "TV-MA".

Voluntary movie rating system (MPAA)

MOVIE RATING		Description
Age	G	General audiences. All ages admitted.
	PG	Parental guidance suggested. Some material may not be suitable for children.
	PG-13	Parents strongly cautioned. Some material may be inappropriate for children under 13.
	R	Restricted. Under 17 requires accompanying parent or adult guardian (age varies in some jurisdictions).
	NC-17	No one 17 and under admitted.
	X	X is an older rating that is unified with NC-17 but may be encoded in the data of older movies.

EXAMPLE ☞

- If you select "PG-13", this will automatically block the higher ratings "R", "NC-17" and "X".

📎 **NOTE**

- Voluntary movie rating system only uses an age-based rating.

TV Parental Guidelines (TV Guidelines)

1 Press **MENU** and the MENU screen displays.

2 Press ◄/► to select 🔒 (LOCKS).

3 Press ▲/▼. The password entering menu displays.

4 Input the 4-digit password by using **0–9**, then press **ENTER**.

The LOCKS menu displays.

5 Press ▲/▼ to select "V-CHIP SET", then press ◄/►. The V-CHIP SET menu displays.

6 Press ▲/▼ to select "TV RATING". Then press ◄/► to select the desired rating.

```
V-CHIP SET

TV RATING        OFF
                 OFF TV-Y/TV-Y7/TV-G
                 TV-PG/TV-14/TV-MA
MOVIE RATING       ▶
CAN ENG RATING   OFF

CAN FRE RATING   OFF



▲▼:SELECT      ◄►:ADJUST
```
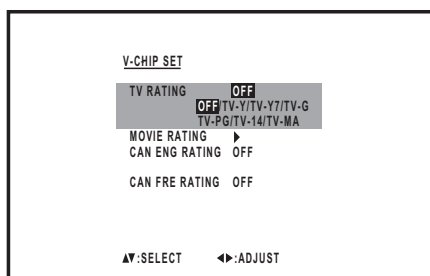
• When you select TV-Y7, TV-PG, TV-14 or TV-MA, "DISPLAY TO SET CONTENTS" will appear on the screen. Press **DISPLAY** to explain the rating. Press ▲/▼ to select the desired rating you want. Press ◄/► to select the setting "ON" or "OFF". Then press **RETURN**.
• See page 29 for setting details.

7 Press **RETURN**. The LOCKS menu displays.

8 Press ▲/▼ to select "V-CHIP", then press ◄/► to select "ON".

Your setting are now set into memory.
• If "V-CHIP" is not set to "ON", the V-CHIP setting will not work.

```
🖥 🔊 🔧 📄 🔒

LOCKS

V-CHIP         ON/OFF
  V-CHIP SET        ▶
  V-CHIP SET (DTV)  ▶
  NEW PASSWORD      ▶



▲▼:SELECT      ◄►:ADJUST
```

9 Press **EXIT** to return to the normal screen.

Voluntary movie rating system (MPAA)

1 Repeat steps 1 to 5 in **TV Parental Guidelines (TV Guidelines)**.

2 Press ▲/▼ to select "MOVIE RATING". Then press ◄/►. The RATING SET menu displays.

Press ▲/▼ to select desired setting, then press ◄/► to select the settings "ON" or "OFF".

```
RATING SET

G            : ON/OFF
PG           : OFF
PG-13        : OFF
R            : OFF
NC-17        : OFF
X            : OFF



▲▼:SELECT      ◄►:ADJUST
```
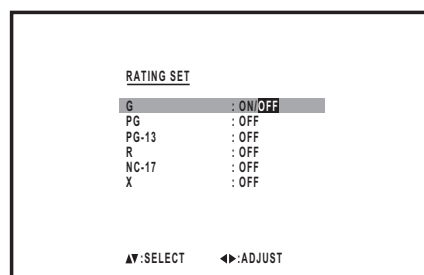
• See page 29 for setting details.

3 Press **EXIT** to return to the normal screen.

Useful adjustment settings

Canadian rating systems

- The TV rating systems in Canada are based on the Canadian Radio-Television and Telecommunications Commission (CRTC) policy on violence in television programming.
- While violence is the most important content element to be rated, the structure developed takes into consideration other program content like language, nudity, sexuality and mature themes.
- When setting the V-CHIP on the Canadian system you can choose either the Canadian English ratings or the Canadian French ratings.

Canadian English ratings

Rating		Description
Age	E	Exempt: Includes news, sports, documentaries and other information programming; talk shows, music videos, and variety programming.
	C	Children: Intended for younger children under the age of 8 years. Pays careful attention to themes that could threaten their sense of security and well-being.
	C8+	Children over 8 years old: Contains no portrayal of violence as the preferred, acceptable, or only way to resolve conflict; nor encourage children to imitate dangerous acts which they may see on the screen.
	G	General: Considered acceptable for all age groups. Appropriate viewing for the entire family, contains very little violence, physical, verbal or emotional.
	PG	Parental Guidance: Intended for a general audience, but may not be suitable for younger children (under the age of 8) because it could contain controversial themes or issues.
	14+	Over 14 Years: Could contain themes where violence is one of the dominant elements of the storyline, but it must be integral to the development of plot or character. Language usage could be profane and nudity present within the context of the theme.
	18+	Adults: Intended for viewers 18 years and older and might contain depictions of violence, which while related to the development of plot, character or themes, are intended for adult viewing. Could contain graphic language and portrayals of sex and nudity.

EXAMPLE ☞
- If you select "G", this will automatically block the higher ratings "PG", "14+" and "18+".

Canadian French ratings

Rating		Description
Age	E	Exempt programming.
	G	General: All ages and children, contains minimal direct violence, but may be integrated into the plot in a humorous or unrealistic manner.
	8ans+	General but inadvisable for young children: May be viewed by a wide public audience, but could contain scenes disturbing to children under 8 who cannot distinguish between imaginary and real situations. Recommended for viewing with parent.
	13ans+	Over 13 years: Could contain scenes of frequent violent scenes and therefore recommended for viewing with parent.
	16ans+	Over 16 years: Could contain frequent violent scenes and intense violence.
	18ans+	Over 18 years: Only for adult viewing. Could contain frequent violent scenes and extreme violence.

EXAMPLE ☞
- If you select "8ans+", this will automatically block the higher ratings "13ans+", "16ans+" and "18ans+".
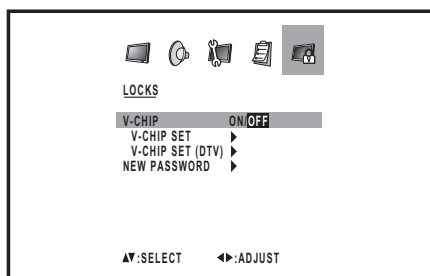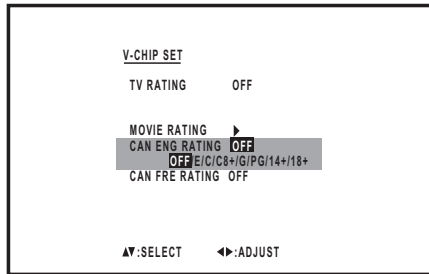
Canadian English ratings

1 Press **MENU** and the MENU screen displays.

2 Press ◄/► to select 🔒 (LOCKS).

3 Press ▲/▼. The password entering menu displays.

4 Input the 4-digit password by using **0–9**, then press **ENTER**.
The LOCKS menu displays.

5 Press ▲/▼ to select "V-CHIP SET", then press ◄/►. The V-CHIP SET menu displays.

6 Press ▲/▼ to select "CAN ENG RATING". Then press ◄/► to select the desired rating.

```
              V-CHIP SET

        TV RATING         OFF


        MOVIE RATING       ▶
        CAN ENG RATING  OFF
                   OFF/E/C/C8+/G/PG/14+/18+
        CAN FRE RATING  OFF



        ▲▼:SELECT        ◄►:ADJUST
```

• See page 31 for setting details.

7 Press **RETURN**. The LOCKS menu displays.

8 Press ▲/▼ to select "V-CHIP", then press ◄/► to select "ON".
Your setting are now set into memory.
• If "V-CHIP" is not set to "ON", the V-CHIP setting will not work.

```
        🖥  ◔  🗲  📄  🔒

        LOCKS

        V-CHIP          ON/OFF
        V-CHIP SET       ▶
        V-CHIP SET (DTV) ▶
        NEW PASSWORD     ▶



        ▲▼:SELECT        ◄►:ADJUST
```
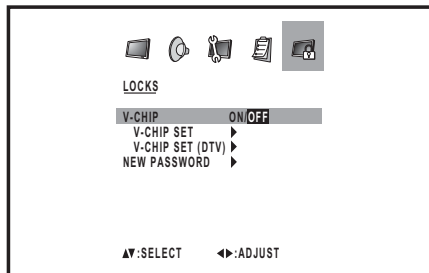
9 Press **EXIT** to return to the normal screen.

Canadian French ratings

1 Repeat steps 1 to 5 in **Canadian English ratings**.

2 Press ▲/▼ to select "CAN FRE RATING". Then press ◄/► to select the desired rating.

```
              V-CHIP SET

        TV RATING         OFF


        MOVIE RATING       ▶
        CAN ENG RATING  OFF

        CAN FRE RATING  OFF
                   OFF/E/G/8ans+/13ans+
                     16ans+/18ans+

        ▲▼:SELECT        ◄►:ADJUST
```
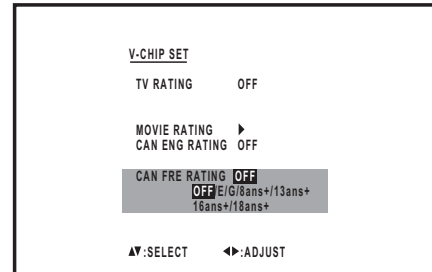
• See page 31 for setting details.

3 Press **EXIT** to return to the normal screen.

How to temporarily release the V-CHIP block

The V-CHIP block is working and censors a broadcast, "THIS PROGRAM HAS BEEN BLOCKED!" displays.

1 Press **MUTE** while the V-CHIP is working and then the password entering menu displays.

2 Enter your 4-digit password with **0–9**, then press **ENTER**.
At this time V-CHIP block temporarily releases.

Reactivating the temporarily released V-CHIP block

You can reactivate the temporarily released V-CHIP block as shown below.
Method 1:
Change to the other channel.
Method 2:
Switch off the TV power.

✎ **NOTE**

• Performing any of the two above will activate the V-CHIP block.

Other viewing options

Signal meter

In order to receive digital air broadcasts, you need a digital broadcast antenna. You can confirm the antenna configuration through the "SIGNAL METER" menu.

If necessary, adjust the direction of the antenna to obtain the maximum signal strength.

Signal strength

1 Press **MENU** and the MENU screen displays.

2 Press ◄/► to select (SETUP).

3 Press ▲/▼ to select "SIGNAL METER".
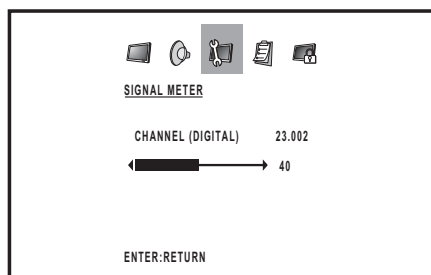
4 Press ◄/►.
• The strength of the digital signal is displayed. The signal information is based on the current channel.

SIGNAL METER

CHANNEL (DIGITAL)   23.002

                              40

ENTER:RETURN

5 Press **EXIT** to return to the normal screen.

Auto shut off

In case of "AUTO SHUT OFF" feature is "ON", if a station being viewed stops broadcasting, the TV will automatically shut itself off after 15 minutes.

1 Press **MENU** and the MENU screen displays.

2 Press ◄/► to select (SETUP).

3 Press ▲/▼ to select "AUTO SHUT OFF".

4 Press ◄/► to select "ON" or "OFF".

5 Press **EXIT** to return to the normal screen.

🖉 **NOTE**
• If Auto Shut Off is ON and the broadcast signal is weak, the TV may automatically shut itself off. If this happens, turn Auto Shut Off to "OFF".

Setting the on timer

This feature allows you to have the TV automatically turn on at a predetermined time. If you program the ON TIMER to "DAILY", the TV will turn on everyday at the same time to the same channel.

Set the clock, if you have not already done so (see page 17).

1 Press **MENU** and the MENU screen displays.

2 Press ◄/► to select (OPTION).

3 Press ▲/▼ to select "ON TIMER".

4 Press ◄/► to select "SET", then press **ENTER**.
The "ON TIMER" menu appears.

5 Press ▲/▼ to select "ON TIMER", then press ◄/►.

ON TIMER

ON TIMER   ►
    7:00AM   CH 2
                        CLEAR

RETURN   ►

◄►:SELECT   ▲▼:ADJUST
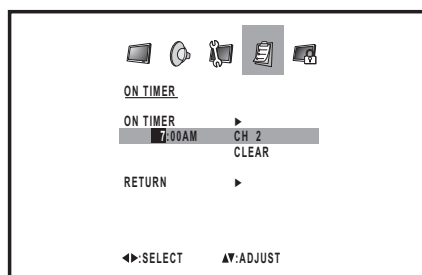
6 Press ▲/▼ to set the desired hour, then press ►.
Please note if the hour is AM or PM, and choose desired setting.

7 Set the desired minutes and start up channel, as in step 6.

8 Press ◄/► to select "ONCE" or "DAILY", then press **ENTER**.

9 Press **EXIT** to return to the normal screen.

🖉 **NOTE**
• The TV will automatically turn off approximately 1 hour later after the ON TIMER turns on. To continue watching the TV, press any button to cancel the one hour automatic shut off.
• After a power failure or disconnection of the power, the timer settings will be lost.
• Select "RETURN" and press ◄/► to return from ON TIMER menu to OPTION menu.
• To cancel the on timer, select "CLEAR" at step 8.

Connecting a PC (Personal computer)

Viewing an image from a PC

Use the INPUT6 (PC) terminals to connect a PC.

NOTE

- The PC input terminals are DDC1/2B-compatible.
- Refer to page 35 for a list of PC signals compatible with the System.
- Make sure to select the same signal values for the output signal of a PC and the input signal of the LCD TV set before connecting with the PC. (See page 35.)
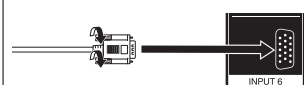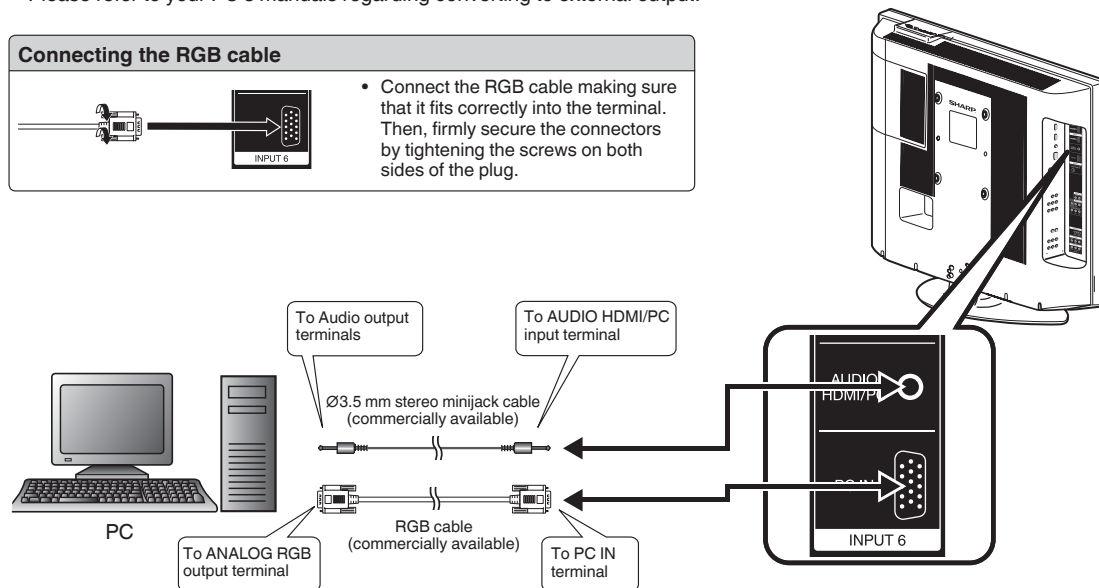- Depending on the PC being used, images may not be shown without converting the output signals into external output. Please refer to your PC's manuals regarding converting to external output.

Connecting the RGB cable

- Connect the RGB cable making sure that it fits correctly into the terminal. Then, firmly secure the connectors by tightening the screws on both sides of the plug.

INPUT 6

To Audio output terminals

To AUDIO HDMI/PC input terminal

Ø3.5 mm stereo minijack cable (commercially available)

AUDIO HDMI/PC

PC

To ANALOG RGB output terminal

RGB cable (commercially available)

To PC IN terminal

PC IN

INPUT 6

Signal names for 15-pin mini D-sub connecter
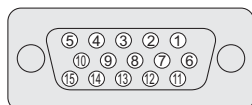
Pin No.	Signal name	Pin No.	Signal name	Pin No.	Signal name
①	R	⑥	GND (Ground)	⑪	Not connected
②	G	⑦	GND (Ground)	⑫	SDA
③	B	⑧	GND (Ground)	⑬	HD
④	Not connected	⑨	+5V	⑭	VD
⑤	CSYNC	⑩	GND (Ground)	⑮	SCL

NOTE

- Pin No. 5 is not used for inputting the signal.
- Pin No. 9 is not connected with the supplied RGB cable.

Displaying an image from a PC

POWER   DISPLAY   INPUT   MUTE

1 2 3 + VOL
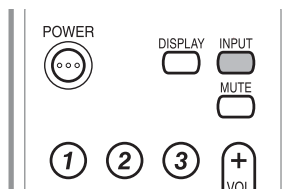
To view an image from a PC, perform the following procedure.
① Select the INPUT6 (PC) mode using **INPUT** on the remote control or the LCD TV set. (See page 13.)
② Select the PC input signal. (See page 35.)
③ Adjust the "PICTURE." items if the PC image does not come in clearly. (See page 35.)

SOURCE SELECTION

0.   TV
1.   INPUT1
2.   INPUT2
3.   INPUT3
4.   INPUT4
5.   INPUT5
6.   INPUT6

[0-6]:SELECT

Picture and Audio adjustments in PC mode

There are a number of picture settings you can adjust to optimize the performance of the unit in PC mode.

1 Press **MENU** during PC mode.
PC monitor menu will appear.

2 Press ◄/► to select ▢ (PICTURE) or
◐ (AUDIO).

```
        ▢  ◐

     PICTURE

     BRIGHTNESS      25
     CONTRAST        50
     HOR POSITION    25
     VER POSITION    25
     PHASE           25
     CLOCK            0
     ▼

     ▲▼:SELECT     ◄►:ADJUST
```

3 Press ▲/▼ to select a specific adjustment item.

4 Press ◄/► to adjust the setting.

5 Press **EXIT** to return to the normal screen.

PC compatibility chart

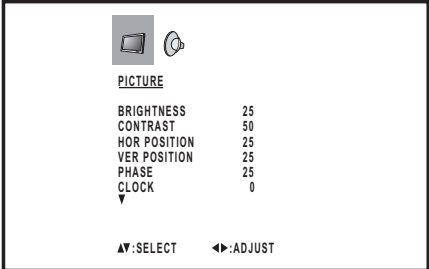| PC/MAC	Resolution		Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Compatible
PC	VGA	640 x 400	31.5	60	
			37.9	85	
		720 x 400	31.5	60	
			31.5	70	✓
			37.9	85	
		640 x 480	31.5	60	✓
			37.9	72	
			37.5	75	
			43.3	85	
	WVGA	848 x 480	31.0	60	✓
	SVGA	800 x 600	35.1	56	
			37.9	60	✓
			48.1	72	
			46.9	75	
			53.7	85	
	XGA	1,024 x 768	48.4	60	✓
			56.5	70	
			60.0	75	
			68.7	85	
	WXGA	1,280 x 720	44.8	60	✓
		1,280 x 768	47.8	60	✓
			48.1	60	
		1,360 x 768	47.7	60	✓
	SXGA	1,280 x 1,024	64.0	60	
MAC 13"	VGA	640 x 480	34.9	67	
MAC 16"	SVGA	832 x 624	49.7	75	
MAC 19"	XGA	1,024 x 768	60.2	75	

✎ **NOTE**

• The numerical values of resolutions and frequencies mentioned above are standard.
  They may differ from the values when actually displayed.

Picture Adjustment

Selected Item	Description
BRIGHTNESS	To adjust the brightness of PC Monitor screen.
CONTRAST	To adjust the contrast of PC Monitor screen.
HOR POSITION	To adjust the horizontal position of the image on the PC Monitor screen. Each video standard will require a different value for this setting.
VER POSITION	To adjust the vertical position of the image on the PC Monitor screen. Each video standard will require a different value for this setting.
PHASE	This must be adjusted after the frequency has been set optimize picture quality.
CLOCK	To minimize any vertical bars or stripes visible on the screen background.
RED/GREEN/BLUE	To adjust the color temperature of the PC Monitor screen.
WVGA INPUT	Set to ON, when you select the WVGA mode on the PC.
WXGA INPUT	Set to ON, when you select the WXGA mode on the PC.
BACK LIGHTING	To adjust the screen brightness for improved picture clarity.

Audio Adjustment

Selected Item	Description
BASS	Press ◄ or ► to adjust the bass sound.
TREBLE	Press ◄ or ► to adjust the treble sound.
BALANCE	Press ◄ or ► to obtain an equal sound level from both speakers.
SURROUND	Press ◄ or ► to turn on or off the surround effect.

✎ **NOTE**

• If no buttons are pressed for more than approx. 60 seconds, the PC Monitor Menu screen will return to normal Monitor screen automatically.
• The PC Monitor Menu settings are not effective for normal TV mode or external input modes.

✎ **NOTE**

• For resetting all Picture adjustment items or Audio adjustment items to the factory preset values, press ▲/▼ to select "RESET", and then press ◄/►.

Factory settings;
Picture adjustment:
  BRIGHTNESS... center (25)
  CONTRAST ....maximum (50)
  RED/GREEN/BLUE....................................... center (25)

Audio adjustment:
  BASS/TREBLE... center (25)
  BALANCE ....center(0)
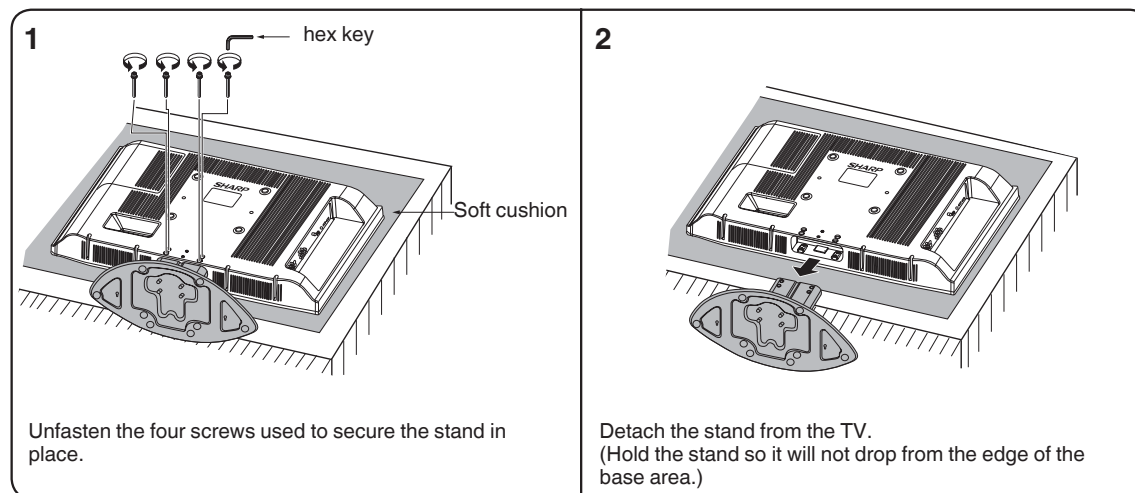
Appendix

Removing the stand

Before detaching (or attaching) the stand, unplug the AC cord from the AC INPUT terminal.

CAUTION

• **Do not remove the stand from the TV unless using an optional wall mount bracket to mount it.**

Before attaching/detaching the stand
• Before performing work make sure to turn off the TV.
• Before performing work spread cushioning over the base area to lay the TV on. This will prevent it from being damaged.

1	2
hex key / Soft cushion	
Unfasten the four screws used to secure the stand in place.	Detach the stand from the TV. (Hold the stand so it will not drop from the edge of the base area.)

NOTE

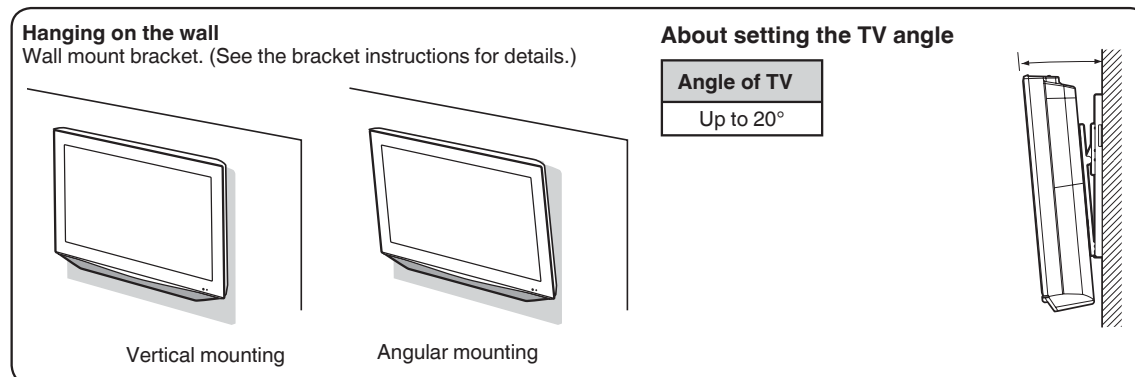• To attach the stand, perform the above steps in reverse order.

Setting the TV on the wall

CAUTION

• **This TV should be mounted on the wall only with the AN-37AG2 (SHARP) bracket for LC-32AV22U wall mount bracket. The use of other wall mount brackets may result in an unstable installation and may cause serious injuries.**
• **Installing the TV requires special skill that should only be performed by qualified service personnel. Customers should not attempt to do the work themselves. SHARP bears no responsibility for improper mounting or mounting that results in accident or injury.**

Using an optional bracket to mount the TV
• You can ask a qualified service professional about using an optional bracket (AN-37AG2 bracket for LC-32AV22U) to mount the TV to the wall.
• Carefully read the instructions that come with the bracket before beginning work.

Hanging on the wall
Wall mount bracket. (See the bracket instructions for details.)

Vertical mounting   Angular mounting

About setting the TV angle

Angle of TV
Up to 20°

NOTE

• Detach the cable clamp on the rear of the TV when using the optional mount bracket.

Appendix

Troubleshooting

Problem	Possible Solution
• No power	• Check if you pressed **POWER** on the remote control unit. (See page 16.) If the indicator on the TV does not light up, press **POWER** on the TV. • Is the AC cord disconnected? (See page 7.) • Has the power been turned on? (See page 16.)
• Unit cannot be operated.	• External influences such as lightning, static electricity, may cause improper operation. In this case, operate the unit after first turning on the power of the TV or unplugging the AC cord and replugging it in after 1 or 2 minutes.
• Remote control unit does not operate.	• Are batteries inserted with polarity (+, −) aligned? (See page 8.) • Are batteries worn out? (Replace with new batteries.) • Are you using it under strong or fluorescent lighting? • Is a fluorescent light illuminated near the remote control sensor?
• Picture is cut off/with sidebar screen.	• Are screen mode adjustments such as view mode choose made correctly? (See page 25.)
• Strange color, light color, or color misalignment	• Adjust the picture tone. (See page 21.) • Is the room too bright? The picture may look dark in a room that is too bright.
• Power is suddenly turned off.	• Is the sleep timer set? (See page 11.) • Check the power control settings. (See page 16.) • The unit's internal temperature has increased. Remove any objects blocking vent or clean.
• No picture	• Is connection to other components correct? (See pages 14 to 15.) • Is correct input signal source selected after connection? (See page 15.) • Is the correct input selected? (See page 15.) • Is picture adjustment correct? (See page 21.)
• No sound	• Is the volume too low? (See page 16.) • Is "OFF" selected in "SPEAKERS"? (See page 24.) • Have you pressed **MUTE** on the remote control unit? (See page 11.)
• The TV sometimes makes a cracking sound.	• This is not a malfunction. This happens when the cabinet slightly expands and contracts according to change in temperature. This does not affect the TV's performance.

Troubleshooting-Digital broadcasting

The example of an error message displayed on a screen	Possible Solution
• DIGITAL CHANNEL SIGNAL STRENGTH IS LOW	• Check the antenna cable. Check that the antenna is correctly setup.
• DIGITAL CHANNEL IS SCRAMBLED	• It is subscription channel. Contact the service provider.
• AUDIO ONLY	• The channel has audio contents only.

Troubleshooting-PC mode

Problem	Possible Solution
• There is no image.	• Make sure the RGB cable is properly connected. (See page 34.) • Make sure the output signal of the PC and the input signal setting of the LCD TV set are matched.(See page 35.) • Some software prohibit video playback on an external display when playing back a video with a notebook PC. This is not attributable to a problem with the LCD TV set.
• There is no sound.	• Make sure the PC audio cable is properly connected. (See page 34.) • Check if the mute function activates, or if the volume is set to minimum. (See page 11.)
• The text is blurred.	• Adjust "CLOCK" and "PHASE" using the PICTURE menu. (See page 35.)
• The image is not displayed in the center of the screen.	• Adjust "HOR POSITION" and "VER POSITION" using the PICTURE menu. (See page 35.)

Cautions regarding use in high and low temperature environments

• When the unit is used in a low temperature space (e.g. room, office), the picture may leave trails or appear slightly delayed. This is not a malfunction, and the unit will recover when the temperature returns to normal.
• Do not leave the unit in a hot or cold location. Also, do not leave the unit in a location exposed to direct sunlight or near a heater, as this may cause the cabinet to deform and the Liquid Crystal panel to malfunction.
Storage temperature: −4°F to +140°F (−20°C to +60°C)

Specifications

Item			Model: LC-32AV22U
LCD panel			32" Advanced Super View & BLACK TFT LCD (Actual screen size $31^1/_2$" measured diagonally)
Number of dots			3,147,264 dots (1366 x 768 x 3 dots)
TV Function	TV-standard (CCIR)		American TV Standard ATSC/NTSC System
	Receiving Channel	VHF/UHF	VHF 2-13ch, UHF 14-69ch
		CATV	1-125ch (non-scrambled channel only.)
		Digital Terrestrial Broadcast (8VSB)	2-69ch
		Digital Cable[*1] (64/256 QAM)	1-125ch (non-scrambled channel only.)
	Audio multiplex		BTSC System
Backlight			60,000 hours (at Backlight Standard position)
Audio out			10W x 2
Terminals	Side	INPUT 1	AV in, S-VIDEO in
		INPUT 2	AV in, S-VIDEO in
		INPUT 3	COMPONENT in, Audio in
		INPUT 4	HDMI in with HDCP, Audio in
		INPUT 5	HDMI in with HDCP, Audio in
		INPUT 6	PC Connector: 15-pin mini D-sub PC, Audio in
		OUTPUT	Audio out
		DIGITAL AUDIO OUTPUT	Coaxial Digital audio output x 1 (PCM/Dolby Digital)
		ANT/CABLE	75 Ω Unbalance, F Type x 1 for Analog (VHF/UHF/CATV) and Digital (AIR/CABLE)
OSD language			English/French/Spanish
Power Requirement			AC 120 V, 60 Hz
Power Consumption			170W (0.9W Standby with AC 120V)
Weight	w/o stand		29.9 lbs./13.5 kg
	with stand		33.5 lbs./15.0 kg
Dimension[*2] (W x H x D)	w/o stand		$31^3/_8$ x $21^1/_{16}$ x $4^9/_{16}$ inch
	with stand		$31^3/_8$ x $22^{15}/_{16}$ x $9^9/_{16}$ inch
Operating temperature			+32°F to +104°F (0°C to +40°C)

[*1] Emergency alert messages via Cable are unreceivable.
[*2] The dimensional drawings are shown on the inside back cover.
• As part of policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

Optional accessories

The listed optional accessories are available for the LCD color TV. Please purchase them at your nearest shop.
• Additional optional accessories may be available in near future. When purchasing, please read the newest catalogue for compatibility and check the availability.

Part name	Part number
Wall mount bracket	AN-37AG2

Calling for Service

For location of the nearest Sharp Authorized Service, or to obtain product literature, accessories, supplies, or customer assistance, please call 1-800-BE-SHARP.

LIMITED WARRANTY

CONSUMER LIMITED WARRANTY

SHARP ELECTRONICS CORPORATION warrants to the first consumer purchaser that this Sharp brand product (the "Product"), when shipped in its original container, will be free from defective workmanship and materials, and agrees that it will, at its option, either repair the defect or replace the defective Product or part thereof with a new or remanufactured equivalent at no charge to the purchaser for parts or labor for the period(s) set forth below.

This warranty does not apply to any appearance items of the Product nor to the additional excluded item(s) set forth below nor to any Product the exterior of which has been damaged or defaced, which has been subjected to improper voltage or other misuse, abnormal service or handling, or which has been altered or modified in design or construction.

In order to enforce the rights under this limited warranty, the purchaser should follow the steps set forth below and provide proof of purchase to the servicer.

The limited warranty described herein is in addition to whatever implied warranties may be granted to purchasers by law. ALL IMPLIED WARRANTIES INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE ARE LIMITED TO THE PERIOD(S) FROM THE DATE OF PURCHASE SET FORTH BELOW. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Neither the sales personnel of the seller nor any other person is authorized to make any warranties other than those described herein, or to extend the duration of any warranties beyond the time period described herein on behalf of Sharp.

The warranties described herein shall be the sole and exclusive warranties granted by Sharp and shall be the sole and exclusive remedy available to the purchaser. Correction of defects, in the manner and for the period of time described herein, shall constitute complete fulfillment of all liabilities and responsibilities of Sharp to the purchaser with respect to the Product, and shall constitute full satisfaction of all claims, whether based on contract, negligence, strict liability or otherwise. In no event shall Sharp be liable, or in any way responsible, for any damages or defects in the Product which were caused by repairs or attempted repairs performed by anyone other than an authorized servicer. Nor shall Sharp be liable or in any way responsible for any incidental or consequential economic or property damage. Some states do not allow the exclusion of incidental or consequential damages, so the above exclusion may not apply to you.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

Model Specific Section

Your Product Model Number & Description:	LC-32AV22U LCD Color Television (Be sure to have this information available when you need service for your Product.)
Warranty Period for this Product:	One (1) year parts and ninety (90) days labor from the date of purchase.
Additional Item(s) Excluded from Warranty Coverage (if any):	Non-rechargeable batteries.
Where to Obtain Service:	From a Sharp Authorized Servicer located in the United States. To find the location of the nearest Sharp Authorized Servicer, call Sharp toll free at 1-800-BE-SHARP.
What to do to Obtain Service:	Ship prepaid or carry in your Product to a Sharp Authorized Servicer. Be sure to have **Proof of Purchase** available. If you ship the Product, be sure it is insured and packaged securely. Please use two persons to carry the Product, transport it in its original packaging, and ensure that the Product is covered to avoid scratches and damage.

TO OBTAIN PRODUCT INFORMATION, CALL 1-800-BE-SHARP OR VISIT **www.sharpusa.com**

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LIMITED WARRANTY

Consumer Electronics Products

Congratulations on your purchase!

Sharp Electronics of Canada Ltd. (hereinafter called "Sharp") gives the following express warranty to the first consumer purchaser for this Sharp brand product, when shipped in its original container and sold or distributed in Canada by Sharp or by an Authorized Sharp Dealer:

Sharp warrants that this product is free, under normal use and maintenance, from any defects in material and workmanship. If any such defects should be found in this product within the applicable warranty period, Sharp shall, at its option, repair or replace the product as specified herein.

This warranty shall not apply to:
(a) Any defects caused or repairs required as a result of abusive operation, negligence, accident, improper installation or inappropriate use as outlined in the owner's manual.
(b) Any Sharp product tampered with, modified, adjusted or repaired by any party other than Sharp, Sharp's Authorized Service Centres or Sharp's Authorized Servicing Dealers.
(c) Damage caused or repairs required as a result of the use with items not specified or approved by Sharp, including but not limited to head cleaning tapes and chemical cleaning agents.
(d) Any replacement of accessories, glassware, consumable or peripheral items required through normal use of the product including but not limited to earphones, remote controls, AC adapters, batteries, temperature probe, stylus, trays, filters, belts, ribbons, cables and paper.
(e) Any cosmetic damage to the surface or exterior that has been defaced or caused by normal wear and tear.
(f) Any damage caused by external or environmental conditions, including but not limited to transmission line/power line voltage or liquid spillage.
(g) Any product received without appropriate model, serial number and CSA/cUL markings.
(h) Any products used for rental or commercial purposes.
(i) Any installation, setup and/or programming charges.

Should this Sharp product fail to operate during the warranty period, warranty service may be obtained upon delivery of the Sharp product together with proof of purchase and a copy of this LIMITED WARRANTY statement to an Authorized Sharp Service Centre or an Authorized Sharp Servicing Dealer. In home warranty service may be provided at Sharp's discretion on any Sharp television with the screen size of 27" or larger and on any Sharp Over-the-Range Microwave Oven.

This warranty constitutes the entire express warranty granted by Sharp and no other dealer, service centre or their agent or employee is authorized to extend, enlarge or transfer this warranty on behalf of Sharp. To the extent the law permits, Sharp disclaims any and all liability for direct or indirect damages or losses or for any incidental, special or consequential damages or loss of profits resulting from a defect in material or workmanship relating to the product, including damages for the loss of time or use of this Sharp product or the loss of information. The purchaser will be responsible for any removal, reinstallation, transportation and insurance costs incurred. Correction of defects, in the manner and period of time described herein, constitute complete fulfillment of all obligations and responsibilities of Sharp to the purchaser with respect to the product and shall constitute full satisfaction of all claims, whether based on contract, negligence, strict liability or otherwise.

| WARRANTY PERIODS:	Parts & Labour (exceptions noted)
Audio Products	1 year
Camcorder	1 year
DVD Products	1 year
Projector	1 year (lamp 90 days)
LCD & Plasma Display TV	1 year
Microwave Oven	1 year (magnetron component-4 additional years)
Television Products	1 year (picture tube component-1 additional year)
VCR Products	1 year
Vacuum Cleaner	1 year

To obtain the name and address of the nearest Authorized Sharp Service Centre or Dealer, please contact:
SHARP ELECTRONICS OF CANADA LTD. 335 Britannia Road East, Mississauga, Ontario L4Z 1W9

For more information on this Warranty, Sharp Extended Warranty Offers, Sharp Canada Products, Accessory Sales, Dealer or Service Locations, please call (905) 568-7140 Visit our Web site: www.sharp.ca

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SERVICE

THROUGH CUSTOMER SATISFACTION

Revision 04/22/03

CLEARING THE PASSWORD

If you forget the password, clear the password using the following procedure.
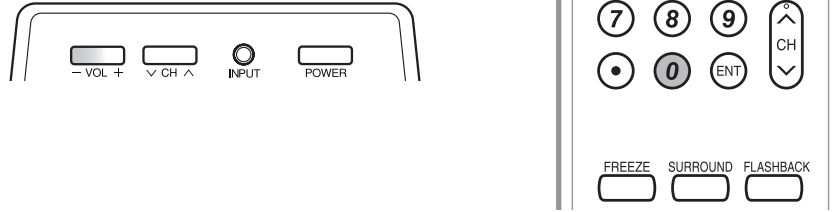
1   Press and hold both **VOL –** on the TV and press **0** on the remote control simultaneously for a few seconds until ▨ (LOCKS) menu appears on the screen.

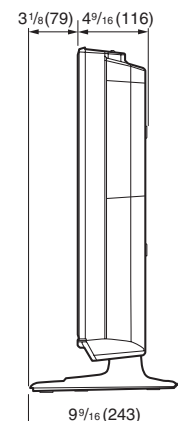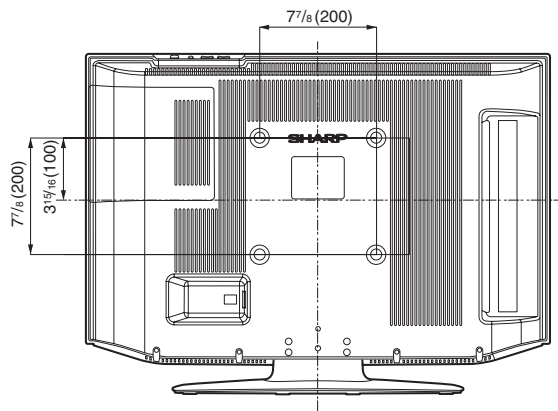**2**   Now the old password was cleared. You can set the new password.
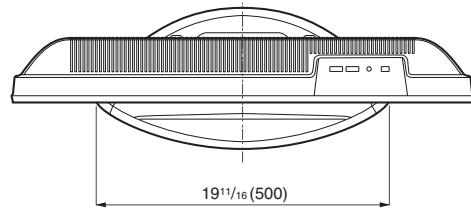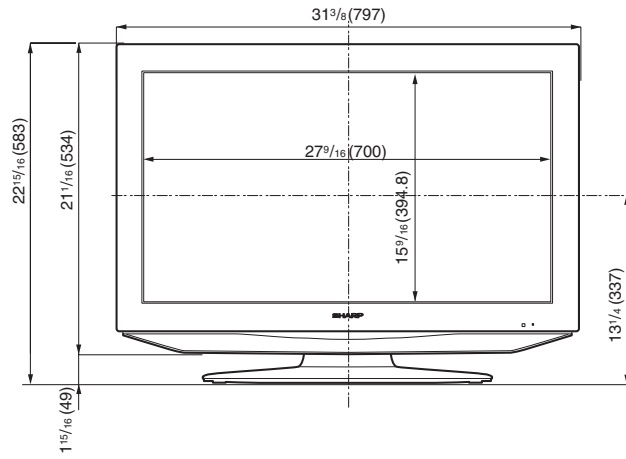
The password is ⬚⬚⬚⬚ .

✎ **NOTE**

• As a precautionary measure, make a note of your password above, cut it from this manual, and keep it in a safe place.

MEMO

Dimensional drawings

Unit: inch/(mm)

31³/₈(797)

22¹⁵/₁₆(583)

21¹/₁₆(534)

27⁹/₁₆(700)

15⁹/₁₆(394.8)

13¹/₄(337)

1¹⁵/₁₆(49)

19¹¹/₁₆(500)

7⁷/₈(200)

7⁷/₈(200)

3¹⁵/₁₆(100)

3¹/₈(79) 4⁹/₁₆(116)

9⁹/₁₆(243)

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