Thank you for choosing

Panasonic VHS
Omnivision

P6 ~ P9
Connections

P10 ~ P14
Getting Started

P15 ~ P19
Basic Operation

P20 ~ P31
More You Can Do

P32 ~ Back Cover
Other Information

MODEL PV-7455S
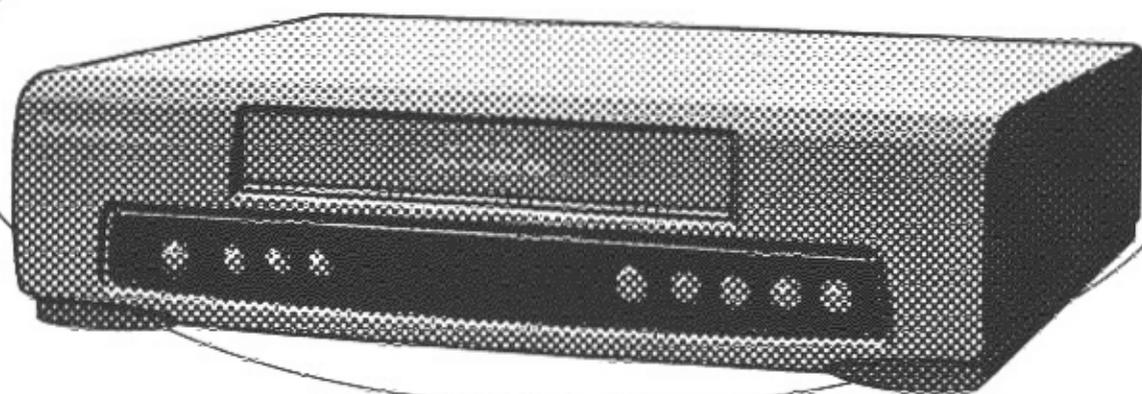
Video Cassette Recorder

VCR *plus+*

Easy Taping.

Operating Instructions

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 includo.)

Quick Use Guide is on the back cover.

Things You Should Know

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 at right. The serial number is on the tag located on the back of your VCR.
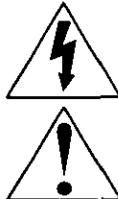
Date of Purchase _____

Dealer Purchased From _____

Dealer Address _____

Dealer Phone No. _____

Model No. _____ PV-7455S _____

Serial No. _____

Safety Precautions

Warning: To prevent fire or shock hazard, do not expose this equipment to rain or moisture.

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.

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

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

This symbol 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

⚠️ Important Safeguards and Precautions

FOR YOUR SAFETY, READ AND RETAIN ALL SAFETY AND OPERATING INSTRUCTIONS. HEED ALL WARNINGS IN THE MANUAL AND ON THE UNIT

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.
• Support for the unit should be firm, level, and adequately strong.
• 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.
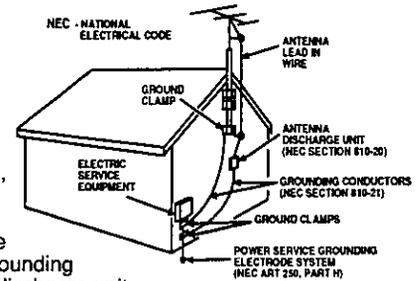
2 KEEP ANTENNA CLEAR OF HIGH VOLTAGE POWER LINES OR CIRCUITS

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 thorough safety check as described in the manufacture's service literature to insure that the video unit is in safe operating condition.
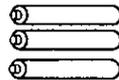
3

Unpacking Your VCR • Product Features

Unpacking Your VCR

The accessories below are provided to help you use or set up your VCR.

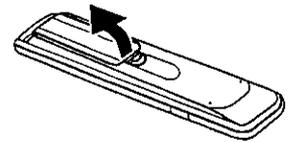### Accessories
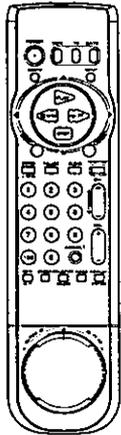
Remote Control
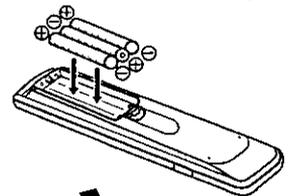VSQS1497

3 "AAA" Batteries

RF Coaxial Cable VJAS0183

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

Loading the Batteries
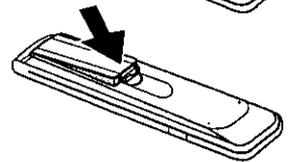
1 Push in and up on the latch with your thumb nail and lift off the lid.

2 Install three batteries as indicated inside the Battery Compartment.

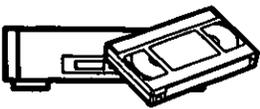*3* Fit the lid's hinge piece into the indent on the case, and snap the lid into place.

Battery replacement caution
• Do not mix old and new batteries.
• Do not mix alkaline with manganese batteries.

Product Features

Erase Protection (Record Tab)

Cassettes have a record tab to ensure that recordings are not accidentally erased.

To prevent accidental erasure, break off the tab with a screwdriver.

To record again, cover the hole with cellophane tape.

Maximum 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

Head Cleaning

Your VCR will not normally require head cleaning, however the heads may become clogged when playing an old or damaged tape.

Video Heads Sensor System

If head cleaning becomes necessary, the VCR will display the screen at right while playing back a recorded signal.
To exit this screen, push PLAY on the remote control 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.**
- Be sure to follow the cleaning tape instructions carefully. Excessive use of a cleaning cassette can shorten head life.
- If using a head cleaning cassette does not solve the problem, contact your nearest Factory Service Center or authorized Service Center.

* Cleaning cassette part No. NV-TCL30PT is recommended.

Reset all VCR Memory Functions

Use when moving the VCR to a 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) Push and hold both PLAY and CHANNEL ▲ on the VCR for more than 5 seconds.
   - The power will shut off.
3) Perform the One Time VCR Setup section on page 12.
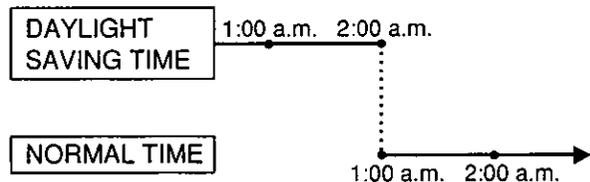
D.S.T. (Daylight Saving Time)

Spring (First Sunday in April)
When the VCR is set to DST:ON, it automatically adds one hour and adjusts the clock.

NORMAL TIME — 1:00 a.m. 2:00 a.m.

DAYLIGHT SAVING TIME — 3:00 a.m. 4:00 a.m.
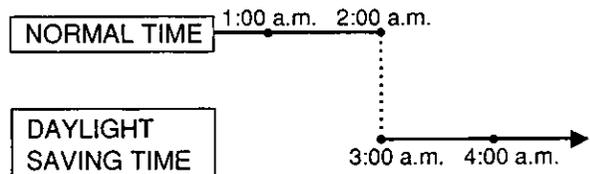
Autumn (Last Sunday in October)
When the VCR is set to DST:ON, it automatically turns back one hour and adjusts the clock.

DAYLIGHT SAVING TIME — 1:00 a.m. 2:00 a.m.

NORMAL TIME — 1:00 a.m. 2:00 a.m.

Specifications

Power Source:	120V AC, 60 Hz
Power Consumption:	Approx. 23 watts (Power on) Approx. 7 watts (Power off)
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
CATV 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 CATV channel 5A (01) Ultraband 65~94, 100~125
Operating Temperature:	41°F~104°F (5°C~40°C)
Operating Humidity:	10%~75%
Weight:	7.5 lbs. (3.4 kg)
Dimensions:	14-15/16" (W) x 3-2/3" (H) x 11-13/16" (D) 380 (W) x 93 (H) x 300 (D) mm

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

5

Basic Connection

ANTENNA
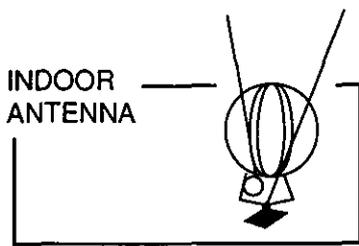
INDOOR ANTENNA

or
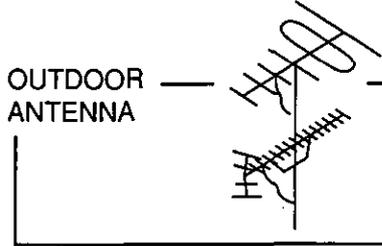
OUTDOOR ANTENNA

or
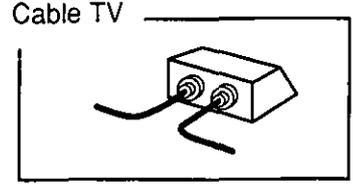
Cable TV

Disconnect the antenna or cable from your TV and connect it to the VCR (IN FROM ANT.)

VCR

TV
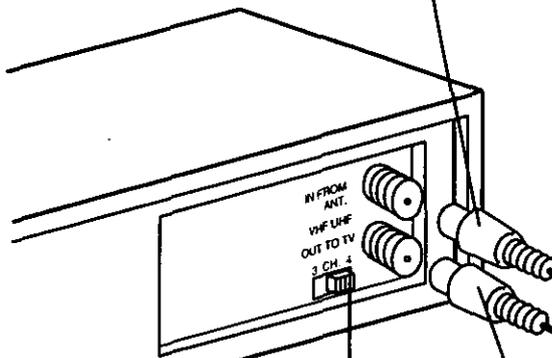
Antenna Cable

Set the Output Channel of your VCR
to channel 3 or 4 (whichever is not being transmitted on by a Local TV broadcast).
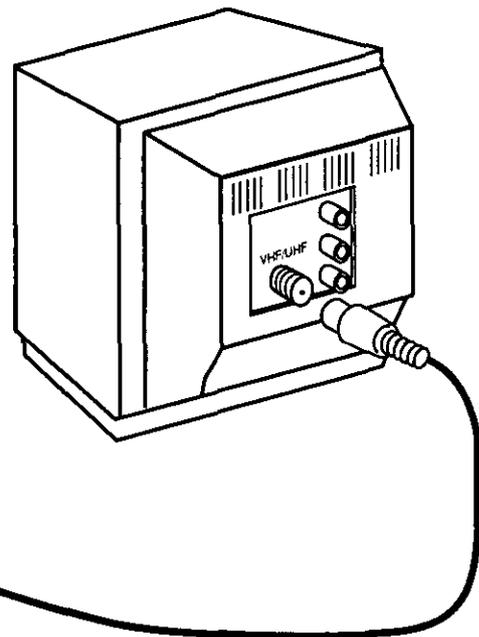
RF Coaxial Cable
(VCR-TV Connection Cable) (supplied)

Connect the VCR to your TV with the RF Coaxial Cable (OUT TO TV).

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

Between Antenna and VCR

Case 1: Twin Lead Cable Only

To VCR Terminal

(Flat) Twin Lead 300 Ohm Cable

300-75 ohm Transformer (not supplied)
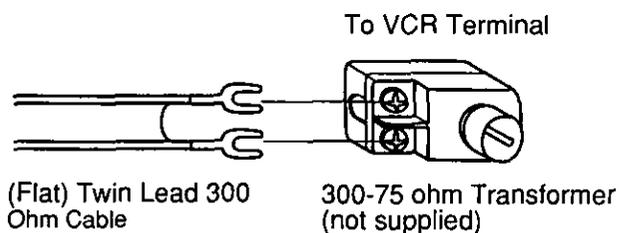
Case 2: Twin Lead & Coaxial Cables

UHF/VHF Band Mixer (not supplied)

(Round) 75 Ohm coaxial Cable

To VCR Terminal
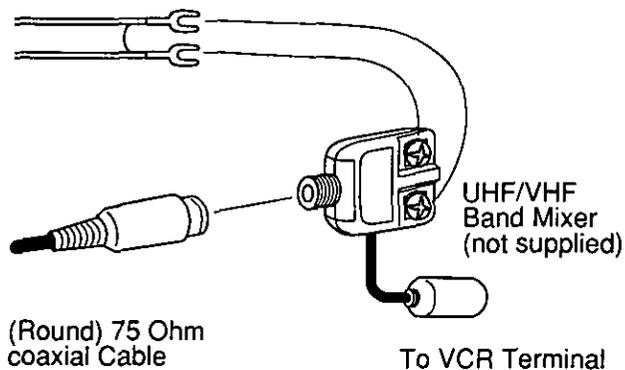
Case 3: Two Twin Lead Cables

UHF/VHF Band Mixer (not supplied)

300-75 ohm Transformer (not supplied)

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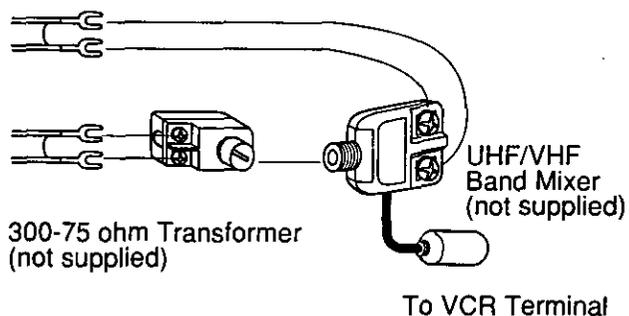
- If your TV has both post and plug-type VHF terminals, the post connection is recommended to minimize signal loss.

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

TV

75-300 ohm Transformer (not supplied)

VHF or UHF
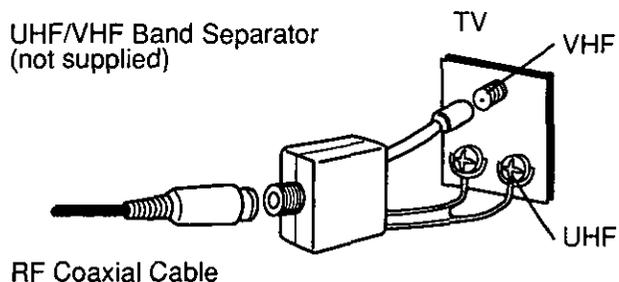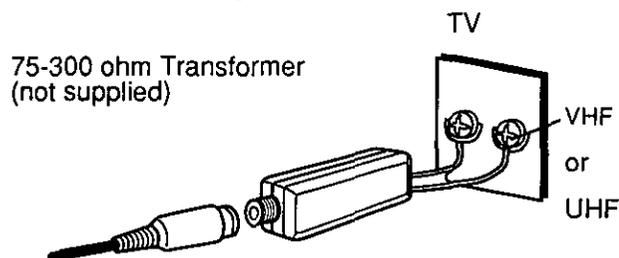
Case 3: Double Screw Type Terminal

UHF/VHF Band Separator (not supplied)

TV

VHF

UHF
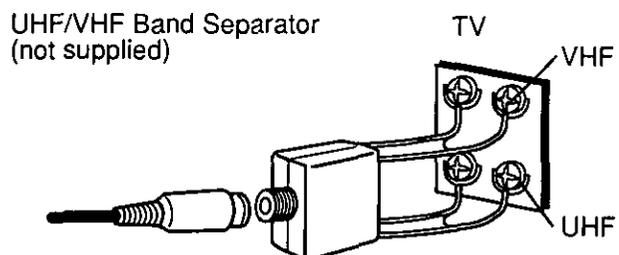
Case 4: Complex TV Terminal

TERMINALS ON BACK OF TV SET

TV

Split out

ANT1

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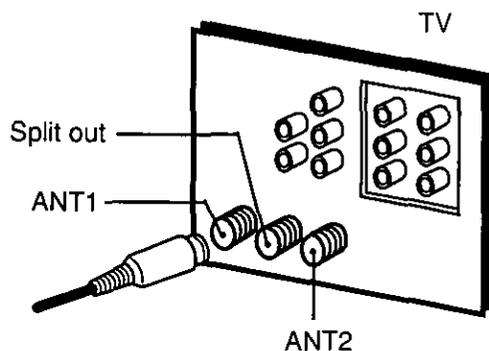
- Connect to one of the ANT terminals and select the same antenna number on the TV.

Additional Connections

CATV(Cable) Connections

All connections on this page are made with 75 Ohm coaxial cables.

Without a Converter/Descrambler Box

You can:

1) Use your VCR Remote Control to select channels.

2) Program one or more unscrambled channels for unattended recording.

You cannot:
record or view scrambled channels with this connection.

VCR IN FROM ANT. TV
OUT TO TV
IN FROM CABLE
VHF/UHF
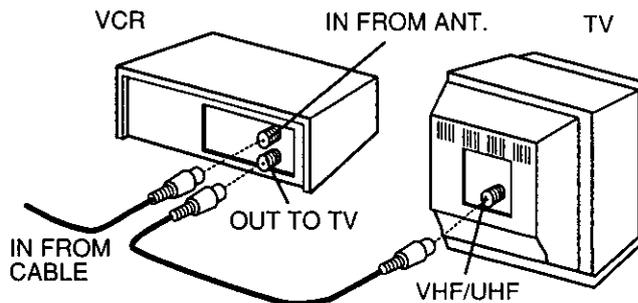
With a (CABLE to VCR) Converter/Descrambler Box

You can:

1) Record and view any channel including scrambled channels; channel selection must be made at the Cable TV Converter Box.

2) Program one channel for unattended recording.

You cannot:
select channels from VCR or TV.

Cable TV Converter Box
VCR OUT TO TV TV
IN FROM ANT.
IN FROM CABLE
VHF/UHF
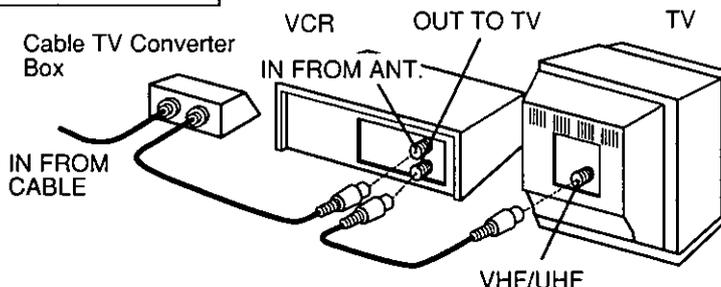
With a (VCR to TV) Converter/Descrambler Box

You can:

1) Use your VCR Remote Control to select channels.

2) Program unattended recordings of more than one unscrambled channel.

You cannot:
record scrambled channels with this connection.

VCR IN FROM ANT. TV
IN FROM CABLE
OUT TO TV
Cable TV Converter Box IN OUT
VHF/UHF
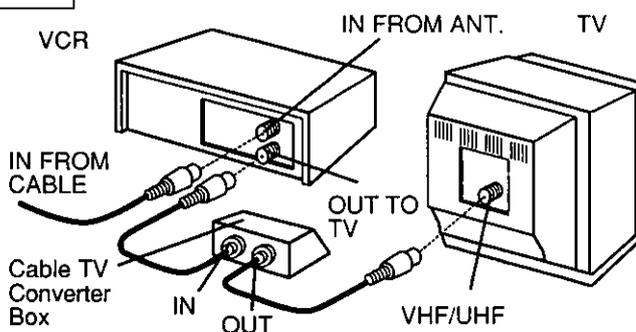
With Two Converter/Descrambler Boxes

If you want to record and view a combination of scrambled and unscrambled channels, you will need additional equipment.
This connection requires two converter boxes, an A/B switch, and a 2-way splitter as shown here.

Converter Box 1
IN FROM CABLE
TV
2-Way Splitter
IN OUT 1
IN FROM ANT. VCR
OUT 2
Converter Box 2
VHF/UHF
75ohm Coaxial Cable
OUT TO TV
OUT A/B Switch
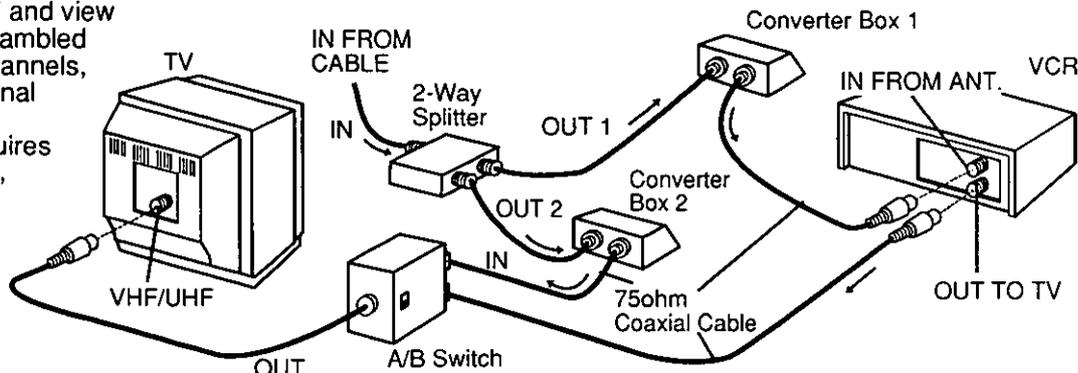
With a DSS Receiver

You can:

1) Record and view any channel including scrambled channels; channel selection must be made at the DSS Receiver.

2) Program one channel for unattended recording.

NOTE: The DSS receiver must be turned off to view programs from a cable box or antenna. See the DSS manual for details.

IN FROM CABLE or Antenna
IN FROM Satellite Dish
OUT TO TV
TV
DSS Receiver
IN FROM ANT.
VCR
VHF/UHF
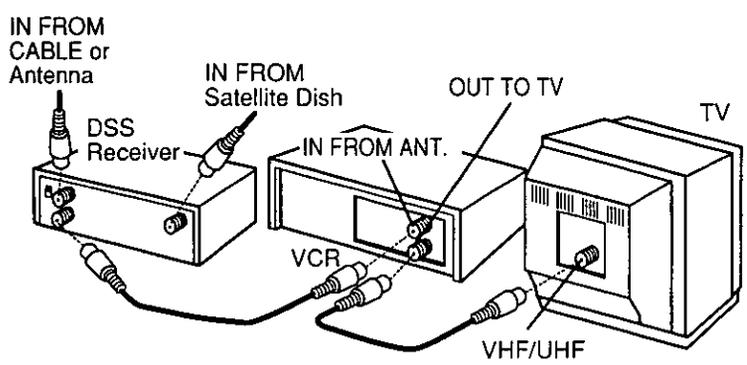
**DSS® is a registered trademark of DIRECTV, INC., a unit of GM Hughed Electronics.

Audio/Video Connections

If your TV has AUDIO IN and VIDEO IN terminals, you can connect your VCR to them to receive a higher quality picture and sound. If your TV is not stereo, you can connect a stereo amplifier to the VCR to enjoy stereo sound.

Audio/Video Connections

TV
VCR
VIDEO OUT
IN FROM ANT
OUT TO TV
AUDIO IN
R
VHF/UHF
AUDIO OUT
R L
VIDEO IN
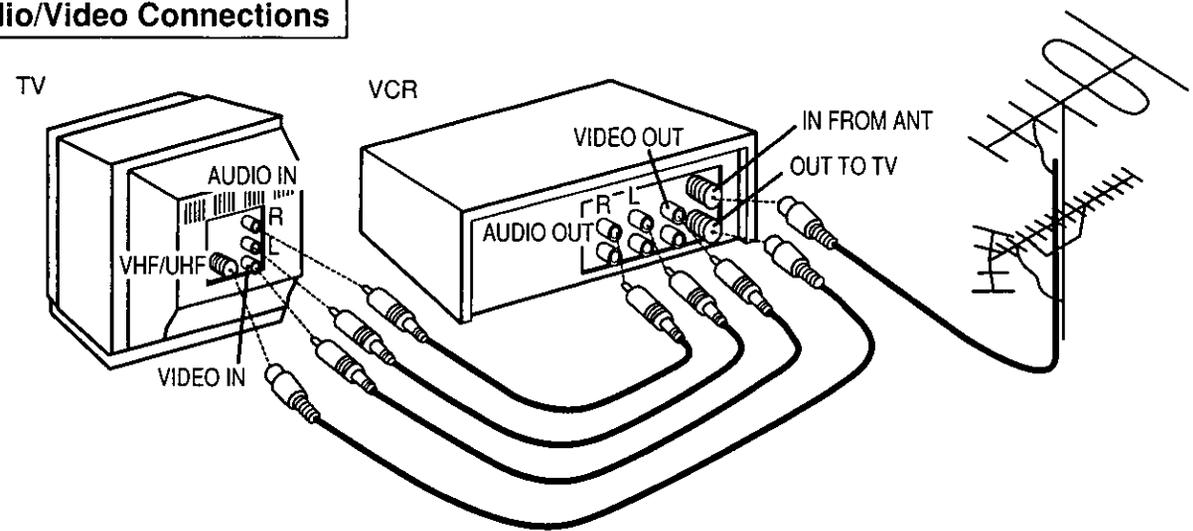
1 Connect the VIDEO OUT terminal on the VCR to the VIDEO IN terminal of your TV.
2 Connect the "L" and "R" AUDIO OUT terminals on the VCR to the "L" and "R" AUDIO IN terminals of your TV.
3 Set the VIDEO/TV selector of your TV (Monitor/Receiver) to "VIDEO."

NOTE: To use your TV as a VCR monitor, set the VIDEO/TV selector on the TV (Monitor/Receiver) to "VIDEO." Use the L Audio In jack for proper sound reproduction when connecting to a monaural TV.

Stereo Amplifier Connections

When you connect your VCR to a Stereo Component System, you can view the picture from the VCR while enjoying stereo from your audio system.

Connect the "L" and "R" AUDIO OUT terminals on the VCR to the "L" and "R" AUDIO IN terminals of your stereo.

Stereo Amplifier
AUDIO OUT
VCR
R L
AUDIO IN
R L
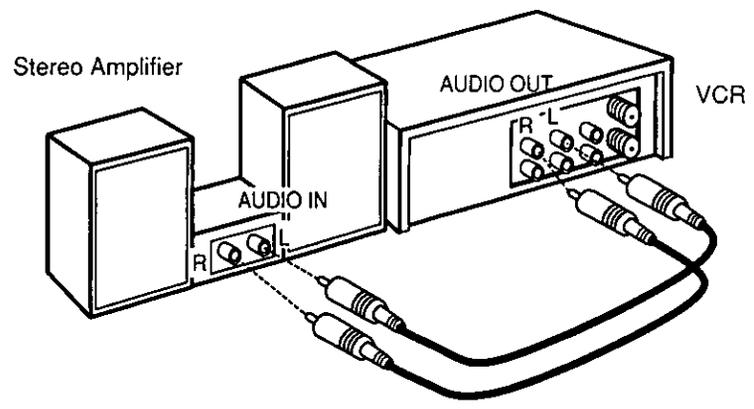
Note to CATV system installer:
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC in USA (and to the Canadian Electrical Code in Canada) that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

9

Location of Controls

Remote Control Buttons

VCR
See pages 30, 31.

POWER
See pages 12, 18, 19, 29.

VCR/TV
See pages 12, 16.

PLAY
See pages 15, 22.
SELECT UP
See pages 12~14, 18~20, 23, 27~29.

REWIND/ SEARCH
See pages 15, 22.
SET/BACKSPACE
See pages 12, 13, 18, 19, 28, 29.

MENU
See pages 12~14, 20, 23, 27, 28.

ZERO SEARCH/ 1 MINUTE SKIP
See pages 20, 21.

PAUSE
See pages 15, 16, 17.

NUMBERED KEYS
See pages 13, 16, 22, 29, 30.

SAP/Hi-Fi
See page 25.

SPEED
See pages 16, 29.

COUNTER RESET
See page 20.

INDEX
See page 22.

TV
See pages 30, 31.

CATV
See pages 30, 31.

INPUT
See pages 16, 17.

FAST FORWARD/SEARCH
See pages 15, 22.
SET
See pages 12~14, 18~20, 23, 27~29.

STOP
See pages 15, 16, 19, 22.
SELECT DOWN
See pages 12~14, 18~20, 23, 27~ 29.

PROGRAM
See pages 18, 19, 29.

RECORD/TIME
See page 16.

SLOW
See page 15.

CHANNEL UP/DOWN
(TRACKING UP/DOWN)
See pages 12, 13, 15, 16, 17.

VOLUME UP/DOWN
See page 31.

DISPLAY/ENTER
See pages 14, 16, 20, 24, 31.

ADD/DELETE
See pages 13, 19, 28, 29.

SHUTTLE Ring
See page 21.

Front View of the VCR

CHANNEL UP/DOWN
TRACKING/V-LOCK
See pages 12, 15~17.

Cassette Compartment
See pages 15, 16, 17.

STOP/EJECT
See pages
15, 16, 17, 19, 21, 23.

FAST FORWARD/
SEARCH
See pages 15, 19, 21.

POWER
See pages
12, 18, 19, 29.

RECORD/TIME
See pages 16, 17, 19.

VCR/TV Selector
See pages 12, 16, 17.

PLAY
See pages 15, 17, 19, 21.

REMOTE
SENSOR

Multi Function Display
See pages 11, 15~19, 29.

REWIND/SEARCH
See pages 15, 19, 21.

Multi Function Display

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

Hi-Fi Indicator
Lights when Hi-Fi audio is
monitored or played back.

Power Indicator
Lights when power is on.

● VCR Hi-Fi TIMER

Timer Indicator
Lights when the VCR is set for a
Timer Recording, or when a length
is set for a normal recording.
Flashes when a Timer Recording
is set, but a tape has not been
inserted into the VCR.

Clock/Status/Channel/Speed Display
Displays the current time.
Briefly displays VCR status when a function button is pushed.
Briefly displays the channel number, or "L" when a channel or
line input is selected.
Briefly displays the recording speed when SPEED is pushed.

Rear View of the VCR

AC Power Plug
While plugged into an AC outlet,
the VCR consumes 7 W of
electrical power in OFF condition.

Audio Output Connector (L/R)
See pages 9, 17, 24.

Video Output Connector
See pages 9, 17, 24.

**VHF/UHF Antenna
Input Terminal**
See pages 6~9, 24, 26.

**VHF/UHF Antenna
Output Terminal**
See pages
6~9, 17, 24, 26.

Audio Input Connector (L/R)
See pages 17, 26.

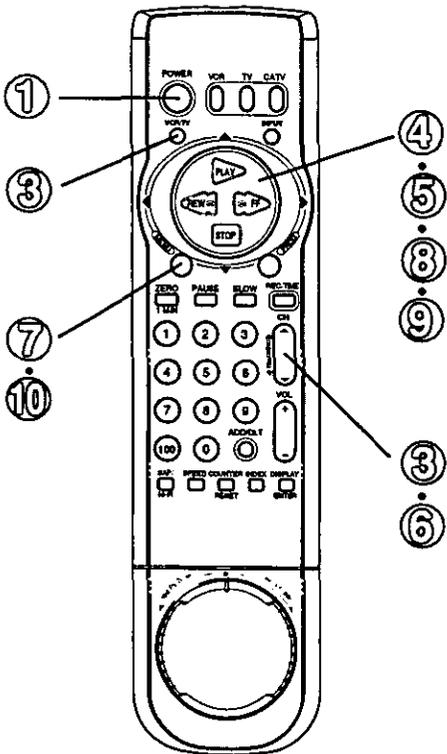**Video Input Connector**
See pages 17, 26.

Channel 3/4 Switch
See pages 6, 12.
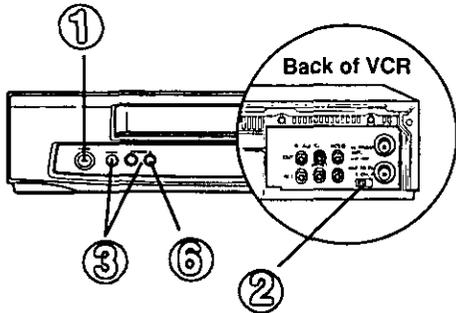
When the VCR power is first turned on, the language select and channel auto set screen appear automatically followed by a prompt to set the clock.

☑ **Check list before you begin.**
☐ All TV and VCR connections are made. (See pages 6~9.)

① Back of VCR

Using ▲▼ ◄► keys ◄(⊕)►

Whenever a menu or program screen is displayed, the PLAY, STOP, REWIND, and FF buttons on the remote control function as ▲▼ ◄► only. For play, stop, rewind, and fast forward functions, use the buttons on the VCR.

To Set the Language, Channels, and Clock

① 🔘 POWER Turn TV and VCR on.

② Tune TV to VCR output channel (the same one you set on the back of the VCR; CH3 or CH4).

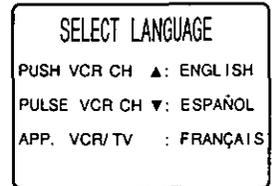**③** Push CH ▲ for English on-screen displays.

or

Push CH ▼ for Spanish on-screen displays.

or

VCR/TV Push VCR/TV for French on-screen displays.

• You can also set the language using the buttons on the VCR.
• The VCR should be connected to an antenna or cable box (page 6~9).

```
SELECT LANGUAGE
PUSH VCR CH ▲: ENGLISH
PULSE VCR CH ▼: ESPAÑOL
APP. VCR/ TV  : FRANÇAIS
```

• **If wrong language is set,** see the "Reset all VCR Memory Functions" section on page 5.

④ ◄(⊕)► Push ▲▼ to select your hookup, and then push ► to set.
• If you selected CABLE/DSS BOX ►VCR►TV, continue with step 5. If not, go to step 6.

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

SELECT:▲ ▼ KEY
SET   :► KEY
END   :MENU KEY
```
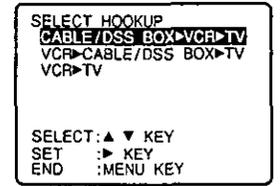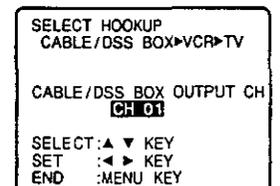
⑤ ◄(⊕)► Push ▲▼ to select your cable box or DSS receiver output channel number, and then push ► to enter.
• If necessary, refer to your cable box manual.
• If you are using Audio/Video jack connections to your cable box, select and set "VIDEO OUT" as the output channel.
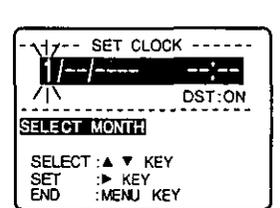
```
SELECT HOOKUP
CABLE/DSS BOX►VCR►TV

CABLE/DSS BOX OUTPUT CH
CH 01

SELECT:▲ ▼ KEY
SET  :◄ ► KEY
END  :MENU KEY
```

⑥ CH Push CH ▲ to start Channel Auto Set.
• "PLEASE SET CLOCK BY PUSHING MENU KEY" appears.

⑦ ◯ Push MENU to display the SET CLOCK screen.

```
----- SET CLOCK -----

            DST:ON
SELECT MONTH
SELECT :▲ ▼ KEY
SET    :► KEY
END    :MENU KEY
```

⑧ ◄(⊕)► Push ▲▼ to select the MONTH, and then push ► to enter.
• Make each entry within 5 minutes, or the VCR exits the Set Clock screen.

⑨ ◄(⊕)► Push ▲▼ and ◄► to select and set remaining items at right.
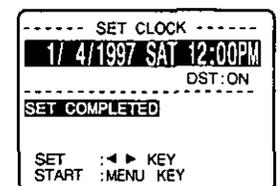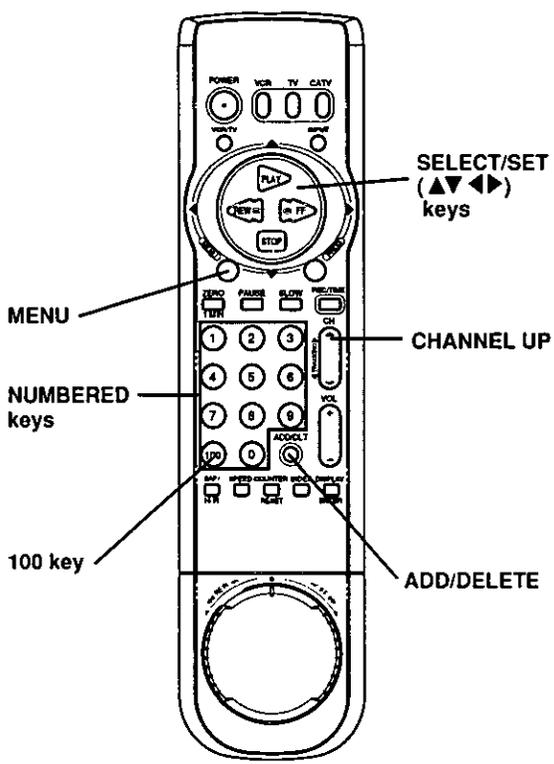• Pushing ◄ will move back to an item for correction.

Remaining items to be set:
• Date • Year
• Time • D.S.T.
(Daylight Saving Time see page 5.)

⑩ ◯ Push MENU twice to start the clock and exit this mode.

```
------ SET CLOCK ------
1/ 4/1997 SAT 12:00PM
            DST:ON
SET COMPLETED

SET  :◄ ► KEY
START :MENU KEY
```

MENU

SELECT/SET
(▲▼ ◀▶)
keys

CHANNEL UP
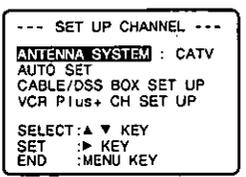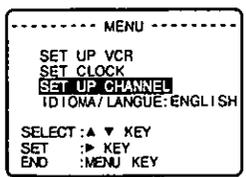
NUMBERED
keys

100 key

ADD/DELETE

Getting Started

To Replace Channels in Memory
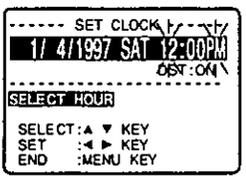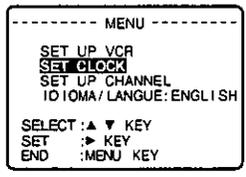
In case you have cable installed, etc.

1 Push MENU to display the menu.

2 Push ▲▼ to select "SET UP CHANNEL," and then push ▶ to display the "SET UP CHANNEL" screen.

3 Push ▲▼ to select "ANTENNA SYSTEM," and then push ▶ to set your antenna system (TV or CATV).

4 Push ▲▼ to select "AUTO SET," and then push ▶ to display the "CHANNEL AUTO SET" screen.
• If you use a cable box, it must be left on for auto channel set.

5 Push CH ▲ to start Channel Auto Set.
• To exit this mode, push MENU twice.

```
- - - - - - - - - MENU - - - - - - - - -
   SET UP VCR
   SET CLOCK
   SET UP CHANNEL
     IDIOMA/LANGUE: ENGLISH

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

```
- - - SET UP CHANNEL - - -
   ANTENNA SYSTEM : CATV
   AUTO SET
   CABLE/DSS BOX SET UP
   VCR Plus+ CH SET UP

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

To Change On-Screen Display Language

1 Push MENU to display the menu.

2 Push ▲▼ to select the language.
  English: LANGUAGE
  Spanish: IDIOMA
  French: LANGUE

```
- - - - - - - - - MENU - - - - - - - - -
   SET UP VCR
   SET CLOCK
   SET UP CHANNEL
     IDIOMA/LANGUE: ENGLISH

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

3 Push ▶ repeatedly to change the language.

```
- - - - - - - - - MENU - - - - - -
   SET UP VCR
   SET CLOCK
   SET UP CHANNEL
     IDIOMA/LANGUE: EN

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

```
- - - - - - - - MENU - - - - - - - - -
   PREPARAR VCR
   FIJAR RELOJ
   FIJAR CANAL
     LANGUE/LANGUAGE: ES

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

```
- - - - - - - - MENU - - - - - - - - -
   REGLAGE MAGNETOSCOPE
   REGLAGE HORLOGE
   REGLAGE CANAL
     LANGUAGE/IDIOMA: FRANÇAIS

  SEL.   : ▲ ▼
  REGLER : ▶
  FIN    : MENU
```

4 Push MENU to exit this mode.

When Using the 100 key

When selecting CATV channels 100 to 125 with the NUMBERED keys, first push the 100 key and then enter the remaining two digits.
For example, to select channel 125:
Push NUMBERED keys 100, then 2, then 5.

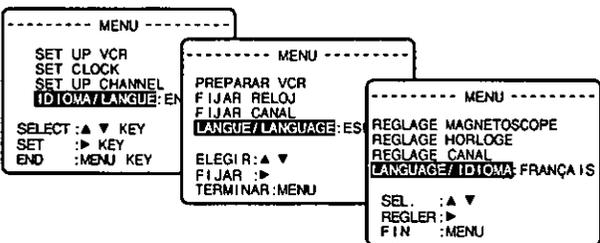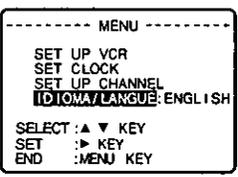## To Set or Reset the Clock

In case the clock is wrong, or a power failure occurred.

1 Push MENU to display the menu.

2 Push ▲▼ to select "SET CLOCK," and then push ▶ to display the "SET CLOCK" screen.

3 Push ▲▼ and ◀▶ to select and set the time and date.

4 Push MENU twice to start the clock and exit this mode.

```
- - - - - - - - - MENU - - - - - - - - -
   SET UP VCR
   SET CLOCK
   SET UP CHANNEL
     IDIOMA/LANGUE: ENGLISH

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

```
- - - - - - SET CLOCK - - - - -
   1/ 4/1997 SAT 12:00PM
                   DST: ON

   SELECT HOUR

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

To Add or Delete a Channel

1 Select a channel using the NUMBERED keys to add or CH ▲/▼ to delete.

2 Push ADD/DLT to add or delete the channel.
• To select a channel once it's deleted, use the NUMBERED keys on the remote control.
Deleted channels will flash in the Multi Function Display on the VCR when selected.

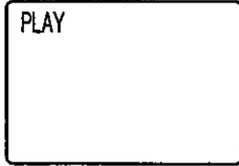```
CHANNEL 08 ADDED
```

```
CHANNEL 08 DELETED
```
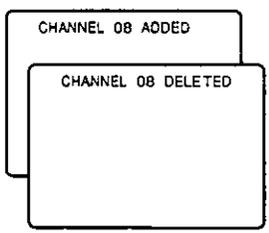
NOTES
• This VCR will accurately maintain its calendar up to Dec. 31, 2015, 11:59PM.
• Normal TV or Cable channels are automatically selected and placed in memory depending on how your VCR is hooked up.

13
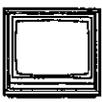
On-Screen Displays (OSD)
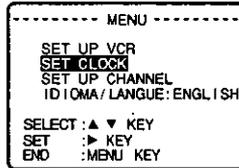
Function & Channel Display

When a function button is pushed, e.g. PLAY, or you change channels, a 4 second display appears first in large and then small characters.

> PLAY

Menu Screen

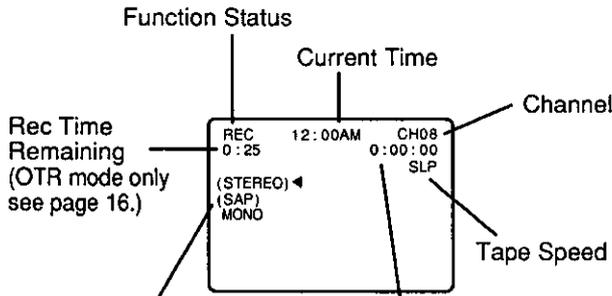1 Push MENU to display the menu.

2 Push ▲▼ and ▶ to make your selection.

```
-------- MENU --------
SET UP VCR
SET CLOCK
SET UP CHANNEL
IDIOMA/LANGUE:ENGLISH
SELECT :▲ ▼ KEY
SET    :▶ KEY
END    :MENU KEY
```

- To get the most from each feature, please read the Operating Manual before attempting any operation.

VCR Status & Clock Display

DISPLAY
⬜
ENTER

Push DISPLAY to display or remove the overlay shown below.

Function Status

Current Time

Channel

Rec Time Remaining (OTR mode only see page 16.)

```
REC     12:00AM    CH08
0:25              0:00:00
                      SLP
(STEREO)◄
(SAP)
MONO
```

Tape Speed

Counter

Broadcast Audio Being Received (See page 24.)
- This display will disappear in 5 seconds.

Blank Tape/ No Video Signal Indication

When a blank section of tape comes up in Play mode, or the selected channel has no broadcast signal, the TV screen will turn solid blue.
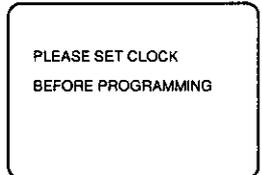
Warning and Instruction Displays

These displays will alert you of a missed operation or provide further instructions.
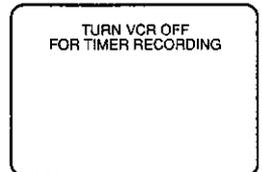
If no active channels are found for CHANNEL MEMORY...
(See page 12.)

> NO CH FOUND
> PLEASE CHECK ANTENNA
> CABLE CONNECTION THEN
> PUSH VCR CH UP KEY AGAIN
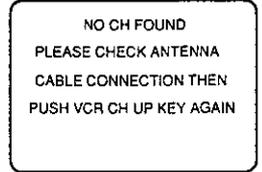
If you attempt to set or review a Timer Recording and the Clock is not set...
(See page 18.)

> PLEASE SET CLOCK
> BEFORE PROGRAMMING

After a Timer Program has been set...
(See page 18.)

> TURN VCR OFF
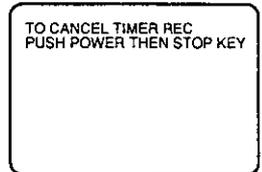> FOR TIMER RECORDING

If you push REC on the remote control or VCR, and a cassette is inserted with no record tab...
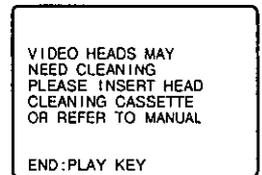(See page 16.)

> CHECK CASSETTE
> RECORD TAB
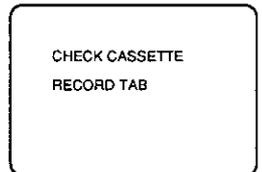
If you push PLAY, FF, REW, or REC on the remote control or VCR without a cassette inserted...
(See pages 15, 16.)

> NO CASSETTE
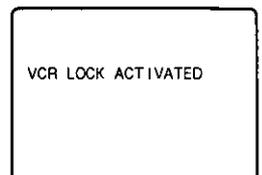> PLEASE INSERT A CASSETTE
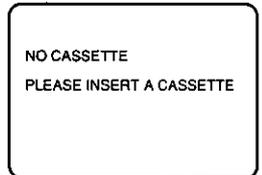
If you push POWER or STOP during a Timer Recording...
(visible in VCR mode only)
(See page 19.)

> TO CANCEL TIMER REC
> PUSH POWER THEN STOP KEY

If head cleaning becomes necessary while playing back a tape...
(See page 5.)

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

If you push a function button other than STOP/EJECT or POWER while the VCR is in VCR Lock mode...
(See page 23.)
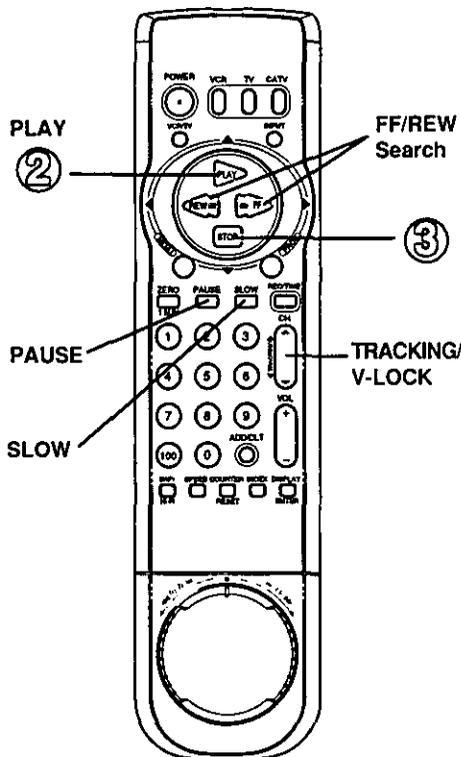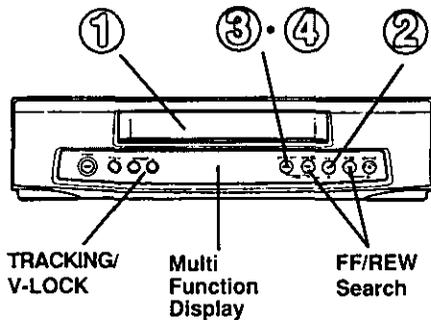
> VCR LOCK ACTIVATED
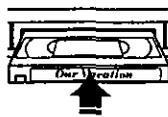
14

Playback a Tape

Check list before you begin.

☐ All connections are made.
(See pages 6~9.)

☐ TV and VCR are plugged in.

☐ TV is turned on and set to the VCR channel (CH 3 or 4).

TRACKING/ V-LOCK   Multi Function Display   FF/REW Search

PLAY ②

FF/REW Search

PAUSE

SLOW

TRACKING/ V-LOCK ③

Caution:

Please inspect your cassette tapes and remove any loose or peeling labels to prevent them from becoming jammed in your unit.

---

① **Insert a cassette.**
• VCR power comes on automatically.

This indicator lights in the Multi Function Display.
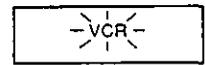
② **Push PLAY on the remote or VCR to start playback.**
• Playback begins automatically if cassette has no record tab.

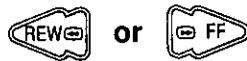③ **Push STOP on the remote or VCR to stop playback.**

④ STOP/EJECT **Push STOP/EJECT on the VCR to eject the cassette.**
• You may eject a cassette with power on or off.

To Find a Particular Scene During Playback

REW or FF **Push REW or FF during playback to search for a scene.**
• Search speed for SP mode tapes is 9 times and SLP mode tapes is 27 times the normal speed.
• Some noise bars will appear during search.

Special Effects During Playback

These features work best in SP or SLP mode. The sound will be muted.

Slow Motion Playback
Push SLOW to start slow motion playback.
Push PLAY or SLOW to release.

Still (Freeze) Frame Picture
Push PAUSE to freeze and release the picture.
• To reduce picture noise, first push SLOW. Then, use CH (TRACKING) ▲/▼ to clear up the picture, then push PAUSE.

Frame by Frame Advance
In Still mode, hold down SLOW to advance the still picture one frame at a time. Push PAUSE to release.

Features for a Quality Picture

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

Digital Auto Tracking
This feature 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. Push CH (TRACKING) ▲/▼ during playback until the picture clears up. To return to Auto Tracking mode, push POWER off and then on again.

V-Lock Control (to reduce picture jitter)
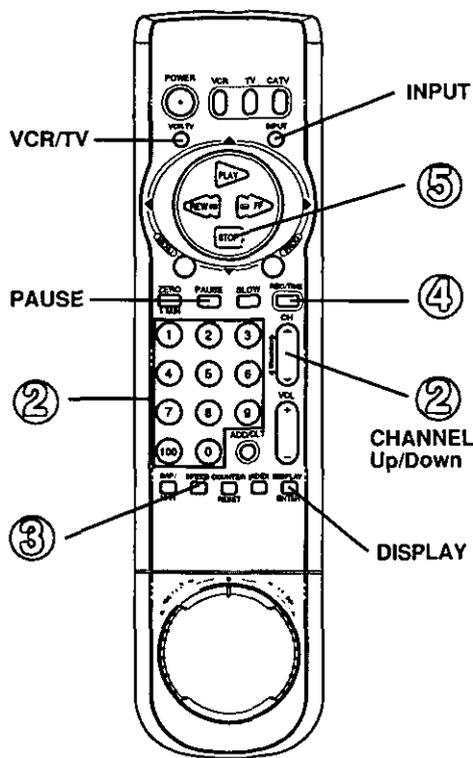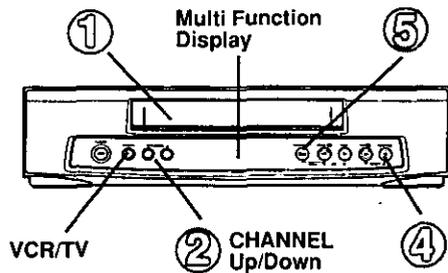In Still mode, CH (TRACKING) ▲/▼ operate as a V-Lock control. Push ▲/▼ until the picture is stabilized.
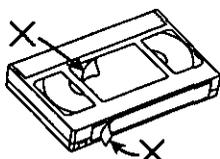
NOTE • After the VCR is in Still or Slow mode for 3 minutes, it will switch to the Stop mode automatically to protect the tape and the video head.

Basic Operation
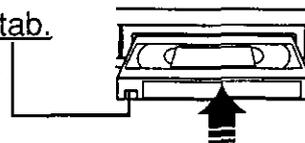
15

◉ Record On a Tape

☑ Check list before you begin.

- ☐ All connections are made.
  (See pages 6~9.)
- ☐ VCR is Plugged in.
- ☐ TV is turned on and set to the VCR channel (CH3 or CH4).

① Multi Function Display **⑤**

VCR/TV   **②** CHANNEL Up/Down   **④**

INPUT

VCR/TV

⑤

PAUSE   ④

②   ② CHANNEL Up/Down

③   DISPLAY

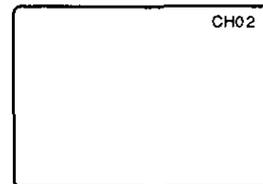**①** Insert a cassette <u>with record tab.</u>
- VCR power comes on automatically.

---

② ⃗CH Push CH ▲/▼ or NUMBERED keys to select a channel.

CH02

- Or, push CHANNEL ▲/▼ on the VCR.
- Holding down CH ▲/▼ will increase the channel search speed.
- To record from an outside source, push CH ▲/▼ or INPUT to select "LINE" (see page 17).

---

③ SPEED Push SPEED to change the recording speed.

SLP

- SP = Standard Play
  LP = Long Play
 SLP = Super Long Play
  (See page 5.)

---

④ REC/TIME Push REC/TIME on the remote control or VCR to <u>start recording.</u>

- To edit out unwanted portions, push PAUSE to pause the recording in progress.
  To release, push PAUSE again. (After the VCR has been in Pause mode for 5 minutes, it will stop automatically to protect the tape and video head.)

One Touch Timer Recording (OTR)

The VCR starts recording and turns itself off at a preset time.
In step 4, push REC/TIME repeatedly to set the length of the recording. Each push will change the stop time as shown.

Normal Rec → 0:30 → 1:00
4:00 ← 3:00 ← 2:00 ← 1:30
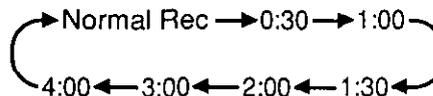
- "TIMER" lights in the Multi Function Display.
- The remaining recording time can be displayed by pushing DISPLAY in OTR mode.

---

⑤ STOP Push STOP to <u>stop recording.</u>

- Or, push STOP/EJECT on the VCR.

Record One Program While Watching Another

1 Push VCR/TV while recording is in progress to turn off the VCR indicator in the Multi Function Display.

2 Use the TV channel controls to select a program. The VCR will continue to record your program while you watch any channel you choose.
- To switch back and forth between the recording and viewing channel, push VCR/TV.

Selecting Channels at the VCR

1 Turn your TV and VCR on.
- VCR Indicator lights on the Multi Function Display. If indicator doesn't light, push VCR/TV to turn it on.

2 Use CH ▲/▼ on the remote control or VCR to select channels.
- To switch back to TV channel selection, push VCR/TV to turn VCR indicator off, or simply turn the VCR power off.
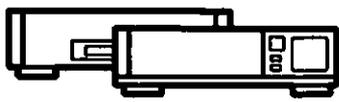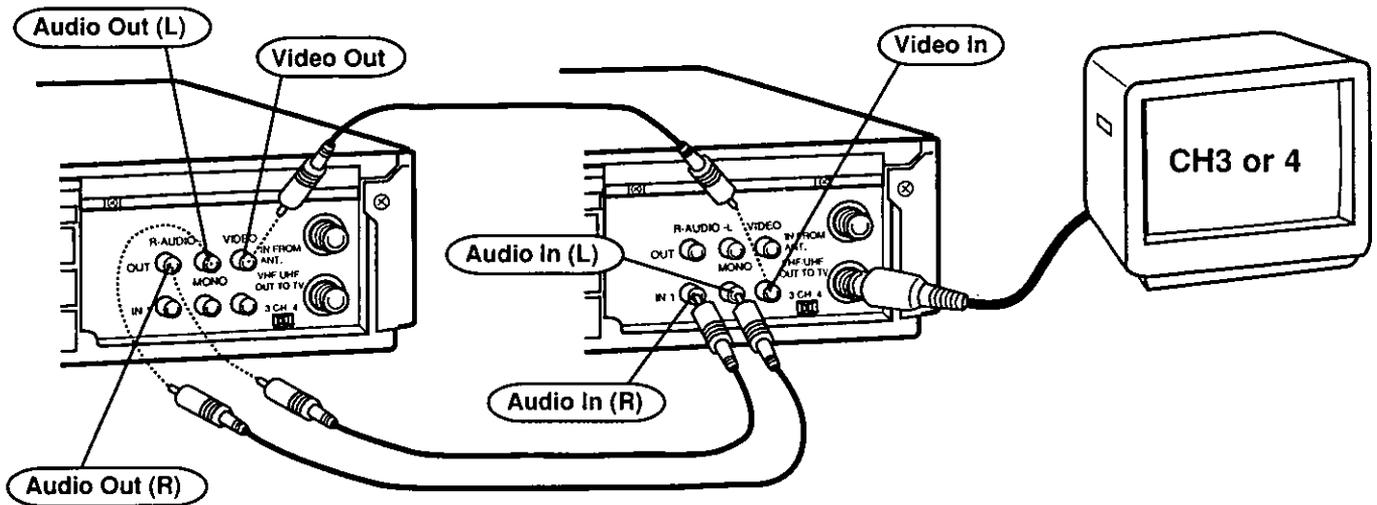
Connections you'll need to make. (Choose front or rear connection.)

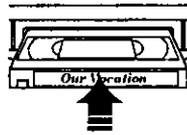• When connecting to a normal VCR, use the L Audio In jack for proper sound reproduction.

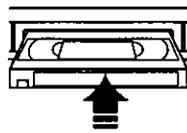Playing (Source) VCR   Recording (Editing) VCR   TV for Monitoring

Audio Out (L)
Video Out
Video In
CH3 or 4
Audio In (L)
Audio In (R)
Audio Out (R)

---

(1) Insert a pre-recorded tape into the Playing (Source) VCR.

(2) Insert a blank tape with record tab into the Recording (Editing) VCR.

(3) Select "LINE" Input mode on the Recording (Editing) VCR. (See "Selecting the Input Mode" at right.)

(4) Push PLAY on the Playing VCR. **Push PAUSE** at the desired starting point.

(5) Push REC on the Recording VCR, and then **push PAUSE** immediately thereafter.

(6) Push PAUSE on both VCRs at the same time, to begin copying.

To Edit Out Unwanted Parts
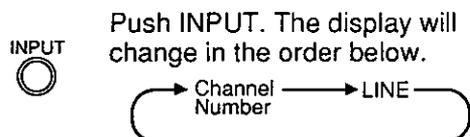Push PAUSE on the recording VCR while copying is in progress. Push PAUSE again to resume dubbing.

(7) Push STOP on both VCRs to stop copying.

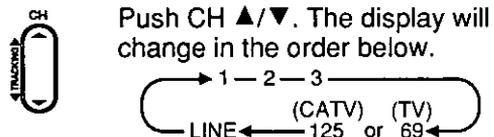
To Monitor Dubbing on Your TV

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."

Selecting the Input Mode

INPUT Push INPUT. The display will change in the order below.

→ Channel Number ——→ LINE —

or

Push CH ▲/▼. The display will change in the order below.

→ 1 — 2 — 3 —
(CATV)   (TV)
— LINE ◄—— 125 or 69 ◄—
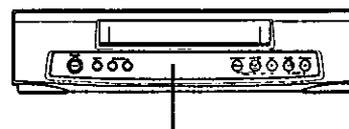
• When LINE is selected, "L" is displayed in the Multi Function Display for about 4 seconds.

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

Basic Operation

Timer Recording

You can set up the VCR to record a one time, daily, or weekly program while you are away or otherwise occupied. Up to 8 programs can be stored in memory.
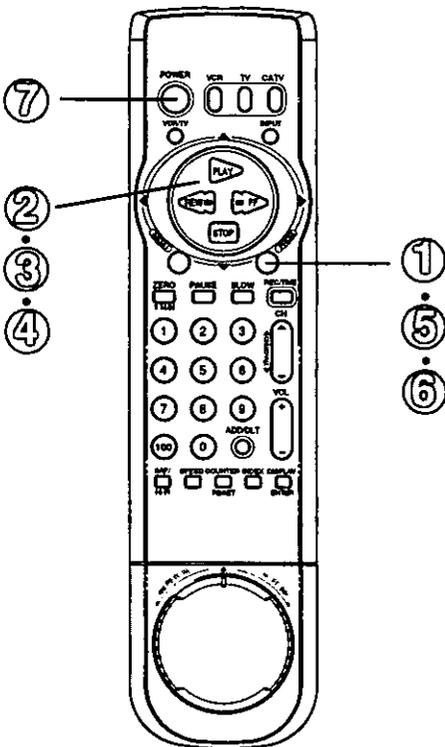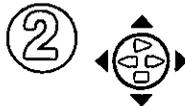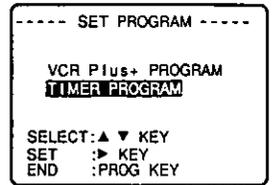
✓ Check list before you begin.

- [ ] All connections are made. (See pages 6~9.)
- [ ] TV and VCR are plugged in and turned on.
- [ ] VCR/TV selector is set to "VCR."
- [ ] Clock is set to correct time.
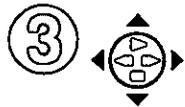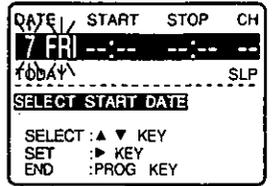- [ ] Record tab in place. (See page 5.)

Multi Function Display

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.

---

① **○** Push PROG to display the "SET PROGRAM" screen.

```
----- SET PROGRAM -----

VCR Plus+ PROGRAM
TIMER PROGRAM

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

② Push ▲▼ to select "TIMER PROGRAM," and then push ► to display the program screen.
- If a program is already in memory, push ▲▼ and ► to select an unused program number.

```
DATE   START  STOP  CH
7 FRI  --:--  --:--
today               SLP
SELECT START DATE

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

③ Push ▲▼ and ► to select and set one of the following:
- 1~31 = One time recording
- DAILY = Same time MON~FRI
- WEEKLY = Same time once a week

Example

Today's Date — 7 **SELECT▲ / ▼ Selection Order**
```
  ┌─ 8 ─ 9 ······· 31 ─ 1 ─ 2 ····· 6 ─┐
                                    DAILY
  └─ WEEKLY ······ WEEKLY __ WEEKLY ──┘
     (SAT)        (MON)     (SUN)
```
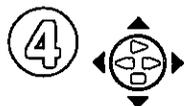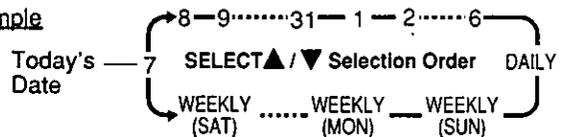
④ Push ▲▼ and ◄► to select and set each of the remaining items at right.

Remaining Items to be set:
- START time
- STOP time
- CH(annel) number, or LINE for outside source recording
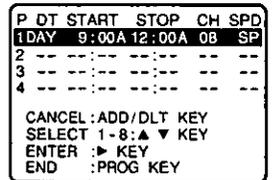- Speed (SP, LP, SLP)

To Make Corrections
Repeatedly push ► to move the cursor to the right, or ◄ to move to the left to the incorrect entry and make the correction.

⑤ **○** Push PROG to end the program.
- This screen appears for confirmation.

```
P DT START  STOP  CH SPD
1DAY  9:00A 12:00A 08  SP
2 -- --:-- --:-- -- --
3 -- --:-- --:-- -- --
4 -- --:-- --:-- -- --

CANCEL :ADD/DLT KEY
SELECT 1-8:▲ ▼ KEY
ENTER  :► KEY
END    :PROG KEY
```

To Enter More Programs
Push ▲▼ and ► to select and set a blank program number, and then repeat steps 3 and 4.

⑥ **○** Push PROG to exit this mode and return to the normal screen.

⑦ **POWER** Push POWER off to set the timer.
- 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

NOTES
- A cassette with no record tab is ejected and TIMER indicator flashes when the power is turned off to set the timer.
- If the start times of two programs overlap, the lower numbered program will have priority.
- If the start time for a timer recording comes up during a normal recording or One Touch Recording (page 16), the timer recording will not be performed.
- If there is a power interruption of more than one minute, the recording will not be performed or continue.

Cancel a Timer Recording:

(Recording is in progress)

Push POWER and then STOP within 10 seconds to cancel the timer recording.
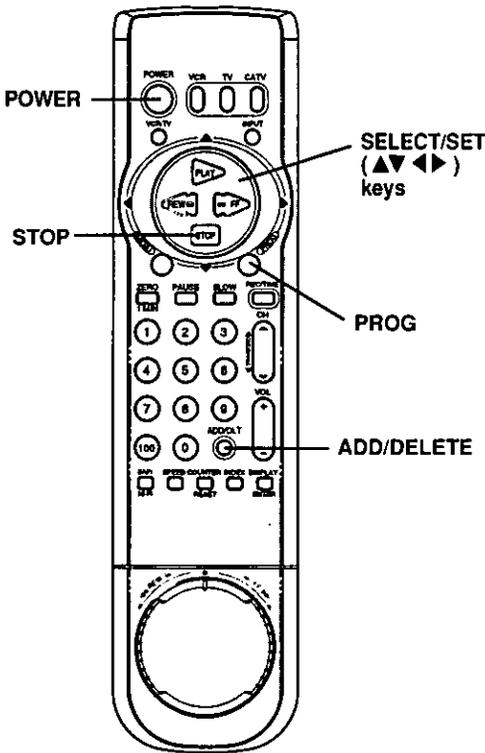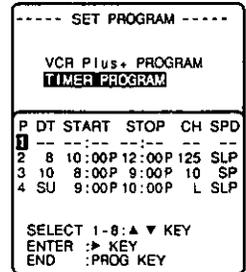- The TIMER indicator goes out in the Multi Function Display.
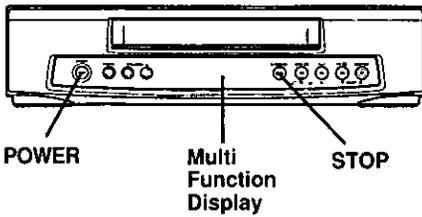
POWER   Multi   STOP
         Function
         Display

POWER

SELECT/SET
(▲▼◄►)
keys

STOP

PROG

ADD/DELETE

Replace Program Contents:

(Recording is not in progress)

1 Push PROG to display the "SET PROGRAM" screen.

2 Push ▲▼ to select "TIMER PROGRAM," and then push ► to display all currently set programs.

3 Push ▲▼ and ► to select and set a program number. (See page 18.)

4 Push ▲▼ and ◄► to select and set replacement timer information.

5 Push PROG twice to exit this mode.

```
----- SET PROGRAM -----

  VCR Plus+ PROGRAM
  TIMER PROGRAM

P DT START  STOP  CH SPD
1 -- --:-- --:-- -- --
2  8 10:00P 12:00P 125 SLP
3 10  8:00P  9:00P  10  SP
4 SU  9:00P 10:00P  L  SLP

SELECT 1-8:▲ ▼ KEY
ENTER :► KEY
END   :PROG KEY
```

```
DATE   START  STOP  CH
8 SAT 10:00P 12:00P 125
            SLP
SELECT START DATE

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

Review or Clear Program Contents:

(Recording is not in progress)
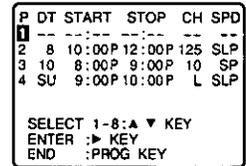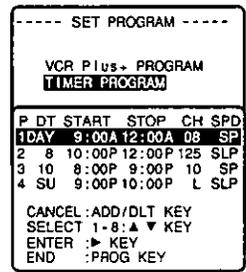
1 Push PROG to display the "SET PROGRAM" screen.

2 Push ▲▼ to select "TIMER PROGRAM," and then push ► to display all currently set programs.

3 Push ▲▼ to select a program number.

4 Push ADD/DLT to clear the program.

5 Push PROG to exit this mode.

```
----- SET PROGRAM -----

  VCR Plus+ PROGRAM
  TIMER PROGRAM

P DT START  STOP  CH SPD
1 DAY 9:00A 12:00A 08  SP
2  8 10:00P 12:00P 125 SLP
3 10  8:00P  9:00P  10  SP
4 SU  9:00P 10:00P  L  SLP

CANCEL :ADD/DLT KEY
SELECT 1-8:▲ ▼ KEY
ENTER :► KEY
END   :PROG KEY
```

```
P DT START  STOP  CH SPD
1 -- --:-- --:-- -- --
2  8 10:00P 12:00P 125 SLP
3 10  8:00P  9:00P  10  SP
4 SU  9:00P 10:00P  L  SLP

SELECT 1-8:▲ ▼ KEY
ENTER :► KEY
END   :PROG KEY
```

STOP/EJECT REW/◄◄ PLAY FF/►► REC/TIME

◄ PROG   SET ►   ▽ SELECT △

Timer Recording Using VCR Buttons
(Make sure a cassette tape is not inserted in the VCR.)

1 Hold down STOP/EJECT and push REW to enter the Program mode.

2 Push FF or REC/TIME repeatedly or hold down to make selections.

3 Push PLAY to set the item and move on.
- To make corrections, repeatedly push PLAY to move the cursor to the right, or REW to move to the left to the incorrect entry and make the correction.

4 Push STOP/EJECT and REW together to display program contents after all items have been entered.
- You cannot clear programs with the VCR buttons.

5 Hold down STOP/EJECT and push REW, (release REW first, and then release STOP/EJECT) to exit this mode.

6 Insert a cassette with record tab and push POWER off to set the timer.
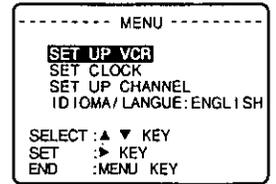
Basic Operation

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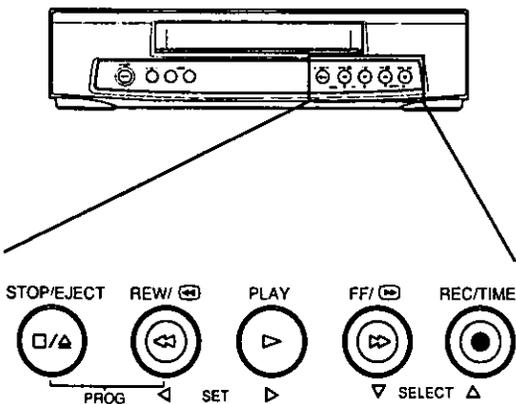
Your VCR is equipped with several time saving features as well as convenient automatic functions making tape operation easier than ever.
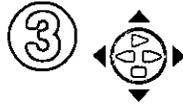
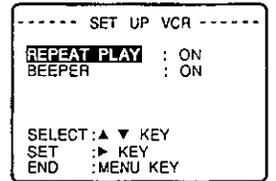# Repeat Play

The VCR will play your recording over and over.

① Push MENU to display the menu.

```
-------- MENU --------
SET UP VCR
SET CLOCK
SET UP CHANNEL
IDIOMA/LANGUE:ENGLISH

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

② Push ▲▼ to select "SET UP VCR," and then push ► to display the "SET UP VCR" screen.

③ Push ▲▼ to select "REPEAT PLAY," and then push ► to select "ON" or "OFF."

```
------ SET UP VCR ------
REPEAT PLAY : ON
BEEPER      : ON

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

• The VCR plays back the tape to its end or until a blank portion of over 30 seconds is detected (erased portions are not considered blank). The tape is then rewound and played again and again until Repeat Play is turned off.

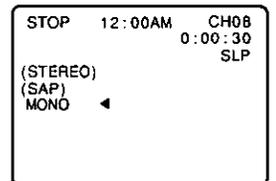④ Push MENU twice to return to the normal screen.
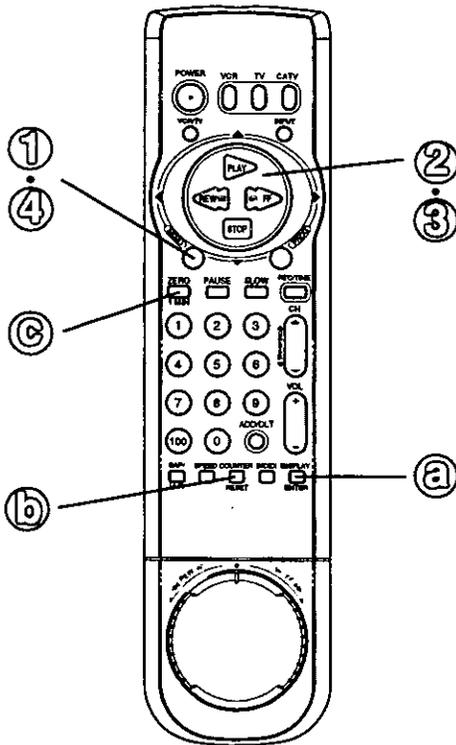
Zero Search

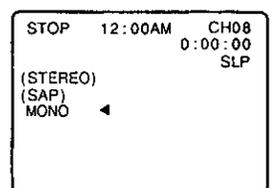To quickly return to a specific tape location.

ⓐ DISPLAY / ENTER
Push DISPLAY to display the Time Counter overlay.

```
STOP  12:00AM   CH08
               0:00:30
                   SLP
(STEREO)
(SAP)
MONO  ◄
```

ⓑ COUNTER / RESET
Push COUNTER RESET to reset the Time Counter to "0:00:00."

• This may be done at as many places as you wish on the tape.

```
STOP  12:00AM   CH08
               0:00:00
                   SLP
(STEREO)
(SAP)
MONO  ◄
```

ⓒ ZERO / 1MIN
Push ZERO/1MIN in Stop mode.

• The VCR will go into FF or REW mode and stop at the last point the Time Counter was set to 0:00:00.

One Minute Skip

The VCR rapidly skips over one minute of tape.

ZERO
1 MIN

Push ZERO/ 1 MIN in Play mode.

- The VCR will go into FF search mode and skip over 60 seconds of recorded time. Normal playback will then resume.

Shuttle Variable Speed Search

The SHUTTLE Ring allows you to smoothly control the tape speed during special effects playback in both forward or reverse.

Turn SHUTTLE Ring on the remote control while in Play or Still mode to place the forward or reverse search.

- The more you turn the Ring, the faster the search speed will be.

Push a function button such as: PLAY, STOP, etc. on the VCR or remote control to release the Shuttle mode.

- The VCR performs the function of the button pushed.

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.
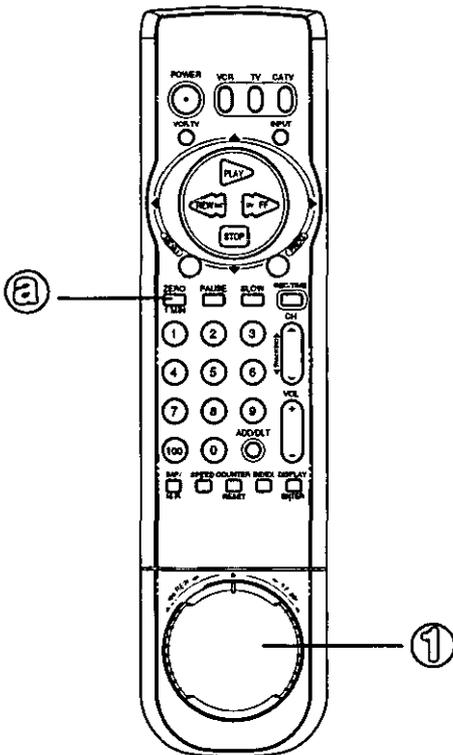
| Auto Operation Functions |

Auto Playback
When a tape is inserted, the power turns on (Auto). If the record tab* is removed, playback begins (Auto).

Auto Rewind
When a tape reaches its end during playback, fast forward or manual record, the VCR will rewind and go into Stop mode.

Playback Auto Eject (Repeat Play is "OFF.")
When a tape without a record tab* is played to its end, the VCR will rewind and then eject the tape.

Memory Rewind Off
When the POWER button is pushed during rewind, the VCR will turn off after rewind is complete.

* For record tab information, see page 5.

More You Can Do

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VHS Index Search System

Each time you start a recording, an invisible index mark is automatically placed on the tape. You can then use these index marks to access or scan your recordings.

REWIND   FAST FORWARD

③·ⓑ   ③·ⓑ

REWIND
③
·
ⓑ

FAST
FORWARD
③
·
ⓑ

ⓒ

②

①
·
ⓐ
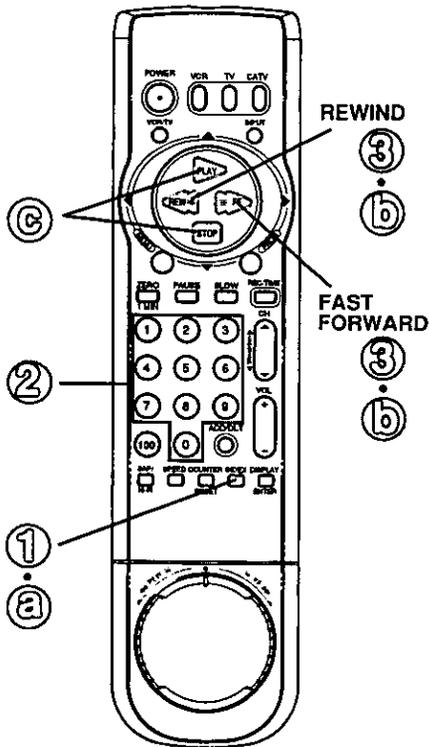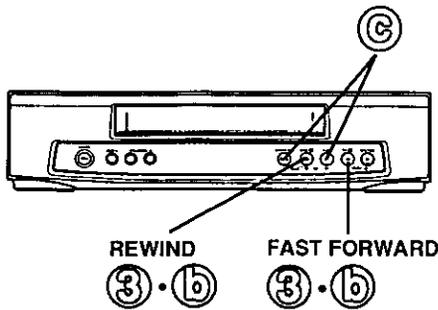
• Make each entry within 10 seconds, or the Index Search mode will be canceled.
• Index marks will be placed for Timer recordings as well.

• If the Direct Access index search is initiated extremely close to an index mark, there is a possibility that the index mark will not be counted in the search.

Direct Access

This feature allows you to go directly to the recording you want from anywhere on the tape by entering a specific index number.

①· INDEX Push INDEX in Playback or Stop mode.

② Push a NUMBERED keys to select the desired recording.
• To calculate the number, see below.

③ REW Push REW or FF to start the Index Search forward or backward.
or
FF • When the designated location is reached, the VCR goes into Playback mode.
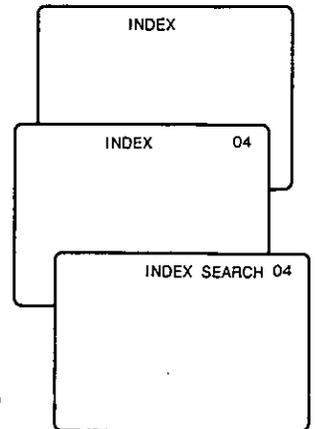
To calculate an Index Number

Count forward or backward each recording start point, including the recording you want to see, from wherever you are on the tape.

Example 1:
If you are watching recording 4 and you want to watch recording 2, count the start points to number 2. Recordings equal 3. Enter 3 in step "2" and push REW.

1	2	3	4	5	6	7
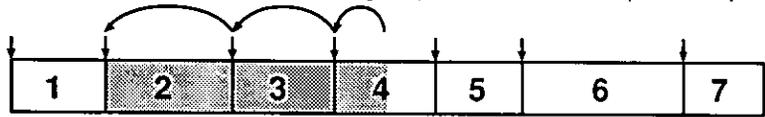
Example 2:
If you are watching recording 2 and you want to watch recording 6, count the start points to number 6. Recordings equal 4. Enter 4 in step "2" and push FF.

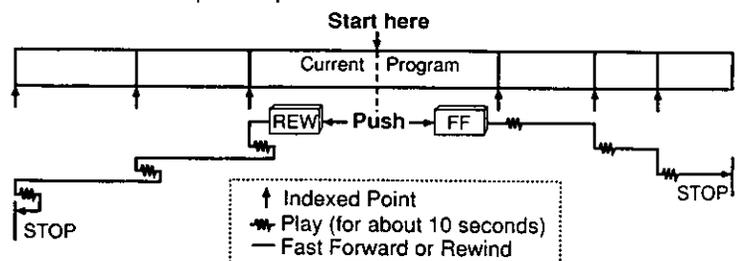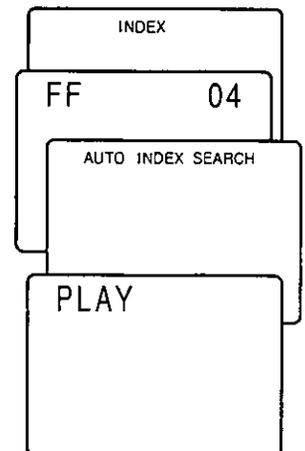| 1	2	3	4	5	6	7

NOTE: ↓ indicates start points of each recording.

Index Scan

This feature allows you to scan (forward or reverse) each recording for 10 seconds in Playback mode.

ⓐ INDEX Push INDEX in Playback or Stop mode.

ⓑ REW Push REW or FF to begin the scan.
or
FF • As each index mark is reached, a short playback will be performed after which FF or REW resumes.

ⓒ PLAY Push PLAY to cancel the scan and begin playback.
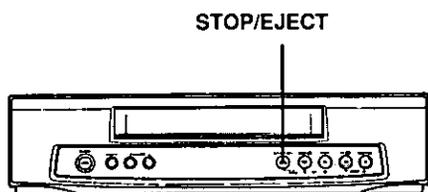• You may also push STOP to stop the tape.

Start here

Current Program

REW ← Push → FF

STOP   STOP

↑ Indexed Point
⌇ Play (for about 10 seconds)
— Fast Forward or Rewind

Check list before you begin.

- ☐ All connections are made.
  (See pages 6~9.)
- ☐ VCR is Plugged in.
- ☐ TV is turned on and set to the VCR channel (CH3 or CH4).

STOP/EJECT

VCR Lock Feature

When activated, this feature prohibits all operations except for timer recording and tape eject. This feature is used to keep children from operating the VCR.

STOP/EJECT Hold down STOP/EJECT on the VCR for 7 seconds while in Stop or Power OFF mode.

VCR LOCK ACTIVATED
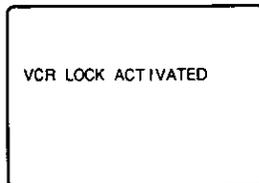
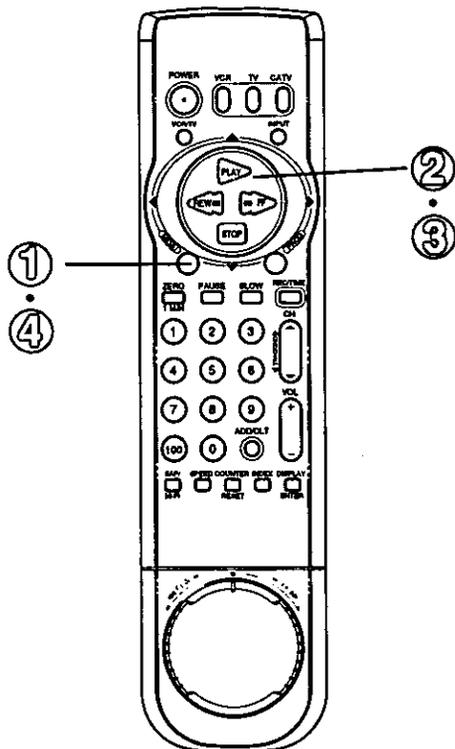### To Cancel the VCR Lock feature,

STOP/EJECT hold down STOP/EJECT on the VCR for 7 seconds again while in Stop or Power OFF mode.
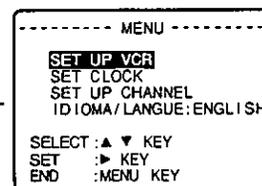
VCR LOCK OFF
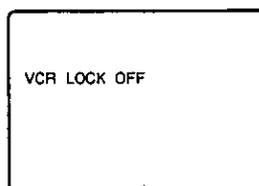
- VCR Lock mode is cancelled automatically after 24 hours as long as the clock is set.

Warning Beeper Feature

When you select BEEPER ON, a short warning will sound each time an invalid entry or incomplete operation is made.

① Push MENU to display the menu.

```
-------- MENU --------
SET UP VCR
SET CLOCK
SET UP CHANNEL
IDIOMA/LANGUE:ENGLISH

SELECT :▲ ▼ KEY
SET    :► KEY
END    :MENU KEY
```
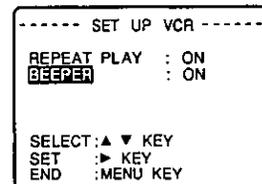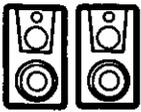
② Push ▲▼ to select "SET UP VCR," and then push ► to display the "SET UP VCR" screen.

③ Push ▲▼ to select "BEEPER," and then push ► to select "ON" or "OFF."

```
------ SET UP VCR ------
REPEAT PLAY  : ON
BEEPER       : ON


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

④ Push MENU twice to exit this screen.

More You Can Do

☑ Check list before you begin

- ☐ The VCR is connected to a stereo TV, or a mono TV and an external stereo amp or receiver with speakers.
- ☐ The VCR and other components are plugged in and turned on.

Connections to Make

In from Antenna

Audio Out (L/R)

Video Out

Mono TV

and

Stereo AMP or Receiver

Stereo TV

or
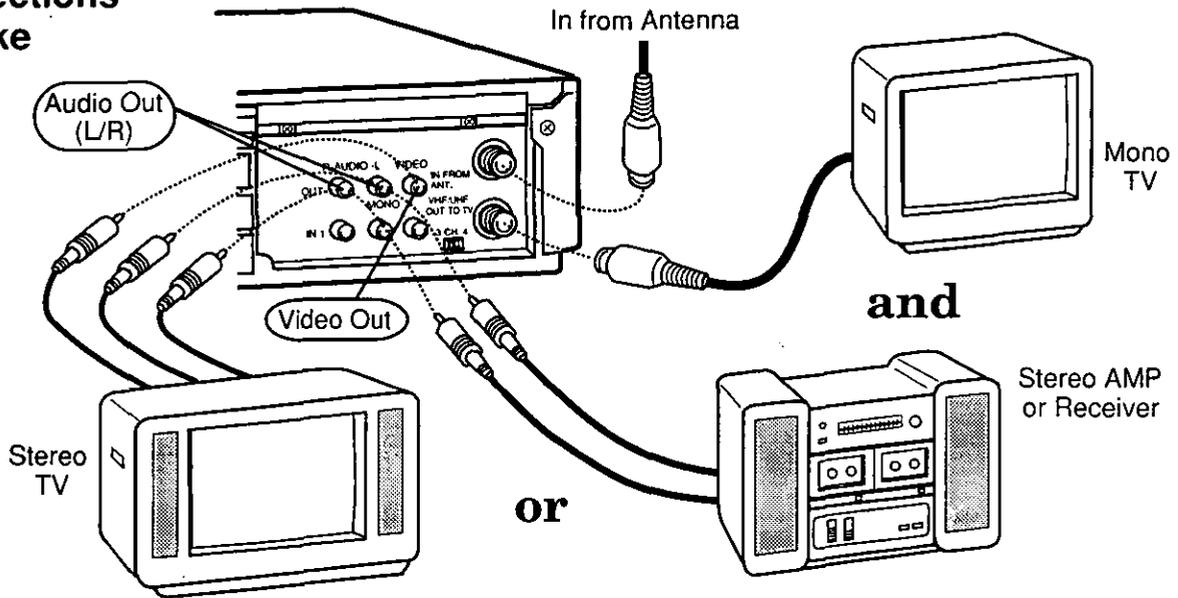
When recording, you may monitor in stereo, by connecting the VCR to either a stereo TV, or a mono sound TV with an external stereo amp and speakers.

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.

Receivable Broadcast Types

The following are possible audio broadcast types and on-screen displays. Parenthesis indicate signal(s) not being received. The arrow indicates the selected audio mode.
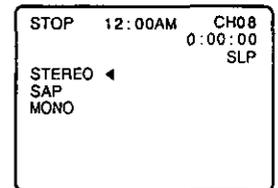
DISPLAY / ENTER

Push DISPLAY to display the broadcast signal currently being received.
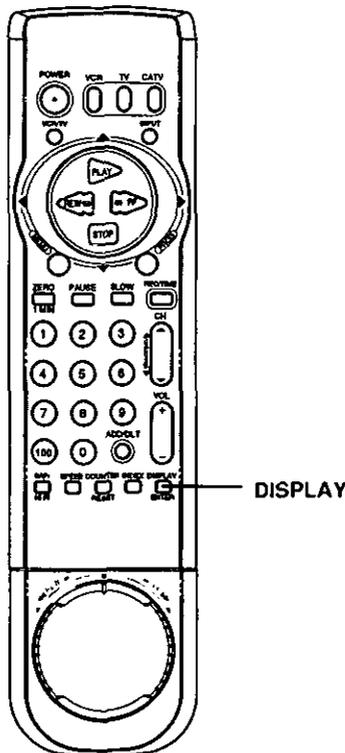
MTS Stereo and SAP broadcast

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

```
STOP        12:00AM    CH08
                       0:00:00
                            SLP
STEREO ◄
SAP
MONO
```

MTS Stereo broadcast

Multi-channel Television Sound Stereo broadcast. Select STEREO audio mode.

- If a stereo broadcast is weak and the display flickers, you may want to select the MONO audio mode for better results.

```
STOP        12:00AM    CH08
                       0:00:00
                            SLP
STEREO ◄
(SAP)
MONO
```
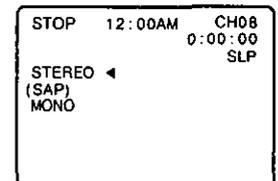
SAP broadcast

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

```
STOP        12:00AM    CH08
                       0:00:00
                            SLP
(STEREO)
SAP    ◄
MONO
```
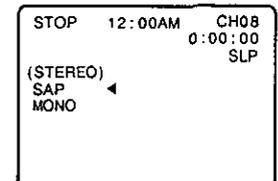
MONO broadcast

Normal monaural sound broadcast.

```
STOP        12:00AM    CH08
                       0:00:00
                            SLP
(STEREO)
(SAP)
MONO   ◄
```

24

With the proper audio mode setting, your VCR can:

1) record and playback an MTS stereo broadcast (main language) in stereo Hi-Fi.
2) record and playback a monaural broadcast (main language) or Secondary Audio Program (sub language) on the Hi-Fi tracks for better quality monaural sound.
3) playback non Hi-Fi tapes in monaural.

• When recording, the selected broadcast sound is always recorded on the left and right Hi-Fi tracks as well as the normal monaural track. This means your tapes can be played back on Hi-Fi as well as non-Hi-Fi VCRs.
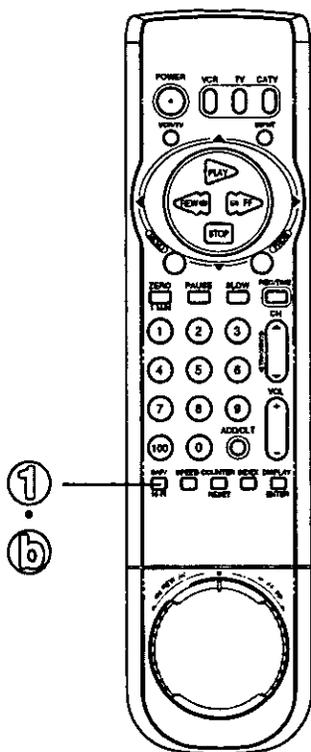
Audio Mode for Recording

① SAP/Hi-Fi Push SAP/Hi-Fi repeatedly (each push within 5 seconds) to select the desired audio mode (STEREO, SAP, or MONO).

STEREO ◄
SAP
MONO
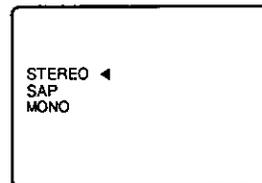
• The arrow indicates your selection.

• Please refer to the "Receivable Broadcast Types" section on page 24.

② Do a recording.
See the "Record On a Tape" section on page 16.
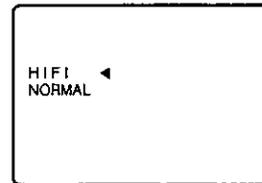
Audio Mode for Playback

ⓐ Playback the tape.
See the "Playback a Tape" section on page 15.

ⓑ SAP/Hi-Fi Push SAP/Hi-Fi repeatedly (each push within 5 seconds) to select the desired audio mode (HIFI or NORMAL).

HIFI ◄
NORMAL

• The arrow indicates your selection.

• Select "HIFI" to listen to your stereo recordings with stereo sound, or "NORMAL" for monaural sound.

NOTES

• When purchasing or renting prerecorded tapes, remember that only those recorded in Hi-Fi stereo will play back with true stereo sound. Standard stereo tapes will play back with monaural sound.
• In order 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 24.)
• When adjusting the tracking during playback, the Hi-Fi audio sound may revert to normal audio sound. This is normal.
• There may be a difference in audio level between Hi-Fi and normal audio playback.

More You Can Do
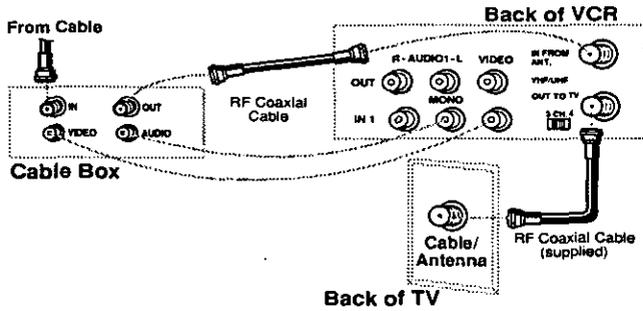
VCR Plus+ Setup

Easy Taping.

VCR Plus+ programming allows you to set most items of a timer recording by simply entering a special code(PlusCode) found in *TV GUIDE* magazine as well as the TV listings in selected newspapers. In order for your VCR to do a VCR Plus+ recording, or a timer recording of cable stations, some setup is required.

At first, choose your Connection Type.
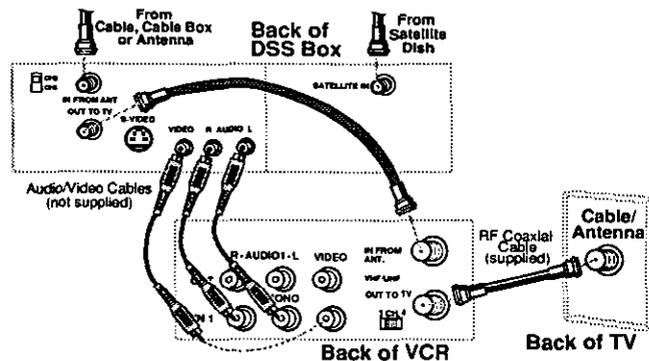(Then, follow the instructions under the diagram.)

Connection Type A

<CABLE BOX → VCR → TV>

Or

<ANT/CABLE BOX → DSS BOX → VCR → TV>

If your system connection looks like one of the diagrams above, do the following.

1. Complete "Cable Box Setup" on page 27.
2. Skip page 28 and go directly to page 29 for VCR Plus+ Programming.

Connection Type B

<VCR → TV>

Or

<VCR → CABLE BOX → TV>

This connection allows viewing (not recording) of scrambled channels.

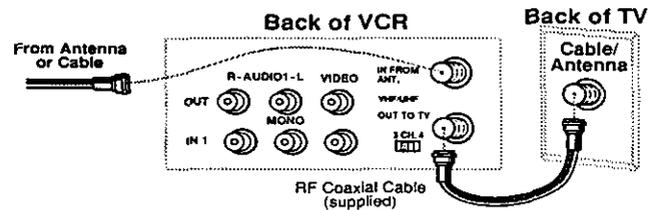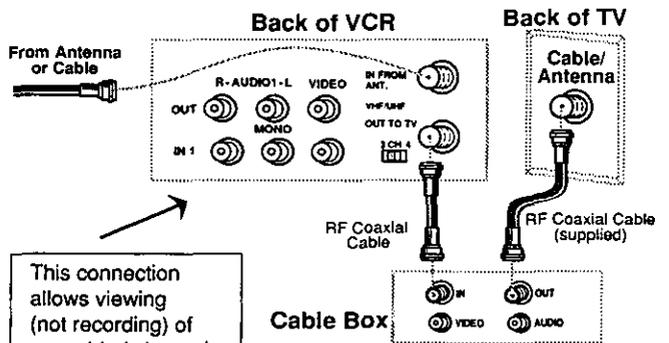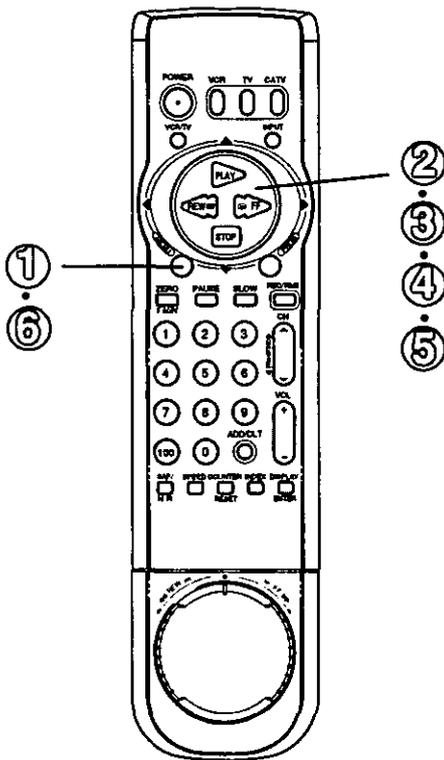**If your system connection looks like one of the diagrams above, do the following.**

1. Skip "Cable Box Setup" on page 27 and turn to page 28.
2. Complete "VCR Plus+ Channel Setup" on page 28.
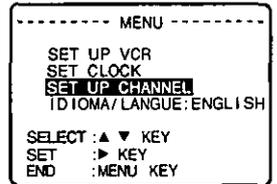3. Turn to page 29 for VCR Plus+ Programming.

If you are using a cable box and it is connected to your VCR in one of the ways shown in Connection Type A on page 26, you will need to complete the Cable Box Setup steps below.

Cable Box Setup
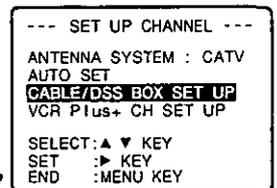### For Connection Type A (page 26) only

① ◯ Push MENU to display the menu.

```
-------- MENU --------

  SET UP  VCR
  SET CLOCK
  SET UP CHANNEL
  IDIOMA/LANGUE:ENGLISH

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

② Push ▲▼ to select "SET UP CHANNEL," and then push ▶ to display the "SET UP CHANNEL" screen.

③ Push ▲▼ to select "CABLE/ DSS BOX SET UP," and then push ▶ to display the "SELECT HOOKUP" screen.

```
--- SET UP CHANNEL ---

ANTENNA SYSTEM : CATV
AUTO SET
CABLE/DSS BOX SET UP
VCR Plus+ CH SET UP

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

④ Push ▲▼ to select your hookup, and then push ▶ to set.

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

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

• If you selected CABLE/DSS BOX▶VCR▶TV, continue with step 5. If not, push MENU three times and turn to page 28.

⑤ Push ▲▼ to select your cable or DSS box output channel number, and then push ▶ to enter.

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

CABLE/DSS BOX OUTPUT CH
       CH 01
SELECT:▲ ▼ KEY
SET    :◀ ▶ KEY
END    :MENU KEY
```

• If necessary, refer to your cable box manual.
• If you are using Audio/Video jack connections to your cable box, select and set "VIDEO OUT" as the output channel.

⑥ ◯ Push MENU twice to end the setup and return to the normal screen.

Go directly to "VCR Plus+ Programming" on page 29.

In order for the VCR to read the VCR Plus+ code, some set up is required. A Guide (VCR Plus+) channel number is assigned to each local broadcast and cable station. Because this number sometimes differs from the channel your TV receives the station on, it is necessary to program the VCR with local channel information.

VCR Plus+ Channel Setup

For Connection Type B (page 26) only

- Before you begin, complete the Channel Setup Preparations below left.

Important Note:
If your VCR connection type changes from type A to B, repeat steps 1~4 of page 27 and select VCR▶CABLE/DSS BOX▶TV or VCR▶TV before proceeding with these steps.

① Push MENU to display the menu.

```
--------- MENU ---------
SET UP VCR
SET CLOCK
SET UP CHANNEL
IDIOMA/LANGUE:ENGLISH

SELECT :▲ ▼ KEY
SET    :▶ KEY
END    :MENU KEY
```
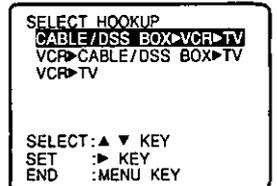
② Push ▲▼ to select "SET UP CHANNEL," and then push ▶ to display the "SET UP CHANNEL" screen.

③ Push ▲▼ to select "VCR Plus+ CH SET UP," and then push ▶ to display the "VCR Plus+ CH SET UP" screen.
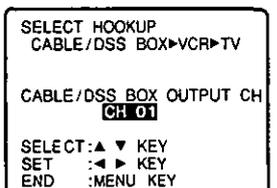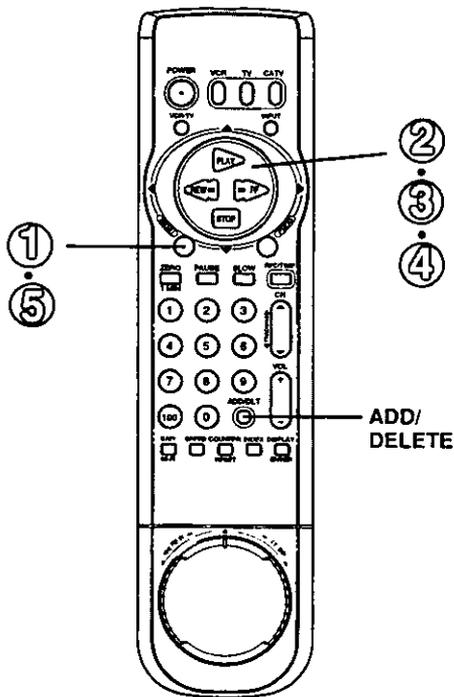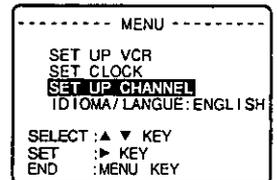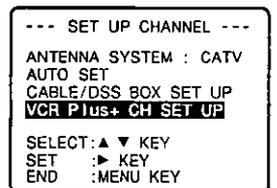
```
--- SET UP CHANNEL ---

ANTENNA SYSTEM : CATV
AUTO SET
CABLE/DSS BOX SET UP
VCR Plus+ CH SET UP

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

IMPORTANT NOTE:
For step "4," 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 CATV (or TV) CH numbers are the same.

④ Push ▶ to move the shaded area to the right side.

```
VCR Plus+ CH SET UP

GUIDE CH    CATV CH

▶ 01        --
  02        --

SELECT:▲ ▼ KEY
SET    :▶ KEY
END    :MENU KEY
```
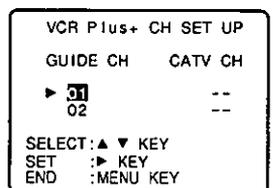
Then, push ▲▼ to change CATV or TV CH number.

Next, push ◄ to set the number.

Now, push ▲▼ to continue.

Repeat this operation until the list is complete.

```
VCR Plus+ CH SET UP

GUIDE CH    CATV CH

▶ 01        ■■
  02        --

SELECT:▲ ▼ KEY
SET    :◄ KEY
END    :MENU KEY
```
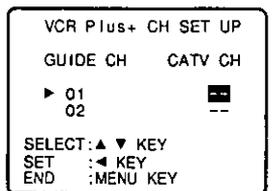
To Make Corrections
Push ▲▼ and ▶ to select the incorrect CATV or TV CH number. Then, push ▲▼ to change, or ADD/DLT to delete the channel.

⑤ Push MENU three times to exit the VCR Plus+ CH SET UP mode.

Channel Setup Preparations

NOTE: Complete the steps on this page if your VCR hook-up resembles "B" on page 26.

Prepare a list like the example below.
This list will help you smoothly enter the information needed in step "4" at right.

You will need the following to complete the list:

■ A line up of normal and/or cable stations you receive along with the channel numbers your TV receives them on. A cable channel line-up chart is supplied by your cable company.

■ A list of Guide (VCR Plus+) channel numbers assigned to the stations you receive. This list is available in *TV Guide* and the TV listings found in selected newspapers.

1 Make a chart with 3 columns like the example below. In the left column, fill in the name or call letters of the stations you receive.

2 In the middle column, fill in each station's assigned Guide (VCR Plus+) number found in TV Guide, newspapers, etc.

3 In the right column, fill in the channel number that your TV receives the station on from your channel line-up.

EXAMPLE ONLY

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

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

ADD/DELETE

Easy Taping.
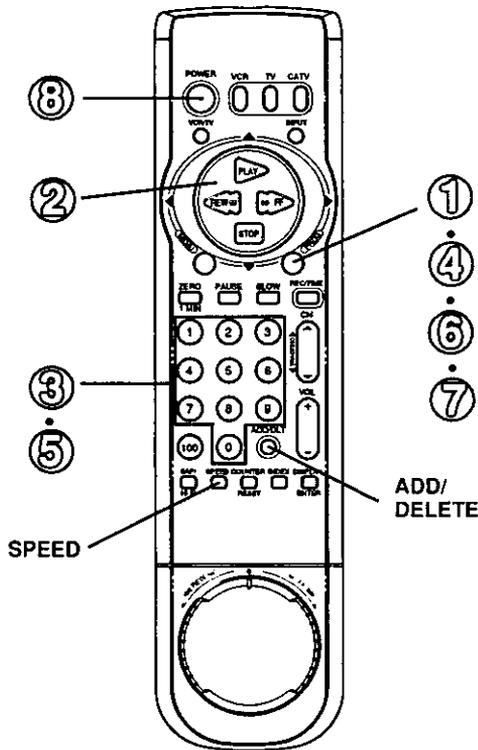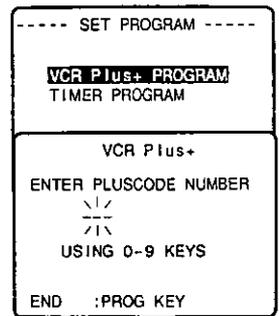
☑ **Before you begin, make sure...**

☐ The clock is set.

☐ VCR Plus+ Setup is complete (see pages 26~28).

Multi Function Display

SPEED

ADD/DELETE

Use normal Timer Recording steps if:

- the PlusCode for a program is not listed.
- you anticipate the program, such as a sporting event, to run over the scheduled stop time.

See page 19 to:

- cancel a timer recording in progress.
- replace program contents.
- review or clear program contents once set.

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.

---

① Push PROG to display the "SET PROGRAM" screen.

```
----- SET PROGRAM -----

VCR Plus+ PROGRAM
TIMER PROGRAM
```

② Push ▲▼ to select "VCR Plus+ PROGRAM," and then push ▶ to display the "VCR Plus+" screen.

```
VCR Plus+

ENTER PLUSCODE NUMBER
      \!/
      ---
      /!\
   USING 0-9 KEYS

END    :PROG KEY
```
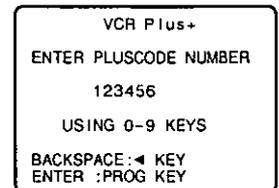
③ Push the NUMBERED keys to enter the PlusCode number.
- Refer to your local TV listings.

To Make Corrections
Push ◀ repeatedly to delete the PlusCode number. Then, enter the correct number.

```
VCR Plus+

ENTER PLUSCODE NUMBER

     123456

   USING 0-9 KEYS

BACKSPACE:◀ KEY
ENTER :PROG KEY
```

④ Push PROG to lock in your program.

⑤ Push the **1, 2 or 3** key to select the program type.

```
VCR Plus+

1 ONE TIME
2 DAILY(MON-FRI)
3 WEEKLY

TO SELECT PUSH 1,2 OR 3
```
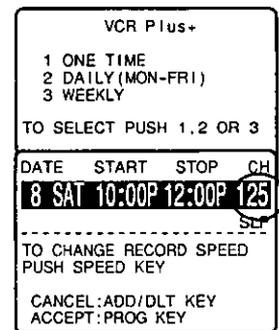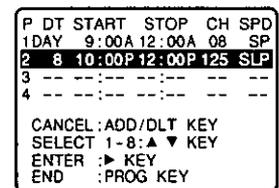
To change the recording speed:
Push SPEED for SP, LP or SLP.

To cancel program contents:
Push ADD/DLT.

```
DATE   START  STOP  CH
8 SAT  10:00P 12:00P 125
                      SLP
TO CHANGE RECORD SPEED
PUSH SPEED KEY

CANCEL:ADD/DLT KEY
ACCEPT:PROG KEY
```

- If you use connection type "A" on page 26, the channel shown in this on-screen display will always be the cable box output channel number.

⑥ Push PROG if contents are acceptable.

```
P DT START  STOP  CH SPD
1DAY  9:00A 12:00A 08  SP
2  8 10:00P 12:00P 125 SLP
3 -- --:-- --:-- -- --
4 -- --:-- --:-- -- --

CANCEL:ADD/DLT KEY
SELECT 1-8:▲▼ KEY
ENTER :▶ KEY
END   :PROG KEY
```

⑦ Push PROG to complete the program.
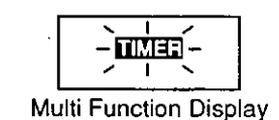
- If you're using a Cable Box, make sure that it is tuned to the desired channel and the power is left on for timer recording.

```
TURN VCR OFF
FOR TIMER RECORDING
AND
LEAVE CABLE BOX POWER ON
```
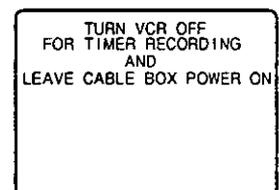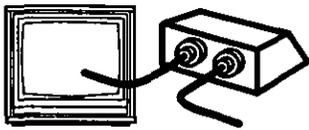
- This display may differ depending on your cable box hook-up.

⑧ Push POWER off to set the timer.

```
-TIMER-
```

Multi Function Display

More You Can Do

Multi-Brand Control Feature

The Remote Control may be set up to control some of the functions on your TV or Cable Box.

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	01, 29, 44, 88, 91
Cableview	04, 30, 42, 44, 52, 63, 85, 88
Citizen	04, 30, 42, 44, 52, 63, 85, 88
Curtis	08, 09, 56, 61, 87, 90
Diamond	01, 29, 44, 88, 91
Drake	37, 67, 71
Eagle	13, 20, 22, 26, 40, 58, 62, 98
Eastern	28
GC Brand	04, 30, 42, 44, 52, 63, 85, 88
Gemini	04, 85
General Electric	57
General Instruments 01, 02, 03, 04, 34, 55, 83, 85, 91, 93, 95	
Hamlin	14, 15, 28, 41, 97, 100, 102
Hitachi	31, 79
Jerrold 01, 02, 03, 04, 34, 55, 83, 85, 91, 93, 95	
Macom	31, 79
Magnavox	25, 26
Matsushita	16, 17, 101
Movietime	29, 32, 38, 39, 40, 42, 44, 88
NSC	32, 38, 40
Oak	10, 11, 46, 99
Panasonic	16, 17, 101
Philips	13, 20, 23, 24, 96
Pioneer	05, 06, 78
Pulsar	04, 30, 42, 44, 52, 63, 85, 88
Radio Shack	44
RCA	16, 17, 101
Realistic	44, 51, 88
Regal	14, 41
Regency	28
Rembran	29, 32, 39, 42, 44, 88
Salora	68, 72
Samsung	32, 40, 42, 78, 94
Scientific Atlanta	08, 09, 56, 61, 87, 90
Sheritech	27
SL Marx	32, 40, 42, 78, 94
Spucer	16, 17, 101
Stargate 04, 30, 32, 40, 42, 44, 52, 63, 78, 85, 88, 94	
Sylvania	19
Teknika	74
Telecaption	77, 92
Teleview	32, 40, 42, 78, 94
Texscan	18, 19
Tocom	01, 33, 34, 42, 48, 49, 91
Toshiba	36
Uniden Satellite	65, 69
Unika	01, 29, 44, 88, 91
Universal	42, 43, 44, 52, 63, 88
Viewstar	13, 20, 22, 26, 40, 58, 62, 98
Videoway	07, 23, 50
Vid Tech	64
Vidter	64
Zenith	07, 23, 50

VCR

NUMBERED keys ②

CATV ②

TV ②

DISPLAY/ ENTER
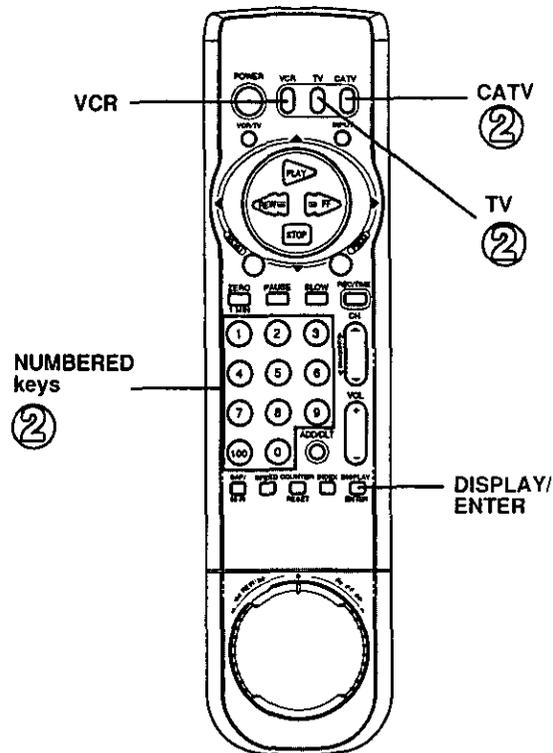
Multi-Brand Control Setup

① Find your TV or Cable Box Brand Code Number from the chart at left.

② TV 0̸ or CATV 0̸ Hold down TV or CATV. Use the NUMBERED keys to enter your TV or Cable Box Brand code number.

- For code numbers 100 or greater, first push the 100 key. Then, enter the remaining digit. E.g. for 102, push 100, then push 2.

③ Try each of the functions on page 31.

- Due to changes in infra-red commands used by some manufacturers, some TV or Cable Box brands are listed more than once. If your TV or Cable Box does not respond to the first code, please try entering the next code.

NOTES
- Please repeat the TV/Cable Box Set Up procedure when you replace the remote's batteries.
- The remote control is designed to control the brands listed. However, it will not operate all TVs or Cable Boxes made by these manufacturers. If you get no results, your particular product brand cannot be controlled by this remote control.

Using the Multi-Brand Control

Once the remote control has been properly set up, you can select VCR, TV, or CATV mode depending on which functions you wish to control.

VCR **TV** **CATV**

◯ or ◯ or ◯

Push VCR or TV or CATV on the remote control to select the desired mode.
(See below for the controllable functions of each mode.)

NOTE:
In TV or CATV mode, it may be necessary to push DISPLAY/ENTER after pushing NUMBERED keys for channel selection.

VCR Mode

In VCR mode, the following buttons are available.

VCR
All function buttons.

TV
VOL UP/DOWN

TV Mode

In TV mode, the following buttons are available.

TV
POWER, INPUT, NUMBERED keys, DISPLAY/ENTER/,
CH UP/DOWN, VOL UP/DOWN

VCR
VCR/TV, PLAY, STOP, FF, REW, PAUSE, SLOW, REC, SAP/Hi-Fi, SPEED, COUNTER RESET, ZERO/1 MIN.

CATV Mode
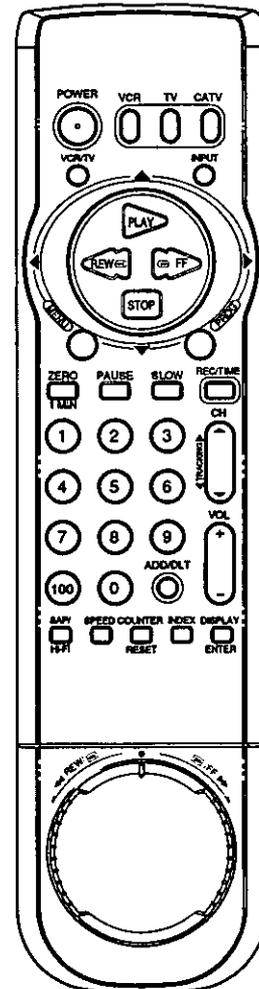
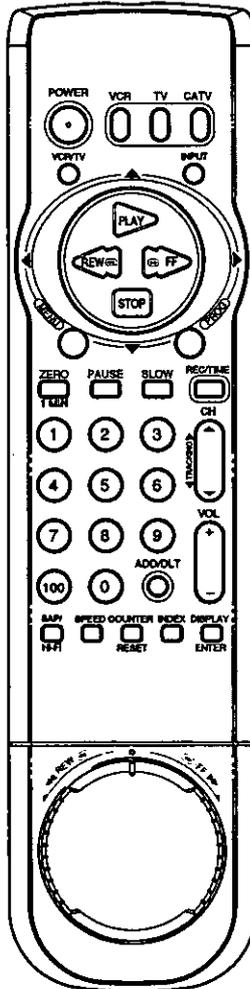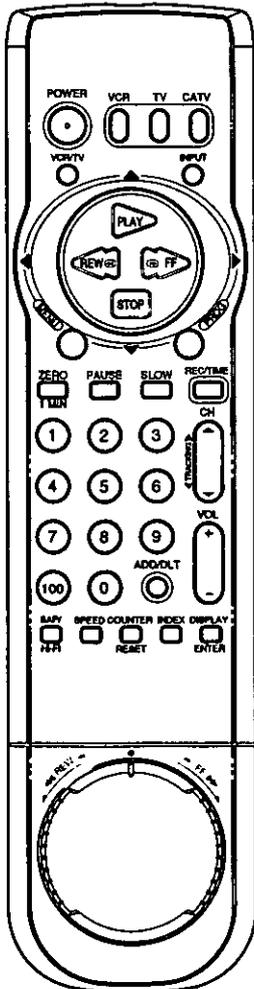In CATV mode, the following buttons are available.

CATV
POWER, NUMBERED keys, DISPLAY/ENTER, CH UP/DOWN

TV
VOL UP/DOWN

VCR
VCR/TV, PLAY, STOP, FF, REW, PAUSE, SLOW, REC, SAP/Hi-Fi, SPEED, COUNTER RESET, ZERO/1 MIN.

More You Can Do

(NOTES)
• Some TV and Cable Box brands require you to turn on the power manually.
• Not all functions listed may be controlled by this remote control.

31

Before Requesting Service

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

Power	Correction
No power...	• Completely insert the Power Plug into an AC outlet. • Set the POWER button to ON.

Recording & Playback	Correction
TV program cannot be recorded...	• Check connections between VCR, external antenna, and your TV. • Make sure your antenna system (CATV or TV) is connected correctly. (To Replace Channels in Memory [P.13]) • Make sure that the record tab is intact on the cassette. (P.5)
Timer recording cannot be performed...	• Set the recording start/stop times correctly. (P.18) • Make sure that the POWER button is set to OFF. (P.18) • 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 if power resumes thereafter.
There is no playback picture, or the playback picture is noisy or contains streaks...	• Select channel 3 or 4 on the TV to match the Channel 3/4 switch located on the rear panel of the VCR. (P.6) • Set the VCR/TV selector to "VCR." • Check that channel 3 or 4 of the TV is properly adjusted. • Adjust the TRACKING control in either direction. (P.15)
Special effects playback, picture may contain some vertical jitter when using a TV with an Automatic Vertical Hold Control...	• Set the TV's Vertical Hold Control to "MANUAL" and then adjust it.
VCR can't be controlled...	• Make sure that VCR LOCK is set to off. (P.23)

Remote Control	Correction
VCR cannot be remote controlled...	• Aim the Remote Control directly at the remote sensor on the VCR. (P.10) • Avoid all obstacles which may interfere with the signal path. • Inspect the remote batteries for possible replacement. (P.4) • Make sure that VCR LOCK is set to off. (P.23) • Exposing the VCR remote sensor to direct fluorescent or outdoor light may cause signal interference.
The MENU and PROG buttons can't be used...	• Push the VCR button to select VCR mode. (P.31)

Miscellaneous	Correction
Programs cannot be viewed on TV...	• Set the VCR/TV selector to "TV." (P.16)
Video cassette cannot be inserted...	• Insert cassette with window side up and the record tab facing you.
Video cassette cannot be removed...	• Completely insert the Power Plug into an AC wall outlet.
Video cassette ejects when a recording is started or the power is turned off for timer recording...	• Make sure the record tab is intact on the cassette. (P.5)
In Stop mode, the motor (CYLINDER) continues to rotate...	• To enable the quick play mechanism, the cylinder will rotate for about 5 minutes. This reduces response time from Stop to Play mode from Play to Rewind Search mode.
The top of the playback picture waves back and forth excessively...	• Because the VCR playback signal is not as stable as an off-the-air TV signal, the top of your TV screen may be bent or unstable during playback. To solve this problem, slowly turn the horizontal hold control on your TV to correct the wavy picture. If your TV does not have a horizontal hold control or adjusting the control does not help, please contact your local TV service center.

Warranty

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: 19" (diagonal) CRT / LCD and Larger
Monitor-VCR Carry-in Service: 18" (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 1-800-545-2672, 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 requires 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 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 2/11/97

Thank you for your purchase.
For service of this Panasonic product, please contact your local Sears Service Center.
To locate the closest Sears Service Center, call 1-800-488-1222.

Other Information

Spanish Quick Use Guide/Guía para rápida consulta

Para fijar el idioma y canal

1 Encienda el televisor y la videograbadora.

2 Sintonice el televisor al canal de salida de la videograbadora (el mismo canal que ha fijado en la parte trasera de la videograbadora; canal 3 o 4).

3 Oprimir CH ▲ para elegir el idioma de la pantalla en inglés.

Oprimir CH ▼ para elegir el idioma de la pantalla en español.

Oprimir VCR/TV para elegir el idioma de la pantalla en francés.

```
SELECT LANGUAGE

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

• Ud. podrá fijar también usando los mismos botones que están ubicados en la videograbadora.

• La videograbadora debe conectarse a una antena o caja de TV por cable.

4 Oprimir ▲▼ para elegir, y luego oprimir ▶ para fijar su conexión.

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

ELEGIR:▲ ▼
FIJAR :▶
TERMINAR:MENU
```

• Si ud. ha elegido CABLE/DSS ▶VCR▶TV, continue al paso 5. Si no, siga al paso 6.

5 Oprimir ▲▼ para elegir el canal de salida de la caja de TV por cable o el receptor DSS, y luego oprimir ▶ para fijar.

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

SALIDA DEL CABLE/DSS
         CA 01
ELEGIR:▲ ▼
FIJAR :◀ ▶
TERMINAR:MENU
```
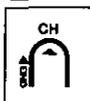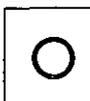
• Si es necesario, consulte su manual de la caja de TV por cable.
• Si ud. está usando los terminales de audio/video para la conexión de la caja de TV por cable, elija y fije a "SALIDA DE VIDEO" para el canal de salida.

6 Oprimir CH ▲ para <u>iniciar la fijación automática de los canales.</u>
• Aparece las siguientes informaciones:
"POR FAVOR FIJE RELOJ CON LA TECLA MENU"

7 Oprimir MENU para que aparezca la pantalla de fijación del reloj.

```
----- FIJAR RELOJ -----
 / --/----  --:--
           VERANO:ACT
ELEGIR MES
ELEGIR:▲ ▼
FIJAR :▶
TERMINAR:MENU
```

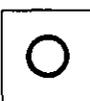**8** Oprimir ▲▼ para elegir el mes y luego oprimir ▶ para fijar el mes.

• Introduzca los datos en 5 minutos o la videograbadora saldrá de la pantalla de la fijación del reloj.

9 Oprimir ▲▼ y ◀▶ para elegir y fijar las fijaciones restantes que están a la derecha.

Fijaciones:
• Fecha
• Año
• Hora
• Verano
(Hora veraniega)

10 Oprimir MENU dos veces para <u>iniciar a funcionar el reloj</u> y salir desde este modo.

```
----- FIJAR RELOJ -----
1/ 4/1997 SAB 12:00PM
           VERANO:ACT
FIJACION ES COMPLETO
FIJAR :◀ ▶
INICIAR:MENU
```

Ajuste del reloj

1 Oprimir MENU para que aparezca la pantalla del menú.

```
--------- MENU ---------
PREPARAR VCR
FIJAR RELOJ
FIJAR CANAL
LANGUE/LANGUAGE:ESPANOL

ELEGIR:▲ ▼
FIJAR :▶
TERMINAR:MENU
```

2 Oprimir ▲▼ para elegir "FIJAR RELOJ" y luego oprimir ▶ para que aparezca la pantalla de "FIJAR RELOJ."

3 Oprimir ▲▼ y ◀▶ para elegir y fijar la hora y el dia.

```
------FIJAR RELOJ------
1/ 4/1997 SAB 12:00PM
          VERANO:ON
FIJACION ES COMPLETO
ELEGIR:▲ ▼
FIJAR :◀ ▶
TERMINAR:MENU
```

4 Oprimir MENU dos veces para <u>iniciar a funcionar el reloj</u> y salir desde este modo.

Operaciones básicas para la reproducción

1
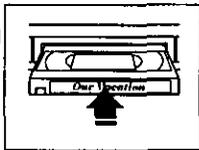
```
-VCR-
```
Esta indicación aparece en la pantalla multifuncional.

2 Oprimir PLAY en el control remoto o en la videograbadora para comenzar a reproducir.

• Si la cinta no tiene la lengüeta para evitar el borrado la videograbadora comienza a reproducir automáticamente.
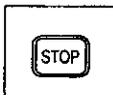
3 Oprimir STOP en el control remoto o en la videograbadora para parar la reproducción.
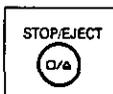
4 Oprimir STOP/EJECT para expulsar la cinta.

• Usted puede expulsar la cinta cuando el aparato está encendido o apagado.

**Para buscar una escena en particular durante la reproduction**

Oprimir REW o FF durante la reproducción para buscar una escena.

• La velocidad de búsqueda es a 9 veces más rápida que la velocidad normal para el modo SP y 27 veces más rápida para el mode SLP.
• Durante la búsqueda aparece alguna barras de ruido.

Operaciones básicas para la grabación
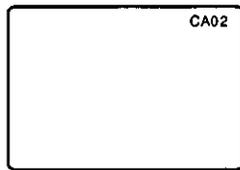
(1) Introducir una cinta con la lengüeta.
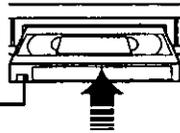
- La videograbadora se enciende automáticamente.

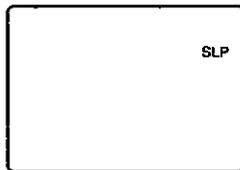**(2)** Oprimir CH ▲/▼ o las teclas numéricas para elegir el canal.

CA02

- U oprimir CH ▲/▼ en la videograbadora.
- Para grabar desde una fuente externa, oprimir CH ▲/▼ o INPUT para seleccionar "LINEA."

(3) SPEED Oprimir SPEED para cambiar la velocidad de la cinta.

SLP

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

(4) REC/TIME Oprimir REC/TIME en el control remoto o videograbadora para empezar a grabar.
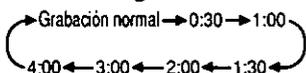
- Oprimir PAUSE para hacer una pausa en la grabación en progreso.

Grabación de un toque (OTR)

La videograbadora termina la grabación a una hora programada.

En el paso 4, oprimir repetidamente REC/TIME para fijar el tiempo de grabación. Cada presión cambiará la hora de parada como demuestra al siguiente.

→Grabación normal→0:30→1:00→
4:00←3:00←2:00←1:30←

- La indicación TIMER aparece en la pantalla multifuncional.
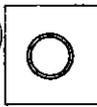- El tiempo de la grabación que sobra se podrá exhibir en el modo de OTR.

(5) STOP Oprimir STOP para parar la grabación.

- U oprimir STOP/EJECT en la videograbadora.

Programación fácil para la grabación con temporizador

(1) Oprimir PROG para que aparezca la pantalla "FIJAR PROGRAMACION."

```
-- FIJAR PROGRAMACION --

   VCR Plus+
   TEMPORIZADOR

ELEGIR:▲ ▼
FIJAR :►
TERMINAR:PROG
```

(2) Oprimir ▲▼ para elegir "TEMPORIZADOR" y luego oprimir ► para exhibir la pantalla de la programación.

```
FECHA / INICIO PARADA CA
7 VIE ---- ---- --
HOY               SLP

ELEGIR FECHA DE INICIO

ELEGIR:▲ ▼
FIJAR :►
TERMINAR:PROG
```

- Si ya existe una programación memorizada, oprima ▲▼ y ► para elegir un número sin programación.

(3) Oprimir ▲▼ y ► para elegir y fijar uno de los siguientes:

- 1~31 =Grabación de una sola vez
- DIARIO =A una misma hora LUN~VIE
- SEMANAL =Una vez a la semana a una misma hora

Ejemplo

Fecha de hoy

SEMANAL(SAB)← 7 →8—9···· 31
SEMANAL (LUN) ▲/▼ Orden para elegir
SEMANAL(DOM) —— DIARIA —— 6····

(4) Oprimir ▲▼ y ◄► para elegir y fijar las fijaciones a la derecha.
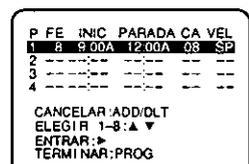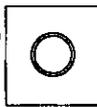
Fijaciones:
- Hora de inicio   • Hora de parada
- Canal o LINEA para una fuente externa .
- Velocidad de la cinta (SP, LP, SLP).

Para hacer más programaciones
Oprimir ► sucesivamente para avanzar u ◄ para retroceder hasta el paso que desea corregir.

(5) Oprimir PROG para terminar la programación.

```
P FE INIC PARADA CA VEL
1 8 9:00A 12:00A 08 SP
2 --- ----:-- ----:-- -- --
3 --- ----:-- ----:-- -- --
4 --- ----:-- ----:-- -- --

CANCELAR :ADD/DLT
ELEGIR 1-8:▲ ▼
ENTRAR:►
TERMINAR:PROG
```
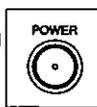
Para hacer más programaciones
Oprimir ▲▼ y ► para elegir y fijar un número de programa en blanco y luego repita los pasos 3 y 4.

(6) Oprimir PROG para salir desde este modo y volver a la pantalla normal.
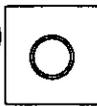
(7) POWER Oprimir POWER y apaque el aparato para la grabación con temporizador.

Pantalla multifuncional

- TIMER -

- Si la fuente de la grabación es una caja de TV por cable, asegúrese de que la caja de TV por cable esté encendido y esté sintonizado al canal que desea grabar.

Quick Use Guide

This guide should only be used once you are familiar with the operations inside this manual.
If you have any problems or need more information, please refer to the page listed.

Clock Reset (page 13)

```
-------- MENU --------
  SET UP VCR
  SET CLOCK
  SET UP CHANNEL
  IDIOMA/LANGUE: ENGLISH

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

Display the menu   Select "SET CLOCK"

```
------ SET CLOCK ------
1/ 4/1997 SAT 12:00PM
              OST:ON

SELECT HOUR
SELECT: ▲ ▼ KEY
SET    :◀ ▶ KEY
END    :MENU KEY
```

Set the clock   Start the clock & exit this mode

Playback a Tape (page 15)

Turn TV on
Select VCR
Channel 3/4

Insert a tape

Our Vacation

Start playback   Stop playback   At VCR STOP/EJECT   Eject tape

Make a Recording (page 16)

Turn TV on
Select VCR
Channel 3/4

Insert a tape with Record Tab

CH

Select channel   SPEED SP LP SLP   Select speed   REC/TIME   Start recording   Stop recording

Set a Timer Recording (page 18)

```
----- SET PROGRAM -----
  VCR Plus+ PROGRAM
  TIMER PROGRAM

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

Display the program screen   (PROG)

Select "TIMER PROGRAM"

```
DATE   START  STOP  CH
7 FRI  --:--  --:-- --
                    SLP
SELECT START DATE
SELECT: ▲ ▼ KEY
SET    :▶ KEY
END    :PROG KEY
```

Enter timer information

```
P DT  START  STOP  CH SPD
1DAY  9:00A 12:00A 08  SP
2  -- --:-- --:-- --  --
3  -- --:-- --:-- --  --
4  -- --:-- --:-- --  --

CANCEL:ADD/DLT KEY
SELECT 1-8:▲ ▼ KEY
ENTER :▶ KEY
END   :PROG KEY
```

(PROG)

Once to finish the program, twice to exit this mode

POWER

Turn VCR off to set the timer

P