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Don't Forget To Delete Me!

SHARP®

MODEL
XA-710
XA-720

EZ SET UP

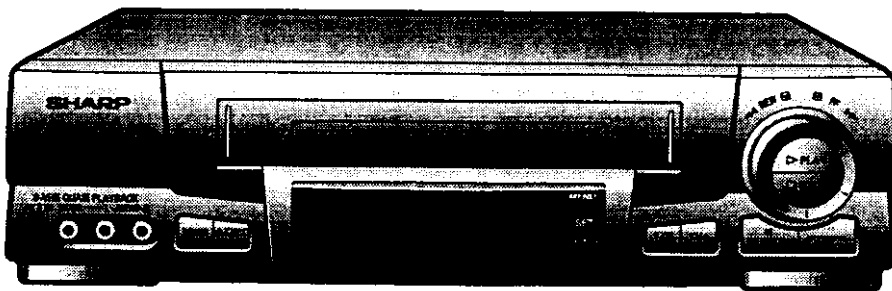
It's as easy as 1 2 3 4 5

1. Connect Cable to VCR.
2. Plug into AC Power Outlet.
3. Wait until completion of auto tuner channel setting and auto clock setting, and then press **POWER**.
4. Press **MENU** on the Remote Control, select Channels, and press **SET**.
5. Select Channel Preset and press **SET**, then choose:
(**AIR**) outdoor antenna or (**CATV**) Cable System.

PROFESSIONAL SERIES VIDEO CASSETTE RECORDER OPERATION MANUAL

Please read this operation manual carefully
before using the VCR.

VCR plus™
3 Cable Box Control
Easy Taping.



(XA-720)

MID-DRIVE



VHS HQ HIGH QUALITY

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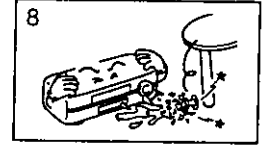
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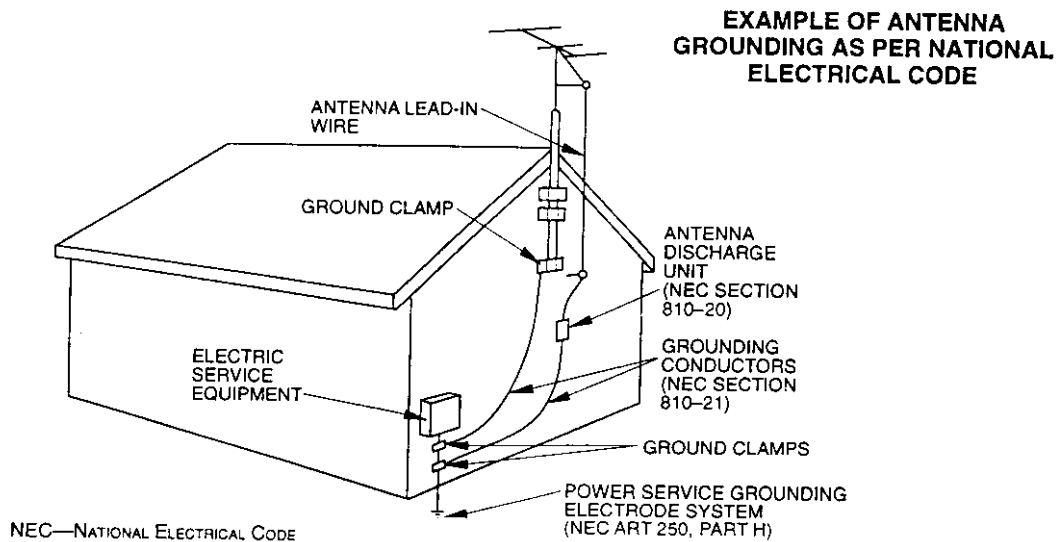
IMPORTANT SAFEGUARDS AND PRECAUTIONS

8. Keep liquids and foreign objects away from your VCR. Never operate your VCR if any liquid or foreign object has entered it. Electrical shorts could result and possibly cause fire or shock hazards. Unplug your VCR immediately and have it inspected by a qualified service technician.



OUTDOOR ANTENNA GROUNDING AND POWER LINES

1. If an outside antenna or cable system is connected to your VCR, be sure the antenna or cable system is grounded, thus providing some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No.70-1984, provides information regarding 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. See diagram below.



2. 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 come into contact with power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from coming into contact with power lines or circuits; contact with them might be fatal.

SERVICE

1. Do not attempt to service this VCR yourself. Instead, unplug it and contact a qualified service technician. (See **LIMITED WARRANTY** at the end of this manual.)
2. Be sure the service technician uses authorized replacement parts or their equivalents. Unauthorized parts may cause fire, electrical shock, or other hazards.
3. Following any service or repair, be sure the service technician performs safety checks to certify that your VCR is in safe operating order.

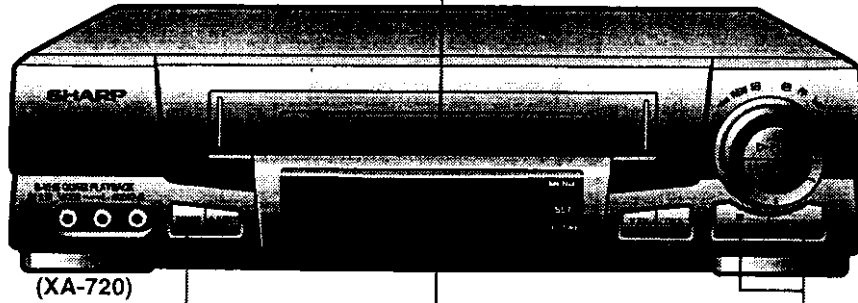
OTHERS

1. For Your Information: Your full understanding of the following is appreciated. Parliament by statute has decreed that it is illegal to make copies of copyrighted material of any manner or kind without the consent of the copyright owner, subject to the "Fair Dealing" exceptions in the Act Penalties may be imposed on those guilty of making such copies.
2. Normally, your VCR does not require head cleaning. However, the heads may become clogged when an old or damaged tape is used. If the playback picture becomes blurred, the heads may need cleaning. Head cleaning should be performed by a qualified technician. Contact the nearest Sharp Factory Service Center or Authorized Service Station. Do not use a cleaning tape unless it is new and of high quality. Excessive use of cleaning tapes may also damage the heads.

Major Components of Your VCR

[Front]

Cassette compartment (see Playback/Recording)



POWER button
(When pressed to turn on the VCR, some indicators on the Multi-Function display light up, and the Multi-Function display brightens. When the power is turned off, the Multi-Function display dims.)

Basic function controls
(see Playback/Recording)

Multi-Function Display (explained throughout the operation instructions)



Display	Symbol	Function Status	Display	Symbol	Function Status
STOP	—	Stop	FF	—	Fast forward
PLAY	▶	Play	REW	—	Rewind
PLAY	▶	Video Search, Slow, Still, Frame Advance	PAUSE	REC	Rec Pause
REC	REC	Record	—	⏸	Cassette-in

NOTE

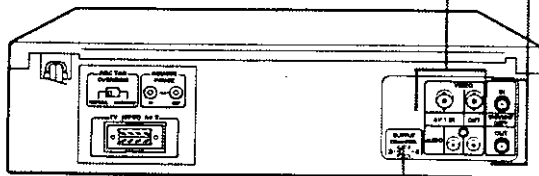
- The display will return to the original mode (counter or clock display) 3 seconds after the VCR enters the operation mode.

[Rear]

(XA-710)

Connection terminals (see **Connecting the VCR and Cable TV Connections**)

Connection terminals (see **Tape Dubbing**)

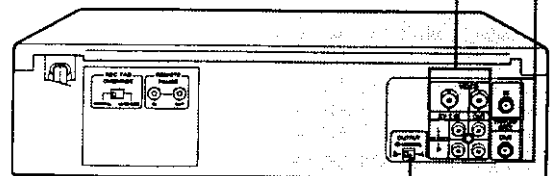


3 ↔ 4 OUTPUT CHANNEL selector
(see **Setting the 3 ↔ 4 Output Channel Selector**)

(XA-720)

Connection terminals (see **Connecting the VCR and Cable TV Connections**)

Connection terminals (see **Tape Dubbing**)



3 ↔ 4 OUTPUT CHANNEL selector
(see **Setting the 3 ↔ 4 Output Channel Selector**)

Using the Universal Remote Control

How to set the Universal Remote Control code

The Universal Remote Control can operate the basic functions of 20 different types of TVs, 18 different types of Cable Boxes and 2 different types of Digital Satellite Receivers.

To enter the Universal Remote Control code for your TV, Cable Box or Digital Satellite Receiver, follow the instructions below.

There may be some TVs, Cable Boxes or Digital Satellite Receivers that cannot be operated with this remote control. Use the original remote control in that case.

There is no guarantee that the universal remote control will function with your TV, cable box or digital satellite receiver.

For TV Setting

Setting the Manufacturer's Code Directly

- ① Press **TV** and **CH ▲** on the remote control simultaneously.
- ② Enter the 2-digit manufacturer's code with the numbered buttons (Ex. 02 = "0", "2") on the remote control within 10 seconds after releasing **TV** and **CH ▲**.

NOTE

- Refer to the code list for the buttons which work with each brand.

Buttons on the Remote Control		POWER CH ▲/▼ VOL ⊕/⊖ Numbered (0-9)	INPUT	100/ENT.
Brand	Code			
EMERSON	18	X	X	-
FISHER	16	X	X	100
FUNAI	05	X	X	100
GE	06, 08	X	-	100
GOLDSTAR	17	X	-	-
HITACHI	14	X	X	100
JVC	15	X	X	100
MAGNAVOX	08	X	-	100
	10	X	X	-
MITSUBISHI	13	X	X	-
PANASONIC	12, 20	X	X	-
RCA	06, 08	X	-	100
SAMSUNG	19	X	X	-
SANYO	16	X	X	100
SHARP	01	X	X	100
	02	X	X	-
SONY	09	X	X	100/ENT.
TECHNOL ACE	03	X	X	-
TOSHIBA	11	X	X	100
ZENITH	04	X	X	ENT.
	07	X	-	100/ENT.

For Cable Box or Digital Satellite Receiver Setting

Setting the Manufacturer's Code Directly

- ① Press **CABLE/SAT.** and **CH ▲** on the remote control simultaneously.
- ② Enter the 2-digit manufacturer's code with the numbered buttons (Ex. 02 = "0", "2") on the remote control within 10 seconds after releasing **CABLE/SAT.** and **CH ▲**.

NOTE

- Refer to the code list for the buttons which work with each brand.
- SAT. stands for Digital Satellite Receiver.

Buttons on the Remote Control		POWER CH ▲/▼ Numbered (0-9)	100/ENT.
Brand	Code		
JERROLD	01, 04, 05, 06, 07	X	ENT.
	02, 03, 08	X	-
OAK	16	X	ENT.
PANASONIC	13	X	-
	14	X	ENT.
PHILIPS	18	X	-
PIONEER	15	X	ENT.
RCA	13	X	-
	14	X	ENT.
*RCA (SAT.)	19	X	-
REGAL	17	X	-
SCIENTIFIC ATLANTA	09, 10, 11	X	-
SONY (SAT.)	20	X	ENT.
ZENITH	12	X	ENT.

- * Only for RCA (SAT.)
POWER ON-CABLE/SAT. button
POWER OFF-POWER button

How to operate the VCR, TV, Cable Box or Digital Satellite Receiver

To operate the VCR, TV, Cable Box or Digital Satellite Receiver, first press **VCR**, **TV** or **CABLE/SAT.** to switch to the desired mode.

NOTE

- If the batteries in the remote control are changed, the code settings must be re-entered.
- Some brands have more than one remote code listed, due to changes in the remote codes. In such cases, try more than one code to find the code that operates your TV, Cable Box or Digital Satellite Receiver.

Connecting the VCR

Tape Dubbing

Your VCR can dub (copy) video material from another video device. It can also output video and audio signals for recording on other video or audio equipment.

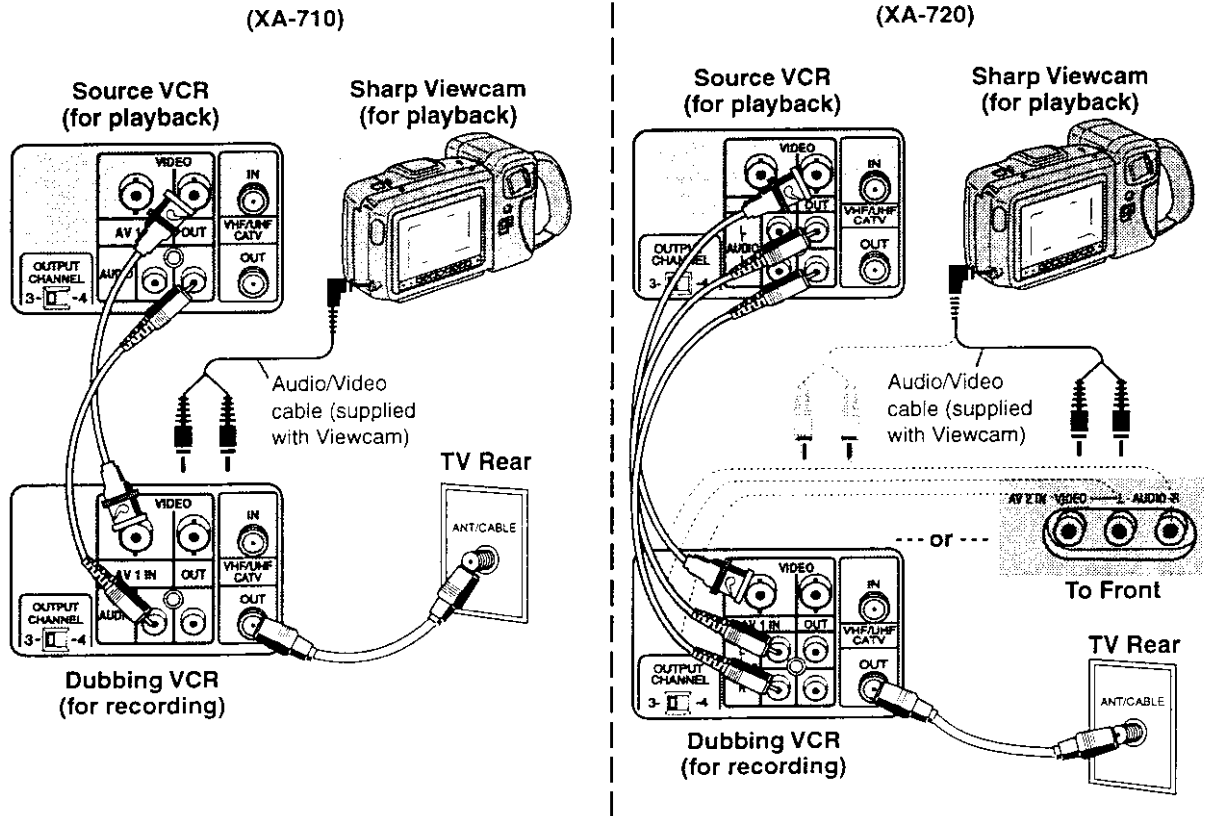
- ❶ Switch your VCR to the auxiliary input by pressing **INPUT** on the remote control. **AV** or **AV1** lights up on the multi-function display. (You can also use **CHANNEL ▲/▼** on the VCR or **CH ▲/▼** on the remote control.)
- ❷ Begin recording on the dubbing VCR and playback on the source VCR simultaneously.

NOTE

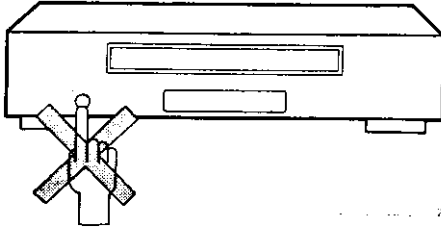
- When using special playback functions (still picture, video search, frame advance, and variable slow motion) during dubbing, a blue screen may appear.
Set BLUE SCREEN mode on the dubbing VCR (for recording) to OFF. (See **Mode Selection**.)
- To use the TV as a monitor while dubbing, press **TV/VCR** to "VCR" on the dubbing VCR.
- Use an RCA pin-type connection cable (not supplied with VCR, but supplied with VIEWCAM) to connect source VCR to dubbing VCR.
- Refer to the manual of the VCR connected to this unit when dubbing a tape.

Only for XA-720

- You can also use the front AV jacks. Select "AV1" (Aux. 2 input) by pressing **INPUT** twice.
- If source VCR is a monaural mode, connect the audio cable to "AUDIO-L" on the front AV jacks of the dubbing VCR.



EZ Set Up (With Auto Clock Setting)



IMPORTANT (Caution during EZ Set Up):

- Do not press the **POWER** button on the VCR or remote control.
- Do not insert a video cassette into the VCR.

The EZ Set Up function automatically sets the tuner channels and clock when the antenna cable is connected to the rear of the VCR and the power plug is then connected to an AC outlet.

IMPORTANT:

When using a cable box:

- See **Cable TV Connections** and **Cable Box Set-up Function**.
- Leave **POWER** on the cable box turned on.

During Auto Channel Setting



During Auto Clock Setting



EZ Set Up complete



PROCEDURE

- 1 Make sure that the antenna cable is connected. For connection configuration, refer to **Connecting the VCR**.
- 2 Connect the VCR power plug to an AC outlet.
- 3 The tuner channels and clock will automatically be set.

- This VCR can monitor and use time-signals (EDS signals), which are provided by some TV stations, to automatically adjust the VCR clock. This VCR automatically searches EDS signals, but if you are in a hurry to use timer recording or know the channel of the EDS signal carrier in your area, follow the procedure in **Auto Clock Setting** or **Manual Clock Setting**.

NOTE

- If power is supplied to the VCR before the cable is connected, EZ Set Up will not be able to preset the channels into memory. If this occurs unplug the VCR from the power source and wait a few minutes. Check the cable /antenna connection and supply power to the VCR. EZ Set Up will automatically begin again.
- If the power is turned on during EZ Set Up, the Auto Channel setting will be interrupted and the tuner channels will not be able to be preset.
- Auto Clock Setting may take several minutes.
- If the Auto Clock Setting is not completed within 30 minutes, there may be no channels with EDS signals. In this case, set the clock manually. (See **Manual Clock Setting**.)
- If the antenna signal is weak, the Auto Clock Setting function may not operate.
- During initial channel setting, the channels are set into the AIR channel setting. To watch a cable TV channel, select "CATV" on the CHANNEL PRESET screen. (See **Setting the Channels**.)

Setting the Clock

	<p>4 Select a channel that carries EDS signals with ◀/▶. Ex.: 07</p> <ul style="list-style-type: none"> The number of channels that can be selected depends on the mode setting on the CHANNEL PRESET screen. See NOTE.
	<p>5 Press SET to enter. The screen returns to normal. Press POWER to turn off the VCR. The Auto Clock Setting function will automatically set the clock.</p>

NOTE

- If the EDS CH SET mode is set to MANUAL mode in Step 3 and a channel that does not carry EDS signal is selected in Step 4, the Auto Clock Setting function will not operate.
- In Step 4, the number of channels that can be selected depends on the mode setting on the CHANNEL PRESET screen. See the table below.

USE CABLE BOX	AIR/CATV	Channels to be selected
NO	AIR	02 ↔ 03 ↔ 04 68 ↔ 69 ↔ 02
	CATV	01 ↔ 02 ↔ 03 124 ↔ 125 ↔ 01
YES	—	01 ↔ 02 ↔ 03 98 ↔ 99 ↔ 01

When using a cable box:

- If you turn off the VCR when the CLOCK mode is set to "AUTO", the cable box will select a broadcasting channel with the EDS signal automatically.
- In Step 1, if you press **MENU** when operating the screen setting for the first time or after a power failure of more than 1 hour, the LANGUAGE screen will appear.
- If you entered incorrect data during the setting procedure, re-enter the correct data in the following manner:
 - Use ◀/▶ to select the data to be corrected.
 - Set the correct data with ▲/▼.
 - After correcting the data in Step 2, press **SET** to enter.
- If you press **MENU** in Step 5, the data will not be stored.
- If a button is not pressed within 3 minutes during the setting procedure, the screen will return to the normal screen.

Manual Clock Setting

PREPARATION >>>

- Turn on your TV and select the video channel. (See **Setting the 3 ↔ 4 Output Channel Selector**.)
- Press **POWER** and then **TV/VCR** to select "VCR". ("VCR" will light on the multi-function display.)

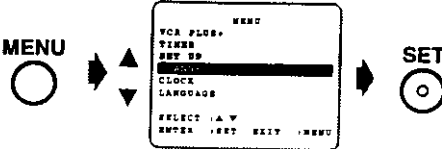
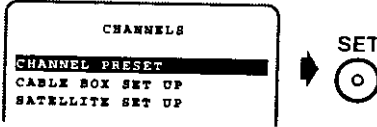
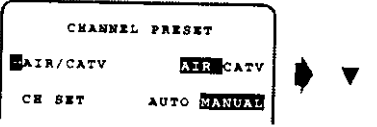

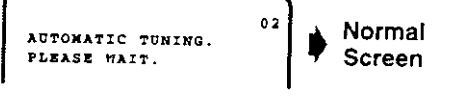
	<p>1 Press MENU. Select "CLOCK" with ▲/▼ and then press SET.</p>
	<p>2 Select "MANUAL" with ▲/▼ and then press SET.</p>

Setting the Channels

Your VCR can receive a maximum of 181 channels as shown below by presetting the channels into memory. (VHF: 2 to 13, UHF: 14 to 69, CATV: 1 to 125)

PREPARATION »»

- Make sure that the cable (antenna or CATV) is connected to the IN terminal on the rear of the VCR.

	<p>① Press MENU. Select "CHANNELS" with ▲/▼ and then press SET.</p>
	<p>② Select "CHANNEL PRESET" with ▲/▼ and then press SET.</p>
	<p>③ Select "AIR" or "CATV" with ◀/▶ and then press ▼. Ex.: AIR • To watch cable TV after EZ Set Up, select "CATV", press SET and then press MENU.</p>
	<p>④ Set "CH SET" to "AUTO" with ◀/▶ and then press SET.</p>
	<p>⑤ The auto tuning will start. The channel display will count up, and when finished, the screen returns to normal.</p>

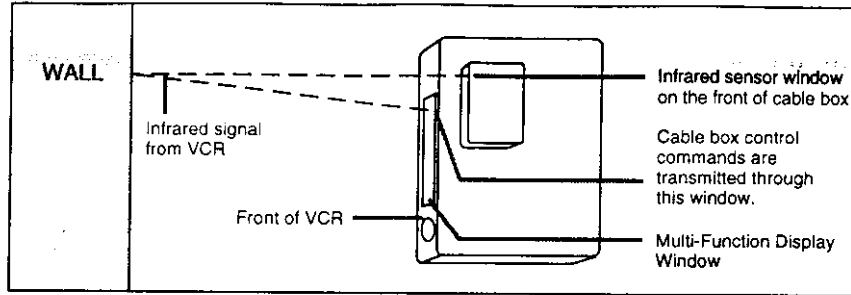
NOTE

- Automatic tuning will not start unless the arrow is at "CH SET-AUTO" position.
- If a button is not pressed within 3 minutes during the setting procedure, the screen will return to normal.
- If the power is interrupted for more than 1 hour, AIR / CATV selection must be set again.

Cable Box Set-up Function

If your VCR is connected to a CATV network requiring a cable box, follow this section. (Connection type **B** or **C**. See **Cable TV Connections**.) This allows you to select the channel you wish to record in Timer-Controlled or VCR PLUS+ programming system mode, by transmitting an infrared signal from the VCR to the cable box.

Setting Up the Cable Box (Overhead View)



NOTE

• If the wall or other surface for reflecting the signal is too distant, or if there is signal-absorbing material (curtains, etc.) at the reflecting location, the signal transmitted from the VCR may not reach the cable box.

PREPARATION

- Turn on your cable box and select channel 02.
- Turn on your TV and select the video channel. (See **Setting the 3 ↔ 4 Output Channel Selector**.)
- Press **POWER** and then **TV/VCR** to select "VCR". ("VCR" lights up on the multi-function display.)
- If your cable box is remote-controllable, check the code number corresponding to your cable box brand. The brand name of your cable box can be found on the bottom or back panel.

Brand	Code Number(s)	Brand	Code Number(s)	Brand	Code Number(s)
Archer	:28,29,30,31,49,50	Oak	:19,20	Sylvania	:44
Eagle	:37,38,39,40,41	Panasonic	:22,23	Teknica	:48
GE	:43	Philips	:24,25	Telecaption	:45
General Instrument	:01,02,03,04,05,06,07,08	Pioneer	:16,17,18	Tocom	:36
Hamlin	:26,27	RCA	:22,23	Toshiba	:47
Jerrold	:01,02,03,04,05,06,07,08	Regal	:21	Universal	:46
Macom	:42	Regency	:32	Vid Tek	:51
NSC	:33,34,35	Scientific Atlanta	:09,10,11,12,13	Zenith	:14,15

• There may be some Cable Boxes that cannot be operated with this function.

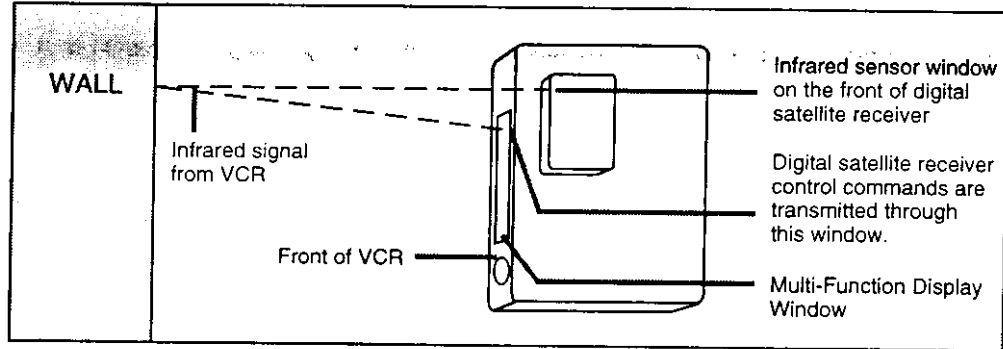
PROCEDURE

	<p>① Press MENU. Select "CHANNELS" with ▲/▼ and press SET.</p>
	<p>② Select "CABLE BOX SET UP" with ▲/▼ and press SET.</p>
	<p>③ Select "BOX OUTPUT CH" with ◀/▶ (03 ↔ 04 ↔ 02 ↔ 03) and then press ▼.</p>

Digital Satellite Receiver Set-up Function

If your VCR is connected to a digital satellite network requiring a digital satellite receiver, follow this section. This allows you to select the channel you wish to record in Timer-Controlled mode, by transmitting an infrared signal from the VCR to the digital satellite receiver.

Setting Up the Digital Satellite Receiver (Overhead View)



NOTE

- If the wall or other surface for reflecting the signal is too distant, or if there is signal-absorbing material (curtains, etc.) at the reflecting location, the signal transmitted from the VCR may not reach the digital satellite receiver.

Connection

A Basic Connection

- Use this connection if your TV does not have audio/video jacks.

- 1 Set the CH3 CH4 switch on the rear of the digital satellite receiver to either channel 3 or 4.

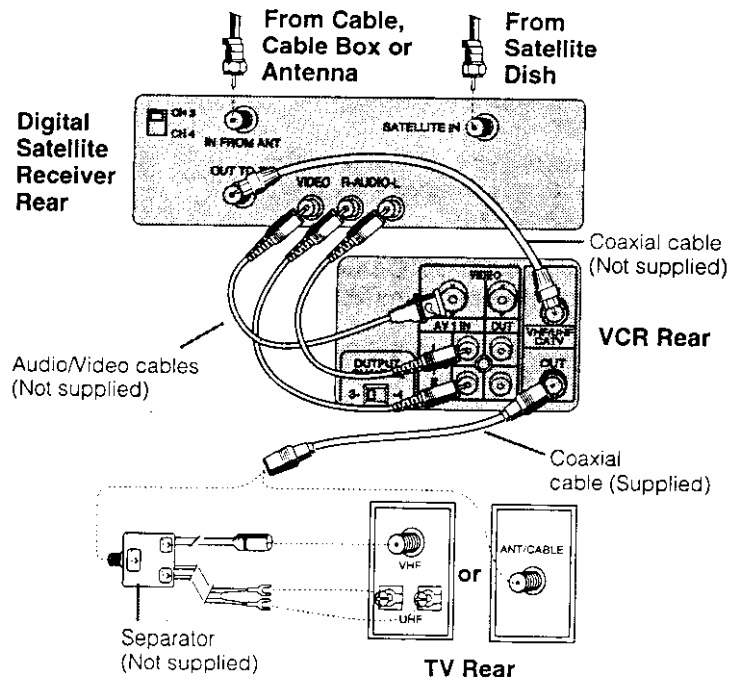
You will tune the VCR to this channel or its auxiliary input (AUX) to record from the digital satellite receiver.

To watch the digital satellite receiver, turn off the VCR.

If you want to watch or record the signal from your antenna, cable, or cable box, make sure the digital satellite receiver is turned off.

- 2 Set the 3 ↔ 4 OUTPUT CHANNEL selector on the rear of the VCR to 3 or 4. (Factory preset: 3) (See **Setting the 3 ↔ 4 Output Channel Selector**.) Tune the TV to this channel and press **TV/VCR** to watch the VCR.

- 3 Connect as shown. Then go to "**After the Connection**".





Digital Satellite Receiver Set-up Function

How to Remote-control the Digital Satellite Receiver

PREPARATION >>>

- Turn on your digital satellite receiver and select DSS® mode.
- Turn on your TV and select the video channel. (See **Setting the 3 ↔ 4 Output Channel Selector.**)
- Press **POWER** and then **TV/VCR** to select "VCR". ("VCR" lights up on the multi-function display.)
- If your digital satellite receiver is remote-controllable, check the code number corresponding to your digital satellite receiver brand.

The brand name of your digital satellite receiver can be found on the bottom or back panel.

Brand	Code Number(s)
GE	01
ProScan	01
RCA	01
SONY	02

- There may be some digital satellite receiver that cannot be operated with this function.

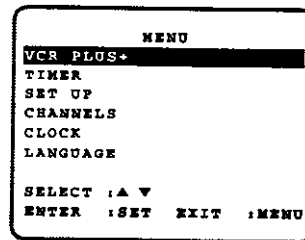
PROCEDURE

	<p>① Press MENU. Select "CHANNELS" with ▲/▼ and press SET.</p>
	<p>② Select "SATELLITE SET UP" with ▲/▼ and press SET.</p>
	<p>③ Select "SAT. OUTPUT CH" with ◀/▶ (03 ↔ 04 ↔ AV1 ↔ 03) and then press ▼.</p>
<p style="text-align: center;">01 ↔ 02 ↔ 01</p>	<p>④ Select "SAT. CODE" with ▲/▼ and set the code number with ◀/▶. See the code list in PREPARATION.</p>
<p style="text-align: center;">(on the multi-function display)</p>	<p>⑤ Press 100 to check if the setting is completed. If the selected code matches the brand of your digital satellite receiver, the VCR will automatically send a signal to change the channel of your digital satellite receiver to 200. "SAT." is displayed on the multi-function display. This indicates that the setting is successful. Press ▼.</p>

Menu Screen

MENU screen is a home screen used to select various screen functions.

- 1 Turn on the TV and select the video channel. (See **Setting the 3 ↔ 4 Output Channel Selector** on page 10.)
- 2 Press **POWER**, and then **TV/VCR** to select "VCR" ("VCR" will light on the multi-function display).
- 3 Press **MENU** to display the MENU screen.



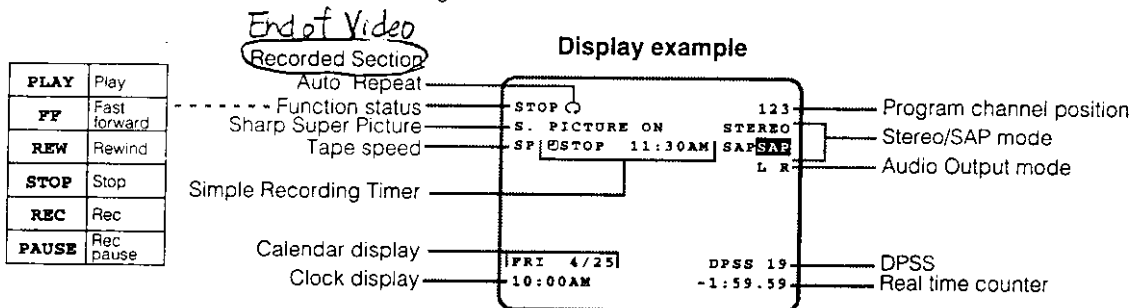
The following 6 items can be set by using the MENU screen.

- VCR PLUS+ Setting a timer recording using VCR PLUS+ programming system. (See page 34.)
- TIMER Setting a timer recording (and checking it). (See page 36.)
- SET UP VCR operating conditions are set according to the broadcast reception and tape playback conditions. (See page 26.)
- CHANNELS Setting the channels, cable box code and digital satellite receiver code. (See pages 17-24.)
- CLOCK Setting the present time. (See pages 14-16.)
- LANGUAGE Selection of language to be used for the MENU screen. (See page 14.)

- 4 Press **▲/▼** and then **SET**. The screen changes to the one which you have selected.
- 5 To cancel the MENU screen, press **MENU**.

OSD (On Screen Display)

To facilitate the operation and check the current VCR mode information, the following OSD (On Screen Display) will appear on the TV screen when using this VCR.

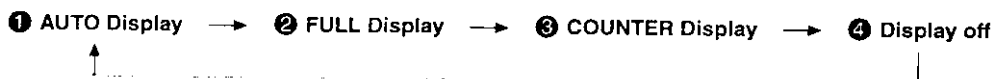


NOTE

- If the clock is not set, the time and date will not be displayed.
- **Stereo/SAP and Audio Output modes are only for XA-720**

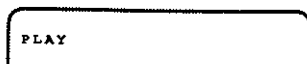
How to Display Indicators

Each time **ON SCREEN** is pressed, the screen changes as follows:



AUTO Display

When an operation button, numbered button, or **CH ▲/▼** is pressed, the current function status or the number of the channel will be displayed in the upper section of the TV screen for about 3 seconds.



(When you press **PLAY**)



(When you press **REC** while you are receiving CH 9.)

NOTE

- When the VCR power is turned off, the display mode is retained in memory.
- When you record a video signal output from this VCR on another VCR, press **ON SCREEN** to select Display Off. (If the function status is displayed on the screen, it is also recorded on the tape.)

Playback

Inserting a Video Cassette

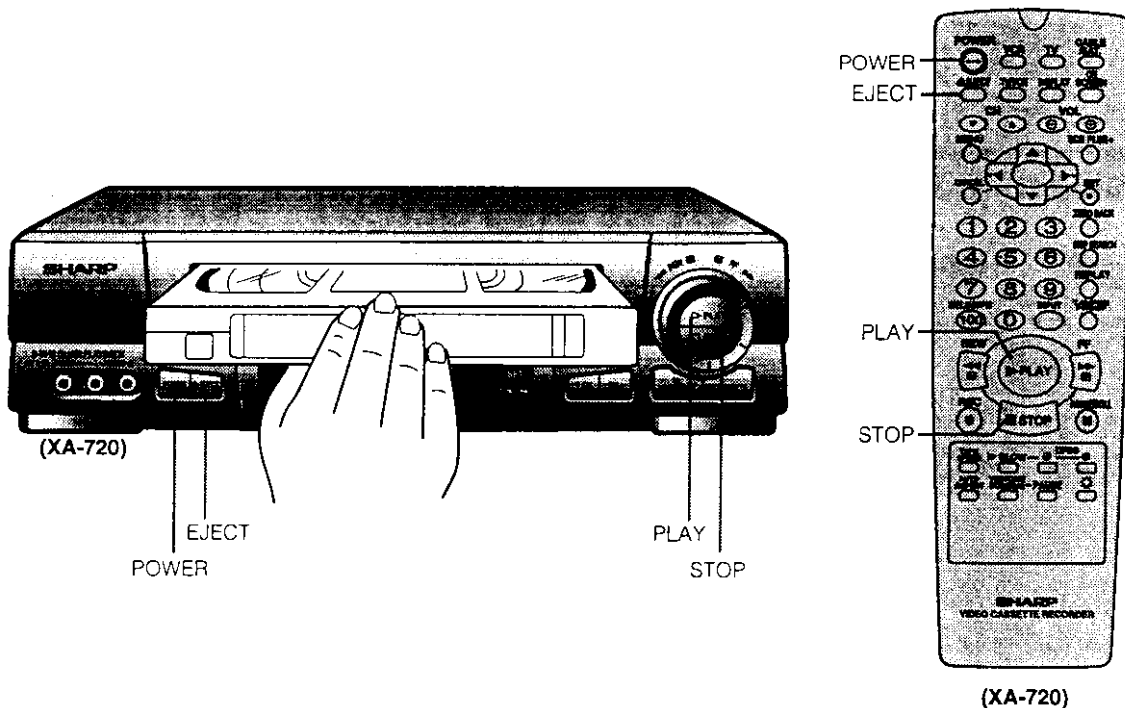
Gently insert the video cassette into the cassette compartment. The VCR turns on automatically and "PLAY" appears on the multi-function display. If the cassette is inserted incorrectly, the loading system will not function. Do not force the cassette into the VCR.

To remove the cassette, press **EJECT** during stop mode.

Playback

PREPARATION >>>

- Turn on the TV and select the video channel. (See **Setting the 3 ↔ 4 Output Channel Selector**.)



PROCEDURE

- 1 Press **POWER** to turn on the VCR.
- 2 Insert a cassette.
- 3 Press **PLAY**. (The automatic tracking control system engages and "PLAY" flashes on the TV screen for a few seconds.)
- 4 To stop playback, press **STOP**. (If the tape reaches its end, the VCR will automatically rewind the tape to the beginning, eject the cassette, and turn off the power.)

NOTE

- If noise should remain on the TV screen after tracking adjustment has been completed by the Automatic Tracking Control System, use the manual tracking mode.
- Press **CH ▲/▼** during playback mode to change to manual tracking mode. Adjust the tracking using **CH ▲/▼** until the noise is minimized or eliminated.
- For tapes recorded in EP on another VCR that still have vertical jitter even after manual adjustment, hold down **PLAY** for about 2 seconds. (On screen display may be blurred.) Ejecting the tape or turning off the power will return playback to its normal mode.

■ Notes for S-VHS tape

- Playing back with S-VHS high quality picture (more than 400 dpi) is not available.
- Picture noise or distortion might appear on the screen. When playing the type in **SLOW** or **STILL** mode.
- S-VHS recording is not available. You can not record by S-VHS system.



Slow Motion Playback (only with the remote control)

- ① Press **SLOW** during playback.
- ② Press **SLOW** ⊕/⊖ (to the right of SLOW) to vary the slow motion playback speed between 1/3 and 1/30 of the normal playback speed.
If noise bars appear on the screen, use **CH** ▲/▼.
If the picture experiences vertical jitter during the slow mode, set your VCR to the still mode and press **CH** ▲/▼ to stabilize the picture. Then press **SLOW** again.
- ③ Press **PLAY** to resume normal playback.

Still Picture and Frame Advance

- ① Press **PAUSE/STILL** during playback. This will freeze the picture on your TV.
- ② If the picture vibrates vertically during still mode, use **CH** ▲/▼ to adjust for minimum distortion.
If noise bars appear on the screen during still mode, set your VCR to the slow mode and press **CH** ▲/▼ to make the noise disappear. Then press **PAUSE/STILL** again.
- ③ Press **PAUSE/STILL** during still mode for frame advance.
- ④ Press **PLAY** again to resume normal playback.

NOTE

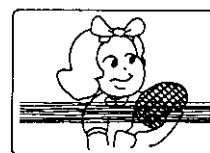
- Sound is muted during still picture, video search, frame advance, and variable slow motion.
- The picture quality in still picture, video search, frame advance, and variable slow motion is best with tapes recorded in SP or EP mode.

Automatic Tracking Control System

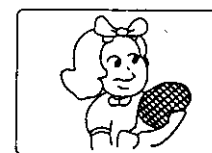
This function automatically adjusts the tracking to match the recorded tape. Auto tracking engages in the following cases:

- When you insert the cassette and begin playback.
- When you press **CH** ▲/▼ at the same time.
- When the VCR has been playing back an unrecorded section of tape, and then reaches a recorded tape segment.

When auto tracking engages, "PLAY" on the TV screen flashes for a few seconds.



Poor Tracking



Normal Picture

NOTE

- When a poorly recorded tape is played back or the VCR is near an electrical or magnetic field, auto tracking may not operate normally. In this event, manually adjust the tracking with **CH** ▲/▼ to make any noise disappear.

Blue Screen Noise Elimination

Set the BLUE SCREEN mode to ON on the SET UP-selection screen. (See **Mode Selection**.) This function eliminates monitor noise and mutes sound during playback of unrecorded portions of a tape, and when receiving a non-broadcasting channel. Blue Screen will also appear if the VCR is set to the Auxiliary mode but no video signal is fed to the VCR. (The BLUE SCREEN mode is set to ON at the factory.)

NOTE

- Blue Screen does not function during still picture, variable slow motion and video search.
- Blue Screen may not function properly if the broadcast signal is too strong or too weak.
- Blue Screen does not function during playback of a tape with noise recorded.
- If the antenna signal is weak while recording a TV program, or if the input signal is weak while tape dubbing, the monitor screen may turn blue since the unit may not recognize whether or not a proper signal is being received. In this event, set the BLUE SCREEN mode to OFF.

Recording a TV Program

PREPARATION >>>

- Turn on the TV and select the video channel. (See **Setting the 3 ↔ 4 Output Channel Selector.**)
- Press **POWER** and then **TV/VCR** to select "VCR" ("VCR" will light on the multi-function display).

Only for XA-720

- If necessary, set "SAP" on the SET UP-selection screen. (See **Mode Selection.**)

PROCEDURE

- 1 Insert the cassette, with the erasure protection tab covered. (See **Cassette Erase Protection** below.)
- 2 Press **TAPE SPEED** on the remote control to set the recording speed (SP or EP). (See **Recording Speeds** below.)
SP or EP will appear on the display.
- 3 Select the desired channel with **CH ▲/▼** or the numbered buttons on the remote control.
- 4 Press **REC**. (If the erasure protection tab has been removed, the cassette will be ejected.)
- 5 To stop recording, press **STOP**.

- * To pause recording during the REC mode, press **PAUSE/STILL** on the remote control. To resume recording, press **PAUSE/STILL** or **REC**. (Pause disengages automatically after about 5 minutes to avoid damage to the tape and the VCR, and stop mode is engaged.)

NOTE

- It is not necessary to set the clock to use this recording operation.
- "PAUSE" will flash on the TV screen if **PAUSE/STILL** is pressed in stop mode. Press **STOP** to disengage the pause mode or press **REC** to enter the record standby mode.
- The VCR can record a TV program even with the TV turned off.

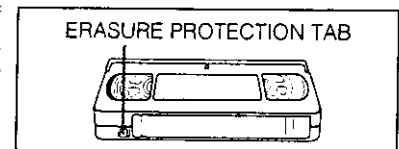
To Watch Another TV Program While Recording

After steps 1 to 4 have been completed, press **TV/VCR** to select "TV" (the "VCR" indicator will disappear), then select the program you wish to view using the TV tuner.

At the end of the tape, your VCR will automatically stop recording, rewind the tape, eject it and turn off the power.

Cassette Erase Protection

A **VHS** cassette has a removable tab to prevent accidental erasure of recorded material. Removing the tab prevents recording. To record on a video cassette with the tab removed, place adhesive tape over the tab opening.



Rec Tab Override

The REC TAB OVERRIDE function can be used to record over a cassette with the erasure protection tab removed. When recording over a cassette without a protection tab, simply set the REC TAB OVERRIDE selector on the rear of the VCR to the "OVERRIDE" position.

NOTE

- When not in use, set the REC TAB OVERRIDE selector to the "NORMAL" position to prevent accidental erasure.
- When the REC TAB OVERRIDE selector is in the "OVERRIDE" position, the Full Automatic Playback function will not work with a cassette without an erasure protection tab.
- Set the REC TAB OVERRIDE selector to the "OVERRIDE" position before inserting the cassette. This function cannot be set after the cassette has been inserted.

Recording Speeds

This VCR lets you select a recording speed (SP or EP). SP provides a better picture, although the recording time is shorter. Select the tape speed that best suits your needs.

NOTE

- This VCR can play back tapes recorded in LP (Long Play) mode.

MODE CASSETTE	SP (Standard Play)	EP (Extended Play)
T-60	1 hr.	3 hrs.
T-120	2 hrs.	6 hrs.
T-160	2 hrs. & 40 min.	8 hrs.

Simple Recording Timer

The Simple Recording Timer (SRT) enables you to set the recording stop time. The SRT can be set on the TV screen by using the remote control.

The SRT cannot be set if the clock has not been set. Make sure the clock is set before setting the SRT.

PREPARATION >>>

- Turn on the TV and select the video channel. (See **Setting the 3 ↔ 4 Output Channel Selector.**)
- Insert a cassette with the erasure protection tab opening covered. Power will turn on automatically.
- Press **TV/VCR** to select "VCR" ("VCR" will light on the multi-function display).

Only for XA-720

- If necessary, set "SAP" on the SET UP-selection screen. (See **Mode Selection.**)

PROCEDURE

Example: Recording a TV program in the SP mode. The program is on Channel 2, ending at 9:50 AM. The present time is 8:43 AM.

	<p>① Select the desired channel with the numbered buttons or CH ▲/▼. Ex.: Channel → 02</p>
	<p>② Set the recording speed (SP or EP) with TAPE SPEED on the remote control. Ex.: SP</p>
	<p>③ Press REC to enter the recording mode. Then, press REC again to enter the simple recording timer mode. The recording stop time is displayed. Ex.: 8:50 AM</p>
	<p>④ Each press of REC increases the stop time by 10 minutes. Ex.: 9:50 AM</p>
<p>⑤ When the stop time comes, recording is finished, and the power turns off.</p>	

Changing the Contents of the Simple Recording Timer

- ① Press **REC**. The stop time flashes on the TV screen.
- ② Change the stop time as desired using **REC**.

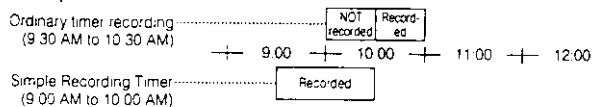
Cancelling the Simple Recording Timer

- ① Press **STOP**.

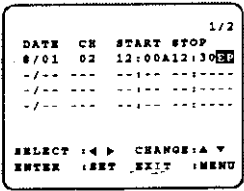
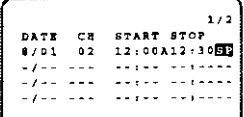
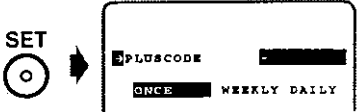
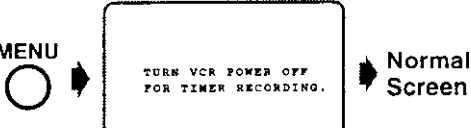

NOTE

- **The Simple Recording Timer has priority over other recordings.**
- Ordinary timer programs will not be recorded when portions of the time setting of the simple recording timer and of the time setting of the ordinary timer recording overlap.

Example:



Timer Recording with VCR Plus+ System

	<p>4 The timer program information is shown on the TV screen. Check the contents.</p> <ul style="list-style-type: none"> If the channel displayed is incorrect, select the CH position with ◀/▶ and correct it with ▲/▼. When recording a program on a channel for the first time, you must enter the correct channel number on the screen, otherwise the PlusCode number will not be successfully decoded.
	<p>5 Select the tape speed with ▲/▼ if necessary. Ex.: SP</p>
	<p>6 Press SET. To program additional timer settings, repeat Steps 2 to 6.</p>
	<p>7 Press MENU. The display shown to the left appears on the screen for 5 seconds, then the normal screen returns.</p>
	<p>8 Press POWER to enter the timer standby mode. Be sure that "TIMER" is lit up on the multi-function display.</p>

NOTE

- If you select "DAILY" in Step 3, the VCR will record the program Monday–Sunday at the same time. If you want to record Monday–Friday or Monday–Saturday, select "DATE" with ◀/▶ and change it to "MO-FR" or "MO-SA" with ▲/▼ in Step 4.
- In Step 4, input the channel number you want to record. Once the preset channel has been input, you will not need to set the preset channel for that station again.
- In Step 3, if the VCR cannot decode the PlusCode number, or if the combination of PlusCode number and Program mode does not exist, then "ERROR" will appear as shown below. To correct, press **CANCEL** and re-enter the PlusCode number.

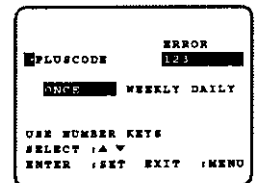
Reasons for Error Message

- PlusCode number entered is invalid.
- Channel number is invalid.

(Used in cases when, even though the VCR TV mode on the CHANNEL PRESET screen is set to AIR, the decoded channel number is greater than 69.)

- PlusCode number entered for a program that has already been shown.

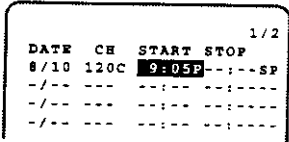
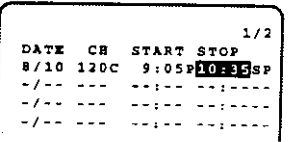
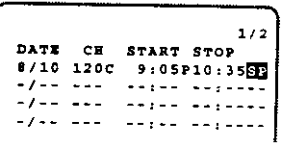
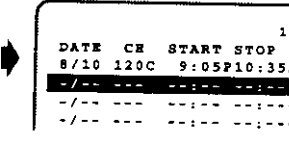
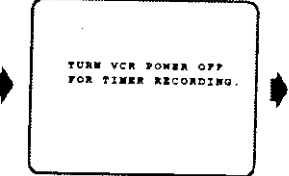

- You can also enter the VCR Plus+ system setting screen by selecting "VCR PLUS+" on MENU screen.
- If you press **VCR PLUS+** or select "VCR PLUS+" on MENU screen when the VCR clock has not been set, the CLOCK screen will initially appear.
- If you press **VCR PLUS+** when operating MENU screen for the first time or after a power failure of more than 1 hour, the LANGUAGE screen will initially appear.



Checking/Cancelling the VCR Plus+ Programs System

Use the method described in **Confirming/Cancelling Timer Programs** to confirm or cancel program data.

Timer Recording (without VCR Plus+ System)

	<p>⑥ Set the recording start time (hour digits and minute digits) with ▲/▼ and then press ►. Ex.: 9:05 PM</p>
	<p>⑦ Set the recording stop time with ▲/▼ and then press ►. Ex.: 10:35 PM</p>
	<p>⑧ Select the tape speed with ▲/▼. Ex.: SP</p>
	<p>⑨ Press SET. • To program the additional timer settings, press SET and repeat steps ③-⑨.</p>
	<p>⑩ Press MENU to finish settings. The display shown to the left appears on the screen for 5 seconds, after which the normal screen returns.</p>
	<p>⑪ Press POWER to enter the timer standby mode. Be sure that "TIMER" is lit up on the multi-function display.</p>

NOTE

- If the power is interrupted for more than 1 hour (power failure, etc.) during timer recording, the Auto Clock Setting will reset the time after the power is returned (the timer indicator on the multi-function display will flash.) but the timer settings will be cancelled.
- Press **ENT./AM/PM (100)** to select AM or PM during start time setting.
- Numbered buttons can be used instead of ▲/▼ to set the data.
- If the cassette ends before recording all the programs, the VCR will stop, eject the cassette, and turn the power off automatically.
- In Step ⑪, if **POWER** is pressed with no cassette inserted, the **TIMER** indicator flashes for 5 seconds indicating that timer recording is not possible.
- In Step ⑪, if the inserted cassette is without the erasure protection tab, **TIMER** indicator flashes and the cassette is ejected.
- To stop timer recording, press **STOP**.
- If a button is not pressed within 3 minutes during the setting procedure, the screen will return to the normal screen.
- There are two timer setting screens (1/2, 2/2).

Sharp Super Picture

This function creates clearer picture quality only during playback.



S. PICTURE ON



Press **S. PICTURE** on the VCR.

"S.PICTURE ON (or OFF)" will appear on the TV screen for a few seconds. Each time the button is pressed, the mode switches between ON and OFF. (The Sharp Super Picture is preset to ON at the factory.)

ON:

Normally leave the mode set to ON. This high picture quality function will create a clearer image during playback.

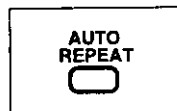
OFF:

Set to OFF when playing back a tape on the VCR while editing or when strong noise appears on the screen.

NOTE

- This function only operates during playback. It will not operate when recording or watching a TV program with the VCR tuner.
- **When playing S-VHS tape**
 1. Sharp Super Picture is set to off automatically. When finished playback, the setting will return to the previous setting.
 2. You can not change ON/OFF setting manually.
- The ON/OFF status of the Sharp Super Picture can be checked when **ON SCREEN** is pressed to display OSD.
- This function can not be set to ON/OFF with the MENU screen displayed. First close the MENU screen before operating this function.
- When the VCR power is turned off, the Sharp Super Picture setting is retained in memory.
- If power is interrupted for more than 1 hour (power failure, etc.), the setting will return to ON.

End of Video Auto Repeat



With this feature, if the recorded portion has finished and non-recorded portion has continued for 15 seconds, the tape will automatically stop, rewind to the beginning and repeat playback.



PLAY 

PROCEDURE

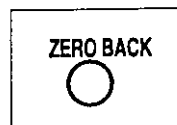
- 1 Press **AUTO REPEAT** on the remote control. The "O" mark will appear on the screen for 3 seconds.
- 2 When a non-recorded portion has continued for 15 seconds after the recorded portion has finished, the tape will stop and begin rewinding.
- 3 The tape will rewind to the beginning and repeat playback.
- 4 To turn off the End of Video Auto Repeat function, press **AUTO REPEAT** once more.

NOTE

- You can also set the End of Video Auto Repeat mode by selecting "ON" on the SET-UP-selection screen. (The AUTO REPEAT mode is preset to OFF at the factory.)
- The ON/OFF status of the End of Video Auto Repeat can be checked when **ON SCREEN** is pressed to display OSD. (The "O" mark lights when the End of Video Auto Repeat is on.)
- If the End of Video Auto Repeat is on and the tape is rewound to the beginning with rewind or reverse video search, the tape will automatically start playback.

Auto Zero Back

This function automatically forwards or rewinds the cassette to the "0:00.00" point. Use this function to return to a recording start point.



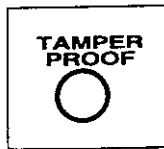
PROCEDURE

- 1 Reset the counter to "0:00.00" with **CANCEL** before recording.
- 2 Press **REC** to start recording.
- 3 After recording the desired program, press **STOP** to stop recording.
- 4 Press **ZERO BACK** to return to the recording start point (0:00.00).

NOTE

- During auto zero back, if the VCR rewinds (or fast forwards) the tape all the way without finding the "0:00.00" point, it will stop at the beginning (or end) of the tape.
- The counter start point "0:00.00" may differ slightly from the starting point on the tape.
- This function is not operable during recording, recording pause, simple recording timer or timer recording.

Tamper Proof



With this feature, you can lock all VCR modes to prevent accidental change. This function works even when the VCR power is off, thus preventing children from operating the VCR or viewing select programs while you are away from home.

Tamper Proof

- ① Press **TAMPER PROOF** on the remote control for about 2 seconds. "Ⓞ" flashes and "Ⓞ---" lights on the multi-function display.
- ② Press **TAMPER PROOF** again. "Ⓞ" remains lit on the multi-function display confirming that Tamper Proof has been activated.
- ③ Now regardless of what other operating buttons are touched, the VCR will continue to operate in the present mode.
(If Tamper Proof is activated during playback, once the tape reaches its end, the VCR automatically rewinds the tape, ejects it, and turns the power off.)

Disengaging Tamper Proof

- Press **TAMPER PROOF** for about 2 seconds. "Ⓞ" starts flashing and then disappears. Now, Tamper Proof is disengaged.

Advanced Tamper Proof

- ① Press **TAMPER PROOF** on the remote control for about 2 seconds. "Ⓞ" flashes and "Ⓞ---" lights on the multi-function display.
- ② Input the personal code number (4 digit code) with the numbered buttons. The personal code number you have input is displayed on the multi-function display.
- ③ Press **TAMPER PROOF** again. "Ⓞ" remains lit on the multi-function display confirming that Tamper Proof has been activated.
- ④ Now regardless of what other operating buttons are touched, the VCR will continue to operate in the present mode.
(If Tamper Proof is activated during playback, once the tape reaches its end, the VCR automatically rewinds the tape, ejects it, and turns the power off.)

Disengaging Advanced Tamper Proof

- ① Press **TAMPER PROOF** for about 2 seconds. "Ⓞ" flashes and "Ⓞ---" lights on the multi-function display.
- ② Input the personal code number (4 digit code) you used to activate Advanced Tamper Proof with the numbered buttons. The personal code number you have input is displayed on the multi-function display.
- ③ Press **TAMPER PROOF** again. "Ⓞ" disappears. Now, Tamper Proof is disengaged. If the code number is wrong, "Ⓞ---" is displayed on the multi-function display. Retry to input the right code number. Press **TAMPER PROOF** again.

NOTE

- If power is interrupted for more than 1 hour (power failure, etc.), Tamper Proof may disengage.
- If, Tamper Proof is on, you attempt to change modes by pressing another button, the "Ⓞ" indicator will flash on the multi-function display.



Specifications

Format: VHS NTSC Standard
 Video Recording System: Rotary Two-Head Helical Scanning
 Number of Video Heads: 4
 Video Signal Standard: NTSC Color System
 Audio Recording System: 1 Stationary Head for Linear Audio

2 Rotary Heads for Hi-Fi stereo (Only for XA-720)

Tape Width: 12.7 mm (1/2 inch)
 Tape Speed: (SP) 33.35 mm/sec (1.31 i.p.s.)
 (LP) 16.67 mm/sec (0.66 i.p.s.) (playback only)
 (EP) 11.12 mm/sec (0.44 i.p.s.)
 Maximum Recording Time: (SP) 160 min (T-160)
 (EP) 480 min (T-160)
 Channel Coverage: VHF 2-13
 UHF 14-69
 CATV 1-125
 Antenna Input: 75 Ohm
 Video Input: 0.5 to 2.0 Vp-p, 75 Ohm unbalanced
 Video Output: 1.0 Vp-p, 75 Ohm unbalanced
 Audio Input: -8 dBs, 47 kOhm unbalanced (0 dBs = 0.775 Vrms)
 Audio Output: -8 dBs, 1 kOhm unbalanced (0 dBs = 0.775 Vrms)

Hi-Fi Audio (Only for XA-720): *Dynamic Range: 90 dB*
Frequency Response: 20 Hz-20 kHz

Memory Backup: 1 hour
 Operating Temperature: 5°C to 40°C (41°F to 104°F)
 Storage Temperature: -20°C to 60°C (-4°F to 140°F)
 Power Source: 120 V AC, 60 Hz
 Power Consumption: 20 W
 Dimensions:
 XA-710:
 360 (W) × 92 (H) × 276 (D) mm
 (14-3/16" × 3-5/8" × 10-7/8")
 XA-720:
 360 (W) × 92 (H) × 264 (D) mm
 (14-3/16" × 3-5/8" × 10-3/8")
 Weight: 2.7 kg (6.0 lbs)

NOTE

- Specifications are subject to change without notice.

Cable TV Connections

Your VCR is capable of receiving the following non-scrambled channels.

- Scrambled channels can be received with the cable box supplied by your cable TV company.

PREPARATION »»

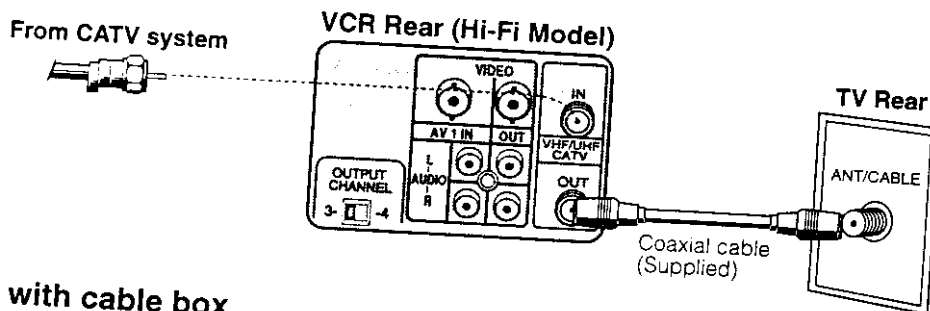
Set the 3 ↔ 4 **OUTPUT CHANNEL** selector on the rear of the VCR to 3 or 4. (Factory preset: 3)
Tune the TV to this channel and press the **TV/VCR** button to watch the VCR.

First check your TV/CATV system

- Step ①** Does your CATV operator require use of cable box?
- YES → Go to **Step ②**
 - NO → Go to **A**
- Step ②** Does your CATV system have some or all channels scrambled?
- YES → Go to **B** or **C**
 - NO → Go to **B**

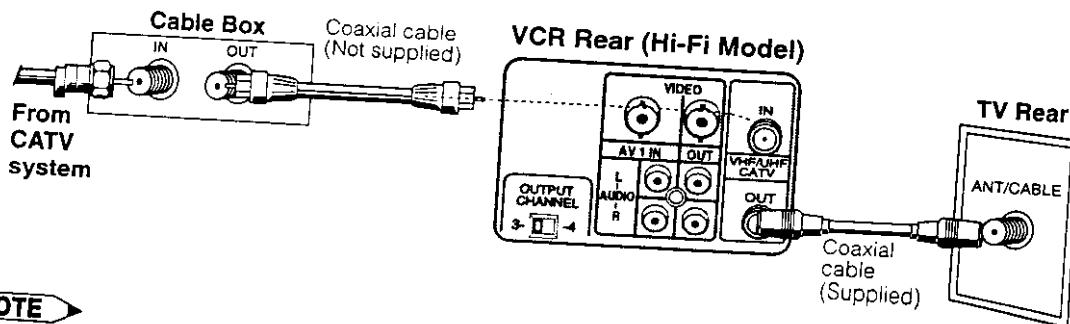
A Connection without a cable box

- Connect as shown. Then go to "After the Connection".



B Connection with cable box

- Connect as shown. With this connection, it is possible to record descrambled CATV signals. Then go to "After the Connection".
- If your cable box is remote-controllable, see **Cable Box Set-up Function**.



NOTE

- If the cable box is turned off, it will not output any signals, thus making it impossible to record or view a program from the CATV system.
- In the case of the above connections, it is not possible to change channels using the VCR remote control. Only the cable box can be used to change channels.
- Only one channel at a time can be programmed for recording programs with the timer. It is not possible to watch a TV program different from the one being recorded.
- Depending on which terminals the TV has, a separate combiner (mixer) or separator (splitter) may be necessary.

LIMITED WARRANTY

Sharp Electronics Corporation warrants to the first end-user purchaser, for a period of one year from the date of purchase, that this Sharp Professional Video product (the "Product"), when shipped in its original container, will be free from defective workmanship and materials, and agrees that it will, at its option, either repair the defect or replace the defective Product or part thereof at no charge to the purchaser for parts or labor.

This warranty does not apply to any appearance items of the Product nor to any Product the exterior of which has been damaged or detached, which has been subjected to misuse, abnormal service or handling, or which has been altered or modified in design or construction.

In order to enforce the rights under this limited warranty, the purchaser should ship prepaid or carry the Product, together with proof of purchase, to an Authorized Sharp Professional Video Service Station.

The limited warranty described above is in addition to whatever implied warranties may be granted to purchasers by law. To the extent permitted by applicable law, ALL IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE, ARE LIMITED TO A PERIOD OF ONE YEAR FROM THE DATE OF PURCHASE.

Neither the sales personnel of the seller nor any other person is authorized to make any warranties other than those described above, or to extend the duration of any warranties beyond the time period described above on behalf of Sharp Electronics Corporation.

The warranties described above shall be the sole and exclusive warranties granted by Sharp Electronics Corporation, and shall be the sole and exclusive remedy available to the purchaser. Correction of defects, in the manner and for the period of time described above, shall constitute complete fulfillment of all liabilities and responsibilities of Sharp Electronics Corporation to the purchaser with respect to the Product, and shall constitute full satisfaction of all claims, whether based on contract, negligence, strict liability or otherwise. In no event shall Sharp Electronics Corporation be liable, or in any way responsible, for any damages or defects in the Product which were caused by repairs or attempted repairs performed by anyone other than an Authorized Sharp Professional Video Service Station technician. Nor shall Sharp Electronics Corporation be liable or in any way responsible for any incidental or consequential economic or property damage.

SHARP

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SHARP CORPORATION

Osaka, Japan



Cable TV Connections

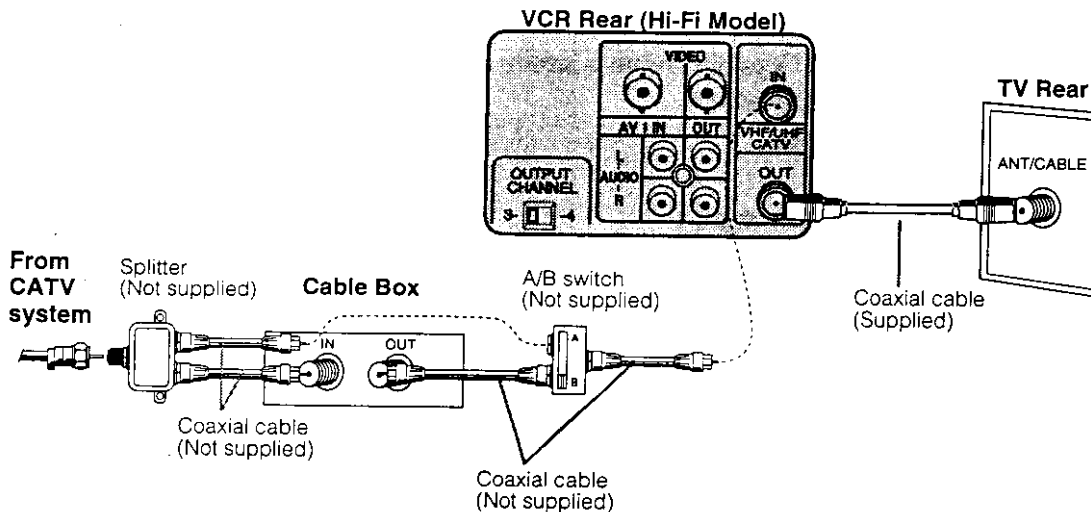
Connection with cable box, A/B switch and splitter

If the cable box is needed only for some of the channels of your CATV operator, connect the cable box to your VCR as shown below. This type of connection requires a cable box set-up. For more details, see **Cable Box Set-up Function**.

- Connect as shown. Then go to "After the Connection".

NOTE

- This connection allows you to watch a channel that does not require the cable box, while recording from a different channel. Note, however, that you cannot view other broadcast TV channels while recording a CATV program through the cable box.



Using the A/B switch

- 1 Set the A/B switch to the 'A' position in the following situations.

Set USE CABLE BOX to "NO" on the CABLE BOX SET UP screen. (See **Cable Box Set-up Function**.)

 - a) To record and watch an unscrambled TV program (without the signal passing through the cable box).
 - b) To watch an unscrambled TV program when the VCR is recording another program.
 - c) To watch an unscrambled TV program when the VCR is turned off.
- 2 Set the A/B switch to position B in the following situations:

When the A/B switch is set to B, the cable box requires a set-up to receive the remote control codes sent from your VCR, which control the cable box channel. For details on the cable box set-up, see **Cable Box Set-up Function**.

Set USE CABLE BOX to "YES" on the CABLE BOX SET UP screen.

 - a) To record and watch a scrambled or unscrambled TV program through the cable box.
 - b) To watch a scrambled or unscrambled TV program through the cable box when the VCR is turned off.
 - If the power on the cable box is turned off, it will not output any signals, thus making it impossible to record or view a program from the CATV system.

NOTE

- If you turn off the cable box, you cannot record or view a CATV program.
- If you have questions regarding any connection procedure, please contact your cable company.

After the Connection

Plug in the power cords of the VCR, TV and cable box. Then go to the **SETTING UP** section.



Pre-Service Call Checklist

Check this list before calling for service.

Problem	Possible Cause/Solutions
<ul style="list-style-type: none"> • NO OPERATION WHEN ANY BUTTON IS PRESSED. 	<ul style="list-style-type: none"> • MAKE SURE THAT THE "TAMPER PROOF" MODE IS NOT ENGAGED. • If you forget the personal code number you have input with Advanced Tamper Proof, input "0000" (four zeros) to disengage it.
<ul style="list-style-type: none"> • No power. (Nothing on the multi-function display.) 	<ul style="list-style-type: none"> • Make sure the power cord is plugged in. • Check the outlet, fuse or circuit breaker.
<ul style="list-style-type: none"> • VCR does not receive CATV channels. 	<ul style="list-style-type: none"> • Use the CHANNEL PRESET screen to change from AIR mode to CATV. (See Setting the Channels.)
<ul style="list-style-type: none"> • VCR does not operate. 	<ul style="list-style-type: none"> • Turn on the power. • Press EJECT several times. • Safety device in VCR is functioning. Unplug VCR and plug it in again after a few hours.
<ul style="list-style-type: none"> • VCR does not record. 	<ul style="list-style-type: none"> • Cassette erasure protection tab is removed. Use a different cassette or place adhesive tape over the tab opening. • Check for a cassette loaded in the unit.
<ul style="list-style-type: none"> • No color or poor TV picture during normal viewing. 	<ul style="list-style-type: none"> • Make sure the "TV" has been selected by pressing TV/VCR. • Make sure all cables are connected properly.
<ul style="list-style-type: none"> • No tape movement. 	<ul style="list-style-type: none"> • Make sure the VCR is not in PAUSE/STILL mode. • Make sure the tape has not reached the end or beginning.
<ul style="list-style-type: none"> • No picture appears during playback. 	<ul style="list-style-type: none"> • Make sure the TV is set to the same channel as the VCR's 3 ↔ 4 OUTPUT CHANNEL selector. • Check all connecting cables.
<ul style="list-style-type: none"> • Cassette cannot be loaded. 	<ul style="list-style-type: none"> • Make sure there is no other cassette inside. • Make sure the cassette is properly positioned and reinsert. • Make sure the "TAMPER PROOF" mode is not engaged.
<ul style="list-style-type: none"> • Timer recording does not work. 	<ul style="list-style-type: none"> • Power failure may have occurred. • If the clock display is blinking, set the clock and try again.
<ul style="list-style-type: none"> • Noise appears on the screen when the automatic tracking control system is operating. 	<ul style="list-style-type: none"> • Adjust the tracking manually by pressing CH ▲/▼. • In some cases, with a worn or damaged tape, noise cannot be eliminated completely.
<ul style="list-style-type: none"> • Cannot record a signal through the rear external input jack. 	<ul style="list-style-type: none"> • The VCR may not be set to external input mode. • Press INPUT to set the VCR to external input mode. (See Tape Dubbing.)
<ul style="list-style-type: none"> • Picture or sound is not stable during playback. 	<ul style="list-style-type: none"> • Keep your VCR away from electrical and magnetic appliances. Be sure to position your VCR at least 8" away from your TV or video monitor.
Only for XA-720	
<ul style="list-style-type: none"> • Stereo TV puts out monaural sound only, even when cassettes recorded in Hi-Fi stereo are played back. 	<ul style="list-style-type: none"> • Use RCA pin type connection cables (not the supplied coaxial cable) to connect the TV to the VCR, and set the TV to external video input mode. • Adjust the tracking, or try another Hi-Fi stereo cassette.
<ul style="list-style-type: none"> • Cassettes recorded in stereo mode are not played back in stereo. 	<ul style="list-style-type: none"> • Make sure the sound was recorded in Hi-Fi stereo. (Any stereo signals recorded on the linear track will not be played back in stereo.)

This unit is equipped with a microprocessor. Its performance could be adversely affected by external electrical noise or interference. If this should happen, unplug the VCR and plug it in again after a few hours and reset EZ Set Up for AIR/CATV operation.



Service Information

For the location of the nearest Sharp Authorized Service Center, or to obtain product literature, accessories, supplies or customer assistance, please call 1-800-BE SHARP (1-800-237-4277).

Remote Pause

This VCR is equipped with REMOTE PAUSE IN/OUT (loop-through) terminals on the rear of the VCR used when duplicating (dubbing) with a number of VCRs, allowing you to simultaneously set or disengage the REC Pause modes of the dubbing VCRs. The REMOTE PAUSE IN/OUT terminals may also be used to simultaneously start and pause the playback function of multiple VCRs.

By making the connections shown below, it is possible to simultaneously set or disengage the REC Pause modes of the dubbing VCRs with a user supplied PAUSE CONTROLLER switch.

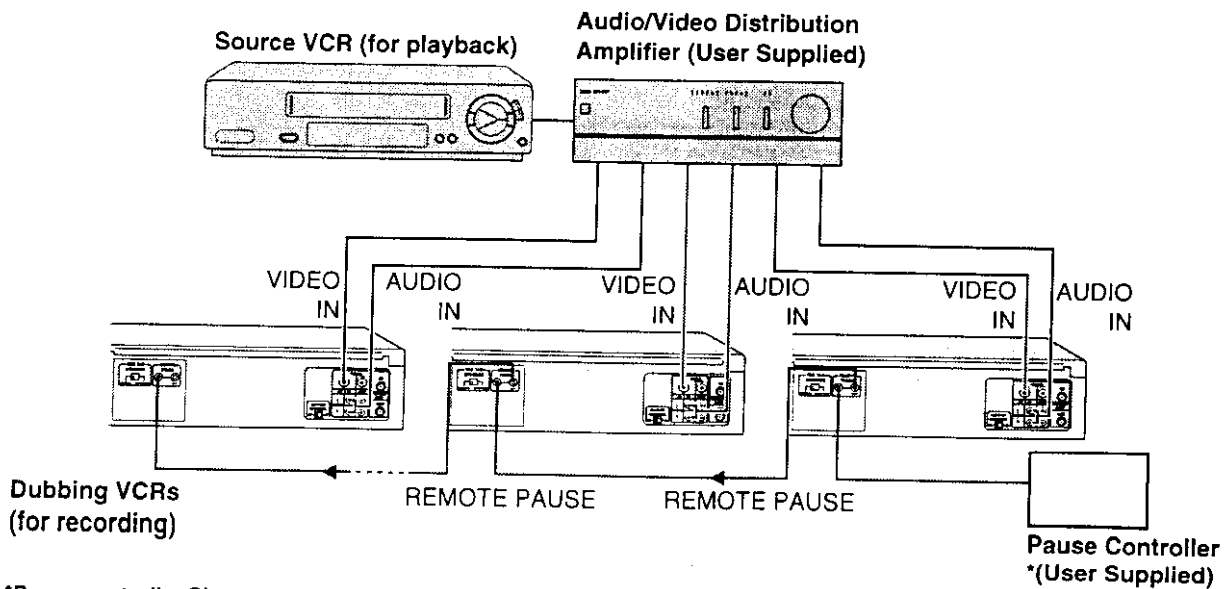
NOTE

- The front panel controls and infrared remote controls are functional even with use of the REMOTE PAUSE INPUT. The last command from any input is effective.
- To prevent any possible damage to the cassette, the Pause mode (REC PAUSE-STILL) will return to the STOP mode after about 5 minutes. To reengage the REC Pause mode, turn the PAUSE CONTROLLER switch to OFF (OPEN), press REC to return to the recording mode and then turn the switch to ON (CONTACT CLOSURE) again.

Pause Function Table

Remote Pause Input Jack	PAUSE Button (On the VCR or Infrared Remote Control)	VCR Status
OPEN	PAUSE Button Pressed	REC PAUSE → REC or REC → REC PAUSE
CONTACT CLOSURE	PAUSE Button Pressed	REC PAUSE → REC or REC → REC PAUSE
TRANSITION OPEN → CLOSED	PAUSE Button Not Pressed	REC → REC PAUSE or REC PAUSE → REC PAUSE
TRANSITION CLOSED → OPEN	PAUSE Button Not Pressed	REC PAUSE → REC or REC → REC

Typical Example (For XA-720)



***Pause controller Signal**

- TRANSITION from OPEN to CONTACT CLOSURE: REC → REC PAUSE
- TRANSITION from CONTACT CLOSURE to OPEN: REC PAUSE → REC

NOTE

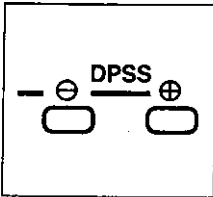
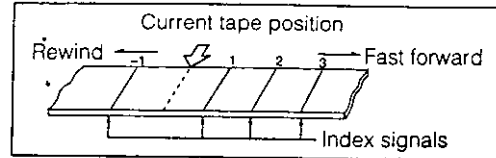
- To prevent damage to the VCRs, do not apply a voltage to the REMOTE PAUSE terminals.
- Use 3.5 mm mini jack cables to connect to/from REMOTE PAUSE IN/OUT terminals.

DPSS (Digital Program Search System)

You can quickly locate a desired section of the tape with this feature.

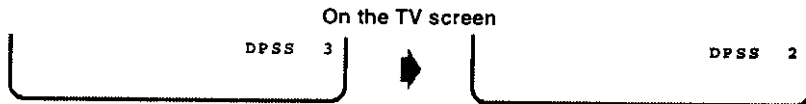
Index Signal

An index signal is automatically recorded on the tape at the start of ordinary recording, simple recording timer and timer recording.



PROCEDURE

- 1 Insert a tape containing index signals.
- 2 Select the index number of the desired program with **DPSS** \ominus/\oplus on the remote control.
 - With each press of the button, the number changes. One of 19 programs can be selected in either direction (one of up to 38 programs).
 - (Ex.: DPSS 3=Third program after the current one.)



- 3 Search starts immediately when you press **DPSS** \ominus/\oplus . (When a signal is located, the displayed number decreases.)
- 4 When the selected section is found, playback begins automatically.

NOTE

- DPSS may not work if recordings are too close (within 3 minutes of each other).
- Press **PLAY** or **STOP** to cancel DPSS.
- If the tape reaches its end or beginning before locating the desired point, DPSS is cancelled.
- DPSS may not function for damaged or worn tapes.
- DPSS cannot be used with tapes that contain no index signals.
- The starting point of a program may vary slightly.
- DPSS does not operate during the slow, record, timer stand-by, and timer recording modes, or when there is no cassette loaded.
- Index signals for DPSS cannot be entered manually.

Skip Search



With this feature, you can set a forward video search time to approx. 30, 60, 90 or 120 seconds of recorded material. After searching, normal playback will resume automatically.

- Press **SKIP SEARCH** on the remote control during playback (ex. during commercials).

Number of Times Pressed	1 Time	2 Times	3 Times	4 Times
Video Search Time	Approx. 30 sec.	Approx. 60 sec.	Approx. 90 sec.	Approx. 120 sec.

Instant Replay



With this feature, you can set a reverse video search time to approx. 20, 40, 60, or 80 seconds of recorded material. After searching, normal playback will resume automatically.

- Press **REPLAY** on the remote control during playback.

Number of Times Pressed	1 Time	2 Times	3 Times	4 Times
Video Search Time	Approx. 20 sec.	Approx. 40 sec.	Approx. 60 sec.	Approx. 80 sec.

Timer Recording (without VCR Plus+ System)

Confirming Timer Programs

You can see on the Timer setting screen a list of all timer programs that are already set.

PREPARATION >>>

- Turn on the TV and select the video channel.
- Press **POWER** and then **TV/VCR** to select "VCR" ("VCR" will light on the multi-function display).

	<ol style="list-style-type: none"> 1 Press MENU. 2 Select "TIMER" with ▲/▼ and then press SET.
	<ol style="list-style-type: none"> 3 TIMER screen will appear. <ul style="list-style-type: none"> • Check the information displayed. • If you want to correct the data, select the data to be changed with ▲/▼ and then press SET. Correct the data as desired using ▲/▼/◀/▶. Then press SET. See 2/2 screen also.
	<ol style="list-style-type: none"> 4 Pressing MENU will clear the screen. The display shown to the left appears for 5 seconds, after which the normal screen returns. <ul style="list-style-type: none"> • After checking or correcting the program contents, press POWER to enter the Timer Standby mode.

Cancelling Timer Programs

Perform the following procedure to cancel timer programs that have already been set.

PREPARATION >>>

- Turn on the TV and select the video channel.
- Press **POWER** and then **TV/VCR** to select "VCR" ("VCR" will light on the multi-function display).

<ol style="list-style-type: none"> 1 Follow the same procedure in Confirming Timer Programs 1 2 above. 	
	<ol style="list-style-type: none"> 2 TIMER screen will appear. <ul style="list-style-type: none"> • Select the program you wish to cancel with ▲/▼.
	<ol style="list-style-type: none"> 3 Double-check that it is the program you wish to cancel, and press CANCEL. It will be cleared on the screen.
	<ol style="list-style-type: none"> 4 Pressing MENU will clear the screen. The display shown to the left appears for 5 seconds, after which the normal screen returns. <ul style="list-style-type: none"> • If there are still some programs set, press POWER to enter the Timer Standby mode. • If you press MENU when all of the timer programs are cancelled, the screen will return to normal.

Timer Recording (without VCR Plus+ System)

PREPARATION >>>

• Before using the Timer Recording, read the **Cable Box Set-up Function** and **Digital Satellite Set-up Function** sections.

- Turn on the TV and select the video channel.
- Insert a cassette with the erasure protection tab opening covered. Power will turn on automatically.
- Press **TV/VCR** to select "VCR" ("VCR" will light on the multi-function display).
- Check that the clock is displaying the correct time.

Only for XA-720

- If necessary, set "SAP" on the SET UP-selection screen. (See **Mode Selection**.)

PROCEDURE

Example: Recording a TV program in the SP mode: the TV program is on channel 120 (CATV) starting at 9:05 PM and stopping at 10:35 PM on August 10th. The present time is 6:35 PM on August 10th.

<p>A screenshot of the TV menu. The menu items are: VCR PLUS+, TIMER (highlighted), SET UP, CHANNELS, CLOCK, LANGUAGE. At the bottom, it says: SELECT :▲▼, ENTER :SET EXIT :MENU. To the left of the menu is a 'MENU' button icon, and to the right is a 'SET' button icon.</p>	<p>① Press MENU.</p> <p>② Select "TIMER" with ▲/▼ and then press SET.</p>
<p>A screenshot of the timer setup screen. It shows a table with columns: DATE, CH, START, STOP. The first row is highlighted. Below the table, it says: CLEAR :CANCEL, SELECT :▲▼, ENTER :SET EXIT :MENU. To the right of the screen is a 'SET' button icon.</p>	<p>③ Press SET.</p>
<p>A screenshot of the timer setup screen. The 'DATE' column is highlighted with '8/10'. Below the table, it says: SELECT :▲▶ CHANGE:▲▼, ENTER :SET EXIT :MENU. To the right of the screen is a right arrow icon.</p>	<p>④ Select the desired month/day (DATE) with ▲/▼ and then press ▶. The cursor will move to the next column. <i>Ex.: August 10th</i></p> <ul style="list-style-type: none"> • If you want to record every day or week at the same time, hold ▼ when you select the date. <p>When pressing: The recording date changes in this sequence:</p> <ul style="list-style-type: none"> ▼ 8/10 → MO → FR → MO → SA → DAILY → SAT → SUN → 8/9 → 8/8 → (next year) ▲ 8/10 → 8/11 → 8/12 → 8/8 → 8/9 → SUN → SAT → (present) (tomorrow) (next year)
<p>A screenshot of the timer setup screen. The 'CH' column is highlighted with '120C'. To the right of the screen is a right arrow icon.</p>	<p>⑤ Select the desired channel with ▲/▼ and then press ▶. <i>Ex.: Channel 120 (CATV)</i></p>
<p>A screenshot of the timer setup screen. The 'CH' column is highlighted with '120C'. To the right of the screen is a right arrow icon.</p>	<ul style="list-style-type: none"> • If you receive both cable TV and satellite broadcasts, you will need to specify for channels 100 to 125 whether it is a cable or satellite channel. After selecting the channel, select "C" for a cable channel or "S" for a satellite channel with ▲/▼ and then press ▶. <i>Ex.: C</i>

Timer Recording with VCR Plus+ System

*The VCR Plus+ Programming System

The VCR Plus+ Programming System allows you to program your VCR for timer recording simply by inputting the PlusCode Programming number.

The PlusCode numbers are listed in most newspaper, TV Guide®, and local cable TV listings. Simply by inputting this PlusCode number, you can program your VCR for timer recording, eliminating the need to input program start time, stop time, channel, date, and other information necessary for timer recording.

NOTE

- If PlusCode numbers are not published in the listings for your area, they are sure to be introduced in the near future, so please contact your local newspaper or cable TV station for further details.
- *VCR Plus+ C² and PlusCode are trademarks of Gemstar Development Corporation. The VCR Plus+ system is manufactured under license from Gemstar Development Corporation.

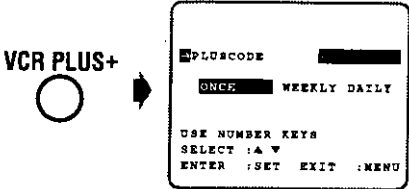
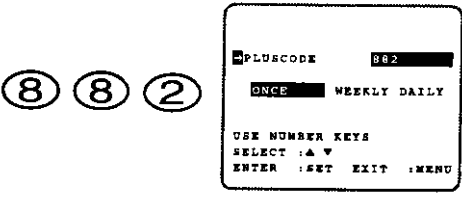
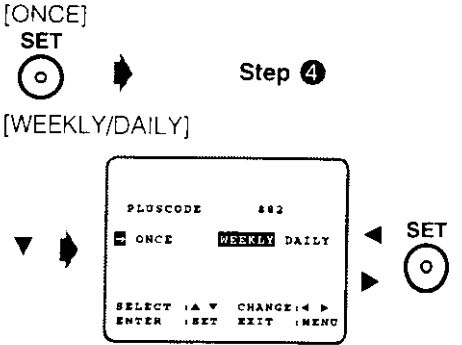
Procedure for Setting a Timer with the VCR Plus+ System

PREPARATION »»

- Before using the VCR Plus+ programming system, read the **Cable Box Set-up Function** section.
- Turn on the TV and select the video channel.
- Insert a cassette with the erasure protection tab opening covered. Power will turn on automatically.
- Press **TV/VCR** to select "VCR" ("VCR" will light on the multi-function display).
- Check that the clock is displaying the correct time.

Only for XA-720

- If necessary, set "SAP" on the SET UP-selection screen. (See **Mode Selection**.)

 <p>VCR PLUS+ button and VCR Plus+ screen showing PLUSCODE field.</p>	<p>1 Press VCR PLUS+. The VCR PLUS+ system setting screen will appear.</p>
 <p>Numbered buttons 8, 8, 2 and VCR Plus+ screen showing PLUSCODE 882.</p>	<p>2 Enter the PlusCode number shown in your TV listings with the numbered buttons. Ex.: PlusCode number is 882</p> <ul style="list-style-type: none"> • If you make a mistake in entering the numbers, press CANCEL to erase the PlusCode numbers one by one, then re-enter the correct PlusCode numbers.
 <p>VCR Plus+ screen showing frequency selection options: ONCE, WEEKLY, DAILY.</p>	<p>3 If you want to record only once, press SET and go to Step 4. Otherwise, press ▼ and select "WEEKLY" or "DAILY" with ◀▶. Then press SET to enter.</p> <ul style="list-style-type: none"> • ONCE: To record only once. • WEEKLY: To record every week at the same time. • DAILY: To record everyday at the same time.

Only for XA-720

Recording Hi-Fi Stereo Sound

Your VCR records AUDIO signals on two types of audio tracks.

Hi-Fi:

Using specialized rotary heads, audio signals are recorded on the video track in FM format. Multi-sound broadcasts (Stereo or SAP [Separate Audio Program]) are recorded on two channels.

Linear:

All audio signals are recorded in mono on the linear audio track.

NOTE

- Video cassettes recorded on a non-Hi-Fi VCR can also be played back. However, if the audio signals are recorded on two linear channels, stereo programs will be played back in monaural and SAP (Separate Audio Program) will be played back with both the MAIN and SAP audio mixed together.
- Video cassettes recorded on this VCR can be played back on a non-Hi-Fi VCR. However, only the linear track will be played back.

Recording MTS (Multi-channel TV Sound) Broadcasts

Your VCR can record stereo or SAP (Separate Audio Program) broadcasts, where available.

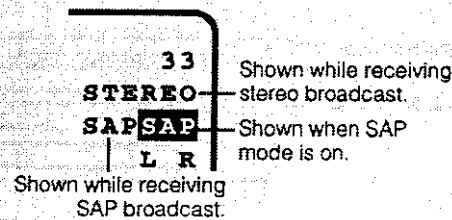
If the broadcast is in stereo, the VCR automatically records the stereo sound in dynamic Hi-Fi. If the broadcast is in SAP, you can record both the MAIN and the SAP sound by using the SET UP-selection screen to set the SAP mode to ON. If the broadcast is in stereo/SAP, you can record either the SAP sound by using the SET UP-selection screen to set the SAP mode to ON, or stereo sound by setting the SAP mode to OFF. (See **Mode Selection**.)

MTS/SAP RECORDING

*The monitor output listed in the table shows that the audio output mode is in the Hi-Fi + mode.

Broad-cast Re-ceived	SAP Mode Posi-tion	*Monitor Output		Recording		
		L- Speaker	R- Speaker	Hi-Fi L-CH	Hi-Fi R-CH	Linear Track
Stereo	OFF	L	R	L	R	L R
	ON	L	R	L	R	L R
SAP	OFF	MAIN	MAIN	MAIN	MAIN	MAIN
	ON	MAIN	SAP	MAIN	SAP	SAP
Stereo/ SAP	OFF	L	R	L	R	L R
	ON	L R	SAP	L R	SAP	SAP

On the TV screen



Monitor Output When Receiving a SAP Broadcast

When receiving a SAP broadcast, if the SAP position is set to ON, change the audio output mode to select Monitor Output (MAIN or SAP) with the SET UP-selection screen. (See **Mode Selection**.)

When enjoying a TV program with MAIN sound:

Select on the SET UP-selection screen.

(See **Audio Output Mode**.)

When enjoying a TV program with SAP sound:

Select or **MONO** on the SET UP-selection screen.

(See **Audio Output Mode**.)



Quick Start with Full Loading Mechanism

Your VCR has a standby function (Full Loading Mechanism) to allow immediate recording and playback. After pressing **REC** or **PLAY**, it takes about 2 seconds until recording or playback is engaged when in the standby mode.

Full Automatic Playback

The Full Automatic Playback lets you enjoy playback with ease. When you insert a cassette with the erasure protection tab removed, your VCR automatically turns on the power and plays back the tape. When the tape reaches its end, the VCR automatically rewinds the tape, ejects it and turns off the power.

NOTE

- If the erasure protection hole is covered, press **PLAY** after the power turns on automatically.

Automatic Head Cleaning System

When the tape is inserted, or ejected, this system automatically cleans the drum and heads with a special roller before recording or playback begins, protecting the heads and drum from dirt and preserving beautiful sound and picture quality.

Only for XA-720

Audio Output Mode

Your VCR has 3 channels for audio recording (2 on the Hi-Fi track and 1 on the linear track). You can select the audio output channels in playback mode on the SET UP-selection screen. The following shows which audio channels will be heard when a stereo Hi-Fi video cassette is played back while a stereo system is properly connected to the VCR.

(See **Mode Selection**.)

Hi-Fi **L** + **R** mode: **LR**

Normally, select Hi-Fi **L** + **R** mode on the SET UP-selection screen: both the left (L) and right (R) audio channels will be taken from the Hi-Fi audio track.

Normally you will not have to change to another mode.

(See **Recording MTS (Multi-channel TV Sound) Broadcasts**.)

Hi-Fi **L** mode: **L**

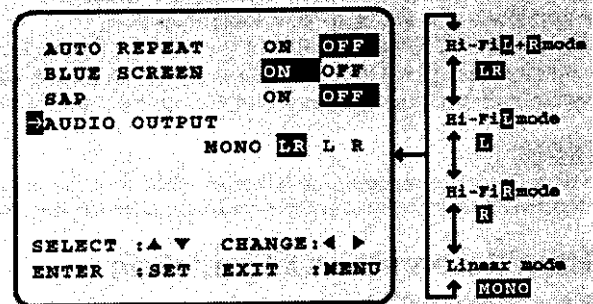
The left channel of the Hi-Fi audio track will be played back through both speakers.

Hi-Fi **R** mode: **R**

The right channel of the Hi-Fi audio track will be played back through both speakers.

Linear mode: **MONO**

The audio signal recorded on the linear audio track will be played back through both speakers.



NOTE

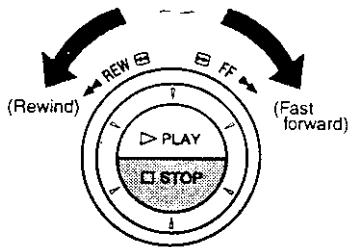
- When video cassettes recorded on a non-Hi-Fi VCR are played back or the Hi-Fi audio output level is poor, the audio signal recorded on the linear audio track will automatically be played back regardless of the audio output mode.



Built-in Shuttle Control System

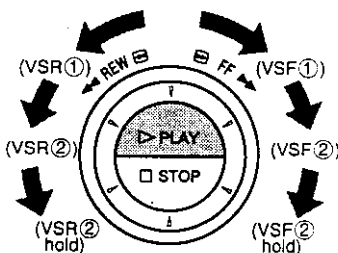
The shuttle system lets you control all the basic playback functions using just the shuttle ring.

Fast Forward and Rewind (During STOP Mode)



- 1 Turn the ring either to the right or the left and release it. (The shuttle ring will return to center.)
- 2 Press **STOP** to halt fast forward or rewind.

Video Search (During PLAY [or STILL] Mode)



- Turn the ring to the left or the right to enter VSF (Video Search Forward), or VSR (Video Search Rewind) mode. Select from two speeds by turning the ring. Release the ring (the shuttle ring returns to center) to return to playback.
- Turning the ring all the way to the left or right holds the VCR in VSF (Video Search Forward), or VSR (Video Search Rewind) mode. Press **PLAY** to return to normal playback.

TAPE SPEED

	VSF①/VSR①	VSF②/VSR②
SP/LP	×3	×5
EP	×5	×15

NOTE

- The shuttle ring does not rotate 360°.

360 Times Rewind Speed to Fast Forward and Rewind

- 1 When the VCR is in stop mode, press **FF** or **REW** to fast forward or rewind the cassette. (The picture cannot be viewed in this mode.)
- 2 Press **STOP** to halt fast forward or rewind.

NOTE

- The FF and REW speeds may be slower for cassette tapes other than T-60, T-90, or T-120.
- After rewinding the T-120 cassette tape for about 60 seconds, you can fast forward the cassette tape.

Video Search

Use the following procedure to quickly find the section you want, while viewing the picture.


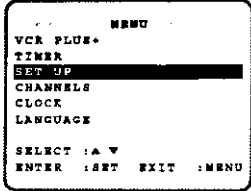

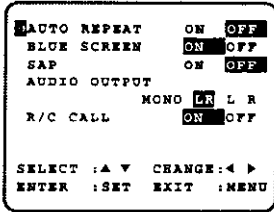
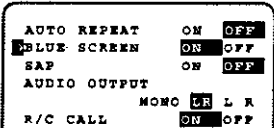
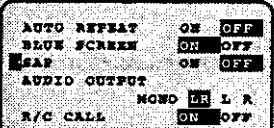
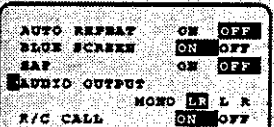

- 1 During playback, press **FF** for forward video search, or **REW** for reverse video search. There are 2 search speeds in each direction. The VCR switches between them each time the button is pressed.
- 2 Press **PLAY** to resume normal playback.

Mode Selection

You can use the SET UP–selection screen to select the mode for basic features.

PREPARATION >>>

- Turn on the TV and select the video channel. Press **POWER** and then **TV/VCR** to select "VCR" ("VCR" will light on the multi-function display).

 →  → 	<ol style="list-style-type: none"> 1 Press MENU. 2 Select "SET UP" with ▲/▼ and then press SET.
<p>[AUTO REPEAT]</p> 	<ol style="list-style-type: none"> 3 Set AUTO REPEAT mode to ON or OFF with ◀/▶. Then press ▼. (See End of Video Auto Repeat.) <p>• SAP and AUDIO OUTPUT are displayed only with XA-720. See the shaded area below.</p>
<p>[BLUE SCREEN]</p> 	<ol style="list-style-type: none"> 4 Set BLUE SCREEN mode to ON or OFF with ◀/▶. Then press ▼. (See Blue Screen Noise Elimination.)
<p>[SAP]</p> 	<p>(Only for XA-720)</p> <ol style="list-style-type: none"> 5 Set SAP (Separate Audio Program) mode to ON or OFF with ◀/▶. Then press ▼. (See Recording MTS (Multi-channel TV sound) Broadcasts.)
<p>[AUDIO OUTPUT]</p> 	<p>(Only for XA-720)</p> <ol style="list-style-type: none"> 6 Set AUDIO OUTPUT mode to MONO, LR, L or R with ◀/▶. (See Audio Output Mode.)
 → Normal Screen	<ol style="list-style-type: none"> 8 Press SET to enter. The screen returns to normal.

NOTE

- If you press **MENU** to exit the mode selection screen in Step 8, the data will not be stored. Be sure to press **SET** to store the data.
- SAP is used for bilingual broadcasting. Check your local broadcast station or cable company.



Digital Satellite Receiver Set-up Function

	<p>⑥ Set "USE SATELLITE" to "YES" with ◀▶.</p>
	<p>⑦ Press SET to enter. The screen returns to normal.</p>

When using a remote-controllable digital satellite receiver.

- If none of the codes work, try the following:
 1. This VCR emits a high-frequency infrared signal to the digital satellite receiver. By repositioning your digital satellite receiver and VCR closer and/or within the line of sight of each other, the signal may successfully travel from the VCR to the digital satellite receiver. Reposition the digital satellite receiver and/or VCR and test by setting the code number again.
 2. Another code number may be the correct one for your digital satellite receiver. Proceed by setting and testing each code (01 or 02) until you find the one that works.
 3. Even if solutions 1 and 2 do not work, your VCR will still work with VCR Plus+ system. Set "USE SATELLITE" to "NO" in Step ⑥ and see **Non Remote-Controllable Digital Satellite Receiver** below.

Before Timer Recording Starts:

Remote-Controllable Digital Satellite Receiver

1. Select the DSS® mode on the digital satellite receiver.
2. Turn **OFF** the digital satellite receiver.

Non Remote-Controllable Digital Satellite Receiver

1. Turn **ON** the digital satellite receiver.
2. Select the DSS® mode and select the channel you wish to record on the digital satellite receiver.
3. Set the timer recording channel to the output channel of the digital satellite receiver (03, 04 or AV1) on the timer setting screen).

NOTE

- You cannot simultaneously set timer recording for a satellite broadcast program and other programs received by conventional VHF-UHF antenna or Cable TV.

*DSS® is a registered trademark of Directv, inc., a unit of GM Hughes Electronics.

Digital Satellite Receiver Set-up Function

B Advanced Connection

• Use this connection if your TV has audio/video jacks and your receiver has one set of audio/video jacks.

1 Set the CH3 CH4 switch on the rear of digital satellite receiver to either channel 3 or 4.

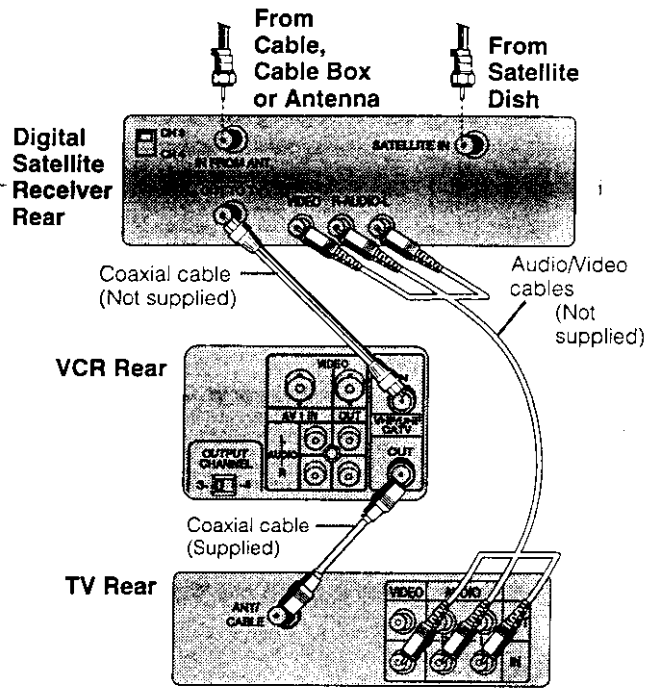
You will tune the VCR to this channel to record from the digital satellite receiver.

To watch the digital satellite receiver, tune your TV to its video input channel.

If you want to watch or record the signal from your antenna, cable, or cable box, make sure the digital satellite receiver is turned off.

2 Set the 3 ↔ 4 OUTPUT CHANNEL selector on the rear of the VCR to 3 or 4. (Factory preset: 3) (See **Setting the 3 ↔ 4 Output Channel Selector.**) Tune the TV to this channel and press **TV/VCR** to watch the VCR.

3 Connect as shown. Then go to **"After the Connection"**.



C Advanced Connection with a Deluxe Digital Satellite Receiver

• Use this connection if your TV has audio/video jacks and your receiver has two sets of audio/video jacks.

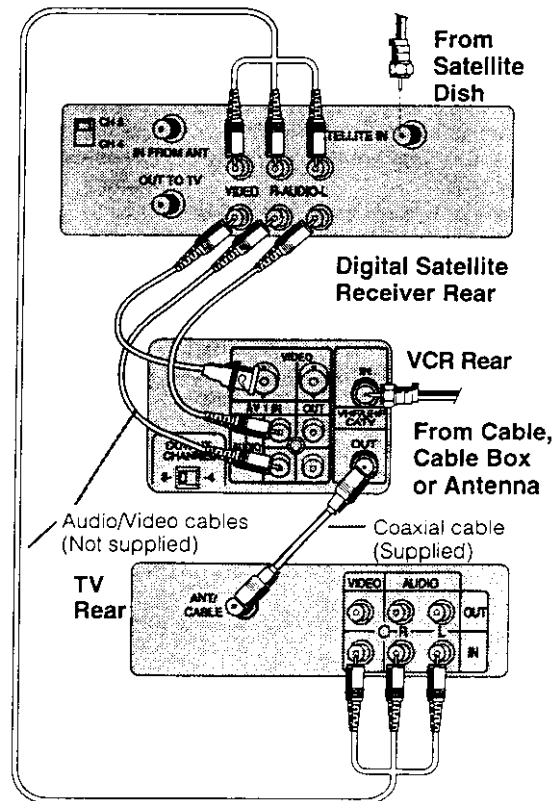
1 Set the 3 ↔ 4 OUTPUT CHANNEL selector on the rear of the VCR to 3 or 4.

You will tune the TV to this channel and use **TV/VCR** to watch the VCR.

To record from the digital satellite receiver, you will tune the VCR to its auxiliary input (A V I).

To watch the digital satellite receiver, tune your TV to its video input channel.

2 Connect as shown. Then go to **"After the Connection"**.



After the Connection

Plug in the power cords of the VCR, TV and digital satellite receiver. Then, go to **How to Remote-Control the Digital Satellite Receiver.**



Cable Box Set-up Function

	<p>4 Select "BOX CODE" with ▲/▼ and set the code number with ◀/▶. See the code list in PREPARATION.</p>
<p>(on the multi-function display)</p>	<p>5 Press 100 to check if the setting is completed. If the selected code matches the brand of your cable box, the VCR will automatically send a signal to change the channel of your cable box from 02 to 09. "CABL" is displayed on the multi-function display. This indicates that the setting is successful. Press ▼.</p>
	<p>6 Set "USE CABLE BOX" to "YES" with ◀/▶.</p>
	<p>7 Press SET to enter. The screen returns to normal.</p>

When using a remote-controllable cable box

- if you found two or more codes for the brand of your cable box in the code list, try each of these codes until the channel of the cable box changes to 09.
- If none of the codes work, try the following:
 1. This VCR emits a high-frequency infrared signal to the cable box. By repositioning your cable box and VCR closer and/or within the line of sight of each other, the signal may successfully travel from the VCR to the cable box. Reposition the cable box and/or VCR and test by setting the code number again.
 2. Another code number may be the correct one for your cable box. Proceed by setting and testing each code (01 through 51) until you find the one that works. Start with the ones listed under the same brand as your cable box.
 3. Even if solutions 1 and 2 do not work, your VCR will still work with the VCR Plus+ system. Set USE CABLE BOX to "NO" in Step 6. Since the VCR will not change the cable box channel, keep your cable box power on and the box tuned to the channel you wish to record.
 4. Your local cable company may offer a choice of cable boxes. You should request an alternate brand or model of cable box, and exchange your present one for one compatible with your new VCR.

Before Timer Recording Starts:

Remote-Controllable Cable Box

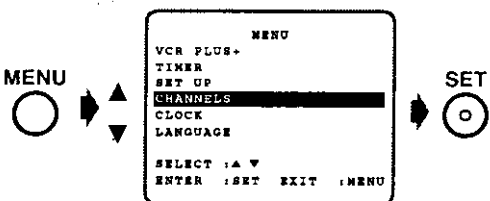
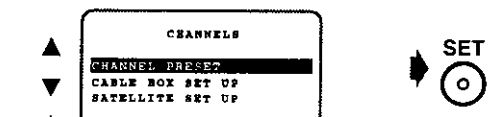
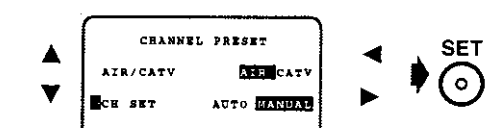
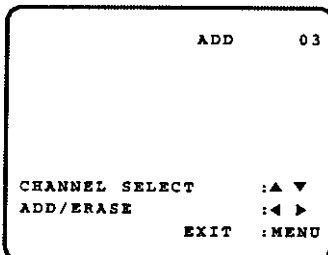


- Turn **ON** the cable box.

Non Remote-Controllable Cable Box

- Turn **ON** the cable box and select the channel you wish to record.

Adding Channel Memory/Erasing Channel Memory

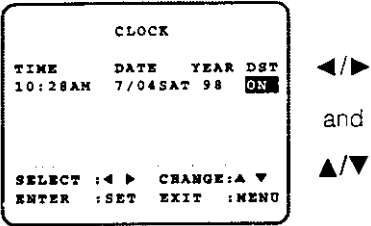

Use this function to manually add or erase channels to/from the memory.

<p>① Select the channel to be added with the numbered buttons and the channel to be erased with the CH ▲/▼ or numbered buttons.</p>	
	<p>② Press MENU. Select "CHANNELS" with ▲/▼ and press SET.</p>
	<p>③ Select "CHANNEL PRESET" with ▲/▼ and then press SET.</p>
	<p>④ Select "CH SET" with ▲/▼ and then select "MANUAL" with ◀/▶. Then press SET.</p>
<p>[ADD]</p>  <p style="text-align: center;">↕ ◀/▶</p> <p>[ERASE]</p> 	<p>⑤ Select "ADD" if you want to add the channel memory or "ERASE" if you want to erase the channel memory with ◀/▶.</p>
	<p>⑥ Press MENU to return to the normal screen.</p>

NOTE

- If the power is interrupted for more than 1 hour, the channel memory may be erased. If this happens, reset the channels again and reset AIR/CATV selection.
- If a button is not pressed within 3 minutes during the setting procedure, the screen will return to normal.


Setting the Clock

	<p>③ Select "TIME" with ◀/▶ and set time by holding ▲/▼. Ex.: 10:28 AM</p> <p>④ Select and set "DATE", "YEAR" and "DST" in turn, in the same manner as in Step ③. • See Automatic Daylight Saving–Time (D.S.T.) Adjustment. Ex.: Jul. 4, 1998, DST: ON</p>
 Normal Screen	<p>⑤ If the data is correct, press SET to enter. The screen returns to normal.</p>

NOTE

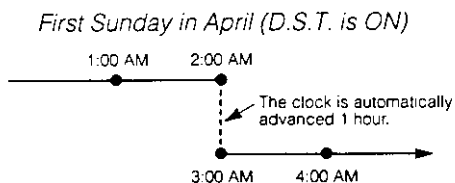
- Press **ENT. /AM/PM (100)** to select AM or PM during time setting.
- Numbered buttons can be used instead of ▲/▼ to set the time and date.
- In Step ①, if you press **MENU** when operating the screen setting for the first time or after the power is interrupted for more than 1 hour, the **LANGUAGE** screen will appear.
- If you entered incorrect data during the setting procedure, re-enter the correct data in the following manner:
 - ① Use ◀/▶ to select the data to be corrected.
 - ② Set the correct data with ▲/▼.
 - ③ After correcting the data in Step ②, press **SET** to enter.
- If you press **MENU** to exit the **CLOCK** screen in Step ⑤, the data will not be stored.
- If a button is not pressed within 3 minutes during the setting procedure, the screen will return to the normal screen.

Automatic Daylight Saving–Time (D.S.T.) Adjustment

This VCR is equipped with an internal Automatic Daylight Saving–Time Adjustment function. In spring (first Sunday in April) and autumn (last Sunday in October), the time is adjusted as shown below. This function has been preset to ON at the factory. Set the D.S.T. mode in the clock setting screen.

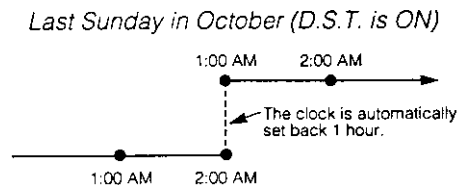
Spring

Programmed timer recording set within this time frame (2:00 AM to 3:00 AM) will not be carried out.



Autumn

Because there will be two time frames from 1:00 AM to 2:00 AM, timer programming set between these times will be influenced by the time change.

**NOTE**

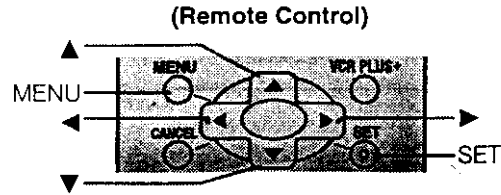
- If the timer recording program is affected by the D.S.T. time change, check your TV listing and find out when it reflects the time change. Some TV listings will indicate the time change in the same manner as is programmed in this VCR, but others do not show the time change until the next morning. In that case, when programming a timer, use the **CLOCK** screen to set the D.S.T. mode to **OFF** so the time change will not be carried out.

Setting the Language

When you use the VCR for the first time or the power is interrupted for more than 1 hour (power failure, etc.), you should set the language to be used for the MENU screen.

PREPARATION >>>

- Turn on your TV and select the video channel. (See **Setting the 3 ↔ 4 Output Channel Selector**.)
- Press **POWER** and then **TV/VCR** to select "VCR". ("VCR" will light on the multi-function display.)



	<p>① Press MENU. LANGUAGE screen will appear.</p>
	<p>② Select the language with ▲/▼. Ex.: <i>ENGLISH</i></p>
	<p>③ Press SET to enter. The screen returns to normal.</p>

NOTE

- If you press **MENU** to exit the LANGUAGE screen in Step ③, the data will not be stored.
- You can also use the ▲ (CHANNEL ▲), ▼ (CHANNEL ▼), ► (FF ►), ◀ (REW ◀), MENU or SET buttons on the VCR to set the On Screen Display (OSD).

Setting the Clock

Auto Clock Setting (If you DO know a channel that carries EDS signals)

PREPARATION >>>

- Make sure that the antenna cable is connected and connect the power cord.
- Turn on your TV and select the video channel. (See **Setting the 3 ↔ 4 Output Channel Selector**.)
- Press **POWER** and then **TV/VCR** to select "VCR". ("VCR" will light on the multi-function display.)

IMPORTANT:

When using a cable box:

- See **Cable TV Connections** and **Cable Box Set-up Function**.
- Leave **POWER** on the cable box turned on.

	<p>① Press MENU. Select "CLOCK" with ▲/▼ and then press SET.</p>
	<p>② Select "AUTO" with ▲/▼ and then press SET.</p>
	<p>③ Set EDS CH SET mode to "MANUAL" with ◀/▶ and then press ▼.</p>



Connecting the VCR

Only for XA-720

Auto VIEWCAM Dubbing



PROCEDURE

- ① Connect the AV cable to the front AV jacks on the VCR when the VCR is off. The VCR will automatically turn on and enter the external input mode (AV2).
- ② When using a Sharp VIEWCAM as the dubbing source, press **VIEWCAM DUBBING** on the remote control. The VIEWCAM will automatically begin playback and the VCR will begin recording.
- ③ To pause dubbing, press **PAUSE** on the remote control. VIEWCAM playback will enter still mode and VCR recording will enter pause mode.
- ④ When you are finished dubbing, press **STOP** on the VCR and VIEWCAM, and remove the cassette.
- ⑤ To dub another scene from a different part of the VIEWCAM tape, fast forward the VIEWCAM tape to the desired scene and set the VIEWCAM in STILL mode. Then press **VIEWCAM DUBBING** to begin dubbing.

NOTE

- If the AV cable is connected to the front AV jacks when the VCR is on, the VCR will automatically enter the external input mode (AV2).
- Before using the VIEWCAM DUBBING function, place the VIEWCAM next to the VCR with the VIEWCAM photoreceptor facing in the direction of the infrared transmitter on the VCR remote control.
- To begin dubbing at an exact point on the tape, set the VIEWCAM in STILL mode at the desired scene to be recorded and set the VCR in REC PAUSE at the point on the tape to begin recording, then press **VIEWCAM DUBBING**.
- A few seconds of video at the beginning of the VIEWCAM tape may be lost when dubbing to the VCR tape.

Connecting the VCR

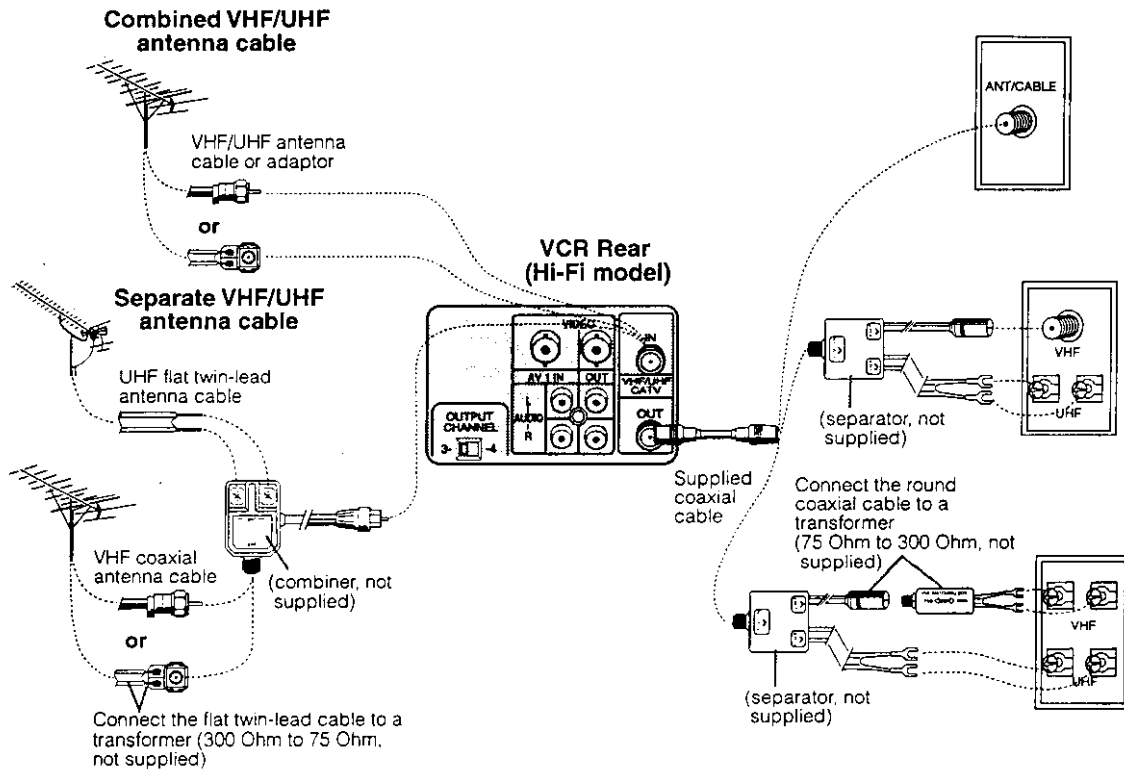
Each type of antenna and TV system requires a different method of connection. If you have cable TV (CATV), see page 45 for Cable TV connection.

PREPARATION >>>

To determine the correct type of connection, first check the type of antenna and TV terminal in use. Make the connections as shown below.

NOTE

- Consult your SHARP Dealer or Service Center for the type of adaptor, separator, transformer or combiner that might be required.



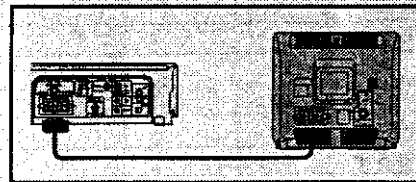
After the Connection

Plug in the power cords of the VCR and TV. Then go to the following **Setting Up** section.

Only for XA-710

• TV (8 PIN) Connection

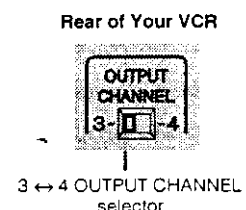
- 1 Connect the 8 pin cable (not supplied) to the TV (8 PIN) terminal on the rear of the VCR.
- 2 Connect the other end to the TV (8 PIN) terminal on the rear of the TV.



Setting the 3 ↔ 4 Output Channel Selector

The 3 ↔ 4 OUTPUT CHANNEL selector changes the VCR OUTPUT to standard TV broadcasting signals. Both your TV and VCR must be set to the same channel (i.e. TV on channel 3 and VCR OUTPUT CHANNEL selector on 3).

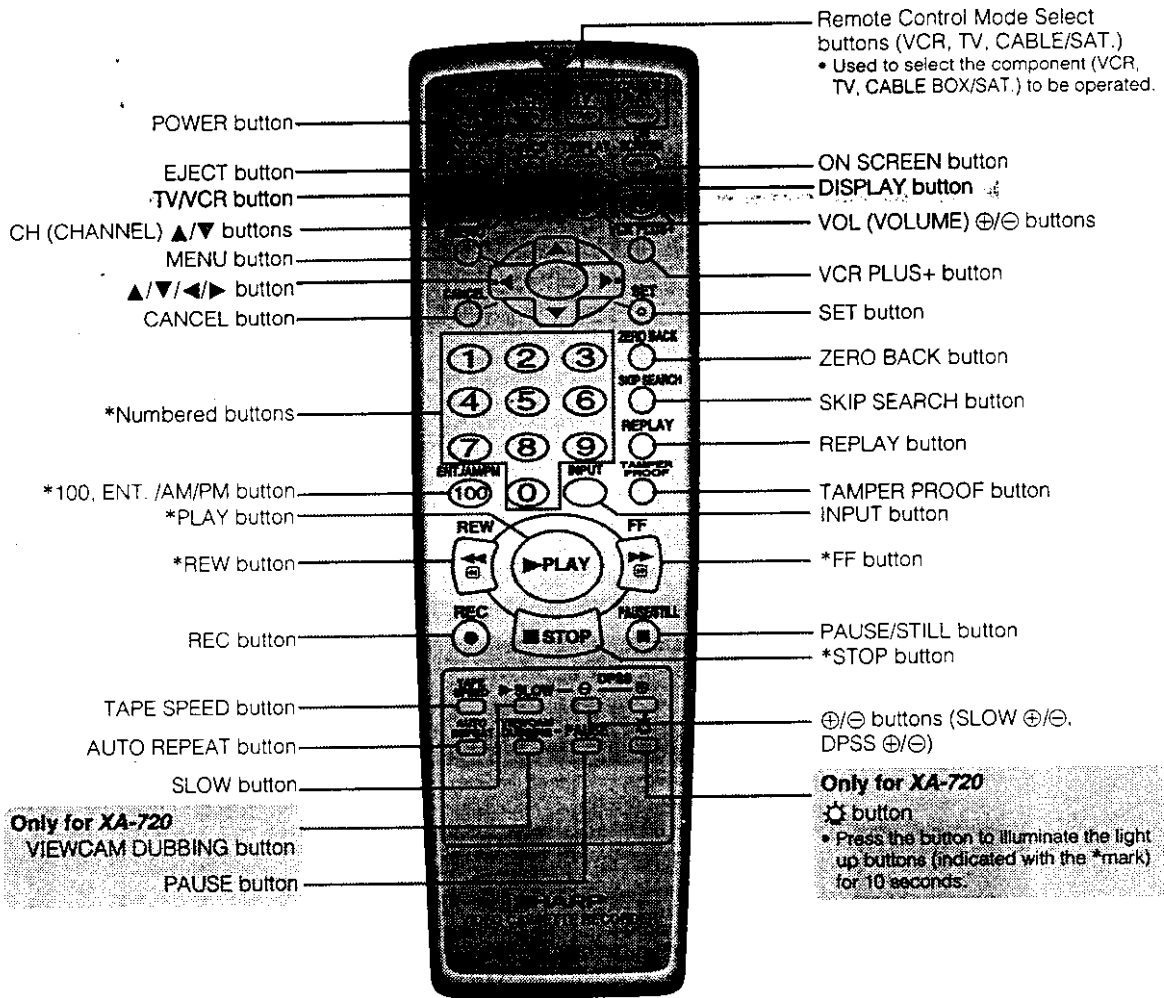
Your VCR is set to channel 3 at the factory, so your TV should be tuned to channel 3 as well. If channel 3 is an active broadcast channel in your area, set the VCR 3 ↔ 4 OUTPUT CHANNEL selector to 4 and tune your TV to channel 4.



Selecting the Video Channel on Your TV

To view the output of your VCR on your TV, you must select the video channel (3 or 4) on your TV that corresponds with the output channel set above.

Remote Control



NOTE

Only for XA-720

If the * button is pressed while the light up buttons are illuminated, they will remain illuminated for an additional 10 seconds.

Inserting the Batteries

Make sure that the batteries have been properly installed first. Fit three batteries type "AA". If the remote control stops working, fit new batteries.

Ensure the batteries are fitted correctly, matching the polarities (⊕/⊖) indicated in the remote control.

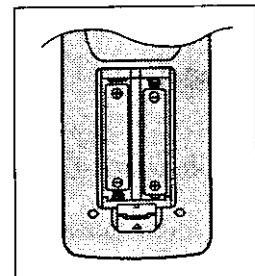
NOTE

Only for XA-720

The operating life of the batteries will shorten if the Light Up function is frequently used.

After changing the batteries in the remote control, the code settings for the TV, cable box and Digital Satellite Receiver must be re-entered.

- Do not subject the remote control to shock, water or excessive humidity.
- The remote control may not function if the VCR sensor is in direct sunlight or any other strong light.
- Incorrect use of batteries may cause them to leak or burst. Read the battery warnings and use the batteries properly.
- Do not mix old and new batteries, or mix brands in use.
- Remove the batteries if the remote control will not be operated for an extended period of time.
- If the remote control does not function properly when new batteries are installed, remove the batteries and wait 5 minutes before re-installing them.



Features

Only for XA-720

- **VHS Hi-Fi Stereo Sound**
- **Built-In MTS (Multi-channel TV Sound) Decoder** — Lets you record stereo or SAP (Separate Audio Program) broadcasts.
- **Built-In Front AV Jacks** — For easy connection of audio/video equipment such as the Sharp Viewcam.
- **Auto VIEWCAM Dubbing function**
- **Universal Remote Control with light up buttons** — Equipped with the light up buttons for easy operation in the dark.

Common Features

- **The VCR Plus+ Programming System/Cable Box Channel Control Function/Digital Satellite Receiver Control Function**
- **360 Times Rewind Speed to Fast Forward and Rewind**
- **EZ Set Up** — VCR tuner channels and clock are automatically set for both Air and Cable channels.
- **S-VHS Quasi Playback**
- **Double-Azimuth 4-Heads**
- **19 μ Clear Picture System (in EP mode)** — For enhanced picture quality in EP (Extended Play) mode.
- **HQ System for Better Resolution and Color Reproduction**
- **Multi-Language (English/Spanish/French) OSD (On Screen Display) with Menu Screen Guidance** — On-screen setting and recording instructions.
- **181-channel PLL Quartz Synthesized Random Access Tuner with Automatic Channel Setting**
- **Quick Start with Full Loading Mechanism**
- **1-Year, 8-Event Programmable Timer**
- **Simple Recording Timer**
- **Universal Remote Control** — Operates the VCR and basic functions of various TVs, Cable Boxes, and some Digital Satellite Receivers.
- **Sharp Super Picture** — Enhances picture quality during playback.
- **Rec Tab Override**
- **Remote Pause IN/OUT Jacks**
- **BNC Video Connectors**

- **3-Wire (Grounded) AC Power Cord**
- **Auto Clock Setting** — Automatically adjust VCR clock.
- **Field-Still/Variable Slow/Frame Advance**
- **Real-Time Counter** — Displays accurate tape time.
- **Automatic Daylight Saving-Time (D.S.T.) Adjustment** — Automatically adjusts VCR clock to daylight saving-time.
- **Blue Screen Noise Elimination**
- **Auto Tracking Control System** — Automatically adjusts tracking during playback.
- **Digital Program Search System (DPSS)** — Quickly locates the beginning of a specific recording.
- **Skip Search** — Quickly operates a forward video search in 30 second intervals, then resumes playback.
- **Instant Replay** — Quickly operates a reverse video search in 20 second intervals, then resumes playback.
- **Auto Zero Back** — Quickly finds "0:00.00" point and stops there.
- **End of Video Auto Repeat** — Continually plays back a recorded section of the tape.
- **Full Automatic Playback**
- **Tamper Proof** — Prevents accidental change of the operation mode.
- **Up to 8 Hours of Recording and Playback (with T-160 cassette)**
- **Built-in Shuttle Control System** — Rewind and fast-forward with a single control.
- **Automatic Head Cleaning System** — Cleans the VCR video heads each time you insert and eject a tape.

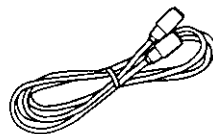
* VCR Plus+ C^2 and PlusCode are trademarks of Gemstar Development Corporation. The VCR Plus+ system is manufactured under license from Gemstar Development Corporation.

Notes for S-VHS tape

- Playing back with S-VHS high quality picture (more than 400 dpi) is not available.
- Picture noise or distortion might appear on the screen. When playing the type in SLOW or STILL mode.
- S-VHS recording is not available. You can not record by S-VHS system.

Accessories

Be sure that the following accessories are all included with your VCR.



Round coaxial cable
(75 Ohm, 1 m [3-1/4 ft.])
QCNW-0262AJZZ
or
QCNW-0298AJZZ



Remote control unit
RRMCG0275AJSA
(VC-XA710)



Remote control unit
RRMCG0276AJSA
(VC-XA720)



AA batteries for
the remote
control unit

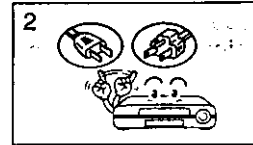
IMPORTANT SAFEGUARDS AND PRECAUTIONS

CAUTION

READ THE SAFETY AND OPERATING INSTRUCTIONS before operating your VCR.
FOLLOW INSTRUCTIONS AND HEED ALL WARNINGS on your VCR and in this manual.

INSTALLATION

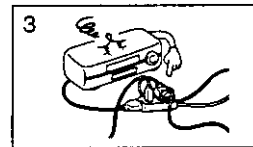
1. Operate only from a power source indicated on your VCR or in this manual. If you are unsure of your power supply, ask your local power company.



2. As a safety feature, your VCR is equipped with either a 2-wire polarized plug (one plug blade bigger than the other) or a 3-wire grounded plug (a third pin for grounding). The 2-wire polarized plug will fit only one way into the power outlet. The 3-wire grounded plug will fit only into a grounding-type power outlet.

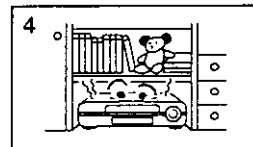
If the plug does not fit, ask your electrician to replace your obsolete outlet. Do not modify the plug. To do so will void the safety feature.

3. Protect and route power cords so they will not be stepped on or pinched by anything placed on or against them. Be especially careful at plug-ins, convenience receptacles, or cord exit points from the VCR. Frayed power cords or damaged plugs are hazardous. Have them replaced by a qualified service technician.



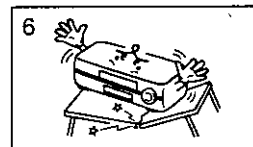
Overloaded wall outlets and extension cords may cause fire or electrical shock hazards.

4. Do not cover or block ventilation holes in the VCR cabinet. Doing so may damage the VCR or cassette, or cause fire.



Do not place your VCR on a soft surface which could block ventilation holes on the bottom. Avoid enclosed installations such as bookshelves or racks unless ventilation is adequate.

5. Avoid excessive humidity, sudden temperature changes, or temperature extremes. Dew may form inside your VCR or on the cassette.



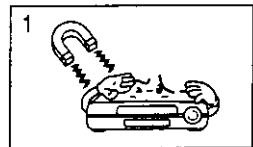
6. To avoid costly damage or injury, place your VCR flat on a solid, stable surface free from vibrations; do not place any heavy objects on top of it. Use only a cart, stand, tripod, bracket, or table recommended by the manufacturer; follow all instructions regarding their use exactly.



7. 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.

OPERATION/CLEANING

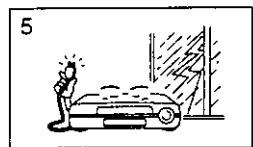
1. Keep your VCR away from electrical and magnetic appliances which could impair performance. Be sure to position your VCR away from your TV or video monitor by at least 8".



2. Keep your VCR away from wet locations such as bathtubs, sinks, laundries, wet basements, and swimming pools.

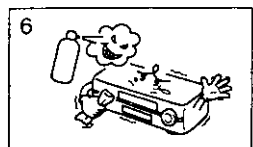
3. Use only accessories recommended by the manufacturer to avoid fire, shock or other hazards.

4. If your VCR has been exposed to rain, moisture or strong impact, unplug it and have it inspected by a qualified service technician before resuming use.



5. Unplug your VCR and disconnect it from the antenna and/or cable system during a lightning storm or an extended period of discontinued use.

6. Unplug your VCR before cleaning. Use a damp cloth for cleaning. Do not use cleaning fluids or aerosols which could enter the unit and cause damage, fire, or electrical shock. These substances may also mar the finish of your VCR.







7. Never open or remove covers or make any adjustments not described in this manual. Attempting to do so could expose you to dangerous electrical shock or other hazards. It may also cause serious damage to your VCR.

This video cassette recorder (VCR) uses "ONLY" **VHS** cassette tapes, NTSC video signals (standard in US), and 120 V AC, 60 Hz (standard US household current).
For future reference, record the model and serial number (located on the rear of the VCR) in the space provided.

Model No.:	_____
Serial No.:	_____

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

	<table border="1"> <tr> <td>CAUTION</td> </tr> <tr> <td>RISK OF ELECTRIC SHOCK DO NOT OPEN</td> </tr> </table>	CAUTION	RISK OF ELECTRIC SHOCK DO NOT OPEN		<p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>
CAUTION					
RISK OF ELECTRIC SHOCK DO NOT OPEN					
 <p>This symbol warns the user of uninsulated voltage within the unit that can cause dangerous electric shocks.</p>	 <p>This symbol alerts the user that there are important operating and maintenance instructions in the literature accompanying this unit.</p>				

"WARNING—FCC Regulations state that any unauthorized changes or modifications to this equipment not expressly approved by the manufacturer could void the user's authority to operate this equipment."

Note to CATV system installer:
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the National Electrical Code 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.

WARNING—Keep your VCR away from electrical and magnetic appliances which could impair performance. Be sure to position your VCR away from your TV or video monitor by at least 8".

WARNING OF DEW FORMATION

Whenever your VCR is moved from a cold to a warm environment, it is important that you plug the unit in, turn the power on and allow it to sit for about 2 hours before attempting to play a tape. This period will allow any dew formation to evaporate. Failure to do so may result in tape and/or video head damage. After the 2 hour evaporation period, you may witness a "snowy" picture for the first few minutes of VCR operation. This picture noise will disappear shortly thereafter.

As an ENERGY STAR Partner, SHARP has determined that this product meets the ENERGY STAR guidelines for energy efficiency. ENERGY STAR is a U.S. registered mark.

WHAT IS ENERGY STAR

TVs and VCRs use energy both when they are on and when they are off. Americans spend more than \$1 billion a year on energy consumed by TVs and VCRs when they are not in use. The new ENERGY STAR models will reduce that energy "leakage" by up to 75 percent. Ultimately, this will mean more than \$500 million a year in energy savings for consumers.

The energy savings will help reduce the burning of fossil fuels and the related carbon dioxide pollution that contributes to global warming. If every American family replaced their TVs and VCRs with ENERGY STAR models, it would reduce carbon dioxide emissions by five million tons every year -- equivalent to eliminating the pollution from more than one million cars.

By using ENERGY STAR products, you will save money on your electric bills and use less energy. That makes good economic sense and its good for our environment.