Panasonic

Omnivision VHS

Video Cassette Recorder
Operating Instructions
Models No. PV-V4640/PV-V4660
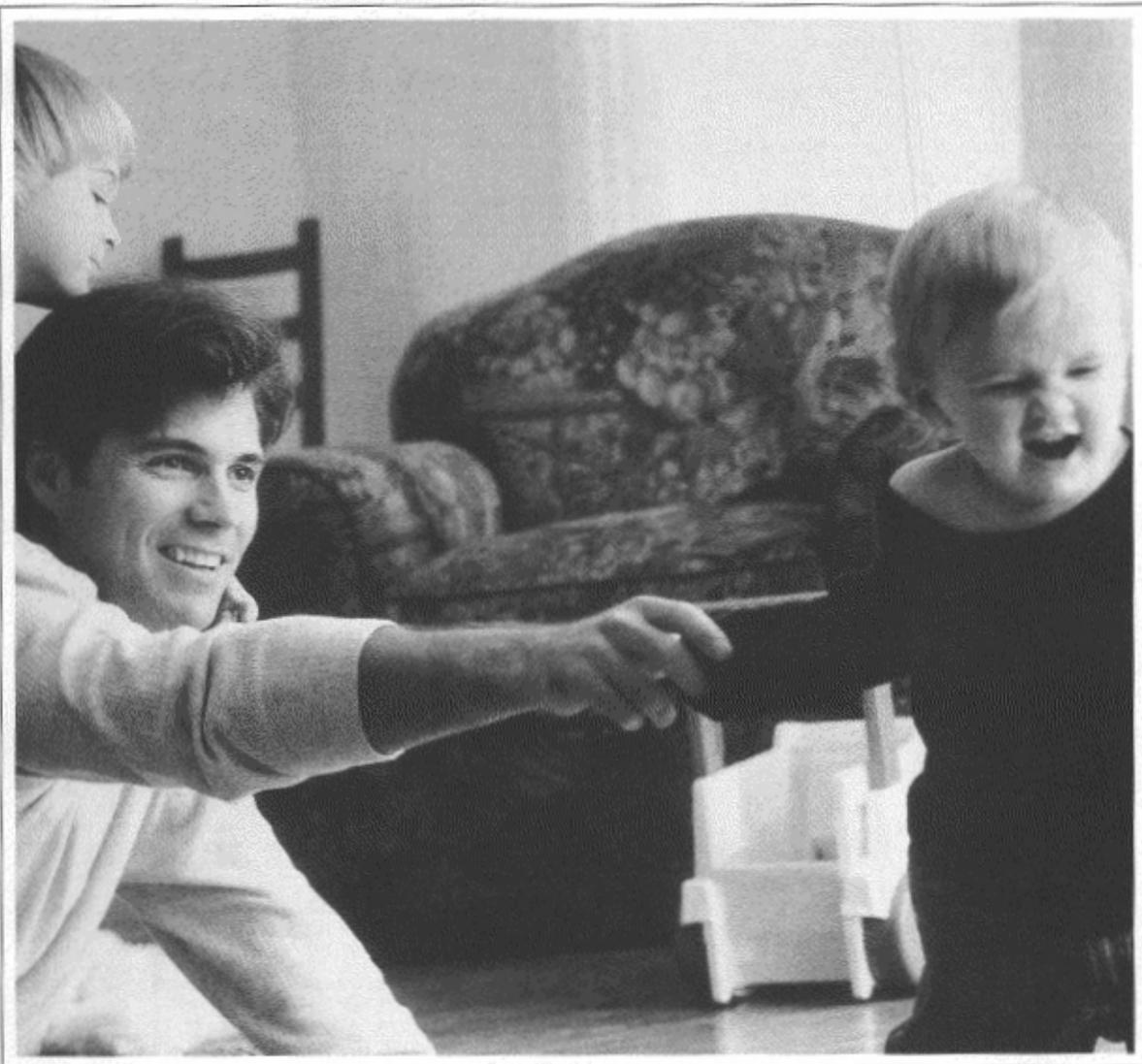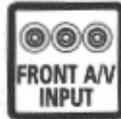
Please read these instructions carefully before attempting to connect, operate or adjust this product. Please save this manual.

Spanish Quick Use Guide is included. (Guía para rápida consulta en español está incluida.)

Quick Use Guide is on the back cover.

As an ENERGY STAR® Partner, Matsushita Electric Corporation of America has determined that this product or product model meets the ENERGY STAR® guidelines for energy efficiency.

energy

| Home Theater READY | DynAmorphous METAL HEAD 4 | HI-SPEED REW ►► FF RAPID REW / FF | VCR Plus+ GOLD • EASY SET-UP BY ZIP CODE • CABLE BOX CONTROL | MOVIE & COMMERCIAL ADVANCE | AUTO HEAD CLEANER | FRONT A/V INPUT | 12:30AM AUTO CLOCK SET | ENGLISH FRANÇAIS ESPAÑOL TRILINGUAL ON-SCREEN DISPLAY |

(PV-V4660)

VCR Plus+ GOLD

LSQT0194A

For assistance, call 1-800-211-PANA(7262).

Important Safeguards and Precautions

INSTALLATION

1 POWER SOURCE CAUTION
Operate only from a power source indicated on the unit or in this manual. If necessary, have your Electric Utility Service Company or Video Products Dealer verify the power source in your home.

2 POLARIZED OR GROUNDING PLUG
As a safety feature, this Video product comes with either a polarized power cord plug (one blade is wider than the other), or a three-wire grounding type plug.

POLARIZED PLUG CAUTION:
This plug will only fit into an outlet one way. If you cannot fully insert the plug, try reversing it. If it still will not fit, have an electrician install the proper wall outlet.
Do not defeat the safety feature by tampering with the plug.

GROUNDING PLUG CAUTION:
This plug will only fit into a three-hole grounding outlet.
If necessary, have an electrician install the proper outlet.
Do not defeat the safety feature by tampering with the plug.

3 POWER CORD
Make sure power cords are routed so that they are not likely to have anything rest on them, roll over them, or be in the way of walking traffic. If an extension cord is used, make sure it also has either a polarized or grounded plug and that the cords can be securely connected. Frayed cords, damaged plugs, and damaged or cracked wire insulation are hazardous and should be replaced by a qualified service technician.
Overloaded outlets and extension cords are fire hazards and should be avoided.

4 DO NOT BLOCK VENTILATION HOLES
Ventilation openings in the cabinet release heat generated during operation. If they are blocked, heat build-up inside the unit can cause failures that may result in a fire hazard or heat damage to cassettes.
For protection, follow these rules:
a. Never cover ventilation slots or the unit while in use, or operate the unit when placed on a bed, sofa, rug, or other soft surface.
b. Avoid built-in installation, such as a book case or rack, unless proper ventilation is provided.

5 AVOID EXTREMELY HOT LOCATIONS OR SUDDEN TEMPERATURE CHANGES
Do not place the unit over or near any kind of heater or regulator, in direct sunlight, inside a closed vehicle, etc.. Do not move the unit suddenly between areas of extreme temperature variation. If the unit is suddenly moved from a cold place to a warm place, moisture may condense in the unit and on the tape.

6 TO AVOID PERSONAL INJURY
- Do not place unsecured equipment on a sloping surface.
- Do not place this unit on any support that is not firm, level, and adequately strong. The unit could fall causing serious injury to a child or adult and damage to the unit.
- 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.
- Carefully follow all operating instructions and use the manufacturer's recommended accessories when operating this unit or connecting it to any other equipment.
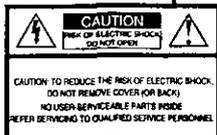
OUTDOOR ANTENNA INSTALLATION

1 SAFE ANTENNA AND CABLE CONNECTION
If an outside antenna or cable system is connected to the equipment, be sure the antenna or cable system is grounded so as to provide some protection against built up static charges and voltage surges. Section 810 of the National Electrical Code, ANSI/NFPA 70 (in Canada, part 1 of the Canadian Electrical Code) 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.
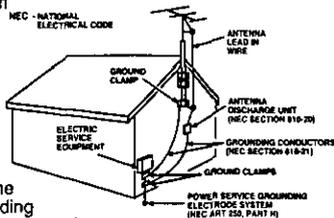
2 KEEP ANTENNA CLEAR OF HIGH VOLTAGE POWER LINES OR CIRCUITS
An outside antenna system should be located well away from power lines, electric light or power circuits and where it will never come into contact with these power sources if it should happen to fall. When installing an outside antenna, extreme care should be taken to avoid touching power lines, circuits or other power sources as this could be fatal. Because of the hazards involved, antenna installation should be left to a professional.

USING THE VIDEO UNIT

If the unit has been in storage or moved to a new location, refer first to the INSTALLATION section of these safeguards.

1 KEEP THIS VIDEO UNIT AWAY FROM WATER OR MOISTURE OF ANY KIND.

2 IF EQUIPMENT IS EXPOSED TO RAIN, MOISTURE, OR STRONG IMPACT, unplug the unit and have it inspected by a qualified service technician before use.

3 DURING AN ELECTRICAL STORM
During a lightning storm, whether indoors or outdoors, or before leaving the unit unused for extended periods of time, disconnect all equipment from the power source as well as the antenna and cable system.

4 WHEN THE UNIT IS PLUGGED IN
- Never expose the unit to rain or water. DO NOT OPERATE if liquid has been spilled into the unit. Immediately unplug the unit, and have it inspected by a service technician. Fire and shock hazards can result from electrical shorts caused by liquid contact inside.
- Never drop or push any object through openings in the unit. Some internal parts carry hazardous voltages and contact can cause electric shock or fire hazard.
- Avoid placing the unit directly above or below your TV set as this may cause electrical interference. Keep all magnets away from electronic equipment.

5 USING ACCESSORIES
Use only accessories recommended by the manufacturer to avoid risk of fire, shock, or other hazards.

6 CLEANING THE UNIT
Unplug the unit. Then, use a clean, dry, chemically untreated cloth to gently remove dust or debris. DO NOT USE cleaning fluids, aerosols, or forced air that could over-spray, or seep into the unit and cause electrical shock. Any substance such as wax, adhesive tape, etc. may mar the cabinet surface. Exposure to greasy, humid, or dusty areas may adversely affect internal parts.

SERVICE

1 DO NOT SERVICE THIS PRODUCT YOURSELF
If, after carefully following the detailed operating instructions, this Video product does not operate properly, do not attempt to open or remove covers, or make any adjustments not described in the manual.
Unplug the unit and contact a qualified service technician.

2 IF REPLACEMENT PARTS ARE REQUIRED
Make sure the service technician uses only parts specified by the manufacturer, or those having the same safety characteristics as the original parts. The use of unauthorized substitutes may result in fire, electric shock, or other hazards.

3 HAVE THE SERVICE TECHNICIAN PERFORM A SAFETY CHECK
After any service or repairs to the unit, request the service technician to conduct a through safety check as described in the manufacture's service literature to insure that the video unit is in safe operating condition.

Safety Precautions

Warning: To prevent fire or shock hazard, do not expose this equipment to rain or moisture.
CAUTION: To prevent electric shock, match wide blade of plug to wide slot, fully insert.
Attention: Pour éviter les chocs électriques, introduire la lame la plus large de la fiche dans la borne correspondante de la prise et pousser jusqu'au fond.

This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.

This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.

Table of Contents

3

Congratulations

on your purchase of one of the most sophisticated and reliable products on the market today. Used properly, it will bring you and your family years of enjoyment. Please fill in the information below. The serial number is on the tag located on the back of your VCR.

- Date of Purchase _____
- Dealer Purchased From _____
- Dealer Address _____
- Dealer Phone No. _____
- Model No. _____
- Serial No. _____

Accessories

☐ Remote Control
  LSSQ0218

☐ Batteries 2 "AA"
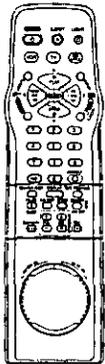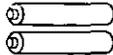
☐ RF Coaxial Cable
  VJAS0196

To order accessories, call toll free
1-800-332-5368.

Loading the Batteries

1) Open the cover.

2) Insert the batteries as marked.

3) Close the cover.
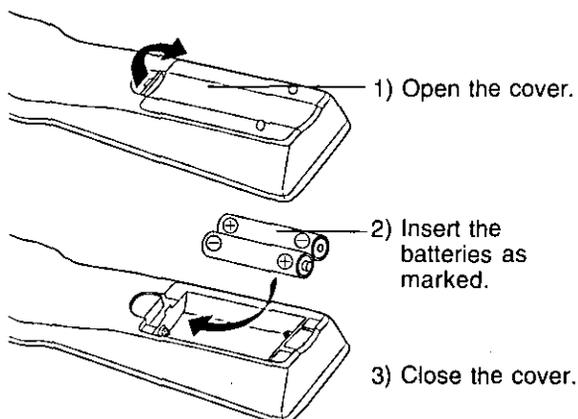
☐ **Battery replacement caution**
- Do not mix old and new batteries.
- Do not mix alkaline with manganese batteries.

4

If your TV has AUDIO and VIDEO IN terminals, connect them to VCR for higher quality picture and sound. You can enjoy stereo sound even if your TV is not stereo by connecting a stereo amplifier to the VCR.

Connect VCR and TV with an AV Cable (not supplied) or a RF Coaxial Cable (supplied) as shown in the figure below.

ANTENNA (See page 5)

CABLE TV

OUTDOOR ANTENNA   INDOOR ANTENNA

or
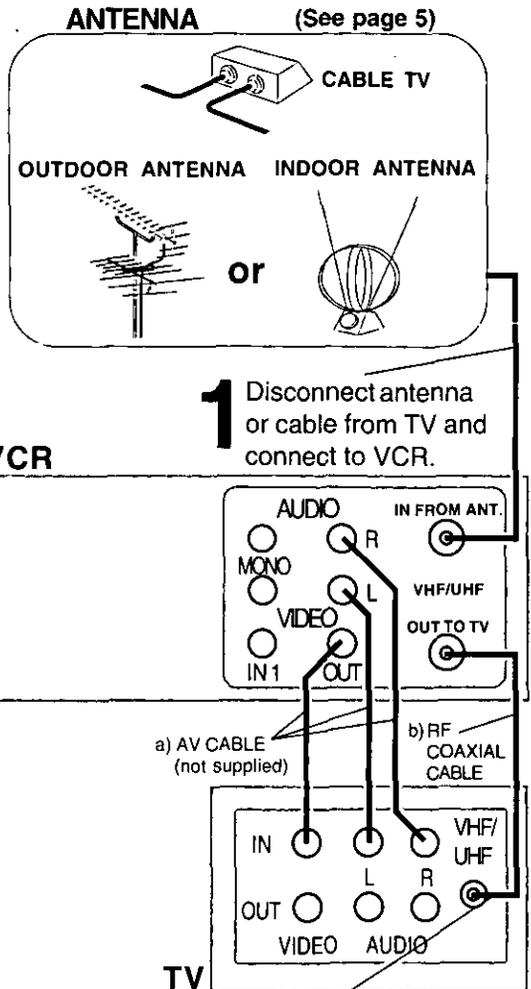
1 Disconnect antenna or cable from TV and connect to VCR.

VCR

AUDIO   IN FROM ANT.
R
MONO
L   VHF/UHF
VIDEO   OUT TO TV
IN 1   OUT

a) AV CABLE (not supplied)   b) RF COAXIAL CABLE

IN   VHF/UHF
    L   R
OUT
VIDEO   AUDIO

TV

2 Connect VCR to TV with RF Coaxial Cable.

Notes

1) While connection b) (above) is sufficient, connection a) offers better sound and picture (especially with this model, you can enjoy Hi-Fi STEREO sound).

2) For both connections a) and b) proceed as follows:
   - To use VCR : VCR Power on, set TV to VIDEO.
   - To watch TV : VCR Power off, select channel on.

3) Set VCR Output to channel 3 or 4 (not an active station). (See page 6.)
   Use the L Audio OUT jack for proper sound reproduction when connecting to a monaural TV.

WARNING
When using "Nut type" RF coaxial cables, tighten with fingers only. Overtightening may damage terminals.

1 Between ANT. and VCR

■ Case 1: Twin Lead Cable Only

To VCR Terminal

From Antenna

(Flat) Twin Lead
300 Ohm Cable

300-75 ohm
Transformer
(not supplied)

■ Case 2: Twin Lead & Coaxial Cables

UHF/VHF Band Mixer
(not supplied)

(Round) 75 Ohm
coaxial Cable

To VCR Terminal
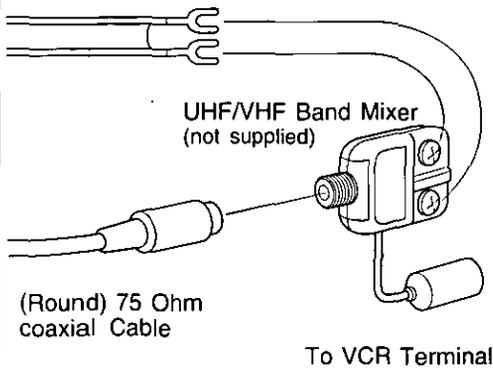
■ Case 3: Two Twin Lead Cables

UHF/VHF Band Mixer
(not supplied)

300-75 ohm
Transformer
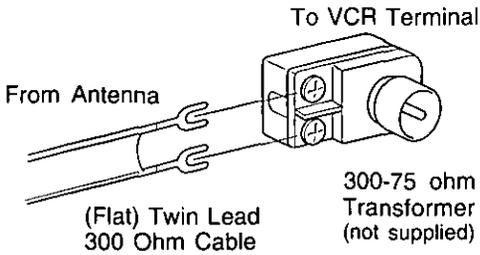(not supplied)

To VCR Terminal
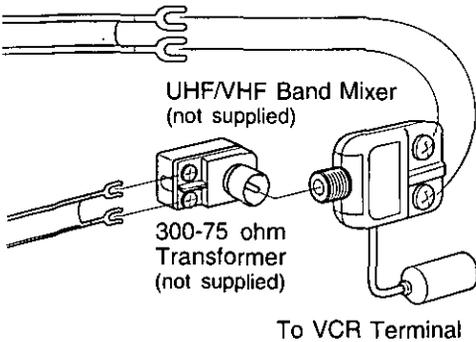
• If your TV has both post and plug-type VHF terminals, the post connection is recommended to minimize signal loss.

Note to CABLE system installer:
This reminder is provided to call the CABLE system installer's attention to Article 820-40 of the NEC in USA (and to the Canadian Electrical Code in Canada) 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.

2 Between VCR and TV

■ Case 1: Screw & Plug Type Terminal

UHF/VHF Band
Separator
(not supplied)

TV
VHF
UHF

RF Coaxial Cable

■ Case 2: Screw Type Terminal

75-300 ohm
Transformer
(not supplied)

TV
VHF
or
UHF
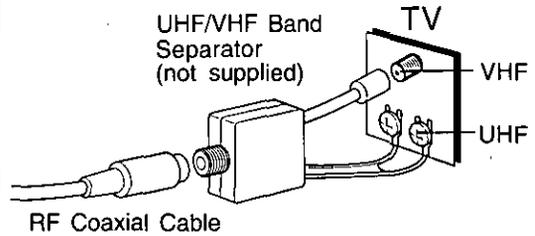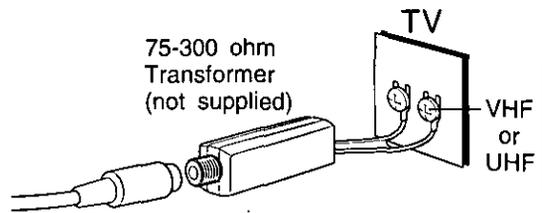
■ Case 3: Double Screw Type Terminal

UHF/VHF Band
Separator
(not supplied)

TV
VHF
UHF
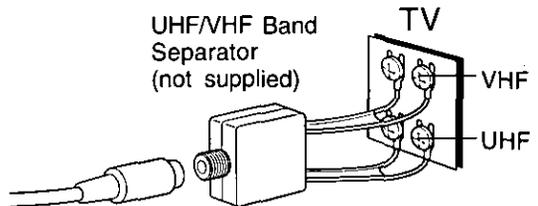
■ Case 4: Complex TV Terminal

TERMINALS ON BACK OF TV SET

Split out

ANT1

TV

ANT2
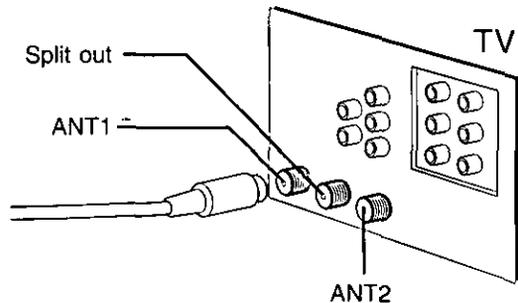
• Connect to one of the ANT terminals and select the same antenna number on the TV.

FCC Warning: Any unauthorized changes or modifications to this equipment would void the user's authority to operate.

5

The setup on pages 8 through 11 is vital for proper VCR operation.
Please read the instructions carefully and in the order presented.

NOTE: These first two pages contain reference material needed for setup on pages 8~11.
Please look over the information before you begin setup procedure.

Setup Overview
You will be performing the following tasks:

• Setting the language you want on-screen displays to appear in (English, Spanish, French.)
• Telling the VCR what kind of equipment you are using to receive channels and how it is connected.
• Entering pertinent cable box or DSS receiver information if used.
• Entering a local PBS channel so that the VCR can receive auto clock set data. (Not available in all areas.)
• Placing channels in memory and setting the clock.

Please Note Which Connection Type You are Using.

Make sure all equipment is hooked up as described on pages 8~11.
The diagrams below illustrate some of the basic connection types.
Confirm which type you used for later reference.
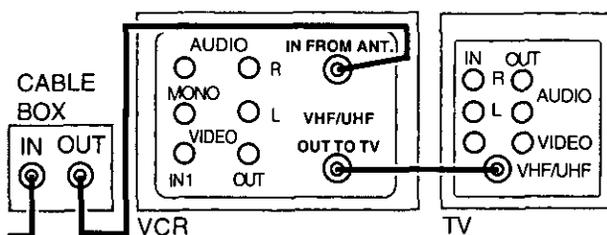
ConnectionType A	ConnectionType B

<Cable box➡VCR➡TV connection>

<DSS box➡VCR➡TV connection>

<VCR➡TV connection>

<VCR➡ Cable box ➡TV connection>
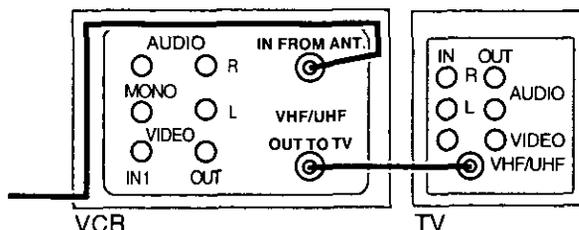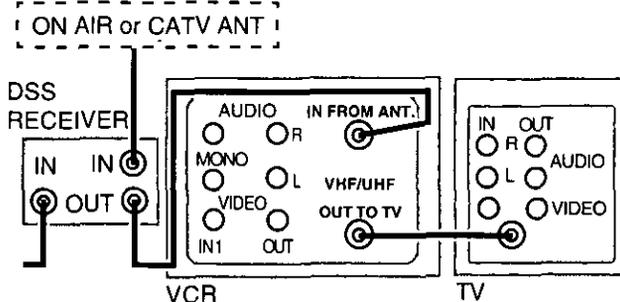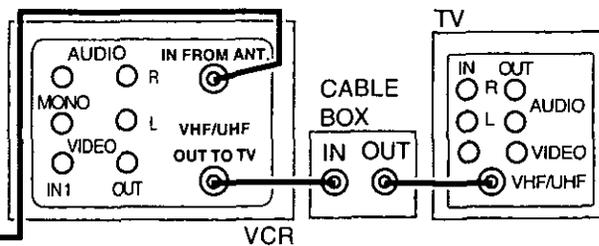
ONE TIME SETUP IMPORTANT NOTES:

• For detailed DSS receiver connection instruction, please see your DSS operating manual.
• The DSS receiver must be turned off to view programs from the cable box or antenna.
• If you use a DSS receiver, it must be turned off for auto clock set.
• If your cable box is not remote controllable, it must be tuned to your PBS channel.
• If you use Audio/ Video Jack connection between the VCR and cable box or DSS receiver, you must also connect the RF coaxial cable in order to use auto clock set and channel auto set features.

Cable Box/ DSS Receiver Code Number List

If your cable box or DSS receiver is remote controllable, refer to this list during setup on page 8.

Cable Box

Brand	Code Number
Archer	44, 06, 01
Cableview	29, 09, 01, 63
Citizen	44, 52, 30
Curtis	08, 09, 25, 61, 53
Century	44, 51, 75, 59
Cabletenna	29, 09, 01, 63
Cable Cinema	29, 09, 01, 63
Diamond	29, 09, 01, 63
Eagle	62, 40, 22, 13, 58, 20
Eastern	28, 29
Explorer	08, 09, 25, 61, 53
Gemini	30, 04
General Electric	01, 57
General Instruments	01, 84, 83, 34, 03, 02, 04, 55, 65, 66, 67, 68
Gerrard	44, 51, 75, 59
GC Electronics	44, 42, 63, 29
Hamlin	41, 14, 15, 28
Hitachi	31
Jerrold	01, 84, 83, 34, 03, 02, 04, 55, 65, 66, 67, 68
Jasco	30, 04
Macom	31
Magnavox	26
Matsushita	17, 16, 08
Movietime	32, 39
Maestro	74, 35
NEC	40, 19, 38, 32
NSC	40, 19, 38, 32
Novavision	08, 09, 25, 61, 53
Next Level	01, 84, 83, 34, 03, 02, 04, 55, 65, 66, 67, 68
Oak	46, 11
Oak Sigma	46, 11
Panasonic	17, 16, 08
Philips	23, 24, 20, 13
Pioneer	06, 05, 12
Pulsar	04, 42
Quest	06, 05, 12
Radio Shack	44, 51, 75, 59

Brand	Code Number
RCA	17, 16, 08
Realistic	44, 51, 75, 59
Recoton	44, 51, 75, 59
Regal	41, 14, 15, 28
Regency	28, 29
Rembrandt	44, 42, 63, 29
Samsung	42, 06, 32
Scientific Atlanta	08, 09, 25, 61, 53
Sheritech	27
Signal	26
SL Marx	42, 06, 32
Sprucer	17, 16, 08
Standard Components	32, 39
Stargate	04, 42
Sylvania	19, 18
Teknika	74, 35
Telecaption	77
Teleview	40, 19, 38, 32
Texscan	19, 18
Tocom	34, 33, 01, 42, 66
Toshiba	36
Unika	44, 42, 63, 29
Universal	52, 43, 44, 63
Viewstar	62, 40, 22, 13, 58, 20
Videoway	07, 23, 50
Vidtek	64
Zenith	07, 23, 50

DSS (Digital Satellite System Receiver)

Brand	Code Number
Toshiba	90
Hitachi/ Hughes	91, 99
Primestar	92
Drake	93
Magnavox	94, 95
Uniden	94, 95
Optimus	94, 95
Panasonic	96
ProScan	97
RCA	97
SONY	98, 105

Note

During setup you will be instructed to enter your brand code number. As some brands have multiple codes, it may be necessary to try different codes to attain the proper results.
These codes are for Cable box or DSS Box setup for Auto Clock and VCR Plus+ recording only.
For TV/ Cable Box Multi-Brand Control operation, please see page 22.

Positioning Your Cable Box or DSS Receiver

If your cable box or DSS receiver is remote controllable, place it on or near the VCR as shown in the example at right. The VCR transmits an infrared signal from two locations. Be sure not to cover the transmitter windows.

Cable Box/ Satellite Receiver
Wall
VCR'S Signals
Transmitters

One Time VCR Setup

7
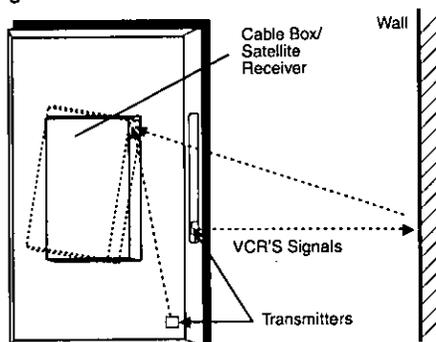
When VCR is turned on the first time.

- Setup mode is entered automatically.
- Self Demo Mode is started automatically on Multi Function Display. When you set the clock, it is canceled. (For details, see page 55.)

Process of Setup

Language ⇨ Cable/DSS Receiver

⇨ Channels ⇨ Clock
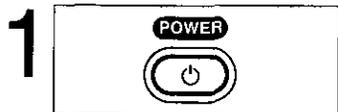
1

Turn the TV and VCR on.
Press POWER.
Set TV Channel to CH 3.
- If using AV Cable connection, set TV to Video instead of channel. (See connection a) on page 4.)

2

Display SELECT LANGUAGE.
This display appears for first time setup only.

Select the language.

```
        SELECT LANGUAGE

PUSH    CH ▲ :  ENGLISH
OPRIMIR CH ▼ :  ESPAÑOL
APP.    VCR/TV : FRANÇAIS


TO CHANGE VCR'S OUTPUT
CH, PUSH ACTION KEY.
```

⇩ Press ACTION

```
IF YOU PUSH ACTION KEY,
VCR'S OUTPUT CH SWITCHES
TO CH 4.
```

⇩ Press ACTION

```
PLEASE TUNE YOUR TV TO
CH 4.
```
After 3 seconds

— for English

— for Spanish (ESPAÑOL)

— for French (FRANÇAIS)
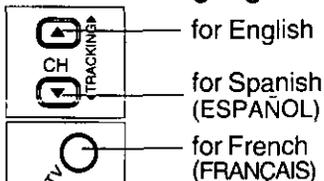
When using connection b) (see page 4), tune TV to VCR's output channel.
If there is beat or noise on CH3, change VCR's output channel to CH4 by pressing ACTION twice.

- Always tune TV to this channel to monitor the VCR.
- If you used audio/video jack connection, tune the TV to its video input.
- If wrong language is set, do "Reset All VCR Memory Functions" steps on page 42.
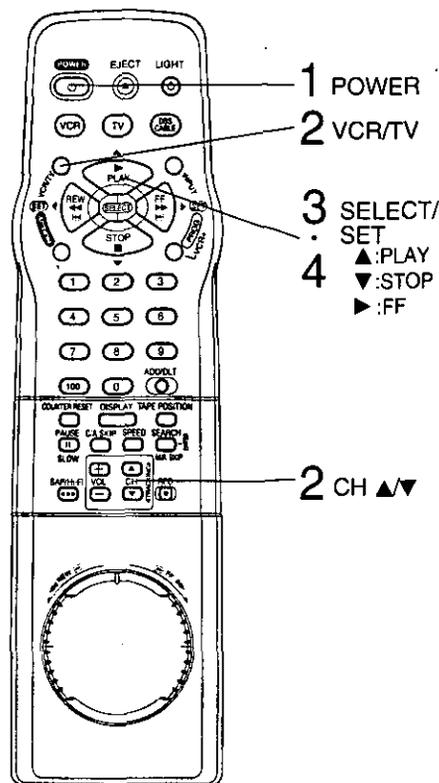
3

```
SELECT HOOKUP
CABLE/DSS BOX▶VCR▶TV
VCR▶CABLE/DSS BOX▶TV
VCR▶TV



SELECT:▲ ▼ KEY
SET   :▶ KEY
END   :ACTION KEY
```

Select hookup.
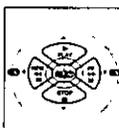
1) Press ▲▼ to select.
2) Press ▶ to set.

- If you selected "CABLE/ DSS BOX ▶ VCR ▶ TV," continue with step 4. (Only cable box output channel will be placed in memory.) If not, go to "Alternate Instructions" on page 11.

4

```
SELECT HOOKUP
CABLE/DSS BOX▶VCR▶TV

CABLE/DSS BOX OUTPUT CH
CH 01

SELECT:▲ ▼ KEY
SET   :◀ ▶ KEY
END   :ACTION KEY
```

Select cable box or DSS receiver output channel.

1) Press ▲▼ to select.
2) Press ▶ to enter.

- If necessary, refer to cable box manual.
- If you used Audio/ Video jack connection to cable box, set "VIDEO OUT."
- If both cable box and DSS receiver are used, set output channel of DSS receiver.

1 2

1 POWER
2 VCR/TV
3 SELECT/ SET
   ▲:PLAY
4 ▼:STOP
   ▶:FF

2 CH ▲/▼

8

5

```
ENTER CODE NUMBER
REFERRING TO MANUAL

    01

SELECT:▲ ▼ KEY
SET    :▶ KEY
END    :ACTION KEY
```

Select Cable box or DSS receiver code.
(Refer to the list on page 7.)
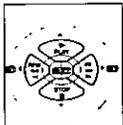
1) Press ▲▼ to select.
2) Press ▶ to enter.

• If cable box or DSS receiver has no remote control, select "NO REMOTE." Then, go to "Alternate Instructions" on page 11.

• This determines whether VCR will control cable box or DSS receiver.

6

```
ENTER ANY AVAILABLE
CHANNEL NUMBER ON
YOUR CABLE/DSS BOX.

      CH 01

SELECT:▲ ▼ KEY
SET    :▶ KEY
END    :ACTION KEY
```

Select available channel on your Cable box or DSS receiver.
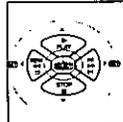
1) Press ▲▼ to select.
2) Press ▶ to set.

7

```
PLEASE TUNE YOUR
CABLE/DSS BOX TO
ANOTHER AVAILABLE
CHANNEL


PROCEED :▶ KEY
END    :ACTION KEY
```

Tune Cable box or DSS receiver channel.
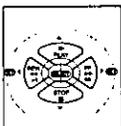
Press ▶ to continue.

• "NOW TRANSMITTING" appears.

8

```
IS YOUR CABLE/DSS BOX
RECEIVING CH 01?

       YES
       NO

SELECT:▲ ▼ KEY
SET    :▶ KEY
END    :ACTION KEY
```

Set receiver channel.
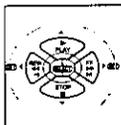
1) Press ▲▼ to select "YES" or "NO."
2) Press ▶ to enter.

If "YES" with cable box, go to step 9.

If "YES" with DSS receiver, go to "Alternate Instructions" on page 11.

If "NO," the screen in step 5 will appear. Try entering a different code and/ or repositioning the equipment (see page 7.)
If still "NO," cable box or DSS receiver is not available.

9

```
PLEASE ENTER YOUR LOCAL
PBS CHANNEL ON CABLE BOX

       CH --

SELECT:▲ ▼ KEY
SET    :▶ KEY
END    :ACTION KEY
```

Confirm that cable box is on and that DSS receiver is off.

Select local PBS channel on cable box.
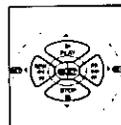
1) Press ▲▼ to select.
2) Press ▶ to set.
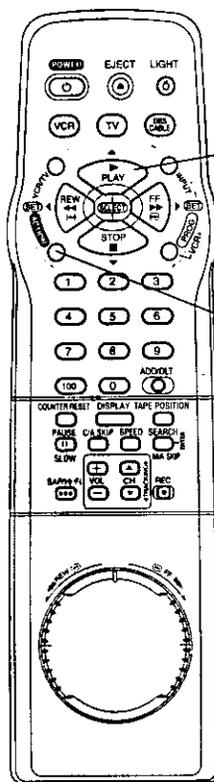
Continued on the next page...

5 SELECT/ SET
6 ▲:PLAY
  ▼:STOP
7 ▶:FF
8
9
ACTION

One Time VCR Setup

9

10

```
CLOCK AUTO SET

CONNECT ANTENNA CABLE
AND IF YOU USE A CABLE
BOX, TUNE IT TO YOUR
LOCAL PBS CH   THEN...

PLEASE PUSH CH UP KEY
```

Start Clock Auto Set.

Press CH▲.

[▲ CH]

• "AUTO CLOCK SET PROCEEDING" appears.

11

```
1/ 4/2000 TUE 12:00PM
              DST:ON
SETTING : CH 02

AUTO CLOCK SET

     COMPLETED

END  : PUSH CH UP KEY
```

Confirm that time is correct.

Press CH▲ to exit.

[▲ CH]
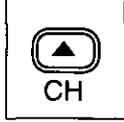
If displayed time is incorrect...

If your area observes DST (daylight saving time), but the time is incorrect; do "Time Zone Adjust" steps on page 41.

Or, if you use cable box and receive more than one PBS station, try auto clock set again entering the one you have not tried yet (See "Clock" on page 40.)

If the screen below appears...

Auto clock set data is not available in your area.
Press ACTION to display Manual Clock Set screen, and then do steps b) ~ d) on page 11.

```
AUTO CLOCK SET

IS INCOMPLETE

PUSH ACTION TO SET CLOCK
```

To Setup VCR in Case a Cable Box or DSS Receiver was Installed or Replaced.

a Press ACTION to display Menu.

b Press ▲▼ to select "SET UP CHANNEL," then press ▶.

c Press ▲▼ to select "CABLE/ DSS BOX SET UP," then press ▶.

d Press ▲▼ to select "CABLE/ DSS BOX ▶ VCR ▶ TV," then press ▶ to set.

e Continue with steps 4~8 on pages 8~9.

```
          MENU
SET UP VCR
SET UP FEATURE
SET CLOCK
SET UP CHANNEL
IDIOMA/LANGUE:ENGLISH
VCR'S OUTPUT CH:3
SELECT:▲ ▼ KEY
SET   :▶ KEY
END   :ACTION KEY
```

```
     SET UP CHANNEL
ANTENNA : CABLE
AUTO SET
CHANNEL CAPTION
WEAK SIGNAL DISPLAY :OFF
CABLE/DSS BOX SET UP
VCR Plus+ CH SET UP
SELECT:▲ ▼ KEY
SET   :▶ KEY
END   :ACTION KEY
```

Note

Auto clock set will be performed when VCR is turned off the first time each day.
Therefore, cable box must be left on and tuned to PBS channel before VCR power is turned off.

Process of Setup

Language ⇒ Cable/DSS Receiver

⇒ Channels ⇒ Clock

10·11

SELECT/
SET
▲:PLAY
▼:STOP
▶:FF

ACTION

10 CH ▲

11

Using ▲▼◀▶ keys

You can also operate the menu screen using VCR buttons.

When menu screens are displayed, the PLAY, STOP, REWIND, and FF buttons on the VCR and remote function as ▲▼◀ ▶ only with no tape inserted.

| On Remote | On VCR |
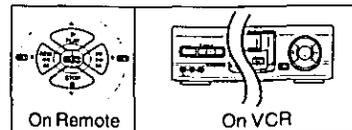
▲ : PLAY   ◀ : REW
▼ : STOP   ▶ : FF

To display menu using VCR buttons, press CH ▲ and CH ▼ together.

To exit the menu, repeat above.

Alternate Instructions

complete steps below if any of the following applies:
• Selected connection type B (VCR ▶ CABLE/DSS BOX ▶ TV or VCR ▶ TV) in step 3, page 8.
• Selected "NO REMOTE" in step 5, page 9.
• Selected "YES" with DSS receiver in step 8, page 9.

1

```
CHANNEL/CLOCK AUTO SET

CONNECT ANTENNA CABLE
AND IF YOU USE A CABLE
BOX, TUNE IT TO YOUR
LOCAL PBS CH    THEN...

PLEASE PUSH CH UP KEY
```

Start Channel Auto Set and Clock Auto Set.

Press CH▲.

CH

• The following messages appear.
"CH AUTO SET PROCEEDING"
"AUTO CLOCK SET PROCEEDING"

2

```
1/ 4/2000 TUE 12:00PM
              DST:ON
SETTING : CH 02

AUTO CLOCK SET

   COMPLETED

END  : PUSH CH UP KEY
```

Confirm that time is correct.
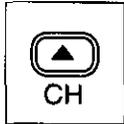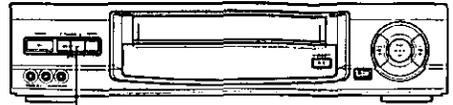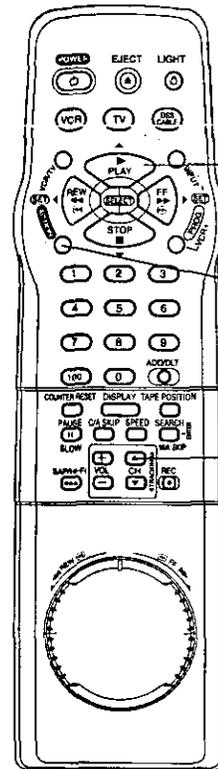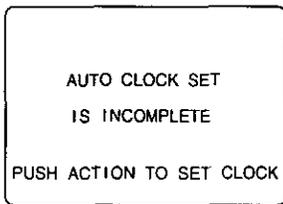
Press CH▲
to exit.

CH

Clock Setup incomplete...

```
AUTO CLOCK SET

IS INCOMPLETE

PUSH ACTION TO SET CLOCK
```

Set the clock manually.

a) Press ACTION.


```
\|/   SET CLOCK
1/--/----   --:--
/|\         DST:ON
--------------------
SELECT MONTH

SELECT:▲ ▼ KEY
SET    :▶ KEY
END    :ACTION KEY
```

b) Press ▲▼ to select month.

c) Press ▶ to set.

• Likewise, set date, year, time, DST (Daylight Saving Time).

To Make Corrections,
repeatedly press ◀ ▶ to move to error, then correct.

```
      SET CLOCK
1/ 4/2000 TUE 12:00PM
              DST:ON
--------------------
SET COMPLETED

SET   :◀ ▶ KEY
START :ACTION KEY
```

d) Press ACTION:
(Clock starts.)

• To exit this mode, press ACTION again.

SELECT/
SET
▲:PLAY
▼:STOP
◀:REW
▶:FF

ACTION

CH ▲

Note

If you use a DSS receiver, it must be turned off.

If displayed time and DST are incorrect...

If you use cable box and receive more than one PBS station, try auto clock set again entering the one you have not tried yet. (See "Clock" on page 40.)

If you happen to live close to two time zones, VCR may have recognized PBS channel (setting channel) in the wrong time zone. Please do the following to correct the situation.

1)Make a note of SETTING : CH number shown on screen and press CH ▲ to exit.
2)Delete the channel from VCR memory. (See "Add or Delete a Channel" on page 41.)
3)Press ACTION to display the menu.
4)Press ▲▼ to select "SET CLOCK," and then press ▶ to display the SET CLOCK screen.
5)Press ▲▼ and ▶ to select and set "AUTO CLOCK SET."
6)Follow One Time VCR Setup instructions on page 8~11.

• If you use cable box and have multiple PBS stations, tune cable box to a different PBS station and try auto clock set using the menu.

Playback a Tape

Multi Function Display   STOP/ EJECT

EJECT

REW ——

FF

STOP

PAUSE/
SLOW

Insert a cassette.

1 • VCR power comes on and "VCR" appears on Multi Function Display.

Press PLAY.

2 • Or, if cassette has no record tab (see page 42), auto playback begins.

■ To Find a Particular Scene

Forward Search --> Press FF. (To release, press PLAY or FF.)

Reverse Search --> Press REW. (To release, press PLAY or REW.)

■ For Still (Freeze) picture --> Press PAUSE/SLOW. (To release, press PLAY.)

■ For Frame by Frame picture --> Press PAUSE/SLOW in Still mode. (To release, press PLAY.)

■ For Slow Motion --> Press and hold PAUSE/SLOW in Still mode. (To release, press PLAY.)

Notes

• These features work best in SP or SLP mode.
• The sound will be muted.
• To reduce picture noise, see "Manual Tracking Control" on page 43.
• After the VCR is in Still or Slow mode for 3 minutes, it will switch to Stop mode automatically to protect the tape and the video head.

■ To stop --> Press STOP.

Rapid Rewind/ FF

■ **To rewind tape** --> Press REW in Stop mode.

■ **To fast forward tape** --> Press FF in Stop mode.

• Rewind your tape in approximately one minute when using a T-120 tape.

■ **To eject tape** --> Press EJECT on the remote or STOP/ EJECT on the VCR.

Note

● **To prevent tape jam**
Inspect your cassette tapes and remove any loose or peeling labels.
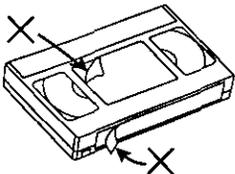
Playback using VCR controls

1 Insert a cassette.

2 Press PLAY.
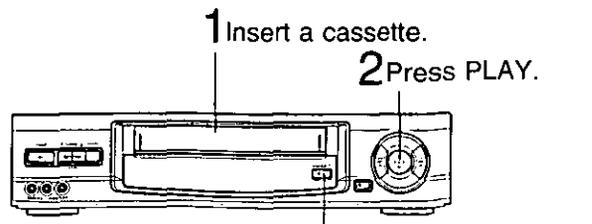
■ Press to stop and/ or eject tape.

12

Record On a Tape

*Important: If the remote control POWER, ACTION, PROG/VCR+, CH ▲/▼, NUMBERED keys, INPUT, SEARCH/ M/A SKIP or ADD/DLT button does not work when pressed, press the VCR button on the remote and try the button

Playback/Recording

✓ Check list before you begin.

☐ All connections are made.
☐ TV is turned on and tuned to CH3, 4 or Video.
☐ Cassette record tab is in place.
☐ Remote in VCR mode.
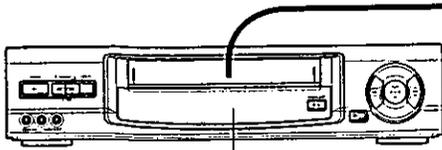
1 **Insert a cassette.**

Record tab
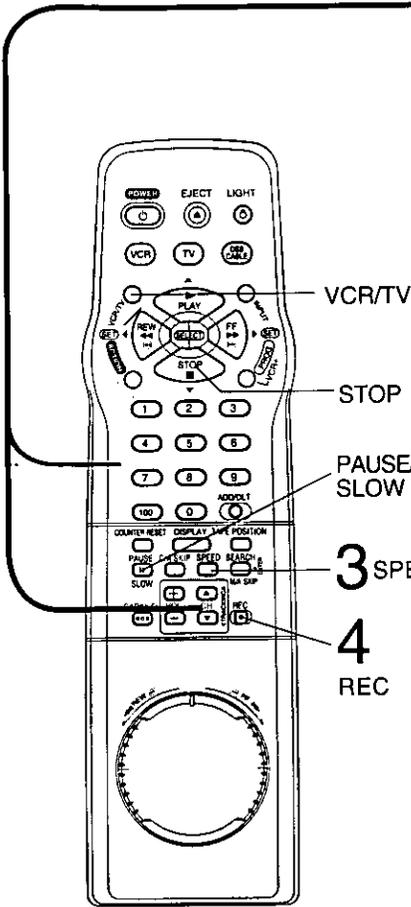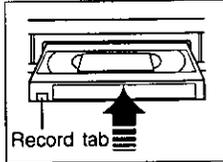
• VCR power comes on and "VCR" appears on Multi Function Display.

Multi Function Display
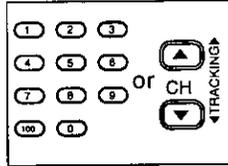
2 **Select Channel.**

Press CH ▲ / ▼* or NUMBERED keys.

• To select "LINE," see page 15.
• To select channels over 100, first press 100 key, then enter remaining two digits.

VCR/TV

STOP

PAUSE/
SLOW

3 SPEED

4

REC
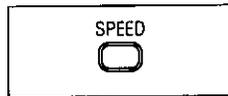
3 SPEED **Select Recording speed.**
(See page 42.)
Press SPEED.

• SP = Standard Play
  LP = Long Play
  SLP = Super Long Play

• Selected speed is displayed on TV screen and Multi Function Display.
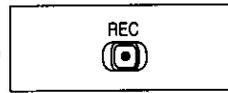
4 REC **Start Recording.**
Press REC.

• To edit out unwanted portions, press PAUSE/SLOW to pause and to resume recording.

■ **To stop** --> Press STOP

■ **One Touch Recording**
Press REC repeatedly to set the recording length (30 min. ~ 4 hours).
• The VCR turns itself off at a preset time.

→ Normal Rec → 0:30 → 1:00 ⌐
⌐ 4:00 ← 3:00 ← 2:00 ← 1:30 ←
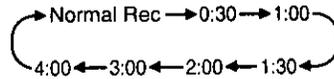
■ **Record One Program While Watching Another**
Press VCR/TV--> "VCR" disappears on Multi Function Display --> Select Channel at the TV.

■ **Selecting Channel at the VCR**
Press VCR/TV--> "VCR" appears on Multi Function Display --> Select Channel at the VCR (applies to connection b) only, see page 4).

Note

After the VCR has been in Pause mode for 5 minutes, it will stop automatically to protect the tape and the video head.

This video recorder, equipped with the HQ (High Quality) System, is compatible with existing VHS equipment. Only use those tapes with the **VHS** mark. It is recommended that only cassette tapes that have been tested and inspected for use in 2, 4, 6, and 8 hour VCR machines be used.

Record using VCR controls

2 Select Channel.   VCR/ TV   **1** Insert a cassette.   **4** Start Recording.

■ Press to stop.

13
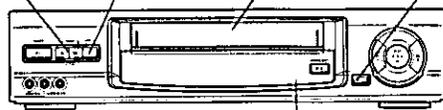
Advanced Connections

Be sure to tune TV to VCR output channel. (The same one you set on screen of TV: CH3 or CH4.)

All connections on these pages are made with 75 Ohm coaxial cables.

You Can | **You Cannot**

CATV Connection

■ With a Cable Box (Cable Box→VCR)
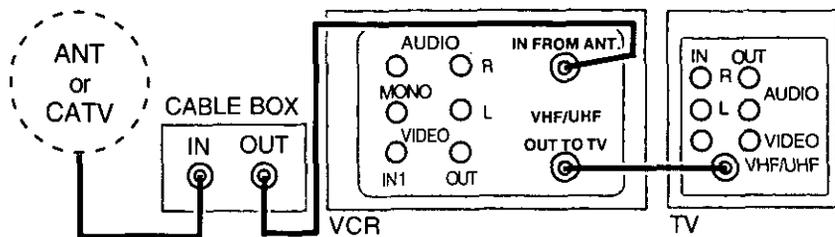
- record or view any (including scrambled) channel.

- use VCR Remote Control to select channels using Multi-brand control feature.

- view channel other than the one selected for any type of recording.

- do a Timer recording of a channel unless you select it at the cable box.

■ With a Cable Box (VCR→Cable Box)
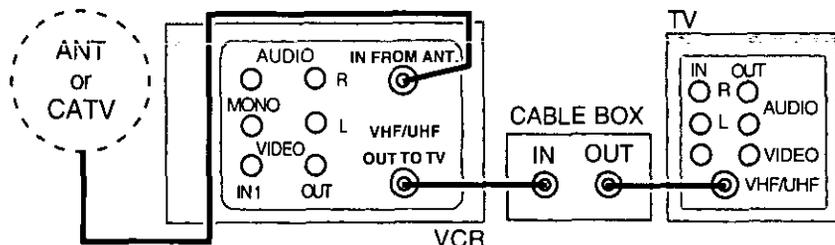
- view any (including scrambled) channel.

- use VCR Remote Control to select channels without using Multi-brand control feature.

- record scrambled channels.

■ With Two Cable Boxes
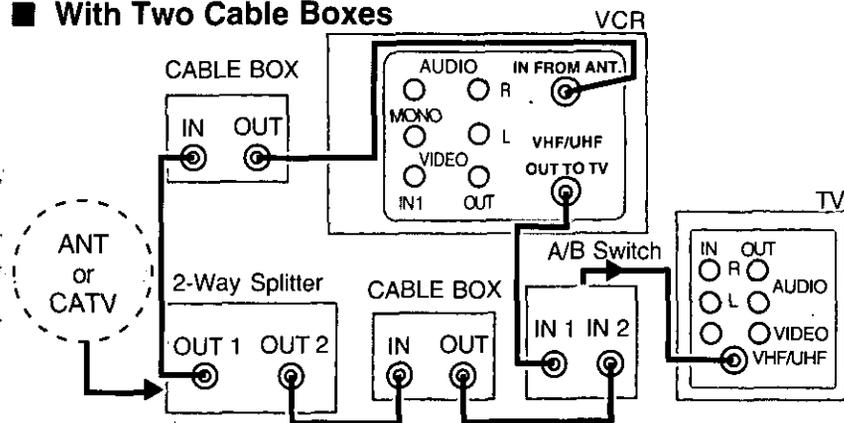
- record and view both scrambled and unscrambled channels if additional equipment is added. This connection requires: two converter boxes, an A/B switch, and a 2-way splitter.

- view channel other than the one selected for any type of recording.

- do a Timer recording of a channel unless you select it at the cable box.

DSS Connection
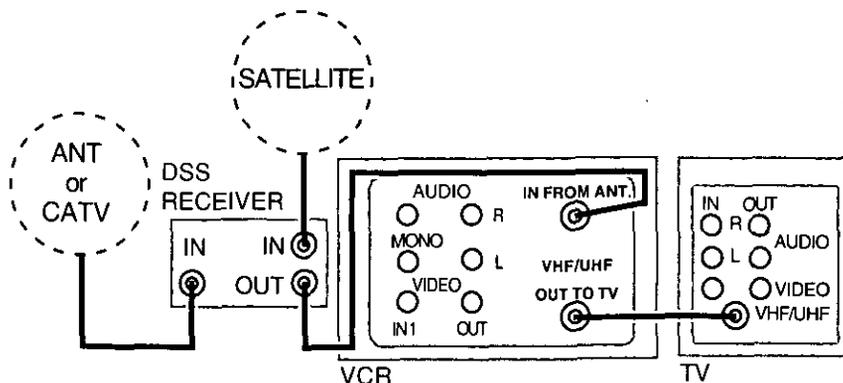
- record and view any (including scrambled) channel.

- use your VCR Remote Control to select channels using Multi-brand control feature.

- view channel other than the one selected for any type of recording.

- do a Timer recording of a channel unless you select it at the DSS box.

NOTE:
DSS receiver must be turned off to view cable box or antenna programs.

14

Copying Your Tapes (Dubbing)

Connections you'll need to make.

Playing (Source) VCR | Recording (Editing) VCR | TV for Monitoring

```
AUDIO    IN FROM ANT.              AUDIO    IN FROM ANT.
  O  O R    (◎)                      O  O R    (◎)                    AUDIO IN
MONO                                MONO                      VHF/       O
  O  O L   VHF/UHF                    O  O L   VHF/UHF        UHF    VIDEO IN
VIDEO      OUT TO TV                VIDEO      OUT TO TV        (◎)      O
  O  O     (◎)                        O  O     (◎)
 IN 1 OUT                           IN 1  OUT
```

or

```
VIDEO IN 2   L/MONO-AUDIO IN 2-R
   O          O          O
```

Front of VCR

Playing (Source) VCR	Recording (Editing) VCR

1 Insert pre-recorded tape. | Insert blank tape with record tab.

2 ———————— | **Select LINE mode.** Press INPUT. (See "Selecting the Input Mode" below.)

3 PLAY and PAUSE SLOW — **Put in Standby mode.** Press PLAY, then PAUSE/SLOW at starting point. | REC and PAUSE SLOW — **Put in Standby mode.** Press REC, then PAUSE/SLOW immediately.

4 PLAY — **Start dubbing.** Press PLAY. | PAUSE SLOW — **Start dubbing.** Press PAUSE/SLOW.

5 STOP — **Stop dubbing.** Press STOP. | STOP — **Stop dubbing.** Press STOP.

■ To Monitor Dubbing on Your TV

1 Turn your TV on and tune to the Recording VCR channel (CH3 or CH4).

2 Set the VCR/ TV Selector on the Recording VCR to "VCR."

Note Dubbing tapes protected with Copy Guard will have poor quality results.

■ Selecting the Input Mode

Method1: Press INPUT.
  Channel Number <--> LINE1 <--> LINE2
Method2: Press CH ▲/▼. Display will change as below.

```
    ──►1◄─►2◄─►3◄─
   (           (CABLE) (TV)      )
    ►LINE2◄─►LINE1◄─►125 or 69◄─
```
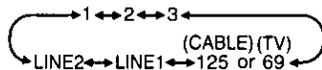
• "L1" or "L2" lights on Multi-Function Display (about 4 sec.) when LINE1 or LINE2 is selected.
• LINE1: For rear audio/video connection.
  LINE2: For front audio/video connection.

Caution: Unauthorized exchanging and/or copying of copyrighted recordings may be copyright infringement.

15

Advanced Connections/ Copying Your Tapes (Dubbing)

Timer Recording

You can set up to 8 programs to be recorded while you are away.

1

Display SET PROGRAM.

Press PROG/ VCR+.*

2

```
        SET PROGRAM

VCR Plus+ PROGRAMMING
TIMER PROGRAMMING

SELECT:▲ ▼ KEY
SET    :► KEY
END    :PROG KEY
```

- You may not use the VCR buttons on "SET PROGRAM" screen.
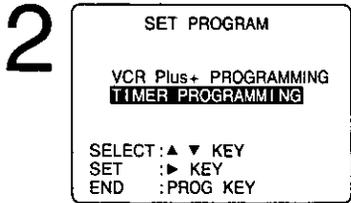
Display Program screen.
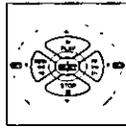
1) Press ▲▼ to select TIMER PROGRAMMING.
2) Press ► to display.
- If a program is already in memory, press ▲▼ and ► to select an unused program number.

3

```
DATE / START   STOP   CH
8 SAT --:-- --:--  --
TODAY
CATEGORY:N/A          SLP

SELECT START DATE
SELECT:▲ ▼ KEY
SET   :► KEY
```

Example
Today—7
```
┌8—9·······31— 1 — 2······6┐
  SELECT▲/▼ Selection Order   DAILY
└ WEEKLY ······WEEKLY __ WEEKLY ┘
   (SAT)      (MON)     (SUN)
```

Set the recording DATE.
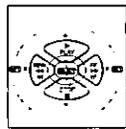
1) Press ▲▼ to select.
2) Press ► or ◄ to set.
- 1~31 = One time
- DAILY = MON~FRI
- WEEKLY = Same time once a week

Repeat step 3 to set:
start time, stop time Channel (or LINE for outside source), Category**, tape speed (SP, LP, SLP).

4

```
DATE   START   STOP   CH
8 SAT 10:00P 12:00P  02
TODAY                 ABC
CATEGORY:MOVIE        SP

SET COMPLETED
WISH TO MAKE NOTES :▲ KEY
SET  .  :◄ ► KEY
```

```
DATE   START   STOP   CH
8 SAT 10:00P 12:00P  02
TODAY                 ABC
CATEGORY:MOVIE        SP
NOTES:█---------------
MAKE NOTES
SELECT:▲ ▼ KEY
SET   :► KEY
END   :PROG/ACTION KEY
```

Make the notes.
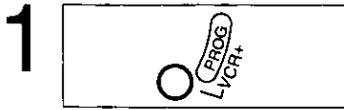- If not wanted, go to step 5.
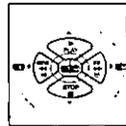
1) Press ▲ to begin.
2) Press ▲▼ to select.
3) Press ► to set.
- Characters will change in the following order.

```
┌─A↔B↔C◄·····Z↔BLANK↔─ ↔&─┐
└─────9◄·····2↔1↔0↔/↔!◄──┘
```
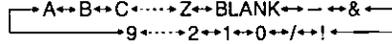
4) Press PROG/ VCR+ (or ACTION) to end.

5

```
P DT START  STOP  CH SPD
1  8 10:00P 12:00P 02  SP
2 -- --:-- --:-- -- --
3 -- --:-- --:-- -- --
4 -- --:-- --:-- -- --

CANCEL:ADD/DLT KEY
SELECT 1-8:▲ ▼ KEY
```

If you use DSS receiver and enter a channel number of 100~125, select "DSS" or CABLE.

```
IS IT CABLE OR DSS
RECEIVER?

DSS
CABLE

SELECT:▲ ▼ KEY
SET   :► KEY
```
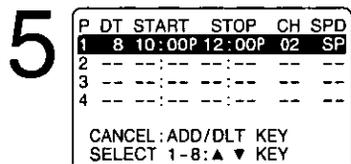
End the program.

Press PROG/ VCR+ (or ACTION).
- If start time of programs overlap, these programs will flash.
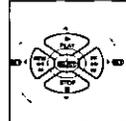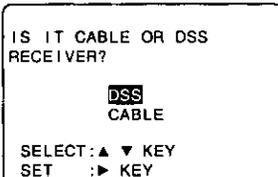
1) Press ▲▼ to select.
2) Press ► to enter.

- The confirmation screen appears above left after this selection.

To Enter More Programs
Press ▲▼ to select, and ► to display a blank program number. Then repeat steps 3 and 4.

---

7 POWER

SELECT/
2 SET
   ▲ :PLAY
5 ▼ :STOP
   ◄ :REW
   ► :FF

1 PROG/
  VCR+

4 ACTION
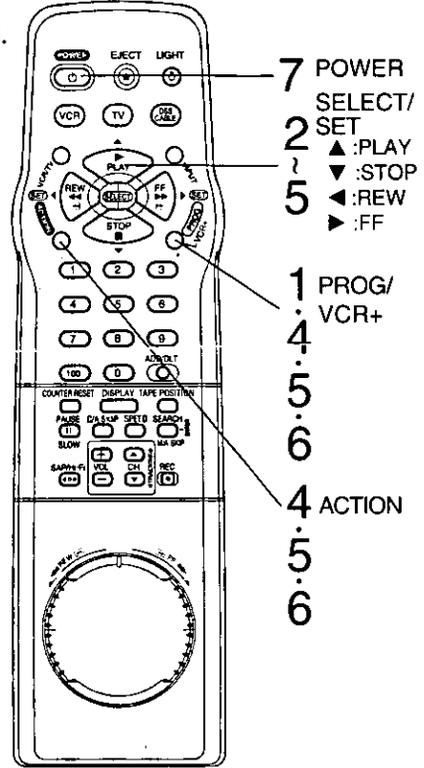
** Category Items
N/A(not applicable), SPORTS, MOVIE, COMEDY, MUSIC, DRAMA

Timer Recording Using VCR Buttons.

Using ▲▼◄► keys

You can also operate the menu screen using VCR buttons.

When menu screens are displayed, the PLAY, STOP, REWIND, and FF buttons on the VCR and remote function as ▲▼◄ ► only with no tape inserted.

On Remote	On VCR

▲ : PLAY
▼ : STOP
◄ : REW
► : FF

To display menu using VCR buttons, press CH ▲ and CH ▼ together.

To exit the menu, repeat above.

For assistance, call 1-800-211-PANA(7262).

6

Exit program mode.
Press PROG/ VCR+
(or ACTION).

7

Set timer.
Press POWER off.
- When recording programs via a cable box, make sure the cable box is left ON and tuned to the desired channel.

TIMER

Multi Function Display

You can also display Program screen from MENU

1) Press ACTION to display MENU.
  • You can also set up using VCR buttons. See the bottom right of the page 16.
2) Press ▲▼ and ► to select and set SET UP FEATURE.
3) Press ▲▼ to select TIMER PROGRAMMING and press ► to display Program screen.
4) Go to step 3 on the page 16.

Important notes when using a DSS receiver
- When recording programs via a DSS receiver, the DSS receiver must be left on.
- When recording programs via an antenna or cable, the DSS receiver must be turned off.

Review, Replace or Clear Program Contents:
(Recording is not in progress)

a Repeat steps 1~2 on page 16.

b

P	DT	START	STOP	CH	SPD
1	DAY	9:00A	12:00A	08	SP
2	8	10:00P	12:00P	02	SP
3	10	8:00P	9:00P	10	SP
4	SU	9:00P	10:00P	L1	LP

CANCEL : ADD/DLT KEY
SELECT 1-8:▲ ▼ KEY
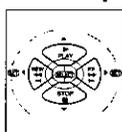
Select program.
1) Press ▲▼ to select number.

C To Replace program...

DATE	/ START	STOP	CH
8 SAT	10:00P	12:00P	02

TODAY   ABC
CATEGORY:MOVIE   SP
NOTES:STAND BY ME
SELECT START DATE
SELECT :▲ ▼ KEY
SET   :◄ ► KEY
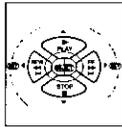
1) Press ► to display.
2) Press ▲▼ ◄► to set new program contents.

or

To Clear program...

P	DT	START	STOP	CH	SPD
1	--	--:--	--:--	--	--
2	8	10:00P	12:00P	02	SP
3	10	8:00P	9:00P	10	SP
4	SU	9:00P	10:00P	L1	LP

SELECT 1-8:▲ ▼ KEY
ENTER :► KEY

ADD/DLT

1) Press ADD/DLT.

---

d
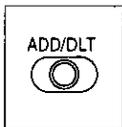
End the program.
1) Press PROG/ VCR+ (or ACTION).
• If there are programs, press POWER off.

To cancel Timer Recording (Recording is in progress)

Press POWER and then STOP within 10 seconds to cancel the Timer recording. ("TIMER" goes out on Multi Function Display.)

To review program contents on the VCR
Timer Recording is not in progress
Press PROG/ VCR+ in Power off mode.
Every time that button is pressed, the program contents are indicated in turn on the Multi Function Display.

Timer Recording is in progress
Press PROG/ VCR+. The program content which advances at present is indicated on the Multi Function Display.

Multi Function Display

b SELECT/ SET
c ▲ :PLAY
▼ :STOP
◄ :REW
► :FF

d PROG/ VCR+

d ACTION

C ADD/ DELETE

Timer Recording

Auto VCR Plus+ System Channel Setup (Part 1)

In order for VCR to read PlusCode, some set up is required. Guide (VCR Plus+) channel number is assigned to each local broadcast and cable station. Because this number sometimes differs from channel TV receives station on, it is necessary to program the VCR with local channel information. To receive VCR Plus+ channels automatically, perform the steps below.
Or, see "Manual VCR Plus+ System Channel Setup" section on page 20.

1

Display MENU.
Press ACTION.*

2

```
         MENU
SET UP VCR
SET UP FEATURE
SET CLOCK
SET UP CHANNEL
IDIOMA/LANGUE:ENGLISH
VCR'S OUTPUT CH:3
SELECT:▲ ▼ KEY
SET    :▶ KEY
```

Display SET UP CHANNEL.
1) Press ▲▼ to select.
2) Press ▶ to display.

3
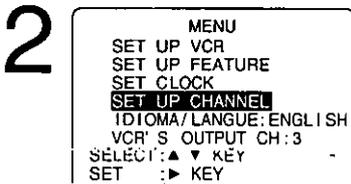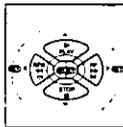
```
     SET UP CHANNEL
ANTENNA : CABLE
AUTO SET
CHANNEL CAPTION
WEAK SIGNAL DISPLAY :OFF
CABLE/DSS BOX SET UP
VCR Plus+ CH SET UP
SELECT:▲ ▼ KEY
SET    :▶ KEY
END    :ACTION KEY
```
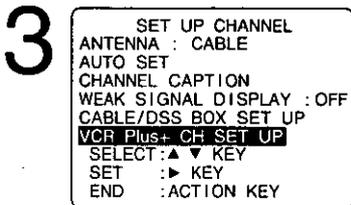
Display VCR Plus+ CH SET UP.
1) Press ▲▼ to select.
2) Press ▶ to display.

4
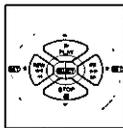
```
VCR Plus+ CH SET UP

AUTO SET
MANUAL SET


SELECT:▲ ▼ KEY
SET    :▶ KEY
```
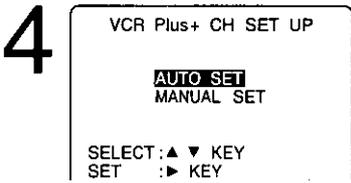
Select AUTO SET.
1) Press ▲▼ to select.
2) Press ▶ to set.

5

```
VCR Plus+ CH SET UP

PLEASE ENTER ZIP CODE

ZIP CODE: ▉----

SELECT:▲ ▼ KEY
SET    :▶ KEY
END    :ACTION KEY
```
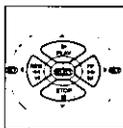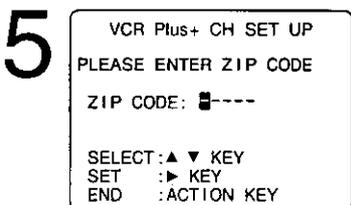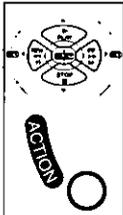
Enter Zip Code.
1) Press ▲▼ ◄► to select and enter each number.
2) Press ▶ or ACTION to set.
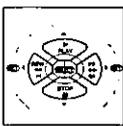
6

```
PLEASE SELECT HOW OFTEN
TO UPDATE

RIGHT NOW
EVERY NIGHT
EVERY MONDAY NIGHT
```

Select When to Update.
1) Press ▲▼ to select.
2) Press ▶ to set.
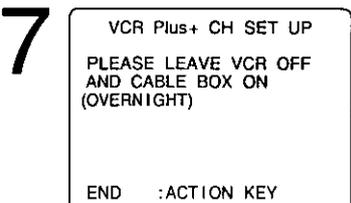
7

```
VCR Plus+ CH SET UP

PLEASE LEAVE VCR OFF
AND CABLE BOX ON
(OVERNIGHT)



END    :ACTION KEY
```

End setup.
Press ACTION.

• Make sure to leave VCR off (overnight.) If controllable, leave your cable box on.

VCR Plus+ System is ...
a feature that allows you to set **most items** of a timer recording by simply entering a special code number (PlusCode programming number) found in TV GUIDE and selected newspaper TV listings.

Process of Recording

Setup ⇒ **Programming**

Important Note
• "One Time VCR Setup" on pages 6~11 must be completed before "Auto VCR Plus+ System Channel Setup" can be done.
If any part of setup is incomplete, a warning screen appears.
• If your VCR connection type changes from type A to B, on page 6, perform "To Setup VCR in Case a Cable Box or DSS Receiver was Installed or Replaced" section on page 10 before proceeding with these steps.
• Complete this page only if type B connection (see page 6.) is used.
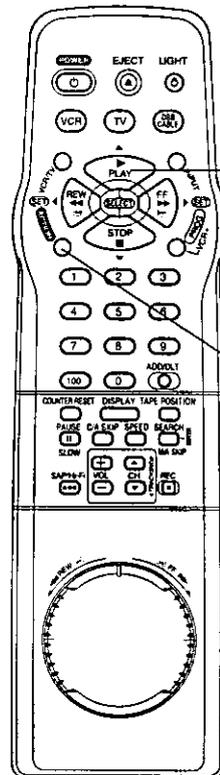
2 SELECT/ SET
6 ▲ :PLAY
  ▼ :STOP
  ◄ :REW
  ► :FF

1 ACTION
5
7

Notes
• Make each entry within 5 minutes or VCR will leave this mode.
• Once local channels have been programmed, they will stay in memory, even in the case of a power failure.
• "ALL SET" will flash on Multi Function Display during Auto VCR Plus+ System Setup.
• If the start time for a timer recording comes up during Auto VCR Plus+ System Setup, the timer recording will have priority.

Auto VCR Plus+ System Channel Setup (Part 2)

Process of Recording

Setup ⇒ Programming

Before you perform the following steps, you should have:
• completed "Auto VCR Plus+ System Channel Setup (Part 1)" on page 18.
• left VCR off overnight, and turned it back on after 9:00 AM the next day.

1

If channel updating was successful...	If VCR could not distinguish channel map...
VCR Plus+ CH SET UP VCR Plus+ CH SET COMPLETED END :ACTION KEY	VCR Plus+ CH SET UP PLEASE SELECT VCR Plus+ CHANNEL NEXT :ACTION KEY
Exit this mode. Press ACTION.	**Display SELECT VCR Plus+ CH.** 1) Press ACTION to display. 2) Continue with step 2.
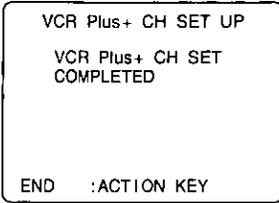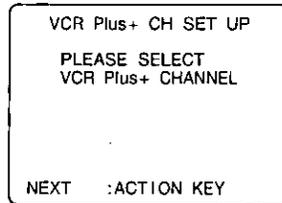
2

SELECT VCR Plus+ CH
KMEX KCAL KWHY KVCR ▶
12   13   14   15
51   42   18   33
1   5   10   7
101   99   110   78
-------------------- ▼
SELECT:▲ ▼ ▶ KEY
SET   :ADD/DLT KEY
END   :ACTION KEY
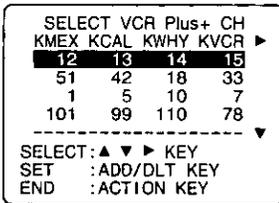
Select channel map for your area.
1) Press ▲▼ ◀▶ to select.
2) Press ADD/ DLT to set.
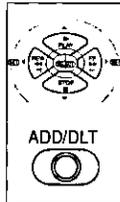
3
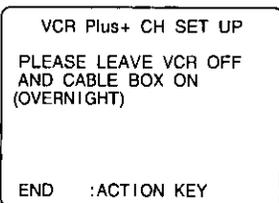
VCR Plus+ CH SET UP

PLEASE LEAVE VCR OFF
AND CABLE BOX ON
(OVERNIGHT)

END   :ACTION KEY

End Setup.
Press ACTION.

• Make sure to leave VCR off (overnight.) If controllable, leave your cable box on.

Channel map will be updated overnight.
If it was successful, "VCR Plus+ CH SET COMPLETED" appears on screen. And then, press ACTION to exit.

Repeat these steps as necessary.

If Auto Setup fails, do "Manual VCR Plus+ System Channel Setup" on page 20.
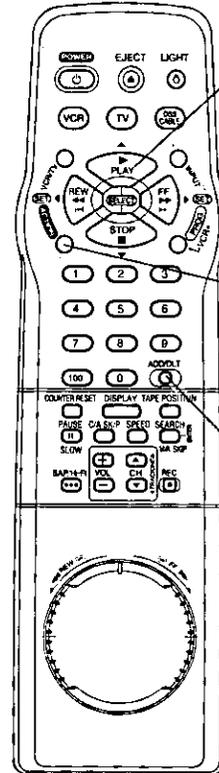
2 SELECT/ SET
   ▲ :PLAY
   ▼ :STOP
   ◀ :REW
   ▶ :FF

1 ACTION

3

2 ADD/ DELETE

Timer Recording Using VCR Plus+ System

To Change or Update Auto VCR Plus+ System Channel Setup

(E.g. you selected wrong channel map or zip code.)

a Do "Auto VCR Plus+ System Channel Setup (Part 1)" steps 1~4 on page 18.

VCR Plus+ CH SET UP

UPDATE VCR Plus+ CH
SELECT VCR Plus+ CH

SELECT :▲ ▼ KEY
SET   :▶ KEY
END   :ACTION KEY
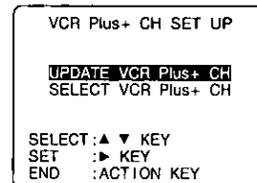
b Press ▲▼ to select UPDATE VCR Plus+ or SELECT VCR Plus+ CH, then press ▶.

c If you selected UPDATE VCR Plus+ CH, perform steps 5~7 in the "Auto VCR Plus+ System Channel Setup (Part 1)" section on page 18.

If you selected SELECT VCR Plus+ CH, perform steps 2~3 in the "Auto VCR Plus+ System Channel Setup (Part 2)" section on this page.

19

Manual VCR Plus+ System Channel Setup

- Before you begin, complete "Channel Setup Preparations" below right.

Important Note
- If your VCR connection type changes from type A to B, on page 6, perform "To Setup VCR in Case a Cable Box or DSS Receiver was Installed or Replaced" section on page 10 before proceeding with these steps.

1 Do "Auto VCR Plus+ System Channel Setup (Part 1)," steps 1~3 on page 18.

2

```
VCR Plus+ CH SET UP

   AUTO SET
   MANUAL SET

SELECT:▲ ▼ KEY
SET    :► KEY
END    :ACTION KEY
```
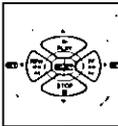
Select MANUAL SET.
1) Press ▲▼ to select.
2) Press ► to set.

IMPORTANT NOTE:
For step 3, use the list you prepared. You may leave lines blank if you don't receive that station, or if the GUIDE CH number and the RECEIVE CH numbers are the same.

3

```
VCR Plus+ CH SET UP

 GUIDE CH   RECEIVE CH

 ► 01          --
   02          --

SELECT:▲ ▼ KEY
SET    :► KEY
END    :ACTION KEY
```

Select VCR Plus+ channels.
1) Press ► to move cursor to right column.
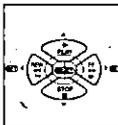
2) Press ▲▼ to change RECEIVE CH number.

```
VCR Plus+ CH SET UP

 GUIDE CH   RECEIVE CH

  ► 01         ▣
    02         --

SELECT:▲ ▼ KEY
SET    :◄ KEY
END    :ACTION KEY
```

3) Press ◄ to set.
4) Press ▲▼ to scroll up/down GUIDE CH column.

- Repeat step 3 until list is complete.

To make corrections,
Press ▲▼ and ► to move to error, then ▲▼ to change, or ADD/DLT* to erase number.

4

End setup.
Press ACTION three times.

Notes
- Make each entry within 5 minutes or the VCR will exit this mode.
- Once local channels have been programmed, they will stay in memory, even in the case of a power failure.

Process of Recording

Setup ⇒ **Programming**

2 SELECT/
  SET
3 ▲ :PLAY
  ▼ :STOP
  ◄ :REW
  ► :FF

4 ACTION

3 ADD/
  DELETE
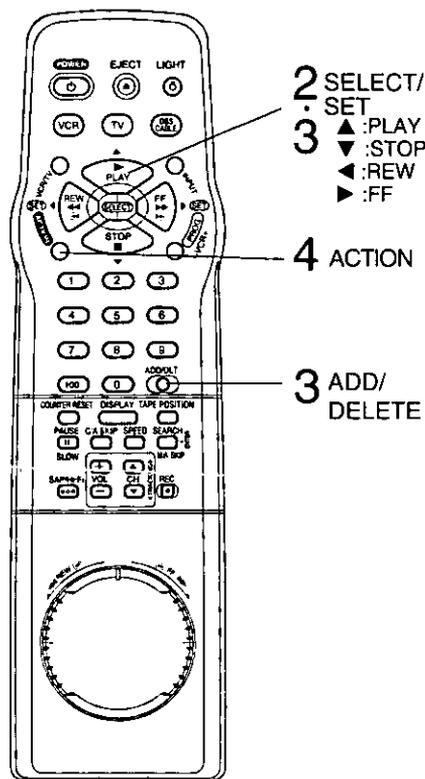
Channel Setup Preparations

In order to complete step 3 left, make a local channel list (see example below).

You will need the following:
- A line up of normal TV and/ or Cable or DSS (when DSS receiver is connected only.) stations and the channel number you receive them on.
- A list of Guide (PlusCode) channel numbers for the stations you receive found in TV Guide and selected newspapers.

1 Make a 3-column chart. In the left column, write the name of all the stations you receive.

2 In the middle column, write each station's Guide (PlusCode) number from TV Guide.

3 In the right column, write the channel number your TV receives the station on.

EXAMPLE ONLY

Broadcast or Cable Station Name	Assigned Guide (PlusCode) channel no.	Channel no. your TV receives the station on
HBO	33	15
Nickelodeon	38	20
CBS	04	04
FOX	11	

☑ **Check list before you begin.**

☐ The clock is set.
☐ VCR Plus+ System Setup is complete (see pages 18~20).

Process of Recording

| Setup | ⇒ | Programming |

VCR Plus+ System Programing

1

Display SET PROGRAMMING.
Press PROG/ VCR+.*

2

```
    SET PROGRAM

VCR Plus+ PROGRAMMING
TIMER PROGRAMMING


SELECT:▲ ▼ KEY
SET    :► KEY
END    :PROG KEY
```

Display VCR Plus+ screen.

1) Press ▲▼ to select.
2) Press ► to display.

3

```
  VCR Plus+ SYSTEM

ENTER PLUSCODE NUMBER
      \ | /
      - - -
      / | \
  USING 0-9 KEYS
```

Enter PlusCode programming number.

1) Press Numbered keys.
2) Press PROG/ VCR+ to lock in the program.

To make corrections,
press ◄ repeatedly to delete the PlusCode programming number.

```
  VCR Plus+ SYSTEM

ONCE
DAILY(MON-FRI)
WEEKLY


SELECT:▲ ▼ KEY
SET    :► KEY
END    :PROG KEY
```

Enter record frequency.

1) Press ▲▼ to select program type.
2) Press ► to set.

4

```
DATE   START  STOP   CH
8 SAT 10:00P 12:00P  02
TODAY    \ | /       ABC
CATEGORY:N/A         SP
--------/ | \--------
SELECT CATEGORY
SELECT:▲ ▼ KEY
SET    :◄ ► KEY
END    :PROG/ACTION KEY
```

Select Category.**

1) Press ▲▼ to change.
2) Press ► to set.

Change record speed.
Repeat 1) and 2).

5 **Make notes. ----> Do step 4 on page 16.**
• If not wanted, go to step 6.

6 **End programming. ----> Do steps 5 and 6 on page 16.**

7

POWER

Set timer.
Press Power off.

T I M E R

Multi Function Display

7 POWER

2 SELECT/ SET
3 ▲ :PLAY
  ▼ :STOP
4 ◄ :REW
  ► :FF

1 PROG/ VCR+
3
6

6 ACTION

3 NUMBERED keys

ADD/ DELETE

** Category Items
N/A(not applicable), SPORTS, MOVIE, COMEDY, MUSIC, DRAMA

Use normal Timer Recording steps if:
• the PlusCode programming number for a program is not listed.
• you anticipate the program, such as a sporting event, to run over the scheduled stop time.

See page 17 to:
• cancel a timer recording in progress.
• replace program contents.
• review or clear program contents once set.

Important notes for DSS/Cable Box users
• When recording via DSS, the receiver, must be left on.
• When recording via cable or antenna, DSS receiver must be off.

Notes
• Avoid overlapping program times.
• You can obtain unlisted PlusCode numbers by calling 1 - 900 - 454 - 7587. Call costs approximately $.95 per minute.

Timer Recording Using VCR Plus+ System

21

Multi-Brand Control Feature

The Remote Control may be set up to control some TV or Cable/DSS Box functions.

Multi-Brand Control Setup

1 **Find your TV, Cable or DSS Receiver Brand Code Number on following page.**

2

Setup for TV
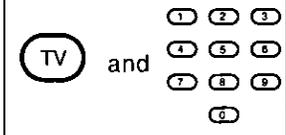
Setup remote.

Hold down TV and enter code with NUMBERED keys.

Setup for Cable or DSS
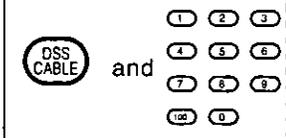
Hold down DSS/CABLE and enter code with NUMBERED keys.

• For code 100 or greater, press the 100 key first, then remaining digit. E.g. for 102, press 100, then press 0, and then press 2.

3
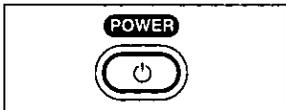
Confirm code entry.

Press POWER to turn selected unit on or off.

• See table below for list of controllable functions in each mode.

Notes
• Please repeat Multi-Brand Control setup after replacing remote control batteries.

• The remote control will not operate all TVs, Cable Boxes, and DSS receivers made by manufacturers listed. If you get no results, your particular brand cannot be controlled.

3 POWER

2 TV or DSS/ CABLE

2 NUMBERED keys
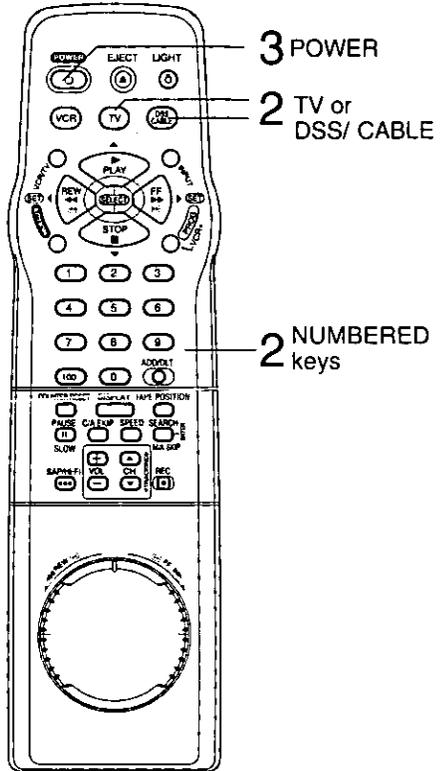
Using the Multi-Brand Control

After remote control is setup, you can select VCR, TV, or DSS/CABLE for the desired function.

Press VCR or TV or DSS/CABLE on the remote control.
This table shows which buttons are available for each mode.

Mode \ Available Buttons	VCR	TV	CABLE/ DSS
VCR	All Functions	VOL UP/DOWN	————
TV	VCR/TV,PLAY,STOP EJECT,SAP/Hi-Fi, DISPLAY,FF,REW, PAUSE/SLOW,REC, SPEED,COUNTER RESET TAPE POSITION,C/A SKIP	POWER, INPUT, NUMBERED keys, ENTER, CH UP/ DOWN, VOL UP/DOWN	————
CABLE/ DSS	VCR/TV,PLAY,STOP EJECT,SAP/Hi-Fi, DISPLAY,FF,REW, PAUSE/SLOW,REC, SPEED,COUNTER RESET TAPE POSITION,C/A SKIP	VOL UP/ DOWN	POWER, ENTER, NUMBERED keys (except 100key), CH UP/ DOWN

Note In TV or DSS/ CABLE mode, it may be necessary to press ENTER after pressing NUMBERED keys for channel selection.

TV Brand Code Numbers

Panasonic	01, 02	Sylvania	05	JVC	11
Quasar	01, 02	Sharp	06, 07	Hitachi	12
RCA	03	Sony	08	Mitsubishi	07, 13
GE	03	Toshiba	09	Samsung	14
Zenith	04	Sanyo	10	Gold Star	15, 16, 17
Magnavox	05	Fisher	10		

Cable Box Brand Code Numbers

Archer	44, 06, 01, 120, 05, 63, 126
Cableview	29, 09, 01, 63, 120, 44, 42, 30, 52, 04, 124, 126
Citizen	44, 52, 30, 63, 42, 04, 124, 126
Curtis	08, 09, 25, 61, 53, 87
Century	44, 51, 75, 59, 126
Cabletenna	29, 09, 01, 63, 120, 44, 126
Cable Cinema	29, 09, 01, 63, 120, 44, 126
Diamond	29, 09, 01, 63, 120, 44, 126
Eagle	62, 40, 22, 13, 58, 20, 26, 107
Eastern	28, 29, 130
Explorer	08, 09, 25, 61, 53, 87
Gemini	30, 04, 124
General Electric	01, 57, 120
General Instruments	01, 84, 83, 34, 03, 02, 04, 55, 65, 66, 67, 68, 120, 106, 121, 122, 115, 117, 118, 124
Gerrard	44, 51, 75, 59
GC Electronics	44, 42, 63, 29, 30, 52, 04, 124, 126
Hamlin	41, 14, 15, 28, 102, 104, 103, 130
Hitachi	31
Jerrold	01, 84, 83, 34, 03, 02, 04, 55, 65, 66, 67, 68, 120, 106, 121, 122, 115, 117, 118, 124
Jasco	30, 04, 124
Macom	31
Magnavox	26, 112
Matsushita	17, 16, 08, 87, 109
Movietime	32, 39, 42, 44, 126, 38, 40
Maestro	74, 35
NEC	40, 19, 38, 32
NSC	40, 19, 38, 32
Novavision	08, 09, 25, 61, 53, 87
Next Level	01, 84, 83, 34, 03, 02, 04, 55, 65, 66, 67, 68, 120, 106, 121, 122
Oak	46, 11, 129, 101
Oak Sigma	46, 11, 129, 101
Panasonic	17, 16, 08, 87, 109
Philips	23, 24, 20, 13, 07, 50, 128, 129
Pioneer	06, 05, 12
Pulsar	04, 42, 63, 44, 30, 52, 124, 126
Quest	06, 05, 12
Radio Shack	44, 51, 75, 59, 126
RCA	17, 16, 08, 87, 109
Realistic	44, 51, 75, 59, 126
Recoton	44, 51, 75, 59, 126
Regal	41, 14, 15, 28, 102, 104, 103, 130
Regency	28, 29, 130
Rembrandt	44, 42, 63, 29, 01, 32, 39, 120, 126
Samsung	42, 06, 32, 05, 40
Scientific Atlanta	08, 09, 25, 61, 53, 87
Sheritech	27
Signal	26, 112
SL Marx	42, 06, 32, 40, 43, 44, 52, 63, 126
Sprucer	17, 16, 08, 87, 109
Standard Components	32, 39, 42, 44, 126
Stargate	04, 42, 32, 40, 63, 44, 30, 52, 06, 124, 126
Sylvania	19, 18
Teknika	74, 35
Telecaption	77, 127
Teleview	40, 19, 38, 32, 42, 06
Texscan	19, 18
Tocom	34, 33, 01, 42, 66, 120
Toshiba	36
Unika	44, 42, 63, 29, 01, 126, 120
Universal	52, 43, 44, 63, 42, 126
Viewstar	62, 40, 22, 13, 58, 20, 26, 107
Videoway	07, 23, 50, 129
Vidtek	64
Zenith	07, 23, 50, 129

DSS Brand Code Numbers

Toshiba	90	Optimus	94, 95
Hitachi/ Hughes	91, 99	Panasonic	96
Primestar	92	ProScan	97
Drake	93	RCA	97
Magnavox	94, 95	SONY	98, 105
Uniden	94, 95		

Important Notes

- Due to changes in infra-red commands used by manufacturers, some brands have several codes. If your unit does not respond to the first code, please try the next one.
- Some TV, Cable Box and DSS Box brands require you to turn on the power manually.
- Not all functions listed may be controlled by this remote control.

Multi-Brand Control Feature

Tape Operation

COMMERCIAL▸▸*ADVANCE*®

COMMERCIAL▸▸*ADVANCE*® detects and marks the beginning and end points of commercials on your tape for recordings over 15 minutes in length. When COMMERCIAL▸▸*ADVANCE*® marked tape is played back, the VCR automatically advances through the commercial segments at high speed. You can also set this feature to Manual so as to have more control over the advance process. The effectiveness of this system can vary due to differences in the way television stations broadcast. See page 26 for answers to the most commonly asked questions about this feature.

☑ Check list before you begin.
☐ All connections are made.
☐ One time Setup completed.
☐ VCR is plugged in.
☐ TV is turned on and set to CH3, 4 or Video on TV.

COMMERCIAL▸▸*ADVANCE*® Marking

When C/A RECORD: ON, VCR automatically rewinds the tape after a recording has been made and marks the beginning and end of any detected commercial blocks. After marking is done, the tape is returned to the end of recording. Commercials are not erased from the tape.
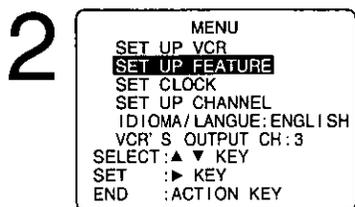
1
Display MENU.
Press ACTION.*

2

```
        MENU
SET UP VCR
SET UP FEATURE
SET CLOCK
SET UP CHANNEL
 IDIOMA/LANGUE:ENGLISH
VCR'S OUTPUT CH:3
SELECT:▲ ▼ KEY
SET    :▶ KEY
END    :ACTION KEY
```

Display SET UP FEATURE.
1) Press ▲▼ to select.
2) Press ▶ to display.

3

```
     SET UP FEATURE
TIMER PROGRAMMING
SET UP COMMERCIAL ADV.


SELECT:▲ ▼ KEY
SET    :▶ KEY
END    :ACTION KEY
```

Display SET UP COMMERCIAL ADV.
1) Press ▲▼ to select.
2) Press ▶ to display.

4

```
SET UP COMMERCIAL ADV.
C/A RECORD    : ON
C/A PLAYBACK  : AUTO


SELECT:▲ ▼ KEY
SET    :▶ KEY
END    :ACTION KEY
```
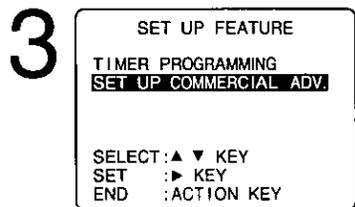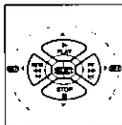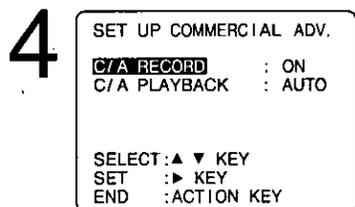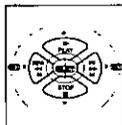
Set ON or OFF.
1) Press ▲▼ to select.
2) Press ▶ to set.
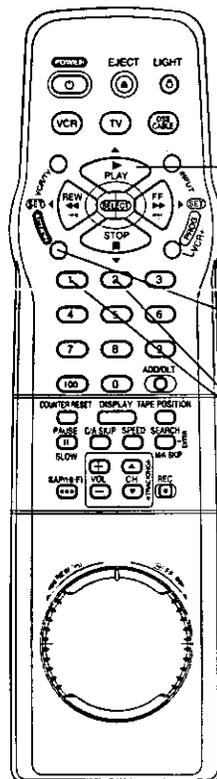
2 SELECT/ SET
3 ▲ :PLAY
▼ :STOP
4 ▶ :FF

1 ACTION

5 NUMBERED keys

Note
• When using the timer to record two adjacent shows on the same channel, better accuracy can be obtained by programming each shows separately.

ON Timer, VCR Plus+ System, and One Touch recordings are marked automatically.

```
THE VCR IS WAITING TO
MARK COMMERCIALS IN THE
PROGRAM YOU RECORDED.


MARKING
NOW    : PUSH 1 KEY
LATER  : PUSH 2 KEY
CANCEL : PUSH ACTION KEY
```

When STOP is pressed during normal recording, Select One of a) or b) or c).
a) Press 1 key to mark the recording <u>now</u>.
   "NOW MARKING COMMERCIALS" appears.
b) Press 2 key to mark the recording <u>later</u> (after the power has been turned off).
• If the tape is rewound and another recording started before the power is turned off, commercials may not be marked correctly.
c) Press ACTION to <u>cancel</u> the marking of this recording.

OFF The VCR will not mark commercials.
When you are editing or dubbing a tape, or when you do not wish to use this feature, off should be selected.

5
Return to normal screen.
Press ACTION three times.

COMMERCIAL··*ADVANCE*® Playback

When playing back recording which have been marked using COMMERCIAL··*ADVANCE*® feature, you can either set VCR to automatically advance through marked commercial blocks, or set it so that commercials are only skipped on your command.

PLAY

FF

1 **Display MENU.**

Press ACTION.*

2

```
        MENU
SET UP VCR
SET UP FEATURE
SET CLOCK
SET UP CHANNEL
  IDIOMA/ LANGUE: ENGLISH
VCR' S OUTPUT CH :3
SELECT :▲ ▼ KEY
SET    :► KEY
END    :ACTION KEY
```

Display SET UP FEATURE.

1) Press ▲▼ to select.
2) Press ► to set.

3

```
     SET UP FEATURE

TIMER PROGRAMMING
SET UP COMMERCIAL ADV.



SELECT :▲ ▼ KEY
SET    :► KEY
END    :ACTION KEY
```

Display SET UP COMMERCIAL ADV.

1) Press ▲▼ to select.
2) Press ► to set.

2 SELECT/ SET
3 ▲ :PLAY
  ▼ :STOP
4 ► :FF

PLAY
FF

1 ACTION
5

4

```
SET UP COMMERCIAL ADV.

C/A RECORD      : ON
C/A PLAYBACK    : AUTO



SELECT :▲ ▼ KEY
SET    :► KEY
END    :ACTION KEY
```

Set AUTO or MANUAL.

1) Press ▲▼ to select.
2) Press ► to set.

C/A SKIP

AUTO VCR will automatically advance through marked commercial blocks recorded on the tape and then resume playback.

MANUAL VCR will advance through commercials only when C/A SKIP is pressed. Playback will resume when the end mark of a commercial block is found, or a new recording or blank portion is detected, or after 8 minutes.

COMMERCIAL··*ADVANCE*® is a registered trademark of SRT, Inc.
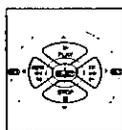A Jerry Iggulden invention licensed in association with Arthur D. Little Enterprises, Inc.
U.S.Pat. No. 5,333,091; 5,692,093; 5,696,866 other patents pending

5 **Return to normal screen.**

Press ACTION three times.

Notes
• The selection mode in step 4 remains set unless there is a power outage in which case the original factory setting will be restored.
• If playback is started in the middle of a commercial, only a single commercial is shown, or an individual commercial is longer than 1 minute, a commercial may not be skipped. Press FF to quickly advance through the commercial.
• Part of a recorded program may be skipped over if the program portion between commercials is less than one minute or there are frequent dark and quiet scenes during the program. To view the portion of tape being incorrectly skipped, press PLAY while the VCR is skipping, reverse the tape to a point just prior to where the skipping began and press PLAY again. This time the group will not be automatically skipped. Automatic skipping will be re-enabled when the end of the marked group is detected.

Tape Operation

Tape Operation (continued)

The most commonly asked questions about COMMERCIAL••ADVANCE* are answered below.

Question	Answer
How fast does the VCR advance through commercials?	The VCR advances through a 3-minute commercial block in about 8 to 12 seconds if the tape speed is SLP. In SP, it takes about 25 to 35 seconds.
Are commercials advanced through only when I playback a recording?	Yes. The commercials are not marked until after the recording is finished.
Are commercials still recorded on the tape in case I choose to view them sometime?	Yes. By setting the C/A PLAYBACK to MANUAL, see page 24, you can view or advance through commercials as desired.
Does COMMERCIAL••ADVANCE* work in all recording speeds?	Yes. COMMERCIAL••ADVANCE* works in SP, LP, and SLP.
Does the VCR advance through commercials each time I playback tapes which were recorded using COMMERCIAL••ADVANCE*?	Yes. As long as C/A PLAYBACK is set to AUTO, see page 24, the VCR should advance through commercials each time the tape is played back.
After marking commercials, does the VCR stop at the end of the tape, or rewind to the beginning?	The tape stops at the end of the recording so that any additional timer recordings can be performed.
Can I play my COMMERCIAL••ADVANCE* recordings in non-COMMERCIAL••ADVANCE* VCRs?	Yes. COMMERCIAL••ADVANCE* marked recordings will play in non-COMMERCIAL••ADVANCE* VCRs, but commercials will not be advanced through.
Does the marking process interfere with other programmed recordings?	No. If the interval between 2 or more timer programs is not sufficient to mark the recording, marking will be done after all recordings are complete and the power goes off.
What happens if I cancel the marking in progress so I can use the VCR?	Marking will be resumed when the VCR's power is turned off as long as the tape has not been ejected.
What if part of my program is advanced through along with the commercials?	Please see the 3rd note on page 25.

Additional Notes:

• Because of the various ways in which commercials are broadcast, the VCR may not be able to recognize all commercials.

• If a timer recording is scheduled for the middle of the night, please be aware that the VCR will make some noise as it rewinds and fast forwards the tape while marking commercials.

For assistance, call 1-800-211-PANA(7262).

MOVIE **ADVANCE**®

MOVIE**ADVANCE**® helps you locate certain parts of prerecorded movies (rented or purchased).
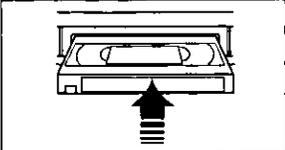The feature works in two ways.
• You can go to the beginning of the movie.
• You can skip from one preview to the next.

MOVIE**ADVANCE**® works only on cassette recorded in SP speed with the record tab removed.
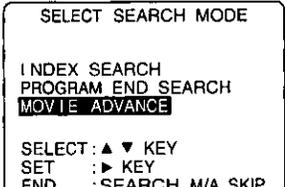
1 **Insert a cassette without record tab.**

2 | SEARCH / M/A SKIP | **Display "SELECT SEARCH MODE."**
1) Press SEARCH/ M/A SKIP.*

• If you inserted a cassette with the record tab or if you selected "INDEX SEARCH" go to page 29.

3
```
SELECT SEARCH MODE

INDEX SEARCH
PROGRAM END SEARCH
MOVIE ADVANCE

SELECT:▲ ▼ KEY
SET    :▶ KEY
END    :SEARCH M/A SKIP
```
Display MOVIE ADVANCE.
1) Press ▲▼ to select.
2) Press ▶ to set.
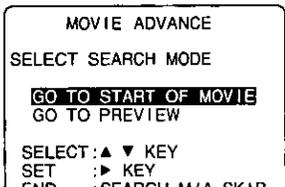
4
```
MOVIE ADVANCE
SELECT SEARCH MODE

GO TO START OF MOVIE
GO TO PREVIEW

SELECT:▲ ▼ KEY
SET    :▶ KEY
END    :SEARCH M/A SKIP
```
Select GO TO START OF MOVIE or GO TO PREVIEW.
Press ▲▼ to select.

Select "GO TO START OF MOVIE," if you want to advance directly to beginning of the movie.
--> continue with step 5.
Select "GO TO PREVIEW," if you want to view the first (next) preview.
--> go to "To Search for Preview" at right.
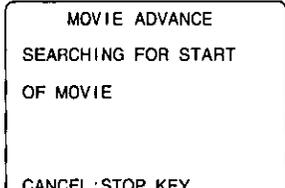
5
```
MOVIE ADVANCE
SEARCHING FOR START
OF MOVIE

CANCEL:STOP KEY
```
Start searching.
Press ▶ .
• To cancel, press STOP.

When the movie is found...

6
```
MOVIE ADVANCE
THE MOVIE IS READY.
PUSH PLAY TO START

CANCEL:STOP KEY
```
Start playback.
Press PLAY.
• To cancel, press STOP.
• The display will time out after 3 minutes and the VCR will enter the Stop mode..

☑ **Check list before you begin.**
☐ All connections are made.
☐ One time Setup completed.
☐ VCR is plugged in.
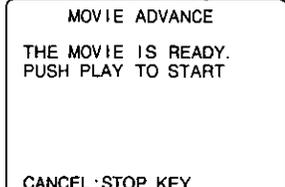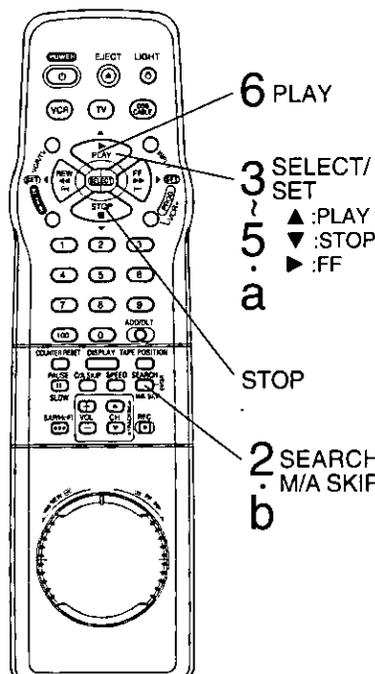☐ TV is turned on and set to CH3, 4 or Video on TV.

6 PLAY
3 SELECT/ SET
  ▲ :PLAY
5 ▼ :STOP
a ▶ :FF
STOP
2 SEARCH
  M/A SKIP
b

To Search for Preview.

You can override the operation of MOVIE**ADVANCE**® SEARCH FOR PREVIEWS mode by pressing SEARCH/ M/A SKIP during tape searching. MOVIE**ADVANCE**® works by searching the tape past each preview and then reversing back to the start of the detected preview. While the tape is reversing back, if SEARCH/ M/A SKIP is pressed, MOVIE**ADVANCE**® will begin searching for the next preview. While searching for the next preview, if you see the start of a preview which you wish to watch, press SEARCH/ M/A SKIP and MOVIE**ADVANCE**® will immediately reverse back to the start of that preview, instead of searching further past the preview start point.
Once the VCR is playing a preview, press SEARCH/ M/A SKIP to advance to the next preview, long commercial or the start of the movie (whichever is next).
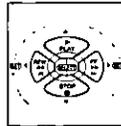
a **Start preview searching.**
1) In step 4 at left, select Go To PREVIEW.
2) Press ▶.

• If you want to playback, press PLAY.

When a preview is detected, VCR will start playback.

b | SEARCH / M/A SKIP | **Start next preview searching.**
Press SEARCH/ M/A SKIP.
• To cancel, press STOP.

Tape Operation

27

Tape Operation (continued)

Search System

Each time a recording is made, an invisible index mark is placed on the tape. When timer recordings are made, program index and information are also included. These index marks can be used to access or scan recordings.

Program End Search

It is easy to locate the end of a recorded program allowing you to continue recording where you left off.

1

SEARCH
M/A SKIP

Display SELECT SEARCH MODE in Stop or Play mode.
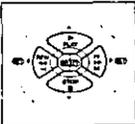
Press SEARCH/ M/A SKIP.*

2

```
SELECT  SEARCH MODE
ZERO SEARCH
INDEX SEARCH
PROGRAM END SEARCH
PROGRAM INDEX SEARCH

SELECT:▲ ▼ KEY
SET   :▶ KEY
END   :SEARCH M/A SKIP
```

Select PROGRAM END SEARCH.

1) Press ▲▼ to select.
2) Press ▶ to start search.

2 SELECT/ SET
▲ :PLAY
▼ :STOP
▶ :FF

1 SEARCH M/A SKIP

Examples of **Program End Search** operation.

Fig. 1

● Program 1	INDEX	Program 2 or BLANK

the current tape position
Press SEARCH button

End Point

FF

Fig. 2

INDEX	Program 1	INDEX	● BLANK	INDEX	Program 2	BLANK

the current tape position
Press SEARCH button

End Point

FF

Fig. 3

the current tape position
Press SEARCH button

INDEX	Program 1	● BLANK	Program 2

End Point

If search exceeds a few seconds in BLANK area.

FF

If Program End Point (⭕) is found.

The search continues slightly beyond the end point, then search and reverse search and plays the last few seconds of the program and finally stops.

● Program 1	Program 2 (BLANK)

the current tape position
Press SEARCH button

FF   PLAY
SEARCH
REVERSE SEARCH
STOP

Notes

- If Program End Search is started very close to an index mark, one program may be skipped over.
- To cancel Program End Search, press PLAY or STOP.

28

Program Index Search (For timer recordings only)

Choose a timer recorded program from a Program Index List. **When the tape is ejected or normal recording is started, all program index data is deleted.**

1

SEARCH -ENTER
M/A SKIP

Display SELECT SEARCH MODE in Stop or Play mode.
Press SEARCH/ M/A SKIP.*

2

SELECT SEARCH MODE

ZERO SEARCH
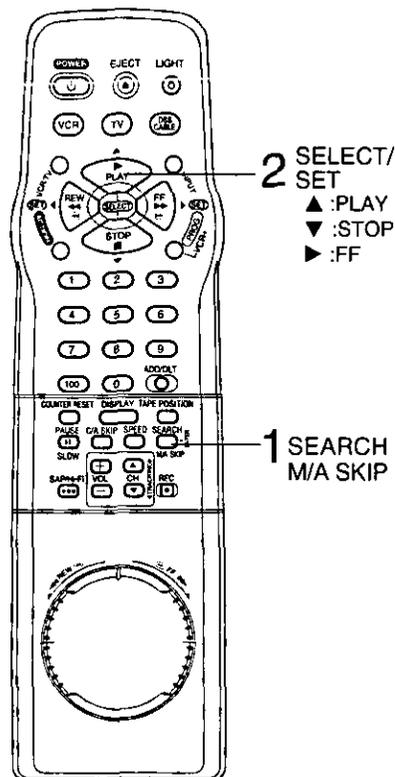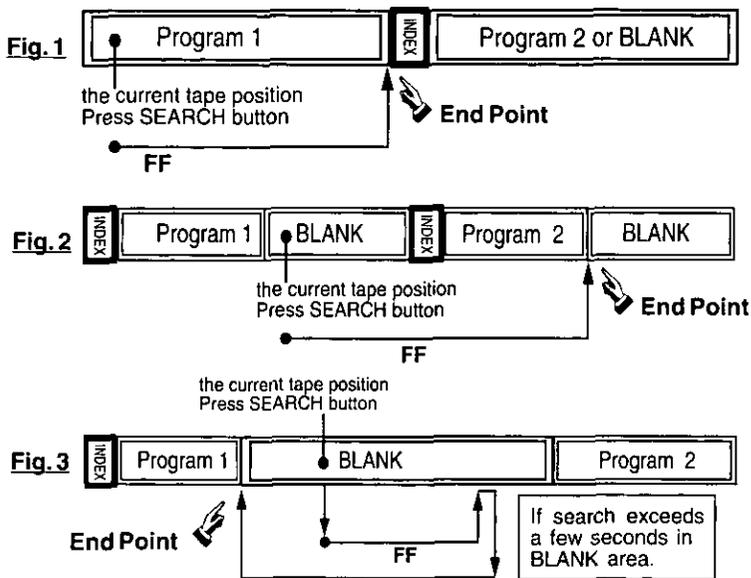INDEX SEARCH
PROGRAM END SEARCH
PROGRAM INDEX SEARCH

Display PROGRAM INDEX.

1) Press ▲▼ to select.
2) Press ▶ to display.

3

PROGRAM INDEX
DATE START CATEGORY CH
12/28 10:00A SPORTS ABCD
1/ 4 12:30P MOVIE NBC
1/ 4 8:00P COMEDY CBC
1/ 7 3:00P MUSIC NBC

SELECT:▲ ▼ KEY
SEARCH:▶ KEY
END   :SEARCH M/A SKIP

Select the desired recorded program.

1) Press ▲▼ to select.
2) Press ▶ to start the forward or rewind search.
• When search is finished, playback begins.

Index Scan (For normal and /or timer recordings)

In Play mode, the first 10 seconds of each recording can be scanned (forward or reverse).

a

SEARCH -ENTER
M/A SKIP

Display SELECT SEARCH MODE in Stop or Play mode.
Press SEARCH/ M/A SKIP.*

b

SELECT SEARCH MODE

ZERO SEARCH
INDEX SEARCH
PROGRAM END SEARCH
PROGRAM INDEX SEARCH

SELECT:▲ ▼ KEY
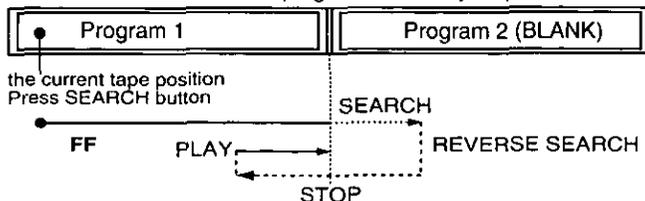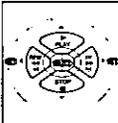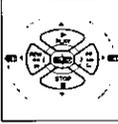SET   :▶ KEY
END   :SEARCH M/A SKIP

Select INDEX SEARCH.

1) Press ▲▼ to select.
2) Press ▶ to display.
• This screen appears only if there are timer recordings.

c

INDEX

Start scan.

Press FF or REW.

d

AUTO INDEX SEARCH
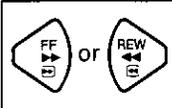
Cancel scan, start playback.

Press PLAY.
• To stop, press STOP.

<Example>   Start here

† Indexed Point
↯ Play (for about 10 seconds)
— Fast Forward or Rewind

d PLAY

2 SELECT/SET
3 ▲ :PLAY
  ▼ :STOP
b ▶ :FF
C FF
C REW

1 SEARCH
• M/A SKIP
a

Tape Operation

Auto Operation Functions

■ Auto Playback

Insert tape --> Power turns on -->
--> Starts playback if record tab (see page 42) is removed.

■ Auto Rewind

Playback
Manual Record --> Tape end -->
Fast Forward
-->Rewinds (Auto)

■ Playback Auto Eject
(Repeat Play is "OFF")

Playback --> Tape end --> Rewinds
-->Tape ejects (if without record tab)

■ Memory Rewind Off

Rewind --> Press POWER -->
-->Turns off after completed

29

Tape Operation (continued)

Direct Access (For normal and /or timer recordings)

Go directly to desired recording.

1

| SEARCH ○–○ M/A SKIP |

Display SELECT SEARCH MODE in Stop or Play mode.
Press SEARCH/ M/A SKIP.*

2

| SELECT SEARCH MODE |
| ZERO SEARCH |
| INDEX SEARCH |
| PROGRAM END SEARCH |
| PROGRAM INDEX SEARCH |
| |
| SELECT : ▲ ▼ KEY |
| SET : ► KEY |
| END : SEARCH M/A SKIP |

Select INDEX SEARCH.

1) Press ▲▼ to select.
2) Press ► to display.
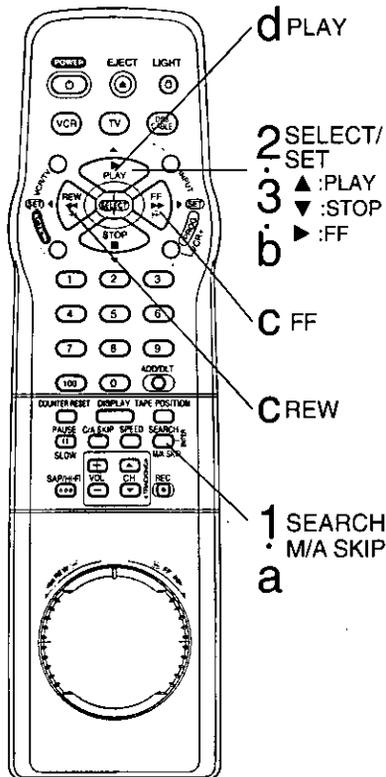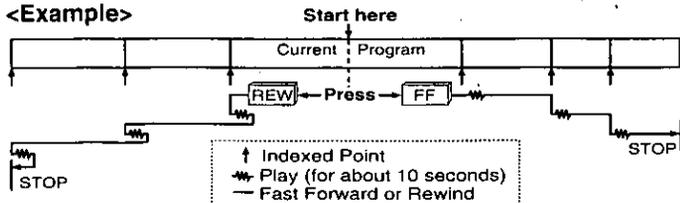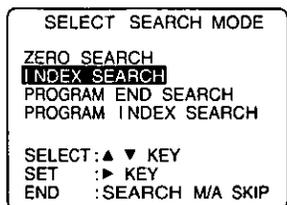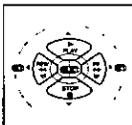• This screen appears only if there are timer recordings.

3
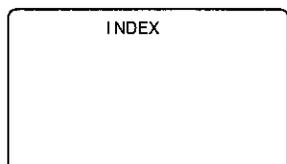
| INDEX |

Select the recording number.
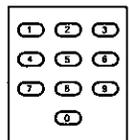
Press NUMBERED keys.

• To calculate number, see below.

4

| INDEX   04 |
| INDEX SEARCH 04 |
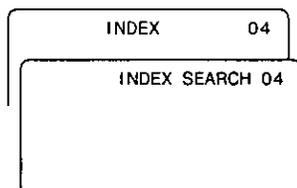
Start search.
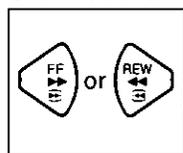
Press FF or REW.

• When search is finished, playback begins.

4 REW

2 SELECT/ SET
▲ :PLAY
▼ :STOP
► :FF

4 FF

3 NUMBERED keys

1 SEARCH M/A SKIP
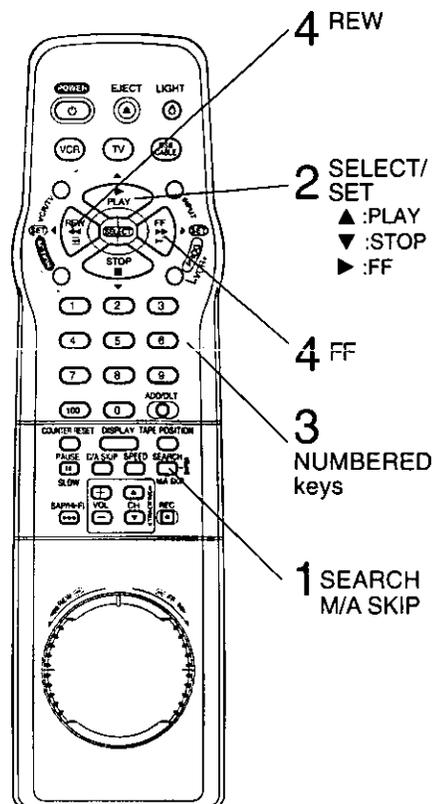
■ To Calculate Index Number

Example 1:
If you are watching recording 4 and you want to watch recording 2, enter 3 in step "3" and press REW.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
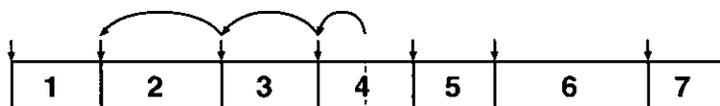
Example 2:
If you are watching recording 2 and you want to watch recording 6, enter 4 in step "3" and press FF.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
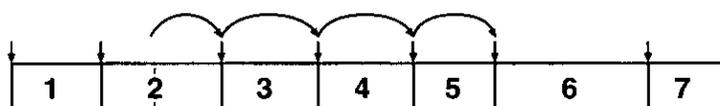
NOTE: ↓ indicates start points of each recording.

Notes

• Make each entry within 10 seconds, or the Index Search mode will be canceled.
• If Direct Access or Index Scan is started very close to an index mark, that index mark may not be counted in the search.

Repeat Play

Set to see a recording over and over.

1

Display MENU.
Press ACTION.*

2

```
           MENU
SET UP VCR
SET UP FEATURE
SET CLOCK
SET UP CHANNEL
IDIOMA/LANGUE:ENGLISH
VCR'S OUTPUT CH:3
SELECT:▲ ▼ KEY
SET   :► KEY
```

Display SET UP VCR.
1) Press ▲▼ to select.
2) Press ► to display.

3

```
        SET UP VCR
REPEAT PLAY      : OFF
TIME STAMP       : ON
REMOTE WARNING   : ON
AUTO SHUT-OFF    : ON

SELECT:▲ ▼ KEY
SET   :► KEY
END   :ACTION KEY
```
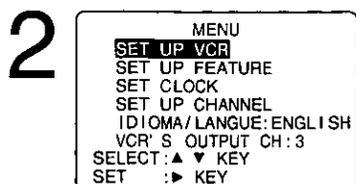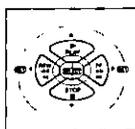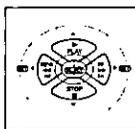
Set ON or OFF.
1) Press ▲▼ to select "REPEAT PLAY."
2) Press ► to set.

• Playback repeats when tape end is reached or unrecorded portion over 30 seconds is detected.

4

Return to normal screen.
Press ACTION twice.

Zero Search

To quickly return to specific tape counter location.

a
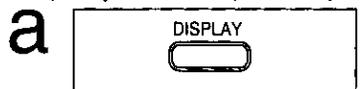
DISPLAY

Display Counter.
Press DISPLAY during playback.

b

```
PLAY    12:00AM
          0:00:00
             SP
```
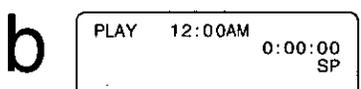
COUNTER RESET

Reset to "0:00:00."
Press COUNTER RESET at the desired position.

C Continue Recording,playback etc.

d
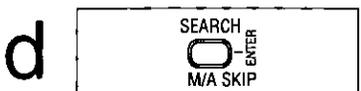
SEARCH
M/A SKIP

Display SELECT SEARCH MODE in Stop mode.
Press SEARCH/ M/A SKIP.*

e

```
  SELECT SEARCH MODE
ZERO SEARCH
INDEX SEARCH
PROGRAM END SEARCH
PROGRAM INDEX SEARCH

SELECT:▲ ▼ KEY
SET   :► KEY
END   :SEARCH M/A SKIP
```
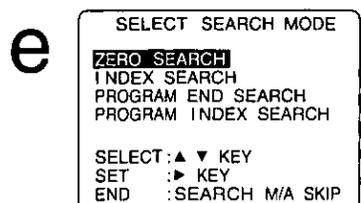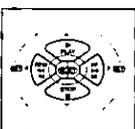
Start ZERO SEARCH.
1) Press ▲▼ to select.
2) Press ► to display.

• Unit will go into FF or REW mode and stop at the last point the Counter was set to 0:00:00.
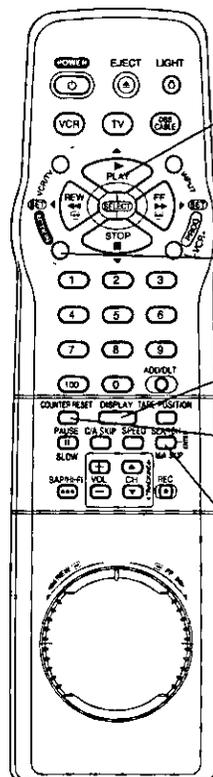
2 SELECT/SET
3 ▲ :PLAY
▼ :STOP
e ► :FF

1 ACTION
4

a DISPLAY

b COUNTER RESET

d SEARCH M/A SKIP

Tape Operation

MTS Broadcast/VHS Hi-Fi Stereo System

✓ Check list before you begin.

☐ VCR is connected to a stereo TV, or a mono TV and an external stereo amp or receiver with speakers.

☐ VCR and other components are plugged in and turned on.

Connections to Make

To monitor recording in progress in stereo, connect VCR to stereo TV or mono TV and stereo amp with speakers.
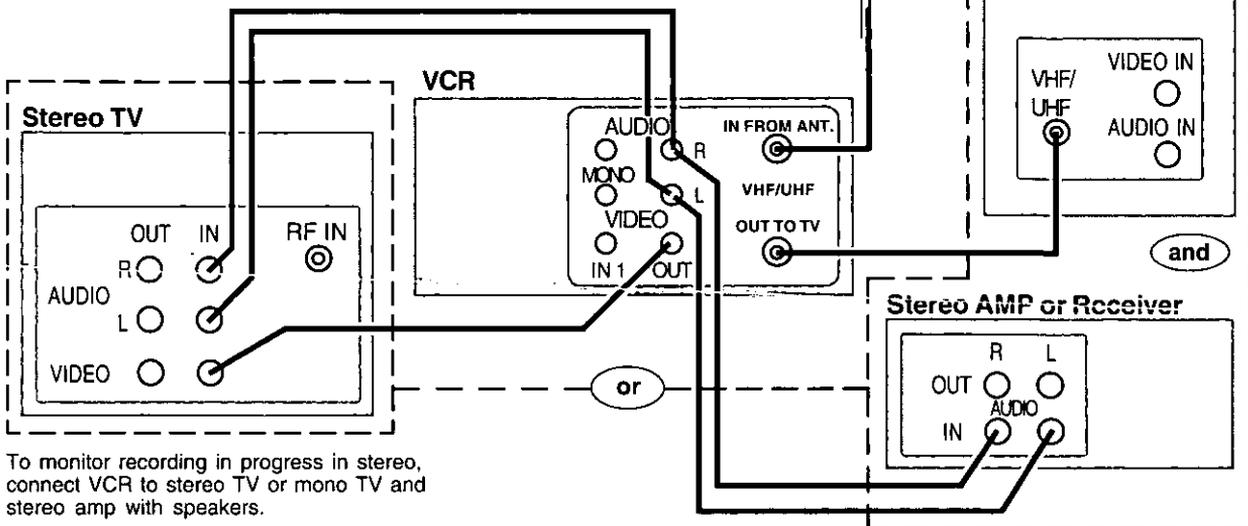
Receivable Broadcast Types

The following are possible audio broadcast types and on-screen displays.

The signal being received is indicated with an "((" mark while the selected audio mode is indicated with an arrow.
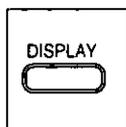
DISPLAY

Display the broadcast signal being received.
Press DISPLAY.

MTS Stereo and SAP broadcast

Multi-channel Television Sound Stereo (main language) and Secondary Audio Program (sub language) broadcasts are both being received simultaneously. Select STEREO or SAP audio mode.

```
STOP    12:00AM    ABC
                   0:00:00
((STEREO ◄          SP
((SAP
MONO
```
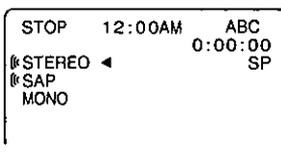
MTS Stereo broadcast

Multi-channel Television Sound Stereo broadcast. Select STEREO audio mode.
• If stereo broadcast is weak and display flickers, select MONO audio mode for possibly better results.

```
STOP    12:00AM    ABC
                   0:00:00
((STEREO ◄          SP
SAP
MONO
```
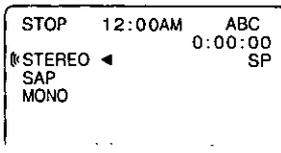
SAP broadcast

Secondary Audio Program (sub language) broadcast. Select SAP audio mode for the sub language.

```
STOP    12:00AM    ABC
                   0:00:00
STEREO              SP
((SAP    ◄
MONO
```
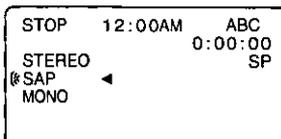
MONO broadcast

Normal monaural sound broadcast.

```
STOP    12:00AM    ABC
                   0:00:00
STEREO              SP
SAP
MONO    ◄
```
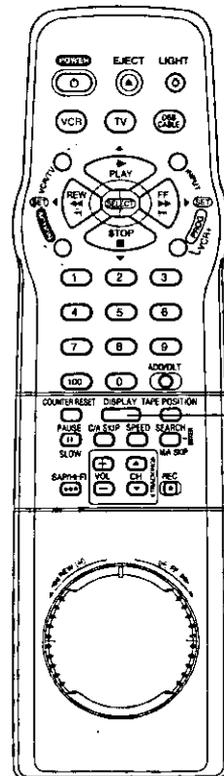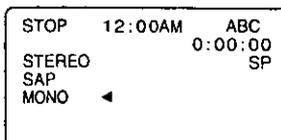

DISPLAY

Equipped with **dbx**°-TV Noise Reduction for true MTS reproduction. **dbx**°-TV Noise Reduction is required for good stereo separation and audio fidelity. **dbx**° is a registered trademark, and is licensed by **dbx**° Technology Licensing.

For assistance, call 1-800-211-PANA(7262).

When set to proper audio mode VCR can:

1) record/playback MTS stereo broadcasts (main language) in Hi-Fi stereo.
2) record/playback mono (main language) or SAP (sub language) broadcasts.
3) playback non Hi-Fi tapes in monaural.

- The selected broadcast sound is always recorded on left and right Hi-Fi track as well as the normal monaural track. This means tapes can be played back on Hi-Fi and non-Hi-Fi VCRs.

Audio Mode for Recording

1

SAP/Hi-Fi

Display audio mode.
Press SAP/ Hi-Fi.

2

(« STEREO
(« SAP ◄
MONO

- Arrow indicates selection.
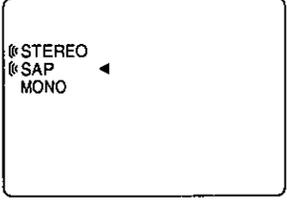
Select desired mode.

SAP/Hi-Fi

Press SAP/ Hi-Fi repeatedly (each press within 5 seconds).

- Refer to the "Receivable Broadcast Types" on page 32.

3 **Do a recording.**
See page 9.

Audio Mode for Playback

a **Start playback.**
See page 8.

b

SAP/Hi-Fi

Display audio mode.
Press SAP/ Hi-Fi.

c

HIFI (L/R) ◄
HIFI (L)
HIFI (R)
NORMAL

- Arrow indicates selection.
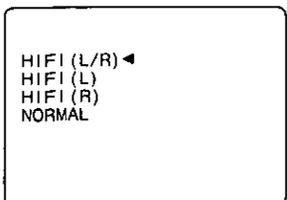
Select desired mode.

SAP/Hi-Fi

Press SAP/ Hi-Fi repeatedly (each press within 5 seconds).

- Select "HIFI(L/R)" or "HIFI(L)" or "HIFI(R)" to listen to stereo recordings in stereo sound. Select "NORMAL" for monaural sound.

SAP/ Hi-Fi

1
2
b
c
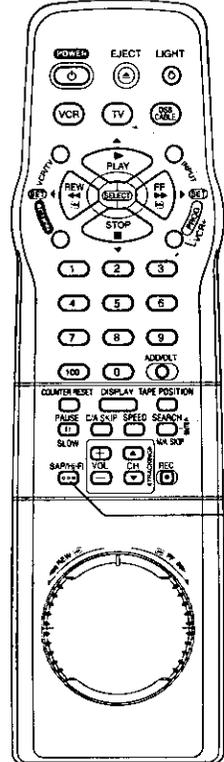
Notes

- Only tapes recorded in Hi-Fi stereo will play back with true stereo sound. Standard stereo tapes will playback in monaural sound.
- To listen to Hi-Fi stereo playback, the VCR AUDIO (L/R) jacks must be connected to a stereo TV or an external stereo amp and speakers. (See page 32.)
- If tracking is adjusted during playback, Hi-Fi audio may revert to normal audio.
- Hi-Fi and normal audio playback volume level may differ.

MTS Broadcast/VHS Hi-Fi Stereo System

33

Channel Caption

When set, station name, e.g. ABC, CBS, and channel number appear on-screen.
Set up to 24 preset captions, and/or 10 manually created captions.

☐ You need a list of stations and the channel numbers you receive them on.

Preset Caption

1

Display MENU.

Press ACTION.*

2

```
         MENU
SET UP VCR
SET UP FEATURE
SET CLOCK
SET UP CHANNEL
IDIOMA/LANGUE:ENGLISH
VCR'S OUTPUT CH:3
SELECT:▲ ▼ KEY
SET    :▶ KEY
END    :ACTION KEY
```

Display SET UP CHANNEL.

1) Press ▲▼ to select.
2) Press ▶ to display.

3

```
      SET UP CHANNEL
ANTENNA : CABLE
AUTO SET
CHANNEL CAPTION
WEAK SIGNAL DISPLAY : OFF
CABLE/DSS BOX SET UP
VCR Plus+ CH SET UP
SELECT:▲ ▼ KEY
SET    :▶ KEY
END    :ACTION KEY
```
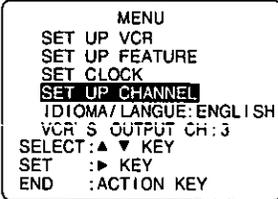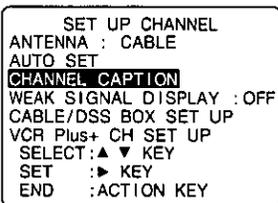
Display CHANNEL CAPTION.

1) Press ▲▼ to select.
2) Press ▶ to display.

4

```
    CHANNEL CAPTION

PRESET CAPTION
MANUAL CAPTION


SELECT:▲ ▼ KEY
SET    :▶ KEY
END    :ACTION KEY
```
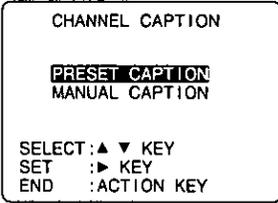
Display PRESET CAPTION.

1) Press ▲▼ to select.
2) Press ▶ to display.

• To create your own captions, go to "Manual Caption" on page 35.

5

```
     PRESET CAPTION

ABC   40  PBS   60
CBS   --  CNN   25
FOX   33  ESPN  51
NBC   --  HBO   --
CLEAR :ADD/DLT KEY
SELECT:▲ ▼ KEY
SET    :◀ KEY
END    :ACTION KEY
```
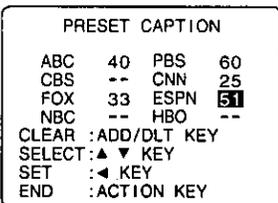
Assign preset captions.

1) Press ▲▼ to highlight caption.
2) Press ▶ to move cursor to the right.
3) Press ▲▼ to select CH number.
4) Press ◀ to set.

• Repeat step 5 until the list is complete.

To make corrections,
Press ▲▼ and ▶ to select the channel number, then press ▲▼ to change, or ADD/DLT to delete the number.

6

End setup.

Press ACTION four times.

SELECT/
SET
2 ~ 5
▲ :PLAY
▼ :STOP
◀ :REW
▶ :FF

1 ACTION

6

ADD/ DLT

Manual Caption

1 Do "Preset Caption" steps 1~3 on page 34.

2

```
CHANNEL CAPTION

PRESET CAPTION
MANUAL CAPTION

SELECT:▲ ▼ KEY
SET   :► KEY
END   :ACTION KEY
```
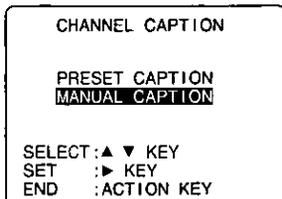
Display MANUAL CAPTION.

1) Press ▲▼ to select.
2) Press ► to display.

3

```
MANUAL CAPTION

CH NUMBER      CAPTION

  02           ----

SELECT:▲ ▼ KEY
SET   :► KEY
END   :ACTION KEY
```
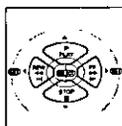
Select channel number.

1) Press ▲▼ to select CH NUMBER.
2) Press ► to move cursor to the right.

• Channels already set and channels deleted from Channel Memory are not displayed.
• You can set a total of ten channel captions.

4

```
MANUAL CAPTION

CH NUMBER      CAPTION

  02           A---

CLEAR :ADD/DLT KEY
SELECT:▲ ▼ KEY
SET   :◄ ► KEY
```
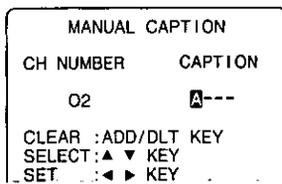
Enter CAPTION.
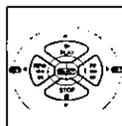
1) Press ▲▼ to select.
2) Press ► to enter.
• Characters change in following order.

```
┌─► A↔B↔C ◄····► Z↔BLANK↔─ ↔& ◄─┐
└──────► 9 ◄····► 2↔1↔0 ↔/↔! ◄──┘
```

3) Press ◄ to set.

• Repeat steps 3 and 4 as desired.
To make corrections,
Press ◄ ► to move to the incorrect entry, then press ▲▼ to make correction. Or, press ADD/DLT to clear the caption.

5

End input.
Press ACTION four times.

2 SELECT/
• SET
3 ▲ :PLAY
• ▼ :STOP
  ◄ :REW
4 ► :FF

5 ACTION

ADD/ DLT
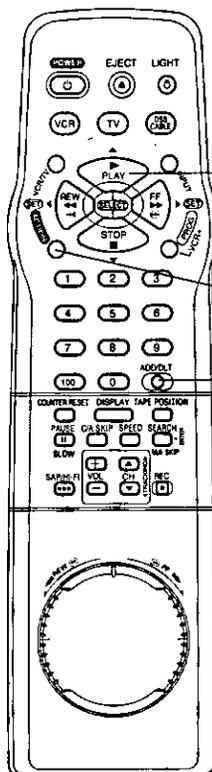
Special VCR Features (continued)

Time Stamp Feature

The VCR writes program data (see example below) about the first 10 seconds of every recording. The information is then displayed the first 10 seconds of playback. To change the data, see "Changing Time Stamp Data" on page 37.
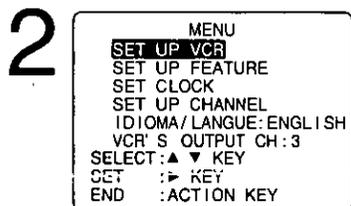
☑ **Check list before you begin.**
- ☐ Clock is set to correct time.
- ☐ Record tab in place. (See page 42.)
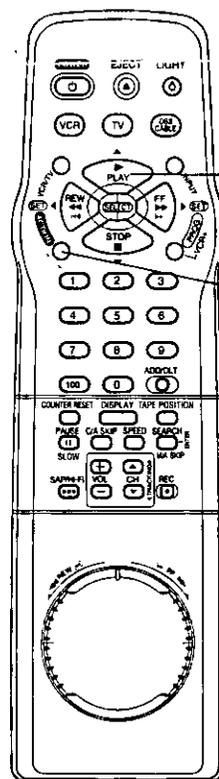
1

Display MENU.
Press ACTION.*

2

```
         MENU
SET UP VCR
SET UP FEATURE
SET CLOCK
SET UP CHANNEL
IDIOMA/LANGUE:ENGLISH
VCR'S OUTPUT CH:3
SELECT:▲ ▼ KEY
SET   :► KEY
END   :ACTION KEY
```

Display SET UP VCR.
1) Press ▲▼ to select.
2) Press ► to display.

3

```
      SET UP VCR

REPEAT PLAY        : OFF
TIME STAMP         : ON
REMOTE WARNING     : ON
AUTO SHUT-OFF      : ON

SELECT:▲ ▼ KEY
SET   :► KEY
END   :ACTION KEY
```

Set ON or OFF.
1) Press ▲▼ to select.
2) Press ► to set.

• When "OFF" is selected, the program data is written on the tape, but will not be displayed.

4

Return to normal screen.
Press ACTION twice.

SELECT/
2 SET
. ▲ :PLAY
3 ▼ :STOP
. ► :FF

1 ACTION
.
4

<Time Stamp Example>

One Touch Recording
```
12/27/1999 MON
12:00PM
CH 08 ABC
```

Timer Recording
```
12/27/1999 MON
12:00PM - 1:00PM
CH 08 ABC  MOVIE
MEMORIAL MOVIE
```

When Clock is not set...
```
--/--/----
--:--
CH 08 ABC
```

Changing Time Stamp Data

You may change the Date, Time, Channel, Category, and Notes.

PLAY

1

PLAY

Display Time Stamp Data.

1) Insert cassette with record tab.
2) Press PLAY.

2

```
12/27/1999 MON
12:00PM -  1:00PM
CH 08 ABC  MOVIE
MEMORIAL MOVIE
```

Display TIME STAMP EDIT.

Press PROG/ VCR+ while the data is displayed in Playback mode.

3

```
    TIME STAMP EDIT
DATE : 12/27/1999 MON
TIME : 12:00PM -  1:00PM
CH   : 08 ABC
CATEGORY : MOVIE
NOTES:MEMORIAL MOVIE----
------------------------
SELECT:▲ ▼ KEY
SET   :◀ ▶ KEY
END   :PROG KEY
```

Change Time Stamp Data.
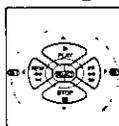
1) Press ▲▼ to select.
2) Press ▶ to enter and continue.

• Characters in NOTES will change in the following order.

```
┌─▶A↔B↔C◀·····▶Z↔BLANK↔─ ↔&◀─┐
└──────▶9◀·····▶2↔1↔0↔/↔!◀──┘
```

3) Repeat 1) and 2) as needed.

To make corrections,
Press ◀ ▶ to move to the incorrect entry, then press ▲▼ to make the correction.

4

```
NOW WRITING TIME STAMP
```

Write the new data.
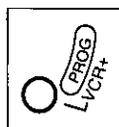
Press PROG/ VCR+.

• When data is written, VCR returns to Stop mode.

1 PLAY

3 SELECT/ SET

▲:PLAY
▼:STOP
◀:REW
▶:FF

2 PROG/ VCR+

4

Special VCR Features

37
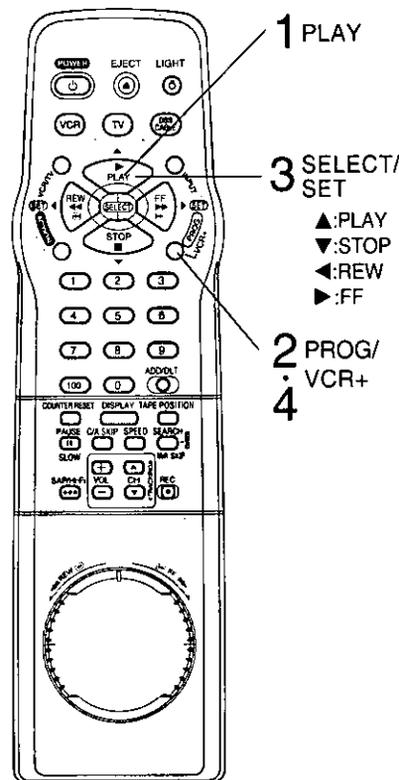
Special VCR Features (continued)

Tape Position Display Feature

To find out the present tape position.
Tape position cannot be found for C-Cassette type and tape of less than 60 minutes.

1

TAPE POSITION

Detect Tape Position.
Press TAPE POSITION.

| DETECTING TAPE POSITION |

⇩

BEGIN —— END
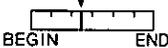
- "DETECTING TAPE POSITION" only appears the first time a cassette is inserted.
- It takes several seconds for correct indication to appear.

- The present tape position indication is displayed.

2

TAPE POSITION

Return to normal screen.
Press TAPE POSITION.

Remote Warning ON/OFF Feature

If Multi-brand feature is used (page 22), and this feature is set to on, a warning appears whenever an invalid key is pressed in TV, DSS, or Cable mode.

a

ACTION

Display MENU.
Press ACTION.

b

```
        MENU
SET UP VCR
SET UP FEATURE
SET CLOCK
SET UP CHANNEL
IDIOMA/LANGUE:ENGLISH
VCR'S OUTPUT CH:3
SELECT:▲ ▼ KEY
SET   :▶ KEY
END   :ACTION KEY
```

Display SET UP VCR.
1) Press ▲▼ to select.
2) Press ▶ to display.

c

```
      SET UP VCR
REPEAT PLAY      : OFF
TIME STAMP       : ON
REMOTE WARNING   : ON
AUTO SHUT-OFF    : ON

SELECT:▲ ▼ KEY
SET   :▶ KEY
END   :ACTION KEY
```
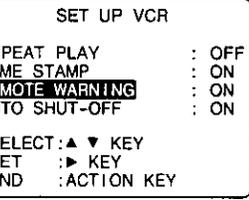
Set ON or OFF.
1) Press ▲▼ to select.
2) Press ▶ to set.

- "OFF" --> remote warning will not appear even if invalid key is pressed.

d

ACTION

Return to normal screen.
Press ACTION twice.

☑ **Check list before you begin.**
☐ All connections are made. (See pages 4~5.)
☐ VCR is plugged in.
☐ TV is turned on and tuned to CH3, 4 or Video.

SELECT/
b SET
   ▲ :PLAY
c ▼ :STOP
   ▶ :FF

a ACTION

d

1 TAPE
2 POSITION
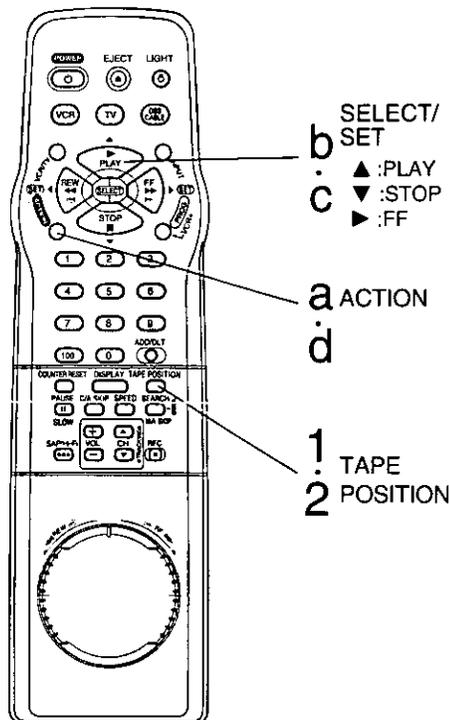
VCR Lock Feature

All operations are prohibited except timer recording and tape eject. Useful for families with small children.

A

●REC

Press REC in Stop mode.

VCR LOCK ACTIVATED

To turn on:
In Stop mode, hold down REC on the VCR without a cassette inserted for 7 seconds.

VCR LOCK OFF

To turn off:
Repeat above.

- VCR Lock is canceled automatically after 24 hours if clock is set.

A REC

Weak Signal Display ON/OFF Feature

When "ON" is selected, picture is displayed even when broadcast signal is weak or nonexistent.
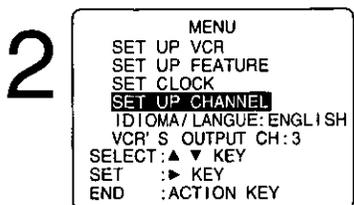
1

Display MENU.
Press ACTION.*

2

```
        MENU
SET UP VCR
SET UP FEATURE
SET CLOCK
SET UP CHANNEL
IDIOMA/LANGUE: ENGLISH
VCR'S OUTPUT CH:3
SELECT:▲ ▼ KEY
SET    :► KEY
END    :ACTION KEY
```

Display SET UP CHANNEL.
1) Press ▲▼ to select.
2) Press ► to display.

3

```
     SET UP CHANNEL
ANTENNA : CABLE
AUTO SET
CHANNEL CAPTION
WEAK SIGNAL DISPLAY  :OFF
CABLE/DSS BOX SET UP
VCR Plus+ CH SET UP
SELECT:▲ ▼ KEY
SET    :► KEY
END    :ACTION KEY
```

Set ON or OFF.
1) Press ▲▼ to select.
2) Press ► to set.

- ON --> Picture is displayed regardless of signal condition, and may not always be clearly visible.
  OFF --> Screen turns solid blue when signal is absent or weak.
- If VCR is connected to equipment which has blue back feature, selecting ON will have no effect on the other equipment.

4
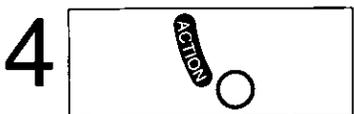
Return to normal screen.
Press ACTION twice.

Auto Shut-Off Feature

When "ON" is selected, VCR shuts itself off when playback of a blank portion of tape continues or no signal (except when LINE is selected) is detected for over 5 minutes.

a Repeat step "a" and "b" on page 38 to display SET UP VCR.

b

```
      SET UP VCR
REPEAT PLAY      : OFF
TIME STAMP       : ON
REMOTE WARNING   : ON
AUTO SHUT-OFF    : ON

SELECT:▲ ▼ KEY
SET    :► KEY
END    :ACTION KEY
```

Set ON or OFF.
1) Press ▲▼ to select.
2) Press ► to set.

c

Return to normal screen.
Press ACTION twice.

2 SELECT/ SET
3 ▲ :PLAY
   ▼ :STOP
b ► :FF

1 ACTION
4
c
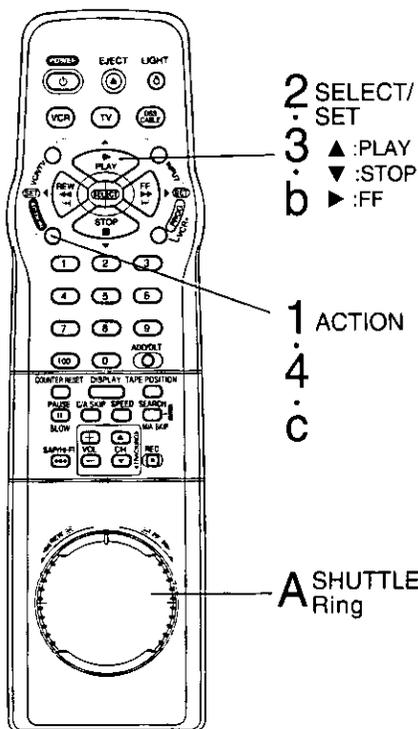
A SHUTTLE Ring

Shuttle Variable Speed Search

The SHUTTLE Ring allows you to smoothly control the tape speed during special effects playback in both forward or reverse.
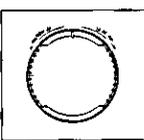
A **Place the forward or reverse search.**
Turn SHUTTLE Ring while in Play or Still mode.
- The more you turn the Ring, the faster the search speed will be.

B **Release the Shuttle mode.**
Press a function button such as : PLAY, STOP, etc.
- The VCR performs the function of the button pressed.

Notes

- When the SHUTTLE Ring is turned more than half in Stop mode, normal Fast Forward or Rewind will begin.
- Some noise bars are normal during Shuttle operation.
- After 3 minutes in Still or Slow, the VCR will go into Stop mode.
- When the SHUTTLE Ring is released, the VCR goes into Still mode.

Special VCR Features

39

1

```
            MENU
SET UP VCR
SET UP FEATURE
SET CLOCK
SET UP CHANNEL
IDIOMA/LANGUE:ENGLISH
VCR'S OUTPUT CH:3
SELECT:▲ ▼ KEY
SET    :► KEY
END    :ACTION KEY
```

Display MENU.
Press ACTION.*

---

2 ■ **Language**

1) Press ▲▼ to highlight
   language item.

```
            MENU
SET UP VCR
SET UP FEATURE
SET CLOCK
SET UP CHANNEL
IDIOMA/LANGUE:ENGLISH
VCR'S OUTPUT CH:3
SELECT:▲ ▼ KEY
SET    :► KEY
END    :ACTION KEY
```

2) Press ► repeatedly.

```
            MENU
SET UP VCR
SET UP FEATURE
SET CLOCK
SET UP CHANNEL
IDIOMA/LANGUE:ENGLISH
VCR'S OUTPUT CH:3
SELECT:▲ ▼ KEY
SET    :► KEY
END    :ACTION KEY
```
For English

```
            MENU
PREPARAR VCR
FIJACION DE FUNCIONES
FIJAR RELOJ
FIJAR CANAL
LANGUE/LANGUAGE :ESPAÑOL
SALIDA DE VCR CANAL:3
ELEGIR:▲ ▼
FIJAR :►
TERMINAR:ACTION
```
For Spanish

```
            MENU
REGLAGE MAGNETOSCOPE
REGLAGE MAGNETO SUPPLEM
REGLAGE HORLOGE
REGLAGE CANAL
LANGUAGE/IDIOMA :FRANÇAIS
CA SORTIE:3
SEL.   :▲ ▼
REGLER:►
FIN    :ACTION
```
For French

■ **Channels**

1) Press ▲▼ to select
   SET UP CHANNEL.

```
            MENU
SET UP VCR
SET UP FEATURE
SET CLOCK
SET UP CHANNEL
IDIOMA/LANGUE:ENGLISH
VCR'S OUTPUT CH:3
SELECT:▲ ▼ KEY
SET    :► KEY
END    :ACTION KEY
```

2) Press ►.

```
        SET UP CHANNEL
ANTENNA : CABLE
AUTO SET
CHANNEL CAPTION
WEAK SIGNAL DISPLAY :OFF
CABLE/DSS BOX SET UP
VCR Plus+ CH SET UP
SELECT:▲ ▼ KEY
SET    :► KEY
END    :ACTION KEY
```

3) Press ▲▼ to select
   "ANTENNA," then
   press ► to set your
   antenna system
   (TV or CABLE).

4) Press ▲▼ to select
   "AUTO SET," then
   press ►.

- If you use a cable box, set it
  to the PBS channel in your
  time zone.

```
CHANNEL/CLOCK AUTO SET

CONNECT ANTENNA CABLE
AND IF YOU USE A CABLE
BOX, TUNE IT TO YOUR
LOCAL PBS CH    THEN...

PLEASE PUSH CH UP KEY
```

(This screen appears only
when auto clock is set.)

5) Press CH ▲.

- Clock Auto Set will be
  performed when channels
  are replaced in memory.

■ **Clock**

1) Press ▲▼ to select
   SET CLOCK.

```
            MENU
SET UP VCR
SET UP FEATURE
SET CLOCK
SET UP CHANNEL
IDIOMA/LANGUE:ENGLISH
VCR'S OUTPUT CH:3
SELECT:▲ ▼ KEY
SET    :► KEY
END    :ACTION KEY
```

2) Press ►.

```
         SET CLOCK

AUTO CLOCK SET
MANUAL
TIME ZONE ADJUST : 0

SELECT:▲ ▼ KEY
SET    :► KEY
END    :ACTION KEY
```

("TIME ZONE ADJUST"
appears only when clock is
set automatically.)

3) Press ▲▼ to select
   MANUAL and press ►.

- For Auto Clock Set, select
  "AUTO CLOCK SET," then
  press CH ▲.

```
    SET CLOCK\I/  \I/
1/ 4/2000 TUE 12:00PM
              DST:ON\
---------------------
SELECT HOUR
SELECT:▲ ▼ KEY
SET    :◄ ► KEY
END    :ACTION KEY
```

4) Press ▲▼ and ◄► to
   select and set the date,
   time, and DST
   (Daylight Saving Time).

5) Press ACTION twice to
   start the clock and exit
   this mode.

40

Output Channel

■ Time Zone Adjust
(When Auto Clock is set only.)

1) Press ▲▼ to select SET CLOCK.

```
MENU
SET UP VCR
SET UP FEATURE
SET CLOCK
SET UP CHANNEL
IDIOMA/LANGUE: ENGLISH
VCR'S OUTPUT CH: 3
SELECT:▲ ▼ KEY
SET    :▶ KEY
END    :ACTION KEY
```

2) Press ▶.

```
SET CLOCK

AUTO CLOCK SET
MANUAL
TIME ZONE ADJUST : 0

SELECT:▲ ▼ KEY
SET   :◀ ▶ KEY
END   :ACTION KEY
```

3) Press ▲▼ to select TIME ZONE ADJUST and press ◀ or ▶ to subtract or add hour(s) as necessary.

```
SET CLOCK

AUTO CLOCK SET
MANUAL
TIME ZONE ADJUST :+1

SELECT:▲ ▼ KEY
SET   :◀ KEY
END   :ACTION KEY
```

4) Press ACTION twice.

5) Press POWER off to perform AUTO CLOCK SET.

• TIME ZONE ADJUST returns to "0" if clock is set manually.

■ VCR's Output Channel

1) Press ▲▼ to select VCR'S OUTPUT CH.

```
MENU
SET UP VCR
SET UP FEATURE
SET CLOCK
SET UP CHANNEL
IDIOMA/LANGUE: ENGLISH
VCR'S OUTPUT CH: 3
SELECT:▲ ▼ KEY
SET    :▶ KEY
END    :ACTION KEY
```

2) Press ▶.

```
IF YOU PUSH ACTION KEY,
VCR'S OUTPUT CH SWITCHES
TO CH 4.
```

3) Press ACTION.

```
PLEASE TUNE YOUR TV TO
CH 4.
```

After 3 seconds

```
MENU
SET UP VCR
SET UP FEATURE
SET CLOCK
SET UP CHANNEL
IDIOMA/LANGUE: ENGLISH
VCR'S OUTPUT CH: 4
SELECT:▲ ▼ KEY
SET    :▶ KEY
END    :ACTION KEY
```

• To Make Corrections, repeat step 1) ~ 3).

POWER

SELECT/ SET
▲ :PLAY
▼ :STOP
◀ :REW
▶ :FF

ACTION

NUMBERED keys

ADD/DELETE

CH ▲ / ▼
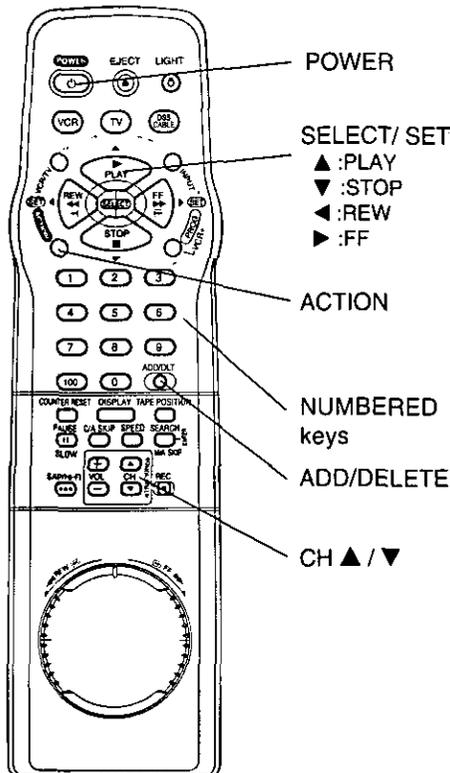
Add or Delete a Channel

To add channel:
Select channel with NUMBERED keys and press ADD/DLT.

```
CHANNEL 08 ADDED
```

To delete channel:
Select channel with CH ▲ / ▼ or NUMBERED keys and press ADD/DLT.

```
CHANNEL 08 DELETED
```

Reset Language, Channels, Clock, VCR's Output Channel

41

VCR & Cassette Information

Reset All VCR Memory Functions

Use when moving VCR to new location, or if a mistake was made in the One Time VCR Setup section.
• Make sure a tape is not inserted in the VCR.

1 Turn VCR Power on.

2 Press and hold both **PLAY** and **CHANNEL ▲** on the VCR for more than 5 seconds.
  • The power will shut off.

3 Do "One Time VCR Setup" steps on page 8.

Prevent Accidental Tape Erasure

Break off the tab.

Record Tab

Screw driver

To record again

Cover the hole with cellophane tape.
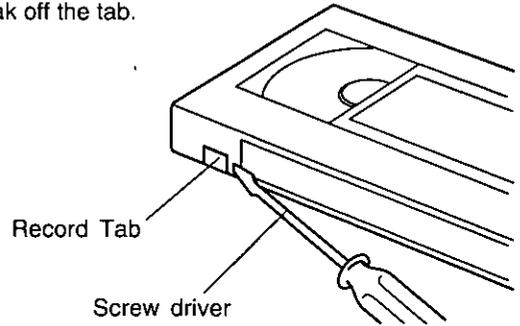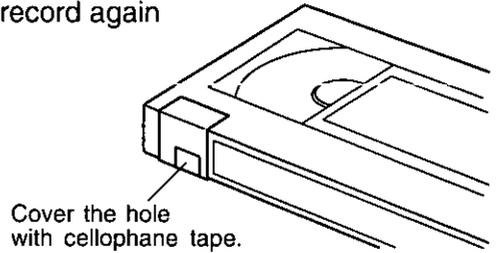
DST (Daylight Saving Time)

VCR auto adjusts clock for DST. (Page 11.)

Spring (First Sunday in April)
DST:ON --> sets clock ahead one hour.

Autumn (Last Sunday in October)
DST:ON --> Turns clock back one hour.

• If your area does not observe Daylight Saving Time, select DST:OFF.

• Keep these time changes in mind when programming the VCR for timer recordings.

Record/Playback Time

Only use tapes with the **VHS** mark in this unit.

Tape Speed Setting	Type of Video Cassette		
	T60	T120	T160
SP (Standard Play)	1 Hour	2 Hours	2 Hours 40 Minutes
LP (Long Play)	2 Hours	4 Hours	5 Hours 20 Minutes
SLP (Super Long Play)	3 Hours	6 Hours	8 Hours

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Head Cleaning

Playing older or damaged tapes may eventually cause video heads to become clogged.

Video Head Clog Sensor

During playback this screen appears if clogging is detected. To remove screen, press PLAY on the remote or VCR.

> VIDEO HEADS MAY
> NEED CLEANING
> PLEASE INSERT HEAD
> CLEANING CASSETTE
> OR REFER TO MANUAL
>
> END:PLAY KEY

- Use "dry" type head cleaning cassette only. (Part No. NV-TCL30PT is recommended.)
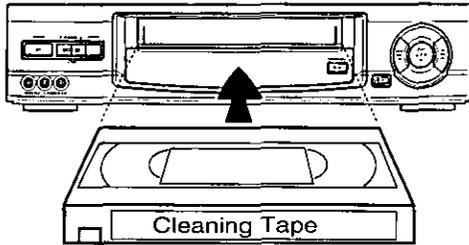
Cleaning Tape

- Follow cleaning tape instructions carefully. Excessive use of tape can shorten head life.

- If head clog symptoms persist, contact your nearest Factory Service Center or authorized Service Center. (See page 47.)

Built-in Head Cleaner

A clean video head helps produce a clear picture.
So, we have equipped your VCR with a built-in, non-chemical head cleaning system that helps prevent clogging of the video heads. Cleaning is performed each time you load or unload a video cassette.

- This feature is preventative only, If your video heads are seriously clogged, consider the use of a chemical non-abrasive head cleaning kit or take your VCR to a Service Center.

Cleaning the VCR

Use a soft cloth or dusting attachment of your vacuum cleaner to dust your VCR. Remove dust from the ventilation holes on the back sides and bottom of the cabinet.

Plastic surfaces are easily scratched and can be marred by alcohol and various solvents. Avoid excessive use of oil-based furniture polishes since the materials used in the cabinet will accumulate more dust. We recommend using a nonabrasive, antistatic cleaner and polisher.

Specifications

Power Source:	120 V AC, 60 Hz
Power Consumption:	Power On
	Approx. 23 watts
	Power Off
	Approx. 3.3 watts
Video Signal:	EIA Standard NTSC color
Video Recording System:	4 rotary heads helical scanning system
Audio Track:	1 track (Normal)
	2 channel (Hi-Fi Audio Sound)
Tuner:	
Broadcast Channels:	VHF 2~13, UHF 14~69
CABLE Channels:	Midband A through I (14~22)
	Superband J through W (23~36)
	Hyperband AA~EEE (37~64)
	Lowband A-5~A-1 (95~99)
	Special CABLE channel 5 A (01)
	Ultraband 65~94, 100~125
Operating Temperature:	5 °C~40 °C (41 °F~104 °F)
Operating Humidity:	10 %~75 %
Weight:	3.4 kg (7.4 lbs.)
Dimensions:	430 (W) x 98 (H) x 250 (D) mm
	16-15/16" (W) x 3-7/8" (H) x 9-3/4" (D)

Note: Designs and specifications are subject to change without notice.

Features for a Quality Picture

Digital Auto Picture
Automatically controls the video output signal for less noise depending on the tape condition.

Digital Auto Tracking
Continuously analyzes the signal and adjusts for optimum picture quality.

Manual Tracking Control (to reduce picture noise)
Use during Playback and Slow Motion mode to reduce picture noise. Press CH (TRACKING) ▲ / ▼ buttons on the remote control or on the VCR until the picture clears up. To return to Auto Tracking, press POWER off, then on again a few seconds later.
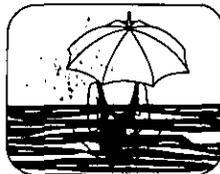
V-Lock Control (to reduce picture jitter)
In Still mode, CH (TRACKING) ▲ / ▼ buttons operate as a V-Lock control.

DynAmorphous™ Metal Head/ CNR (Color Noise Reduction)/ ANR (Advanced Noise Reduction)
DynAmorphous™ Metal Head increases playback and record picture quality. Color Noise Reduction reduces the color noise. Advanced Noise Reduction reduces the luminance noise. (PV-V4660 only)

VCR & Cassette Information

On-Screen Displays (OSD)

Function & Channel Display

<div style="border:1px solid">
08
ABC
</div>
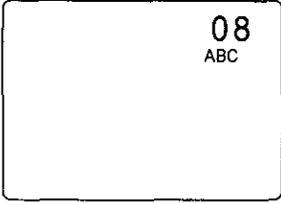
When a function button is pressed, e.g. PLAY, or you change channels, a 4 second display appears first in large and then small characters.(Some Station names may also appear if Channel Caption is set. See page 34, 35.)

VCR Status & Clock Display

To display or remove the overlay.

DISPLAY | Press DISPLAY.

Function Status   Current Time

Channel Caption
(See pages 34, 35.)
or Channel

Rec Time Remaining
(OTR mode only,
see page 13.)

```
REC       12:00AM    ABC
0:25                -0:12:34 ——— Counter
(*STEREO ◄              SP
(*SAP
MONO
```

```
12/27/1999 MON
12:00PM -  1:00PM
CH 08 ABC   MOVIE
MEMORIAL MOVIE
```

Broadcast Audio
Being Received
(See page 32.)

Tape Speed
(See page 42.)

Time Stamp Data
(See pages 36, 37.)
• This is not displayed
in Rec mode.
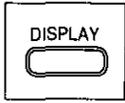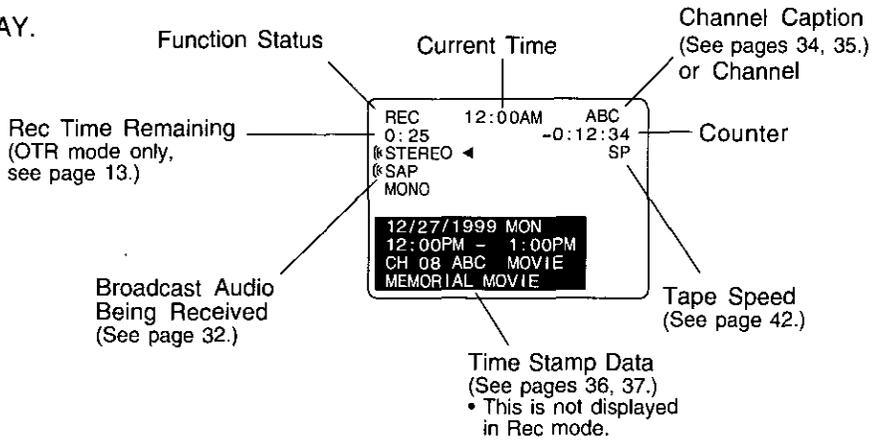
Blank Tape/ No Video Signal Indication

Whenever a blank section of a tape comes up in Play mode, or when the selected channel has no broadcast signal with the Weak Signal Display Feature (page 39) set to OFF, the TV screen will turn solid blue.

Warning and Instruction Displays

These displays will alert you of a missed operation or provide further instructions.

OSD	Caution	Pg	OSD	Caution	Pg
NO CH FOUND PLEASE CHECK ANTENNA CABLE CONNECTION THEN PUSH VCR CH UP KEY AGAIN	If no active channels are found for CHANNEL MEMORY...	10	TO CANCEL TIMER REC PUSH POWER THEN STOP KEY	If you press POWER or STOP during a Timer Recording... (visible in VCR mode only)	17
PLEASE SET CLOCK BEFORE PROGRAMMING	If you attempt to set or review a Timer Recording and the Clock is not set...	16 17	VIDEO HEADS MAY NEED CLEANING PLEASE INSERT HEAD CLEANING CASSETTE OR REFER TO MANUAL END: PLAY KEY	If head cleaning becomes necessary while playing back a tape...	43
TURN VCR OFF FOR TIMER RECORDING	After a Timer Program has been set...	17	VCR LOCK ACTIVATED	If you press a function button other than STOP/EJECT or POWER while the VCR is in VCR Lock mode...	38
CHECK CASSETTE RECORD TAB	If you press REC on the remote control or VCR, and a cassette is inserted with no record tab...	42	REMOTE CONTROL IS SET TO CABLE/DSS MODE USE VCR : VCR KEY USE TV : TV KEY	If you press any invalid keys on the remote while in CABLE/DSS mode...	22 23 38
NO CASSETTE PLEASE INSERT A CASSETTE	If you press PLAY, FF, REW, or REC on the remote control or VCR without a cassette inserted...	12 13	REMOTE CONTROL IS SET TO TV MODE USE VCR : VCR KEY USE CABLE/DSS : CABLE/DSS	If you press any invalid keys on the remote while in TV mode...	22 23 38

On-Screen Displays (OSD)

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Before Requesting Service

Check the following points once again if you are having trouble with your VCR.

Power	Correction
No power...	• Completely insert Power Plug into an AC outlet. • Set POWER button to on. • Make sure power source is active.

Recording & Playback	Correction
TV program cannot be recorded...	• Check connections between VCR, external antenna, and TV. • Check hook up selection. (P.4~5) • Make sure your antenna system (CABLE or TV) is correctly set. (Channels [P.40]) • Make sure cassette record tab is intact. (P.42)
Timer recording cannot be performed...	• Check clock is set to current time and date. • Make sure Cable/DSS box (if used) is left on and tuned to channel to be recorded. • Set recording start/stop times correctly. (P.16) • Make sure POWER button is set to off. (P.17) • Timer recording may not be performed or continued if a power interruption of more than 1 minute occurs before or during, a Timer Recording, even after power is restored.
There is no playback picture, or the playback picture is noisy or contains streaks...	• Select channel 3 or 4 on TV to match VCR output channel (3 or 4) (P.8) or select LINE. • Set VCR/TV selector to "VCR." • Adjust TRACKING control in either direction. (P.43) • Try Head Cleaning. (P.43)
Special effects playback, picture may contain some vertical jitter when using a TV with an Automatic Vertical Hold Control...	• Set TV's Vertical Hold Control to MANUAL, then adjust.
VCR cannot be controlled...	• Make sure VCR LOCK is set to off. (P.38) • Make sure remote is in proper mode. (P.22) • Make sure unit is not in a Timer Record operation.

Remote Control	Correction
VCR cannot be remote controlled...	• Aim Remote Control directly at remote sensor on VCR. (P.54) • Avoid any object blocking signal path. • Check remote batteries. (P.4) • Make sure VCR LOCK is set to off. (P.38) • Exposing VCR remote sensor to direct fluorescent or outdoor light may cause signal interference.
ACTION and PROG/VCR+ buttons cannot be used...	• Press VCR button for VCR mode. (P.22) • Check remote batteries. (P.4)

Miscellaneous	Correction
Programs cannot be viewed on TV...	• Set VCR/TV selector to "TV." (P.13) • Make sure proper signal source is selected.
Video cassette cannot be inserted...	• Insert the cassette with window side up; record tab facing you. • Insure no other tape is inside unit.
Video cassette cannot be removed...	• Completely insert Power Plug into AC outlet.
Video cassette ejects when a recording is started or the power is turned off for timer recording...	• Make sure cassette record tab is intact. (P.42)
In Stop mode, the motor (CYLINDER) continues to rotate...	• To enable Quick play mechanism, the cylinder will rotate for about 5 minutes. This reduces response time from Stop to Play mode and from Play to Rewind Search mode.
The top of the playback picture waves back and forth excessively...	• Because VCR playback signal is not as stable as off-the-air TV signal, top of TV screen may be bent or unstable during playback. Slowly turn TV horizontal Hold control to correct. If your TV has no horizontal Hold control or adjusting control is ineffective, contact your nearest TV service center.

If you cannot resolve the problem, please call the Customer Satisfaction Center for product assistance at 201-348-9090.
To locate an authorized servicenter, please call toll free 1-800-211-PANA (7262).

Service Center List

Factory Servicenters Locations

CALIFORNIA
6550 Katella Avenue
Cypress, CA 90630

800 Dubuque Avenue
S. San Francisco,
CA 94080

20201 Sherman Way
Suite 102
Canoga Park, CA 91306

3878 Ruffin Road
Suite A
San Diego, CA 92123

COLORADO
1640 South Abilene Street
Suite D
Aurora, CO 80012

FLORIDA
3700 North 29th Avenue
Suite 102
Hollywood, FL 33020

GEORGIA
8655 Roswell Road
Suite 100
Atlanta, GA 30350

ILLINOIS
9060 Golf Road
Niles, IL 60714

1703 North Randall
Road
Elgin, IL 60123
(Pick-up / Drop-off only)

MARYLAND
62 Mountain Road
Glen Burnie, MD 21061

MASSACHUSETTS
60 Glacier Drive
Suite G
Westwood, MA 02090

MICHIGAN
37048 Van Dyke Avenue
Sterling Heights, MI 48312

MINNESOTA
7850-12th Avenue South
Airport Business Center
Bloomington, MN 55425

OHIO
2236 Waycross Road
Civic Center Plaza
Forest Park, OH 45240

PENNSYLVANIA
2221 Cabot Blvd. West
Suite B
Langhorne, PA 19047

TENNESSEE
3800 Ezell Road
Suite 806
Nashville, TN 37203

TEXAS
13615 Welch Road
Suite 101
Farmers Branch,
TX 75244

WASHINGTON
20425-84th Avenue
South
Kent, WA 98032

HAWAII
99-859 Iwaiwa Street
Aiea, Hawaii 96701
Phone (808)488-1996
Fax (808)486-4369

Service in Puerto Rico

Matsushita Electric of Puerto rico, Inc. Panasonic Sales Company/ Factory Servicenter:

Ave. 65 de Infanteria, Km. 9.5, San Gabriel Industrial Park, Carolina, Puerto Rico 00985
Phone (787)750-4300 Fax (787)768-2910

As of October '99

Panasonic Consumer Electronics Company,
Division of Matsushita Electric Corporation
of America,
One Panasonic Way
Secaucus, New Jersey 07094

Panasonic Sales Company,
Division of Matsushita Electric of Puerto Rico, Inc.
AVE. 65 de Infantería, Km. 9.5
San Gabriel Industrial Park
Carolina, Puerto Rico 00985

PANASONIC Video Products
Limited Warranty

Panasonic Consumer Electronics Company or Panasonic Sales Company (collectively referred to as "the Warrantor") will repair this product with new or refurbished parts, free of charge, in the USA or Puerto Rico, in the event of a defect in materials or workmanship as follows (all time periods commence from the date of the original purchase):

PRODUCT	PARTS	LABOR
CAMCORDER	ONE (1) YEAR, EXCEPT CCD IMAGE SENSOR CCD IMAGE SENSOR - SIX (6) MONTHS	NINETY (90) DAYS NINETY (90) DAYS
VCR	ONE (1) YEAR	NINETY (90) DAYS
A/V MIXER	ONE (1) YEAR	NINETY (90) DAYS
MONITOR-VCR	ONE (1) YEAR, EXCEPT CRT CRT - TWO (2) YEARS	NINETY (90) DAYS CRT - NINETY (90) DAYS CUSTOMER PAYS ALL LABOR CHARGES AFTER 90 DAYS

Monitor-VCR In-home or carry-in Service: 22" (diagonal) CRT / LCD and Larger
Monitor-VCR Carry-in Service: 21" (diagonal) CRT / LCD and smaller

Batteries (if included) - New rechargeable batteries in exchange for defective rechargeable batteries for ten (10) days. Non-rechargeable batteries are not warranted.

Tape (if included) - New video cassette tape in exchange for a defective video cassette tape for five (5) days.

In-home, carry-in or mail-in service, as applicable, in the USA can be obtained during the warranty period by contacting a Panasonic Services Company (PASC) Factory Servicenter listed in the Service Directory. Or call toll free 1-800-211-PANA (7262), to locate an authorized PASC Servicenter. Carry-in or mail-in service in Puerto Rico can be obtained during the warranty period by calling the Panasonic Sales Company telephone number listed in the Servicenter Directory.

This warranty is extended only to the original purchaser. A purchase receipt or other proof of the date of the original purchase is required before warranty service is rendered.

This warranty only covers failures due to defects in materials and workmanship which occur during normal use and does not cover normal maintenance, including, but not limited to, video and audio head cleaning. The warranty does not cover damage which occurs in shipment, or failures which are caused by products not supplied by the warrantor, or failures which result from accident, misuse, abuse, neglect, mishandling, misapplication, alteration, modification, faulty installation, set-up adjustments, improper antenna, inadequate signal pickup, maladjustment of consumer controls, improper operation, power line surge, improper voltage supply, lightning damage, commercial use such as hotel, office, restaurant, or other business or rental use of the product, or service by anyone other than a PASC Factory Servicenter or a PASC authorized Servicenter, or damage that is attributable to acts-of God.

LIMITS AND EXCLUSIONS
There are no express warranties except as listed above.
THE WARRANTOR SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING, WITHOUT LIMITATION, DAMAGE TO TAPES) RESULTING FROM THE USE OF THIS PRODUCTS, OR ARISING OUT OF ANY BREACH OF THE WARRANTY. ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE, ARE LIMITED TO THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE. Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions or limitations may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

If a problem with this product develops during or after the warranty period, you may contact your dealer or Servicenter. If the problem is not handled to your satisfaction, then write to the Customer Satisfaction Center at the Panasonic Consumer Electronics Company address above.

SERVICE CALLS WHICH DO NOT INVOLVE DEFECTIVE MATERIALS OR WORKMANSHIP AS DETERMINED BY THE WARRANTOR, IN ITS SOLE DISCRETION, ARE NOT COVERED. COSTS OF SUCH SERVICE CALLS ARE THE RESPONSIBILITY OF THE PURCHASER.
warvid 10/20/97

Warranty

Para ajustar el idioma, canal y reloj

1 Encienda el televisor y la videograbadora.

Presione POWER.

• Si se utiliza un cable de conexión AV, sitúe el TV en la posición Vídeo en lugar de en la posición canal. (Véase el punto a, en la página 4).

2

```
          SELECT  LANGUAGE

PUSH   CH ▲ : ENGLISH
OPRIMIR CH ▼ : ESPAÑOL
APP.   VCR/TV : FRANÇAIS


TO CHANGE VCR'S OUTPUT
CH, PUSH ACTION KEY.
```

⬇Presione ACTION

```
SI PULSA LA TECLA
ACTION, EL CANAL DE
SALIDA DEL VCR
CAMBIARA A CANAL 4.
```

⬇Presione ACTION

```
SINTONICE SU TELEVISOR
CON CANAL 4.
```

Después de 3 segundos

Visualización de SELECCIÓN DE IDIOMA.

Esta visualización aparece sólo cuando realice la configuración por primera vez.

Seleccione el idioma.

para Inglés (ENGLISH)

para Español (ESPAÑOL)

para Francés (FRANÇAIS)
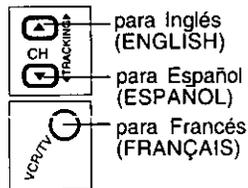
Si se utiliza la conexión b) (véase la página 4), sintonícelo en el canal de salida de VCR.

Si la imagen tiene oscilaciones o ruido cuando el equipo esté situado en VCR OUTPUT CH3, cambie a CH4 pulsando ACTION dos veces.
Luego, sintonice el TV en el CH4.

• Sintonice siempre el TV a este canal para monitorizar la video grabadora.
• Si utilizó la conexión del conector audio/video, sintonice el TV a su entrada de video.
• Si se ajusta el idioma equivocado, realice los pasos de "Reajuste de todas las funciones de memoria de la video grabadora" en la página 42.

3

```
ELEGIR LA CONEXION
CABLE/DSS▶VCR▶TV
VCR▶CABLE/DSS▶TV
VCR▶TV


ELEGIR:▲ ▼
FIJAR :▶
TERMINAR:ACTION
```

Seleccione la conexión.

1) Presione ▲▼ para seleccionar.
2) Presione ▶ para ajustar.

• Si ud. ha elegido CABLE/ DSS ▶ VCR ▶ TV, continue al paso 4 y sólo el canal de salida del cable será memorizado. Si no, a la sección "Instrucciones alternativas" en la página 51.

4

```
ELEGIR LA CONEXION
CABLE/DSS▶VCR▶TV

SALIDA DEL CABLE/DSS
    CA 01

ELEGIR:▲ ▼
FIJAR :◄ ▶
TERMINAR:ACTION
```

Seleccione la caja de TV por cable o su receptor el canal de salida.

1) Presione ▲▼ para seleccionar.
2) Presione ▶ para fijar.

• Si es necesario, consulte su manual de la caja de TV por cable.
• Si esta usando los terminales de audio/ video para su conexión para la caja de TV por cable, ajuste "SALIDA DE VIDEO".

5

```
INTRODUCIR NUMERO/CODIGO
REFERIENDO AL MANUAL
       01

ELEGIR:▲ ▼
FIJAR :▶
TERMINAR:ACTION
```

Seleccione el número de código de la caja de TV por cable o el receptor DSS.

(Consulte su lista de la página 7.)

1) Presione ▲▼ para seleccionar.
2) Presione ▶ para fijar.

• Si su caja de TV por cable o su receptor DSS no tiene un control remoto, elija "SIN CONTROL REMOTO."
• Luego, vaya a la sección "Instrucciones alternativas" en la página 51.
• De esta manera se determina si el videograbador va a controlar el sintonizador de cable o DSS.

6

```
INTRODUCIR CUALQUIER
NUMERO DE CANAL
DISPONIBLE EN SU CAJA
DE TV POR CABLE/DSS.
       CA 01
ELEGIR:▲ ▼
FIJAR :▶
TERMINAR:ACTION
```

Seleccion un canal disponible en su caja de TV por cable o receptor DSS.

1) Presione ▲▼ para seleccionar.
2) Presione ▶ para ajustar.

7

```
POR FAVOR SINTONICE
SU CAJA DE TV POR
CABLE/DSS A OTRO CANAL
DISPONIBLE.

PROCEDER:▶
TERMINAR:ACTION
```

Sintonizar la TV por cable o el canal receptor DSS.

Presione ▶ para continuar.

• "ESTA TRANSMITIENDO" aparece.

8

```
ESTA RECIBIENDO SU CAJA
DE TV POR CABLE/DSS EL
CANAL 01?
          SI
          NO
ELEGIA:▲ ▼
FIJAR :▶
TERMINAR:ACTION
```

Ajustar canal de recepción.

1) Presione ▲▼ para elegir "SI" o "NO."
2) Presione ▶ para fijar.

Si ud. usa una caja de TV por cable y ha elegido "SI," siga al paso 9.
Si ud. usa un receptor DSS y ha elegido "SI," siga las instrucciones alternativas de la página 51.

Si ha elegido "NO," aparecerá de nuevo la pantalla del paso 7.
Intente fijar un código diferente para su marca y/o cambie le conexión de su equipo.
Si su respuesta es todavía "NO," el control de la caja de TV por cable o el receptor DSS no es disponible.

9

```
FIJAR EL CANAL PBS DE TV
POR CABLE DE SU LOCAL
       CA 01

ELEGIR:▲ ▼
FIJAR :▶
TERMINAR:ACTION
```

Verifique que su caja de TV por cable esté encendido y su receptor DSS esté apagado.

Seleccione el canal PBS de su local que está recibiendo en su caja de TV por cable.

1) Presione ▲▼ para seleccionar.
2) Presione ▶ para ajustar.

10

FIJACION AUTO. (RELOJ)

CONECTE EL CABLE DE LA
ANTENA Y SI ESTA USANDO
UNA CAJA DE TV POR CABLE
SINTONICE AL CANAL PBS
DE SU LOCAL   LUEGO...

POR FAVOR OPRIMIR CH UP

Iniciar la fijación automática del reloj

Presione ▲.

- "FIJACION AUTOMATICA DE RELOJ EN PROCESO" aparece.

11

1/ 4/2000 MAR 12:00PM
HORA VERANIEGA:ACT
CANAL FIJADO : CA 02

FIJACION AUTOMATICA

COMPLETO

TERMINAR:OPRIMIR CH UP

Comprobas si la hora está fijada correctamente.

Presione CH ▲ para terminar la fijación.

Si la hora que aparece no es correcta...

Si en su región se combia la hora para ahorrar energía, y la hora que aparece es incorrecta, siga los pasos "Ajuste Horario de la Zona."

O, si utiliza la caja de TV por cable y recibe más de una emisora PBS, intente nuevamente el ajuste automático del reloj donde antes no hubiera probado.

Si aparece la pantalla inferior...

La instalación automática del reloj no es de aplicación para su zona horaria.
Pulse ACTION para que aparezca la pantalla "Fijación Manual del Reloj" y siga los pasos b), c) y d) de la página 51.

FIJACION AUTOMATICA
DEL RELOJ
INCOMPLETO

OPRIMIR ACTION
PARA FIJAR EL RELOJ

Nota

La fijación auto mática de la hora se efectuará cada día al apagar la videograbadora por primera vez. there fore, la caja de TV por cable de be permanecer encendido y sintonizado al canal PBS cuando la video grabadora se apaga.

Instrucciones alternativas

Complete los siguientes pasos si ha efectuado una de las siguientes explicaciones.

- Ud.ha elegido la segunda conexión (VCR ▶ CABLE/ DSS ▶ TV o VCR ▶ TV) en el paso 3 de la página 50.
- Ud. ha elegido "SIN CONTROL REMOTO" en el paso 5 de la página 50.
- Ud. Si está usando un receptor DSS y ha elegido "SI" en el paso 8 de la página 50.

1

FIJACION AUTO. (CA/RELOJ)

CONECTE EL CABLE DE LA
ANTENA Y SI ESTA USANDO
UNA CAJA DE TV POR CABLE
SINTONICE AL CANAL PBS
DE SU LOCAL   LUEGO...

POR FAVOR OPRIMIR CH UP

Comience el ajuste automático de canales y el ajuste automático del reloj.

- Aparace las siguientes informaciones:
"AUTOPROGRAMACION EN PROCESO" "FIJACION AUTOMATICA DEL RELOJ EN PROCESO"

2

1/ 4/2000 MAR 12:00PM
HORA VERANIEGA:ACT
CANAL FIJADO : CA 02

FIJACION AUTOMATICA

COMPLETO

TERMINAR:OPRIMIR CH UP

Comprobar si la hora está fijada correctamente.

Presione CH ▲ para salir.

El ajuste del reloj es incompleto.

FIJACION AUTOMATICA
DEL RELOJ
INCOMPLETO

OPRIMIR ACTION
PARA FIJAR EL RELOJ

Ajuste el reloj manualmente.

a) Presione ACTION.

b) Presione ▲▼ para seleccionar el mes.

c) Presione ▶ para ajustar.

\I/   FIJAR RELOJ
1/--/---   --:--
/I\   VERANO:ACT

ELEGIR MES

ELEGIR:▲ ▼
FIJAR :◀ ▶
TERMINAR:ACTION

- De la misma manera, ajuste el día, el año, la hora y la hora de ahorro de energía (VERANO). Para hacer correcciones, presione repetidamente ◀ ▶ para moverse hasta el error, luego corríjalo.

FIJAR RELOJ
1/ 4/2000 MAR 12:00PM
VERANO:ACT

FIJACION ES COMPLETO

FIJAR :◀ ▶
INICIAR:ACTION

d) Presione ACTION. (El reloj se activa.)

- Para salir de este modo, pulse la tecla ACTION nuevamente.

Si la hora y la hora veraniega es incorrecta,

Si utiliza la caja de TV por cable y recibe más de una emisora PBS, intente nuevamente el ajuste automático del reloj donde antes no hubiera probado. (vea "Como Reinstalar el Reloj" en la página 40.)

Raras veces, en caso de que ud. vive cerca de dos zonas con hora diferente, el aparato puede elegir un canal PBS con diferente hora de su zona. En este caso, haga los siguientes pasos:

1) Tome nota del canal que está fijado en la pantalla y salga desde este modo presione el botón CH ▲.

2) Anule este canal desde los canales memorizados en la combinación de VCR/ TV.

3) Presione el botón ACTION para que aparezca la pantalla del ACTION.

4) Presione ▲▼ para elegir "FIJAR RELOJ" y luego presione ▶ para que aparezca la pantalla de "FIJAR RELOJ."

5) Presione ▲▼ y para elegir y fijar "FIJACION AUTOMATICA."

6) Siga las instruccions en la páginas 50 y 51.

• Si ud.esta usando una caja de TV por cable y tiene muchos canales PBS, sintonize la caja de TV por cable a un canal PBS diferente e intente la fijación automática otravez.

Ajustar de nuevo el reloj

1 Presione ACTION para exhiba el menú.
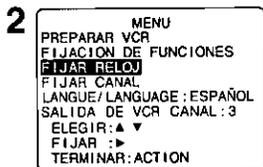
2
```
            MENU
PREPARAR VCR
FIJACION DE FUNCIONES
FIJAR RELOJ
FIJAR CANAL
LANGUE/ LANGUAGE : ESPAÑOL
SALIDA DE VCR CANAL : 3
 ELEGIR : ▲ ▼
 FIJAR : ▶
 TERMINAR : ACTION
```
Presione ▲▼ para seleccionar "FIJAR RELOJ" y luego presione ▶.
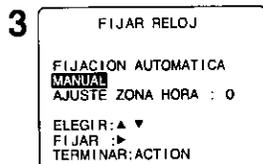
3
```
       FIJAR RELOJ

FIJACION AUTOMATICA
MANUAL
AJUSTE ZONA HORA : O

ELEGIR : ▲ ▼
FIJAR : ▶
TERMINAR : ACTION
```
Presione ▲▼ para seleccionar "MANUAL" y luego presione ▶.

4
```
   FIJAR RELOJ\I/  \I/
1/ 4/2000 MAR 12:00PM
        VERANO:ACT/I\
-------------------------
ELEGIR HORA

ELEGIR : ▲ ▼
FIJAR : ◀ ▶
TERMINAR : ACTION
```
Presione ▲▼ y ◀▶ para seleccionar y ajustar la hora y la fecha.

5 Presione ▲▼ y ◀▶ para seleccionar y fijar la hora y la fecha.

6 Presione ACTION dos veces para que el reloj comience a funcionar y salir desde este modo.

• Para ajustar el reloj automático, seleccione "FIJACION AUTOMATICA" y luego siga las instrucciones de ajuste de una vez del videograbador en las páginas 50 y 51.

Operaciones básicas para la reproducción

1 Inserte un casete.

• La videogrababora se enciende automáticamente.

2 Presione PLAY.

• O, si el casete no tuviera la lengüeta de grabación (véase la página 42), se inicia la reproducción automática.

■ Para encontrar una escena en particular
Búsqueda hacia adelante ---> Presione FF.
Búsqueda hacia atrás ---> Presione REW.

■ Para ver una imagen fija (congelada) --->
Presione PAUSE/SLOW.

■ Para ver imágenes cuadro a cuadro --->
Presione PAUSE/SLOW en el modo de imagen fija.

■ Para ver en cámara lenta ---> Mantenga pulsado el botón PAUSE/SLOW en el modo de imagen fija.

■ Para parar ---> Presione STOP.

■ Para rebobinar la cinta ---> Presione REW.

■ Para hacer avanzar la cinta rápidamente --->
Precione FF

■ Para expulsar la cinta ---> Presione STOP/EJECT en el viideogrababora.

Por ayuda llame al 1-800-211-PANA(7262).

Operaciones básicas para la grabación

1

Lengüeta
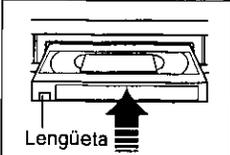
Inserte un casete.

• La videograbadora se enciende automáticamente.

2 Seleccione el canal.

Presione CH ▲/▼ o las teclas numéricas correspondiente.

3 Seleccione la velocidad de grabación.

Presione SPEED.

• SP = Reproducción estándar,
• LP = Larga duración,
• SLP = Superlarga duración.

4 Comience la grabación.

Presione REC.

• Presione PAUSE/SLOW para hacer una pausa en la grabación en progreso.

■ **Para parar ---> Presione STOP.**
■ **Grabación de un toque**

Presione REC repetidamente para ajustar la hora de grabación (30 min - 4 horas).

• La videograbadora termina la grabación a una hora programada.

```
┌─► Grabación normal ─► 0:30 ─► 1:00 ─┐
└─ 4:00 ◄─ 3:00 ◄─ 2:00 ◄─ 1:30 ◄─┘
```

Programación fácil para la grabación con temporizador

1 Exhiba FIJAR PROGRAMACION.
Presione PROG/VCR+.

2

```
┌─────────────────────┐
│ FIJAR PROGRAMACION   │
│                      │
│ VCR Plus+            │
│ TEMPORIZADOR         │
│                      │
│ ELEGIR:▲ ▼          │
│ FIJAR :►            │
│ TERMINAR:ACTION      │
└─────────────────────┘
```

Exhiba "TEMPORIZADOR".

1) Presione ▲▼ para seleccionar.
2) Presione ► para exhibir.

• Si ya existe un programa en la memoria, presione ▲▼ y ► para seleccionar un número de programa sin usar.

3

```
┌─────────────────────────┐
│ RECNA/ INICIO PARADA CA │
│ 8 SAB --:-- --:-- --    │
│ HOY/|\                  │
│ CATEGORIA:NO        SLP │
│ ─────────────────────── │
│ ELEGIR FECHA DE INICIO  │
│ ELEGIR:▲ ▼             │
│ FIJAR :►               │
│ TERMINAR:PROG/ACTION     │
└─────────────────────────┘
```

Ajuste la fecha de grabación.

1) Presione ▲▼ para seleccionar.
2) Presione ► o ◄ para ajustar.

• 1~31 = Grabación única
• DIARIO = a la misma hora de lunes a viernes
• SEMANA = a la misma hora una vez a la semana
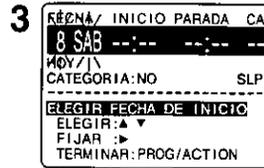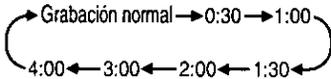
Ejemplo
Fecha de hoy—7

```
┌─►8—9·······31—1 — 2·····6─┐
   ▲/▼ Orden para elegir    DIARIO
└─SEMANAL·····SEMANAL — SEMANAL─┘
   (SAB)      (LUN)      (DOM)
```

Repita el paso 3 para ajustar:
hora de comienzo, hora de parada, canal (o LINEA para una fuente exterior), categoría*, velocidad (SP, LP, SLP).
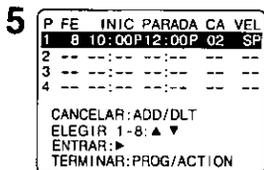* Categoría
NO, DEPORTE, CINE, COMEDIA, MUSICA, DRAMA

4

```
┌─────────────────────────┐
│ FECHA  INICIO PARADA  CA │
│ 8 SAB 10:00P 12:00P 02  │
│ HOY              ABC    │
│ CATEGORIA:CINE      SP  │
│ ─────────────────────── │
│ FIJACION ES COMPLETO    │
│ PARA REGISTRAR NOTAS : ▲ │
│ FIJAR :◄ ►             │
└─────────────────────────┘
```

```
┌─────────────────────────┐
│ FECHA  INICIO PARADA  CA │
│ 8 SAB 10:00P 12:00P 02  │
│ HOY              ABC    │
│ CATEGORIA:CINE      SP  │
│ NOTAS:▪──────────────── │
│ REGISTRAR NOTAS         │
│ ELEGIR:▲ ▼             │
│ FIJAR :►               │
│ TERMINAR:PROG/ACTION     │
└─────────────────────────┘
```

Haga las anotaciones necesarias.

• Si no fueran necesarias, vaya al paso 5.

1) Presione ▲ para hacerlas.
2) Presione ▲▼ para seleccionar.
3) Presione ◄ para ajustar.
4) Presione PROG/VCR+ (o ACTION) para salir.

5

```
┌─────────────────────────┐
│ P FE  INIC PARADA CA VEL │
│ 1  8 10:00P12:00P 02  SP │
│ 2  -- --:-- --:-- --  -- │
│ 3  -- --:-- --:-- --  -- │
│ 4  -- --:-- --:-- --  -- │
│                         │
│ CANCELAR:ADD/DLT        │
│ ELEGIR 1-8:▲ ▼         │
│ ENTRAR:►               │
│ TERMINAR:PROG/ACTION     │
└─────────────────────────┘
```
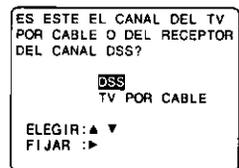
Termine el programa.

Presione PROG/VCR+ (o ACTION).

• Si la hora de comienzo de los programas coincide, estos programas se iluminarán.

Si usa un receptor DSS y fija un canal de 100~125, seleccione "DSS" o "CABLE."

```
┌─────────────────────────┐
│ ES ESTE EL CANAL DEL TV │
│ POR CABLE O DEL RECEPTOR │
│ DEL CANAL DSS?          │
│                         │
│       DSS               │
│       TV POR CABLE      │
│                         │
│ ELEGIR:▲ ▼             │
│ FIJAR :►               │
└─────────────────────────┘
```

1) Presione ▲▼ para seleccionar.
2) Presione ▲ para fijar.

• La pantalla para la confirmación como demuestra arriba aparecera luego de la fijación.

Para introducir más programas, presione ▲▼ y ► para seleccionar y ajustar el número de programa en blanco. Luego repita los pasos 3 y 4.

6 Salir del Programa.

Presione PROG/VCR+ (o ACTION).

6

Pantalla multifuncinal

Grabación con temporizador.
Presione POWER para apagar.

• Si la fuente de la grabación es una caja de TV por cable asegúrese de que la caja de TV por cable esté encendida y esté sintonizada al canal que desea grabar.

Location of Controls

Remote control Buttons

EJECT
See page 12.

POWER
See page 8.

VCR mode
See page 22.

VCR/ TV
See page 13.

PLAY
See page 12.
SELECT UP
See page 10.

REWIND/ SEARCH
See page 12.
SET
See page 10.

ACTION
See page 40.

NUMBERED KEYS
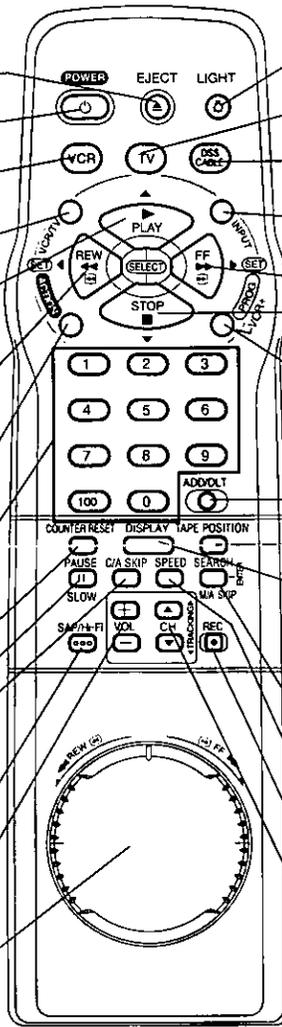See page 13.

COUNTER RESET
See page 31.

PAUSE/ SLOW
See page 12.

COMMERCIAL ADVANCE
See Pages 24~26.

SAP/ Hi-Fi
See page 33.

VOLUME UP/ DOWN
See page 22.

SHUTTLE Ring
See page 39.

LIGHT
See page 54.

TV mode
See page 22.

DSS/ CABLE mode
See page 22.

INPUT
See page 15.

FAST FORWARD/ SEARCH
See page 12.
SET
See page 10.

STOP
See page 12.
SELECT DOWN
See page 10.

PROGRAM/ VCR+
See pages 16, 17, 21, 37.

ADD/ DELETE
See page 41.

TAPE POSITION
See page 38.

DISPLAY
See page 44.

SEARCH/ ENTER/ MOVIE ADVANCE
See pages 27~31.

SPEED
See page 13.

RECORD
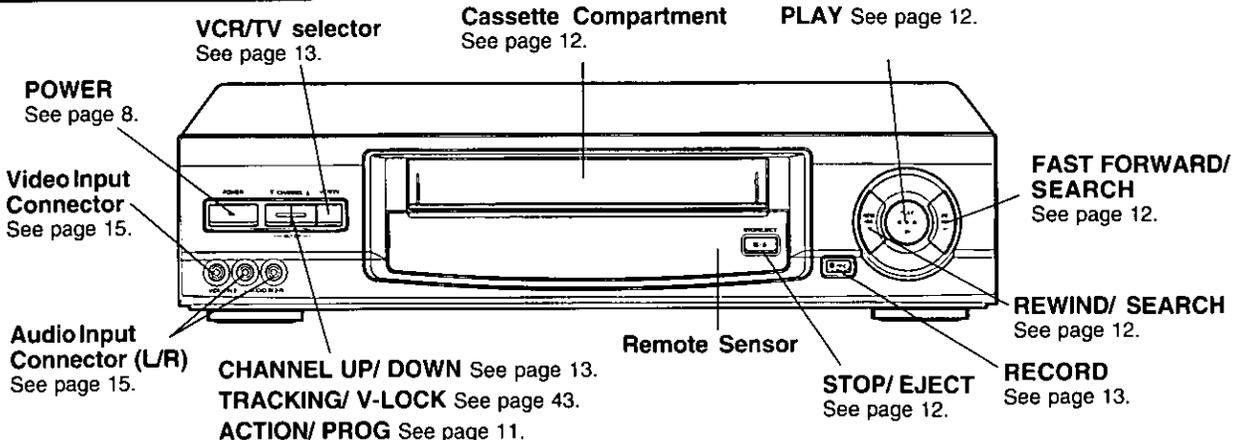See page 13.

CHANNEL UP/ DOWN
See page 13.
TRACKING/ V-LOCK
See page 43.

Light Tower Universal Remote Control

Light button: When the LIGHT button is pressed, the buttons which can be activated in the selected mode will light and the selected mode button (TV/VCR or CABLE DSS) will flash for 5 seconds. If no buttons are pressed within 5 seconds, the light will turn off in order to conserve battery power. Also while holding down the buttons, the selected mode button will flash so you will be able to see, in the dark, which mode has been selected.

EJECT button: When EJECT is pressed, the tape is ejected from Cassette Compartment.
If EJECT is pressed during recording, the VCR will not respond to the command.

Front View of the VCR

VCR/TV selector
See page 13.

Cassette Compartment
See page 12.

PLAY See page 12.

POWER
See page 8.

Video Input Connector
See page 15.

Audio Input Connector (L/R)
See page 15.

CHANNEL UP/ DOWN See page 13.
TRACKING/ V-LOCK See page 43.
ACTION/ PROG See page 11.

Remote Sensor

FAST FORWARD/ SEARCH
See page 12.

REWIND/ SEARCH
See page 12.

STOP/ EJECT
See page 12.

RECORD
See page 13.

54

Multi Function Display

Speed Display
Displays the recording speed.

VCR Indicator
Lights when the VCR/TV selector is set to VCR.

Hi-Fi Indicator
Lights when Hi-Fi audio is monitored or playback.

Clock/ Status/ Channel Display/ Prog
Displays the current time. Briefly displays VCR status when a function button is pressed.
Briefly displays the channel number, or "LINE1" or "LINE2" when a channel or line input is selected.
In demonstration mode, featured items are displayed. (See below.)

Self Demo Mode

After first power on or VCR memory reset (page42), Self Demo mode is started after 5 seconds.
This mode is cancelled when clock is set.
To restart, hold down PLAY on VCR for 5 seconds.
To cancel, hold down PLAY again for 5 seconds.

• This mode is only possible when cassette is not inserted and clock is not set.

Rear View of the VCR

AC Power Plug
While plugged into an AC outlet, the VCR consumes 3.3 W of electrical power in off condition.

Audio Input Connector (L/R)
See page 15.

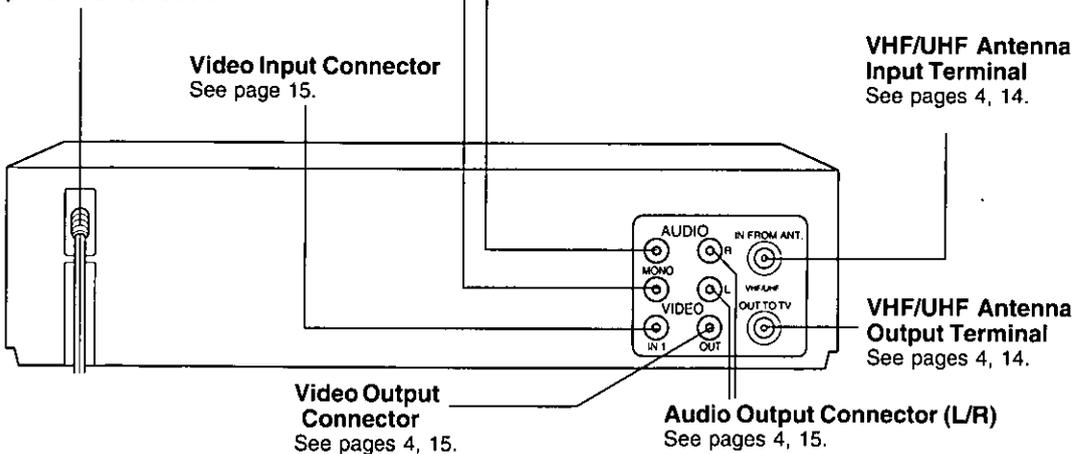**Video Input Connector**
See page 15.

VHF/UHF Antenna Input Terminal
See pages 4, 14.

VHF/UHF Antenna Output Terminal
See pages 4, 14.

Video Output Connector
See pages 4, 15.

Audio Output Connector (L/R)
See pages 4, 15.

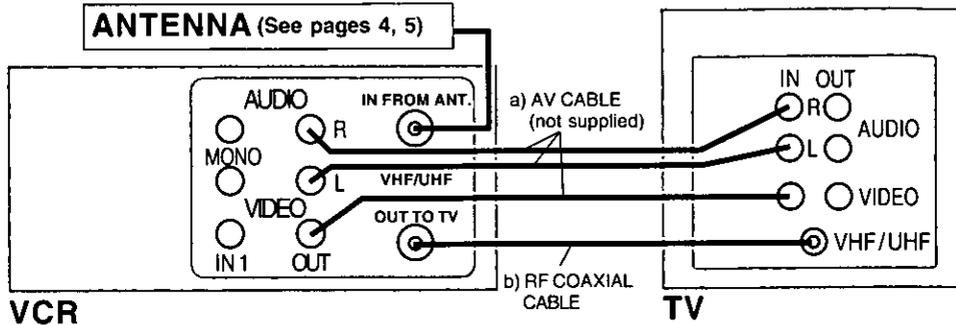Location of Controls

55

Quick Use Guide

## 1 Make all connections (page 4).

Connect VCR and TV with AV Cable (not supplied) or RF Coaxial Cable (supplied) as shown below.
To use your TV as a VCR monitor, set the VIDEO/TV selector on the TV (Monitor/Receiver) to "VIDEO."
Use the L Audio OUT jack for proper sound reproduction when connecting to a monaural TV.

ANTENNA (See pages 4, 5)

VCR
- AUDIO
- MONO
- R
- L
- VIDEO
- IN 1
- OUT
- IN FROM ANT.
- VHF/UHF
- OUT TO TV

a) AV CABLE (not supplied)

b) RF COAXIAL CABLE

TV
- IN OUT
- R
- L AUDIO
- VIDEO
- VHF/UHF

Notes
1) While connection b) (above) is sufficient, connection a) offers better sound and picture (especially with this model, you can enjoy Hi-Fi STEREO sound).
2) For both connections a) and b) proceed as follows:
   - To use VCR : VCR Power on, set TV to VIDEO.
   - To watch TV : VCR Power off, select channel on.
3) When using connection b) (see page 4), tune to VCR's output channel.
4) Set VCR Output to channel 3 or 4 (not an active station). (See page 8.)

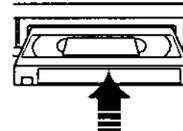## Playback a Tape

2 Play your Tape.
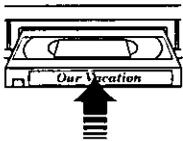
Insert a tape

Press PLAY
(Starts playback)
- Or, if tape has no record tab, auto playback begins.
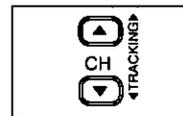

Record on a Tape

2 Do "One Time VCR Setup" on page 6.
In order for the VCR to properly interface with your equipment, some setup is necessary.
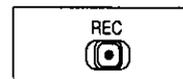
3 Record on a Tape.

Insert a tape with Record Tab

Press CH Up/Down.
(Select Channel)

Press SPEED.
(Change speed)

Press REC.
(Starts Recording)

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Printed in Japan
LSQT0194A
S0100-0

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