

OPERATION MANUAL

LCD COLOR TV

LC-13AV4U (13 INCH EASEL TYPE TABLE STAND)

LC-15AV4U (15 INCH PEDESTAL TYPE TABLE STAND)

LC-20AV4U (20 INCH PEDESTAL TYPE TABLE STAND)

SHARP®

FEATURES

- **MTS/SAP Tuner**
- **181 Channel Selection**- All VHF/UHF channels plus up to 125 cable channels.
- **PLL Frequency Synthesized Tuning**- The latest PLL frequency synthesized electronic tuning system provides free and easy channel selection and lets you tune directly to any channel using the **Number buttons (0-9 and +100-key)** on the remote control.
- **On-Screen Function Display**
- **Remote Control**
- **Sleep Timer**
- **Closed Caption Decoder**- You may view specially labeled (cc) TV programs, movies, news, prerecorded tapes, etc. with either a dialogue caption or text display added to the program.
- **Auto Shut Off Function**- If there is no signal input from the antenna terminal for 5 minutes or no user operation for 180 minutes, the TV will turn itself off automatically.
- **AV Mode**- Allows you to select from five picture options that will adjust colors to enhance your viewing experience.
- **V-CHIP**- Enables parents to prevent their children from watching inappropriate material on TV.
- **S-VIDEO Input**- Allows you to get better picture detail and clarity for the playback of S-VHS VCR tapes, DVDs, Satellite System or Video Cameras.
- **Progressive Scan Input**- You can enjoy high quality definition using the Component Video input jacks if you connect other equipment that has Progressive Scan System.

SUPPLIED ACCESSORIES

Remote control unit
(9HSUREMT21SH001)
Batteries ("AA" x 2)

Operation Manual
(9HS1EMN20472)
(9HS1EMN20473)

PRECAUTIONS

- Place your TV in a room with adequate ventilation.
- Keep your TV set away from sources of direct heat, such as heat registers or direct sunlight.
- Do not place your TV on soft surfaces, such as rugs or blankets.
- Leave enough room for air to circulate around the bottom, top and back of the set.

This manual describes the LC-13AV4U, LC-15AV4U and LC-20AV4U. These three models are different in size and shape, but operate identically. The LC-20AV4U is illustrated in this manual.

**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.



THIS SYMBOL INDICATES THAT DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THIS UNIT.



THIS SYMBOL INDICATES THAT THERE ARE IMPORTANT OPERATING AND MAINTENANCE INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.

The important note is located on the rear of the cabinet.

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

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.



FCC WARNING- This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made. U.S.A. ONLY

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 product or recycling information, please contact your local authorities or the Electronic Industries Alliance: www.eia.org

- The LCD panel used in this product is made of glass. Therefore, it can break when the product is dropped or applied with impact. Be careful not to be injured by broken glass pieces in case the LCD panel breaks.
- The LCD panel is a very high technology product with 921,600 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.
- 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.

The serial number of this product may be found on the back of the TV. No others have the same serial number as yours. You should record the number and other vital information here and retain this book as a permanent record of your purchase to aid identification in case of theft. U.S.A. ONLY

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.:

1EMN20472/9HS1EMN20472
L3270UA/L3170UA/L3670UA****



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

Printed in China

DEAR SHARP CUSTOMER

Thank you for your purchase of the Sharp LCD COLOR TV. To ensure safety and many years of trouble-free operation of your product, please read the IMPORTANT SAFEGUARDS carefully before using this product.

IMPORTANT SAFEGUARDS

1. Read instructions-All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions-The safety and operating instructions should be retained for future reference.
3. Heed Warnings-All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow Instructions-All operating and use instructions should be followed.
5. Cleaning-Unplug TV from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
EXCEPTION: A product that is meant for uninterrupted service and that for some specific reason, such as the possibility of the loss of an authorization code for a CATV converter, is not intended to be unplugged by the user for cleaning or any other purpose, may exclude the reference to unplugging the appliance in the cleaning description otherwise required in item 5.

6. Attachments-Do not use attachments not recommended by the TV manufacturer as they may cause hazards.
7. Water and Moisture-Do not use this TV 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.
8. Accessories-Do not place this TV on an unstable cart, stand, tripod, bracket, or table. The TV may fall, causing serious injury to someone, and serious damage to the appliance. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the TV.

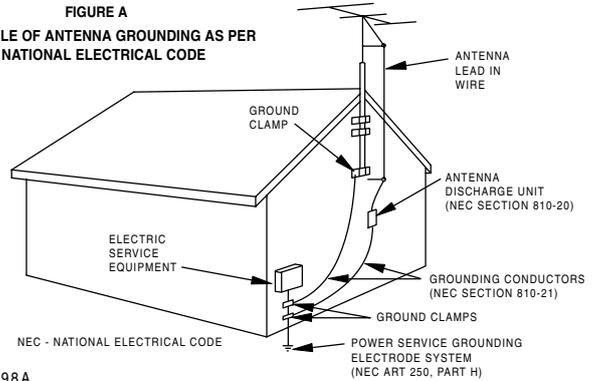
PORTABLE CART WARNING



Any mounting of the appliance should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

9. Ventilation-Slots and openings in the cabinet and the back or bottom are provided for ventilation and to ensure reliable operation of the TV and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the TV on a bed, sofa, rug, or other similar surface. This TV should never be placed near or over a radiator or heat register. This TV should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
10. Power Sources-This TV 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 appliance dealer or local power company. For TVs intended to operate from battery power, or other sources, refer to the operating instructions.
11. Grounding or Polarization-This TV is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
12. Power-Cord Protection-Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
13. Outdoor Antenna grounding-If an outside antenna or cable system is connected to the TV, be sure the antenna or cable 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 No. 70, provides information with respect 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. (Fig. A)

FIGURE A
EXAMPLE OF ANTENNA GROUNDING AS PER
NATIONAL ELECTRICAL CODE



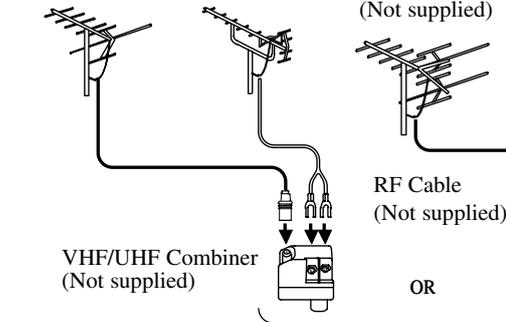
S2898A

14. Lightning-For added protection for this TV receiver 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 or cable system. This will prevent damage to the TV due to lightning and power-line surges.
15. Power Lines-An outside antenna system should not be located in the vicinity of overhead power lines or other electric light of 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.
16. Overloading-Do not overload wall outlets and extension cords 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 TV 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 TV.
18. Servicing-Do not attempt to service this TV yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
19. Damage Requiring Service-Unplug this TV from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - a. When the power supply cord or plug is damaged or frayed.
 - b. If liquid has been spilled, or objects have fallen into the TV.
 - c. If the TV has been exposed to rain or water.
 - d. If the TV does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the TV to its normal operation.
 - e. If the TV has been dropped or damaged in any way.
 - f. When the TV exhibits a distinct change in performance-this indicates a need for service.
20. Replacement Parts-When replacement parts are required, be sure the service technician uses replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, injury to persons or other hazards.
21. Safety Check-Upon completion of any service or repairs to this TV, ask the service technician to perform routine safety checks to determine that the TV is in proper operating condition.
22. Heat-This TV product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

CONNECTIONS

[ANTENNA CONNECTION]

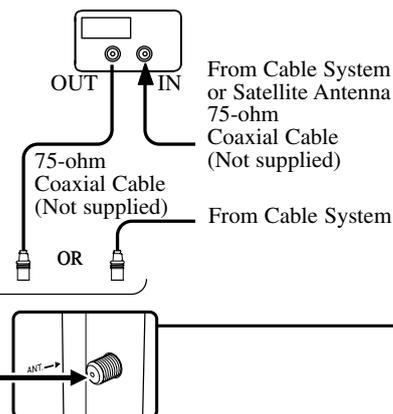
- VHF Antenna (Not supplied)
- UHF Antenna (Not supplied)
- VHF/UHF Combination Antenna (Not supplied)



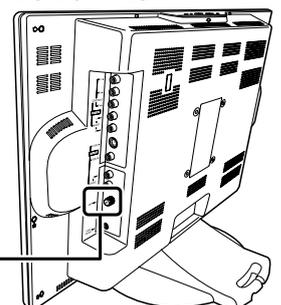
[CATV/SATELLITE CONNECTION]

- CATV Box * or Satellite Box (Not supplied)

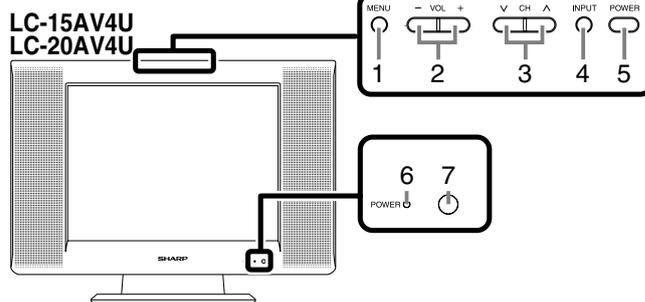
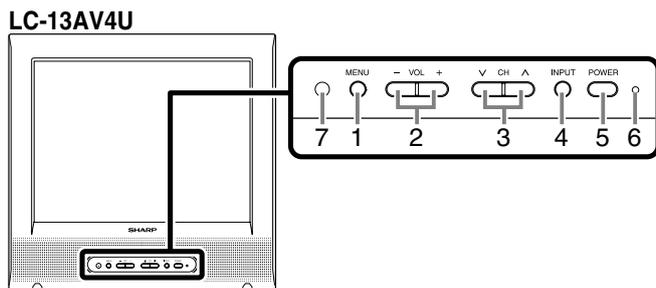
*Some cable TV systems use scrambled signals and require a special converter to receive these channels. Consult your local cable company.



LC-20AV4U



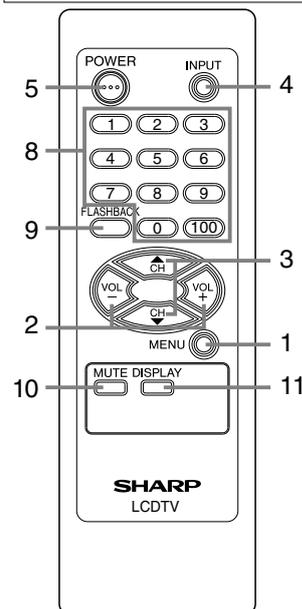
OPERATING CONTROLS AND FUNCTIONS



1. **MENU button**- Press to display the menu on the TV screen.
2. **VOL (ume) +/- buttons**- Press to control the volume level.
Press to determine the setting mode from the menu on the TV screen.
- Press the **VOL +** button to select each item.
- Press the **VOL -** button to go back to the previous menu.
Press to select or adjust from a particular menu (for example: Language Selection, Channel Presetting, Closed Caption selection, AV mode selection, adjust of the Picture control adjustments or V-CHIP Set Up).
3. **CH (annel) ▲/▼ buttons**- Press to select memorized channels.
Press to select the setting mode from the menu on the TV screen.
Press to select item you want to adjust in the picture control mode.
4. **INPUT button**- Press to select TV or Video input (AV1 or AV2) mode. (See USING AUDIO/VIDEO INPUT JACKS.)
5. **POWER button**- Press to turn the TV ON or OFF (standby).
6. **Power indicator**- Lights up when power is on.
7. **Infrared Sensor Window**
8. **Number buttons**- Press two digits to directly access the desired channel. Remember to press a "0" before a single digit channel.
100 button- Press to select cable channels higher than 99.
9. **FLASHBACK button**- Press to go back to the previously viewed channel. For example, pressing this button once will change channel display from CH 6 (present channel) to CH 10 (previously viewed channel) and pressing it a second time will return from CH 10 to CH 6.
10. **MUTE button**- Press to mute the sound portion of the TV program (Volume level display turns light RED from light BLUE). Press this button again or press the **VOL +** or **-** button to recall sound.

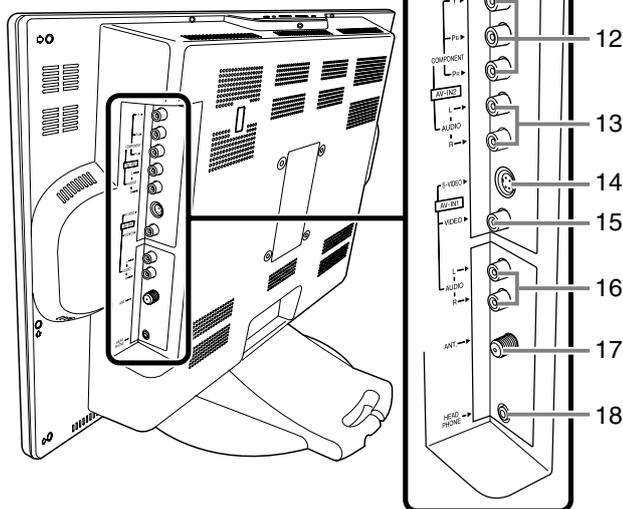
11. **DISPLAY button**- Press to display on screen the channel number, input source, TV sound or the remaining minutes on your sleep timer. If you press it again, the display will disappear.
12. **COMPONENT (Y/Pb/P_r) Video input jacks**- AV2: Connect to the component video output jacks of a DVD or set top box, etc. If HDTV (720p/1080i) signals are input to these jacks, "NOT AVAILABLE" will appear on the black background.
13. **AUDIO L/R input jacks**- AV2: Connect to the left/right audio output jacks of a DVD or set top box, etc.
14. **S-VIDEO input jack**- AV1: Connect to the S-VIDEO output jack of a video camera or VCR.
Note: When you connect using both VIDEO and S-VIDEO cables simultaneously, the S-VIDEO jack is given priority over the VIDEO jack.
15. **VIDEO input jack**- AV1: Connect to the video output jack of a video camera, VCR or video game.
16. **AUDIO L/R input jacks**- AV1: Connect to the left/right audio output jacks of a video camera, VCR or video game.
Note: The AUDIO L (input) jack is for monaural input. The sound is heard from both speakers. Use this jack for monaural audio equipment to be hooked up.
17. **ANT(enna), in jack**- Connect to an antenna, cable system or satellite system.
18. **HEADPHONE jack**- Connect headphone (not supplied) for personal listening.
Note: Do not connect earphones that have an L-shaped plug. The plug may interfere with the cabinet.

REMOTE CONTROL



REAR PANEL

LC-20AV4U



[INSTALLING THE BATTERIES]

- 1) Remove the battery compartment cover on the remote unit.
- 2) Insert 2 "AA" batteries into battery compartment in the direction as indicated by the polarity (+/-) markings. Batteries installed with incorrect polarity may damage the remote unit.
- 3) Replace the cover.

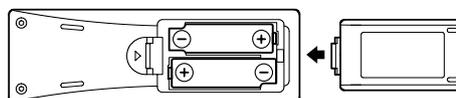
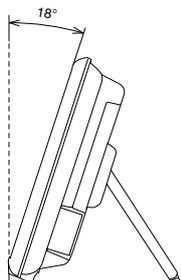


TABLE STAND

EASEL TYPE

(LC-13AV4U)

The angle of the TV has to be kept at 18°.



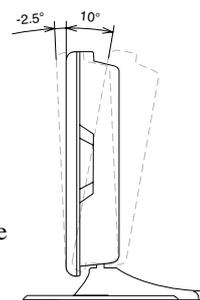
CAUTION :

Be careful not to hurt your fingers with the stand. Do not pick up the TV by its stand.

PEDESTAL TYPE

(LC-15AV4U, LC-20AV4U)

Adjust the stand to change the angle of the TV (-2.5°~10°).



CAUTION :

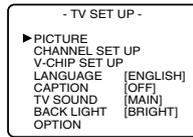
Be careful not to hurt your fingers with the table stand.

PREPARATION FOR USE

LANGUAGE SELECTION

If you want to change the language of the on-screen menu, follow the procedure below.

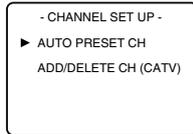
- 1) Connect the power cord to a standard AC outlet.
Note: If some digits appear in the corner of the screen, press the **POWER** button without unplugging the power cord.
- 2) Press the **POWER** button to turn on the TV.
- 3) Press the **MENU** button so that the menu display appears on the TV screen.
- 4) Press the **CH ▲** or **▼** button to point to "LANGUAGE".
- 5) Select [ENGLISH], [ESPAÑOL] or [FRANÇAIS] by using the **VOL +** or **-** button.
- 6) Press the **MENU** button to exit the menu.



CHANNEL PRESETTING

To preset a channel or to change a preset channel, follow the procedure below.

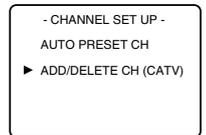
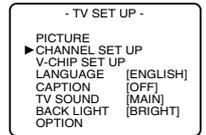
- 1) Press the **POWER** button to turn on the TV.
- 2) Press the **MENU** button so that the menu display appears on the TV screen.
- 3) Press the **CH ▲** or **▼** button to point to "CHANNEL SET UP". Then press the **VOL +** button.
- 4) Press the **CH ▲** or **▼** button to point to "AUTO PRESET CH". Then press the **VOL +** button so that "AUTO PRESET CH" is selected. The tuner scans and memorizes all active channels in your area.



- The TV distinguishes between standard TV channels and cable (CATV) channels.
- When AUTO PRESET CH is completed, the lowest memorized channel reappears on the screen. When there is no signal to ANT. in jack, "NO TV SIGNAL" will appear. In this case, please check the antenna connections, then try again the auto preset channel.
- After completing AUTO PRESET CH, you can use **CH ▲** or **▼** buttons for the memorized channels.
- The TV may memorize TV channels as CATV channels if the reception conditions are poor. If this happens, try the AUTO PRESET CH action again when reception conditions are better.

[ADD/DELETE FUNCTION]

- 1) Press the **MENU** button so that the menu display appears on the TV screen.
- 2) Press the **CH ▲** or **▼** button to point to "CHANNEL SET UP". Then press the **VOL +** button.
- 3) Press the **CH ▲** or **▼** button to point to "ADD/DELETE CH". Then press the **VOL +** button.
- 4) **Deleting a Channel:**
 - Use the **CH ▲** or **▼** button to select the channel you wish to delete, then press the **VOL +** button so the channel number on the top right corner of the TV screen turns into RED.
- Adding a Channel:**
 - Use the **Number buttons** to input the channel you wish to add, then press the **VOL +** button so the channel number on the top right corner of the TV screen turns into BLUE.
- 5) Press the **MENU** button to exit the menu.



OPERATIONS

MTS (Multi-Channel Television Sound) SYSTEM

You can listen to a program in MTS stereo following the steps below.

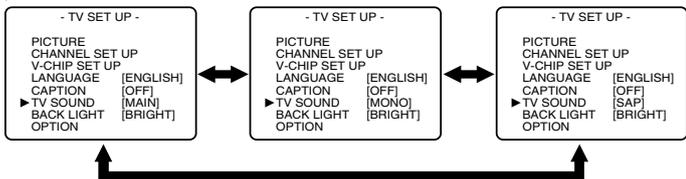
Menu selection	MAIN	MONO	SAP
Regular	-None-	-None-	-None-
Stereo broadcast	STEREO	MONO	STEREO
SAP	MAIN	MAIN	SAP

To show the status, press the **DISPLAY** button on the remote control.

SAP: Second Audio Program, which means your program can also be received in a second language or sometimes a radio station.

[To Select STEREO, MONO or SAP in Stereo broadcast]

- 1) Press the **MENU** button so that the menu display appears on the TV screen.
- 2) Press the **CH ▲** or **▼** button to point to "TV SOUND".
- 3) Press the **VOL +** or **-** button to select your desired stereo mode. ([MAIN], [MONO] or [SAP])
- 4) Press the **MENU** button to exit the menu.



RESUME FUNCTION

If the power fails or is disconnected while the TV is powered on, the TV will turn on automatically when the power resumes.

WATCHING A TV PROGRAM

- 1) Press the **POWER** button to turn on the TV.
- 2) Select the desired channel with the **CH ▲** or **▼** button or the **Number buttons**.
- 3) Adjust the volume to the desired listening level using the **VOL +** or **-** button.
- 4) Adjust picture controls for a natural looking image. (See "PICTURE ADJUSTMENT".)

USING AUDIO/VIDEO INPUT JACKS

When you use the AUDIO/VIDEO input jacks, select "AV1" or "AV2" mode by pressing the **INPUT** button.

- To use the jacks of AV-IN1 on the TV, select "AV1".
 - To use the jacks of AV-IN2 on the TV, select "AV2".
- Note:** When you connect using both VIDEO and S-VIDEO cables simultaneously, S-VIDEO jack is given priority over the VIDEO jack.

SETTING THE SLEEP TIMER

Use Sleep Timer to program the TV to shut off in a certain amount of time.

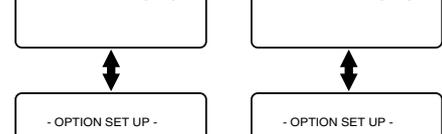
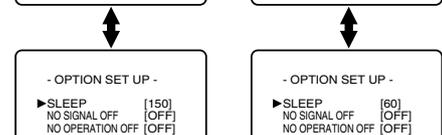
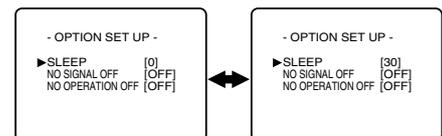
- 1) Press the **MENU** button so that the menu display appears on the TV screen.
- 2) Press the **CH ▲** or **▼** button to point to "OPTION". Then press the **VOL +** button.
- 3) Press the **CH ▲** or **▼** button to point to "SLEEP". Then press the **VOL +** button.
- 4) Press the **VOL +** or **-** until the correct amount of time appears on the TV screen.

The time increases by 30 minutes. You may set a Sleep Timer of 30, 60, 90, 120 or 150 minutes.

[To cancel the Sleep Timer]

- Press the **VOL +** or **-** repeatedly until "SLEEP [0]" is displayed.

Note: When you turn off the TV, disconnect the TV from the AC outlet or when you have a power failure, the Sleep Timer will be lost. You can check the remaining minutes on your sleep timer by pressing the **DISPLAY** button.



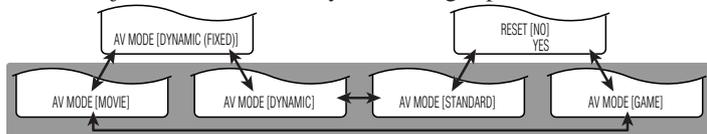
OPERATIONS (Continued)

PICTURE ADJUSTMENT (AV mode, Picture control)

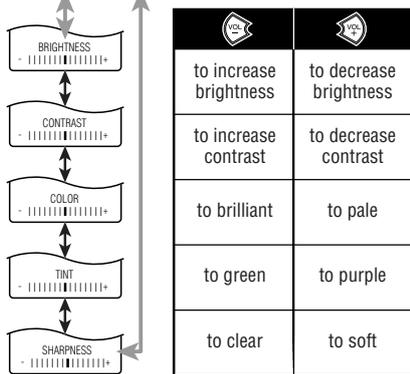
- 1) Press the **MENU** button so that the menu display appears on the TV screen.
- 2) Press the **VOL +** button so that "PICTURE" is selected.



AV mode: Press the **VOL +** or **-** button to select from 5 picture options that will adjust colors to enhance your viewing experience.



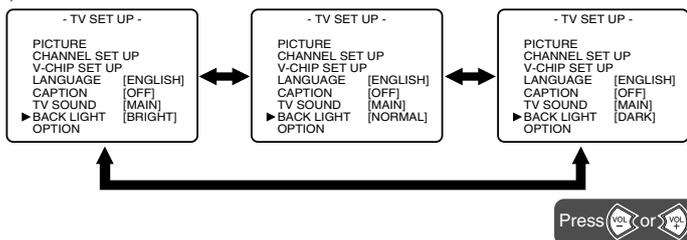
Picture control: Picture control belongs to above AV mode items in gray only. Press the **CH ▲** or **▼** button to switch Picture control from each AV mode and to change the selection of Picture control, press the **CH ▲** or **▼** button repeatedly. Then press the **VOL +** or **-** button to adjust each item.



- 3) Press the **MENU** button to exit the menu.
- Note:** In the above steps, the picture adjustment display will disappear from the TV screen automatically after approximately 5 seconds if there is no operation. To return the setting again, repeat steps 1) to 2).

BACK LIGHT SELECTION

- 1) Press the **MENU** button so that the menu display appears on the TV screen.
- 2) Press the **CH ▲** or **▼** button to point to "BACK LIGHT".
- 3) Press the **VOL +** or **-** button to select the mode you wish.
- 4) Press the **MENU** button to exit the menu.

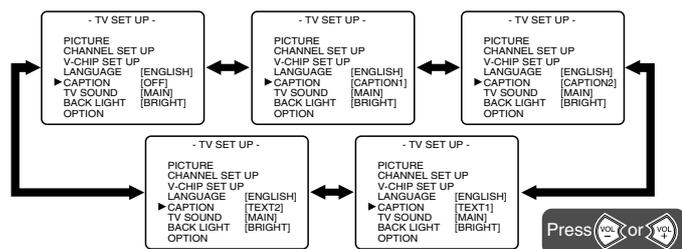


CLOSED CAPTION

[CLOSED CAPTION SELECTION]

This TV can receive Caption and Text. You may view specially labeled (cc) TV programs, movies, news and prerecorded tapes, etc. with either a dialogue caption or text display added to the program.

- 1) Press the **MENU** button so that the menu display appears on the TV screen.
- 2) Press the **CH ▲** or **▼** button to point to "CAPTION".
- 3) Press the **VOL +** or **-** button to select the mode you wish.
- 4) Press the **MENU** button to exit the menu.



[CAPTION MODE]

- 1) Closed Caption Characters can be displayed on the TV screen only when the received broadcast signal contains Caption Signals.
 - 2) **Paint-on mode:** Displays input characters on the screen immediately.
 - Pop-on mode:** Once characters are stored in memory, they are displayed all at once.
 - Roll-up mode:** Displays the characters continuously by scrolling (max. 4 lines).
- Note:** If [CAPTION1] or [CAPTION2] is selected but a Closed Caption signal is not included, characters will not be displayed.

[TEXT MODE]

- 1) Displays the text on the screen by scrolling (max. 7 lines).
 - 2) If the received broadcast signal does not contain caption or text signals, no change will occur.
- Notes:**
- 1) When your TV receives a special effects playback signal (i.e., Search, Slow and Still) from a VCR's video output channel (CH3 or CH4), your TV may not display the correct caption or text.
 - 2) Captions and texts may not match the TV voice exactly.
 - 3) Interference may cause the closed caption system not to function properly.
 - 4) The caption or text characters will not be displayed while the menu display or functions display is shown.
 - 5) **If you see this screen:**

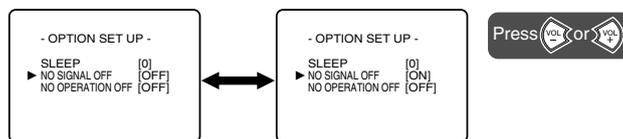
If your TV displays a black box on the screen, this means that your TV is set to TEXT mode. To clear screen, select [CAPTION1], [CAPTION2] or [OFF].

AUTO SHUT OFF FUNCTION

If there is no signal input from the antenna terminal for 5 minutes or no user operation for 180 minutes, the TV will turn itself off automatically.

[NO SIGNAL OFF]

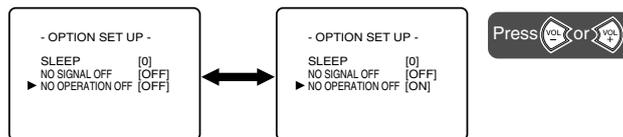
- 1) Press the **MENU** button so that the menu display appears on the TV screen.
- 2) Press the **CH ▲** or **▼** button to point to "OPTION". Then press the **VOL +** button.
- 3) Press the **CH ▲** or **▼** button to point to "NO SIGNAL OFF". Then press the **VOL +** button.



- 4) Press the **VOL +** or **-** button to select the mode you wish.
- 5) Press the **MENU** button to exit the menu.

[NO OPERATION OFF]

- 1) Press the **MENU** button so that the menu display appears on the TV screen.
- 2) Press the **CH ▲** or **▼** button to point to "OPTION". Then press the **VOL +** button.
- 3) Press the **CH ▲** or **▼** button to point to "NO OPERATION OFF". Then press the **VOL +** button.



- 4) Press the **VOL +** or **-** button to select "ON" or "OFF".
- 5) Press the **MENU** button to exit the menu.

OPERATIONS (Continued)

V-CHIP SET UP

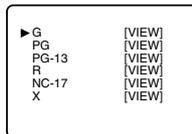
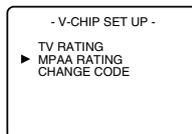
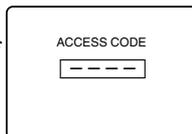
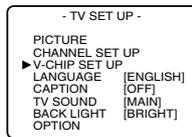
V-CHIP enables parents to prevent their children from watching inappropriate material on TV. V-CHIP reads the ratings for programming (except for news and sports programs, unedited movies on premium cable channels, and Emergency Broadcast System signals), then denies access to programming if the program's rating meets or exceeds the limitations you select. In this case, "PROTECTED PROGRAM by ..." message appears on the TV screen.

To block certain ratings, follow the steps below.

- Programming may be rated by the Motion Picture Association of America (MPAA) or according to the Television Parental Guidelines. In order to block any inappropriate programming, set your limits in both places (MPAA RATING and TV RATING).
- You cannot access the menu when the "PROTECTED PROGRAM by ..." message appears. In this case, change to an unblocked channel, then press the **MENU** button.

[MPAA RATING]

- 1) Press the **MENU** button so that the menu display appears on the TV screen.
- 2) Press the **CH ▲** or **▼** button to point to "V-CHIP SET UP". Then press the **VOL +** button.
- 3) Use the **Number buttons** to enter 4-digit access code. The default access code is 0000. If you have not set up your personal access code, you should use 0000.
- 4) Press the **CH ▲** or **▼** button to point to "MPAA RATING". Then press the **VOL +** button.
- 5) Press the **CH ▲** or **▼** button to point to your desired item. Then press the **VOL +** button to select [BLOCK] or [VIEW].

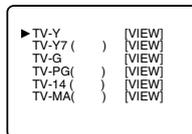
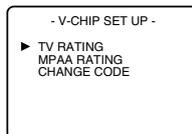
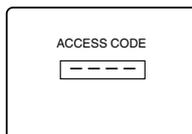


<Selection>	<Rating Category Explanations>
• G:	General Audience
• PG:	Parental Guidance suggested.
• PG-13:	Unsuitable for children under 13
• R:	Restricted; under 17 requires accompanying parent or adult guardian
• NC-17:	No one under 17 admitted
• X:	Mature audience only

- When you select the rating category and set it to [BLOCK], the higher rating will turn to [BLOCK] automatically. Also, the lower rating will turn to [VIEW] automatically.
 - When you turn "G" to [BLOCK] or [VIEW], the all ratings will turn to [BLOCK] or [VIEW] automatically.
 - When you turn "X" to [VIEW], then all ratings will turn to [VIEW] automatically.
- 6) Press the **MENU** button to exit the menu.

[TV RATING]

- 1) Press the **MENU** button so that the menu display appears on the TV screen.
- 2) Press the **CH ▲** or **▼** button to point to "V-CHIP SET UP". Then press the **VOL +** button.
- 3) Use the **Number buttons** to enter 4-digit access code. The default access code is 0000. If you have not set up your personal access code, you should use 0000.
- 4) Press the **CH ▲** or **▼** button to point to "TV RATING". Then press the **VOL +** button.
- 5) Press the **CH ▲** or **▼** button to point to your desired item. Then press the **VOL +** button to select [BLOCK] or [VIEW].



<Selection>	<Rating Category Explanations>
• TV-Y:	Appropriate for all children
• TV-Y7:	Appropriate for children 7 and older
• TV-G:	General Audience
• TV-PG:	Parental Guidance suggested.
• TV-14:	Unsuitable for children under 14
• TV-MA:	Mature Audience only

- When you select the rating category and set it to [BLOCK], the higher rating will turn to [BLOCK] automatically. Also, the lower rating will turn to [VIEW] automatically.
 - When you turn "TV-Y" to [BLOCK] or [VIEW], then all ratings will turn to [BLOCK] or [VIEW] automatically.
 - When you turn "TV-MA" to [VIEW], then all ratings will turn to [VIEW] automatically.
- 6) Press the **MENU** button to exit the menu.

[V-CHIP SET UP SUB RATINGS]

When you select TV-Y7, TV-PG, TV-14 or TV-MA and you press the **VOL +** button, the sub-ratings will appear on the TV screen.

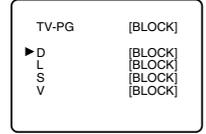
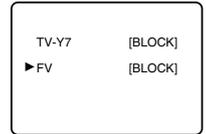
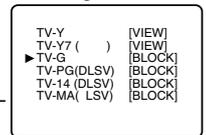
If you select the rating category (example: TV-PG) and set it to [BLOCK] or [VIEW], the sub-ratings (example: V for Violence) will turn to [BLOCK] or [VIEW] automatically.

You can set the sub-ratings to [BLOCK] or [VIEW] individually when the rating category is set to [BLOCK]. To set the sub-ratings individually, follow the steps below.

- **When you select [TV-Y7]:**
Press the **CH ▲** or **▼** button to select "FV" (Fantasy Violence). Then press the **VOL +** button to select [BLOCK] or [VIEW].
- **When you select [TV-PG], [TV-14] or [TV-MA]:**
Press the **CH ▲** or **▼** button to select "D" (Suggestive Dialog), "L" (Coarse Language), "S" (Sexual Situation) or "V" (Violence). Then press the **VOL +** button to select [BLOCK] or [VIEW].

Note: When you select [TV-MA], "D" does not appear on the TV screen.

- The sub-ratings which set to [BLOCK] appear next to the rating category in the "TV RATING" menu.
- Press the **MENU** button to exit the menu.



[CHANGE CODE]

To change access code, follow steps.

- 1) Press the **MENU** button, then press the **CH ▲** or **▼** button to select "V-CHIP SET UP". Press the **VOL +** button to continue.
- 2) Press the **Number buttons** to enter your old access code. If you have never set up your personal access code, use 0000.
- 3) Press the **CH ▲** or **▼** button to select "CHANGE CODE". Then press the **VOL +** button to continue.
- 4) Use the **Number buttons** to enter your desired access code in the NEW CODE space. Then enter the same code in the CONFIRM CODE space. Your new access code is set. You will return to the "V-CHIP SET UP".

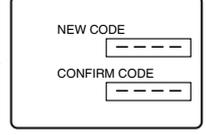
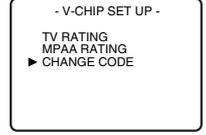
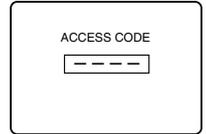
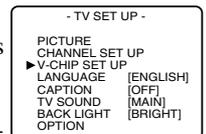
If the code in the CONFIRM CODE space does not match the code in the NEW CODE space, repeat step 4, making sure you enter the same new code exactly in the CONFIRM CODE space.

Notes:

- If a power failure occurs for more than 10 seconds, the default code, 0000, will be the active access code again.
- If you connect the power cord to an AC outlet that is controlled by a tap switch, your personal access code will be erased every time you turn off the power at the tap switch for more than 10 seconds. The default code will be the active code again.

[IF YOU FORGET YOUR ACCESS CODE]

You should reset the access code to default code, 0000. To reset 0000 as your personal access code, unplug the TV's power cord for more than 10 seconds, then plug it in again.



TROUBLESHOOTING GUIDE

Sometimes a performance problem can be easily solved by checking seemingly apparent but often overlooked possibilities. Before arranging for service, check these items. It could save your time and money.

QUICK SERVICE CHECK LIST	PROBLEM														
	Remote Control Doesn't Work.	Bars On Screen.	Picture Distorted.	Picture Rolls Vertically.	No Color.	Poor Reception on Some Channels.	Weak Picture.	Lines or Streaks in Picture.	Ghosts in picture.	Picture Blurred.	Sound OK, Picture Poor.	Picture OK, Sound Poor.	No Picture or Sound.	Different color marks on screen.	Black or Luminous point on Screen.
POSSIBLE REMEDY															
Try a new channel, if OK, then possible station trouble.			X	X	X	X	X	X	X	X	X	X	X	X	
Is TV plugged in? Power at outlet?	X												X		
Is TV's POWER button on?													X		
Is antenna connected to terminal on the back of the set?					X	X	X		X		X		X		
If outside antenna is being used, check for broken wire.		X	X	X	X	X	X	X	X	X	X		X		
Check for local interference.		X		X		X		X	X		X	X			
Turn off with POWER button and then turn it on after about a minute.													X		
Adjust COLOR control.					X										
Adjust CONTRAST & BRIGHT control.							X				X				
Check batteries in Remote Control.	X														
Move the TV away from the nearby appliances which have Magnetism. Turn off using the POWER button, then turn it on again 30 minutes or so later.														X	
Temperature around is too low.			X				X				X				
Life of the Back Light is approximately 50,000 hours. Ask the Service Center to replace.							X				X				
It is quality of the LCD Panel.															X

Closed Caption Problem	Possible Remedy
My TV is showing captions that are misspelled.	You are watching a live broadcast and spelling errors made by the closed captioning production company may pass through uncorrected. A prerecorded program will not show any misspelled words because of the normal time available for editing the captions.
My TV will not show the text in its entirety or there is a delay of what is being said.	Captions that are delayed a few seconds behind the actual dialogue are common for live broadcasts. Most captioning production companies can display a dialogue to a maximum of 220 words per minute. If a dialogue exceeds that rate, selective editing is used to insure that the captions remain up-to-date with the current TV screen dialogue.
My captions are scrambled with white boxes on the TV screen.	Interference caused by building, power lines, thunderstorms, etc. may cause scrambled or incomplete captions to appear.
My program guide listed a TV show as being closed captioned but none of the captions were displayed.	Broadcasters may at times use a time compression process to the actual program so that additional advertising time can be given. Since the decoder cannot read the compressed information, captions will be lost.
My prerecorded videotape does not show any captions. The tape box mentions it being closed captioned.	The videotape was either an illegal copying or the tape duplicating company accidentally left out the captioning signals during the copying process.
My TV screen shows a black box on certain channels.	You are in the TEXT mode. Select CAPTION mode or CAPTION [OFF].

The LCD panel is manufactured to provide many years of useful life. Occasionally a few non active pixels may appear as a tiny spec of color. This is not to be considered a defect in the LCD screen.

MAINTENANCE

CABINET CLEANING

- Wipe the front panel and other exterior surfaces of the TV with a soft cloth immersed in lukewarm water and wrung dry.
- Never use a solvent or alcohol. Do not spray insecticide liquid near the TV. Such chemicals may cause damage and discoloration to the exposed surfaces.

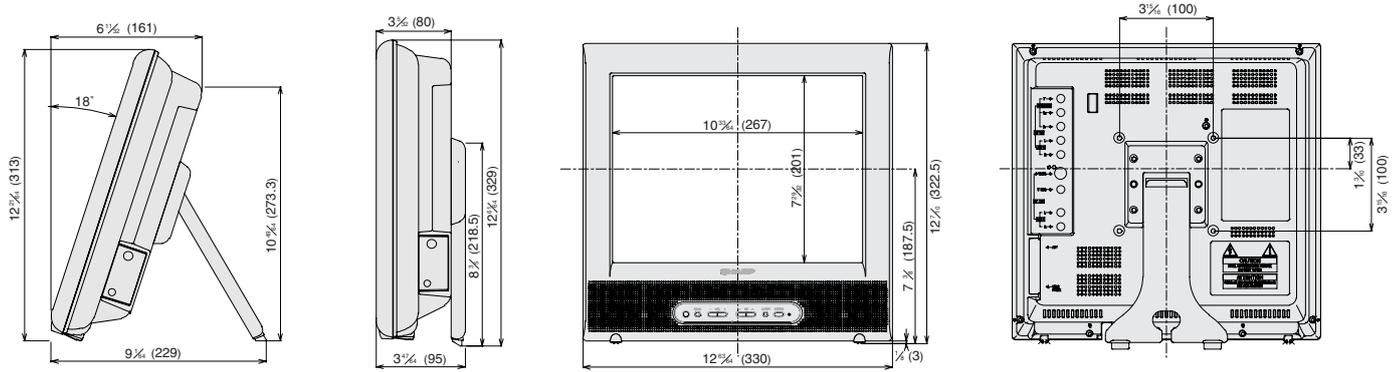
PICTURE SCREEN CLEANING

If the LCD panel should require cleaning, wipe it with a cotton or soft cloth. Before cleaning the picture screen, disconnect the power cord.

DIMENSIONAL DRAWINGS

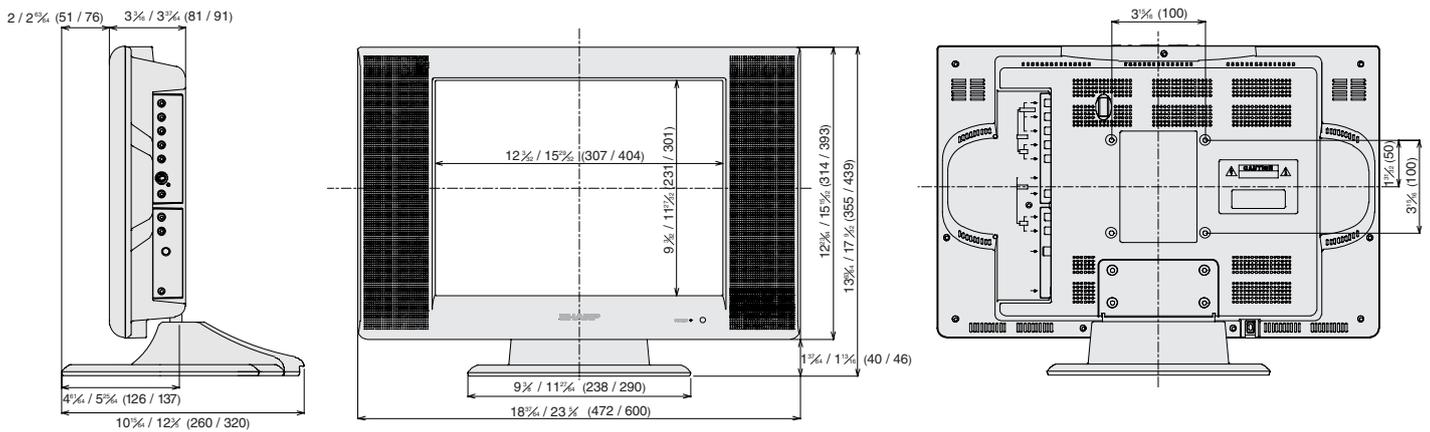
LC-13AV4U

Unit : inch (mm)



LC-15AV4U / LC-20AV4U

Unit : inch (mm)



SPECIFICATIONS

GENERAL SPECIFICATIONS

Television system:	NTSC-M TV Standard
Closed Caption System:	§15.119/FCC
Channel coverage	
VHF:	2 ~ 13
UHF:	14 ~ 69
CATV:	2 ~ 13, A ~ W, W+1 ~ W+84, A-5 ~ A-1, 5A
Tuning System:	181 channel frequency synthesized tuning system
Channel access:	Direct access keyboard, programmable scan and up/down
Terminals	
Antenna input:	VHF/UHF/CATV 75 ohm unbalanced (F-type)
S-Video input:	Mini DIN 4-pin jack
Video input:	RCA connector x 1
Audio input:	RCA connector x 4
Component Video input:	One pin jack (Y), 1Vpp (75 ohm) Two pin jacks (P _s)/(P _b), 700mVpp (75 ohm)
Headphone:	1/8" stereo (3.5 mm)
Stereo Sound System	
Speakers:	2 speakers
AV input:	2 ways AV input
Sound output:	1W, 8 ohm x 2
Remote control:	Digital encoded infrared light system
Power requirements:	AC120V, 60Hz

[LC-13AV4U]	
Power consumption (Maximum):	56W
LCD:	13"
Dimensions (H x W x D):	12-15/16" x 13" x 3-3/4"
(including the table stand)	(329mm x 330mm x 95mm)
Weight (including the table stand):	7.1 lbs. (3.2kg)

[LC-15AV4U]	
Power consumption (Maximum):	65W
LCD:	15"
Dimensions (H x W x D):	14" x 18-9/16" x 10-1/4"
(including the table stand)	(355mm x 472mm x 260mm)
Weight (including the table stand):	9.7 lbs. (4.4kg)

[LC-20AV4U]	
Power consumption (Maximum):	73W
LCD:	20"
Dimensions (H x W x D):	17-5/16" x 23-5/8" x 12-5/8"
(including the table stand)	(439mm x 600mm x 320mm)
Weight (including the table stand):	15.0 lbs. (6.8kg)

- Designs and specifications are subject to change without notice and without our legal obligation.
- If there is a discrepancy between languages, the default language will be English.
- Please also read the limited warranties for both the U.S. and Canada located on the back of this operation manual.

CONSUMER LIMITED WARRANTY

(Valid for warranty service in the U.S. only)

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-13AV4U LCD Color Television
LC-15AV4U LCD Color Television
LC-20AV4U 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:

Call Sharp Electronics corporation toll free at 1-800-BE-SHARP for instructions on how to obtain service on your LCD TV.

What to do to Obtain Service:

Ship your product, prepaid, as per the instruction given by the Sharp representative at the toll free number (1-800-BE-SHARP). BE sure to have your proof of purchase available. Be sure to ship the product securely packaged and insured against shipping damage.

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

SHARP®

SHARP ELECTRONICS CORPORATION

Sharp Plaza, Mahwah, New Jersey 07430-2135

SHARP CORPORATION

SHARP®

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

