Installation and Operating Guide | Warranty

Model Numbers | VRE4122 • VRE4222 | Video Cassette Recorders

zenith **Z**

zenith **Z**

Safety Precautions

WARNING
RISK OF ELECTRIC SHOCK
DO NOT OPEN

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

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

NOTE TO CABLE/TV INSTALLER: This reminder is provided to call the cable TV system installer's attention to Article 820-40 of the National Electric Code (U.S.A.). The code 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 the cable entry as practical.

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

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.
ATTENTION: POUR ÉVITER LES CHOC ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

WARNING: Do not drop the tying band of the power cord into the unit. Doing so might cause a fire or an electrical shock. (See page 11.)

SERIAL NUMBER: The serial number is found on the back of this unit. This number is unique to this unit and not available to others. You should record requested information here and retain this guide as a permanent record of your purchase.
Model No. _____
Serial No. _____

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REGULATORY INFORMATION:
FCC Part 15
This product has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the product is operated in a residential installation. This product generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this product does cause harmful interference to radio or television reception, which can be determined by turning the product off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the product and receiver.
- Connect the product into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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

FCC COMPLIANCE: The responsible party for this product's compliance is:
Zenith Electronics Corporation, 2000 Millbrook Drive, Lincolnshire, IL 60069, USA
Phone: 1-847-391-7000.

MOISTURE CONDENSATION
If you pour a cold liquid into a glass, water vapor in the air will condense on the surface of the glass. This is moisture condensation. Moisture condensation on the head drum, one of the most crucial parts of the unit, will cause damage to the tape. When the VCR is exposed to a rapid temperature change from cold to warm, some condensation will occur. Under this condition, connect the power cord to the AC line, press **POWER** on and allow at least two hours for the VCR to dry out.

IMPORTANT COPYRIGHT INFORMATION: Many television programs and films are copyrighted. In certain circumstances copyright law may apply to private in-home video taping of copyrighted materials.

FEATURES

- **Auto Clock Set System**
- **Energy Save Function**
- **Easy Operations**
- **MTS Hi-Fi Stereo**
- **1Year/8 Event Timer with DAILY and WEEKLY Function**
- **Auto Power and Playback Functions**
- **Instant Timer Recording**
- **Real-Time Tape Counter, Tape Remaining Time**
- **Clean Still, Slow, Frame Advance, Commercial Skip**
- **Auto Tracking Function/Auto Head Cleaner**
- **Onscreen Display of Function**
- **Trilingual Onscreen Programming (English/Spanish/French)**

CONTENTS

ACCESSORIES

Remote Control	RF Coaxial Cable

Check to make sure that all accessories listed left have been included with your VCR.

- Depending on your antenna system, you may need a different type of Combiner (Mixer) and Separator (Splitter). You can purchase them at most electronics stores. For further details, ask your nearest authorized service center.

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IMPORTANT SAFETY INSTRUCTIONS

Important safeguards for you and your new product

Your product has been manufactured and tested with your safety in mind. However, improper use can result in potential electrical shock or fire hazards. To avoid defeating the safeguards that have been built into your new product, please read and observe the following safety points when installing and using your new product, and save them for future reference.

Observing the simple precautions discussed in this section of the operating guide can help you get many years of enjoyment and safe operation that are built into your new product.

1. **Read Instructions**
   All the safety and operating instructions should be read before the product is operated.

2. **Follow Instructions**
   All operating and use instructions should be followed.

3. **Retain Instructions**
   The safety and operating instructions should be retained for future reference.

4. **Heed Warnings**
   All warnings on the product and in the operating instructions should be adhered to.

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

6. **Water and Moisture**
   Do not use this product near water – for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool.

7. **Accessories**
   Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

8. **Transporting Product**
   A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

PORTABLE CART WARNING

9. **Attachments**
   Do not use attachments not recommended by the product manufacturer as they may cause hazards.

10. **Ventilation**
    Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

11. **Power Sources**
    This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.

12. **Grounding or Polarization**
    This product is equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

13. **Power-Cord Protection**
    Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.
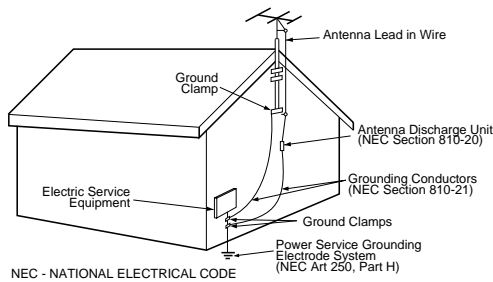
IMPORTANT SAFETY INSTRUCTIONS (Cont'd)

14. Outdoor Antenna Grounding

If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code (U.S.A), ANSI/NFPA 70 provides information with regard 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.

EXAMPLE OF GROUNDING ACCORDING TO NATIONAL ELECTRICAL CODE INSTRUCTIONS

Antenna Lead in Wire
Ground Clamp
Antenna Discharge Unit (NEC Section 810-20)
Grounding Conductors (NEC Section 810-21)
Electric Service Equipment
Ground Clamps
Power Service Grounding Electrode System (NEC Art 250, Part H)
NEC - NATIONAL ELECTRICAL CODE

15. Lightning

For added protection for this product (receiver) during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.

16. Power Lines

An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

17. Overloading

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

18. Object and Liquid Entry

Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

19. Servicing

Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

20. Damage Requiring Service

Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

a. If the power-supply cord or plug is damaged.

b. If liquid has been spilled, or objects have fallen into the product.

c. If the product has been exposed to rain or water.

d. If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.

e. If the product has been dropped or the cabinet has been damaged.

f. If the product exhibits a distinct change in performance.

21. Replacement Parts

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

22. Safety Check

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

23. Heat

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

5

VCR FEATURE CHART

This page shows the features of your VCR and the differences between the models.

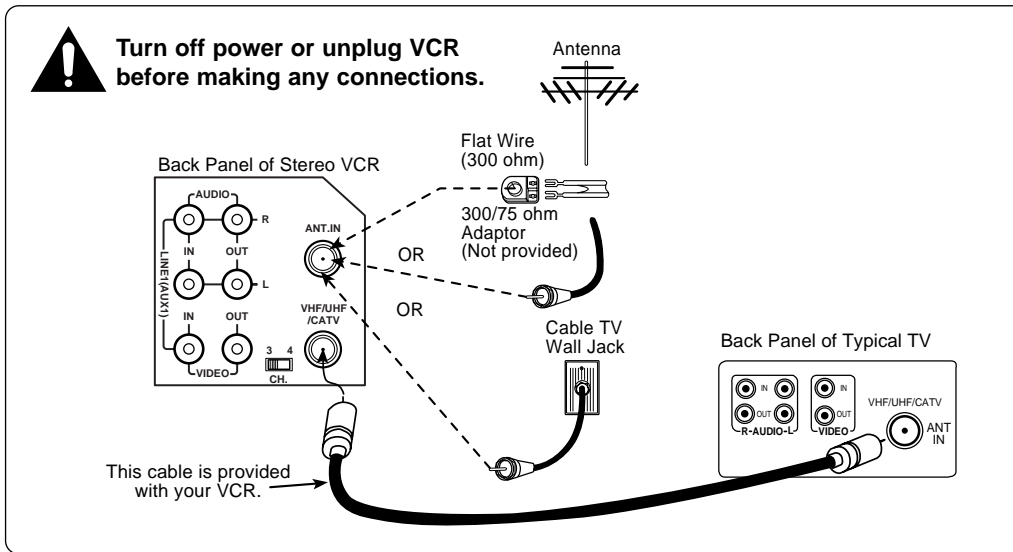| FEATURES	VRE4222	VRE4122
4-Heads (Special Video Effects)	Yes	Yes
Full Load/Quick Start	Yes	Yes
Auto Head Cleaner	Yes	Yes
Audio System	MTS Hi-Fi Stereo	Monaural
Audio/Video (A/V) Jacks	Stereo	Monaural
Remote Control	Yes	Yes
Auto/Manual Band Select	Yes	Yes
Auto/Manual Channel Search	Yes	Yes
Channel Capability (CATV & TV)	181	181
Record Speeds SP/SLP	Yes	Yes
Playback Speeds SP/LP/SLP	Yes	Yes
Auto Playback System	Yes	Yes
Auto/Manual Digital Tracking	Yes	Yes
Instant Recording	Yes	Yes
Timer-Controlled Recording	Yes	Yes
Auto Playback Tape Speed Adjust	Yes	Yes
Slow-Motion Video (4-head VCR)	Yes	Yes
	Variable 1/10 to 1/32	Variable 1/10 to 1/32
Pause/Still Video	Clear	Clear
Real-Time Tape Counter	Yes	Yes
Visual Search	Yes	Yes
Logic Search	Yes	Yes
CM Skip	Yes	Yes
English/Spanish/French Menus	Yes	Yes
1-Year, 8-Event Timer	Yes	Yes
Message Center Front Panel Display	Yes	Yes
Easy Power On	Yes	Yes
Easy Review	Yes	Yes
Easy Information	Yes	Yes
Auto Clock Set System	Yes	Yes
Hook-up Cable (VCR to TV)	Yes	Yes
Energy Saving	Yes	Yes

1. Model VRE4222 is used for the description, operation, and details provided in this operating guide.
2. VCR design and specifications are subject to change without prior notice.

Yes = Feature is provided N/A = Feature is Not Available
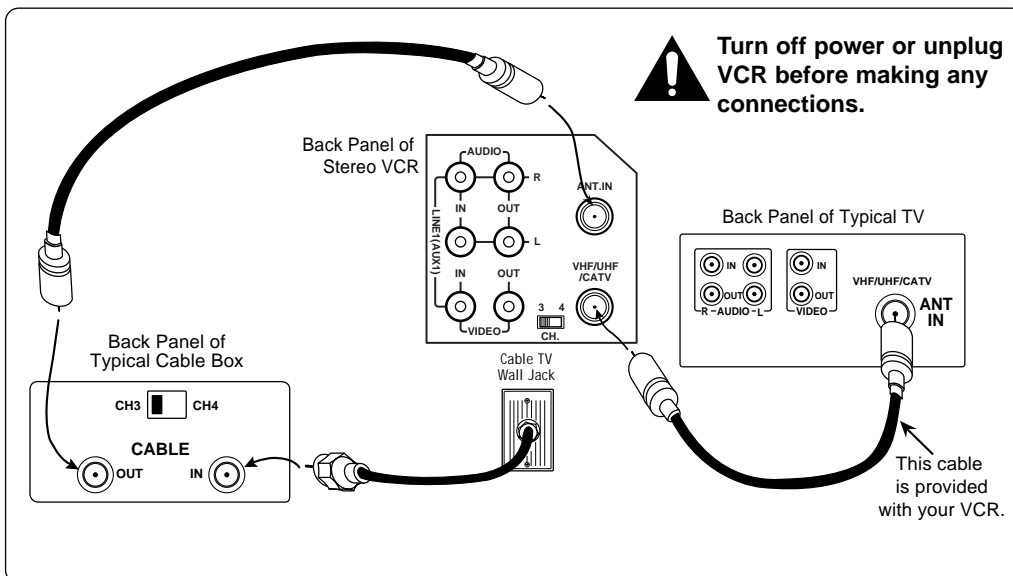
CONNECTIONS FOR YOUR VCR

Required connections for your VCR.

CONNECTIONS WITHOUT A CABLE BOX

⚠ **Turn off power or unplug VCR before making any connections.**

Antenna

Back Panel of Stereo VCR

Flat Wire
(300 ohm)

AUDIO
R
IN OUT
LINE1(AUX1)
L
IN OUT
VIDEO
ANT.IN
VHF/UHF
/CATV
3 4
CH.

300/75 ohm
Adaptor
(Not provided)

OR

OR

Cable TV
Wall Jack

Back Panel of Typical TV

IN
OUT
R-AUDIO-L
IN
OUT
VIDEO
VHF/UHF/CATV
ANT
IN

This cable is provided
with your VCR.

CONNECTIONS WITH A CABLE BOX

⚠ **Turn off power or unplug VCR before making any connections.**

Back Panel of
Stereo VCR

AUDIO
R
IN OUT
LINE1(AUX1)
L
IN OUT
VIDEO
ANT.IN
VHF/UHF
/CATV
3 4
CH.

Back Panel of Typical TV

IN
OUT
R -AUDIO- L
IN
OUT
VIDEO
VHF/UHF/CATV
ANT
IN

Back Panel of
Typical Cable Box

CH3   CH4
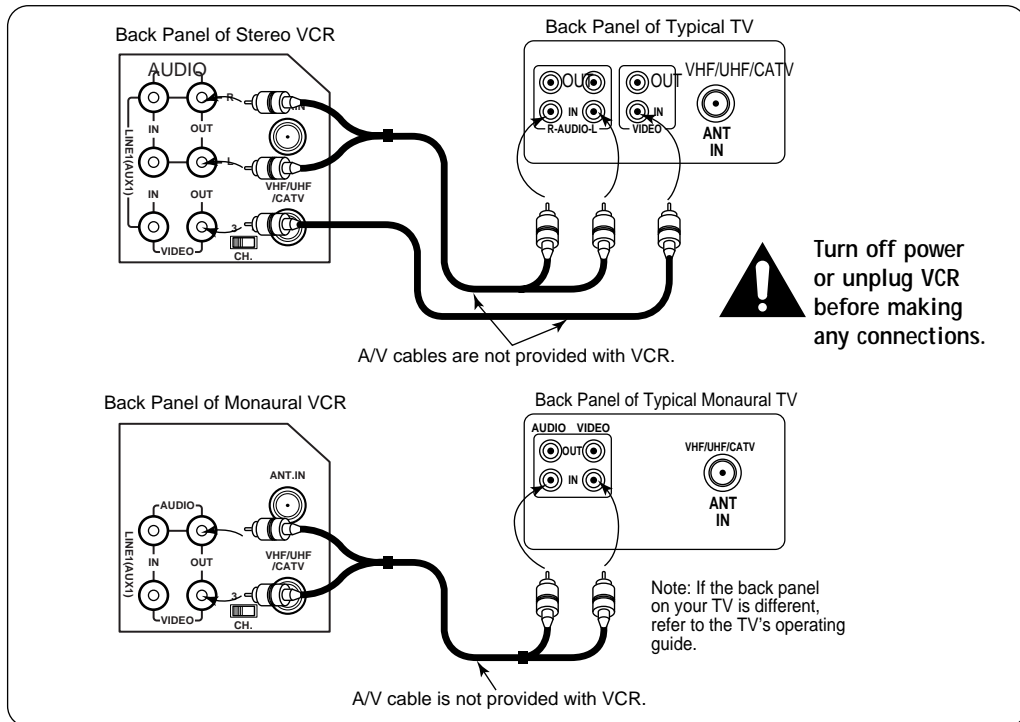
CABLE

OUT   IN

Cable TV
Wall Jack

This cable
is provided
with your VCR.

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CONNECTIONS FOR YOUR VCR (Cont'd)

AUDIO/VIDEO (A/V) CONNECTIONS TO TV
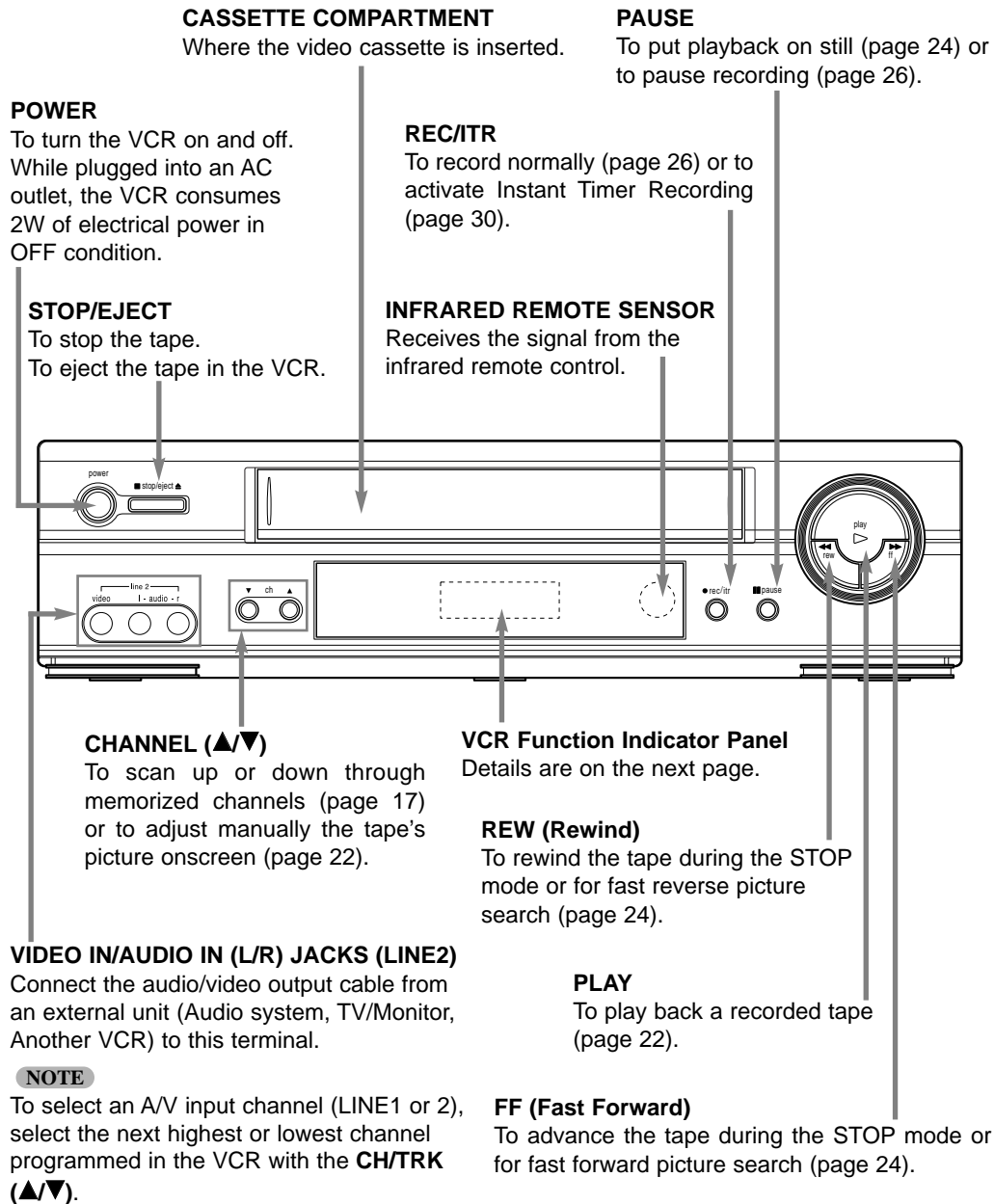
Use A/V connections for a better picture.

Back Panel of Stereo VCR

Back Panel of Typical TV

VHF/UHF/CATV

AUDIO

LINE1(AUX1)

IN OUT

IN OUT

VIDEO

CH.

R-AUDIO-L

VIDEO

ANT IN

Turn off power or unplug VCR before making any connections.

A/V cables are not provided with VCR.

Back Panel of Monaural VCR

Back Panel of Typical Monaural TV

ANT.IN

AUDIO

LINE1(AUX1)

IN OUT

VHF/UHF /CATV

VIDEO

CH.

AUDIO VIDEO

OUT

IN

VHF/UHF/CATV

ANT IN

Note: If the back panel on your TV is different, refer to the TV's operating guide.

A/V cable is not provided with VCR.

CONNECTIONS WITHOUT A CABLE BOX

Accessory Component:
Another VCR,
Camcorder,
Video Camera,
Satellite Receiver,
Laser Disc Player

Back Panel of Stereo VCR

Jack panel of Accessory

AUDIO

LINE1(AUX1)

IN OUT

IN OUT

VIDEO

VHF/UHF /CATV

CH.

OUT

IN

R-AUDIO-L

OUT

IN

VIDEO

Turn off power or unplug VCR before making any connections.

A/V cables are not provided with VCR.

CONTROL NAMES AND LOCATIONS

FRONT

CASSETTE COMPARTMENT
Where the video cassette is inserted.

PAUSE
To put playback on still (page 24) or to pause recording (page 26).

POWER
To turn the VCR on and off. While plugged into an AC outlet, the VCR consumes 2W of electrical power in OFF condition.

REC/ITR
To record normally (page 26) or to activate Instant Timer Recording (page 30).

STOP/EJECT
To stop the tape.
To eject the tape in the VCR.

INFRARED REMOTE SENSOR
Receives the signal from the infrared remote control.

CHANNEL (▲/▼)
To scan up or down through memorized channels (page 17) or to adjust manually the tape's picture onscreen (page 22).

VCR Function Indicator Panel
Details are on the next page.

REW (Rewind)
To rewind the tape during the STOP mode or for fast reverse picture search (page 24).

VIDEO IN/AUDIO IN (L/R) JACKS (LINE2)
Connect the audio/video output cable from an external unit (Audio system, TV/Monitor, Another VCR) to this terminal.

PLAY
To play back a recorded tape (page 22).

NOTE
To select an A/V input channel (LINE1 or 2), select the next highest or lowest channel programmed in the VCR with the **CH/TRK (▲/▼)**.

FF (Fast Forward)
To advance the tape during the STOP mode or for fast forward picture search (page 24).

CONTROL NAMES AND LOCATIONS (Cont'd) ▬▬

INDICATOR PANEL

Cassette indicator —
Lights while a cassette is inserted, and flashes while ejecting a cassette.

Record indicator —

VCR indicator —
Use **TV/VCR** on the remote control to turn this indicator ON or OFF.
ON: for playback, VCR programming or watching TV programs through the VCR tuner
OFF: for watching TV programs through TV tuner

TIMER indicator

AM indicator
(PM is not displayed)

Clock/Tape operation indicator
HI — VCR is turned on.
BYE — VCR is turned off.

Front Panel Display shows which VCR function you are using. For example, when you press **SP/SLP**, SP or SLP appears to indicate the tape speed. As you change channels, the channel numbers appear. The current time shows even while the VCR is off.

Playback Messages

Err — Turn VCR On and OFF to erase "Err" message. If it is not erased, take VCR to an authorized repair center.

FF (Fast Forward) — Tape is advancing rapidly.

CUE — Tape is advancing rapidly in playback mode for visual search.

REV — Tape is reversing rapidly in playback mode for visual search.

PLAY — Tape is playing at normal playback speed.

REW (Rewind) — Tape is rewinding rapidly.

SLW — Tape is playing at slow-motion speed.

STILL — Playback is halted on one frame.

STOP — Tape rewind or playback is stopped.

Record Message

Err — Turn VCR On and OFF to erase "Err" message. If it is not erased, take VCR to an authorized repair center.

RECP — Record mode is halted.

SP or SLP — Displays the recording speed.

REC — VCR is recording.

STOP — Recording is stopped.

Tuner Messages

L1 or L2 — Auxiliary channel is selected for viewing equipment connected to Audio/Video jacks on front or rear of the VCR.

ch _ — VCR is tuned to Channel _.

HI — VCR is turned on.

BYE — VCR is turned off.

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CONTROL NAMES AND LOCATIONS (Cont'd)

REAR

ANTENNA INPUT CONNECTOR
Connect the VHF/UHF/CATV antenna to this terminal.

AUDIO OUT (L/R) JACKS; Connect this terminal to the audio input terminal on an external unit (Audio System, TV/Monitor, Another VCR).
**VIDEO OUT JACK;** Connect this terminal to the video input terminal on an external unit (TV/Monitor, Another VCR).
AUDIO IN (L/R) JACKS; Connect the audio output cable from an external unit (Audio system, TV/Monitor, Another VCR) to this terminal.
VIDEO IN JACK; Connect the video output cable from an external unit (TV/Monitor, Another VCR) to this terminal.

NOTE

To select an A/V input channel (LINE1 or 2), select the next highest or lowest channel programmed in the VCR with the **CH/TRK (▲/▼)**.
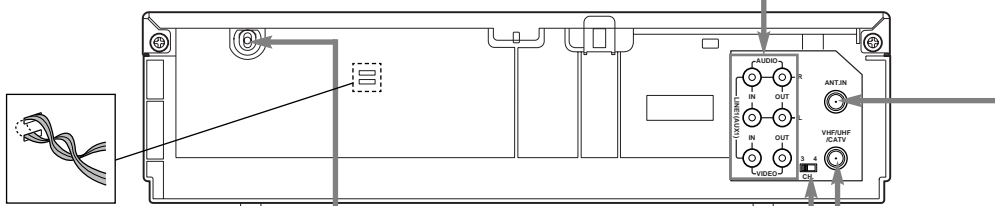
WARNING : Do not drop the tying band of the power cord into the unit. Doing so might cause a fire or an electrical shock.

VCR OUTPUT CHANNEL SELECT SWITCH
Set this switch to channel 3 or 4.

VHF/UHF/CATV ANTENNA OUTPUT CONNECTOR
Connect this terminal to the VHF or UHF antenna terminals on the back of a TV.

POWER CORD
Connect only to an AC 120V, 60Hz outlet.

SET POSITION OF THE CH3/CH4 SWITCH

3 4
CH.

Tune TV to Ch.3

OR

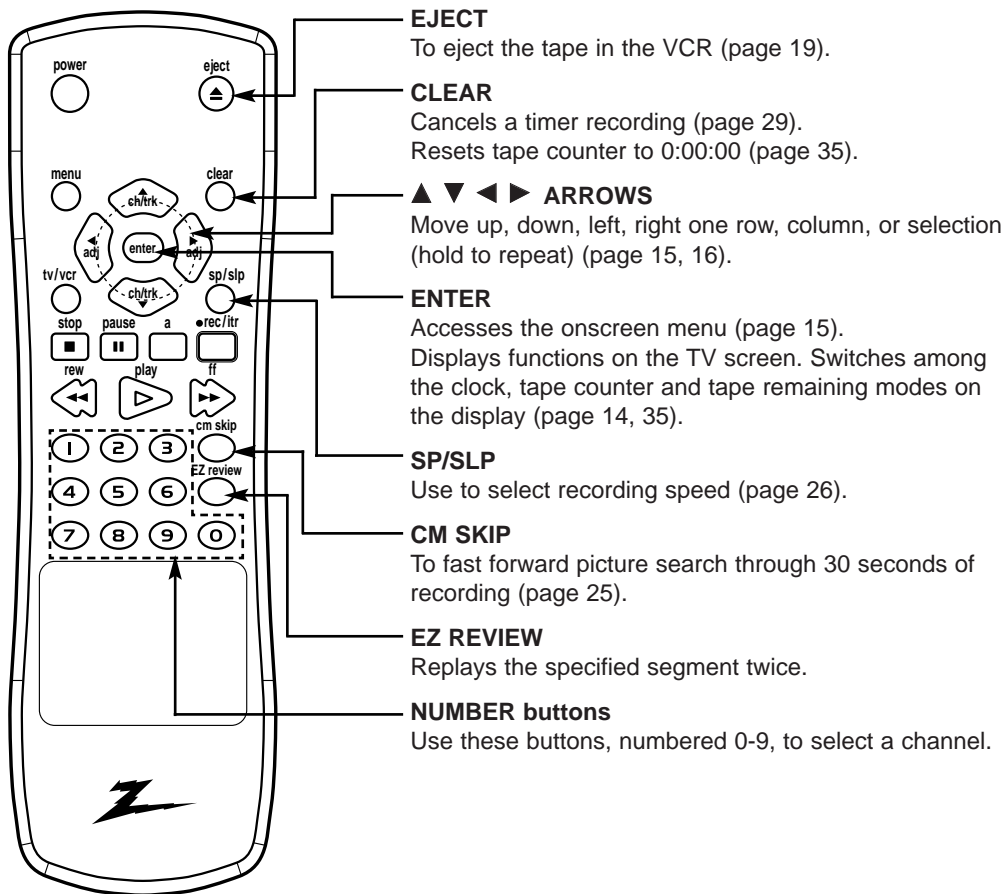**3 4**
CH.

Tune TV to Ch.4
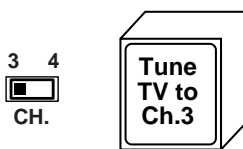
The CH3/CH4 switch on the VCR's back panel determines which channel the VCR uses to send video signals to your TV. The TV must be tuned to the same channel you set with the CH3/CH4 switch to see tape playback and status displays from the VCR. To determine which video channel provides the best picture for your system, try the switch in CH3 position and tune your TV to channel 3; then try the CH4 position and tune your TV to channel 4.

For a test display, press **TV/VCR** on remote repeatedly until the VCR indicator light appears in the VCR's front panel display. Press **MENU** on the remote to see the main menu.

REMOTE CONTROL

The remote control is used for most of the operations and features of the VCR. Before proceeding, put batteries in the remote and become familiar with the buttons. Use only type AAA batteries. The maximum operating distance is about 25 feet.

The **POWER, PLAY, PAUSE, FF, REW** and **REC/ITR** buttons on the remote control unit perform the same functions as the corresponding buttons on the VCR. The remaining buttons are on the remote control unit only.

EJECT
To eject the tape in the VCR (page 19).

CLEAR
Cancels a timer recording (page 29).
Resets tape counter to 0:00:00 (page 35).

▲ ▼ ◄ ► ARROWS
Move up, down, left, right one row, column, or selection (hold to repeat) (page 15, 16).

ENTER
Accesses the onscreen menu (page 15).
Displays functions on the TV screen. Switches among the clock, tape counter and tape remaining modes on the display (page 14, 35).

SP/SLP
Use to select recording speed (page 26).

CM SKIP
To fast forward picture search through 30 seconds of recording (page 25).

EZ REVIEW
Replays the specified segment twice.

NUMBER buttons
Use these buttons, numbered 0-9, to select a channel.

REMOTE CONTROL (Cont'd)
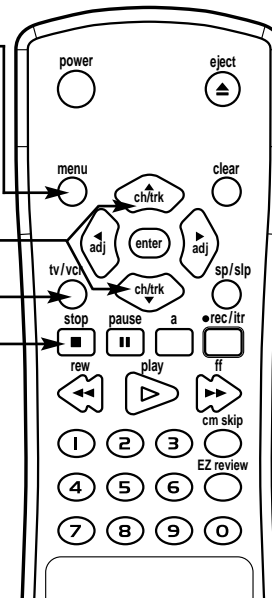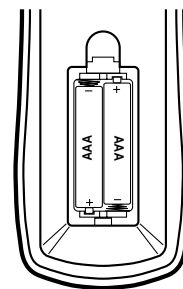
PREPARATION

OPERATION OF REMOTE CONTROL

Aim the remote control at the sensor on the front panel of the VCR.

HOW TO INSTALL THE BATTERIES

1 Slide the battery compartment cover in the direction of arrow.

2 Insert 2 "AAA"-size batteries in the correct direction.

3 Replace the cover.

NOTES

• The remote control will not operate properly if something comes between the VCR and the remote control.
• If the range is short, try new batteries.
• An object between the VCR and remote control may block the invisible light beam and operation will be impossible.
• Batteries installed backwards may leak and damage your Remote Control.
• Do not mix old and new batteries or carbon types with alkaline types.
• Remove the batteries from the battery compartment if the remote control will not be used for a long time.
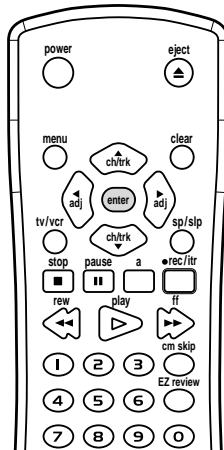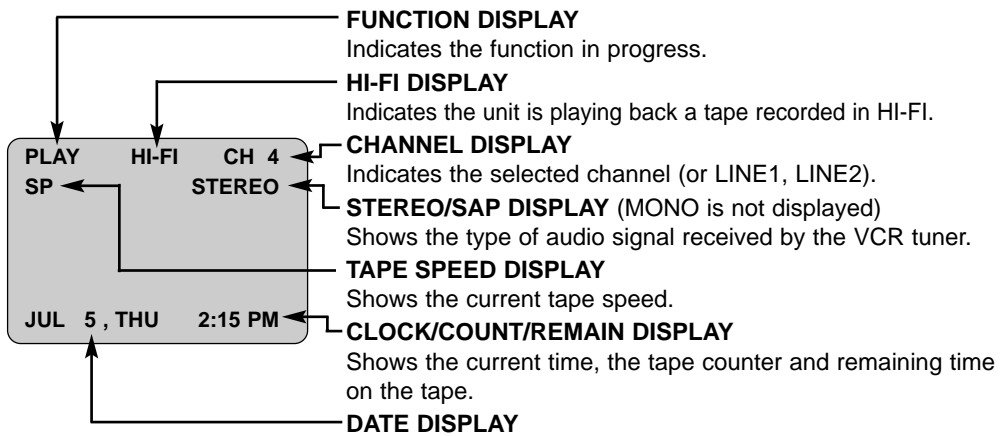
ONSCREEN DISPLAY (OSD)

PREPARATION
- Turn on the power of both the VCR and TV.
- Be sure the TV is set to the VCR Output Channel (CH 3 or 4).
- If a direct VIDEO/AUDIO connection is made between the VCR and the TV, set the TV's source selector to VIDEO.

ONSCREEN FUNCTION DISPLAYS

Some of these functions will be displayed every time the VCR is operated.

**FUNCTION DISPLAY**
Indicates the function in progress.

HI-FI DISPLAY
Indicates the unit is playing back a tape recorded in HI-FI.

```
PLAY    HI-FI    CH 4
SP               STEREO




JUL  5 , THU     2:15 PM
```

CHANNEL DISPLAY
Indicates the selected channel (or LINE1, LINE2).

STEREO/SAP DISPLAY (MONO is not displayed)
Shows the type of audio signal received by the VCR tuner.

TAPE SPEED DISPLAY
Shows the current tape speed.

CLOCK/COUNT/REMAIN DISPLAY
Shows the current time, the tape counter and remaining time on the tape.

DATE DISPLAY
Shows the current date. (Month/Day/Day of the week format)

Each press of the **ENTER** changes the TV screen in the following sequence.

```
STOP             CH 4
SP               STEREO




JUL  5 , THU     2:15 PM
```

2:15 PM

0:35:40

REM 1:58
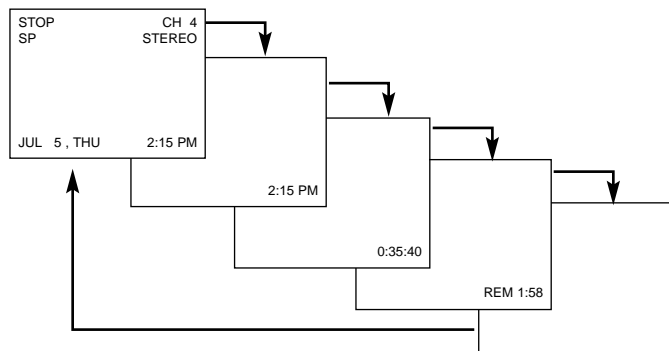
NOTES

- The function displays can be seen displayed on the TV screen for 5 seconds.
- The clock (or tape counter, tape remaining) mode will remain on the screen until you press **ENTER**.
- The tape counter and the remaining tape length indicator appear only when a cassette is inserted. Also, the remaining tape length indicator appears after any tape operation.

SETTING THE ONSCREEN DISPLAY
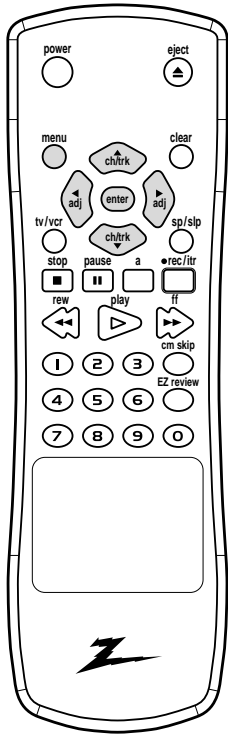
The SETUP, clock setting, and timer recordings are accessed conveniently with Onscreen Menu Displays that lead you through each step. The following pages describe the Onscreen selections to be set.

PREPARATION
• Turn on the power of both the VCR and TV.
• Be sure the TV is set to the VCR Output Channel (CH 3 or 4).
• If a direct VIDEO/AUDIO connection is made between the VCR and the TV, set the TV's source selector to VIDEO.

MENU SELECTION

Your VCR allows remote control adjustment of several features.

1 Press **MENU** and the MAIN menu will appear.

2 Select the desired menu with the ▲ or ▼ button and then press **ENTER**.

```
┌──────────────────────┐
│ ⊙ MONTH : JANUARY    │
│   DAY   :  1  MON     │
│   YEAR  : 2001        │
│   TIME  : 12 : 00 AM  │
│ AUTO CLOCK SET :  ON  │
│ DAYLIGHT SAVING: AUTO │
│ TIME ZONE:      AUTO  │
│                       │
│ ▲▼ SELECT  ◄► ADJUST  │
│ TO EXIT PRESS MENU    │
└──────────────────────┘
```
CLOCK SET (page 20-21)

```
┌──────────────────────┐
│ REC   PROGRAM  1      │
│   MONTH   :           │
│   DAY     :           │
│   START   :           │
│   STOP    :           │
│   CHANNEL :           │
│   SPEED   :           │
│   REPEAT  :           │
│ ▲▼ SELECT  ◄► ADJUST  │
│ TO EXIT PRESS MENU    │
└──────────────────────┘
```
PROGRAM (page 27-29)

MAIN MENU

```
┌────────────────────────────┐
│ ⊙   CLOCK                   │
│ REC  PROGRAM                │
│ 🖥   TUNING                  │
│ 718  SETUP                  │
│ ▲▼ SELECT ENTER ENTER       │
│ TO EXIT PRESS MENU          │
└────────────────────────────┘
```

```
┌──────────────────────┐
│ 🖥                    │
│                       │
│ AUTO CHANNEL SET      │
│ TUNING BAND:      TV  │
│ CH. ADD/DEL: CH. 2 ADD│
│ SOURCE SELECT: TUNER  │
│                       │
│ ▲▼ SELECT  ◄► ADJUST  │
│ TO EXIT PRESS MENU    │
└──────────────────────┘
```
TUNING (page 17-18)

```
┌──────────────────────┐
│ 718                   │
│ FUNCTION OSD :     ON │
│ LANGUAGE SELECT:ENGLISH│
│ AUDIO MODE:     HI-FI │
│ BROADCAST TYPE: STEREO│
│ AUDIO OUTPUT:   STEREO│
│                       │
│ ▲▼ SELECT  ◄► ADJUST  │
│ TO EXIT PRESS MENU    │
└──────────────────────┘
```
SETUP (page 16)

NOTE

• The display stays on the screen for 3 minutes.

SETTING THE SETUP MENU

MAIN MENU

```
🕐 CLOCK
REC PROGRAM
    TUNING
    SETUP
▲▼ SELECT ENTER ENTER
TO EXIT PRESS MENU
```

SETUP MENU

```
FUNCTION OSD :        ON
LANGUAGE SELECT:ENGLISH
AUDIO MODE:        HI-FI
BROADCAST TYPE: STEREO
AUDIO OUTPUT:     STEREO

▲▼ SELECT  ◄► ADJUST
TO EXIT PRESS MENU
```
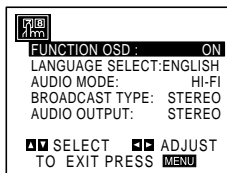
Press ▲ or ▼ to choose a desired option on the SETUP menu. Then press ◄ or ► to choose a desired setting.

FUNCTION OSD

The onscreen display of this VCR can be turned on or off.

Use the FUNCTION OSD option to select ON or OFF by pressing ◄ or ►.

LANGUAGE SELECT

The onscreen programming of this VCR can display in either English, Spanish, or French.

Use the LANGUAGE SELECT option to select ENGLISH, SPANISH, or FRENCH by pressing ◄ or ►.

AUDIO MODE DISPLAY

The VCR has two separate audio playback systems, the high quality VHS Hi-Fi system and standard NORMAL mono system. The same audio is generally recorded on both systems. The VHS Hi-Fi system plays on separate (left and right) channels, and the NORMAL system plays monaural sound. The normal track is always played so the cassette can be played on a VCR that does not have VHS Hi-Fi.

Use the AUDIO MODE option to select HI-FI or NORMAL by pressing ◄ or ►.

BROADCAST TYPE DISPLAY (STEREO/SAP/MONO)

Multichannel Television Sound (MTS) carries stereo and/or Second Audio Program (SAP) bilingual signals. Set this display to the desired position when both MTS stereo and SAP signals are received. When only one of the MTS signal is received, the VCR automatically selects the corresponding receiving mode (Stereo or SAP) regardless of the selected position.
For normal operation, the display should be in the STEREO position. The VCR will then record a STEREO program when available, and record a mono program IF the program NOT IN STEREO.

Use the BROADCAST TYPE option to select STEREO, SAP, or MONO by pressing ◄ or ►.

• For weak STEREO and/or SAP broadcasting, changing the display to mono may give clearer sound.

AUDIO OUTPUT DISPLAY (STEREO/LEFT/RIGHT)

Used during playback [when AUDIO MODE display (HI-FI/NORMAL) is in HI-FI position] for selecting the audio output signals from the AUDIO OUT terminals (L ch and R ch), and VHF/UHF/CATV.
This display setting should normally be left in the stereo position, so that when a stereo tape is played, the stereo sound will be heard through the left and right channels. If a mono tape is played and the audio output is set to stereo, the same mono sound will be heard from both left and right channels.

Use the AUDIO OUTPUT option to select STEREO, LEFT, or RIGHT by pressing ◄ or ►.

CHANNEL SELECTION
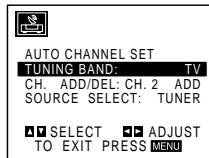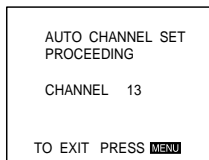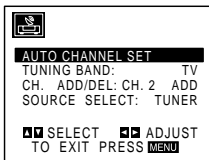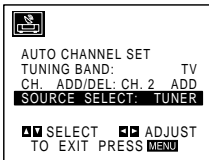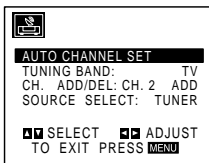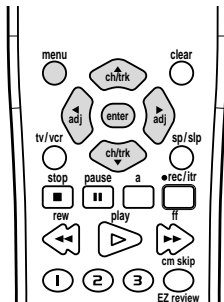
This VCR is equipped with a frequency synthesized tuner capable of receiving up to 181 channels. These include VHF channels 2-13, UHF channels 14-69 and CATV channels 1-125.

PREPARATION

- Connect the VCR to the desired type of antenna or cable TV system, as shown in ANTENNA TO VCR CONNECTIONS and CABLE ANTENNA (CATV) CONNECTION (page 7).
- Switch on the power to the VCR and TV.
- Tune the TV to the VCR output channel (CH 3 or 4).

AUTO CHANNEL PROGRAMMING

1 Press **MENU** and the MAIN menu will appear.

2 Press ▲ or ▼ to select the TUNING menu, then press **ENTER**. The TUNING menu will appear.

3 Press ▼ to choose the SOURCE SELECT option, then press ◄ or ► to select TUNER.

Press ◄ or ► repeatedly to select TUNER, LINE1 or LINE2.

4 Press ▲ or ▼ to choose the AUTO CHANNEL SET option, then press ◄ or ► to start the channel search.

The tuner will automatically cycle through all available channels in the area and place them in the tuner's memory.

5 Select the TUNING BAND: TV or CATV.
    TV is for over the air antenna reception.
    CATV is for cable or wireless cable subscribers.
Press ▲ or ▼ to choose the TUNING BAND option, then press ◄ or ► to select TV or CATV.

6 Press **MENU** to return to the TV screen.

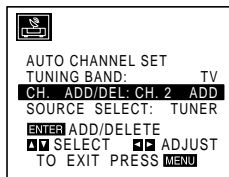Use **CH/TRK (▲/▼)** or **CH (▲/▼)** on the front panel to cycle the VCR through the channels in memory.

CLOCK
PROGRAM
TUNING
SETUP

▲▼ SELECT ENTER ENTER
TO EXIT PRESS MENU

AUTO CHANNEL SET
TUNING BAND: TV
CH. ADD/DEL: CH. 2 ADD
SOURCE SELECT: TUNER

▲▼ SELECT   ◄► ADJUST
TO EXIT PRESS MENU

AUTO CHANNEL SET
TUNING BAND: TV
CH. ADD/DEL: CH. 2 ADD
SOURCE SELECT: TUNER

▲▼ SELECT   ◄► ADJUST
TO EXIT PRESS MENU

AUTO CHANNEL SET
TUNING BAND: TV
CH. ADD/DEL: CH. 2 ADD
SOURCE SELECT: TUNER

▲▼ SELECT   ◄► ADJUST
TO EXIT PRESS MENU

AUTO CHANNEL SET
PROCEEDING

CHANNEL   13

TO EXIT   PRESS MENU

AUTO CHANNEL SET
TUNING BAND: TV
CH. ADD/DEL: CH. 2 ADD
SOURCE SELECT: TUNER

▲▼ SELECT   ◄► ADJUST
TO EXIT PRESS MENU

CHANNEL SELECTION (Cont'd)

CLOCK
PROGRAM
TUNING
SETUP

SELECT ENTER ENTER
TO EXIT PRESS MENU

TUNING MENU

AUTO CHANNEL SET
TUNING BAND: TV
CH. ADD/DEL: CH. 2 ADD
SOURCE SELECT: TUNER
ENTER ADD/DELETE
SELECT ADJUST
TO EXIT PRESS MENU

TO ADD OR ERASE CHANNELS FROM MEMORY

This feature allows you to add or erase channels from memory manually.

1 Press **MENU** and the MAIN menu will appear.

2 Press ▲ or ▼ to select the TUNING menu, then press **ENTER**. The TUNING menu will appear.

3 Press ▼ to choose the CH. ADD/DEL option. Press ◀ or ▶ to select a channel to add or erase.

4 Press **ENTER** to add or erase the channel.

Repeat steps 3 and 4 to add or erase channels.

5 Press **MENU** to return to the TV screen.

VIEWING TV ONLY

Turn on the TV and tune it to the channel that you wish to watch.
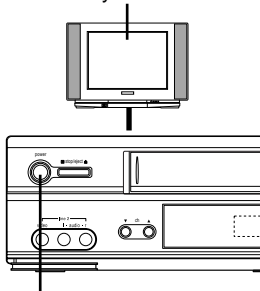
Set **POWER** to OFF.

You don't need to disconnect the VCR from the TV to watch TV separately. When the VCR's power is OFF, or when the VCR's power is ON and the **TV/VCR** selector is set to TV, the TV will operate as if it were connected directly to the antenna or cable.

NOTES

- The power cord must be plugged into an AC outlet.
- To view or record cable TV programs with the VCR, the VCR's TUNING BAND option must be set to CATV (TUNING menu).
- Do not place the VCR directly on top of the TV. This may cause interference in the picture and sound (of the VCR) during the recording or playback mode. If this interference occurs, locate the VCR away from the TV.
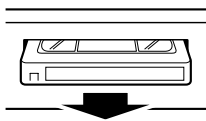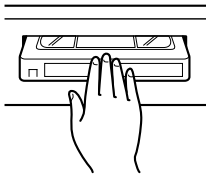
PREPARATION

VIDEO CASSETTE TAPES

SAFETY TAB
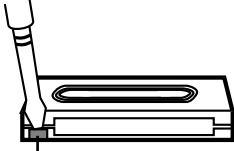
To prevent accidental erasure, remove the tab after recording.
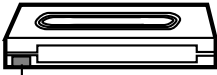
To record again cover the hole with vinyl tape.

This VCR will operate with any video cassette which has the **VHS** mark. The table below shows the recording/playback time of VHS cassettes when they are used in the SP, LP and SLP speeds. (LP speed is for playback only.)

TYPE SPEED	T-60	T-120	T-160
SP MODE	60 mins.	120 mins.	160 mins.
LP MODE	120 mins.	240 mins.	320 mins.
SLP MODE	180 mins.	360 mins.	480 mins.

WHEN HANDLING VIDEO CASSETTES

- Do not expose video cassettes to extreme heat, high humidity, or strong magnetic fields.
- Do not tamper with the cassette mechanism.
- Do not touch the tape with your fingers.
- Always store an unused cassette in its case.

LOADING

Hold the cassette with the arrow side up (top). Insert the cassette gently into the slot in the direction of the arrow (on the cassette) until the loading mechanism automatically pulls the cassette into the unit. Make certain that the cassette is inserted correctly.
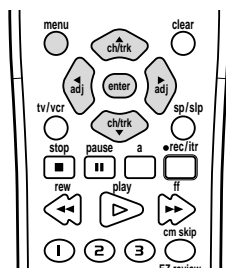- If the cassette is not loaded correctly, the VCR will eject the cassette automatically after approximately 3 seconds.

UNLOADING

Press **STOP/EJECT** twice or press **EJECT** on the remote control. The cassette will be ejected automatically. After the cassette is visible in the tape slot, pull it out to remove it.
- Unloading the cassette is possible only when the power cord is connected to the wall outlet.
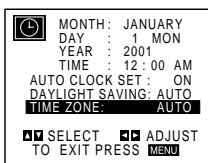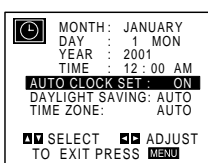- The cassette can be ejected when **STOP/EJECT** is pressed, even if the VCR's power is OFF.

SETTING THE CLOCK

MAIN MENU

```
[clock]  CLOCK
[REC]    PROGRAM
[tuning] TUNING
[setup]  SETUP
▲▼ SELECT ENTER ENTER
TO  EXIT PRESS MENU
```

CLOCK MENU

```
[clock] MONTH: JANUARY
        DAY  :  1  MON
        YEAR :  2001
        TIME :  12 : 00  AM
        AUTO CLOCK SET :   ON
        DAYLIGHT SAVING: AUTO
        TIME ZONE:       AUTO

▲▼ SELECT  ◄► ADJUST
TO  EXIT PRESS MENU
```

```
[clock] MONTH: JANUARY
        DAY  :  1  MON
        YEAR :  2001
        TIME :  12 : 00  AM
        AUTO CLOCK SET :   ON
        DAYLIGHT SAVING: AUTO
        TIME ZONE:       AUTO

▲▼ SELECT  ◄► ADJUST
TO  EXIT PRESS MENU
```

```
[clock] MONTH: JANUARY
        DAY  :  1  MON
        YEAR :  2001
        TIME :  12 : 00  AM
        AUTO CLOCK SET :   ON
        DAYLIGHT SAVING: AUTO
        TIME ZONE:       AUTO

▲▼ SELECT  ◄► ADJUST
TO  EXIT PRESS MENU
```

NOTE

**There are cases that TV station does not send or sends wrong date and/or time information and VCR sets the incorrect time accordingly.
In this case we recommend that you set the clock manually.**

20

Things to know before starting

- The clock uses the 12-hour system. (Be sure to set AM and PM correctly.)
- The buttons for setting the clock are on the remote control.
- An illogical date will not be accepted (for example: February 30).
- The initial Clock Setting is **JANUARY 1, 2001, 12:00 AM**.

PREPARATION
- Turn on the power of both the VCR and TV.
- Be sure the TV is set to the VCR Output Channel (CH 3 or 4).
- If a direct VIDEO/AUDIO connection is made between the VCR and the TV, set the TV's source selector to VIDEO.

The VCR gives you two ways to set the time and date: the Auto Clock Feature or manually. The Auto Clock Feature enables the VCR to set up the clock when the VCR is turned off.

AUTO CLOCK SET

1 Press **MENU** and the MAIN menu will appear.

2 Press ▲ or ▼ to choose the CLOCK menu.
Press **ENTER** and the CLOCK menu will appear.

3 Press ▼ to choose the AUTO CLOCK SET option.
Press ◄ or ► to choose ON.

The Auto Clock Set feature is set to ON at the factory. In the ON setting, the VCR looks for a channel carrying XDS (Extended Data Services) information. XDS updates the clock using the Coordinated Universal Time.

4 Press ▼ to choose the DAYLIGHT SAVING option.
Press ◄ or ► to choose AUTO, ON or OFF.

If you choose AUTO, the VCR sets the clock using the DST information broadcast in the signal (channel).
If you choose ON, the VCR sets the clock when the Daylight Saving Time is started and ended.

5 Press ▼ to choose the TIME ZONE option.
Press ◄ or ► to choose the correct time zone (AUTO, EASTERN, CENTRAL, MOUNTAIN, PACIFIC, ALASKA or HAWAII).

If "AUTO" is selected as the time zone, the VCR sets the clock using the first Coordinated Universal Time information it finds in a broadcast signal.

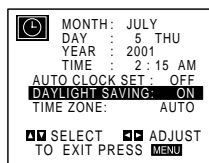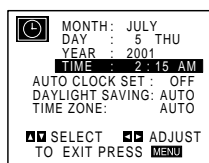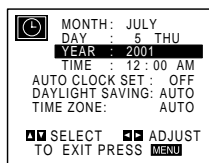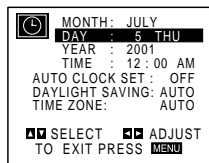**6** Press **MENU** when finished.

7 Turn off the VCR and the auto clock setting works.

SETTING THE CLOCK (Cont'd)

MAIN MENU

```
┌─────────────────────────────┐
│ [⏱] CLOCK                    │
│ [REC] PROGRAM                │
│ [📺] TUNING                  │
│ [📻] SETUP                   │
│ ▲▼ SELECT ENTER ENTER        │
│ TO EXIT PRESS MENU           │
└─────────────────────────────┘
```

CLOCK MENU

```
┌─────────────────────────────┐
│ [⏱] MONTH: JANUARY           │
│     DAY  :  1  MON           │
│     YEAR :  2001             │
│     TIME :  12:00 AM         │
│ AUTO CLOCK SET :  ON         │
│ DAYLIGHT SAVING: AUTO        │
│ TIME ZONE:       AUTO        │
│ ▲▼ SELECT  ◄► ADJUST         │
│ TO EXIT PRESS MENU           │
└─────────────────────────────┘
```

```
┌─────────────────────────────┐
│ [⏱] MONTH:  JULY             │
│     DAY  :  5  THU           │
│     YEAR :  2001             │
│     TIME :  12:00 AM         │
│ AUTO CLOCK SET :  OFF        │
│ DAYLIGHT SAVING: AUTO        │
│ TIME ZONE:       AUTO        │
│ ▲▼ SELECT  ◄► ADJUST         │
│ TO EXIT PRESS MENU           │
└─────────────────────────────┘
```

```
┌─────────────────────────────┐
│ [⏱] MONTH:  JULY             │
│     DAY  :  5  THU           │
│     YEAR :  2001             │
│     TIME :  12:00 AM         │
│ AUTO CLOCK SET :  OFF        │
│ DAYLIGHT SAVING: AUTO        │
│ TIME ZONE:       AUTO        │
│ ▲▼ SELECT  ◄► ADJUST         │
│ TO EXIT PRESS MENU           │
└─────────────────────────────┘
```

```
┌─────────────────────────────┐
│ [⏱] MONTH:  JULY             │
│     DAY  :  5  THU           │
│     YEAR :  2001             │
│     TIME :  2:15 AM          │
│ AUTO CLOCK SET :  OFF        │
│ DAYLIGHT SAVING: AUTO        │
│ TIME ZONE:       AUTO        │
│ ▲▼ SELECT  ◄► ADJUST         │
│ TO EXIT PRESS MENU           │
└─────────────────────────────┘
```

```
┌─────────────────────────────┐
│ [⏱] MONTH:  JULY             │
│     DAY  :  5  THU           │
│     YEAR :  2001             │
│     TIME :  2:15 AM          │
│ AUTO CLOCK SET :  OFF        │
│ DAYLIGHT SAVING:  ON         │
│ TIME ZONE:       AUTO        │
│ ▲▼ SELECT  ◄► ADJUST         │
│ TO EXIT PRESS MENU           │
└─────────────────────────────┘
```

MANUAL CLOCK SET

Example: July 5, 2001 ; 2:15 AM

1 Press **MENU** and the MAIN menu will appear.

2 Press ▲ or ▼ to choose the CLOCK menu.
Press **ENTER** and the CLOCK menu will appear.

3 Press ◄ or ► to choose the month.

4 Press ▼ to choose the DAY option.
Press ◄ or ► to choose the day.

The day of the week will display automatically.

5 Press ▼ to choose the YEAR option.
Press ◄ or ► to choose the year.

6 Press ▼ to choose the TIME option.
Press ◄ or ► to choose the time.

7 Press ▼ to choose the DAYLIGHT SAVING option.
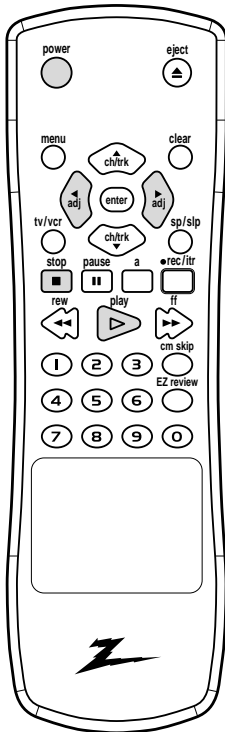Press ◄ or ► to choose the ON or OFF.

8 Press **MENU** when finished.

NOTE

The "AUTO CLOCK SET" must be set to "OFF". If set to "ON", an incorrect date and/or time will be entered again when the VCR is turned off.

NORMAL PLAYBACK

PREPARATION
- Turn on the TV.
- Be sure the TV is set to the VCR Output Channel (CH 3 or 4).
- If a direct VIDEO/AUDIO connection is made between the VCR and the TV, set the TV's source selector to VIDEO.

NORMAL PLAYBACK

1 Insert a prerecorded video cassette.

The ⊙⊙ indicator will light and the VCR will power-up automatically.
- Make sure that the TIMER indicator in the VCR indicator panel is not lighted. If it is, press **POWER** once.
- If a tape without a safety tab is inserted the unit will start the playback automatically.

2 Press **PLAY** once.

PLAY appears in the VCR indicator panel and TV screen.
- It is not necessary to select the tape speed for playback. It will be automatically selected by the VCR.
- In playback, the **TV/VCR** selector switches to VCR mode automatically.

3 Press **STOP** to stop playback.

STOP appears in the VCR indicator panel and TV screen.
- If the tape reaches the end before **STOP** is pressed, the VCR will automatically stop, rewind, eject, and it will turn itself off.

TRACKING CONTROL

AUTO TRACKING
The automatic tracking function adjusts the picture to remove snow or streaks.
The AUTO TRACKING function works in the following cases:
- A tape is played back for the first time.
- Tape speed (SP, LP, SLP) changes.
- Streaks or snow appear because of scratches on the tape.

MANUAL TRACKING
If noise appears on the screen during playback, press either **CH/TRK (▲/▼)** on the remote control or **CH (▲/▼)** on the front panel until the noise on the screen is reduced.
- In case of vertical jitter, adjust these controls very carefully.
- Tracking is automatically reset to normal when the tape is ejected or the power cord is unplugged for more than 3 seconds.

NORMAL PLAYBACK (Cont'd)

AUTO PLAY SYSTEM

This VCR features full automatic playback and rewind.

Load a cassette (with the safety tab removed).

- The power turns on automatically and playback begins.
- At the end of the tape, the VCR stops, then rewinds.
- The cassette is ejected after rewinding and the VCR turns itself off automatically.

LOAD ... TAPE	▶	AUTO PLAY	▶	AUTO REWIND	▶	AUTO ... EJECT	▶	AUTO POWER OFF
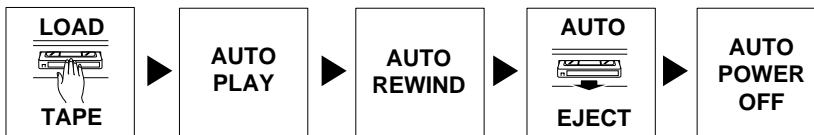
AUTO POWER SHUT-OFF FUNCTION

This feature is especially helpful when you finish watching a tape. Press **STOP, REW,** and **POWER**. The VCR will rewind the tape and turn itself off automatically.

1. Press **STOP** when you finish watching a tape.
2. Press **REW** to rewind the tape.
3. Press **POWER** during the REWIND mode, the VCR will enter the AUTO POWER SHUT-OFF mode.
4. REW will flash on the VCR indicator panel.
5. After tape is rewound, VCR will turn off automatically.

stop	▶	rew	▶	power	▶	REWIND	▶	AUTO POWER OFF
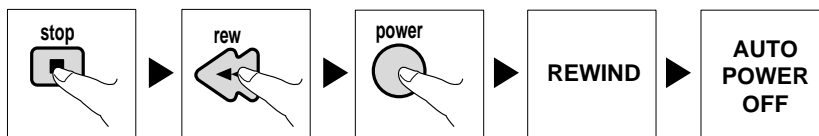
SPECIAL EFFECTS PLAYBACK

These special effects are available during playback.

TO WATCH A STILL (or Frame Advance) PICTURE

During PLAYBACK mode...

1 Press **PAUSE**.

Still picture will appear on the TV screen.
• If a still picture vibrates vertically, stabilize it by pressing
  CH/TRK (▲/▼) on the remote control.
• If the VCR is left in the STILL mode for more than 5 minutes,
  the VCR will automatically enter the STOP mode to
  protect the tape and video heads.

2 Press **PAUSE** repeatedly to advance the video picture one
  frame at a time while viewing a still picture.

3 To continue normal playback, press **PLAY**.

VISUAL SEARCH FUNCTION

This function lets you quickly and visually search for a desired
tape section in either direction: forward and reverse.

During PLAYBACK mode...

1 Press desired search button (**FF** or **REW**).

The VCR will be activated in the SEARCH mode and CUE or
REV will appear on the VCR indicator panel.
• If the VCR is left in the SEARCH mode for more than 3 min-
  utes, the VCR will automatically enter the PLAY mode, to
  protect the tape and video heads.

2 To continue normal playback, press **PLAY**.

LOGIC SEARCH FUNCTION
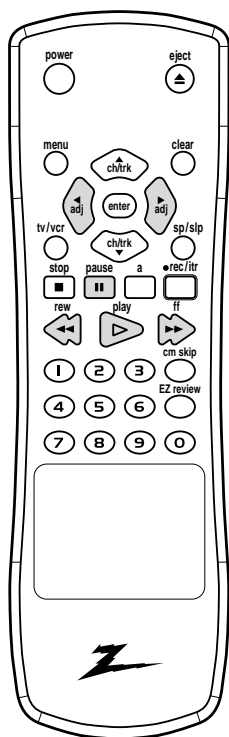
The VCR must be in the STOP Mode.

1 Press **FF** or **REW** once. Fast winding begins.

2 Press and hold **FF** or **REW** again.

Visual search (Cue/Review) begins so you can check what is on
the tape.
• The CUE or REVIEW mode will continue until the **FF** or **REW**
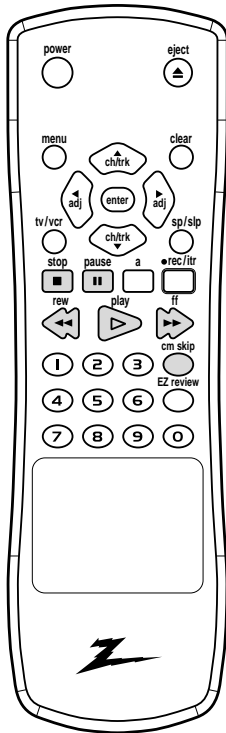 button is released.

3 When released, Fast Forward or Rewinding resumes.

SPECIAL EFFECTS PLAYBACK (Cont'd) ▬▬▬

USING THE SLOW MOTION FEATURE

During STILL mode...

1 While in still video mode, press **FF or REW**.

The tape will be played back at a speed 1/19 times slower than the normal speed.
- During slow playback, **CH/TRK (▲/▼)** on the Remote Control can be used to minimize noise bands.
- When the slow mode continues for more than 30 seconds, the VCR will automatically change to PLAYBACK mode.

2 Press **FF** or **REW** to control slow speed during slow motion.

3 Press **PLAY** to return to normal playback speed or press **STOP** to stop tape movement.

CM SKIP (Commercial Skip)

This is useful for skipping commercials or short program segments.

During PLAYBACK mode...

1 Press **CM SKIP**.

The tape will fast forward picture search through 30 seconds of recording.
The skipping time can be extended by pressing **CM SKIP**.
Subsequent presses result in advancing the fast forward picture search time by 30-second increments (maximum 3 minutes).

2 When the search is complete, the VCR will go into PLAY-BACK mode automatically.

SPECIAL EFFECTS PLAYBACK NOTES:
- Horizontal lines (noise bars) will appear on the TV screen. This is normal.
- The audio is automatically muted during special effect modes, so there is no sound during search.
- During the high-speed picture search modes, a short period is needed to stabilize tape speed when re-entering the PLAY mode. Slight interference may be observed during this period.

PLAYBACK
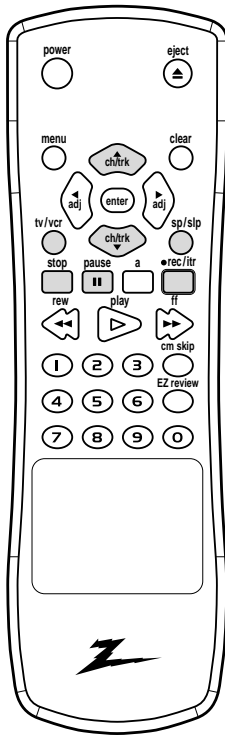
NORMAL RECORDING

Always use **PAUSE** for best results when making changes during recording. For example: To change channels during recording, first press **PAUSE** to put the unit in pause mode. Then select the desired channel on the VCR, and press **PAUSE** again to resume recording.

PREPARATION
- Turn on the power of both the VCR and TV.
- Be sure the TV is set to the VCR Output Channel (CH 3 or 4).
- If a direct VIDEO/AUDIO connection is made between the VCR and the TV, set the TV's source selector to VIDEO.

1 Insert the video cassette with the safety tab in place.

2 Select the desired channel by using **CH/TRK (▲/▼)**.

- If you are recording from another source via audio/video input jacks (at the Rear or Front panel), select the LINE1 or LINE2 by pressing **CH/TRK (▲/▼)**.

3 Set the desired speed (SP or SLP) by pressing **SP/SLP**.

- This VCR is not designed to record in LP mode.

4 Set the MTS mode as desired (See page 16, 34).

5 Press **REC/ITR** once.

Recording will start. (REC will appear)
- If a cassette with no safety tab is loaded, the cassette will be ejected automatically.

6 Press **STOP** to stop recording.

- If the tape reaches the end before **STOP** is pressed, the VCR will automatically stop, rewind, eject, and turn itself off.

To PAUSE the recording

During the RECORDING mode...

1 Press **PAUSE** to pause the tape.

The RECP will show on the VCR indicator panel.

2 When you want to continue recording, press **PAUSE** again or press **REC/ITR**.

- After 5 minutes in pause mode, the tape will be stopped automatically to protect the tape and the video heads.
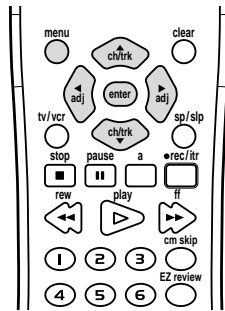
To record one TV program while watching another

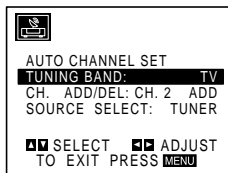**1** Press **TV/VCR** to select the TV mode during recording.

The VCR indicator disappears.

2 Using the TV, select the channel to be viewed.

TIMER RECORDING

TUNING MENU

AUTO CHANNEL SET
TUNING BAND: TV
CH. ADD/DEL: CH. 2   ADD
SOURCE SELECT: TUNER

▲▼ SELECT   ◄► ADJUST
TO EXIT PRESS MENU

MAIN MENU

🕐 CLOCK
REC PROGRAM
🖳 TUNING
📟 SETUP
▲▼ SELECT ENTER ENTER
TO EXIT PRESS MENU

REC PROGRAM 1
MONTH   :
DAY   :
START   :
STOP   :
CHANNEL   :
SPEED   :
REPEAT   :
▲▼ SELECT   ◄► ADJUST
TO EXIT PRESS MENU

REC PROGRAM 1
MONTH   : JULY
DAY   :
START   :
STOP   :
CHANNEL   :
SPEED   :
REPEAT   :
▲▼ SELECT   ◄► ADJUST
TO EXIT PRESS MENU

This VCR can be programmed to record up to 8 programs within a period of 1 year. For unattended recording, the timer needs to know the channels to be recorded and the starting and ending times.

Things to know before starting

• If you try to set the program timer before setting the clock, PLEASE SET THE CLOCK appears for a moment and then CLOCK menu appears on the TV screen. Set the time and date before proceeding.
• The display contents will be automatically replaced by TV programs after 3 minutes.
• Make sure a tape is in the VCR and the safety tab is in place or the tape will be automatically ejected.

PREPARATION
• Turn on the power of both the VCR and the TV.
• Be sure the TV is set to the VCR output channel (3 or 4).
• Make sure the TUNING BAND in the TUNING menu is set appropriately (TV or CATV) (see illustration left).

1 Press **MENU** and the MAIN menu will appear.

2 Press ▲ or ▼ to choose the PROGRAM menu.

3 Press **ENTER** to enter the PROGRAM menu.
The PROGRAM menu will appear.
• If all programs have already been entered, FULLY PROGRAMMED message will appear for a moment and then PROGRAM 1 will appear on the TV screen.

4 Press ◄ or ► to choose the PROGRAM No. (1-8).

5 Press ▼ to choose the MONTH option.
Press ◄ or ► to choose the desired month.

Example JULY

RECORDING

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TIMER RECORDING (Cont'd)

```
      PROGRAM 1
REC   MONTH  : JULY
      DAY    :   6 FRI
      START  :
      STOP   :
      CHANNEL:
      SPEED  :
      REPEAT :
      SELECT     ADJUST
      TO EXIT PRESS MENU
```

```
      PROGRAM 1
REC   MONTH  : JULY
      DAY    :   6 FRI
      START  :  6:00 PM
      STOP   :
      CHANNEL:
      SPEED  :
      REPEAT :
      SELECT     ADJUST
      TO EXIT PRESS MENU
```

```
      PROGRAM 1
REC   MONTH  : JULY
      DAY    :   6 FRI
      START  :  6:00 PM
      STOP   :  7:30 PM
      CHANNEL:
      SPEED  :
      REPEAT :
      SELECT     ADJUST
      TO EXIT PRESS MENU
```

```
      PROGRAM 1
REC   MONTH  : JULY
      DAY    :   6 FRI
      START  :  6:00 PM
      STOP   :  7:30 PM
      CHANNEL: 4  TV
      SPEED  : AUTO
      REPEAT : ONCE
      SELECT     ADJUST
      TO EXIT PRESS MENU
```

```
      PROGRAM 1
REC   MONTH  : JULY
      DAY    :   6 FRI
      START  :  6:00 PM
      STOP   :  7:30 PM
      CHANNEL: 4  TV
      SPEED  : SP
      REPEAT : ONCE
      SELECT     ADJUST
      TO EXIT PRESS MENU
```

```
      PROGRAM 1
REC   MONTH  : JULY
      DAY    :   6 FRI
      START  :  6:00 PM
      STOP   :  7:30 PM
      CHANNEL: 4  TV
      SPEED  : SP
      REPEAT : ONCE
      SELECT     ADJUST
      TO EXIT PRESS MENU
```

6 Press ▼ to choose the DAY option.
Press ◄ or ► to choose the desired day.

Example: 6 FRI

7 Press ▼ to choose the START option.
Press ◄ or ► to choose the desired start time.

Example: 6:00 PM

8 Press ▼ to choose the STOP option.
Press ◄ or ► to choose the desired stop time.

Example: 7:30 PM

9 Press ▼ to choose the CHANNEL option.
Press ◄ or ► to choose the desired channel (Channel XX, LINE1 or LINE2).

Example CH 4
Cable Users: If you have CABLE TV and used the Cable Box setup on the Cable Connections (page 7) using a cable box converter, you must tune the VCR to the cable box output channel (usually CH 3 or 4). Change channels with the cable box instead of the VCR.

10 Press ▼ to choose the SPEED option.
Press ◄ or ► to choose the desired tape speed (AUTO, SP, or SLP).

Example SP

• The AUTO mode determines how much tape is left and switches speed from SP to SLP, if necessary, to complete recording the program. There will be some picture and sound distortion at the point of the speed change.

11 Press ▼ to choose the REPEAT option.
Press ◄ or ► to choose the desired repeat (ONCE, WEEKLY, or DAILY).

Example: ONCE

ONCE event....for recording up to 8 programs on a single day or over the days within a period of 1 year.

WEEKLY event....for recording up to 8 programs on a certain day of every week.

DAILY event....for recording up to 8 programs at the same time(s) Monday through Friday.

If the input data is wrong, press ▲ to select the data and correct it by pressing ◄ or ►.

TIMER RECORDING (Cont'd)

12 Press **MENU**, the program will be memorized by the VCR.

- If the program preset time is past, the PAST TIME PRO-GRAMMED message will appear on the TV screen. Return to the incorrect program and program it with the correct time.
- If you had entered a past date, the timer recording will be performed on that date of the next year.
- Additional programs may be entered by repeating steps **1-12**.

Cable Users: If your cable hookup is via a TV converter box, you can program multiple recordings only on the converter box output channel. This is because the converter determines what channel you view through your VCR.

If you are finished programming and you want to set the VCR to record the programs you have entered. **A) MAKE SURE YOU HAVE INSERTED A TAPE INTO THE VCR. B) YOU MUST TURN OFF THE VCR BEFORE IT WILL RECORD ANY TIMER PROGRAMS. (TIMER indicator lights).** The VCR is now set to record the preset programs.
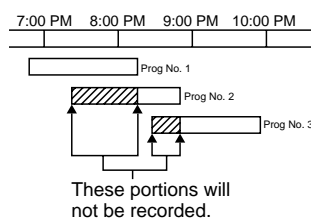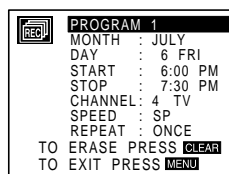
The VCR must be off for a timer recording to take place!

You can clear the timer recording by pressing POWER during timer recording.
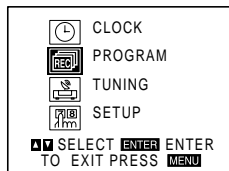
CHECKING (ERASING) THE TIMER PROGRAM

Programming can be checked whenever the VCR is turned on.

1 Press **MENU** and the MAIN menu will appear.

2 Press ▲ or ▼ to choose the PROGRAM menu.
Press **ENTER** and the PROGRAM menu will appear.

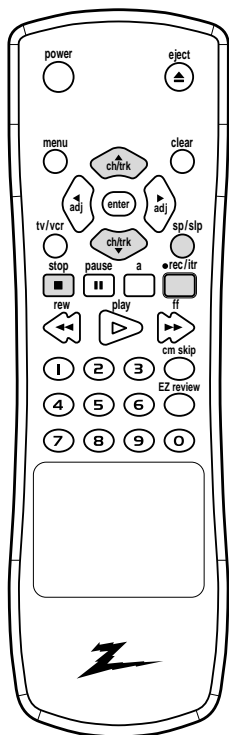**3** Press ◄ or ► to select a program you want to check or erase. If you want to erase the program, press **CLEAR**.

4 Press **MENU** to return to the TV screen.

PROGRAM PRIORITY

If the recording start and end times of preset programs overlap on the same day (see the example and diagram left), program number 2 will not be recorded until program number 1 is finished. The first part of program number 2 will not be recorded. The same thing will happen to program number 3.

If the power fails or the VCR is unplugged from the AC outlet, the correct clock time and timer settings are kept in memory for approximately 3 seconds. After 3 seconds, the clock and program timer must be reset when power is restored. Reset time according to instructions.

MAIN MENU

```
┌─────────────────────────┐
│ 🕐  CLOCK               │
│ REC  PROGRAM            │
│ 📼  TUNING              │
│ 7|8  SETUP              │
│ ▲▼ SELECT ENTER ENTER   │
│ TO EXIT PRESS MENU      │
└─────────────────────────┘
```

PROGRAM MENU

```
┌─────────────────────────┐
│ REC  PROGRAM 1          │
│      MONTH  : JULY      │
│      DAY    : 6 FRI     │
│      START  : 6:00 PM   │
│      STOP   : 7:30 PM   │
│      CHANNEL: 4 TV      │
│      SPEED  : SP        │
│      REPEAT : ONCE      │
│ TO ERASE PRESS CLEAR    │
│ TO EXIT PRESS MENU      │
└─────────────────────────┘
```

7:00 PM 8:00 PM 9:00 PM 10:00 PM

Prog No. 1

Prog No. 2

Prog No. 3

These portions will not be recorded.

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INSTANT TIMER RECORDING

Instant Timer Recording allows you to make a recording easily of a preset length without using the program timer.

PREPARATION
- Turn on the power of both the VCR and the TV.
- Be sure the TV is set to the VCR output channel (3 or 4).
- If a direct VIDEO/AUDIO connection is made between the VCR and the TV, set the TV's source selector to VIDEO.

1 Insert a video cassette with the safety tab in place.

2 Select the desired channel by using **CH/TRK (▲/▼)** or number (**0-9**).

The channel number appears on the TV screen and indicator panel.
- If you are recording from another source via audio/video input jacks (at the Rear or Front panel), select the LINE1 or LINE2.

3 Set the TAPE SPEED option to desired speed (SP or SLP) by pressing **SP/SLP**.

The tape speed will appear on the TV screen and indicator panel.

4 Press **REC/ITR** twice.

The menu as illustrated, will appear on the TV screen.
Recording will start (The TIMER indicator will light).

5 Press **REC/ITR** repeatedly to select the recording time length.

At the end of recording the display will read **0H00**, the VCR will stop recording and shut off.
- During Instant Timer Recording, changing the channel on the VCR will not be possible.
- You can stop the recording by pressing **STOP**.

CHECKING THE RECORDING TIME

Press **REC/ITR** once to check the recording time. The recalled setting will automatically return to the TV screen after 6 seconds.
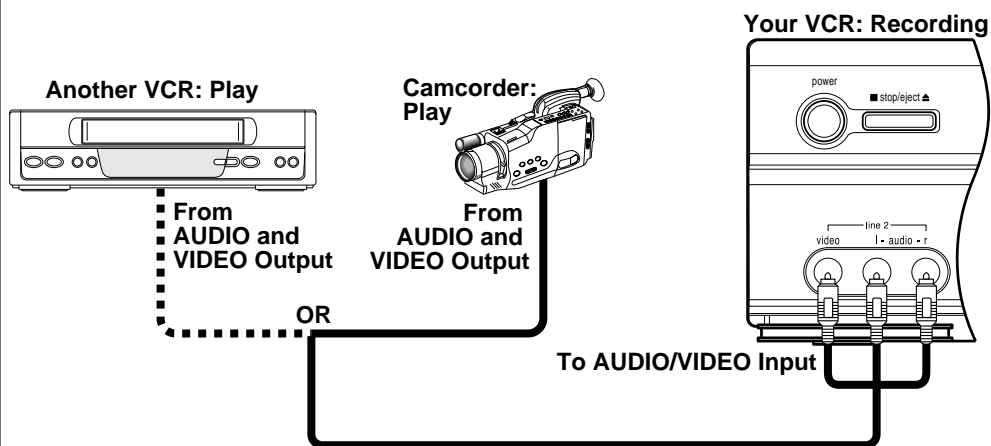
TO EXTEND THE RECORDING TIME

The recording time can be extended anytime by pressing **REC/ITR**. Subsequent presses result in advancing the recording time by 30-minute increments.

NOTES
- If you press **PAUSE** during instant timer recording, the VCR will enter the normal recording mode.
- If the VCR is set to "0H00M", the VCR goes to normal recording mode.

RECORDING

INSTANT TIMER RECORD MENU

INSTANT TIMER RECORD	
CHANNEL	2
SPEED	SP
START	NOW
LENGTH	0H30M

0H30M → 1H00M → 1H30M

0H00M ← 9H00M ← 8H30M

**Length Display
(each press increases recording by 30 minutes)**

DUBBING AND EDITING

If you wish to edit or dub your camcorder (or another VCR) recordings to this VCR, the rear (or Front) panel mounted Audio and Video (A/V) input jacks make the connections quick and easy. The direct A/V jacks will also provide better picture results than using the RF jack on the rear panel.

Your VCR: Recording

Another VCR: Play

Camcorder: Play

power   ■ stop/eject ⏏

From
AUDIO and
VIDEO Output

From
AUDIO and
VIDEO Output

─ line 2 ─
video   l ▪ audio ▪ r

OR

To AUDIO/VIDEO Input

1 Connect the camcorder's (or another VCR's) A/V outputs to your VCR as illustrated above.

2 Set the input channel "LINE2".
 • If you have connected your VCR to the A/V input jacks on the rear of VCR, you should select the input channel LINE2.
 • To select an A/V input channel (LINE1 or 2), select the next highest or lowest channel programmed in the VCR with the **CH/TRK (▲/▼)**.

3 Play the tape in the camcorder (or another VCR). If you have a TV attached to your VCR, you can see the video playing.

4 When you desire recording to begin, press VCR's **REC/ITR** once to start.

 NOTE

Before recording, please confirm the recording start position.

RECORDING

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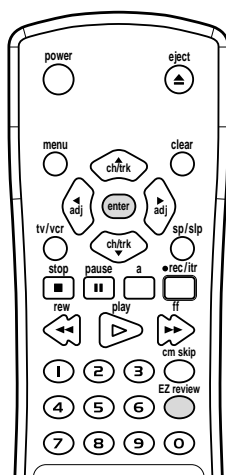
EASY FUNCTIONS

This page explains how to use the easy function's operation.

EASY OPERATION

If you press **PLAY, FF, REW, EJECT** or **REC/ITR** button when the power of this unit is off and a tape is inserted. The power turns on automatically and then the appropriate operation will work as below.

Press	Operation
PLAY	Power On → Play back the tape
FF	Power On → Fast-forward the tape
REW	Power On → Rewind the tape
EJECT	Power On → Eject the tape → Power Off
REC/ITR	Power On → Enter pause record mode If a cassette with no safety tab is loaded, the cassette will be ejected automatically.

EASY REVIEW

You can replay a specified segment twice.

1 During playback, press and hold **EZ REVIEW** for more than 3 seconds at the end of the segment and your VCR will start reverse search.

2 Release **EZ REVIEW** at the beginning of the segment. The segment is replayed twice automatically.

To return to normal play, press **EZ REVIEW** again during easy review playback.

EASY INFORMATION

If the Extended Data Service (XDS) signals are provided along with normal TV signal in your area or during playback a tape recorded with Extended Data Service (XDS) signals, the station ID, program title and program details are shown in the TV screen.

When viewing a channel with Extended Data Service (XDS) signals, press **ENTER** button then the station ID will appear on the TV screen. Press **ENTER** button again and the program details will appear on the TV screen.

When viewing a tape recorded with Extended Data Service (XDS) signals, press **ENTER** button twice then the program title and program details will be appeared on the TV screen.
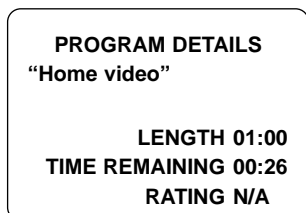
Program Details

Length: Indicates the run length of a program.

Time Remaining: Indicates the remaining time of a program.

Rating: Indicates the rating of the current program (N/A, G, PG, PG-13, R, NC-17, X and Not Rated). The rating N/A means that the motion picture ratings are not applicable to this program.

```
                        CH  4
SP        WABC  STEREO



"Home video"
JUL  5 , THU      2:15 PM
```
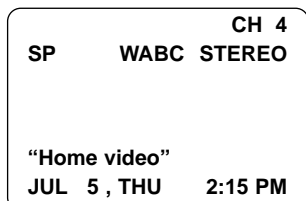
Easy Information Screen (Station ID)

```
   PROGRAM DETAILS
"Home video"


      LENGTH 01:00
 TIME REMAINING 00:26
        RATING N/A
```

Easy Information Screen (Program details)

VHS Hi-Fi STEREO SYSTEM/MTS BROADCAST ▬

This VCR is equipped with the VHS Hi-Fi audio sound system for recording and playback. The information below gives a brief description of Hi-Fi audio and how to record and play a tape in the Hi-Fi audio mode.

To enjoy a Hi-Fi stereo system, connect your VCR's AUDIO(R/L)/VIDEO OUT jacks to the AUDIO(R/L)/VIDEO INPUT jacks on back your TV (or another A/V system) using A/V cables.
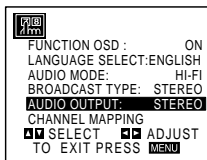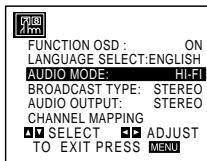
PLAYBACK WITH Hi-Fi STEREO AUDIO SOUND

A stereo TV with AUDIO/VIDEO input jacks or a stereo audio system is required for true stereo playback. To experience the full and rich stereo sound available with Hi-Fi recorded tapes, we recommend connecting your VCR to a home stereo audio system.

1 Set the AUDIO MODE option to HI-FI on the SETUP menu.

2 Set the AUDIO OUTPUT option to STEREO position.

(STEREO) POSITION: The left channel sound (L) is heard from the left speaker and the right channel sound (R) is heard from the right speaker.
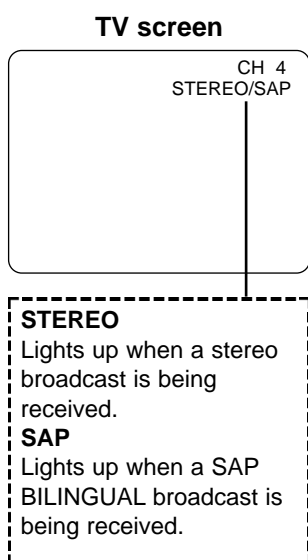**(LEFT) POSITION:** The left channel sound (L) is heard from both speakers.
(RIGHT) POSITION: The right channel sound (R) is heard from both speakers.

3 Insert a cassette and press **PLAY**.

Adjust volume at your stereo system.

FUNCTION OSD : ON
LANGUAGE SELECT:ENGLISH
AUDIO MODE: HI-FI
BROADCAST TYPE: STEREO
AUDIO OUTPUT: STEREO
CHANNEL MAPPING
◄► SELECT   ◄► ADJUST
TO EXIT PRESS MENU

FUNCTION OSD : ON
LANGUAGE SELECT:ENGLISH
AUDIO MODE: HI-FI
BROADCAST TYPE: STEREO
AUDIO OUTPUT: STEREO
CHANNEL MAPPING
◄► SELECT   ◄► ADJUST
TO EXIT PRESS MENU

VHS Hi-Fi STEREO SYSTEM/MTS BROADCAST (Cont'd) ▬

TV screen

```
                              CH  4
                        STEREO/SAP
```

STEREO
Lights up when a stereo broadcast is being received.
SAP
Lights up when a SAP BILINGUAL broadcast is being received.

MTS (Multi-Channel TV Sound)

This VCR will decode MTS stereo and bilingual (SAP) off-the-air broadcast sound signals. It also decodes stereo TV sound from local cable companies, as long as they operate on assigned cable frequencies and use the EIA-recommended MTS stereo/bilingual TV sound system.

MULTICHANNEL TV SOUND INDICATOR (MTS)

Shows Onscreen as illustrated on the left when **ENTER** is pressed.
• One or both of the indicators will light, depending on the MTS broadcast.

If only STEREO appears on the TV screen.
The VCR can record in stereo onto the VHS Hi-Fi audio tracks when BROADCAST TYPE is in the STEREO position. The VCR will also record mono audio onto the mono audio track.

If only SAP appears on the TV screen.
Set BROADCAST TYPE to SAP.

If both the STEREO/SAP appear on the TV screen
Use the BROADCAST TYPE option to select the desired recording mode (STEREO or SAP).
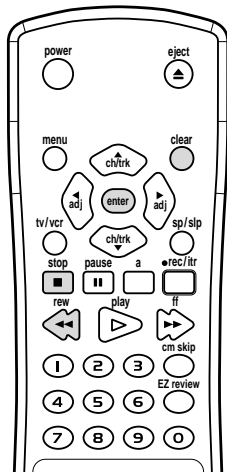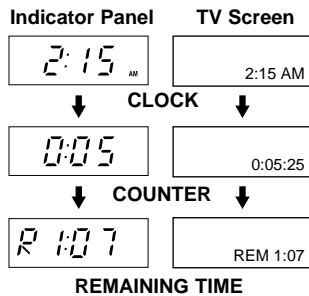
SAP (Second Audio Program) RECORDING

Some stations transmit a Second Audio Program, which is used for a second language or additional information. When the station broadcasts a Second Audio Program, follow the procedure below to record the SAP.

1 Insert a video cassette that the safety tab is in place.

2 Set the BROADCAST TYPE option to SAP (SETUP menu). Do this if only SAP appears on the TV screen or you know the program has SAP.

3 Set the desired speed (SP or SLP) by pressing **SP/SLP**.

4 Select the desired channel. SAP should appear on the TV screen.

5 Press **REC/ITR** once

You are now recording the program you see and hear on the TV.

6 Press **STOP** to stop recording.

```
FUNCTION OSD :          ON
LANGUAGE SELECT:ENGLISH
AUDIO MODE:          HI-FI
BROADCAST TYPE:        SAP
AUDIO OUTPUT:      STEREO
CHANNEL MAPPING
▲▼ SELECT  ◄► ADJUST
  TO  EXIT PRESS MENU
```
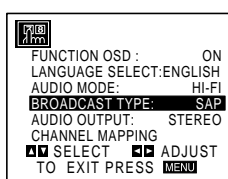
TAPE COUNTER MEMORY FEATURE

Indicator Panel

2:15 AM	**TV Screen**

2:15 AM

⬇ **CLOCK** ⬇

0:05

0:05:25

⬇ **COUNTER** ⬇

R 1:07

REM 1:07

REMAINING TIME

REAL-TIME COUNTER

Shows length of tape run in hours, minutes, and seconds (refer to the left). Press **ENTER** to select the real-time counter display. Every press of **ENTER** changes the TV screen as illustrated left.
• Counter changes to **0:00:00** when the cassette is ejected.
• The real-time counter does not operate when nothing is recorded on the tape.
• The real-time counter will not work if a tape is not inserted.

COUNTER MEMORY FUNCTION

This is useful if there is a section of tape you want to view immediately after recording or if you want to return to the same point several times.

1 Begin recording or playing a tape.

2 Press **ENTER** repeatedly to display the real-time counter on the TV screen.

3 At the point that you want locate later, reset the real-time counter to **0:00:00** by pressing **CLEAR**.

4 Continue to play or record.

5 Press **STOP** when recording or playback finishes.

6 Press **REW**.

The tape automatically stops when the tape counter returns to about "0:00:00".

TAPE REMAINING

Indicator Panel   **TV Screen**

| *R 1:07*	
	REM 1:07
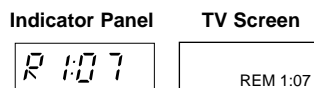
This function allows the time of the remaining tape to be displayed during recording or playback.

Press **ENTER** until the REM indicator displays on the TV screen during recording or playback.

NOTE
The remaining tape length indicator may not be displayed correctly depending on the condition of the tape, and type of tape (T-140, T-160, or T-210 etc)

EDITING A RECORDING
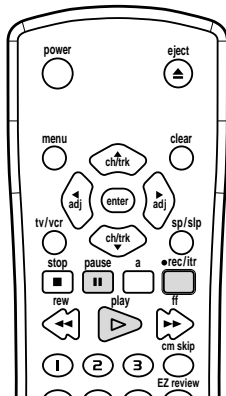
1 Press **PLAY** and watch the program until you reach the exact point where you want the new recording to start.

2 Press **PAUSE**.

3 Press **REC/ITR** once.

The program material to be recorded will appear on the television.

4 When you wish to start recording, press **PAUSE** again.

The new program material will directly follow the previously recorded material. This feature is especially helpful during camcorder-to-VCR dubbing use so each segment of the recording becomes a continuous program.

OPERATING HINTS

- In manual recording, Timer recording, Instant Timer Recording, playback, or fast forward modes, the VCR automatically starts rewinding the tape at the end of the tape. The cassette will stop at the beginning of the tape and be ejected, and the VCR will turn itself off.

- After you have finished using the VCR, rewind, eject, and remove the cassette. Place the cassette in its protective sleeve to protect it from dust. It is not necessary to rewind the cassette before removing it, but if you do, it will be ready to play or record the next time you use it.

- Be sure the VCR Channel Selector is on the correct channel you wish to record. The channel that is being recorded can always be checked by setting the television on the VCR channel (3 or 4) and pressing the **TV/VCR** selector to turn the VCR's VCR indicator on.

- Do not attempt to hook up more than one television set to the VCR for either recording or playback.

VIDEO HEAD CLEANING

- Whenever a video cassette is inserted into or ejected from this unit the video head is automatically cleaned.

- However, it is possible that the heads may become clogged when playing an old or damaged tape. If the image on your screen resembles the picture on the left while playing back a tape, the heads may require cleaning.

- To clean the heads, obtain a head cleaning tape from your local video dealer. Follows the instructions that come with the cleaning tape, as excessive use can shorten head life.

TROUBLESHOOTING

SYMPTOM	CHECK POINT & CORRECTION
Cassette cannot be inserted.	• Load cassette in direction indicated by arrow on cassette. • A cassette is already in the VCR. • Check if the VCR indicator panel is lit. If not, make sure power cord is plugged in. • If the ⚬⚬ indicator flashes, press **POWER** again.
No picture appears on TV screen.	• Press **TV/VCR** to select the VCR mode. • Set the television to the same channel selected on the VCR OUTPUT CHANNEL SELECT SWITCH. (CH3 or CH4).
A picture appears on TV screen but is not clear.	• Adjust the Tuning Control on the television to obtain the best picture.
The VCR will not go into the recording mode, even when **REC/ITR** is pressed.	• The cassette has had the safety tab removed. Stick a piece of cellophane tape over the safety tab hole or select a different cassette.
No picture appears on television screen when **PLAY** is pressed.	• Set the television to the VCR channel (3 or 4) depending upon the selected channel on the back of the VCR. (Output Channel). • Try a different cassette tape.
No picture, but audio is clear.	• The heads may require cleaning. • Take VCR to a qualified Service Center for service.
Interference on playback picture.	• Adjust fine tuning knob on television set to obtain best picture. • Adjust the tracking control. • Take VCR to Service Center for service.
The VCR cannot be remotely controlled or the remote control has short range.	• Weak or dead batteries. • Do not block sensor.
"--:--" appears on the indicator panel.	• Reset time according to instructions. Power has been interrupted.
VCR does not start at preset record starting time.	• Setup recording time according to instructions. • Be sure the AM-PM display is correct.
The tape is ejected in the timer mode.	• The cassette has had the safety tab removed. Stick a piece of cellophane tape over the safety tab hole or select a different cassette.
⚬⚬ indicator flashes.	• Insert a cassette.
The Auto Clock Setup procedure enters the wrong date and/or time.	• The TV station sent the wrong XDS information. Use the Manual Clock Set procedure on page 21.

ADDITIONAL INFORMATION

SPECIFICATIONS

GENERAL

Head System		Four head helical scan azimuth system
Power Source		AC 120V, 60Hz
Power Consumption		Approx. 13 Watts (VRE4222), 12Watts (VRE4122)
Dimensions	(WxHxD)	360 x 94.5 x 230 mm (14.3" x 3.8" x 9.2")
Operating Temperature		5 °C~35 °C (41 °F~95 °F)
Operating Humidity		Less than 80% RH
Timer		12-hour display type with AM, PM
Weight		Approx. 3.2 kg (7 lbs)
Tape Speed	(SP)	33.35 mm/sec
	(LP)	16.67 mm/sec
	(SLP)	11.12 mm/sec
Tape Width		12.7 mm
Maximum Recording Time	(SP)	2 HOURS (T-120)
	(SLP)	6 HOURS (T-120)
		8 HOURS (T-160)
Rewind Time		about 3 minutes (T-120)

TUNER

Antenna	(UHF)	75 ohms
	(VHF)	75 ohms
VHF Output Signal		Channel 3 or 4 (Switchable)
Channel Coverage	(VHF)	2-13
	(UHF)	14-69
	(CATV)	1-125 (4A, A-W, W+1~W+84, A-5~A-1)

VIDEO

Video Signal System	EIA Standard (525 lines, 60 fields)
	NTSC type color signal
Input	1.0 Vp-p 75 ohms unbalanced
Output	1.0 Vp-p 75 ohms unbalanced
Signal to Noise Ratio	More than 43 dB (SP mode)

AUDIO

FM audio

Frequency Range		20Hz to 20kHz
Dynamic Range		More than 83 dB
Channel Separation		More than 55 dB

Conventional audio (VRE4222 only)

Input	(LINE)	-6.0 dBm more than 47 kohms
Output	(LINE)	-6.0 dBm less than 1.0 kohms
S/N Ratio		More than 43 dB (SP mode)
Frequency Range		200 Hz to 10kHz (SP mode)

* Designs and specifications are subject to change without notice.
* Weight and dimensions shown are approximate.

ZENITH ELECTRONICS CORPORATION
VCR LIMITED WARRANTY-USA

Zenith will repair or replace your product, at Zenith's option, if it proves to be defective in material or workmanship under normal use, during the warranty period listed below from the date of original consumer purchase. **This warranty is available only to the original purchaser of the product and effective only when used in the United States, excluding U.S. Territories.**

WARRANTY PERIOD:	**HOW SERVICE IS HANDLED:**
Labor: 90 Days from date of purchase **Parts:** One Year from the date of purchase	**In-Home service:** Please retain your bill of sale for proof of warranty **Please call 1-877-9Zenith (1-877-993-6484) to locate your nearest Zenith Authorized Service Center.** **Please see below for further information.**

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THIS LIMITED WARRANTY DOES NOT APPLY:

To damages or problems that result from shipping, installation, calibration, maintenance, or separate system components.

To damages or problems that result from misuse, abuse, operation outside environmental specifications or contrary to the requirements and precautions in the Operating Guide, accident, lightning strikes or other natural causes, modification or alteration, incorrect electrical current or voltage, signal reception or input.

Therefore, the cost of repair or replacement under these circumstances is borne by the customer.

CUSTOMER ASSISTANCE NUMBERS:

To prove warranty coverage:	**Retain your dated sales receipt to prove date of purchase.** Legible copy of your sales receipt must be submitted at the time warranty service is provided.
To obtain where-to-buy, nearest Authorized Service Center, product assistance or customer assistance:	Call 1-877-9Zenith (1-877-993-6484) (Mon. - Fri. 7AM to 8 PM and Sat. 8AM to 5:00PM CT) Please select the appropriate option from the menu.