

SONY[®]

3-858-900-11(1)

Video Cassette Recorder

Operating Instructions



Hi-Fi

G-CODE

SLV-X837AS

©1996 by Sony Corporation

SLV-X837AS 3-858-900-11 (1)

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

The mains lead must only be changed at a qualified service shop.

Precautions

Safety

- This unit operates on 220 – 240 V AC, 50 Hz. Check that the unit's operating voltage is identical with your local power supply.
- If anything falls into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- The unit is not disconnected from the mains as long as it is connected to the mains, even if the unit itself has been turned off.
- Unplug the unit from the mains if you do not intend to use it for an extended period of time. To disconnect the lead, pull it out by the plug, never by the lead.

Installing

- Allow adequate air circulation to prevent internal heat buildup.
- Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation slots.
- Do not install the unit near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- Do not install the unit in an inclined position. It is designed to be operated in a horizontal position only.
- Keep the unit and cassettes away from equipment with strong magnets, such as microwave ovens or large loudspeakers.
- Do not place heavy objects on the unit.
- If the unit is brought directly from a cold to a warm location, moisture may condense inside the VCR and cause damage to the video head and tape. When you first install the unit, or when you move it from a cold to a warm location, wait for about one hour before operating the unit.

Caution

Television programmes, films, video tapes and other materials may be copyrighted.

Unauthorized recording of such material may be contrary to the provisions of the copyright laws. Also, use of this recorder with cable television transmission may require authorization from the cable television transmitter and/or programme owner.

Compatible colour systems

This VCR is designed to record and play back using the PAL (B/G), and NTSC colour systems. Recording of video sources based on other colour systems cannot be guaranteed.

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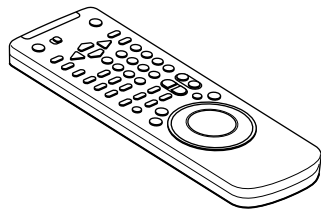
* G-CODE is a trademark applied for by Gemstar Development Corp. G-CODE system is manufactured under license from Gemstar Development Corporation.

Step 1

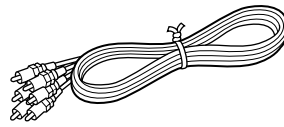
Unpacking

Check that you have received the following items with the VCR:

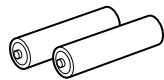
- Remote commander



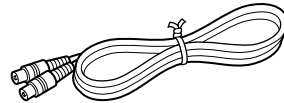
- Audio/video cable (3-phono to 3-phono)



- R6 (size AA) batteries



- Aerial cable

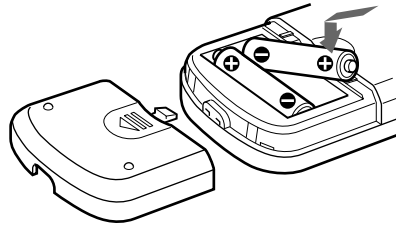


Step 2

Setting up the remote commander

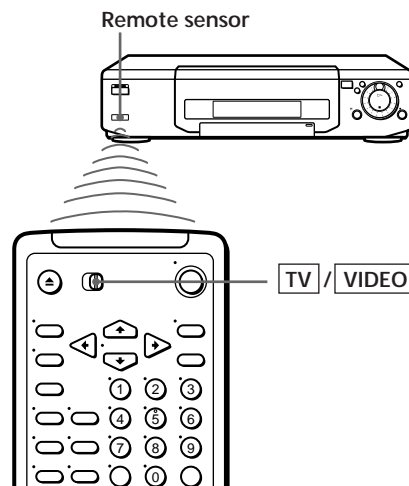
Inserting the batteries

Insert two R6 (size AA) batteries by matching the + and - on the batteries to the diagram inside the battery compartment.



Using the remote commander

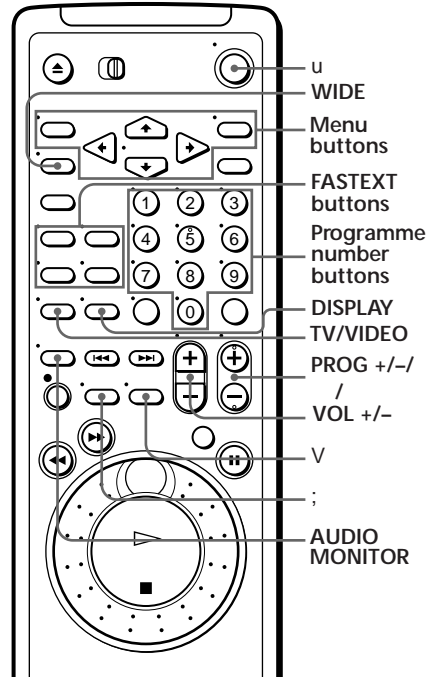
You can use this remote commander to operate this VCR and a Sony TV. Buttons marked with a dot (•) can be used to operate your Sony TV.



To operate	Set TV / VIDEO to
the VCR	VIDEO and point at the remote sensor on the VCR
a Sony TV	TV and point at the remote sensor on the TV

continued

Step 2 : Setting up the remote commander (continued)



TV control buttons

To	Press
Turn the TV into standby or active mode	u (on/standby)
Select an input source of the TV either from aerial in or from line in	TV/VIDEO
Select the programme position of the TV	Programme number buttons PROG +/-
Adjust the volume of the TV	VOL +/-
Switch to TV (Teletext off)	; (TV)
Switch to Teletext	V (Teletext)
Select the sound	AUDIO MONITOR
Use FASTEXT	FASTEXT buttons
Call up on-screen display	DISPLAY
Change the Teletext page	/
Operate TV menu options	Menu buttons
Switch the wide mode of a Sony wide TV (For other manufacture's wide TV, see "Controlling other TVs with the remote commander" on page 7)	WIDE

Notes

- The TV/VIDEO button selects an input source of the TV from aerial in or line in. The button does not control this VCR.
- With normal use, the batteries should last about three to six months.
- If you do not use the remote commander for an extended period of time, remove the batteries to avoid possible damage from battery leakage.
- Do not use a new battery with an old one.
- Do not mix different types of batteries.

Controlling other TVs with the remote commander

The remote commander is preprogrammed to control non-Sony TVs. If your TV is listed in the table below, set the appropriate manufacturer's code number.

- 1 Set **[TV]/[VIDEO]** at the top of the remote commander to **[TV]**.
- 2 Hold down u, and enter your TV's code number(s) using the number buttons. Then release u.

Now you can use the u, VOL +/-, PROG +/-, programme number buttons, ? (ten's digit) and TV/VIDEO buttons to control your TV. You can also use the buttons marked with a dot (•) to control a Sony TV. To control the VCR, reset **[TV]/[VIDEO]** to **[VIDEO]**.

Tip

- If you set your TV's code number correctly while the TV is turned on, the TV turns off automatically.

Code numbers of controllable TVs

If more than one code number is listed, try entering them one at a time until you find the one that works with your TV.

Manufacturer	Code number	Manufacturer	Code number
Sony	01*1,02,03,04,05	Emerson	03,04
Aiwa	32	Fenner	30,31
Akai	68	Ferguson	52
Blaupunkt	10,21	Gold Star	03,04,17
Brionvega	40	Grundig	10*1,11*1
C.G.M	09	Hitachi	24
Colonad	03	Hyper	31
Dual	44	Inno-Hit	41

continued

Step 2 : Setting up the remote commander (continued)

Manufacturer	Code number	Manufacturer	Code number
Irradio	20	Samsung	22,23
ITT/Nokia	15,16,69* ³	Sanyo	25
JVC	33* ¹	Schneider	46
Loewe	45	Seleco	14
Mitsubishi	27* ¹ ,28* ¹ ,50* ¹ ,51* ¹	Sharp	29
Mivar	09	Siemens	39
NEC	66	Sinudyne	37
Nordmende	35,42	TEAC	67
Orion	47,48	Telefunken	36
Panasonic	17* ¹ ,49	Thomson	43* ²
Philips	06* ¹ ,07* ¹ ,08* ¹	Toshiba	38
Phonola	18,19	White	
Pioneer	26	Westinghouse	34
Saba	12,13		

You can use the WIDE button after entering a code number with any of the following marks;

*¹: Press WIDE to switch the wide picture mode on or off.

*²: Press WIDE, then press VOL+/- to select the wide picture mode you want.

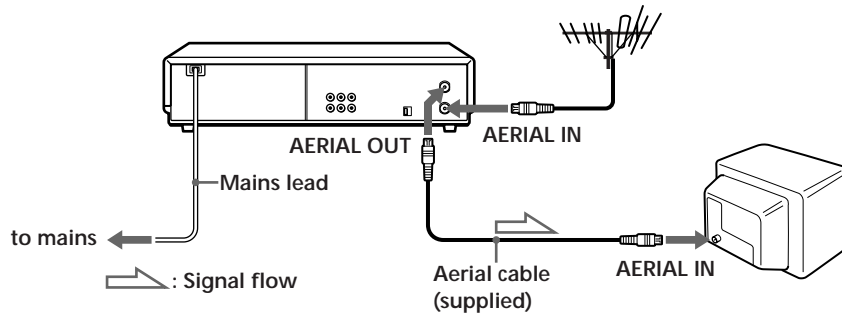
*³: Press WIDE. The menu appears on the TV screen. Then, press CURSOR >/./?// to select the wide picture you want and press EXECUTE.

Notes

- If the TV uses a different remote control system from the one programmed to work with the VCR, you cannot control your TV with the remote commander.
- If you enter a new code number, the code number previously entered will be erased.
- When you replace the batteries of the remote commander, the code number automatically resets to 01 (Sony). Reset the appropriate code number.

Step 3

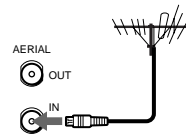
Connecting the VCR



Getting Started

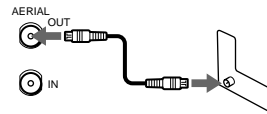
1

Disconnect the aerial cable from your TV and connect it to AERIAL IN on the rear panel of the VCR.



2

Connect AERIAL OUT of the VCR and the aerial input of your TV using the supplied aerial cable.



3

Connect the mains lead to the mains.

continued

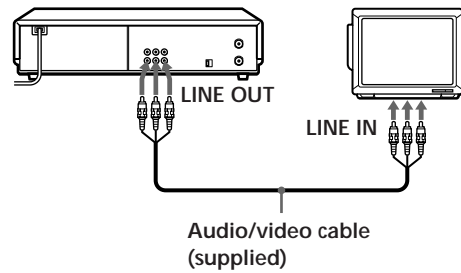
Step 3 : Connecting the VCR (continued)

Additional connections

To a TV that has audio/video input jacks

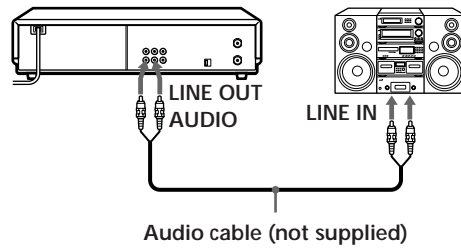
This additional connection improves picture and sound quality. Connect the TV as shown on the right.

If you want to use the Trinitron TV Synchro Play function (see page 31), this connection is necessary. (If your TV has two or more inputs, connect the audio/video cable to the VIDEO IN 1 jacks.)



To a stereo system

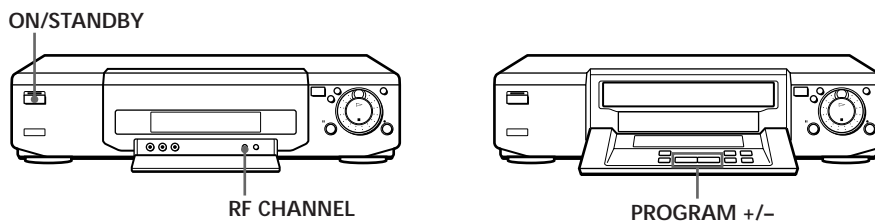
You can improve sound quality by connecting a stereo system as shown on the right.





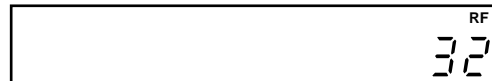
Step 4

Tuning your TV to the VCR

If you have connected your VCR to the TV using the audio/video cable, skip this step.



- 1**  Press ON/STANDBY to turn on the VCR.
- 2**  Press RF CHANNEL on the VCR.
The factory-preset RF channel appears in the display window.
The VCR signal is output through this channel to the TV.



- 3** Turn on your TV and select a programme position for the VCR picture.
This channel will now be referred to as the video channel.

continued


Step 4 : Tuning your TV to the VCR (continued)

4

Tune the TV to the same channel as that shown in the display window so that the picture on the right appears on the TV screen.

Refer to your TV manual for tuning instructions.

If the picture does not appear clearly, see "To obtain a clear picture from the VCR" below.



SONY VIDEO CASSETTE
RECORDER

5


RF
CHANNEL

Press RF CHANNEL.

You have now tuned your TV to the VCR. From now on, whenever you want to play a tape, set the TV to the video channel.

To check to see if the TV tuning is correct

Set the TV to the video channel and press PROGRAM +/- on the VCR. If the TV screen changes to a different programme each time you press PROGRAM +/-, the TV tuning is correct

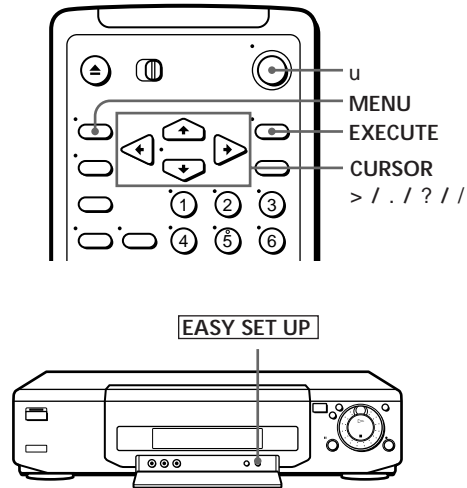
To obtain a clear picture from the VCR

If the picture does not appear clearly in step 4 above, press PROGRAM +/- in step 4, so that another RF channel appears. Then tune the TV to the new RF channel until a clear picture appears.

Step 5

Setting up the VCR with EASY SET UP


Before using the VCR for the first time, set up the VCR using the EASY SET UP function. With this function, you can set TV channels, guide channels for G-CODE, and the VCR clock, guided by the sequence indicated on the TV screen.

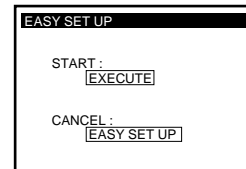


Getting Started

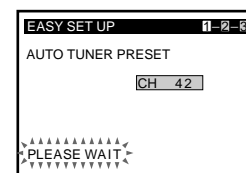
1  Press **u** to turn on the VCR.

2 Turn on your TV and set it to the video channel.

3  Press **EASY SET UP** on the VCR.
To cancel the EASY SET UP function, press **EASY SET UP** again.

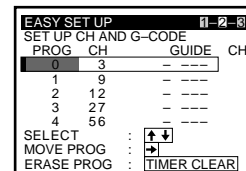


4  Press EXECUTE.



The VCR starts searching for all the receivable channels.

During presetting, the channel being located is displayed on the screen. When all the channels are preset, the following screen appears.

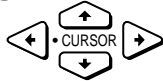


continued

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Step 5 : Setting up the VCR with EASY SET UP (continued)

5



Using CURSOR >/.?//, set the G-CODE guide channels, change the programme positions of the stations, and disable the unused programme positions. (If not necessary, skip this step.)

The setting procedures are the same as those described in “Manual setup — Setting up G-CODE” on page 20 and “Manual setup — Changing/disabling programme positions” on page 23.

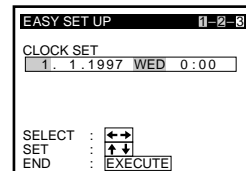
6



Press EXECUTE.

The CLOCK SET menu appears.

Set the date and time using CURSOR >/.?//. The setting procedures are the same as those described in “Manual setup—Setting the clock” on page 26.



7



Press EXECUTE .

A programme position appears on the TV screen.

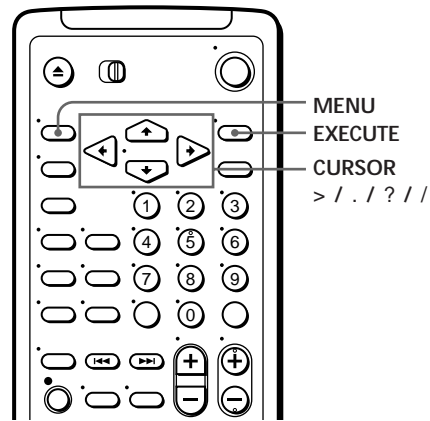


Note

- Do not exit EASY SET UP while the VCR is presetting channels. If you do, repeat EASY SET UP from the beginning.

Manual setup — Presetting channels

First, we recommend that you preset the receivable channels in your area using EASY SET UP or using automatic presetting below. Then, if some channels could not be preset automatically, you can preset them manually; if there are any unwanted channels among the preset ones, you can disable the channels.



Getting Started

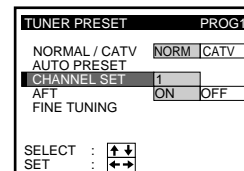
Before you start...

- Turn on the VCR and the TV.
- Set the TV to the video channel.

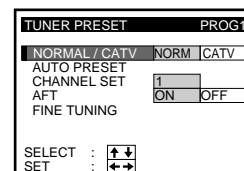
Presetting all receivable channels automatically

If you have preset the channels using the EASY SET UP procedure, skip this procedure.

- 1** • MENU
-
- Press MENU, then press CURSOR >./ to move the cursor (I) to TUNER PRESET and press EXECUTE.
-
- EXECUTE
-



- 2**
-
- Press CURSOR >././?// to move the cursor (I) to NORMAL/CATV, then highlight NORM.
- To preset CATV channels, highlight CATV.

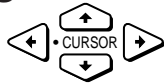


continued

Getting Started | 15

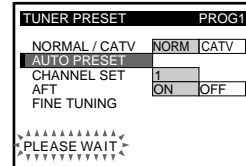
Manual setup — Presetting channels (continued)

3

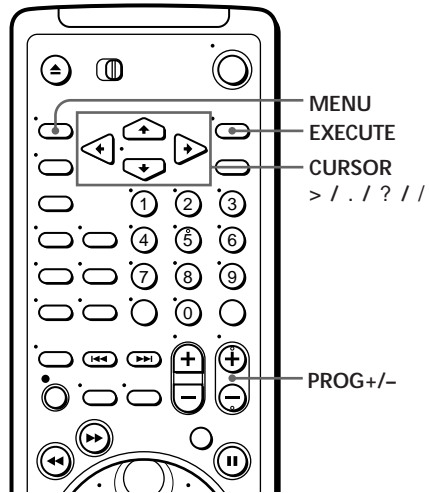


Press CURSOR >/ to move the cursor (I) to AUTO PRESET, then press EXECUTE.

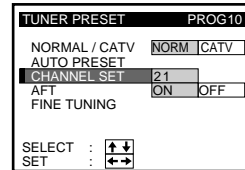
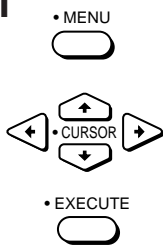
All receivable channels are preset in numerical sequence. When no more receivable channels can be found, presetting stops and the picture from the lowest numbered channel is displayed on the TV screen.



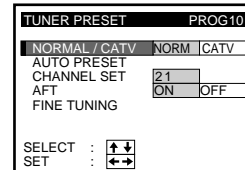
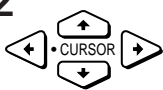
Presetting channels manually



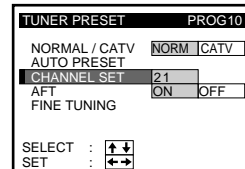
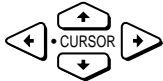
- 1** Press MENU, then press CURSOR >./ to move the cursor (I) to TUNER PRESET and press EXECUTE.



- 2** Press CURSOR >./?// to move the cursor (I) to NORMAL/CATV, then select NORM.
To preset CATV channels, select CATV.



- 3** Press CURSOR >./ to move the cursor (I) to CHANNEL SET.



continued

Manual setup -- Presetting channels (continued)

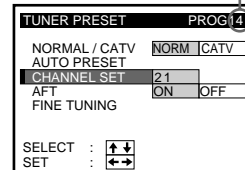
4

•PROG

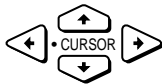


Press PROG +/- to select the programme position.

Selected programme position

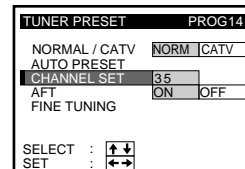


5



Press CURSOR / repeatedly until the channel you want is displayed. Pressing CURSOR ? goes back to the previous channels.

The channels are scanned in the following order:



Channel coverage

VHF	AS0 to AS12, AS5A, AS9A
UHF	AS28 to AS69
CATV (TV distribution)	S1 to S41, S01 to S05

If you know the number of the channel you want, press the programme number buttons. For example, for channel 5, first press "0" and then press "5."

6

To allocate another channel to another programme position, repeat steps 4 and 5.

7

•EXECUTE



Press EXECUTE.

Disabling unwanted programme positions

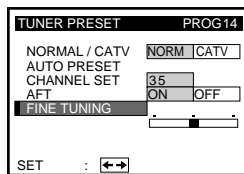
After tuning the TV channels, you can disable unused programme positions. The disabled positions will be skipped later when you press the PROG +/- buttons. You can also disable unwanted programme positions using the SET UP CHANNEL AND G-CODE menu (page 25).

- 1 In step 5 above, press programme number button "0" twice to display the number "0" beside CHANNEL SET.
- 2 Press EXECUTE.

If the picture is not clear

Normally, the Auto Fine Tuning (AFT) function automatically tunes in channels clearly. If, however, the picture is not clear, you may also use the manual tuning function.

- 1 Press PROG +/- to select the programme number for which you cannot obtain a clear picture.
- 2 Press MENU, then select TUNER PRESET and press EXECUTE.
- 3 Select FINE TUNING. The fine tuning meter appears.



- 4 Press CURSOR ?// to get a clearer picture, then press EXECUTE.
Note that the AFT (Auto Fine Tuning) setting switches to OFF.

Note

- The menu disappears automatically if you don't proceed for more than a few minutes.

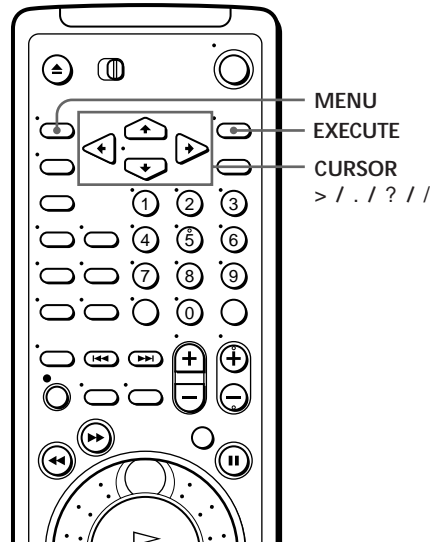
Manual setup — Setting up G-CODE


G-CODE is a feature in Sony VCRs that simplifies programming the VCR to make timer recordings. To use G-CODE, each programme position needs to be matched with its G-CODE guide channel. To get the guide channel numbers, look in the programme guide for your area that features G-CODE numbers.


- If you want to record satellite broadcasts using G-CODE, see page 22.


Before you start...

- Turn on the VCR and the TV.
- Set the TV to the video channel.



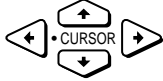
- 1** • MENU
 Press MENU, then press CURSOR >/. to move the cursor (I) to SET UP CH AND G-CODE and press EXECUTE.

• CURSOR
 When using the EASY SET UP procedure, skip this step.

• EXECUTE
 The preset channels are displayed on the screen.

SET UP CH AND G-CODE			
PROG	CH	GUIDE	CH
0	3	---	---
1	8	---	---
2	12	---	---
3	27	---	---
4	56	---	---
SELECT	:	↑ ↓	
MOVE PROG	:	→ ←	
ERASE PROG	:	TIMER CLEAR	

2

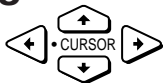


Press CURSOR >/. to move the cursor (I) to the row on which you want to set the guide channel.

To display other pages for programme positions 5 to 49, press CURSOR >/. repeatedly.

SET UP CH AND G-CODE			
PROG	CH	GUIDE	CH
0	3	----	----
1	9	----	----
2	12	----	----
3	27	----	----
4	56	----	----
SELECT	:	↑↓	
MOVE PROG	:	→	
ERASE PROG	:	TIMER CLEAR	

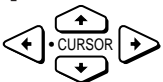
3



Press CURSOR / twice to highlight the guide channel column.

SET UP CH AND G-CODE			
PROG	CH	GUIDE	CH
0	3	----	----
1	9	----	----
2	12	----	----
3	27	----	----
4	56	----	----
SELECT GUIDE CH	:	↑↓	
CONFIRM	:	↔	

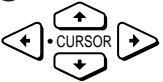
4



Press CURSOR >/. to select the guide channel number assigned in the programme guide.

SET UP CH AND G-CODE			
PROG	CH	GUIDE	CH
0	3	----	----
1	9	----	----
2	12	----	6
3	27	----	----
4	56	----	----
SELECT GUIDE CH	:	↑↓	
CONFIRM	:	↔	

5



Press CURSOR ?// to confirm the setting.

The cursor (I) appears in the leftmost column.

SET UP CH AND G-CODE			
PROG	CH	GUIDE	CH
0	3	----	----
1	9	----	----
2	12	----	6
3	27	----	----
4	56	----	----
SELECT	:	↑↓	
MOVE PROG	:	→	
ERASE PROG	:	TIMER CLEAR	

6

To set the guide channel of another station, repeat steps 2 to 5.

If you want to change the programme positions of the stations, proceed to step 2 of “Manual setup -- Changing/disabling programme positions” on page 23.

7



Press EXECUTE.

continued

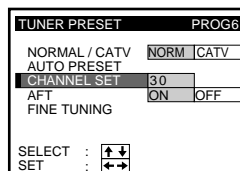
Setting up G-CODE for satellite broadcasts

When your satellite tuner is connected via the AERIAL IN connector, first you have to set the programme position for each satellite channel using the TUNER PRESET menu. Then set the guide channel number for each satellite channel using the SET UP CH AND G-CODE menu.

If your satellite tuner is connected via the LINE-1 IN jacks, you don't have to set programme positions nor guide channel numbers for satellite channels. Skip the following operations.

- 1 Turn on the satellite tuner.
- 2 Press MENU, then select TUNER PRESET and press EXECUTE.
- 3 Press PROG +/- to select a programme position you want to use for watching a satellite channel.
- 4 Select CHANNEL SET, then press CURSOR / to tune the VCR to the satellite tuner.

The channel number displayed beside CHANNEL SET is used for receiving all satellite broadcasts from the satellite tuner.



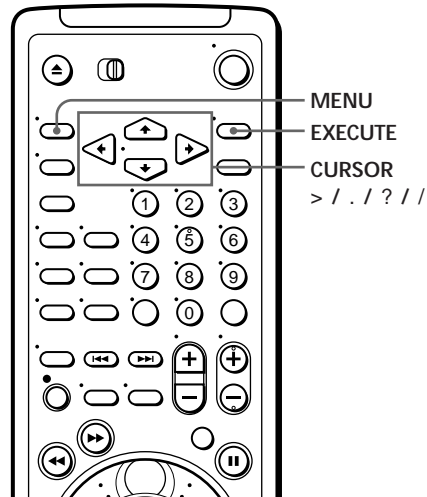
- 5 Press PROG +/- to select another programme position for another satellite channel, and press the programme number buttons to enter the same channel number as the one displayed in step 4.
Repeat this step for all satellite channels.
- 6 Set the guide channel number for each programme position assigned to the satellite channel, following the procedures in "Manual setup -- Setting up G-CODE" on page 20.

Notes

- The menu disappears automatically if you don't proceed for more than a few minutes.
- If you inadvertently entered a guide channel number, press CURSOR >/ repeatedly to reset the "GUIDE CH" column to "---." "---" appears between 1 and 255.
- The VCR does not allow entering the guide channel number, if the same number has been set.
- If you use a satellite tuner connected via the LINE-1 IN jacks, you don't have to setup G-CODE. Just record a satellite programme using G-CODE, and the VCR automatically records the programme from the LINE-1 IN jacks.
- When you record a satellite broadcast using G-CODE, you need to select the desired channel on the satellite tuner manually.

Manual setup -- Changing/ disabling programme positions

After setting the channels and G-CODE guide channels, you can change the programme positions as you like. If any programme positions are unused or contain unwanted channels, you can disable them.



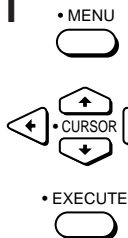
Before you start...

- Turn on the VCR and the TV.
- Set the TV to the video channel.

Changing programme positions

e.g. Moving the programme position from 3 to 1

1

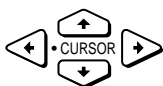


Press MENU, then press CURSOR >/. to move the cursor (I) to SET UP CH AND G-CODE and press EXECUTE.

When using the EASY SET UP procedure, skip this step.

SET UP CH AND G-CODE			
PROG	CH	GUIDE	CH
0	3	-	16
1	9	-	2
2	12	-	6
3	27	-	12
4	56	-	---
SELECT	:	↑ ↓	
MOVE PROG	:	← →	
ERASE PROG	:	[TIMER CLEAR]	

2



Press CURSOR >/. to move the cursor (I) to the row on which you want to change the programme position, then press CURSOR /.

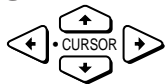
To display other pages for programme positions 5 to 49, press CURSOR >/. repeatedly.

SET UP CH AND G-CODE			
PROG	CH	GUIDE	CH
0	3	-	16
1	9	-	2
2	12	-	6
3	27	-	12
4	56	-	---
SELECT	:	↑ ↓	
SET GUIDE CH	:	← →	
CONFIRM	:	[]	

continued

**Manual setup -- Changing/disabling programme positions
(continued)**

3



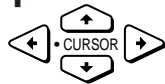
Press CURSOR >/ . until the selected channel and guide channel row moves to the desired programme position.

The selected channel and guide channel are inserted at the new programme position and the intermediate channels are displaced to fill the gap.

SET UP CH AND G-CODE			
PROG	CH	GUIDE	CH
0	12	-	6
1	3	-	16
2	9	-	2
3	27	-	12
4	56	-	---

SELECT : [up/down arrows]
SET GUIDE CH : [right arrow]
CONFIRM : [enter]

4



Press CURSOR ? to confirm the setting.

5

To change the programme position of another station, repeat steps 2 to 4.

6

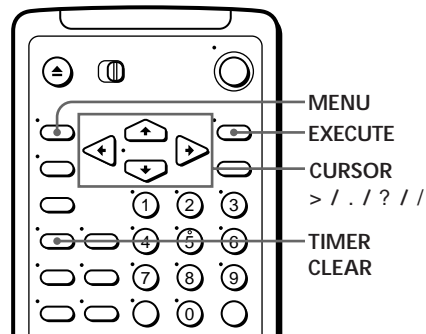


Press EXECUTE.

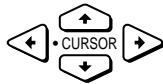
Disabling unwanted programme positions

Note

- Be sure to select the programme position you want to disable correctly. If you disable a programme position by mistake, you need to reset that channel manually.



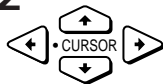
- 1** •MENU
Press MENU, then press CURSOR >/./ to move the cursor (I) to SET UP CH AND G-CODE and press EXECUTE.



SET UP CH AND G-CODE			
PROG	CH	GUIDE	CH
0	3	--	16
1	9	--	2
2	12	--	6
3	27	--	12
4	56	--	---
SELECT	:	↑↓	
MOVE PROG	:	→←	
ERASE PROG	:	TIMER CLEAR	

When using the EASY SET UP procedure, skip this step.

- 2** •CURSOR >/./?/!
Press CURSOR >/./ to move the cursor (I) to the row on which you want to disable.



SET UP CH AND G-CODE			
PROG	CH	GUIDE	CH
0	3	--	16
1	9	--	2
2	12	--	6
3	27	--	12
4	56	--	---
SELECT	:	↑↓	
MOVE PROG	:	→←	
ERASE PROG	:	TIMER CLEAR	

The selected row will be cleared as shown on the right.

- 3** •TIMER CLEAR
Press TIMER CLEAR.
The selected row will be cleared as shown on the right.



SET UP CH AND G-CODE			
PROG	CH	GUIDE	CH
0	3	--	16
1	9	--	2
2	0	--	---
3	27	--	12
4	56	--	---
SELECT	:	↑↓	
MOVE PROG	:	→←	
ERASE PROG	:	TIMER CLEAR	

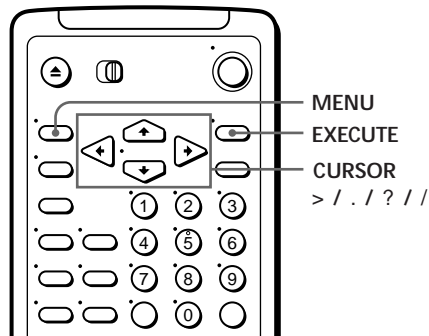
- 4** Repeat steps 2 and 3 for any other programme positions you want to disable.

- 5** •EXECUTE
Press EXECUTE.




Manual setup — Setting the clock

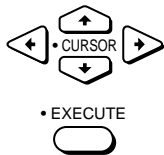
You must set the time and date on the VCR to be able to use the timer recording features properly. If you have not set the VCR clock in the EASY SET UP procedure, you need to set it manually.



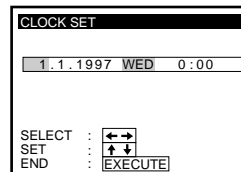
Before you start...


- Turn on the VCR and the TV.
- Set the TV to the video channel.

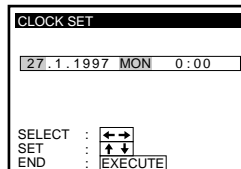
- 1** • MENU

 Press MENU, then press CURSOR >/./ to move the cursor (I) to CLOCK SET and press EXECUTE.

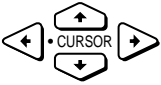


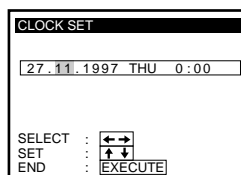
When using the EASY SET UP procedure, skip this step.



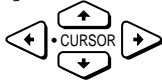
- 2**

 Press CURSOR >/./ to set the date.
 The day of the week is set automatically.



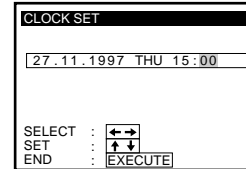
- 3**

 Press CURSOR / to highlight the month and set the month using CURSOR >/./.



4



Set the year, hour and minutes in sequence, using CURSOR / to highlight the item to be set, and CURSOR >/ to select the digits.



5



Press EXECUTE to start the clock.

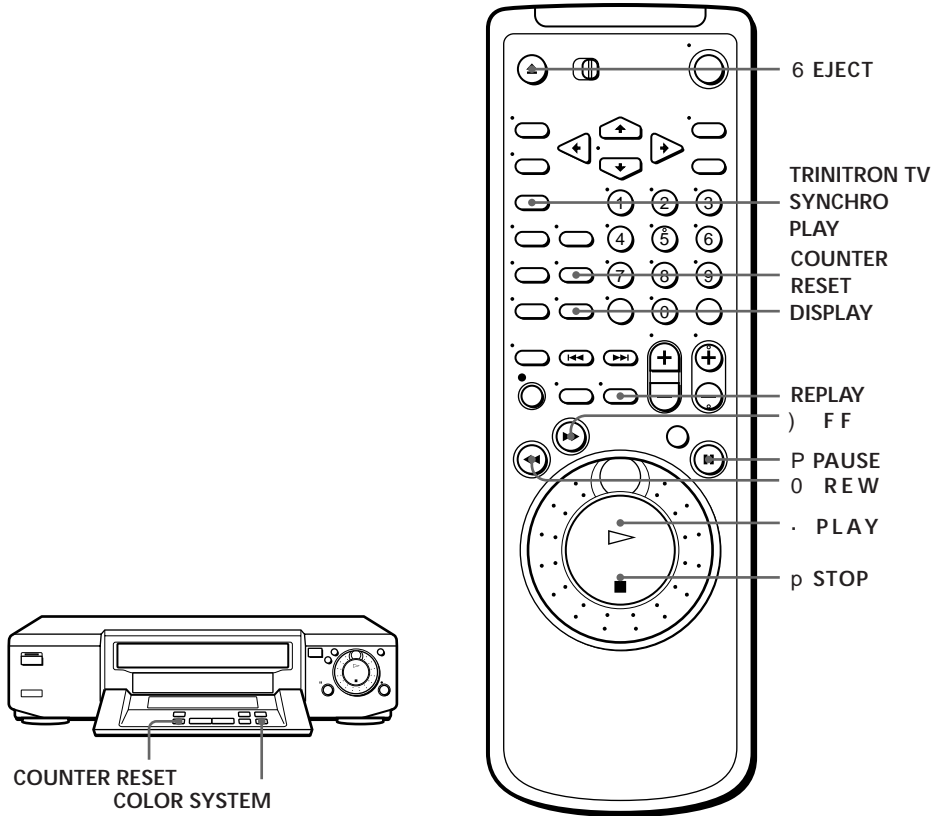
Tip

- To change the digits during setting, press CURSOR ? to return to the item to be changed, and select the digits using CURSOR >/..

Note

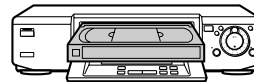
- The menu disappears automatically if you don't proceed for more than a few minutes.

Playing a tape



1 Turn on your TV and set it to the video channel.

2 Open the drop down panel and insert a tape.
The VCR turns on and starts playing automatically if you insert a tape with its safety tab removed.



3 Press · PLAY.
When the tape reaches the end, it will rewind automatically.

Additional tasks

To	Press
Stop play	p STOP
Pause play	P PAUSE
Resume play after pause	P PAUSE or · PLAY
Search forward) FF during playback
Search backward	0 REW during playback
Fast-forward the tape) FF during stop
Rewind the tape	0 REW during stop
Eject the tape	6 EJECT

Replaying a recently watched scene

You can immediately rewind and playback the scene you want to watch again.

During playback, press REPLAY up to four times. The VCR rewinds the tape 10 seconds for each press of the button, and restarts playback.

To set the colour system

If streaks appear during playback, press COLOR SYSTEM on the VCR to conform to the system that the tape was recorded in. (Normally, the colour system is correctly set whenever the tape is inserted.)

If your tape was recorded in	Press COLOR SYSTEM until the indication below appears in the display window
PAL	PAL
NTSC	NTSC
MESECAM	PAL

To play an NTSC-recorded tape

Set NTSC PB at the rear of the VCR according to the color system of your TV.

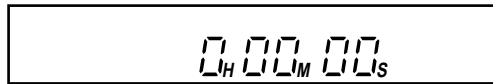
If your TV is	Set NTSC PB to
PAL	ON PAL TV
NTSC 4.43	NTSC 4.43
NTSC 3.58	NTSC 3.58

continued

Playing a tape (continued)

To use the time counter

At the point on the tape that you want to find later, press COUNTER RESET. The counter in the display window resets to "0H00M00S." Search for the point afterwards by referring to the counter.



To display the counter on the TV screen, press DISPLAY.

Notes

- The counter resets to "0H00M00S" whenever a tape is reinserted.
- The counter stops counting when it comes to a portion with no recording.
- If a tape has portions recorded in both PAL and NTSC systems, the time counter reading will not be correct. This is due to the difference between the counting cycles of the two video systems.
- Depending on your TV, the following may occur while playing an NTSC-recorded tape:
 - the picture is black and white
 - the picture shakes
 - no picture appears on the TV screen
 - black streaks appear horizontally on the TV screen
 - the colour density increases or decreases.

Turning on the VCR and TV, and starting playback automatically (Trinitron TV Synchro Play)

You can only use this function if your TV is made by Sony (Trinitron TV).

How to connect to use this function

Connect the VCR and TV with the audio/video cable (see “To a TV that has phono type audio/video input jacks” on page 10.) Be sure to connect the audio/video cable to the VIDEO IN 1 jacks on the TV if the TV has two inputs or more. The TV must be placed where it will respond to the remote commander while you are pointing it at the VCR.

Operation

Make sure that the TV's power is in standby mode.

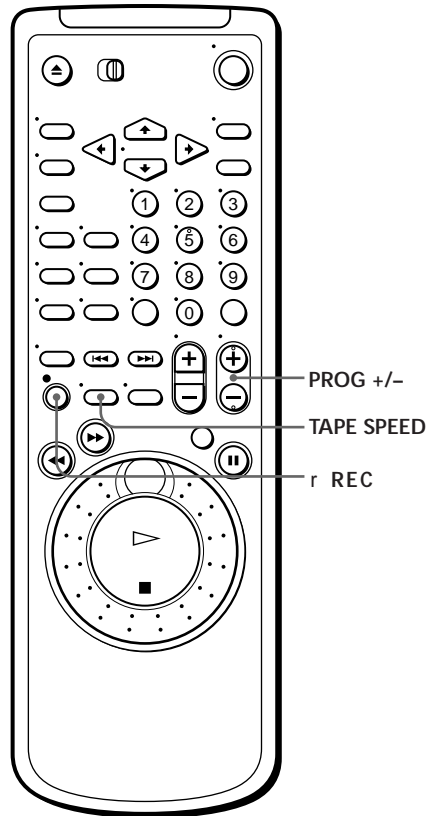
Press TRINITRON TV SYNCHRO PLAY and hold the remote commander in place for about two seconds.

The VCR and TV turn on, and the TV is set to VCR reception. If there is a tape in the VCR, playback starts automatically.

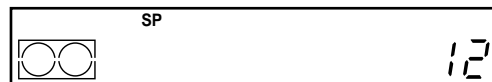
Notes


- If the Trinitron TV Synchro Play function does not work properly:
 - Wait a few moments, and press the button again.
 - Replace both of the batteries with new ones, and press the button again.Note that this function may not operate some Sony TVs because of the remote commander's signal limitations.
- Do not press TRINITRON TV SYNCHRO PLAY while playing back a video tape. If you do so, the TV's input source will momentarily switch to the TV's tuner.

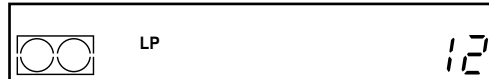
Recording TV programmes



- 1** Turn on your TV and set it to the video channel.
- 2** Open the drop down panel and insert a tape with its safety tab in place.
- 3** Press **PROG +/-** to select the programme position you want to record.



- 4**  Press TAPE SPEED to select the tape speed, SP or LP.
LP provides recording time twice as long as SP, however, SP produces better picture and audio quality.



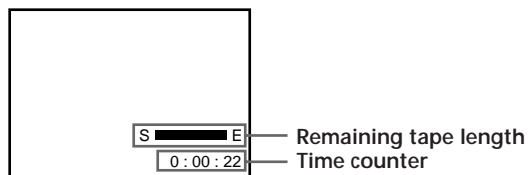
- 5**  Press r REC to start recording.

To stop recording

Press p STOP.

To check the remaining tape length

Press DISPLAY. The white bar indicates the approximate length of tape remaining.

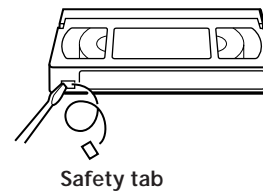


To watch another TV programme while recording

- 1** If the TV is connected to the VCR using an audio/video cable, set the TV to TV input. If the TV is connected to the VCR using only the aerial cable, skip this step.
- 2** Select another programme position on the TV.

To save a recording

To prevent accidental erasure, break off the safety tab as illustrated. To record on a tape again, cover the tab hole with adhesive tape.



continued

Recording TV programmes (continued)

To record NTSC colour system programmes

NTSC colour signals can be recorded on this VCR.

For tape speed, select SP or EP in step 4.

EP provides recording time three times as long as SP, however, SP produces better picture quality.

When playing back, the VCR automatically detects the tape speed.

Tips

- To select a programme position, you can use the programme number buttons on the remote commander. For two-digit numbers, press the ? (ten's digit) button followed by the programme number buttons.
- You can select a video source from the LINE-1 IN or the LINE-2 IN jacks using INPUT SELECT.
- The display appears on the TV screen indicating information about the tape, but the information won't be recorded on the tape.
- If you don't want to watch TV while recording, you can turn off the TV.

Notes

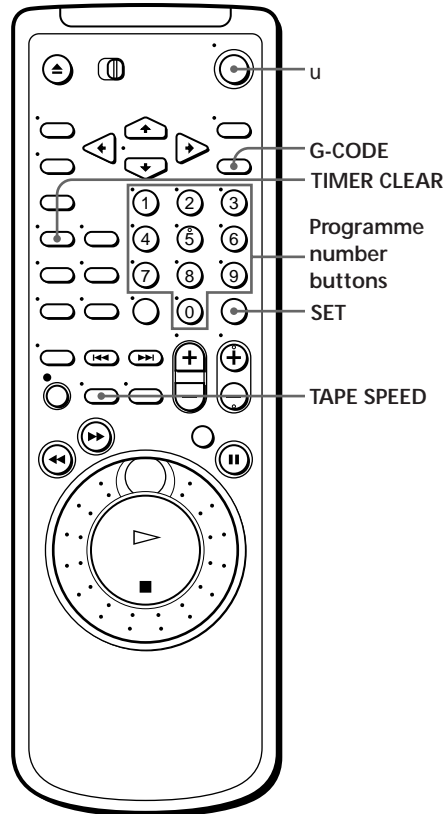
- The display does not appear during still (pause) mode or slow-motion playback.
- The display will not appear while playing an NTSC-recorded tape.


Recording TV programmes using G-CODE

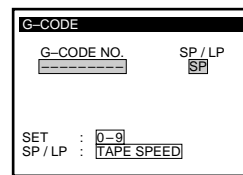
Just enter the programme's G-CODE number listed in the TV programme guide. The date, times and programme position of that programme are set automatically. You can preset up to eight programmes at a time.

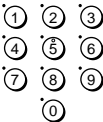
Before you start...

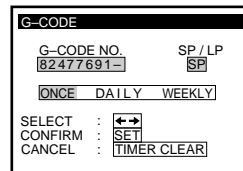
- Check that the VCR clock is set to the correct time.
- Insert a tape with its safety tab in place. Make sure the tape is longer than the total recording time.
- Turn on your TV and set it to the video channel.



1  Press G-CODE.



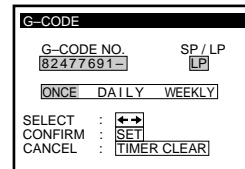
2  Press the programme number buttons to enter the programme's G-CODE number.
If you make a mistake, press TIMER CLEAR and re-enter the correct number.



continued

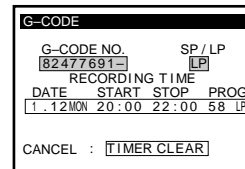
Recording TV programmes using G-CODE (continued)

- 3**  Press TAPE SPEED to select SP or LP.



- 4**  Select ONCE, DAILY or WEEKLY by using CURSOR ?//, then press SET:


To record	Select
Only once	ONCE
Everyday Monday to Friday	DAILY
Once a week	WEEKLY



The date, start and stop times, programme position, and tape speed appear on the TV screen.

If the information is not correct, press TIMER CLEAR to cancel the setting.

- 5** To enter another setting, repeat steps 1 to 4.

- 6**  Press u to turn off the VCR.
The TIMER indicator appears in the display window and the VCR stands by for recording.

To stop recording

To stop the VCR while recording, press p STOP.

To record satellite broadcasts

If you connect the satellite tuner and the VCR, you can record satellite programmes.

- 1** Turn on the satellite tuner.
- 2** On the satellite tuner, select the satellite programme for which you wish to make a timer setting.
- 3** Repeat the steps described above.
- 4** Keep the satellite tuner turned on until the VCR finishes recording the satellite programme for which you have made a timer setting.

To use the VCR after setting the timer

To use the VCR before a timer recording begins, just press **u**. The **TIMER** indicator turns off and the VCR switches on. Remember to press **u** to reset the VCR after using the VCR.

You can also do the following tasks while the VCR is recording:

- Reset the counter.
- Display tape information on the TV screen.
- Check the timer settings.
- Watch another TV programme.

Tip

- To cancel the procedure, press **G-CODE** before pressing **SET**.

Note

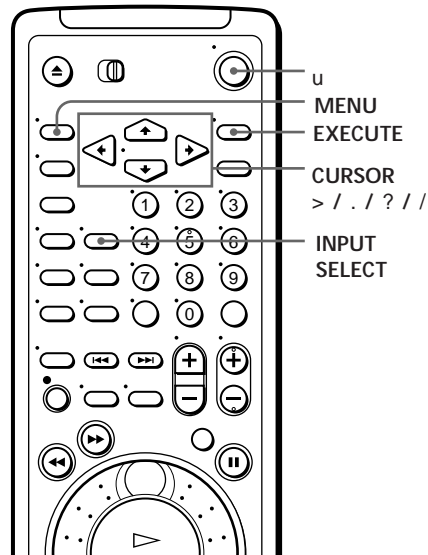
- If the VCR beeps repeatedly, this means that:
 - The **G-CODE** number is incorrect.
 - **ONCE**, **DAILY**, or **WEEKLY** was selected incorrectly. You cannot select **DAILY** or **WEEKLY** for a programme that airs more than seven days ahead.

Setting the timer manually

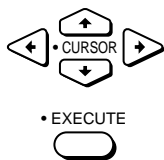
If G-CODE is not available in your area, follow the instructions below to set the timer to record programmes.

Before you start...

- Check that the VCR clock is set to the correct time.
- Insert a tape with its safety tab in place. Make sure the tape is longer than the total recording time.
- Turn on your TV and set it to the video channel.

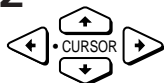


- 1** •MENU Press MENU and select TIMER SET/CHECK, then press EXECUTE.



TIMER SET / CHECK				9 . 12	TUE
DATE	START	STOP	PROG		
---	---	---	---		
---	---	---	---		
---	---	---	---		
---	---	---	---		
---	---	---	---		
---	---	---	---		
---	---	---	---		
---	---	---	---		
---	---	---	---		

- 2** Set the date, start and stop times, programme position, and tape speed:





- 1 Press CURSOR / to highlight each item in turn.
 - 2 Press CURSOR > / . to set each item.
- To correct a setting, press CURSOR ? to return to that setting and reset.


TIMER SET / CHECK				9 . 12	TUE
DATE	START	STOP	PROG		
10 . 12	---	---	---	---	SP
---	---	---	---		
---	---	---	---		
---	---	---	---		
---	---	---	---		
---	---	---	---		
---	---	---	---		
---	---	---	---		
---	---	---	---		
---	---	---	---		

To record the same programme every day or the same day every week, press CURSOR . while the date is highlighted. For details, see “Daily/weekly recording” on the next page.

To record from a source connected to the LINE-1 IN or the LINE-2 IN jacks, press INPUT SELECT to display “LINE1” or “LINE2” in the “PROG” position.

- 3**  Press CURSOR / to confirm the setting.
The cursor (I) appears at the beginning of the line. To enter another setting, move the cursor to the next line and repeat step 2.

- 4**  Press EXECUTE.

- 5**  Press u to turn off the VCR.
The TIMER indicator appears in the display window and the VCR stands by for recording.
To record from other equipment, leave the connected equipment switched on.

To stop recording

To stop the VCR while recording, press p STOP.

Daily/weekly recording

In step 2 above, press CURSOR . to select the recording pattern. Each time you press CURSOR ., the indication changes as shown below. Press CURSOR > to change the indication in reverse order.

the current date n SUN-SAT n MON-SAT n MON-FRI n EVERY SAT
n EVERY MON n EVERY SUN n 1 month later n(dates count down)
n the current date

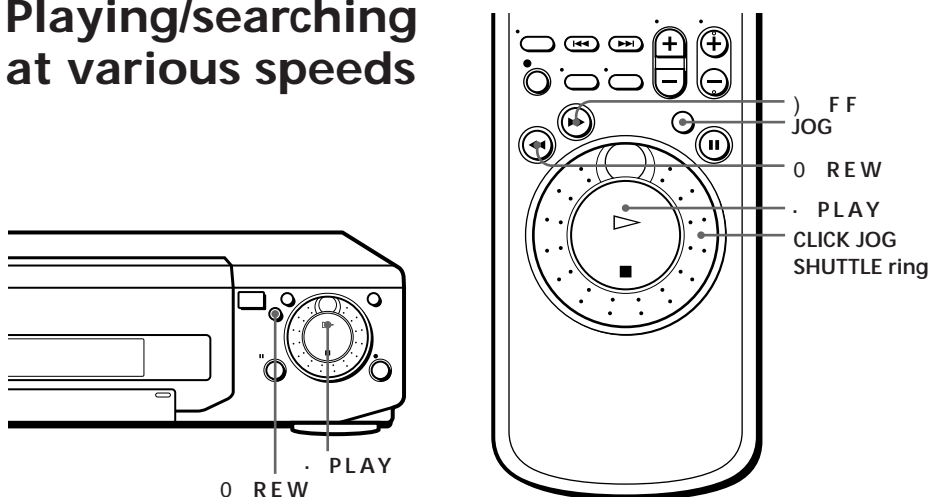
Tips

- To set the programme position, you can also use the PROG +/- or programme number buttons.
- To set the tape speed, you can also use TAPE SPEED.
- To record NTSC signals, set the tape speed to SP or EP. To set the EP mode, display "LP" in the tape speed position.

Note

- "TIMER" flashes in the display window when you press u with no tape inserted.

Playing/searching at various speeds



Playback options	Operation
Fast-forward/rewind	During stop, press) FF or 0 REW.
View the picture during fast-forward or rewind	During fast-forward, hold) FF down. During rewind, hold 0 REW down.
Rewind and start play	During stop, hold 0 REW <u>on the VCR</u> , and press · PLAY <u>on the VCR</u> .

To resume normal playback

Press · PLAY.

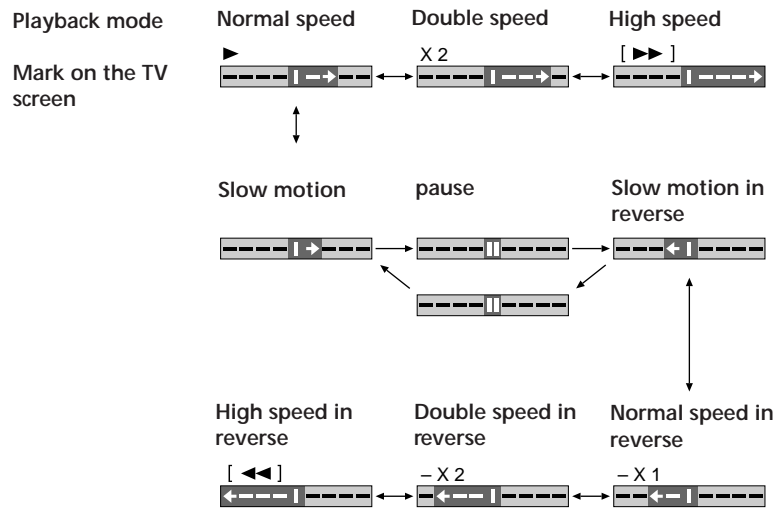
Using the CLICK JOG SHUTTLE ring

With the CLICK JOG SHUTTLE ring you can operate a variety of playback options.

There are two ways to use the CLICK JOG SHUTTLE ring: normal mode (CLICK SHUTTLE ring) and jog mode (CLICK JOG ring).

To use the CLICK SHUTTLE ring in normal mode

During playback or pause, turn the CLICK SHUTTLE ring clockwise or counterclockwise. Each change in the CLICK SHUTTLE ring position changes the playback mode, and the corresponding mark appears on the TV screen for a few seconds in the following way if the on-screen display function is on.



To use the CLICK JOG ring in jog mode

Use this mode for frame-by-frame playback.

Press JOG to enter the jog mode. The JOG button/indicator lights up. If you change to jog mode during any playback mode, playback pauses so you can see a still picture. Each change in the CLICK JOG ring position shifts the picture one frame. To shift frames in reverse, turn the CLICK JOG ring counterclockwise.

The frame shift speed depends on the speed you turn the CLICK JOG ring. To resume normal playback, press · PLAY.

Tip

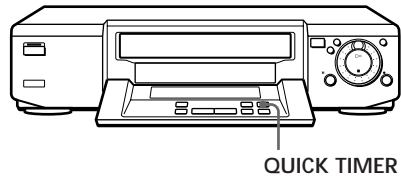
- Adjust the picture using TRACKING +/- if:
 - streaks appear while playing in slow motion.
 - bands appear at the top or bottom while pausing.
 - the picture shakes while pausing.

Notes

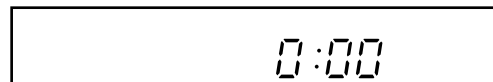
- The playback sound is muted during these operations.
- In the LP mode, noise may appear or there may be no colour.
- If the playback mode mark doesn't appear on the TV screen, press DISPLAY.

Recording TV programmes using the quick timer

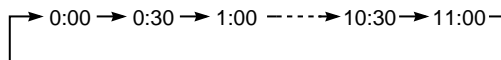
After starting recording in the normal way, you can have the VCR stop recording automatically after a specified duration.



- 1 While recording, press QUICK TIMER on the VCR once.



- 2 Press QUICK TIMER repeatedly to set the duration.
Each press advances the time in increments of 30 minutes.



The duration decreases minute by minute to 0:00, then the VCR stops recording and turns off automatically.

To extend the duration

Press QUICK TIMER repeatedly to set to the new duration.

To stop recording

To stop the VCR while recording, press p STOP.

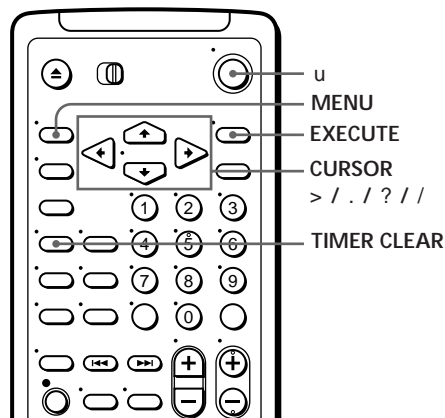
Tip

- You can also set the quick timer and start recording during the stop mode.

Checking/ changing/ cancelling timer settings

Before you start...

- Turn on your TV and set it to the video channel.



- 1 Press **u** to turn on the VCR.
 - 2 Press **MENU**, then select **TIMER SET/CHECK**:
 - If you want to change a setting, go on to the next step.
 - If you do not need to change the settings, press **EXECUTE**, then turn off the VCR to return to recording standby.
 - 3 Press **CURSOR >/.** to select the setting you want to change or cancel:
 - To change the setting, press **CURSOR ?//** to highlight the item you want to change, and press **CURSOR >/.** to reset it. Then, press **CURSOR /** repeatedly until the cursor (**I**) appears at the beginning of the line.
 - To cancel the setting, press **TIMER CLEAR**.
 - 4 Press **EXECUTE**.
- If any settings remain, turn off the VCR to return to recording standby.

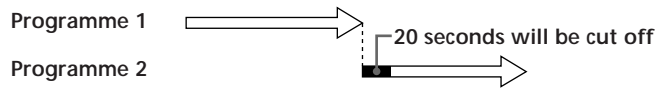
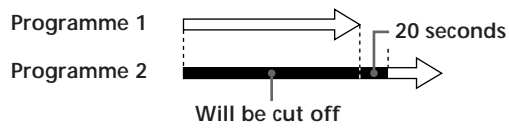
TIMER SET / CHECK						9	12	TUE
DATE	START	STOP	PROG					
10	12WED	20:00	22:00	58	LP			
6	1 TUE	7:00	8:00	6	SP			
28	12SUN	8:30	10:15		LINE1 LP			
17	12WED	9:58	12:00		LINE2 SP			
	MON-SAT	0:12	13:00	27	LP			
	EVERY SUN	23:00	0:00		LINE1 SP			
--	--	--	--	--	--			
--	--	--	--	--	--			

continued

Checking/changing/cancelling timer settings (continued)

When the timer settings overlap

The programme that starts first has priority and the second programme starts recording only after the first programme has finished. If the programmes start at the same time, the programme listed first in the menu has priority.



Recording stereo and bilingual programmes

This VCR automatically receives and records stereo and bilingual programmes. When a stereo or bilingual programme is received, the STEREO indicator appears in the display window.

To select bilingual sound while recording

Press AUDIO MONITOR to select the sound you want.

To listen to	On-screen display	Display window
Main	MAIN	STEREO
Sub	SUB	STEREO
Main and sub	MAIN/SUB	STEREO

To select the sound during playback

Press AUDIO MONITOR to select the sound you want.

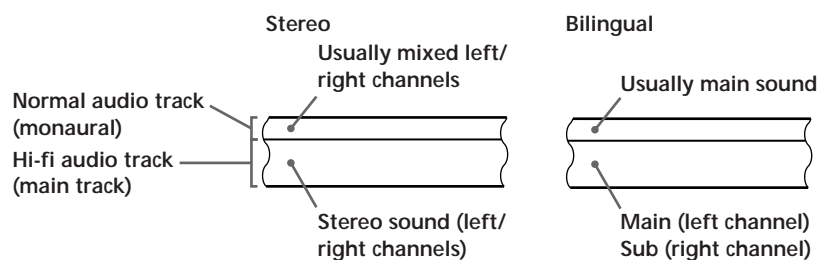
To listen to	On-screen display	Display window
Stereo/main and sub (left and right channels)	STEREO	STEREO
Left channel/main	LCH	STEREO
Right channel/sub	RCH	STEREO
Standard sound	No indicator	No indicator

continued

Recording stereo and bilingual programmes (continued)

How sound is recorded on a video tape

The VCR records sound onto two separate tracks. Hi-fi audio is recorded onto the main track along with the picture. Monaural sound is recorded onto the normal audio track along the edge of the tape.

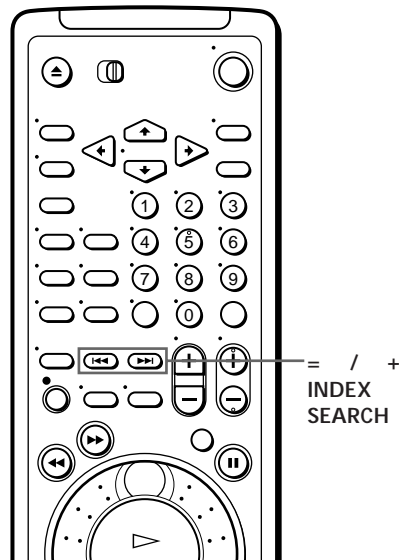


Notes

- To play a tape in stereo, you must use the AUDIO OUT connections.
- When you play a tape recorded in monaural, the sound is heard in monaural regardless of the AUDIO MONITOR setting.
- If the AUDIO MONITOR button does not function, check that AUDIO MIX in the SET UP MENU is set to OFF.
- If HIFI AUDIO is set to STD, the standard sound will be recorded on both the hi-fi and normal audio tracks. Pressing AUDIO MONITOR will not change the sound.

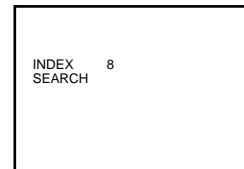
Searching using the index function

The VCR marks the tape with an index signal at the point where each recording begins. Use these signals as references to find a specific recording. The VCR can search up to 99 index signals ahead of or behind the current position.



- 1 Insert an indexed tape into the VCR.
- 2 Press =/+ INDEX SEARCH repeatedly to specify how many index signals ahead or behind you want to search:
 - To search ahead, press + INDEX SEARCH.
 - To search backwards, press =INDEX SEARCH.

The VCR starts searching and the index number on the TV screen counts down to zero. Playback starts automatically from that point.



To stop searching


Press p STOP.


Note

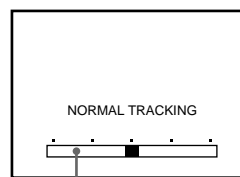
- No index signal will be added when recording starts from recording pause. However, an index signal will be marked if you change the channel during recording pause.

Adjusting the picture

Adjusting the tracking

Although the VCR automatically adjusts the tracking when playing a tape (the tracking indicator  flashes in the display window, then goes off), distortion may occur if the tape was recorded in poor condition. If so, manually adjust the tracking.

Press the TRACKING +/- buttons to display the tracking meter. The distortion should disappear as you press one of the two buttons (The  indicator lights up). To resume automatic tracking adjustment, eject the tape and reinsert it.





Tracking meter

About Adaptive Picture Control (APC)

Adaptive Picture Control (APC) automatically improves recording and playback quality by adjusting the VCR to the condition of the video heads and tape. To maintain better picture quality, we recommend that you set APC to ON in the SET UP MENU (with the APC indicator in the display window lit).

SET UP MENU		
BUZZER	ON	OFF
DIMMER	ON	OFF
AUDIO MIX	ON	OFF
APC	ON	OFF

SELECT : 
SET : 

APC playback

The APC function automatically works on all types of tapes, including rental tapes and tapes that were not recorded with APC.

APC recording

Whenever you insert a tape and first start recording, the VCR adjusts to the tape using the APC function (the APC indicator flashes rapidly). This adjustment is retained until the tape is ejected.

To deactivate the APC

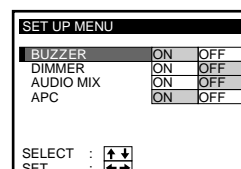
Press MENU and select SET UP MENU, then set APC to OFF. The APC indicator in the display window goes off.

Note

- There is a delay of a few seconds before the VCR actually starts recording while the VCR analyses the tape. To avoid the delay, first set the VCR to recording pause (the APC indicator flashes slowly) and press **r** REC to have the VCR analyse the tape (the APC indicator flashes rapidly). After the APC indicator stops flashing, press **P** PAUSE to start recording immediately. If you want to start recording quickly without using the APC function, first set the VCR to recording pause (the APC indicator flashes slowly) and press **P** PAUSE to start recording.

Changing menu options

- 1 Press MENU, then select SET UP MENU.



- 2 Press CURSOR >/ . to select the option to change, then press CURSOR ?// to change the setting.
- 3 Press EXECUTE to return to the original screen.

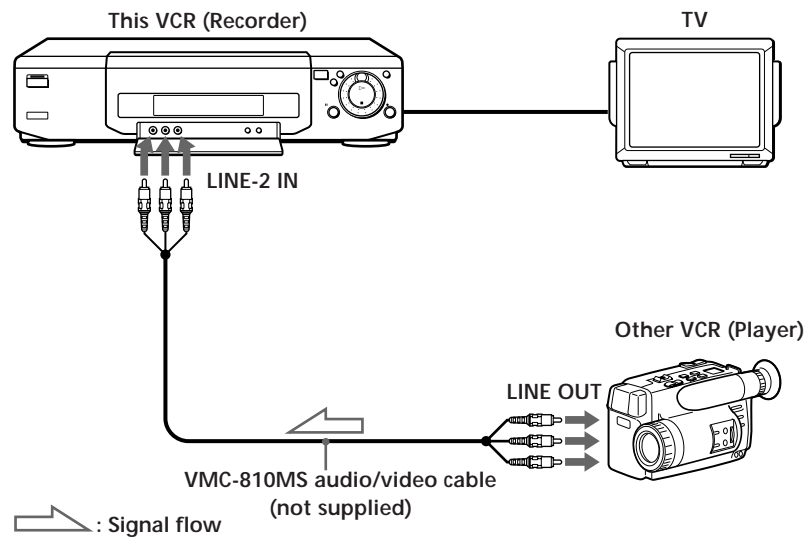
Menu choices

Initial settings are indicated in bold print.

Menu option	Set this option to
BUZZER	ON to output a beep sound when all illogical operation is made. OFF to deactivate it.
DIMMER	ON to make the display window dim, OFF to make it brighter.
AUDIO MIX	ON to listen to the hi-fi and normal audio tracks at the same time. The AUDIO MONITOR button will not function. OFF to listen to hi-fi and normal audio tracks separately. Select the sound using the AUDIO MONITOR button.
APC	ON to switch on the APC (Adaptive Picture Control) function and improve picture quality, OFF to switch off APC.

Connecting to a VCR or stereo system

How to connect to record on this VCR



Tips

- Make sure you connect the plugs to jacks of the same colour.
- If the other VCR is a monaural type, connect the audio plug to the AUDIO L (white) jack. The sound is recorded on both right and left channels. When connecting to the AUDIO R (red) jack, the sound is recorded only on the right channel.
- If you connected this VCR to both the LINE IN and LINE OUT jacks of the other VCR, select the input correctly to prevent a humming noise.
- You can also use the LINE-1 IN jacks instead.

How to connect to a stereo system

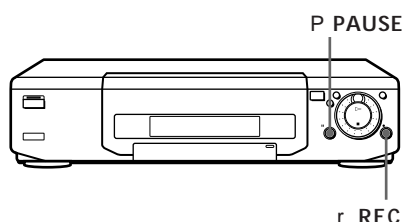
Connect LINE-2 IN AUDIO on this VCR to the audio output jacks on the stereo system, using the RK-C510KS audio cable (not supplied).

Basic editing

(when recording on this VCR)

Before you start editing

- Turn on your TV and set it to the video channel.
- Press INPUT SELECT to display “L2” in the display window.
- Press TAPE SPEED to select the tape speed (SP or LP for the PAL system, and SP or EP for the NTSC system).



- 1** Insert a source tape with its safety tab removed into the other (playback) VCR. Search for the point to start playback and set it to playback pause.
- 2** Insert a tape with its safety tab in place into this (recording) VCR. Search for the point to start recording and press P PAUSE.
- 3** Press r REC on this VCR and set it to recording pause.
- 4** To start editing, press the P PAUSE buttons on both VCRs at the same time.

To stop editing

Press the p STOP buttons on both VCRs.

Tips

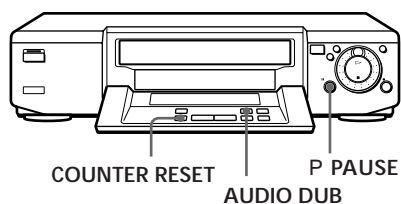
- To edit more precisely, press the P PAUSE buttons on the VCRs to release pause.
- To cut out unwanted scenes while editing, press P PAUSE on this VCR when an unwanted scene begins. When it ends, press P PAUSE again to resume recording.

Note

- If you start recording following the procedure above, the VCR won't start recording with the APC function. To record a tape with the APC function, press r REC again during recording pause in step 3 so that the VCR analyses the tape. Then when you start recording in step 4, press P PAUSE after the APC indicator stops flashing. If you press P PAUSE before the APC indicator stops flashing, the APC function is cancelled.

Audio dubbing

This feature lets you record over the normal audio track. The monaural sound previously recorded is replaced while the original hi-fi sound remains unchanged. Use this feature to add commentary to a tape that you have recorded with a camcorder.



Before you start dubbing

- Turn on your TV and set it to the video channel.
- Press INPUT SELECT to display “L2” in the display window.

- 1** Insert a source tape into the stereo system (or the playback VCR). Search for the point to start playback and set it to playback pause.
- 2** Open the drop down panel and insert a prerecorded tape into this (recording) VCR. Search for the end of the section to be replaced and press P PAUSE.
Make sure that the tape has its safety tab in place.
- 3** Press COUNTER RESET on this VCR to reset the counter to “0H00M00S.”
- 4** Rewind the prerecorded tape to the beginning of the section to be replaced.
The VCR pauses.
- 5** Press AUDIO DUB.
The audio dubbing indicator ⊖ appears in the display window.
- 6** To start editing, press the P PAUSE buttons on this VCR and the stereo system (or other VCR) at the same time.
When the counter reaches “0H00M00S,” audio dubbing stops automatically.

To stop while editing

Press the p STOP buttons on this VCR and the stereo system (or other VCR).

To listen to both the hi-fi and normal audio

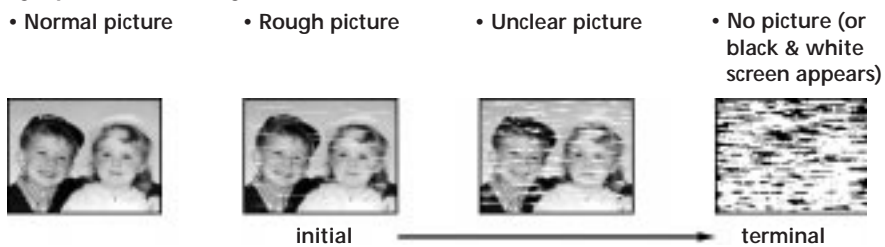
Set AUDIO MIX to ON in the SET UP MENU (page 49). Use this feature to listen to dubbed audio over the original hi-fi audio. When AUDIO MIX is set to ON, the AUDIO MONITOR button does not function. Remember to reset AUDIO MIX to OFF after playing the tape.

Troubleshooting

If you have any questions or problems not covered below, please consult your nearest Sony service facility.

	Symptom	Remedy
Power	The ON/STANDBY switch does not function.	<ul style="list-style-type: none"> Connect the mains lead to mains securely.
	The power is turned on but the VCR does not operate.	<ul style="list-style-type: none"> Moisture condensation occurs. Turn the power off, unplug the mains lead, and leave the VCR to dry for over one hour.
Clock	The clock has stopped and “-:--” lights in the display window.	<ul style="list-style-type: none"> The clock stops if the VCR is disconnected from the mains for more than an hour. Reset the clock (and timer).
Playback	The playback picture does not appear on the TV screen.	<ul style="list-style-type: none"> Make sure the TV is set to the video channel. If you are using a monitor, set it to video input.
	The picture is not clear.	<ul style="list-style-type: none"> Adjust the tracking with the TRACKING +/- buttons. Make sure the colour system is correctly set to the system that the tape was recorded in. The video heads are dirty (see below). Clean the video heads using the Sony V-25CL video head cleaning cassette. If this cleaning cassette is not available in your area, have the heads cleaned at your nearest Sony service facility (a standard service charge will be required). Do not use a commercially available wet-type cleaning cassette, as it may damage the video heads. The video heads may have to be replaced. Consult your local Sony service facility for more information.

Symptoms caused by contaminated video heads



continued

Troubleshooting (continued)

	Symptom	Remedy
Playback	The picture rolls vertically during picture search.	<ul style="list-style-type: none"> Adjust the vertical hold control on the TV or monitor.
	The picture has no sound.	<ul style="list-style-type: none"> The tape is defective. Use a new tape.
	The sound is unstable or has an echo.	<ul style="list-style-type: none"> When you play a tape with the same sound recorded on both the hi-fi and normal sound tracks, make sure the AUDIO MIX option in the SET UP MENU is set to OFF.
Recording	No TV programmes appear on the TV screen.	<ul style="list-style-type: none"> Make sure the TV is set to the video channel. If you are using a monitor, set it to video input.
	TV reception is poor.	<ul style="list-style-type: none"> Adjust the TV aerial.
	The tape starts playing as soon as it is inserted.	<ul style="list-style-type: none"> The safety tab has been removed. To record on this tape, cover the tab hole.
	The tape is ejected when you press r REC.	<ul style="list-style-type: none"> Check that the safety tab has not been removed.
	Nothing happens when you press r REC.	<ul style="list-style-type: none"> Make sure the tape is not at its end. Select the correct source with the INPUT SELECT button. Select a programme position when recording TV programmes; select "L1" or "L2" when recording from other equipment.
Timer recording	The timer does not operate.	<ul style="list-style-type: none"> Check that the clock is set. Make sure a tape has been inserted. Check that the safety tab has not been removed. Make sure the tape is not at its end. Make sure a programme has been set for timer recording. Make sure your timer settings have not already passed the current time. Check that the satellite tuner is turned on. The clock stops if the VCR is disconnected from the mains for more than an hour. Reset the clock and timer.

	Symptom	Remedy
	No tape can be inserted.	<ul style="list-style-type: none"> • Check that a tape isn't already in the tape compartment.
	The remote commander does not function.	<ul style="list-style-type: none"> • Make sure you are pointing the remote commander at the remote sensor on the VCR. • Replace all the batteries in the remote commander with new ones if they are weak. • Make sure the [TV]/[VIDEO] remote control switch is set correctly.
Others	You cannot control other TVs.	<ul style="list-style-type: none"> • Set your TV's code number. The code number resets to 01 when you replace the batteries of the remote commander.
	The tracking indicator does not appear on the screen.	<ul style="list-style-type: none"> • The recording condition of the tape is very poor and tracking cannot be adjusted, or the NTSC system is being used.
	The VCR needs to be cleaned.	<ul style="list-style-type: none"> • Clean the cabinet, panel and controls with a dry, soft cloth, or a soft cloth slightly moistened with a mild detergent solution. Do not use any type of solvent, such as alcohol or benzine.

Specifications

System

Channel coverage
VHF AS0 to AS12, AS5A, AS9A
UHF AS28 to AS69
CATV S01 to S05, S1 to S41

RF output signal
UHF channels 28 to 69

Aerial out
75-ohm asymmetrical aerial socket

Inputs and outputs

LINE-1 IN and LINE-2 IN
VIDEO IN, phono jack (1 each)
Input signal: 1 Vp-p, 75 ohms, unbalanced, sync negative
AUDIO IN, phono jack (2 each)
Input level: 327 mVrms
Input impedance: more than 47 kilohms

LINE OUT
VIDEO OUT, phono jack (1)
Output signal: 1 Vp-p, 75 ohms, unbalanced, sync negative
AUDIO OUT, phono jack (2)
Standard output: 327 mVrms
Load impedance: 47 kilohms
Output impedance: less than 10 kilohms

General

Power requirements
220 – 240 V AC, 50 Hz

Power consumption
20 W

Operating temperature
5°C to 40°C

Storage temperature
–20°C to 60°C

Dimensions
Approx. 430 × 109 × 321 mm (w/h/d)
including projecting parts and controls

Mass
Approx. 4.7 kg

Supplied accessories

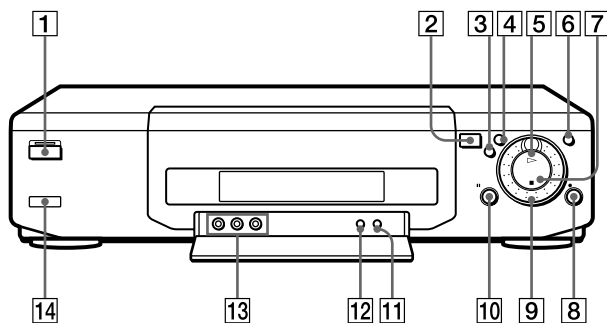
Remote commander (1)
R6 (size AA) batteries (2)
Aerial cable (1)
Audio/video cable (3-phono to 3-phono) (1)

Design and specifications are subject to change without notice.

Index to parts and controls

Refer to the pages indicated in parentheses () for details.

Front panel

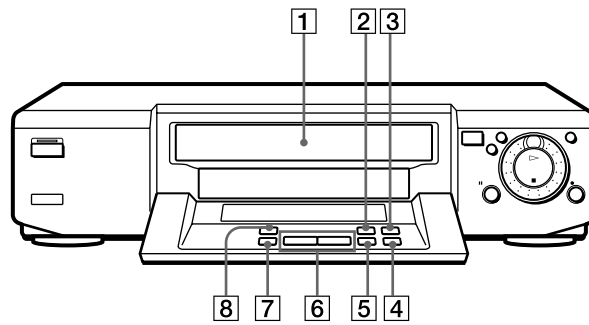


- | | |
|------------------------------------|--|
| 1 ON/STANDBY switch/indicator (11) | 8 r REC button (33) |
| 2 6 EJECT button (29) | 9 CLICK JOG SHUTTLE ring (40) |
| 3 0 REW button (29, 40) | ! ° P PAUSE button (29, 51) |
| 4) FF button (29, 40) | ! i EASY SET UP button (13) |
| 5 · PLAY button (28) | !™ RF CHANNEL button (11) |
| 6 JOG button/indicator (41) | ! £ LINE-2 IN AUDIO L/R/VIDEO jacks (50) |
| 7 p STOP button (29, 33) | ! ç Remote sensor (5) |

continued

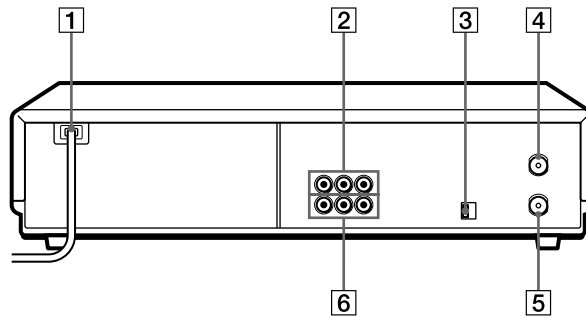
Index to parts and controls (continued)

Front panel, with cover opened



- 1 Tape compartment
- 2 AUDIO DUB button (52)
- 3 QUICK TIMER button (42)
- 4 COLOR SYSTEM button (29)
- 5 TAPE SPEED button (33)
- 6 PROGRAM/TRACKING +/- buttons (12, 48)
- 7 COUNTER RESET button (30)
- 8 INPUT SELECT button (34, 38)

Rear panel

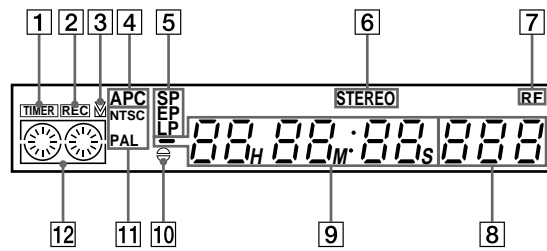


- 1 Mains lead (9)
- 2 LINE-1 IN AUDIO L/R/VIDEO jacks (50)
- 3 NTSC PB switch (29)
- 4 AERIAL OUT connector (9)
- 5 AERIAL IN connector (9)
- 6 LINE OUT AUDIO L/R/VIDEO jacks (10)

continued

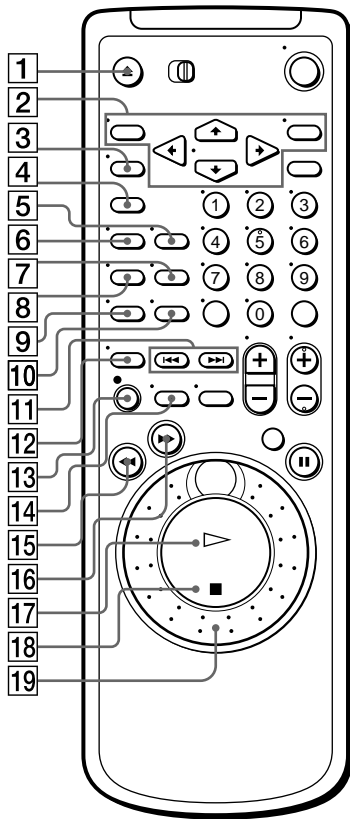
Index to parts and controls (continued)

Display window



- | | | | |
|---|-----------------------------|----------------------------------|--|
| 1 | TIMER indicator (36, 39) | 8 | Line/programme position indicator (11, 32) |
| 2 | REC indicator | 9 | Time counter/clock (30) |
| 3 | ☒ (Tracking) indicator (48) | ! ° ⊖ (Audio dub) indicator (52) | |
| 4 | APC indicator (48) | ! ¡ Colour system indicator (29) | |
| 5 | Tape speed indicator (33) | !™ Tape indicator | |
| 6 | STEREO indicator (45) | | |
| 7 | RF indicator (11) | | |

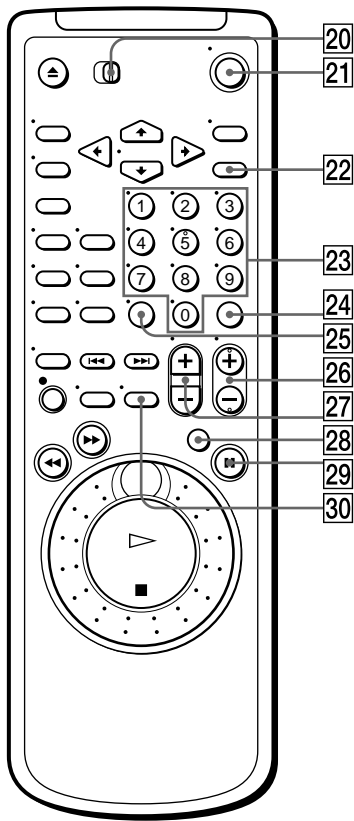
Remote commander



- 1 EJECT button (29)
- 2 Menu buttons (13)
 - MENU button
 - CURSOR >/.?// buttons
 - EXECUTE button
- 3 WIDE button (for TV) (6)
- 4 TRINITRON TV SYNCHRO PLAY button (31)
- 5 INPUT SELECT button (34, 38)
- 6 TIMER CLEAR button (25, 36, 43)
- 7 COUNTER RESET button (30)
- 8 AUDIO DUB button (52)
- 9 TV/VIDEO button (for TV) (6)
- ! ° DISPLAY button (30)
- ! j =/+ INDEX SEARCH buttons (47)
- !™ AUDIO MONITOR button (45, 52)
- ! £ r REC button (33)
- ! ¢ TAPE SPEED button (33)
- ! 0 REW button (29, 40)
- ! §) FF button (29, 40)
- ! ¶ · PLAY button (28)
- ! • p STOP button (29)
- ! a CLICK JOG SHUTTLE ring (40)

continued

Index to parts and controls (continued)



- @° TV/VIDEO remote control switch (5)
- @i u (on/standby) switch
- @M G-CODE button (35)
- @E Programme number buttons (35)
- @C SET button (36)
- @ ? (ten's digit) button (34)
- @S PROG +/- buttons (18, 32)
- @V VOL +/- buttons (for TV)
- @• JOG button/indicator (40)
- @P P PAUSE button (29)
- # ° REPLAY button (29)

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