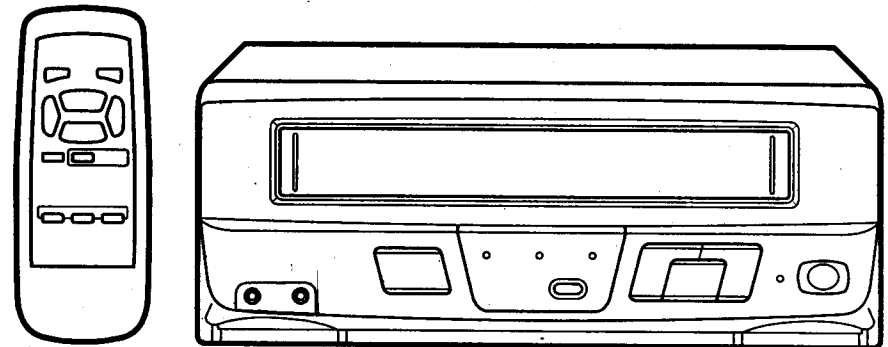


OWNER'S MANUAL

ORION®

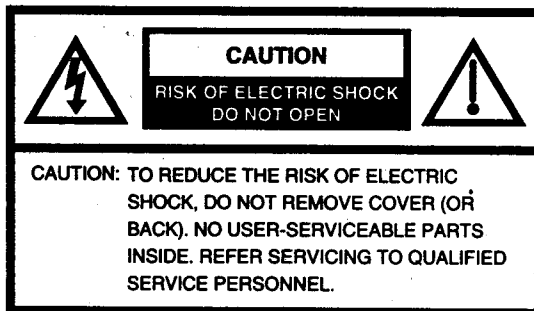
AC/DC VIDEO CASSETTE PLAYER

VP-510



ATTENTION

If you purchase a universal remote control from your local retailer, please contact the remote manufacturer for the required programming code.



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.

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

WARNING: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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.

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.

PORTABLE CART WARNING
(symbol provided by RETAC)



S3126A

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 and 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 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 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.

IMPORTANT SAFEGUARDS (CONTINUED)

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. 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 instruction. 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.
- When 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.

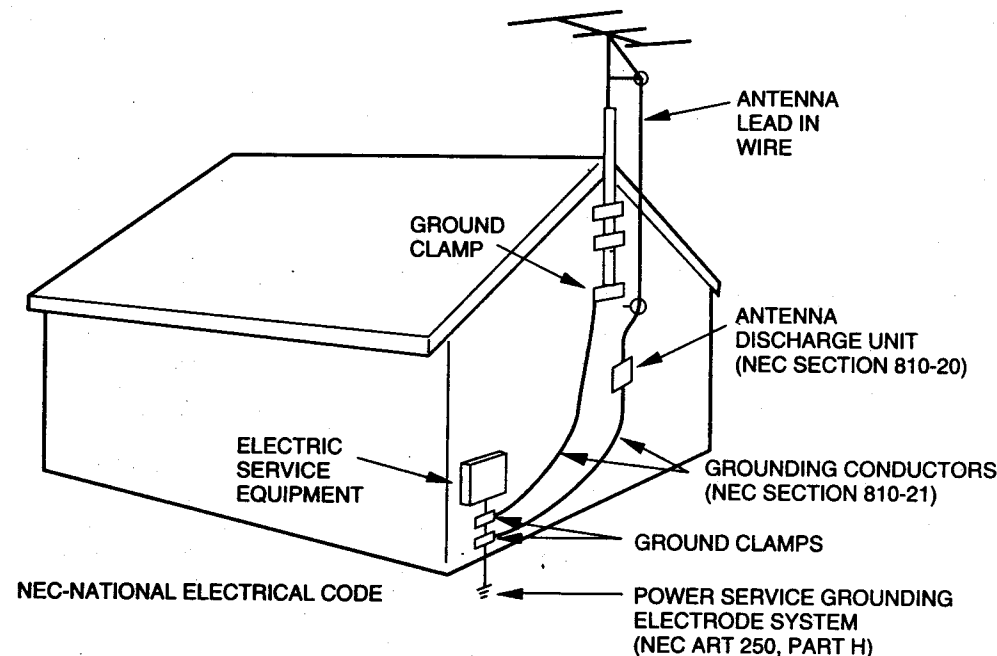
23. HEAT

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 THE NATIONAL ELECTRICAL CODE



S2898A

FEATURES/SPECIFICATIONS

FEATURES

120V AC or 12V DC Operation - This VCP is designed to operate from household AC current or from a 12V DC car cigarette lighter.

Infrared Remote Control - The infrared remote control unit allows operating the various VCP functions from the comfort of your favorite viewing position.

2 Speed Picture Search - 3 or 5 times normal speed in SP mode (5 X or 7 X in LP and 7 X or 9 X in SLP).

Automatic Power On - Playback - Rewind - Stop - Eject - Power Off - When loading the cassette tape, this unit will automatically turn on and play back the cassette tape at the correct speed. When the tape reaches the end, it will automatically stop, rewind, stop, eject the tape and the unit will turn off.

Full Load Tape Transport - Permits rapid access between modes.

Automatic Repeat Play System - When you press the REPEAT button, this unit will automatically play back the same cassette tape repeatedly.

Digital Auto Tracking - Automatically adjusts tracking during playback for the best possible picture.

Audio/Video Output Jacks - These jacks permit connection to a VCR or Monitor/TV for better picture quality or for duplicating video tapes.

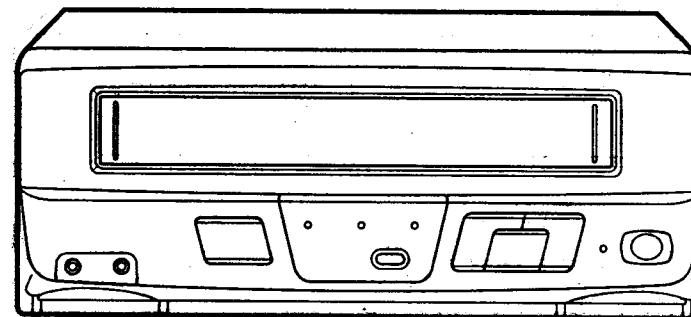
SPECIFICATIONS

Video Playback System:	VHS, 2 Rotary Heads Helical Scanning System	Power Sources:	AC 120V 60Hz DC 12V
Video Signal:	NTSC Color	Power Consumption:	16W at AC 120V 60Hz 9.8W at DC
Cassette Tape:	VHS	Storage Temperature:	-20°C to 60°C (-4°F to 140°F)
Audio Track:	1 Track	Operating Temperature:	5°C to 40°C (41 °F to 104°F)
Video Output:	RCA 1Vp-p 75 ohm unbalanced	Dimensions:	10 1/16"W X 12 3/8" D X 3 3/4"H
Audio Output:	RCA -6dB 1K ohm unbalanced	Weight:	6.6 lbs (3.0kg)
Channel Output:	Channel 3 or 4 switchable	Remote Control:	Infrared, Direct Access, 2 AA batteries
Tape Speed:	SP: 33.35 mm/sec LP: 16.67 mm/sec SLP: 11.12 mm/sec	Accessories:	AC power cord Car battery cord 75 ohm coaxial cable Remote Control
F.FWD/REW Time:	AC: FF 2' 15" REW 1' 48" DC: FF 3' 40" REW 2' 50" with T120 tape		
Speed Search:	SP 3 & 5 X Normal Speed LP 5 & 7 X Normal Speed SLP 7 & 9 X Normal Speed		

Specifications are subject to change without notice.

TABLE OF CONTENTS

We recommend that you carefully read the descriptions and operating procedures contained in this Owner's Manual prior to operating your new VCP.



PREPARATION

IMPORTANT SAFEGUARDS	2
FEATURES/SPECIFICATIONS	5
PRECAUTIONS	7
LOCATION OF CONTROLS	9
REMOTE CONTROL	11
POWER SOURCES	12
CONNECTIONS	13
CONNECTIONS TO A CATV SYSTEM	17
AUDIO/VIDEO CONNECTIONS	19
SETTING THE VIDEO CHANNEL	20

PLAYBACK

LOADING AND UNLOADING THE VIDEO CASSETTE TAPE	21
PLAYBACK	22
SPECIAL EFFECTS	24

ADDITIONAL INFORMATION

DUPLICATING A VIDEO TAPE	25
BEFORE REQUESTING SERVICE	26
VIDEO HEAD CLEANING	27
VIDEO GLOSSARY	28

PRECAUTIONS

MOISTURE CONDENSATION

DO NOT OPERATE THIS UNIT FOR AT LEAST TWO OR THREE HOURS WHEN MOISTURE IN THE AIR CONDENSES ON THE UNIT.

■ WHAT IS MOISTURE CONDENSATION?

When a cold liquid is poured into a glass, for example, water vapor in the air will condense on the surface of the glass. This is called moisture condensation.

■ MOISTURE WILL CONDENSE ON THE UNIT IN THE FOLLOWING CASES;

- When you move this unit from a cold to a warm place.
- After heating a cold room or under extremely humid conditions.

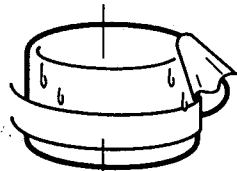
■ WHEN YOU EXPERIENCE THE ABOVE CONDITIONS,

the **PLAY** indicator will flash on and off and all the function buttons except the **STOP/EJECT** button are made nonoperational to protect the video heads.

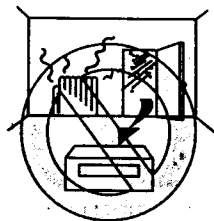
In this case, take out the video cassette, leave the VCP turned on and let it remain at room temperature until moisture condensation disappears.

Depending on the surrounding conditions, this may take two or three hours.

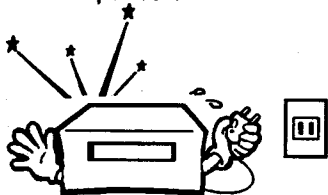
Head Drum



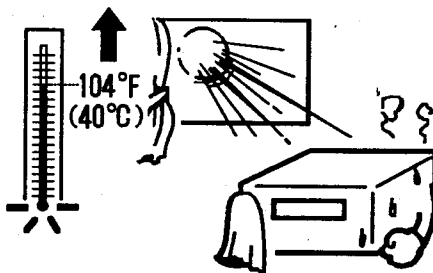
Video Tape



If you cause a static discharge when touching the VCP, and the VCP fails to function, simply unplug the unit from the wall outlet, wait a few minutes, and plug it back in. The unit should return to normal operation.



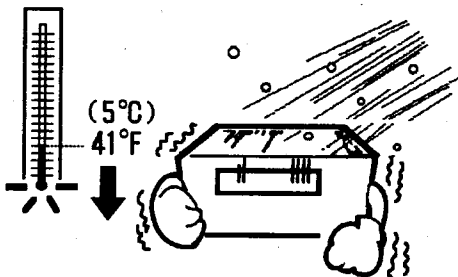
Avoid extreme heat.



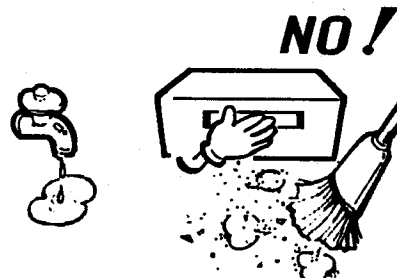
Do not place the unit on or near appliances which may cause electromagnetic interference eg. TV, speakers, etc. Doing so may cause erratic operation of the unit including picture and/or sound distortion or noise.



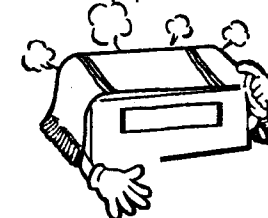
Avoid extreme cold.



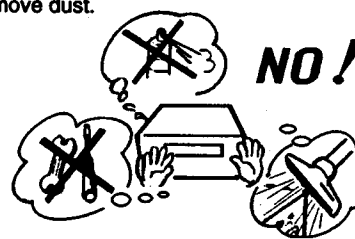
Avoid extreme moisture and dust.



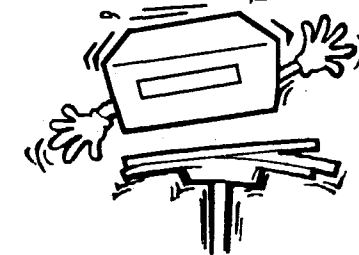
The ventilation holes prevent overheating. Do not block or cover these holes. Especially avoid covering the holes with soft materials such as cloth or paper.



Do not insert fingers or any other objects into the Cassette loading slot. Do not spray cleaner or wax directly on the unit or use forced air to remove dust.



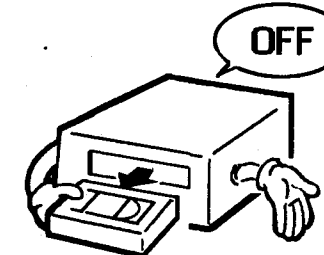
Avoid places subject to strong vibration. Use in a horizontal (flat) position only.



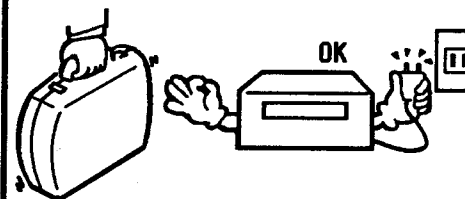
Keep the unit away from flower vases, sink, etc. If liquids should be spilled into the unit, serious damage will result. If you spill any liquids into the unit, unplug the AC power cord immediately and consult qualified service personnel before attempting to use the unit again.



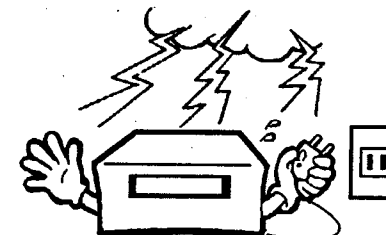
When you finish operating the unit, always eject the cassette and turn off the power.



When you leave your home for a long time, unplug the AC power cord.

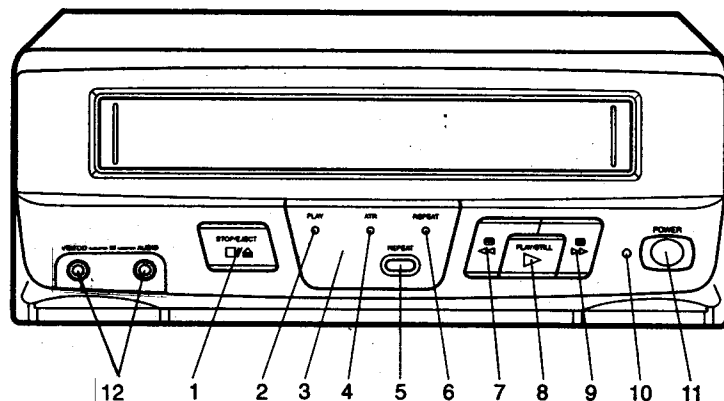


To protect the unit during a lightning storm, unplug the AC power cord from the wall outlet. Do not touch the antenna leads.



LOCATION OF CONTROLS

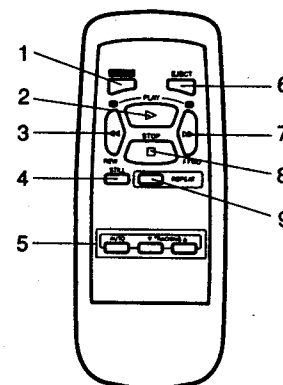
FRONT



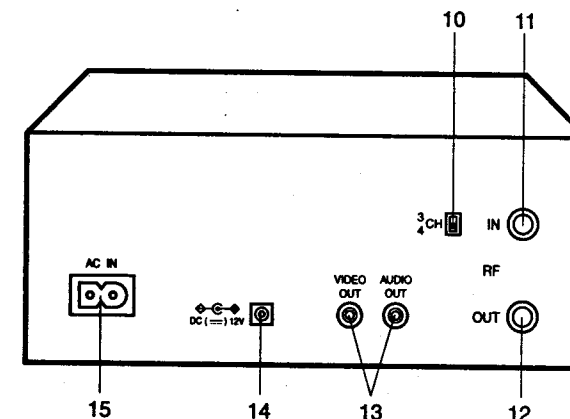
DESCRIPTION OF CONTROLS

1. **STOP/EJECT button** - Press once to stop the tape in any mode. Press again to eject the tape.
2. **PLAY indicator** - This lights when the PLAY feature is activated. When moisture condenses on the VCP, the PLAY indicator will flash on and off.
3. **Remote Sensor** - Signals from the Remote Control are received here.
4. **ATR (AUTO TRACKING) indicator** - This lights when the DIGITAL AUTO TRACKING feature is activated.
5. **REPEAT button** - When pressed, the VCP will play back the tape over and over until stopped manually.
6. **REPEAT indicator** - This lights when the REPEAT feature is activated.
7. **Rewind button** - In the STOP mode, this button rapidly winds the tape backwards. In the PLAY mode, this button activates Reverse Search.
8. **PLAY/STILL button** - When pressed in the STOP mode, the tape begins playback. If pressed during playback, it pauses the tape and displays a still picture on the TV screen.
9. **Fast Forward button** - In the STOP mode, this button rapidly winds the tape forward. In the PLAY mode, this button activates Forward Search.
10. **POWER indicator** - This lights when the power is on.
11. **POWER button** - Turns the VCP power on and off.
12. **AUDIO/VIDEO IN jacks** - Audio and video signal cables from an external source can be connected here.

REMOTE CONTROL



REAR

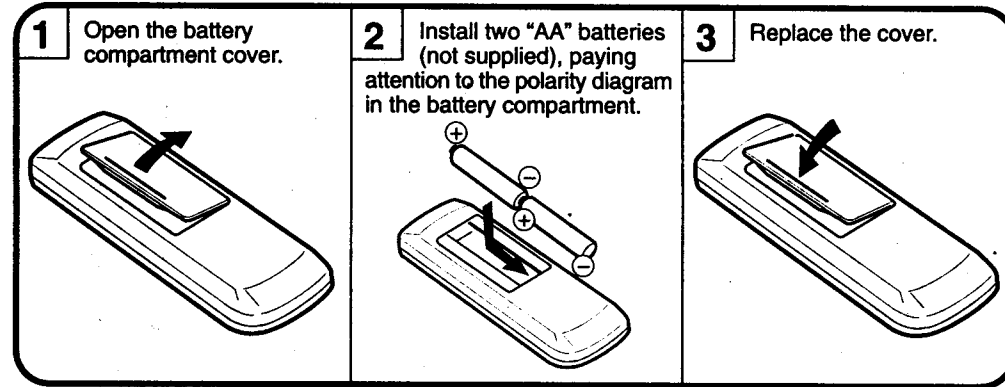


DESCRIPTIONS OF BUTTONS AND REAR CONNECTORS

1. **POWER button** - Turns the VCP power on and off.
2. **PLAY button** - Press to play a prerecorded tape.
3. **REW (Rewind) button** - In the STOP mode, this button rapidly winds the tape backwards. In the PLAY mode, this button activates Reverse Search.
4. **STILL button** - When pressed during tape playback, it pauses the tape and displays a still picture on the TV screen.
5. **Digital AUTO TRACKING buttons** - Allows automatic or manual adjustment of tracking to minimize picture noise during playback.
6. **EJECT button** - Press to eject the tape.
7. **F.FWD (Fast Forward) button** - In the STOP mode, this button rapidly winds the tape forward. In the PLAY mode, this button activates Forward Search.
8. **STOP button** - Press to stop the tape.
9. **REPEAT button** - When pressed, the VCP will play back the tape over and over until stopped manually.
10. **3/4 Channel Selector switch** - Selects the channel through which the VCP outputs its signal to a TV.
11. **RF IN jack** - Connect a VHF/UHF antenna or CATV cable to this jack.
12. **RF OUT jack** - Used to output VHF/UHF or CATV signals to a TV.
13. **AUDIO/VIDEO OUT jacks** - Used to output audio and video signals to a TV, amplifier or VCR.
14. **DC Input jack** - Connect the 12V DC car cord (supplied) here for DC operation.
15. **AC IN jack** - Connect the supplied AC Power Cord here for AC operation.

REMOTE CONTROL

BATTERY INSTALLATION

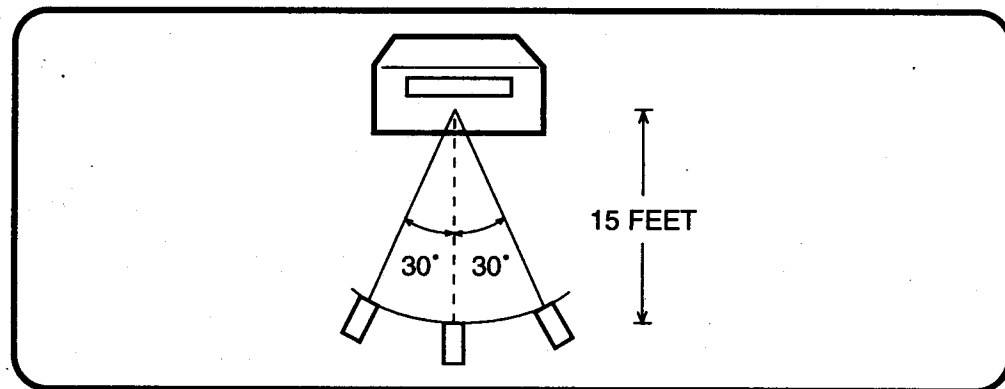


BATTERY PRECAUTIONS

Follow these precautions when using batteries in this device:

1. Use only the size and type of batteries specified.
2. 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.
3. Do not mix different types of batteries together (e.g. Alkaline and Carbon-zinc) or old batteries with fresh ones.
4. 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.
5. Do not try to recharge batteries not intended to be recharged; they can overheat and rupture. (Follow battery manufacturer's directions.)

EFFECTIVE DISTANCE OF THE REMOTE CONTROL TRANSMITTER

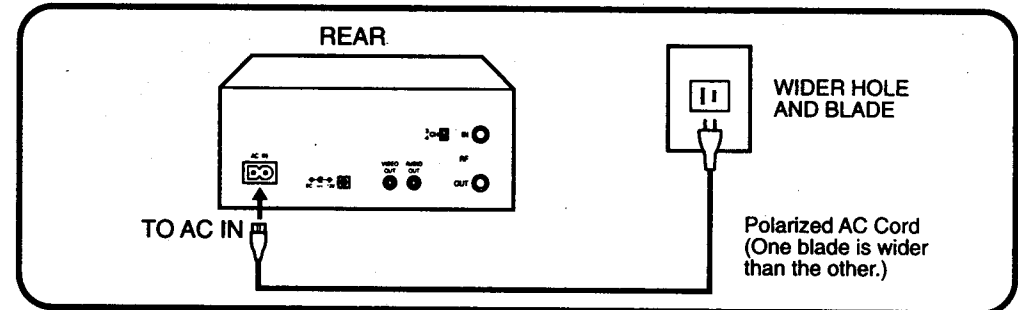


- NOTE:**
- When direct sunlight, an incandescent lamp, fluorescent lamp or any other strong light shines on the Remote Sensor, the remote operation may be unstable.
 - When there is an obstacle between the VCP and the transmitter, the remote control transmitter may not operate.

POWER SOURCES

TO USE AC POWER

Use the AC polarized line cord provided for AC operation. Connect the smaller plug on the end of the cord to the AC IN jack on the rear of the VCP, then insert the AC cord plug into a standard 120V 60Hz, polarized AC outlet.

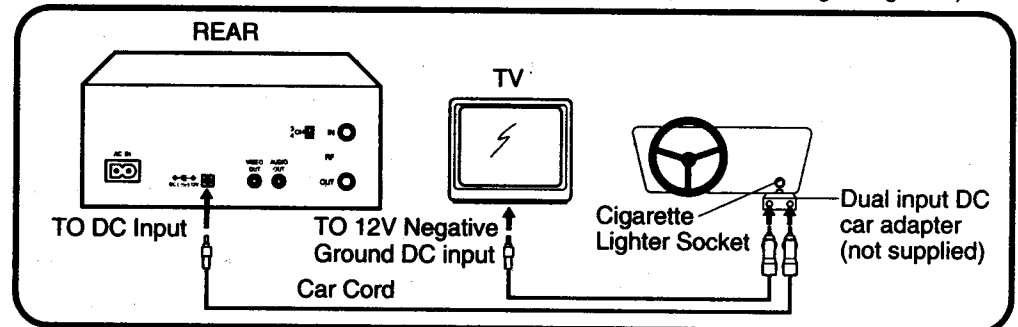


- NOTE:**
- Never connect the AC line cord plug to other than specified voltage (120V 60Hz). Use the attached power cord only.
 - If the polarized AC cord does not fit into a non-polarized AC outlet, do not attempt to file or cut the blade. It is the user's responsibility to have an electrician replace the obsolete outlet.

TO USE DC POWER

A DC car cord is supplied with the unit.

The car cord has been designed for use with external DC power (12 volt with negative ground).



Disconnect the AC power cord. Plug one small plug into the DC input jack on the rear of the VCP, then plug into the one jack of the Dual input DC car adapter (not supplied) connected to the car cigarette lighter socket. If you use a TV with DC power, connect to another jack of a dual input DC car adapter.

- NOTE:**
- Use the supplied car cord only.
 - When the VCP is not in use, always disconnect it from the car cigarette lighter socket to avoid a battery drain.
 - If the VCP is to be directly connected to a 12V DC power source, for example, recreational vehicle (RV) applications, make sure the power cord is connected after the ignition switch to avoid battery drain.
 - Do not operate the VCP if the car battery is weak. Peak current from the car alternator could blow the DC fuse.

CONNECTIONS

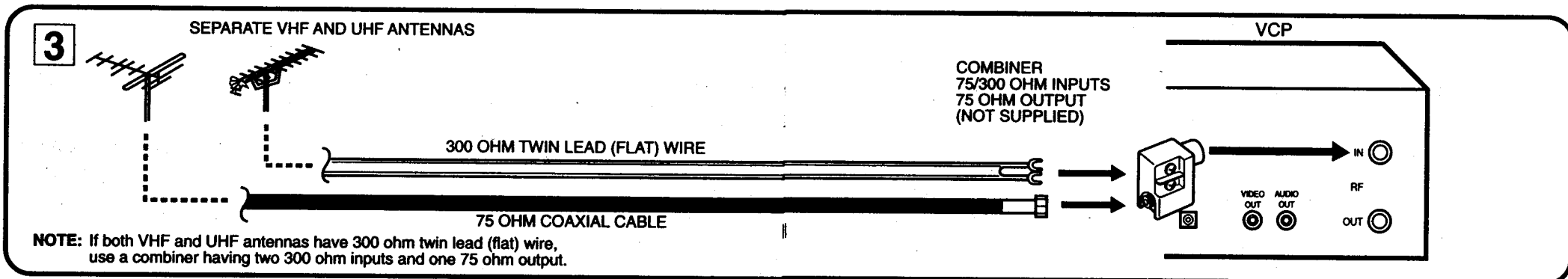
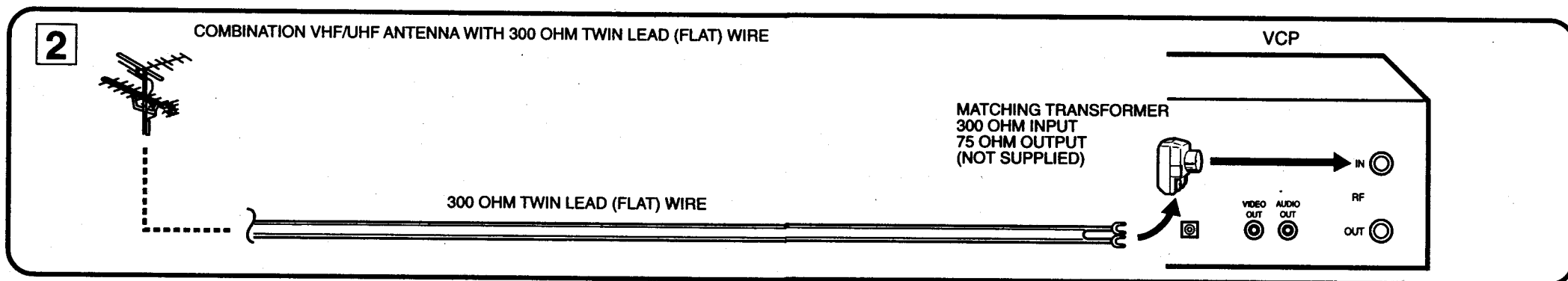
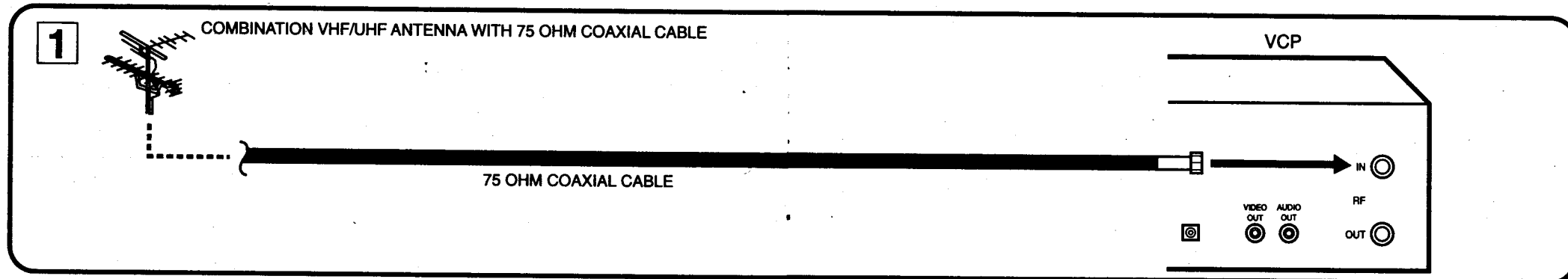
If you are using an antenna system follow the instructions on pages 13-16. If you are a cable (CATV) subscriber, skip ahead to page 17 for the proper connections.

ANTENNA TO VCP CONNECTION

The VCP must be connected "between" the antenna, and the TV. First, disconnect the antenna from the TV and connect it to the VCP. Then connect the VCP to the TV. Below are 3 common methods of connecting an antenna system to a VCP. Find the type of antenna system you are using and follow the connection diagram. After you have connected the antenna to the VCP, follow the instructions on pages 15-16 to connect the VCP to the TV.

This VCP has a single 75 ohm antenna input for connection to an antenna (VHF/UHF) or cable (CATV) system.

If you have separate VHF and UHF antennas (number 3 below), use a combiner to connect the antennas to the VCP.



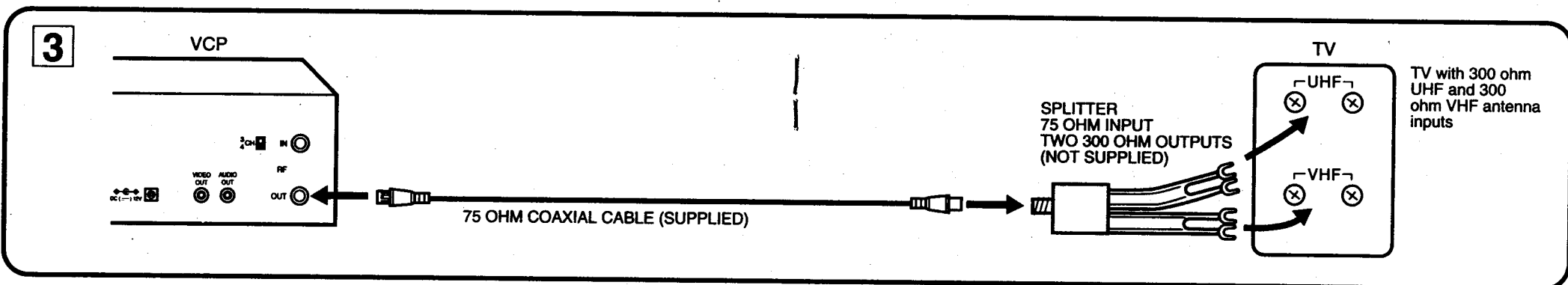
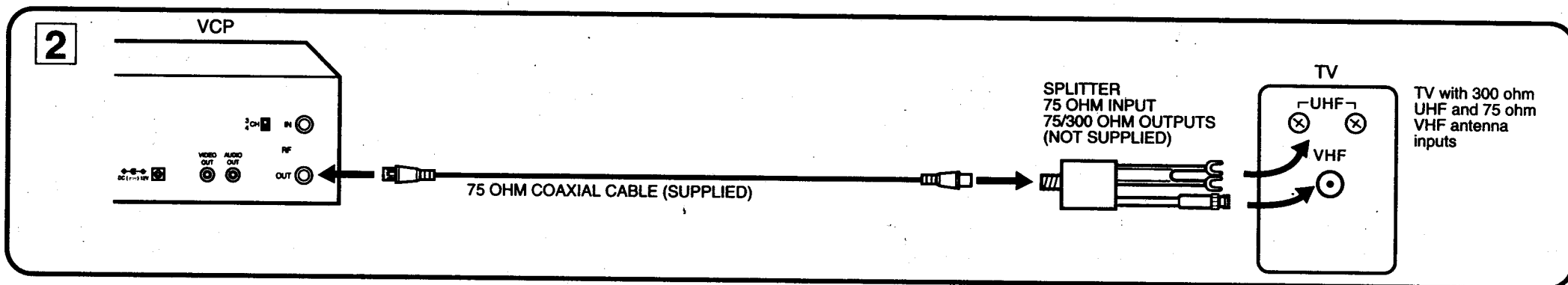
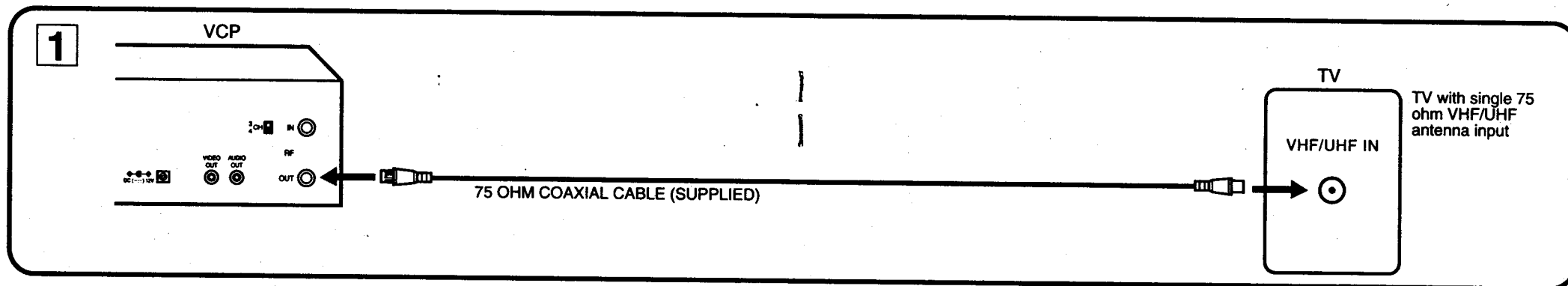
NOTE: If you are not sure about the connection, please refer to qualified service personnel.

VCP TO TV CONNECTION

After you have connected the antenna to the VCP (see pages 13-14), you must connect the VCP to the TV.

Below are 3 common methods of connecting your VCP to a TV. Find the type of TV you are using and follow the connection diagram.

This VCP has a single 75 ohm output for connection to a TV. If your TV has separate VHF and UHF antenna inputs (numbers 2 and 3 below), use a splitter to connect the VCP to the TV for VHF and UHF reception.

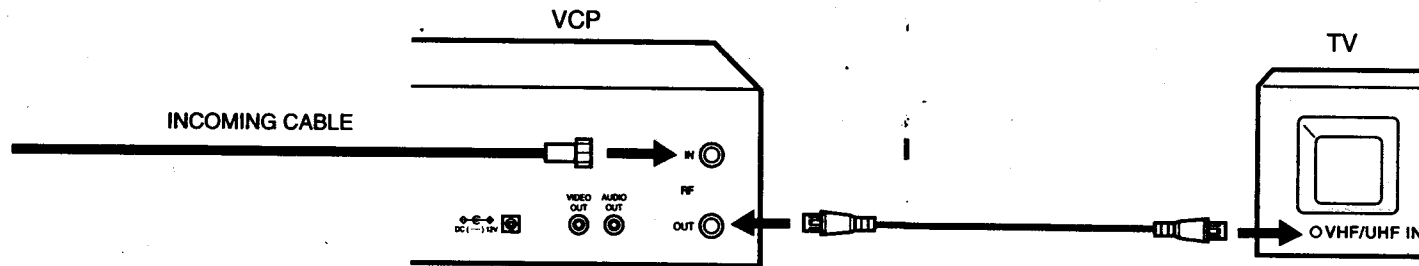


CONNECTIONS TO A CATV SYSTEM

The VCP must be connected "between" the cable from cable company and the TV. First, disconnect the cable from the TV and connect it to the VCP. Then connect the VCP to the TV. Below are 3 common methods of cable connections.

1

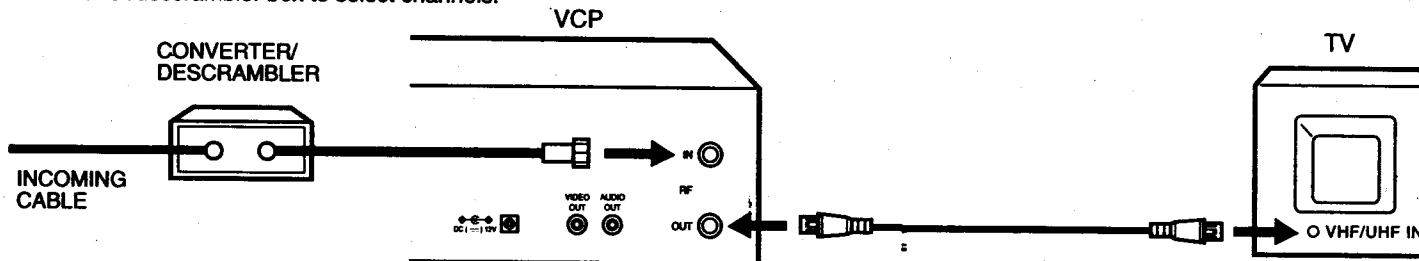
For use with unscrambled cable channels.



Allows viewing of all unscrambled cable channels.

2

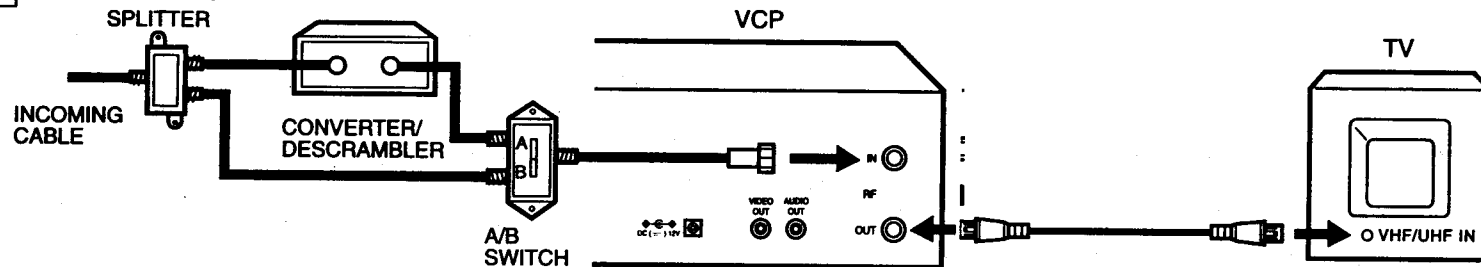
For use with cable systems requiring the use of a converter/descrambler box to select channels.



Allows viewing of all cable channels. (scrambled or unscrambled) selected on the cable converter/descrambler box. **NOTE:** The TV must be set to the video channel output of the VCP (either ch 3 or 4).

3

For use with cable systems combining unscrambled basic cable channels with scrambled pay cable channels.

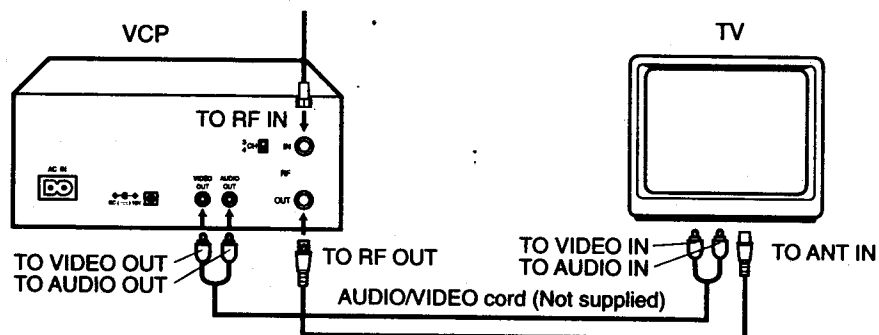


When the A/B switch is in the "A" position, the TV can tune all unscrambled channels. When the A/B switch is in the B position, you must tune all cable channels (scrambled or unscrambled) on the cable converter/descrambler box. **NOTE:** The TV must be set to the video channel output of the VCP (either ch 3 or 4).

AUDIO/VIDEO CONNECTIONS

CONNECTION TO A TV WITH AUDIO/VIDEO JACKS

If your TV has AUDIO IN and VIDEO IN jacks, you can connect your VCP to them to receive a higher quality picture and sound.

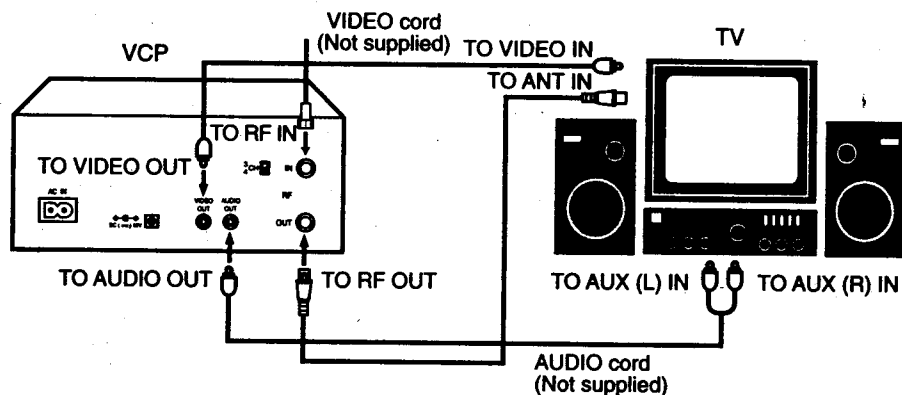


1. Connect the VIDEO OUT jack on the VCP to the VIDEO IN jack on the TV.
2. Connect the AUDIO OUT jack on the VCP to the AUDIO IN jack on the TV.
3. Set the VIDEO/TV selector on the TV to "VIDEO"

CONNECTION TO A STEREO

The sound from the AUDIO OUT jack can be played through a stereo amplifier with auxiliary input jacks.

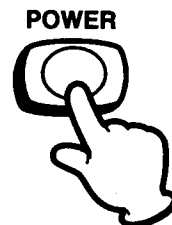
NOTE: The sound will be monaural.



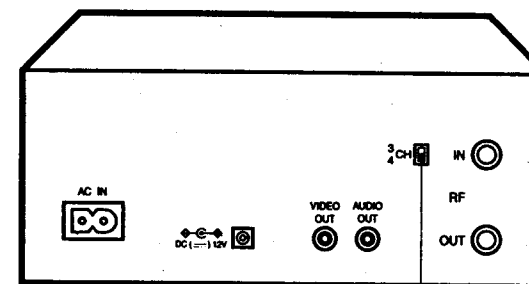
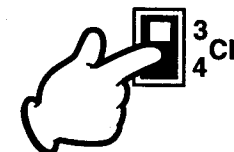
SETTING THE VIDEO CHANNEL

To view playback of a recorded tape, the TV must be set to channel 3 or 4 (video channel). The VCP 3/4 Channel Selector switch must also be set to channel 3 or 4 as shown below.

- 1 Press the POWER button to turn the unit on.

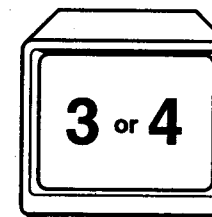


- 2 Set the 3/4 Channel selector switch to CH 3 or 4.



2

- 3 Turn ON the TV and set to CH3 or 4 to correspond with the channel selector in 2.



For a push-button TV tuner

If CH 3 or 4, corresponding to the video channel cannot be tuned on your TV, or is not broadcasting in your area, proceed as follows: set the VCP 3/4 channel selector switch and the TV to CH 3 or 4. Play back a prerecorded tape and tune the TV to receive a sharp color picture from the video cassette player. Refer to your TV owner's manual for details.

LOADING AND UNLOADING THE VIDEO CASSETTE TAPE

Use only video cassette tapes marked **VHS**.

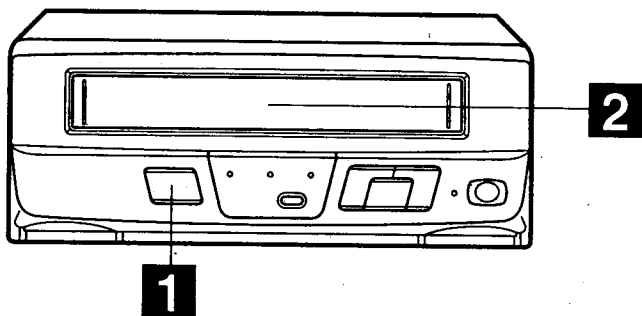
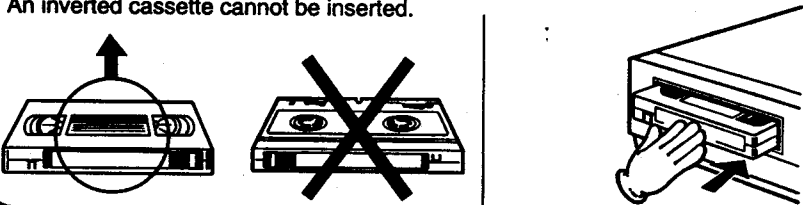
LOADING

Gently push the center of the tape until it is automatically retracted.

AUTOMATIC POWER ON AND PLAY

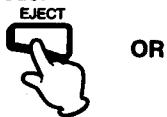
When loading a cassette tape, this video cassette player will turn on automatically and playback will start immediately. The POWER, and PLAY indicators will light.

Insert the cassette with its labeled side facing you.
An inverted cassette cannot be inserted.



UNLOADING

1 To unload a cassette, press the EJECT button on the remote control, or press the STOP/EJECT button in the STOP mode.



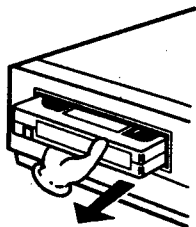
OR



AUTOMATIC EJECT

If the video cassette player automatically rewinds the tape to the beginning (AUTO REWIND FEATURE), the tape will be ejected automatically.

2 Remove the cassette.



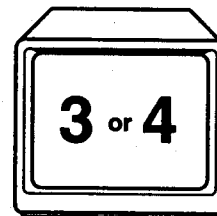
NOTE:

- Always eject the tape when not in use.
- The cassette can be ejected even if the POWER button is "OFF".

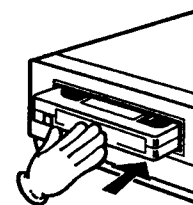
PLAYBACK

TO START PLAYBACK

1 Press the POWER button to turn the unit on and set the TV to the Video Channel 3 or 4.

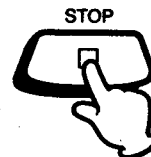


2 Load a prerecorded tape. (When loading a cassette tape, the video cassette player will turn on, the PLAY indicator will light and playback will start automatically.)



TO STOP PLAYBACK

Press the STOP button (or the STOP/EJECT button on the VCP once). The tape will stop but remain fully loaded and ready to play.



TO START PLAYBACK AGAIN

Press the PLAY button (or the PLAYSTILL button on the VCP once).



TO REWIND OR FORWARD THE TAPE RAPIDLY

Press the REW button in the STOP mode.

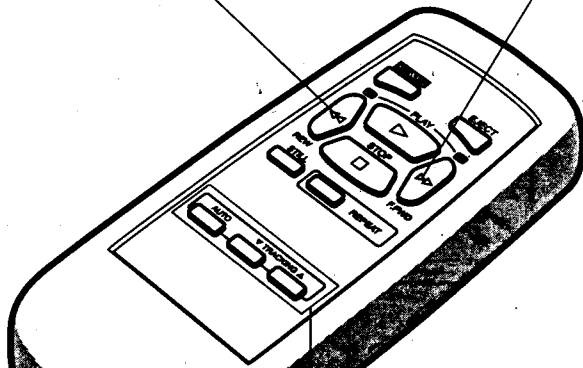


If you want to see the tape program during REW mode, press and hold the REW button. The backward visual search picture will be seen on the screen. Release to return to the REW mode.

Press the F.FWD button in the STOP mode.



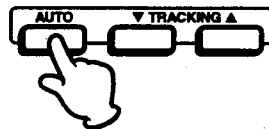
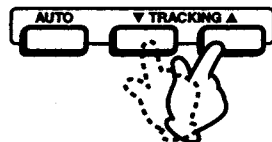
If you want to see the tape program during FWD mode, press and hold the F. FWD button. The forward visual search picture will be seen on the screen. Release to return to the FWD mode.



DIGITAL TRACKING CONTROLS

When a tape is played, the Digital Auto Tracking System automatically adjusts the tracking to obtain the best possible picture. The ATR (AUTO TRACKING) indicator blinks while the system is searching for optimum tracking. The ATR indicator stops blinking and remains lit as long as automatic tracking continues. If noise bars appear during playback, adjust the tracking manually;

- Press the Manual TRACKING ▲ or ▼ button to obtain the best possible picture. To resume automatic tracking, press the AUTO Tracking button.



TO VISUALLY SEARCH FOR DESIRED POINTS

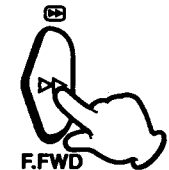
When either the F.FWD or REW button is pressed in the PLAYBACK mode, the speed search picture will appear. When pressed twice, the search picture will increase speed. Speed search time depends upon the speed used (SP, LP or SLP) during recording. See chart below. To rewind or fast forward a tape, press the STOP button, and then press the REW or F.FWD button.

To visually search backward, press the REW button once or twice in the PLAYBACK mode.



Press the PLAY button (or the PLAY/STILL button on the VCP) once to resume normal viewing speed.

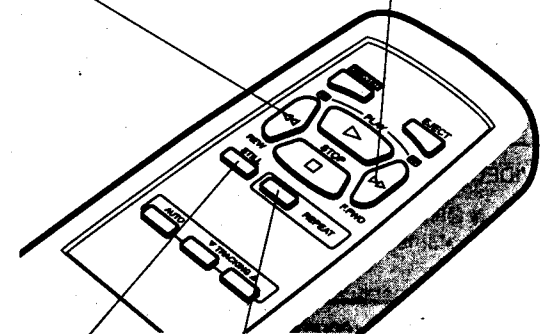
To visually search forward, press the F.FWD button once or twice in the PLAYBACK mode.



Press the PLAY button (or the PLAY/STILL button on the VCP) once to resume normal viewing speed.

SPEED SEARCH TIMES

TAPE SPEED	PICTURE SEARCH SPEED	
	PRESS ONCE	PRESS TWICE
SP (Standard Play)	3 X	5 X
LP (Long Play)	5 X	7 X
SLP (Super Long Play)	7 X	9 X



TO WATCH A STILL PICTURE

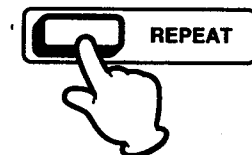
Press the STILL button (or the PLAY/STILL button on the VCP) in the PLAYBACK mode.



Press the PLAY button on the Remote Control or the PLAY/STILL button on the main unit once to resume normal playback.

TO WATCH A TAPE REPEATEDLY

Press the REPEAT button (the REPEAT indicator will light) and the tape will play over and over until the repeat mode is cancelled. To cancel repeat mode, press this button again.

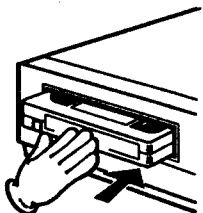


- NOTE:**
- Best results during speed search playback can be obtained with cassette tapes recorded in the "SLP" mode.
 - The audio output is muted during SPEED SEARCH and STILL.
 - A few noise bars will appear on the picture during SPEED SEARCH.
 - To prevent damage to the tape, STILL playback is automatically changed to the PLAYBACK mode after 5 minutes.

DUPLICATING A VIDEO TAPE

If you connect the Video Cassette Player to a VCR, you can duplicate a previously recorded tape.

- 1** Load a blank cassette tape with the erase prevention tab intact into the recording VCR.



- 2** Press the RECORD button on the recording VCR, then press the PAUSE/STILL button.

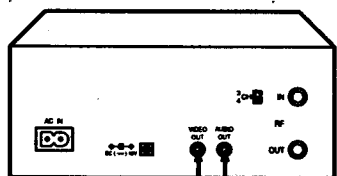
REC/
OTR



PAUSE/
STILL

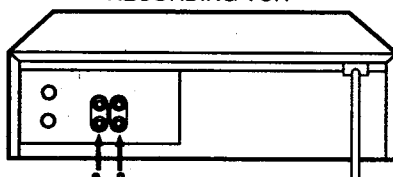


VIDEO CASSETTE PLAYER



TO VIDEO OUT TO AUDIO OUT

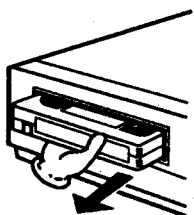
RECORDING VCR



TO VIDEO IN TO AUDIO IN

AUDIO/VIDEO cord (Not supplied)

- 3** Load a previously recorded tape into the video cassette player. It will automatically turn on and playback will start immediately.



- 4** Press the PAUSE/STILL button on the recording VCR to begin the duplicating process.

PAUSE/
STILL



NOTE:

- It is recommended you set the tape speed to the SP mode on the recording VCR for best results.
- Unauthorized recording of copyrighted television programs, films, video tapes and other materials may infringe on the rights of copyright owner's and be contrary to copyright laws.

BEFORE REQUESTING SERVICE

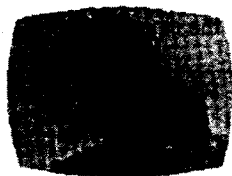
Check the following chart for the symptom(s) you are experiencing.

SYMPTOMS	CAUSES	POSSIBLE SOLUTIONS	PAGE
POWER			
No power	The AC power cord is not connected.	Connect the AC power cord to the AC outlet.	12
	The DC car cord is not plugged into the cigarette lighter socket.	Connect the DC car cord to the cigarette lighter socket.	12
	The DC car cord fuse is blown.	Replace the fuse.	12
Power is on-no operations	Cassette is not inserted.	Insert cassette.	21
	Moisture condenses on the video heads.	The PLAY indicator is flashing on and off. Wait two or three hours until it goes off.	7
PLAYBACK			
No picture when playing back a recorded tape.	The TV is not set to the video channel 3 or 4.	Set the video channel to 3 or 4 or adjust the fine tuning on the TV.	20
Noise bars on the screen.	Tracking adjustment beyond range of automatic tracking circuit.	Adjust tracking manually using the TRACKING ▲ and ▼ buttons on remote control.	23
	Video heads are dirty.	Clean the video heads.	27
	The tape is worn or damaged.	Try another tape.	—
REMOTE CONTROL			
Remote control does not work.	It is not aimed at the Remote Sensor.	Aim it at the Remote Sensor.	11
	Distance exceeded between the REMOTE CONTROL and the player.	Operate the REMOTE CONTROL within 15 feet.	11
	Too much light in the room.	Reduce the light in the room.	11
	There is an obstacle in the path of the beam.	Clear the path of the beam.	11
	The batteries are weak.	Replace the batteries.	11
	The +, - polarity of the batteries are not inserted correctly.	Install correctly.	11

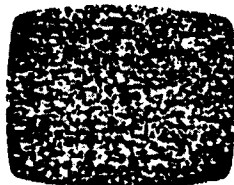
VIDEO HEAD CLEANING

VIDEO HEAD CLOGGING

The video heads are the means by which the VCR reads pictures from the tape during playback. In the unlikely event that they become dirty enough to be clogged, no picture will be played back. This can easily be determined if, during playback of a known good tape, there is good sound, but no picture (picture is extremely snowy). If this is the case, have the video cassette player checked by qualified service personnel.



Good Picture



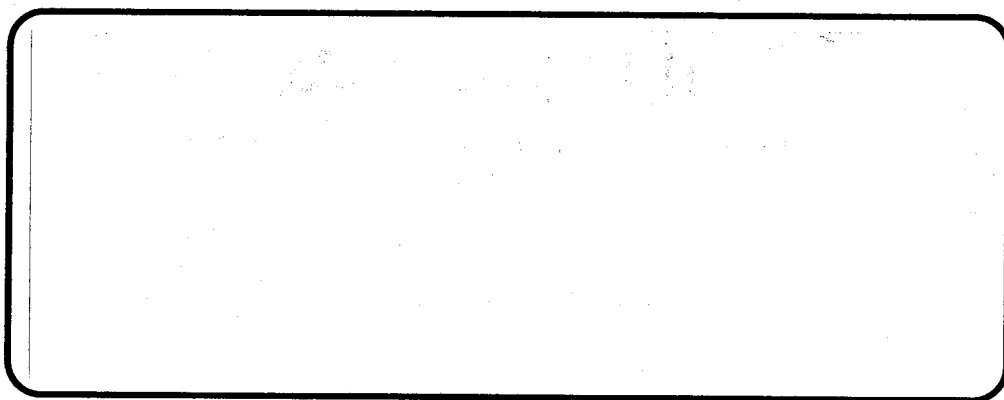
Snowy Picture

VIDEO HEAD CLEANING

Video head cleaning is needed when the playback picture becomes unclear although the picture on program is normal. This failure signifies that the heads are getting dirty and can occur when playing poor quality or damaged tapes. If the heads require cleaning, use a high quality head cleaning system or have them cleaned professionally.

NOTE:

- Video heads may eventually wear out and should be replaced when they fail to produce clear pictures.
- To help prevent video head clogging, use only good quality VHS tapes. Discard worn out tapes.



VIDEO GLOSSARY

This video glossary is provided to help you become familiar with video terms, equipment and accessories you may encounter or require in the future.

A/B SWITCH - A device that allows you to select from two video sources for output to your VCR or TV. (Not included)

A/B SWITCH



ANTENNA ADAPTER or ANTENNA MATCHING UNIT - See matching transformer.

BALUN - See matching transformer.

BANDS - Groups of TV channels which fall within certain frequencies. All the channels your TV/VCR receives can be tuned on one of three bands:

VL - VHF channels 2-6 and cable 5A-A-3

VH - VHF channels 7-13 and cable A-2-A-1, A-I, J-W and AA-FFF

U - UHF channels 14-69 and cable GGG-125

CATV - Cable TV, a method of transmitting TV signals through cable. This usually involves a monthly service charge.

CATV is usually transmitted by one of three systems: HRC, IRC or STD.

COAXIAL CABLE (75 ohm) - A special type of round wire used for antenna or cable systems, or for connecting a VCR to a TV.

COAXIAL CABLE WITH
THREADED F CONNECTOR



COMBINER (or COUPLER) - A device used to combine two or more incoming antenna wires or cables into a single output (not included).

COMBINER



CONVERTER BOX/DESCRAMBLER - A device supplied by cable companies for receiving or descrambling cable signals. Often used for TV sets that cannot receive cable channels, or when pay stations are desired by the customer. (Not included)

A CONVERTER/
DESCRAMBLER



DIGITAL - Special circuitry using microchips to store images enables a VCR to perform viewing effects like strobe, and high quality still picture.

DIGITAL AUTO TRACKING - Automatically adjusts the playback tracking for the best possible picture.

DUBBING - A method of recording from one video cassette tape to another by connecting a VCR with another VCR, VCR or comcorder.

FRAME BY FRAME ADVANCE - Enables the tape to advance one frame at a time in the STILL mode.

FS TUNER - A quartz-locked, frequency synthesized tuning system that electrically locks in stations for optimal reception. Eliminates the need for presetting channels into the TV/VCR.

F-TYPE CONNECTOR JACK - A threaded input jack designed to accept coaxial cable (75 ohm) using either a 'push-on' or 'screw-on' F connector.

F CONNECTOR JACK



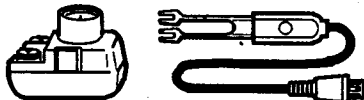
FULL LOADING TAPE TRANSPORT - Keeps video cassette tape fully loaded in VCR for rapid access between modes.

LINEAR TIME COUNTER - A real-time counter that displays the elapsed time during recording or playback in hours, minutes and seconds. The counter does not function on nonrecorded (blank) sections of tape.

H.Q. - High Quality picture. Special circuitry designed to improve VHS picture quality. Includes 'white clip expansion' and one or more additional special circuits.

MATCHING TRANSFORMER - An adapter used to convert 75 ohm cable to 300 ohm twin lead wire, or 300 ohm to 75 ohm.

2 TYPES OF MATCHING TRANSFORMERS



MTS - Multi channel TV Sound. A stereo broadcast sound system used for transmitting stereo sound signals on TV, usually broadcast with another channel (SAP).

PRESET - A method of programming channels and channel numbers into the memory of the VCR.

PUSH ON CONNECTOR - Made to fit over an F connector jack without threading. Many matching transformers use push on connectors.

REPEAT - A VCR feature which allows a tape to be viewed over and over by automatically rewinding and replaying the tape.

RF CONVERTER - A device built into VCRs and converter/descramblers which converts all signals into the video channel (either 3 or 4) for viewing on a TV.

SAP-SEPARATE AUDIO PROGRAM - A third audio channel under the MTS system frequently used for bilingual broadcasts.

SKIP SEARCH - A feature which automatically switches the VCR from playback to forward search mode for a brief period of time and then resumes normal playback. Useful for skipping over unwanted commercials etc. when playing a tape.

SPECIAL EFFECTS - Picture features available on some VCRs such as still frame, and picture search.

SPLITTER - A device used to divide an incoming antenna wire or coaxial cable into two or more wires or cables. (Not included).

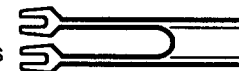
TWO TYPES OF SPLITTERS



STROBE PLAYBACK - A special digital playback feature in which still frames are displayed in rapid succession for a strobe effect.

TWIN LEAD WIRE (300 ohm) - A two conductor flat wire used for connecting an antenna to a TV set or VCR.

TWIN LEAD WIRE WITH TERMINALS



UHF - Ultra High Frequency. The band of frequencies used for UHF channels 14-69. (Cable companies sometimes transmit UHF channels on other bands.)

VARIABLE SPEED SLOW MOTION - Enables the tape to be played back in slow motion at 1/5 - 1/30 of normal speed.

VCP - Video cassette player. A device which can play video cassettes but cannot record.

VCR - Video cassette recorder. A device that can record and playback video cassettes.

VHF - Very High Frequency. The band of frequencies used to transmit VHF channels 2-13. Also used by cable companies to transmit their own channels.

VHS-C - A popular video cassette format used in many video camcorders. VHS-C cassettes can be loaded into a video cassette adapter which makes the tape fully compatible with the standard VHS format.

VHS - Video Home System. The video tape format most commonly used in the U.S.

VHS HI-FI - A superior method of recording stereo audio signals on video tape, resulting in very high quality audio recording.

VIDEO CHANNEL - The TV broadcast channel (usually 3 or 4) used to output signals from a VCR or cable box.

VIDEO INPUTS/OUTPUTS - RCA type jacks in back of the VCR used for dubbing or providing audio or video signals from other sources.

INPUT/OUTPUT JACKS



VISS® (VIDEO INDEX SEARCH SYSTEM) - A system of recording INDEX reference marks on the video tape. These marks can then be located by using the REW/Rev Search and F.F/Fwd. Search buttons.