

TROUBLESHOOTING GUIDE

Before requesting service, please refer to the following chart for the symptom and possible solution.

SYMPTOMS	POSSIBLE SOLUTIONS
TV does not operate	<ul style="list-style-type: none"> • Make sure the power cord is plugged in. • Try another AC outlet. • Power is off, check fuse or circuit breaker. • Unplug unit for an hour, then plug it back in.
Poor sound or No sound	<ul style="list-style-type: none"> • Station or CATV experiencing problems, tune to another station. • Check sound adjustments (Volume and Muting). • Check for sources of possible interference.
Poor picture or No picture	<ul style="list-style-type: none"> • Station or CATV experiencing problems, tune to another station. • Check antenna or CATV connections, reorient antenna. • Check for sources of possible interference. • Check picture control adjustments.
Poor reception on some channels	<ul style="list-style-type: none"> • Station or CATV experiencing problems, tune to another station. • Station signal is weak, reorient antenna to receive weaker station. • Check for sources of possible interference.
Poor color or no color	<ul style="list-style-type: none"> • Station or CATV experiencing problems, tune to another station. • Make sure channels are set into memory. • Check picture control adjustments. • Check antenna or CATV connections, reorient antenna. • Check for sources of possible interference.
Picture wobbles or drifts	<ul style="list-style-type: none"> • Station or CATV experiencing problems, tune to another station. • Make sure channels are set into memory. • CATV company is scrambling signal. • Check antenna orientation.
No CATV reception	<ul style="list-style-type: none"> • Check all CATV connections. • Set TV/CATV menu option to the CATV mode. • Station or CATV system problems, try another station.
Horizontal or diagonal bars on screen	<ul style="list-style-type: none"> • Check antenna connections, reorient antenna. • Check for sources of possible interference.
No reception above channel 13	<ul style="list-style-type: none"> • Make sure TV/CATV menu option is in the appropriate mode. • If using antenna, check UHF antenna connections.
No Remote operation	<ul style="list-style-type: none"> • Batteries are weak, dead or inserted incorrectly. • Remote is out of range, move closer to TV within 15 feet. • Make sure Remote is aimed at sensor. • Confirm there are no obstructions between the Remote and the TV. • Make sure the power cord is plugged in.
TV shuts off	<ul style="list-style-type: none"> • No broadcast on station tuned. • Sleep Timer is set. • Power interrupted.
Closed - Caption is not activated.	<ul style="list-style-type: none"> • TV station experiencing problems or program tuned is not closed captioned. Try another channel. • Check CATV connection or VHF/UHF antenna, reposition or rotate antenna. • Press TV/CAPTION/TEXT button to turn on the closed caption decoder. • Select proper language in the menu options.
Display is not shown in your language.	<ul style="list-style-type: none"> • Select proper language in the menu options.
The remote control does not register your product.	<ul style="list-style-type: none"> • Fully depress CODE SET button and VCR or CAB/SAT button at the same time. Then enter the code that operates your product within 10 seconds. • Install new batteries.
The remote control does not operate your product.	<ul style="list-style-type: none"> • Press the button of the product you want to control (TV, VCR, Cable/Satellite box). • Program remote with a different code. • The remote control may not be compatible with your product. • Install new batteries.
The remote control does not operate some features of your product.	<ul style="list-style-type: none"> • Program remote with a different code. • The remote control may not be able to operate all features of your product.

Memorex®

FOR ADDITIONAL SET-UP INFORMATION OR CUSTOMER SERVICE
PLEASE CALL:
1-800-919-3847

13. LIGHTNING

To protect your unit 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 unit due to lightning and power line surges.

14. 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.

15. OVERLOADING

Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.

16. OBJECT AND LIQUID ENTRY

Do not push objects through any openings in this unit as they may touch dangerous voltage points or short out parts that could result in fire or electric shock. Never spill or spray any type of liquid into the unit.

17. OUTDOOR ANTENNA GROUNDING

If an outside antenna or cable system is connected to the unit, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA 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.

18. SERVICING

Do not attempt to service this unit 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 unit from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power-supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the unit.
- If the unit has been exposed to rain or water.
- If the unit 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 unit to its normal operation.
- If the unit has been dropped or the cabinet has been damaged.
- If the unit 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 or those that have the same characteristics as the original part.

Unauthorized substitutions may result in fire, electric shock or other hazards.

21. SAFETY CHECK

Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.

22. WALL OR CEILING MOUNTING

The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

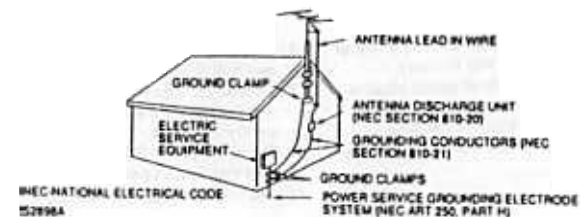
23. HEAT

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

24. NOTE TO CATV SYSTEM INSTALLER

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC 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.

EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE

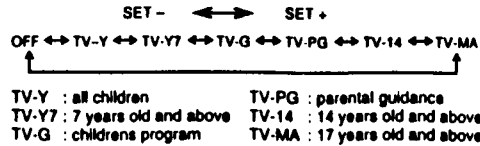


SETTING V-CHIP

This TV is fitted with a V-CHIP controller which provides you with channel viewing access controls and restrictions. This function is to prevent your children from watching violence or sexual scenes that may be harmful.

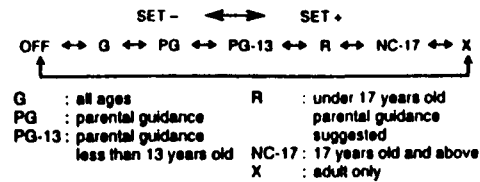
- 1 Press the MENU button and press the SET + or - button to select the V-CHIP SET option, then press the ENTER button.
- 2 Enter your password using the Direct channel selection buttons. In the event of entering incorrect password press the RESET button. Then press the ENTER button.
- 3 Enter the same password for confirmation, then press the ENTER button.
- 4 Press the SET + or - button to select the V-CHIP option. Press the ENTER button to select the ON.
- 5 Press the SET + or - button to select the TV RATING or MOVIE RATING option. Press the ENTER button.
- 6 Press the SET + or - button to select the desired rating for the applicable video or TV channel. Press the ENTER button.
- 7 Press the MENU button twice to return to normal TV viewing.

TV RATING



When you select TV-Y7, TV-PG, TV-14 or TV-MA, press the CALL button to show the contained rating. Press the SET + or - button to select the desired item you want. Press the ENTER button to select the OFF.

MOVIE RATING



NOTES:

- May not work with Canadian programming or with U.S. programming transmitted on cable networks in Canada.
- The V-Chip function is activated only on programs and tapes that have the rating signal.
- Once you block a program using the V-Chip function, the blocked program cannot be watched based on the content of the show. When the program starts, the "ENTER PASSWORD" will appear on the screen. When you want to release the V-Chip temporarily, enter the password.
- If you change the channel or turn off and on the TV while releasing the V-Chip temporarily, the V-Chip setting will be resumed.
- When you watch the TV from the cable box or the VCR with the RF Modulator, then you release the V-Chip temporarily, the V-Chip setting will not be resumed until you turn off the TV. The TV channel is not used in this case.
- When changing the channel with the cable box or the VCR, approximately 10 seconds will pass until the program appears.

CLOSED CAPTION

WHAT IS CLOSED CAPTIONING?

This television has the capability to decode and display Closed Captioned television programs. Closed Captioning will display text on the screen for hearing impaired viewers or it will translate and display text in another language.

TO VIEW CLOSED CAPTIONS

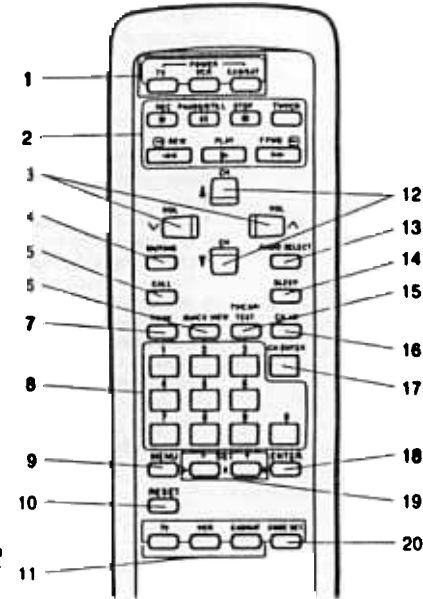
Press the TV/CAP/TEXT button on the remote control to switch between normal TV and the two Closed Caption Modes (Captions and 1/2 of Full Screen Text).

Captions: This Closed Caption Mode will display text on the screen in English or another language (depending on the setting of the Closed Captions CH. 1/2 button). Generally, Closed Captions in English are transmitted on Captions Channel 1 and Closed Captions in other languages are transmitted on Captions Channel 2.

Text: The Text Closed Caption Mode will usually fill 1/2 of full screen with a programming schedule or other information. After selecting a Closed Caption Mode, it will stay in effect until it is changed, even if the channel is changed. If the Captions signal is lost due to a commercial or a break in the signal, the Captions will reappear when the signal is received again. If the channels are changed, the Captions will be delayed approximately 10 seconds. The Captions will appear in places on the screen where they will least interfere with the picture, usually on the bottom of the screen. News programs will usually show three-line Closed Captions which scroll onto the screen. Most other shows provide two or three lined Captions placed near the character who is speaking so the viewer can follow the dialogue. Words in italics or underlined describe titles, words in foreign languages or words requiring emphasis. Words that are sung usually appear enclosed by musical notes. For television programs broadcasting with Closed Captions, look in your TV guide for the Closed Captions symbol (CC).

- When activating the Closed Captioned Decoder, there will be a short delay before the Closed Captioned text appears on the screen.
- Closed Captioned text is only displayed in locations where it is available.
- 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 not be seen or may interfere with Closed Captions.
- Some cable 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.

REMOTE CONTROL



*You can use these buttons to operate your VCR or Cable/Satellite box after you have programmed the remote control for the code that operates your product.

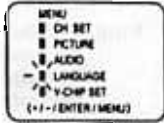
1. **TV, VCR, CAB/SAT POWER Button*** - Used to turn the TV, VCR or Cable/Satellite box on or off.
2. **VCR Operation Buttons*** - Press to operate your VCR.
3. **VOL (VOLUME) ▲ / ▼ Buttons** - Press the ▲ button to increase, or the ▼ button to decrease the volume level.
4. **MUTING Button** - To turn off the sound, press this button once. The TV will be silenced and the symbol "MUTING" will appear on the screen. The muting feature can be released by pressing the MUTING button again or one of the VOL ▲ or ▼ button.
5. **CALL Button** - When you press this button, the channel number tuned will appear on the upper right corner of the screen. Press the button again to remove display from the screen.
6. **QUICK VIEW Button** - This button allows you to go back to the previous channel selected by just pressing the QUICK VIEW button. Press this button again to return to the channel you were watching.
7. **TV/AV Button** - Switches between TV and external inputs.
8. **Direct Channel Selection Buttons (0-9)*** - Allows direct access to any channel of the TV, VCR or Cable/Satellite box.
9. **MENU Button** - Press to display the On-Screen menu function.
10. **RESET Button** - Press to reset the On-Screen picture adjustments to their factory preset positions. Press to reset a password in the V-CHIP Password setting mode.
11. **TV, VCR, CAB/SAT selector Buttons** - Press to select the TV, VCR or Cable/Satellite box to be operated.
12. **CH (CHANNEL) ▲ / ▼ Buttons** - Used to change the channels of the TV, VCR or Cable/Satellite box.
13. **AUDIO SELECT Button** - Switches sound between mono and stereo, and SAP when receiving broadcasts in stereo or SAP.
14. **SLEEP Button** - To set the TV to turn off after a preset amount of time, press the SLEEP button on the remote control. The clock will count down 10 minutes each time the button is pressed in the order of 120, 110, 100, 20, 10, 0. After the sleep time is programmed, the display will disappear then reappear momentarily every ten minutes to remind you the sleep timer function is operating. To confirm the sleep time setting, press the SLEEP button once and the remaining time will be momentarily displayed. To cancel sleep time, press the SLEEP button repeatedly until the display turns to 0.
15. **TV/CAPTION/TEXT Button** - Press this button to switch between normal TV and the two Closed Caption modes (captions and 1/2 of full screen text). Closed Captioning will display text on screen for hearing impaired viewers.
16. **CH.1/2 Button** - Switches between Channel 1 and Channel 2 in the Closed Caption mode.
17. **CH ENTER Button*** - Press to input the selected channel of the VCR or Cable/Satellite box.
18. **ENTER Button** - Press to enter or select information for On-Screen operations.
19. **SET + / - Buttons** - Press to select the desired setting during On-Screen operations.
20. **CODE SET Button** - Used to register the 2-digit codes to operate your VCR or Cable/Satellite box. Press this button and the VCR button or the CAB/SAT button simultaneously to start a registration.

SETTING LANGUAGE

This TV can display the channel number, on screen displays and picture adjustments on the screen in English, Spanish or French.

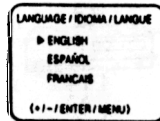
On-screen language selection (step 3) will automatically appear on the screen when you press the MENU button initially. Select language to use the other menu options.

1 Press the MENU button.



2 Press the SET + or - button to select the LANGUAGE mode, then press the ENTER button.

3 Press the SET + or - button until the "►" indicator points to the desired language: English (ENGLISH), Spanish (ESPAÑOL) or French (FRANCAIS), then press the ENTER button.



4 Press the MENU button again.

NOTE:

If Spanish or French is chosen, the Closed Caption indicators will be in the selected language, but the Closed Caption text will not be affected by the language selection.

TV OPERATION

1 To turn on the TV, press the POWER button.

2 The VOLUME can be adjusted to a desired level by pressing the VOL (VOLUME) ▲ or ▼ button.

The sound level will be indicated on the TV screen by green bars and a number. As the sound level increases, so do the number of bars and the number on the screen. The same is true for decreasing the level.

3 Set the TV/CATV menu option to the appropriate position. When shipped from the factory, this menu option is in the CATV setting. See "TO MEMORIZE CHANNELS".

TV	- VHF/UHF channels
CATV	- CABLE TV channels

4 CH (CHANNEL) ▲ and ▼ buttons
Press and release the CH (CHANNEL) ▲ or ▼ button. The channel automatically stops at the next channel set into memory. Press and hold the button down to change channels more quickly.

For proper operation, before selecting channels, they should be set into the TV's memory. See "TO MEMORIZE CHANNELS".

Direct Channel Selection buttons (0-9)

Press these buttons to select a channel. The channel number will appear on the upper right corner of the TV screen. If an invalid channel number is selected, the display will revert to the original channel.

TV Mode Direct Channel Selection

When the TV/CATV menu option is in the TV position, all channels can be instantly selected by using two buttons. (For example, to select channel 2, press "0", then "2". If you press only "2", channel selection will be delayed for a few seconds.) For channels 10 and above, press the 2 digits in order.

CATV Mode Direct Channel Selection

When the TV/CATV menu option is in the CATV position, channels can be selected as follows:

- | | |
|-------------|--|
| CH. 1-9 | Press "0" twice, then 1-9 as needed.
Example, to select channel 2, press "002". |
| CH. 10-19 | Press "0", then remaining 2 digits.
Example, to select channel 13, press "013". |
| CH. 20-99 | Press the 2 digits in order.
Example, to select channel 36, press "36". |
| CH. 100-125 | Press the 3 digits in order.
Example, to select channel 120, press "120". |

NOTE: If the station being viewed stops broadcasting, the TV will automatically shut off after 15 minutes.

REGISTRATION CODES BY PRODUCT AND BRAND NAME

VCR	CABLE/SATELLITE
Admiral	08, 61
Adventura	31
Alwa	31
Akai	23, 38, 41
Audio Dynamics	02, 18
Bell & Howell	06, 47
Broksonic	21, 26, 33, 50, 55
Canon	14
Citizen	09
Craig	12
Curtis Mathes	14, 59
Daewoo	44, 46, 48, 54
Daytron	36, 46
DBX	02, 18
Emerson	03, 21, 23, 26, 33, 35, 43, 60
Fisher	11, 12, 13, 47
Funai	31
General Electric	14, 16, 20
Goldstar	09
Go Video	56, 62, 63
Hitachi	15, 57
Instant Replay	14, 27
J.C. Penney	14, 15, 18, 27
JVC	02, 25, 58
Kanwood	02
Logik	39
LXI	09, 31
Magnavox	07, 14, 31
Marantz	07, 18
Marta	09
Memorex	06, 12, 14, 31, 33
Mitsubishi	04, 22, 52, 64
Montgomery Ward	06, 14, 16, 19, 31, 49
Multi Tech	39
NEC	02, 18
Orion	33, 50
Panasonic	14, 51, 59
Pentax	15
Philco	07, 14
Phillips	07, 14, 27
Pioneer	10, 15
Portland	46
Pro Scan	16, 60
Quasar	14, 59
RCA	15, 16, 20, 27, 40, 42, 60
Realistic	06, 08, 12, 14, 31
Samsung	20, 30
Sensul	39
Sanyo	06, 12, 47
Scott	04, 05, 33, 43
Sears	06, 09, 11, 12, 15
Sharp	06, 61
Shintom	39
Signature 2000	06, 14, 16, 19, 31, 49
Sony	17, 32, 37
Sylvania	07, 14, 27
Symphonic	31
Tashiko	09
Tatung	02
Teac	02, 31
Teknika	34
Toshiba	05, 15
XR1000	39
Vector Research	04, 16
Yamaha	02, 18
Zenith	01, 24, 25, 29, 37
Allegro	58, 62
Allegro A/B Switch	61
Gemini	05, 31, 38
General Electric	67
General Instrument	05, 06
Hamlin	02, 03, 45, 65, 66
Jarrol	04, 07, 08, 09, 10, 18, 60, 63
Kale Vision	35
Mecom	14, 21
Magnavox	34
NSC	35, 39, 66, 69, 70
Oak	11, 32, 42
Panasonic	13, 20
Paragon	33
Phillips	47, 50, 52, 54, 55
Pioneer	15, 43
RCA DSS	73
Regency	29
Samsung	35
Scientific Atlanta	16, 23, 36, 64
Sprucer	13
Standard Comp	35
Texcan	39, 66, 71
Tocom	17, 18, 46
Unika	48, 62
United Satellite	44
Universal	58, 62
Vid Tech	40
Video Way	49
Viewstar	54, 55, 72
Zenith	01, 53, 74
Zenith Satellite	12, 28, 30, 51

REMOTE CONTROL

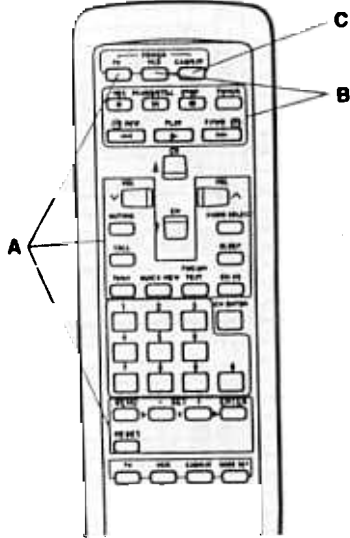
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HOW TO USE THE REMOTE CONTROL

You can use the remote control to operate your VCR and Cable/Satellite box besides the TV after the batteries are installed and you have registered the codes that operate your products.

Some buttons are used exclusively for each product and some buttons are used in common with each product.

To operate your products correctly using this universal remote control follow each step below.



A. For TV

- 1 Press TV button.
- 2 Aim remote at TV.
- 3 Press TV POWER button.
- 4 Press other buttons to operate the features of your TV. You can use the CH ▲ and ▼ button, the 0-9 buttons.

B. For VCR

- 1 Press VCR button.
- 2 Aim remote at VCR.
- 3 Press VCR POWER button to turn on VCR.
- 4 Press other buttons to operate the features of your VCR. You can use the CH ▲ and ▼ button, the 0-9 buttons, the CH ENTER button.

C. For CABLE/SATELLITE box

- 1 Press CAB/SAT button.
- 2 Aim remote at CABLE/SATELLITE box.
- 3 Press CAB/SAT POWER button to turn on your CABLE/SATELLITE box.
- 4 Press other buttons to operate the features of your CABLE/SATELLITE box. You can use the CH ▲ and ▼ button, the 0-9 buttons, the CH ENTER button.

NOTES:

- Some buttons that have same functions are called different names according to the brand and model of the product. For example, ENTER may be called "DISPLAY".
- The buttons A, B and C are used exclusively for each product. You can use these buttons whenever you want.

CONNECTION TO OTHER EQUIPMENT

The exact arrangement you use to interconnect various video and audio components to the TV is dependent on the model and features of each component. Check the Owner's Manual provided with each component for the location of video and audio inputs and outputs.

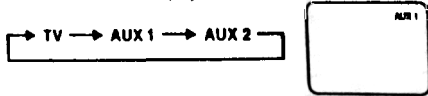
The connection diagrams in the following are offered as suggestions. You may need to modify them to accommodate your particular assortment of components. The diagrams are intended to show component video and audio interconnections only.

Press the TV/AV selector button to select the AV mode to use the TV as a monitor. Operate your VCR as usual.

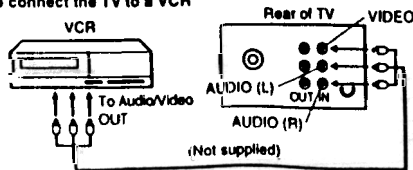
TV/AV SELECTION

If you connect the TV to VCR, camcorder or TV game, you can select by pressing the TV/AV button.

Press the TV/AV button repeatedly to select the desired mode. "AUX1" or "AUX2" will display on the screen for 4 seconds.

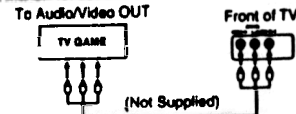


1. To connect the TV to a VCR



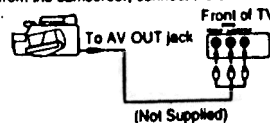
2. To connect the TV to a TV Game

The TV can also be used as a display device for many video games. However, due to the wide variety of different types of signal games. However, due to the wide variety of different types of signal generated by these devices and subsequent hook-up variations required, they have not all been included in the suggested connection diagrams. You'll need to consult each component's Owner's Manual for additional information.



3. To connect the TV to a camcorder

To playback from the camcorder, connect the camcorder to the TV as shown.

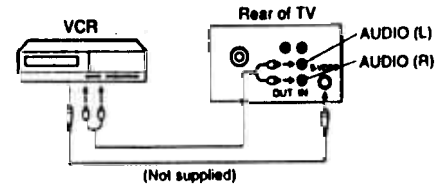


CONNECTION TO OTHER EQUIPMENT

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4. To connect the TV to a VCR with an S-VIDEO Jack

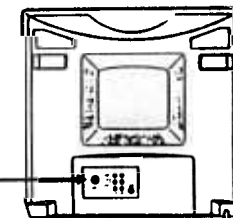
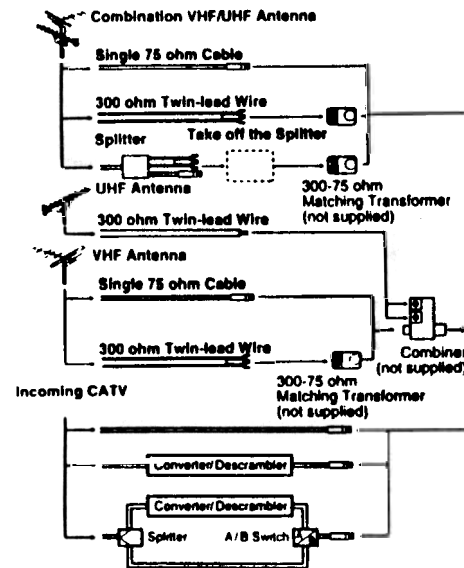
If you connect a VCR with an S-video jack to the S-VIDEO jack on the rear of TV, you must also connect the audio cables to the AUDIO IN jacks on the rear of the TV. The S-video cable only carries the video signal. Audio signal are separate.



NOTE: When the S-video cable and the video cable are connected to each jack in the same time, the S-video cable takes precedence of the video cable.

ENGLISH

ANTENNA/CATV CONNECTIONS



This television has an extended tuning range and can tune most cable channels without using a cable company supplied converter box. Some cable companies offer "premium pay channels" in which the signal is scrambled. Descrambling these signals for normal viewing requires the use of a descrambler device which is generally provided by the cable company.

Separate VHF/UHF Antennas

Connect the 75 ohm Cable from the VHF antenna and the UHF antenna Twin-lead to a combiner (not supplied). Attach the Combiner to the Antenna Jack.

NOTE: If your VHF antenna has a Twin-lead Wire, use the 300-75 ohm Matching Transformer (not supplied), then connect the Transformer to the Combiner.

For Subscribers to Basic Cable TV Service

For basic cable service not requiring a Converter/Descrambler box, connect the CATV 75 ohm Coaxial Cable directly to the Antenna Jack on the back of the television.

For Subscribers to Scrambled Cable TV Service

If you subscribe to a cable service which requires the use of a Converter/Descrambler box, connect the incoming cable to the Converter/Descrambler box and connect the output of the box to the Antenna Jack on the back of the television. Follow the connections shown left. Set the television to the output of the Converter/Descrambler box (usually channel 3 or 4) and use the Converter/Descrambler box to select channels.

For Subscribers to Unscrambled Basic Cable with Scrambled Premium Channels

If you subscribe to a cable service in which basic cable channels are unscrambled and premium channels require the use of a Converter/Descrambler box, you may wish to use a two-set signal splitter (sometimes called a "two-set coupler") and an A/B Switch box from the cable installer or an electronics supply store. Follow the connections shown left. With the switch in the "B" position, you can directly tune any nonscrambled channels on your TV. With the switch in the "A" position, tune your TV to the output of the Converter/Descrambler box (usually channel 3 or 4) and use the box to tune scrambled channels.

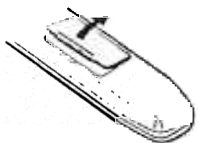
REMOTE CONTROL

(CONTINUED)

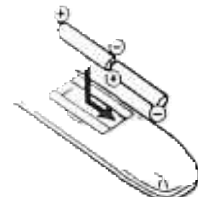
Before using the remote control, batteries must first be installed into it.

HOW TO INSTALL BATTERIES

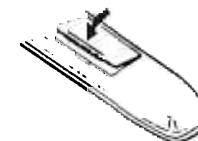
1. Open the battery compartment cover.



2. Install two "AA" batteries.



3. Replace the battery compartment cover.



Use two "AA" size batteries. The batteries may last approximately one year depending on how much the remote control is used. For best performance, it is recommended that batteries should be replaced on a yearly basis, or when the remote operation becomes erratic. Do not mix old and new batteries or different types.

BATTERY PRECAUTIONS

These precautions should be followed when using batteries in this device:

- Use only the size and type of batteries specified.
- Be sure to follow the correct polarity when installing the batteries as indicated in the battery compartment. Reversed batteries may cause damage to the device.
- Do not mix different types of batteries together (e.g. Alkaline and Carbon-zinc) or old batteries with fresh ones.
- If the device is not to be used for a long period of time, remove the batteries to prevent damage or injury from possible battery leakage.
- Do not try to recharge batteries not intended to be recharged; they can overheat and rupture. (Follow battery manufacturer's directions.)

TO REGISTER YOUR VCR OR CABLE/SATELLITE BOX WITH THE REMOTE CONTROL

1. Press the CODE SET button and the VCR or the CAB/SAT button you want to register at the same time.
2. Enter the 2-digit code listed on page 7 using the Direct Channel Selection buttons (0-9) within 10 seconds.

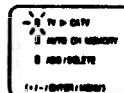
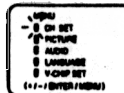
NOTES: • If you do not enter the code within 10 seconds from step 1 or enter the non-listed code on page 7, this operation is canceled.
• When you install or replace batteries, you may need to register the codes again for the products you want to control.

TO MEMORIZE CHANNELS

This TV is equipped with a channel memory feature which allows channels to skip up or down to the next channel set into memory, skipping over unwanted channels. Before selecting channels, they must be programmed into the TV's memory. In addition to normal VHF and UHF channels, this TV can receive up to 113 Cable TV channels. To use this TV with an antenna, set the TV/CATV menu option to the TV setting. When shipped from the factory, this menu option is in the CATV setting.

TV/CATV SELECTION

1. Press the MENU button.
2. Press the SET + or - button until the indicator next to "CH SET" begins to flash, then press the ENTER button.
3. Press the SET + or - button until the indicator next to "TV/CATV" begins to flash.
4. Press the ENTER button to select the TV or CATV mode. The arrow indicates the selected mode.
5. Press the MENU button twice to return to normal TV viewing.



The chart below is typical of many cable system channel allocations.

CATV CHART

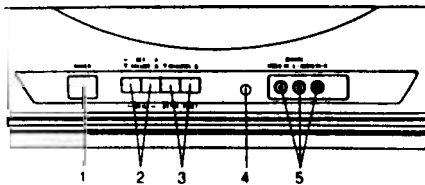
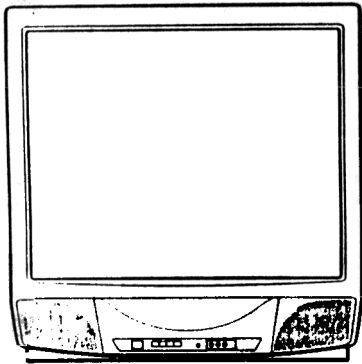
Number on the TV		Corresponding CATV channel		12		13		14		15		16		17		18		19		20	
11	22	33	44	55	66	77	88	99	100	111	122	133	144	155	166	177	188	199	200	211	222
11	22	33	44	55	66	77	88	99	100	111	122	133	144	155	166	177	188	199	200	211	222
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11	22	33	44	55	66	77	88	99	100	111	122	133	144	155	166	177	188	199	200	211	222

FEATURES

- **181 Channel Tuner** - The tuning system is capable of receiving all 68 VHF/UHF standard broadcast channels that are available in your area. When operating on a cable system, it can tune to the standard VHF channel frequencies plus up to 113 cable channel frequencies. The actual number of channels received depends upon channel reception in your area or your cable system.
- **On-Screen 3 Language Display** - Consists of channel, sleep timer, volume level, muting, text/caption indicators and picture control adjustments. These can be displayed in English, Spanish or French.
- **Sleep Timer** - Operable from the remote control, this TV can be programmed up to 120 minutes to turn off automatically.
- **Memory Back Up** - This system prevents loss of memorized channel selections in case a power interruption to the TV should occur.
- **V-Chip** - The V-Chip function can rate a TV program or movie content. It allows you to set a restriction level.
- **Picture Control Adjustments** - The On-Screen display allows precise remote control adjustment of BRIGHTNESS, COLOR, CONTRAST, SHARPNESS and TINT.
- **Closed Captioned Decoder** - Displays text captions or 1/2 of full screen text on the screen for hearing impaired viewers.
- **Stereo/SAP Reception** - This TV designed to receive stereo and separate audio program (SAP) broadcasts where available.
- **Universal Remote Control** - You can operate your VCR and Cable/Satellite Box after you registered the 2-digit codes for their brand name.

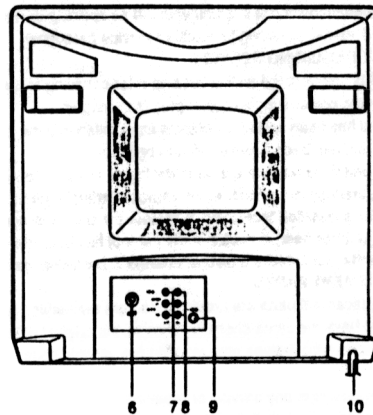
LOCATION OF CONTROLS

FRONT



1. **POWER Button** - Press to turn the TV on or off.
2. **VOLUME ▲ / ▼ Buttons** - Press to raise or lower the volume of the sound.
(MENU Buttons) - Press the both buttons to display the On-Screen menu function.
(SET +/- Buttons) - Press to select the desired setting during On-Screen operations.
3. **CHANNEL ▲ / ▼ Buttons** - Press to select a higher or lower numbered channel set into memory.
(ENTER Button) - Press to enter or select information for On-Screen operations.
(RESET Button) - Press to reset the On-Screen picture adjustments to their factory preset positions.

BACK



4. **Remote Sensor** - Signals from the Remote Control unit are received here.
5. **AUDIO (L / R) / VIDEO IN Jacks** - Audio and video signal cables from an external source can be connected here.
6. **VHF/UHF IN (ANT) Jack** - Connect a VHF/UHF antenna or CATV cable to this jack.
7. **AUDIO (L / R) / VIDEO OUT Jacks** - Used to output audio and video signals to a TV, amplifier or VCR.
8. **AUDIO (L / R) / VIDEO IN Jacks** - Audio and video signal cables from an external source can be connected here.
9. **S-VIDEO Jack** - S-Video signal cable from an external source can be connected here.
10. **AC Power Cord** - Connect to a 120V, 60Hz outlet.

STEREO AND SEPARATE AUDIO PROGRAM (SAP)

The TV is equipped with a feature known as Multi-channel TV Sound or MTS. MTS broadcasts greatly enhance TV viewing by bringing you programs with high fidelity stereo sound. MTS also provides an extra channel called the Separate Audio Program or SAP which broadcasters can use to transmit a second language for bilingual transmission or for other purposes.

LISTENING TO STEREO SOUND

When the TV is turned on or a channel selection is made, make certain the STEREO appears on the screen. This means that "Stereo" broadcasting is available. You can enjoy stereo sound from the left and right speakers.

- When "Mono" broadcasting is received, no indication is displayed.
- If the broadcast signal is not strong enough or clear stereo sound is not available, press the AUDIO SELECT button to change to mono sound. The noise should be eliminated. Press it again to return to the stereo sound.

SOUND ADJUSTMENTS

Sound controls are factory preset but you can adjust them individually as follows:
To display sound adjustments on the screen, press the MENU button. Press the SET + or - button to select the AUDIO option, then press the ENTER button.

BASS

Press the ENTER button until "BASS" appears on the screen, then press the SET + or - button to adjust the bass sound.

TREBLE

Press the ENTER button until "TREBLE" appears on the screen, then press the SET + or - button to adjust the treble sound.

ADJUSTING PICTURE

You can adjust the settings for color, sharpness, contrast, brightness and tint.

- 1 Press the MENU button.
- 2 Press the SET + or - button until the indicator next to "PICTURE" begins to flash, then press the ENTER button.
- 3 Press the ENTER button repeatedly to select the item you want to adjust.

BRIGHTNESS → CONTRAST → COLOR → TINT → SHARPNESS

LISTENING TO SAP (SEPARATE AUDIO PROGRAM)

When the TV is turned on or a channel selection is made, make certain the SAP appears on the screen. This means that the "Separate Audio Program" broadcasting is available.

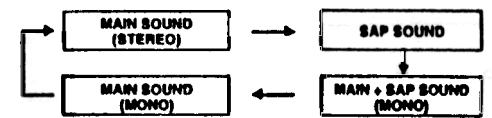
TO SELECT DESIRED SOUND

Press the AUDIO SELECT button to select the desired sound.

MONO+SAP BROADCASTING



STEREO+SAP BROADCASTING



BALANCE

Press the ENTER button until "BALANCE" appears on the screen, then press the SET + or - button to obtain an equal sound level from both speakers.

RESET

Pressing the RESET button while making sound adjustments will return all adjustments to the factory preset levels.

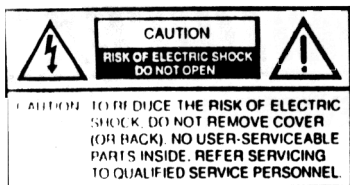
NOTE: The on-screen display will disappear 8 seconds after finishing an adjustment or by pressing the CALL button. The settings can only be adjusted when they are displayed on the TV screen.

- 4 Press the SET + or - button to adjust the setting.

	+	-
BRIGHTNESS	Increase brightness	decrease brightness
CONTRAST	Increase contrast	decrease contrast
COLOR	be brilliant color	be pale color
TINT	be greenish color	be reddish color
SHARPNESS	makes picture clearer	makes picture softer

TO RETURN TO INITIAL SETTING

Press the RESET button while the picture adjusting mode appears on-screen.



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



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

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance with the FCC Rules could void the user's authority to operate this equipment.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION: TO PREVENT ELECTRIC SHOCK DO NOT USE THIS POLARIZED PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

IMPORTANT SAFEGUARDS

1. READ INSTRUCTIONS

All the safety and operating instructions should be read before the unit is operated.

2. RETAIN INSTRUCTIONS

The safety and operating instructions should be retained for future reference.

3. HEED WARNINGS

All warnings on the unit and in the operating instructions should be adhered to.

4. FOLLOW INSTRUCTIONS

All operating and use instructions should be followed.

5. CLEANING

Unplug this unit from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

6. ATTACHMENTS

Do not use attachments not recommended by the unit's manufacturer as they may cause hazards.

7. WATER AND MOISTURE

Do not use this unit near water. For example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool.

8. ACCESSORIES

Do not place this unit on an unstable cart, stand, tripod, bracket,

or table. The unit may fall, causing serious injury, and serious damage to the unit.

Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer.

8A. 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 in the back or bottom are provided for ventilation, to ensure reliable operation of the unit and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the unit on a bed, sofa, rug, or other similar surface. This unit should never be placed near or over a radiator or heat source. This unit 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 SOURCE

This unit should be operated only from the type of power source indicated on the rating plate. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For units intended to operate from battery power, or other sources, refer to the operating instructions.

11. GROUNDING OR POLARIZATION

This unit 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. If your unit is equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin, this plug will only fit into a grounding-type power outlet. This too, is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

12. POWERCORD 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.

PORTABLE CART WARNING
(symbol provided by RETAC)



83126A

SPECIFICATIONS

AC Power Input:	120 V, 60 Hz
AC Power Consumption:	150W
Chassis Construction:	IC Solid state
Picture Tube:	32" (measured diagonally)
Audio Power Output Rating:	3.5 + 3.5 W
Speaker:	3" , 8 ohm x 2
Audio/Video Input:	S-Video Input Y-Input: 1.0Vp-p, 75 ohm C-Input: 0.3Vp-p, 75 ohm Video Input: 1.0Vp-p, 75 ohm Audio Input: -8dB, 47K ohm
Tuner Type:	181 Channel, Quartz PLL Frequency Synthesized
Remote Control:	Infrared, Direct Access, 2 x AA batteries (not supplied)
Receiving Channels:	
VHF	2-13
UHF	14-69
CATV	01-97 (5A)-(A-3) 98-99 (A-2)-(A-1) 14-22 (A)-(I) 23-36 (J)-(W) 37-65 (AA)-(FFF) 66-125 (GGG)-(125)
Antenna Input Impedance:	75 ohm (VHF/UHF/CATV) Coaxial Input
Dimensions:	30-3/16" (W) x 29-5/16" (H) x 22-5/16" (D)
Weight:	122 lbs

ACCESSORY: Remote Control