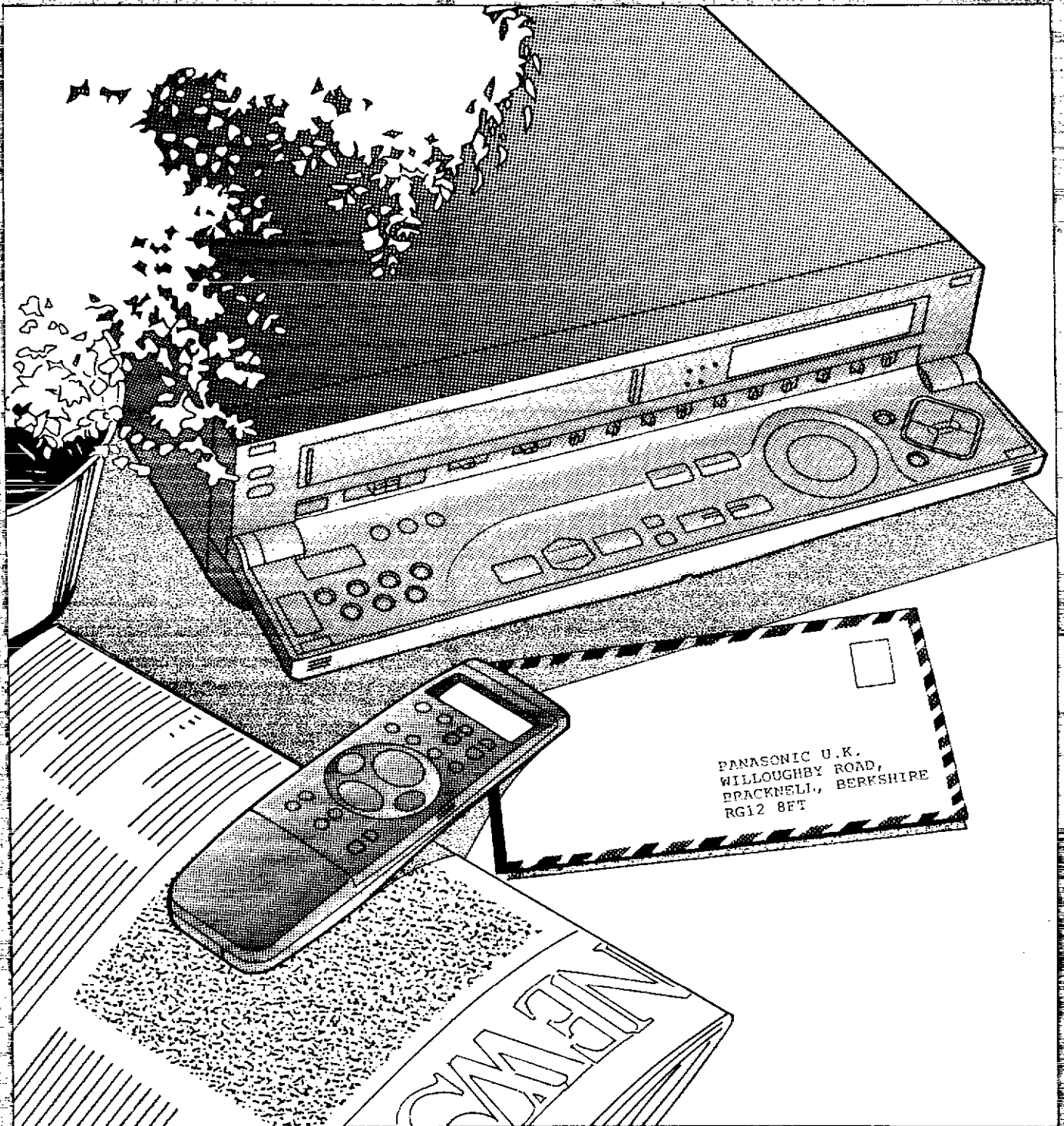


Panasonic

Video Cassette Recorder

NV-HS1000BYP

Operating Instructions



VIDEO Plus+ Hi-Fi STEREO

VHS VHS PAL **SUPER DRIVE SYSTEM**

Before attempting to connect, operate or adjust this product, please read these instructions completely.

VQT6290

Dear Customer

May we take this opportunity to thank you for purchasing this Panasonic Video Cassette Recorder.

We would particularly advise that you carefully study the Operating Instructions before attempting to operate the unit and that you note the listed precautions.

Video Plus+ Programming System

Programming is now easier than ever: simply enter the PlusCode provided in the programme schedule column carried by newspapers and magazines.

- Video Plus+ and PlusCode are trademarks of Gemstar Development Corp. Video Plus+ system is manufactured under license from Gemstar Development Corporation.

AI Crystal View Control

Introducing AI Crystal View Control, an innovative new technology for high picture quality. This technology uses an AI microprocessor to intelligently control the relationship between the tape heads and circuitry, bringing out the maximum performance of each. The result is consistently optimum picture quality.



Contents

IMPORTANT

Your attention is drawn to the fact that recording of pre-recorded tapes or discs or other published or broadcast material may infringe copyright laws.

WARNING

TO REDUCE THE RISK OF FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

FOR YOUR SAFETY

- **DO NOT REMOVE OUTER COVER.**
To prevent electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

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Caution for AC Mains Lead

For Your safety please read the following text carefully

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 5 amp fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5 amps and that it is approved by ASTA or BSI to BS 1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local Panasonic Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY. THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:


Blue: Neutral

Brown: Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

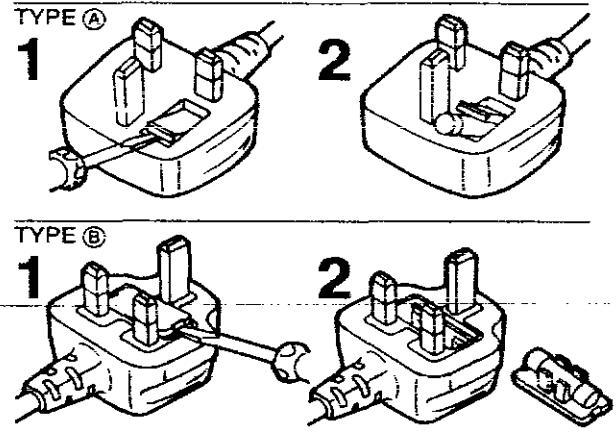
The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either of these wires be connected to the earth terminal of the three pin plug, marked with the letter E or Earth Symbol .

How to replace the Fuse

• There are two types of the supplied AC Mains Lead: (A) and (B) as shown below.

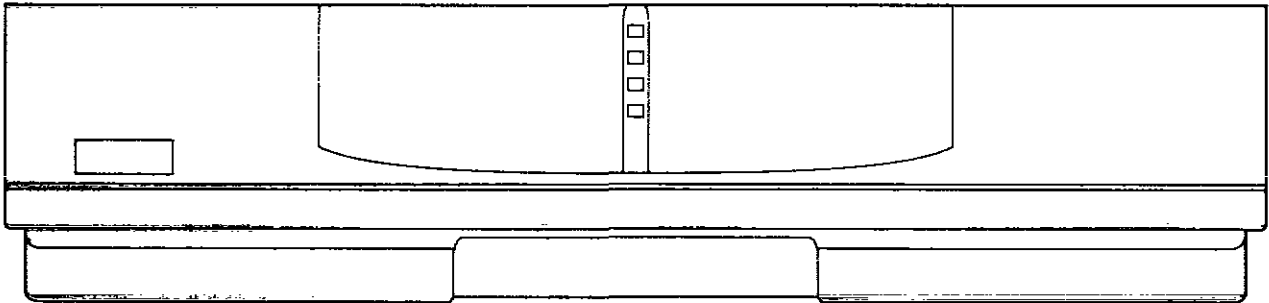
- 1 Open the fuse compartment with a screwdriver.
- 2 Replace the fuse and fuse cover.



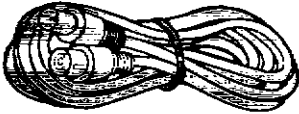
Unpacking

Caution for AC Mains Lead
Unpacking

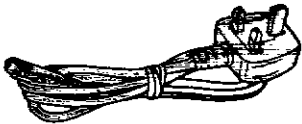
Check and identify the supplied accessories, and then set up this VTR after reading Setting up.



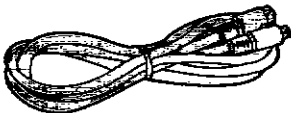
RF coaxial cable for connecting between this VTR and a TV (1 pc.) VJA0710-1



AC mains lead (1 pc.) VJA0733



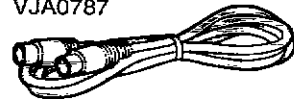
S-Video cable (1 pc.) VJA0748



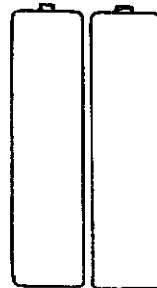
Audio Cable (1 pc.) VJA0231 or VJA0231-A



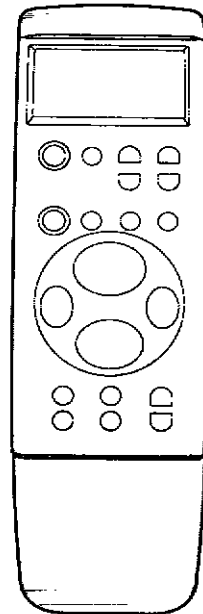
Edit Cable (1 pc.) VJA0787



Batteries for the remote controller (2 pcs.) UM3 or R6 type



Remote controller (1 pc.) VEQ1565



Connections

This tells you how to connect with an aerial, TV, etc.

Infra-red Remote Controller

Controls and Connection Sockets

This gives a detailed explanation of the function of each button, switch and connection socket.

Tuning the TV to your VTR

The VTR supplies a signal to the TV set via the RF coaxial cable on channel 36 of the UK broadcasting system. Your TV must be tuned into this channel in order to view the VTR playback picture.

If the connection to the TV includes the 21-pin scart cable or Audio/Video/S-Video cable, the playback picture can be viewed by selecting AV on your TV. The RF coaxial cable must still be connected as shown on page 8, but the TV need not be tuned to channel 36.

Setting the Clock of the VTR using the Remote Controller

The built-in clock is used to activate the timer for automatic recording and must be set to the correct time.

Storing TV Broadcasts into your VTR

The VTR is fitted with its own TV tuner (just like a normal TV set) and can be tuned to receive up to 99 TV broadcast stations.

Setting the Remote Controller for Operation of your TV

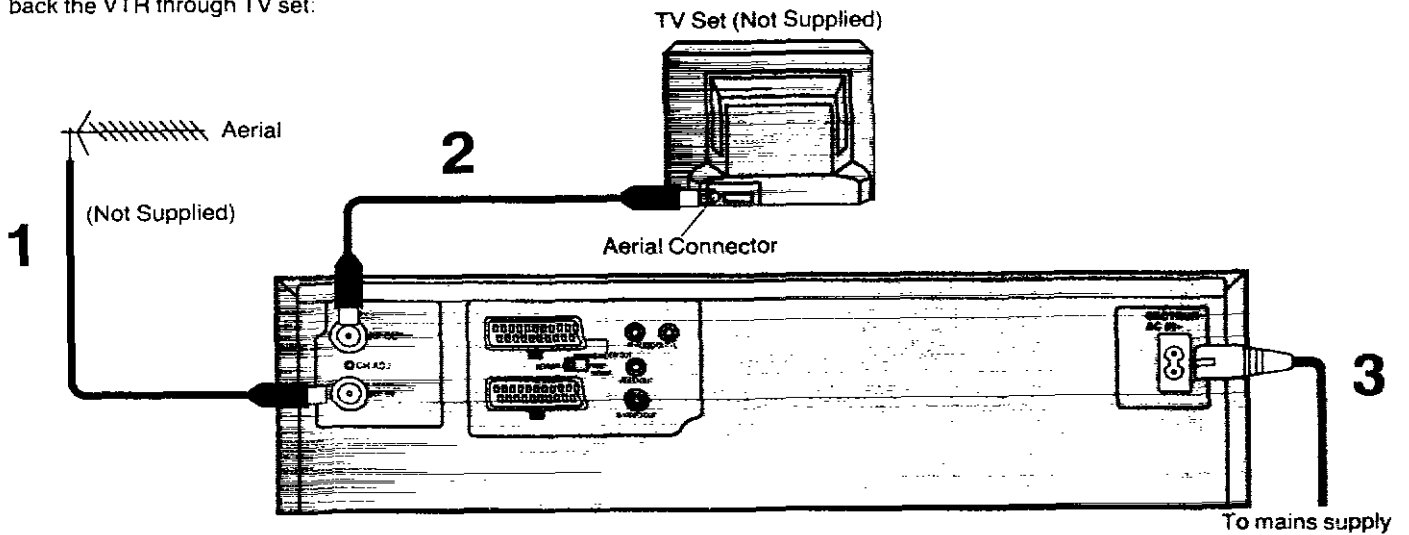
You can operate some manufactures of TV using the supplied remote controller after this setting up.

Initial Settings Using On Screen Displays

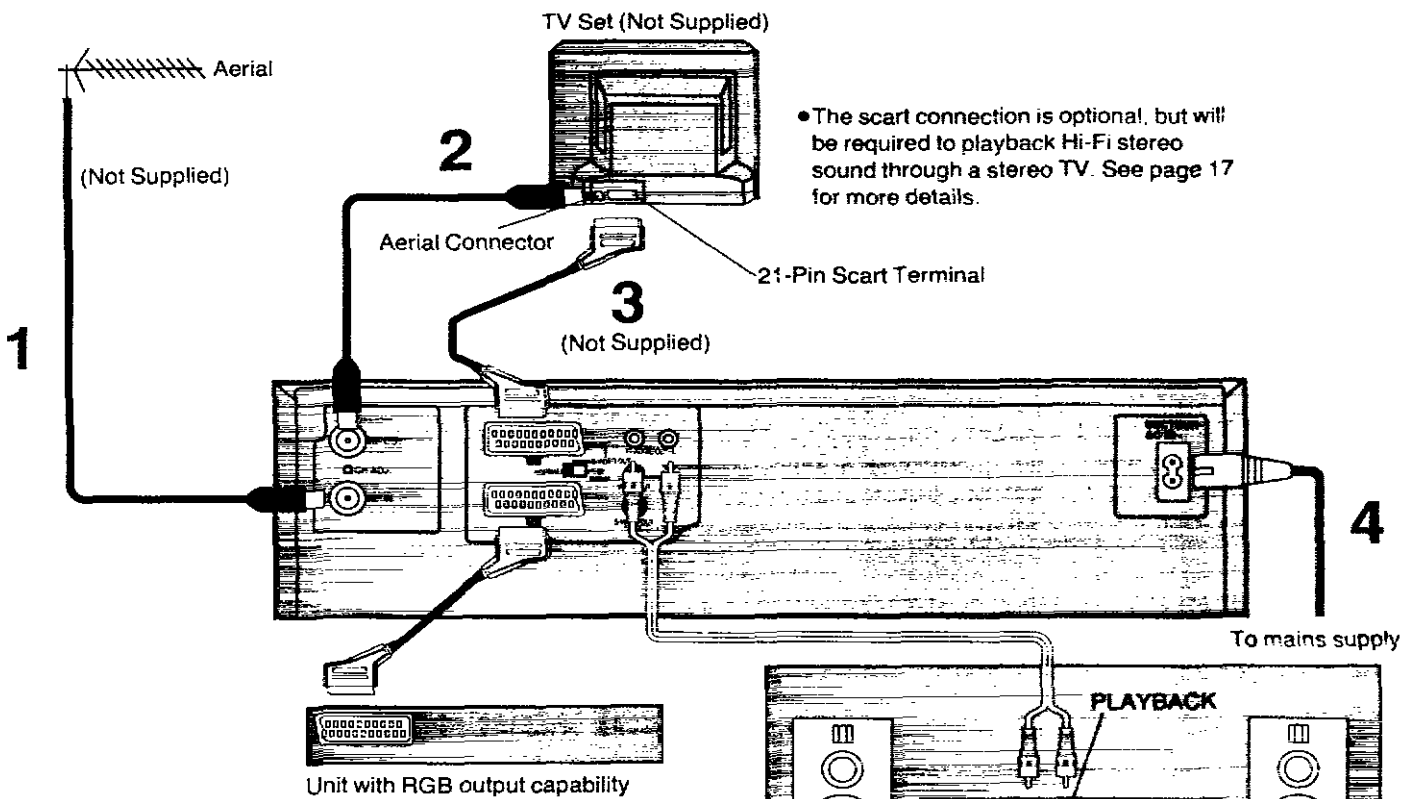
Connections

Basic Connections

The following connections are required to record and play back the VTR through TV set:

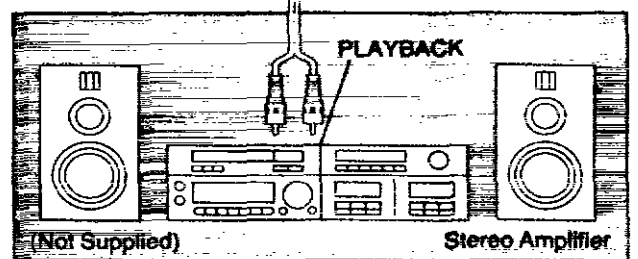


Connection to a TV Set with 21-Pin Scart Terminal



• The scart connection is optional, but will be required to playback Hi-Fi stereo sound through a stereo TV. See page 17 for more details.

Note:
 "RGB" is an abbreviation for "RED/GREEN/BLUE" signals. If the TV with RGB input capability is connected to AV1 and the unit with RGB output capability is connected to AV2, the TV can receive RGB signal from the unit through the VTR.
 • Use full-wired 21-pin AV cables for the connection.
 • Selection of RGB or normal video output is done by the external equipment connected to AV2 terminal.



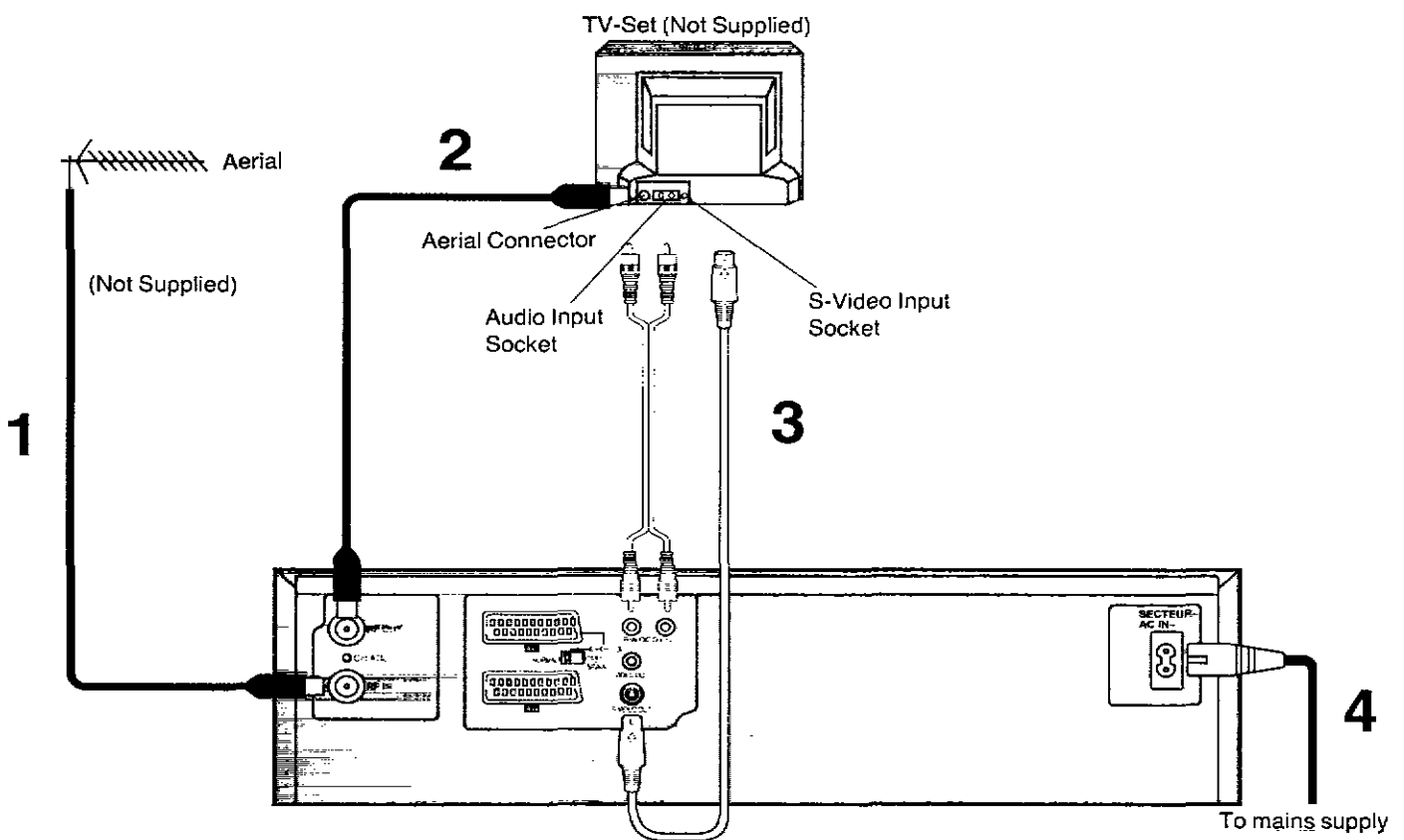
• Connection to a Stereo Amplifier

Connection to a TV Set with S-Video Socket

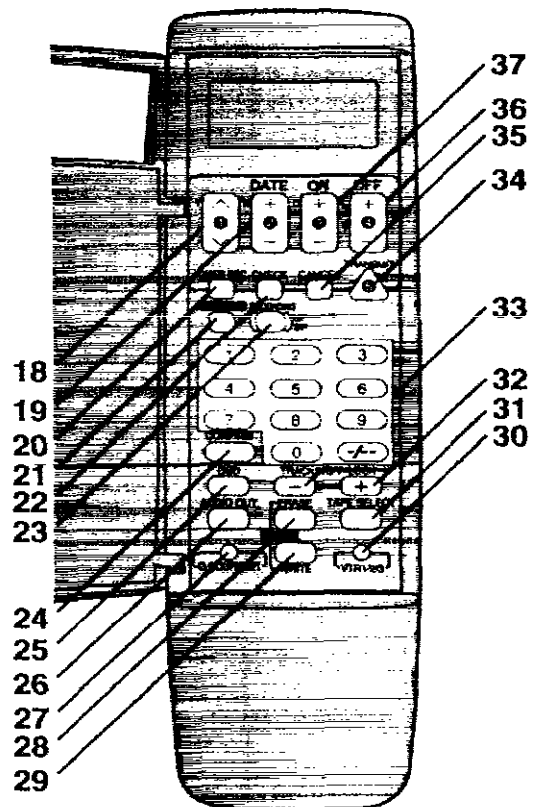
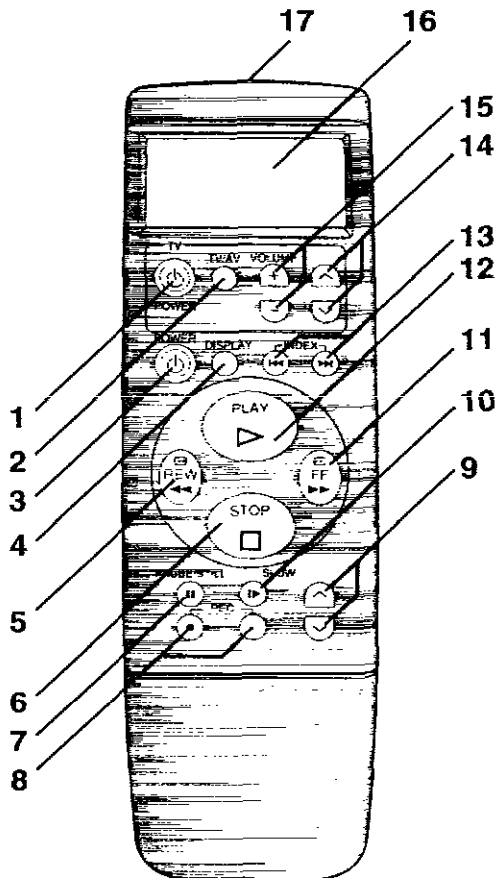
This VTR uses the S-VHS format that makes it possible to obtain high resolution and high picture quality by using the high-performance S-VHS video cassette tapes.

The conventional video sockets of VTRs output (input) a combination of the luminance signal (Y) and colour signal (C) which are recorded on the video tape. The new S (Separate)-Video Socket allows separate transmission of signals in order to obtain clearer pictures.

The connection with the S-Video Cable can also be used for playback of a tape that was recorded in the conventional VHS system. The "S" in the "S-Video Socket" stands for "SEPARATED Y/C" not for "S-VHS".



Infra-red Remote Controller



1 POWER (TV)

To switch the TV from on to standby mode or vice versa. In standby mode, the TV is still connected to the mains.

•With some TV models, it may only be possible to switch the TV to standby mode using this button.

2 TV/AV

To select the TV input.

3 POWER (VTR)

To switch the VTR from on to standby mode or vice versa. In standby mode, the VTR is still connected to the mains.

4 DISPLAY

To change the indication on the VTR Display.

→Clock→Counter→Remaining Tape Time

5 REW (REWIND)

In the stop mode: To rewind the tape.

In the playback mode: To search backward.

In the rewind mode: To obtain high speed picture. " \ll " is lit.

6 STOP

To stop any playback or recording.

7 PAUSE/STILL

During playback: Still picture.

During recording: To interrupt recording.

8 REC

To start a recording.

•Press both buttons simultaneously.

9 \vee \wedge (VTR)

To select the required programme position (TV station) of the VTR.

10 SLOW

For the slow motion playback function.

11 FF (FAST FORWARD)

In the stop mode: To fast forward the tape.

In the playback mode: To search forward.

In the fast forward mode: To obtain high speed picture. " \gg " is lit.

12 PLAY

To start playback. " \triangleright " is lit.

13 INDEX

For the index search function.

14 \vee \wedge (TV)

To select the required TV station of the TV.

15 VOLUME

To adjust the volume of the TV.

16 Display

17 Infra-red Transmitter

The programming data are transmitted from here to the VTR.

18 $\vee \wedge$ (Y)

- To programme a timer recording.
- To set the clock.

19 DATE (M)

- To programme a timer recording.
- To set the clock.

20 TIMER REC

To turn the timer recording function on and off.
 \square is lit or not lit.
 Once operating timer recording function, the normal VTR operation is not possible unless this button is set to off.

21 VIDEO PLUS+

To programme a Video Plus+ PlusCode.

22 CHECK

To check timer programmes.

23 RECORDING SP/LP

To select the tape speed desired for recording.
 SP gives the best picture quality.
 LP gives the longest recording time.

24 CONFIRM

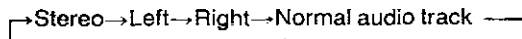
To convert the data of a PlusCode.

25 OSD

For the On Screen Display Function.

26 AUDIO OUT

To select the desired sound mode.
 At the every push of this button, the audio output mode changes as follows.



The Left and Right Indicators show which sound mode is selected in the following way.

- Stereo: Both the Left and Right Indicators are lit.
- Left: The Left Indicator is lit.
- Right: The Right Indicator is lit.
- Normal: Both the Left and Right Indicators are not lit.

27 CLOCK/PRESET

- To set the clock.
- To set the satellite position.
- To set the manufacturer number of the TV.

28 ERASE

To erase Index Signals.

29 WRITE

To write Index Signals.

30 VTR1/2/3

- VTR1: Set to this position on both the VTR and remote controller for normal use with one VTR.
- VTR2: Set to this position when using two Panasonic VTRs.
- VTR3: Set to this position when using three Panasonic VTRs.

This allows the remote controller to be set for operating VTR1, VTR2 or VTR3.

31 TAPE SELECT

To set the cassette tape length in order to obtain correct indication of the remaining tape time.
 E195: For E30, -60, -90, -120, -180 and -195 tapes
 E240: For E240 tape
 E260: For E260 and -300 tapes

32 TRACKING/V-LOCK

To adjust the tracking and the vertical locking.
 (See page 27.)

33 Number Buttons

- To select the programme positions.

9:

19:

- To enter a PlusCode.

34 TRANSMIT

To transmit the data that has been set on the remote controller to the VTR.

35 CANCEL

To cancel the settings made for a timer recording.

36 OFF (H/M)

- To programme a timer recording.
- To set the clock.
- To set the manufacturer number of the TV.
- To set the satellite position.

37 ON (D)

- To programme a timer recording.
- To set the clock.

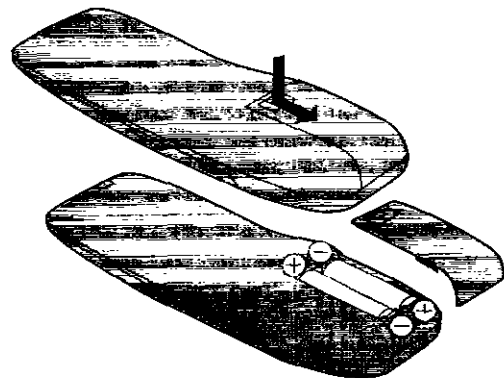
Power Source for the Remote Controller

The remote controller is powered by 2 "UM3" or "R6" size batteries. The life of the batteries is about one year, although this depends on the frequency of use.

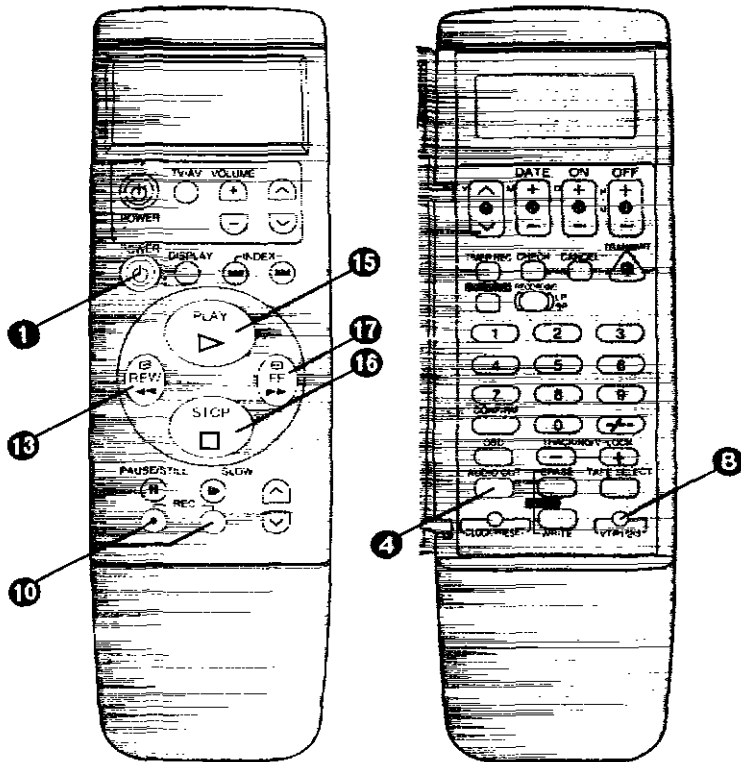
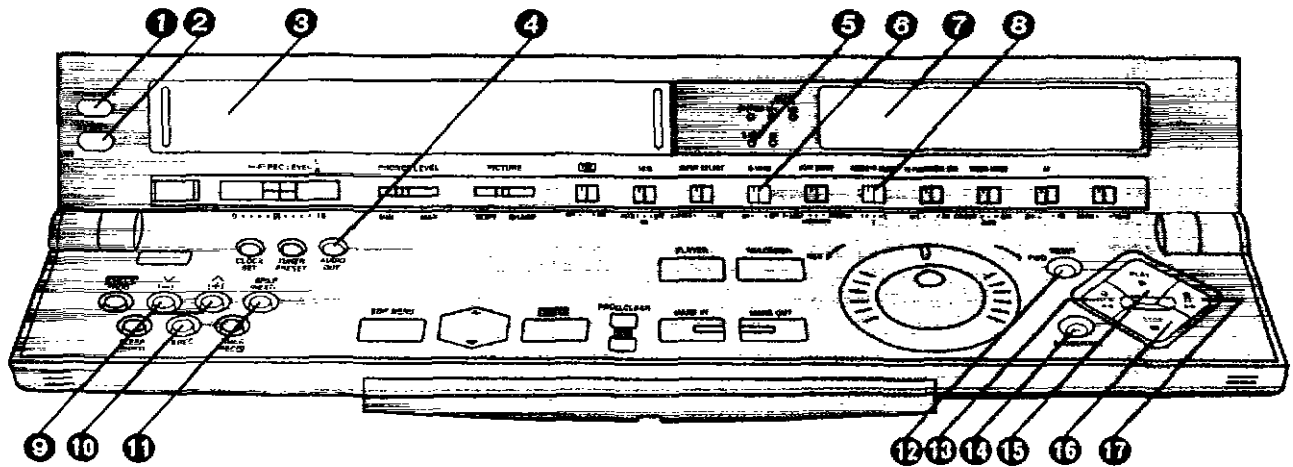
Precautions for Battery Replacement

- Load the new batteries with their polarity (\oplus and \ominus) aligned correctly.
- Do not apply heat to the batteries, or an internal short-circuit may occur.
- If you do not intend to use the remote controller for a long period of time, remove the batteries and store them in a cool and dry place.
- Remove spent batteries immediately and dispose of them.
- Do not use an old and a new battery together, and never use an alkaline battery with a manganese battery.

Installing the Batteries



Controls and Connection Sockets



Basic Controls

- 1 POWER**

Press to switch the unit on from standby mode or vice versa. In standby mode, the unit is still connected to the mains.
- 2 EJECT**

To eject a video cassette.
- 3 Cassette Compartment**

Insert a video cassette here.
- 4 AUDIO OUT**

To select the desired sound output mode. At every push of this button, the sound output mode changes as follows.

→Stereo→Left→Right→Normal audio track

The Left and Right Indicators show which sound mode is selected in the following way.

Stereo: Both the Left and Right Indicators are lit.
 Left: The Left Indicator is lit.
 Right: The Right Indicator is lit.
 Normal: Both the Left and Right Indicators are not lit.
- 5 S-VHS Indicator**

Lights up when the S-VHS switch is set to ON.

6 S-VHS

When recording on an S-VHS cassette tape, select the desired recording format with this switch.

ON: The recording will be made in the S-VHS format.

- The S-VHS indicator lights up.

OFF: The recording will be made in the VHS format.

- The S-VHS indicator does not light up.

(It is possible to make a recording on an S-VHS cassette tape in the VHS format, for example, in order to play back the tape on another VHS VTR.)

- When using VHS cassettes, the recording is made in the VHS format irrespective of the position to which this switch is set.
- For playback, it is not necessary to operate this switch.
- When a tape which was recorded in the S-VHS format is played back on a conventional VHS VTR, it is not possible to obtain playback picture.

7 Display

8 REMOTE MODE (VTR1/2/3)

VTR1: Set to this position on both the VTR and remote controller for normal use with one VTR.

VTR2: Set to this position when using two Panasonic VTRs.

VTR3: Set to this position when using three Panasonic VTRs.

This allows the remote controller to be set for operating VTR1, VTR2 or VTR3.

9 ∨ (-) ^ (+)

To select the required programme position (TV station).

To set the clock and timer recording.

10 REC

To start a recording.

11 SP/LP (NEXT)

To select the tape speed required for recording. SP gives the best picture quality.

LP gives the longest recording time.

To proceed to the next item during setting procedure.

12 RESET

To reset the tape counter (elapsed time) to "0:00.00".

- The tape counter is automatically reset to "0:00.00" when a video cassette is inserted.

13 REW (REWIND)

In the stop mode: To rewind the tape.

In the playback mode: To search backward.

In the rewind mode: To obtain high speed picture. "◀◀" is lit.

14 PAUSE/STILL

In the stop mode: Still picture (Jog/Shuttle mode)

During playback: Still picture (Jog/Shuttle mode)

During recording: To interrupt recording

15 PLAY

To start playback. "▷" is lit.

16 STOP

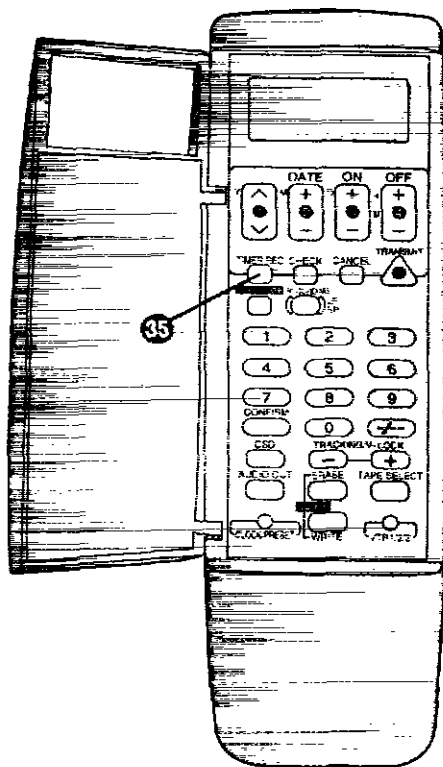
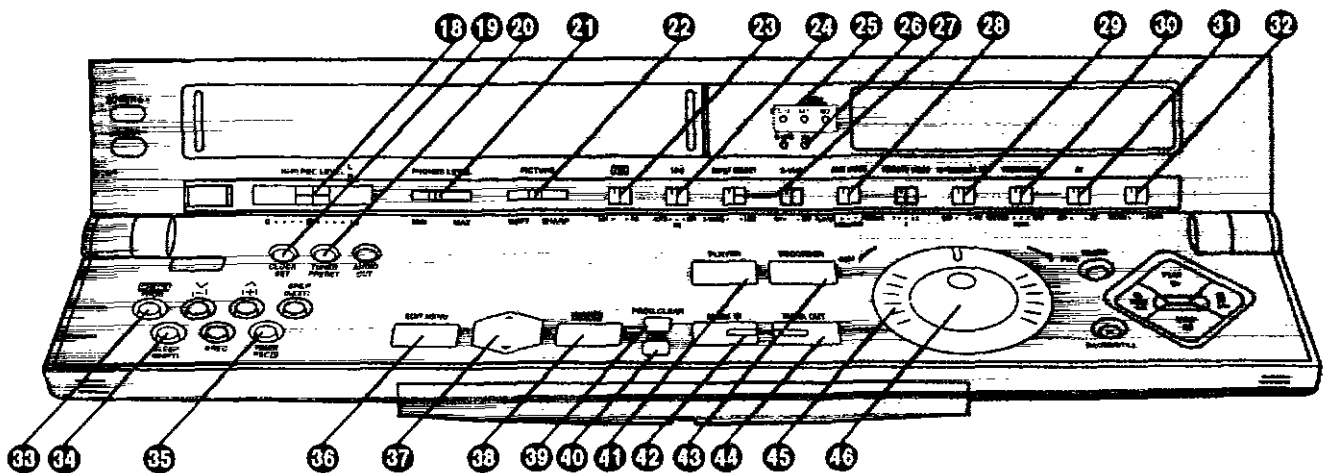
To stop any playback or recording.

17 FF (FAST FORWARD)

In the stop mode: To fast forward the tape.

In the playback mode: To search forward.

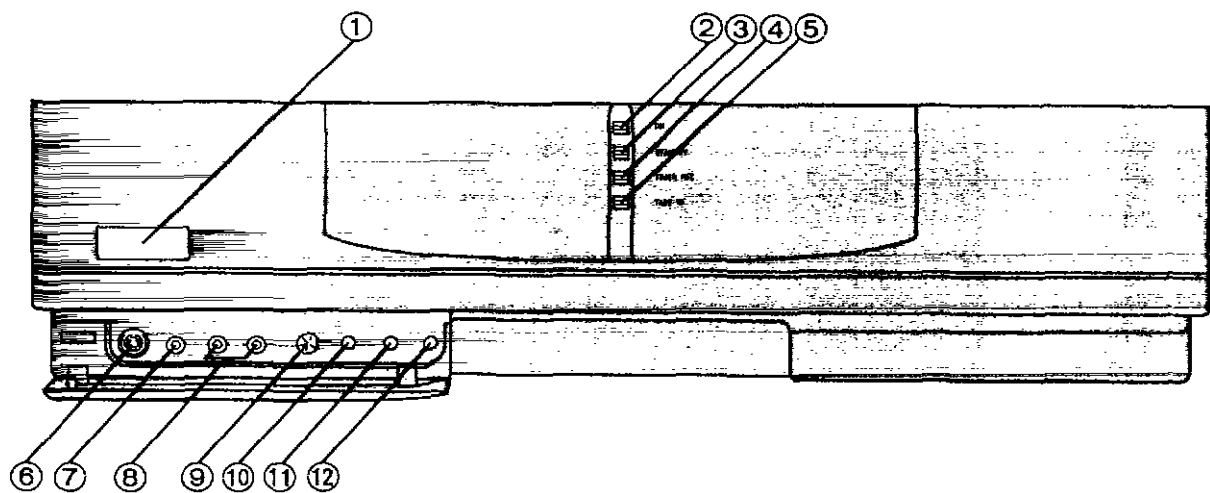
In the fast forward mode: To obtain high speed picture. "▷▷" is lit.



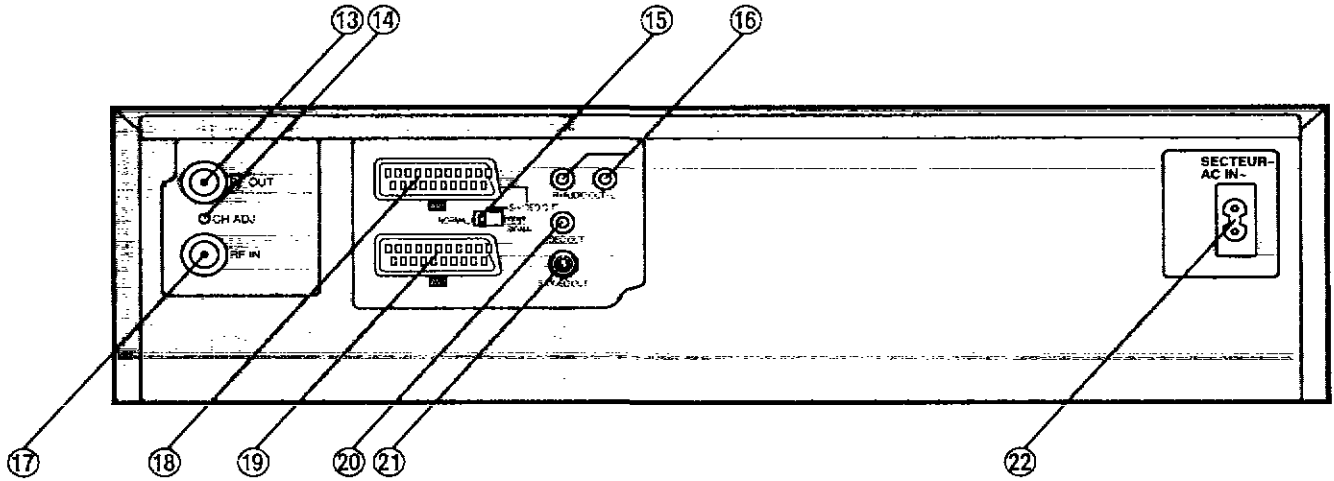
Advanced Controls

- 18 HI-FI REC LEVEL**
To adjust the recording level to peak at +4 dB on the recording level indicator.
- 19 CLOCK SET**
To set the time.
- 20 TUNER PRESET**
To initiate TV station settings for the tuner.
- 21 PHONES LEVEL**
For adjusting the volume level of connected stereo headphones.
- 22 PICTURE**
To make picture sharper (SHARP) or softer (SOFT).
- 23 TBC**
When the tape in the cassette is loose or damaged, or when the tape movement is unstable during recording or playback, the playback picture may shake from side to side and the picture may become distorted. In this case, activate the Time Base Corrector by setting the TBC Switch to ON, and the picture will become stable and the shaking will be minimized.
 - For normal use, set the TBC Switch to OFF.
 - During playback of some pre-recorded tapes, the tape may shake vertically. In such a case, set the TBC Switch to OFF.
 - This function only works during normal playback in the PAL system.
- 24 16:9**
 - AUTO:** For automatically identifying the pictures as 16:9 pictures or 4:3 pictures during recording and playback and showing them on the wide TV screen.
 - Normally set at this position.
 - ON:** For recording and playback in such a way that the pictures expanded to 16:9 are shown on the wide TV screen at all time.
 - OFF:** For recording and playback in such a way that 4:3 pictures are shown on the wide or 4:3 TV screen at all times.

- 25 STEREO, M1 and M2 Indicators**
When receiving a TV programme, the type of sound system in which it is broadcast is automatically indicated.
- 26 AI Indicator**
Lights up when the AI function is on.
- 27 INPUT SELECT**
When Recording via the AV3 sockets on the front panel, select A3 by pressing $\wedge \vee$ and set this switch to S-VIDEO or LINE.
S-VIDEO: Through the S-VIDEO IN and AUDIO IN sockets
LINE: Through the VIDEO IN and AUDIO IN sockets
- 28 EDIT MODE**
PLAYER: When this VTR is used as the playback VTR during editing operations.
RECORDER: When this VTR is used as the recording VTR during editing operations.
• Normally set at this position.
PASSIVE: When operating this VTR using another VTR or an editing controller.
• The picture quality best suited for editing is selected.
• When setting at this position, operation will not be possible and the On Screen Display will not appear. (See page 42 for details.)
- 29 Hi-Fi/NORMAL MIX**
OFF: Normally set at this position to reproduce the better sound available from the Hi-Fi track.
ON: Both sound tracks (the Hi-Fi sound track and the normal sound track) are played back mixed together. Use this setting when playing back a cassette tape which has been insert edited or audio dubbed.
- 30 VIDEO MODE**
COLOUR: When performing recording and playback in colour.
AUTO: The VTR automatically distinguishes between colour and black-and-white during recording and playback.
B/W: When performing recording and playback in black-and-white.
- 31 AI**
ON: Using the AI function, recording and playback are performed in the state which achieves optimum picture quality in light of characteristics of a tape.
• The picture sharpness cannot be adjusted in this setting.
OFF: Turns off the AI function.
- 32 NICAM/MONO**
NICAM: Normally set at this position.
MONO: Only set at this position to record the normal sound during a NICAM broadcast or if the stereo sound is distorted due to inferior reception conditions.
- 33 CHECK/PROG**
To select a timer programme number.
"1, 2, 3... or 8" is lit.
To display details of preset timer recording.
- 34 SLEEP (SHIFT)**
To set the time to turn off the VTR automatically.
To store a programme position.
- 35 TIMER REC**
To turn the timer recording function on and off.
 \square is lit or not lit.
Once Operating timer recording function, the normal VTR operation is not possible unless this button is set to off.
- 36 EDIT MENU**
To perform editing operations.
- 37 $\blacktriangle \blacktriangledown$**
To make selections from On Screen Display.
- 38 ENTER**
To make selections from On Screen Display.
- 39 PROG. CLEAR**
To cancel an editing programme.
- 40 ESC**
To return to the previous page on the screen.
To stop editing.
- 41 PLAYER**
To operate the playback VTR.
- 42 MARK IN**
To set the edit start point.
- 43 RECORDER**
To operate the recording VTR.
- 44 MARK OUT**
To set the edit end point.
- 45 Shuttle Ring**
To adjust playback speed backward or forward.
- 46 Jog Dial**
To locate any desired frame with utmost precision.

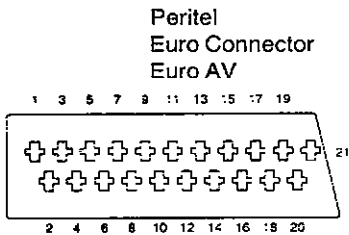


- ① **Infrared Remote Control Receiver Window**
- ② **ON Indicator**
Lights up when the VTR is turned on.
- ③ **STANDBY Indicator**
Lights up when the AC mains lead is connected and the VTR is turned off.
- ④ **TIMER REC Indicator**
Lights up when the timer recording function is on.
- ⑤ **TAPE IN Indicator**
Lights up when a cassette is inserted.
- ⑥ **S-VIDEO IN (AV3)**
To connect the S-Video cable to a movie camera or to another VTR that has a S-Video output socket.
- ⑦ **VIDEO IN (AV3)**
To connect the video cable to a movie camera or to another VTR.
- ⑧ **AUDIO IN (AV3)**
To connect the audio cable to a movie camera or to another VTR.
- ⑨ **EDIT**
To connect a movie camera or another VTR equipped with an edit socket or an editing controller.
- ⑩ **SYNC. EDIT**
To connect a movie camera or another VTR equipped with synchronized editing capability.
- ⑪ **MIC**
To connect a microphone for recording. Once connected, this socket has priority over other input terminals.
- ⑫ **PHONES**
To connect stereo headphones.



- 13 RF OUT**
To connect to the aerial terminal on a TV set.
- 14 CH ADJ.**
To adjust the RF transmitting channel 30~42.
- 15 NORMAL/S-VIDEO OUT/TEST SIGNAL**
NORMAL: Normally set to this position.
S-VIDEO OUT (AV1):
Set to this position when connecting the VTR to a TV set equipped with 21-pin AV Connector with pins for separate Y/C signal input.
TEST SIGNAL:
Set to this position when tuning the TV into the VTR.
The test signal is transmitted on channel 36 and AV1.

- 16 AUDIO OUT**
To connect the sound to a stereo audio system.
- 17 RF IN**
To connect to the external aerial.
- 18 AV1**
This 21-pin scart terminal carries input and output signals for both picture and sound. TV sets equipped with a similar socket can be connected here.
This is also called Scart

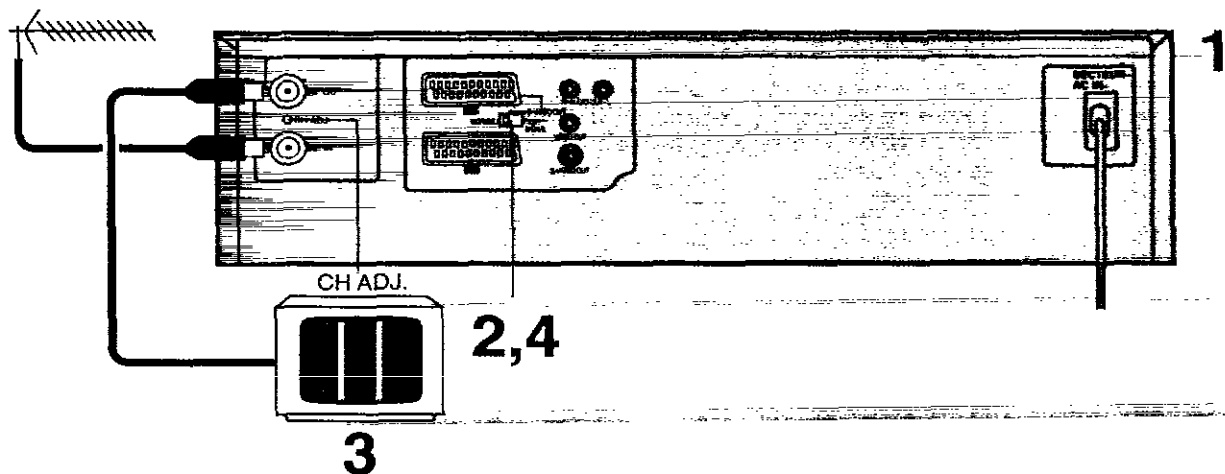


NORMAL (AV1/AV2)	S-VIDEO (AV1)
1 AUDIO OUTPUT CH2 (R)	1 AUDIO OUTPUT CH2 (R)
2 AUDIO INPUT CH2 (R)	2 AUDIO INPUT CH2 (R)
3 AUDIO OUTPUT CH1 (L)	3 AUDIO OUTPUT CH1 (L)
4 AUDIO GND	4 AUDIO GND
5 BLUE GND	5 No connection
6 AUDIO INPUT CH1 (L)	6 AUDIO INPUT CH1 (L)
7 BLUE OUTPUT (AV1)	7 No connection
8 BLUE INPUT (AV2)	8 SWITCHING VOLTAGE
9 GREEN GND	9 No connection
10 No connection	10 No connection
11 GREEN OUTPUT (AV1)	11 No connection
12 No connection	12 No connection
13 RED GND	13 No connection
14 BLANKING GND	14 No connection
15 RED OUTPUT (AV1)	15 C OUT
16 BLANKING	16 No connection
17 VIDEO OUTPUT GND	17 VIDEO OUTPUT GND
18 VIDEO INPUT GND	18 No connection
19 VIDEO OUTPUT	19 Y OUT
20 VIDEO INPUT	20 VIDEO INPUT
21 GND	21 GND

Note: Signals connected to AV2 will be automatically output to AV1 when the VTR is in standby mode, regardless of input select setting.

- 19 AV2**
To connect to a satellite receiver or another VTR.
●Only used as the input socket.
- 20 VIDEO OUT**
To connect the video cable to a TV or another VTR.
- 21 S-VIDEO OUT**
To connect the S-Video cable to a TV or another VTR that has a S-Video input socket.
- 22 AC IN~**
To connect to the main power supply.

Tuning the TV to your VTR



It is possible to view the video picture on your TV in the same way that you watch TV broadcasts.

If you have connected the VTR to the TV through the 21-pin scart terminal or Audio/Video/S-Video output sockets then you do not need to follow the procedure mentioned below.

Preparation

- Turn on the TV.
- Refer to the operating instruction of the TV set and carry out tuning/preset procedure.

Operations

1



Turn on the VTR.

2



To generate a test pattern, set **NORMAL/S-VIDEO OUT/TEST SIGNAL** to **TEST SIGNAL**.

3



Set the TV to an unused position which you wish to use for your video playback.

- Tune the TV until the test pattern appears on the screen.
- On Panasonic TV the programme number 0 should be selected to obtain best performance.

4



Set **NORMAL/S-VIDEO OUT/TEST SIGNAL** to **NORMAL**.

Note:

The test signal is transmitted on video channel 36. If you are encountering interference from a TV broadcast on this video channel, you may readjust to another free channel (30~42) by using the **CH ADJ.** screw which is located on the rear of the VTR. When rotating the **CH ADJ.** screw, take care not to turn it too far. Please note that if the **CH ADJ.** screw is used then you will have to retune your TV to the test signal as in item 2 to 4 above.

Setting the Clock of the VTR using the Remote Controller

Tuning the TV to your VTR
Setting the Clock of the VTR
using the Remote Controller

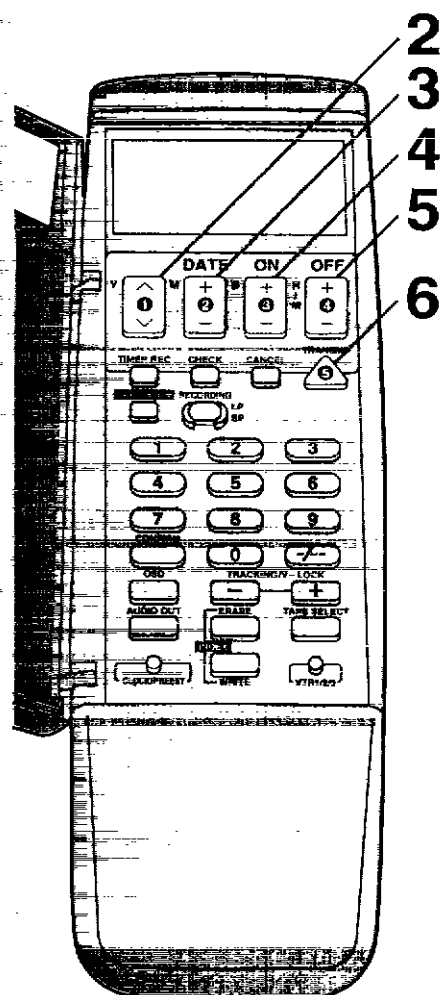
By setting the time on the remote controller's clock and then by transmitting this setting to the VTR, the clocks on both the remote controller and VTR display the same time. The built-in digital clock employs the 24-hour system.

Preparation

- Turn on the VTR.
- Install the batteries in the remote controller.

For Example:

Date; 16th, October, 1999
Time; 20:15

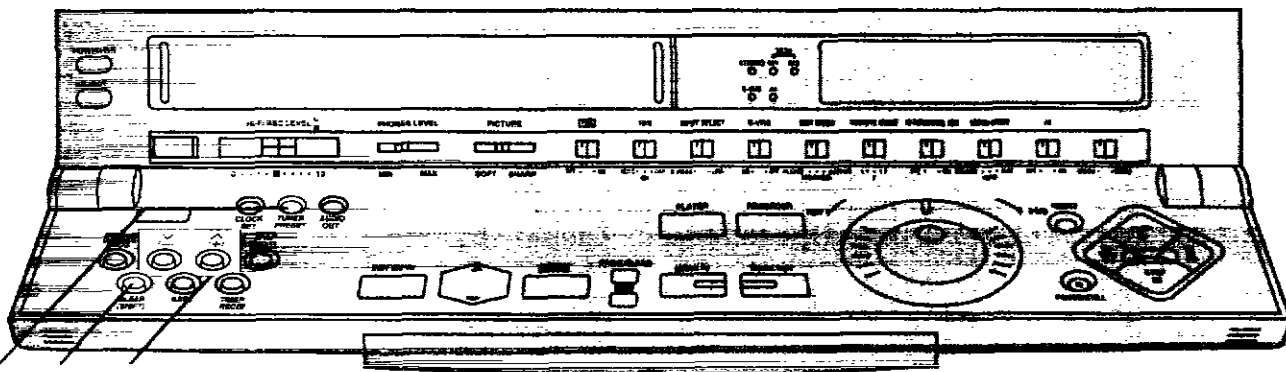


Operations	Display Symbols	
1		Open the door of the remote controller.
2		Set Year "99".
3		Set Month "10".
4		Set Date "16".
5		Set Time "20:15". • When it is kept pressed, the indication changes in 30-minute steps.
6		Press TRANSMIT . • The clocks on both the remote controller and VTR now start displaying the same time from 0 second.
7		Close the door of the remote controller.

Note:

To change the previous clock setting, press **CLOCK/PRESET** for at least 2 seconds. The previous clock setting will be displayed. Then follow steps 2 to 7 above.

Storing TV Broadcasts into your VTR



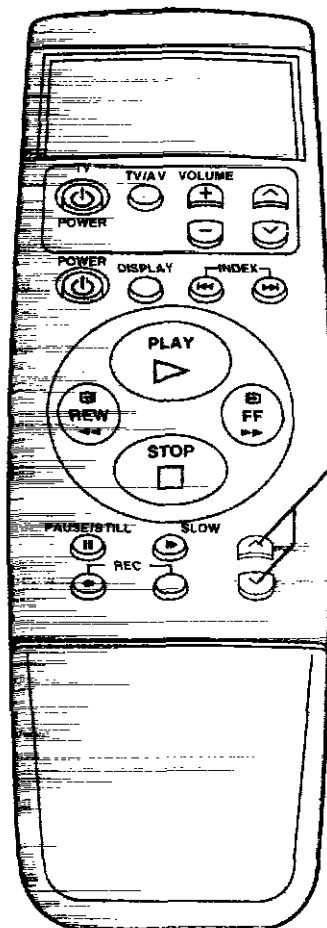
1,5 4 2

Introduction

The VTR is fitted with its own tuner (just like a normal TV set) and can be pre-set to receive up to 99 TV broadcast stations.



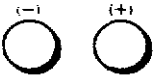






Preparation

- Confirm that the TV is on and the VTR viewing channel is selected.
- Turn on the VTR and select the programme position except A1, A2 and A3.
- Install the batteries in the remote controller.



Operations

Display Symbols

<p>1</p> 		<p>Keep TUNER PRESET pressed for more than 2 seconds.</p>
<p>2</p> 		<p>Search for the TV Station. • If the required station is not displayed, press + or - again.</p>
<p>3</p> 		<p>Select programme position.</p>
<p>4</p> 		<p>Store the broadcast station. • To store the other stations, repeat steps 2 to 4.</p>
<p>5</p> 		<p>Press TUNER PRESET.</p>

Note:

(20) While tuning, your VTR may lock onto several weak stations from distant transmitters. Should this occur press + or - again until a strong station is received.

Channel Plan

You should set the programme positions on the VTR to match the remote controller setting, so when using the Video Plus+ programming the correct broadcast station is recorded.

The table below shows the correct setting:

Programme position	TV station
1	BBC1
2	BBC2
3	ITV
4	Channel 4
A1, A2, A3, 5~20	*Satellite input

*Satellite input

To receive satellite stations, the satellite receiver must be connected to the VTR and programme position must be set depending on the type of the connection made.

- A1: When the satellite receiver is connected to the AV1 socket
- A2: When the satellite receiver is connected to the AV2 socket
- A3: When the satellite receiver is connected to the Audio/Video input sockets (AV3)
- 5~20: When the satellite receiver is connected by means of the RF coaxial cable. Follow the tuning procedure on page 20.

Tuning Procedure Using the VTR Only

Stations can be tuned in by following the steps given below.

- 1 Press **TUNER PRESET** for more than 2 seconds.
- 2 Search for the TV station by pressing \wedge (+) or \vee (-), and then press **SP/LP (NEXT)**.
- 3 Select programme position by using \wedge (+) or \vee (-).
- 4 Press **SLEEP (SHIFT)** to store the broadcast station.
 - To store the other stations, press **SP/LP (NEXT)** and then repeat steps 2 to 4.
- 5 Press **TUNER PRESET**.

Direct Channel Input Tuning Procedure

If you know the channels on which the TV stations can be received, the TV stations can be tuned in by following the steps given below.

- 1 Keep **TUNER PRESET** pressed for more than 2 seconds.
- 2 Select the programme position by using \wedge or \vee on the remote controller.
- 3 Input the channel number for the required TV station by using Number buttons on the remote controller.
- 4 Press **SLEEP (SHIFT)** to store the broadcast station.
 - To store the other stations, repeat steps 2 to 4.
- 5 Press **TUNER PRESET**.

Setting the Satellite Position on the Remote Controller

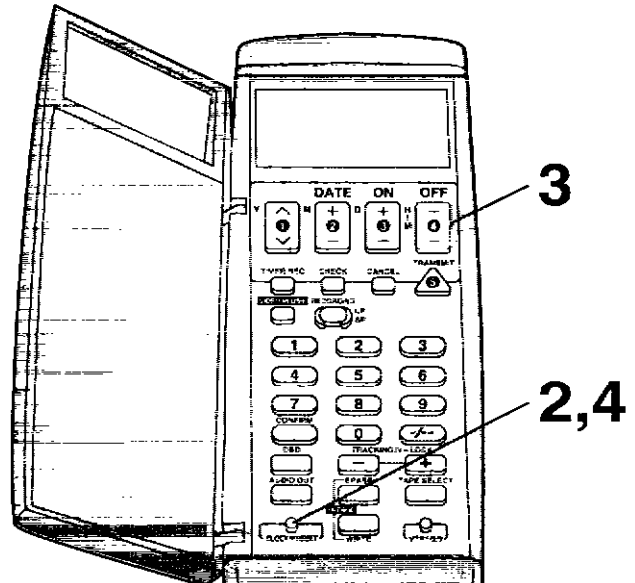
The remote controller must be set to the selected programme position for the satellite receiver, in order to record satellite stations using Video Plus+ programming.

Note:

A satellite receiver cannot be operated using this unit's remote controller.

Preparation

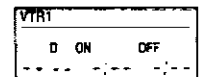
Set the clock of the remote controller first.



Operations

Display Symbols

- 1 Open the door of the remote controller.



- 2 Keep **CLOCK/PRESET** pressed for more than 2 seconds and then press it again.



- 3 Select A1, A2, A3 or 5~20.



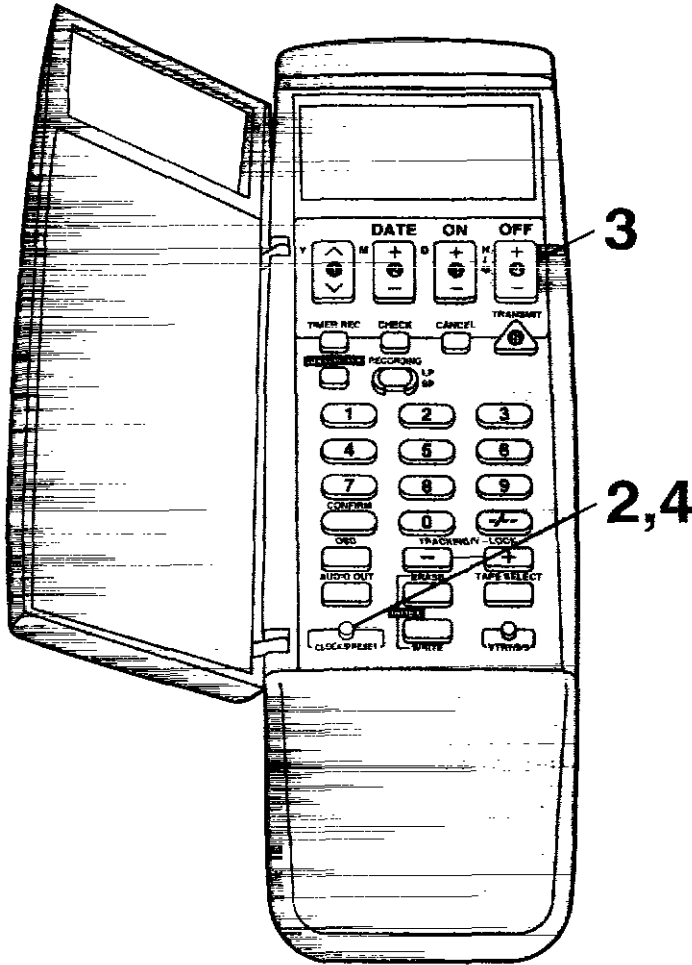
- 4 Press **CLOCK/PRESET** twice.



- 5 Close the door of the remote controller.

Setting the Remote Controller for Operation of your TV

You can operate some manufactures of TV (see table below) using the supplied remote controller after this setting up.



Preparation

- Turn on the TV.
- Install the batteries in the remote controller.

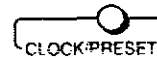
Operations

Display Symbols

- 1 Open the door of the remote controller.



- 2 Keep **CLOCK/PRESET** pressed for more than 2 seconds and then press it twice.



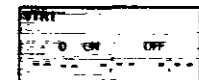
- "TV" now appears on the remote controller's display.

- 3 Press **OFF** several times.



- When the number matches the manufacturer of your TV, the TV's power is turned off.

- 4 Press **CLOCK/PRESET**.



- 5 Close the door of the remote controller.

When the number is 1, 2, 3 or 4:

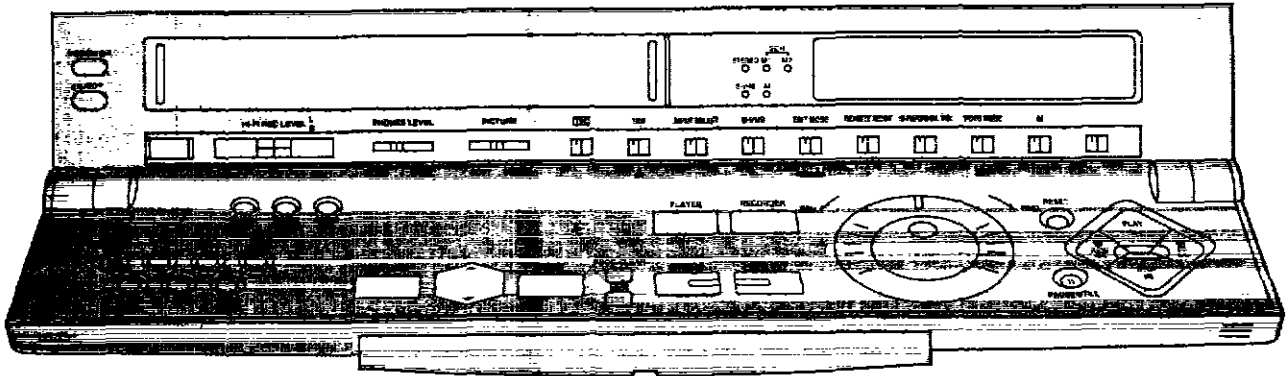
When the TV's power is turned off in step 3 above, turn it back on and adjust the TV's volume using this remote controller. The volume can be adjusted if the number matches the manufacturer of TV. If it is not possible to adjust the TV's volume, try setting the number (1 to 4) to match the manufacturer of TV again until the volume can be adjusted.

Note:

Some TV models cannot be operated using this remote controller.

Number	Manufacturer
1	Panasonic
2	
3	
4	
5	GRUNDIG/Blaupunkt
6	PHILIPS
7	SONY

Initial Settings Using On Screen Displays



Preparation

- Confirm that the TV is on and the VTR viewing channel is selected.
- Turn on the VTR.
- Ensure that **EDIT MODE** is set to either **PLAYER** or **RECORDER**, but not **PASSIVE**, otherwise On Screen Displays will not work.

1 Press **EDIT MENU**.



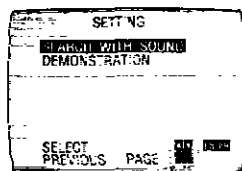
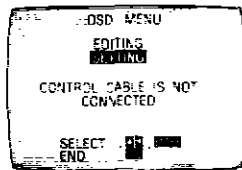
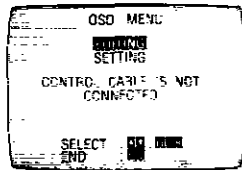
2 Select **SETTING**.



3 Press **ENTER**.



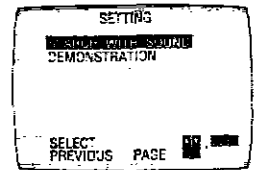
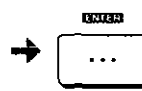
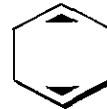
On Screen Display



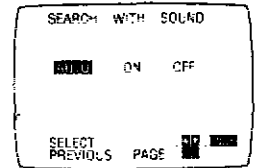
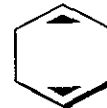
To select Sound Setting

Follow steps 1 to 3 of the above procedure.

4 Select **SEARCH WITH SOUND**.



5 Select the desired setting.



AUTO: The sound can be heard during special playback only when an editing operation is in progress.

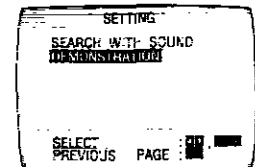
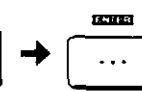
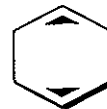
ON: The sound can always be heard during special playback.

OFF: The sound can not be heard during special playback i.e. cue, review, slow playback.

To View a Demonstration

Follow steps 1 to 3 of the above procedure.

4 Select **DEMONSTRATION**.



- The On Screen Displays for editing are displayed one after the other at about five second intervals.

Optional Function

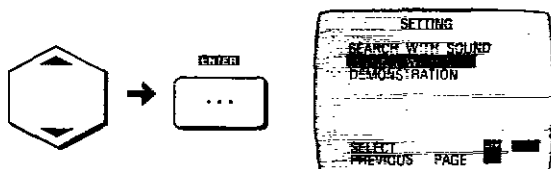
VITC (Vertical Interval Time Code) Function

As an address (individual number) is recorded for each frame, it is possible to find the accurate position of any desired scene or picture on a tape by checking the address during playback. This address is called "Time Code". Since the VITC signals (Vertical Interval Time Code) are recorded together with the picture signals, they will not be cancelled even when the video cassette is taken out from the VTR or the VTR is switched off. This makes it possible to check the precise position of any desired picture at any time.

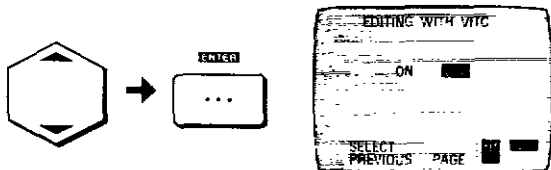
- The VITC function becomes operative when the VTR is equipped with the optional VITC adaptor. Consult your authorized video dealer.

Follow steps 1 to 3 of the above procedure.

4 Select EDITING WITH VITC.



5 Select the desired setting.



- ON: For reading the VITC signals during playback and writing them during recording.
The time code is indicated on the counter in increments of hours, minutes and seconds. During programme editing, it appears on the screen in increments of hours, minutes, seconds and frames (25 frames per second).
- OFF: The normal counter is displayed.

Reading the VITC signals

"--:--:--" appears on the counter when the cassette is inserted. When playback is started, the VITC signals are read and the time code is displayed.

- When VITC signals have not been written on the tape, the time code is not displayed.

Writing the VITC signals

"--:--:--" appears on the counter when the cassette is inserted. When recording is started, the VITC signals are written starting at 0h00m00s00f.

If recording is started after the tape has been played back and the VITC signals read, the VITC signals will be written following on from the time code which is displayed on the counter at that time.

Notes:

- To use the VITC function to edit, be sure to first turn on the VITC function with the procedure described above, then begin editing after cancelling all editing programmes used last time.
- When tracking is out of adjustment, the VITC signals may not be properly read.
- The counter cannot be reset when the VITC function is on. This is because the VITC signals are recorded on the tape.
- When the VITC function is on, up to 50 scenes can be programmed in the programme assemble editing mode. If the VTR is not equipped with the optional VITC adaptor, a maximum of 10 scenes can be programmed using the counter.
- To make optimal use of the advantages offered by the VITC function during editing, this VTR should be connected to another NV-HS1000 also equipped with the VITC function. When this VTR is to be connected to another unit which is not equipped with the VITC function, the editing precision will be increased if the NV-HS1000 is used as the playback VTR.

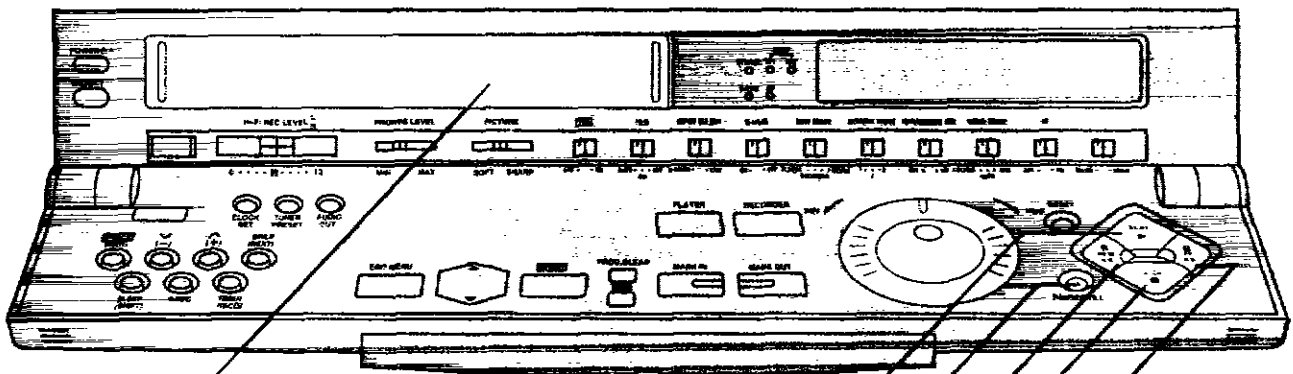
Basic Operations

Playback

Manual Recording

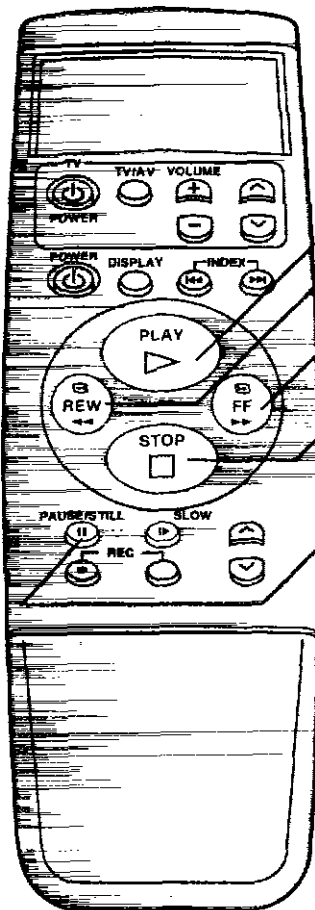
Basic Operations

Playback



1

2 5 4 6 3



2
4

3

6

5

Operations

Display Symbols

1



Insert a recorded cassette tape.

2



Start viewing the picture.

3



Search forward by briefly pressing **FF**.
•To change back to normal playback, press **PLAY**.

4



Search backward by briefly pressing **REW**.
•To change back to normal playback, press **PLAY**.

5



View a still picture.
•To continue the normal playback, press **PLAY** or **PAUSE/STILL**

6



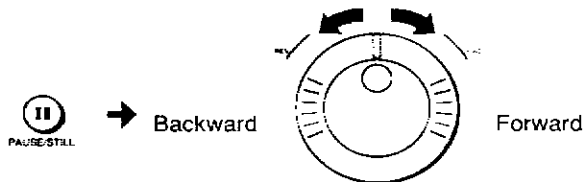
Stop viewing the picture.

Other Playback Functions

To change the Playback Speed

Using Shuttle Ring:

- 1 Press PAUSE/STILL on the VTR.
- 2 Rotate Shuttle Ring.



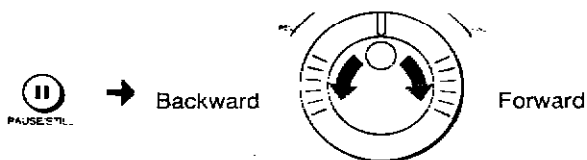
Using Remote Controller:

Press SLOW during playback to activate slow playback.



To locate the Desired Picture exactly

- 1 Press PAUSE/STILL on the VTR.
- 2 Turn Jog Dial.



To obtain High Speed Picture during Fast Forward or Rewind

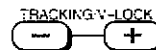
Keep FF pressed during fast forward.
Keep REW pressed during rewind.



Notes:

- Audio reproduction of linear (conventionally recorded) tapes will be monaural when played back on the FM Hi-Fi video recorders.
- Cue or review playback will be automatically released after 10 minutes, and still or slow playback after 5 minutes.
- In "LP" mode only:
 1. During any playback mode other than normal playback, the picture may have some noise bars, the colour may be unstable, or a black and white picture may appear.
 2. When playing back a tape which was recorded on another VTR, it may be necessary to adjust the Tracking Control. In some cases the picture quality may still be inferior. This is due to limitation of format.

To adjust the Tracking and the Vertical Locking



For manual tracking adjustment

The + and - buttons are used to adjust the tracking when, for example, noise bars on the picture are better removed manually than by the automatic digital tracking control. Press both buttons together to return to automatic digital tracking control.

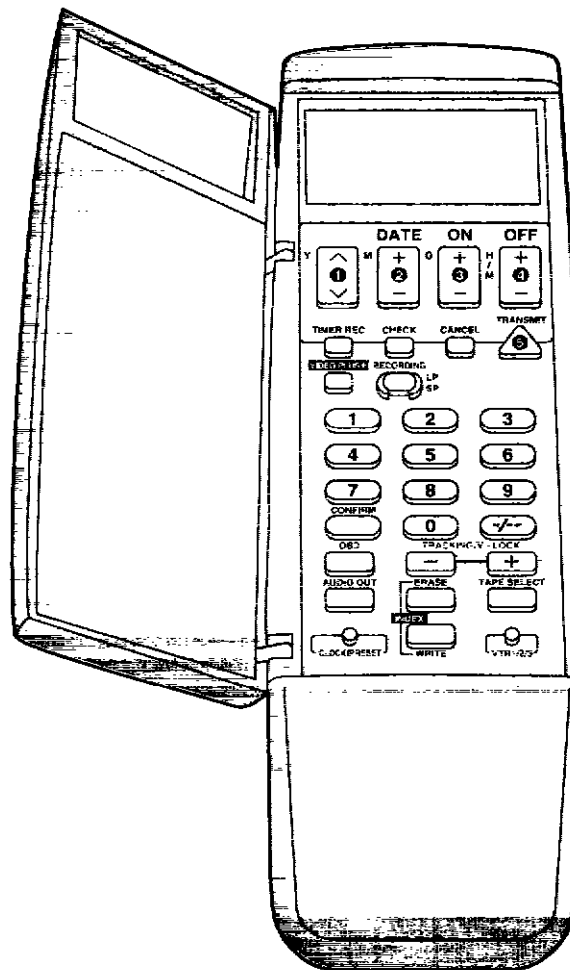
For slow tracking adjustment

When noise bars appear during Still or Slow playback, switch over to slow playback and adjust with the + or - button to reduce the noise bars.

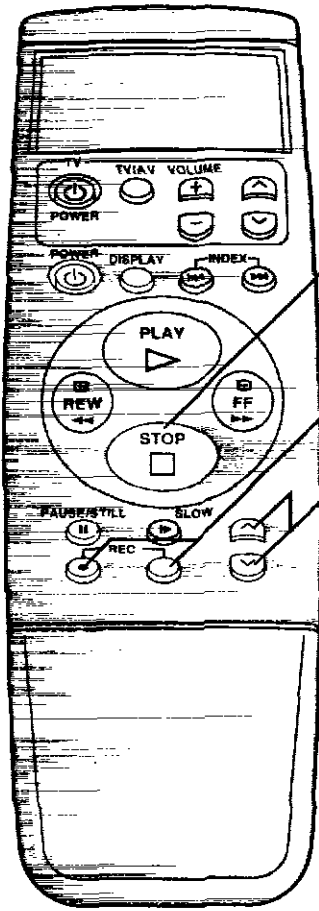
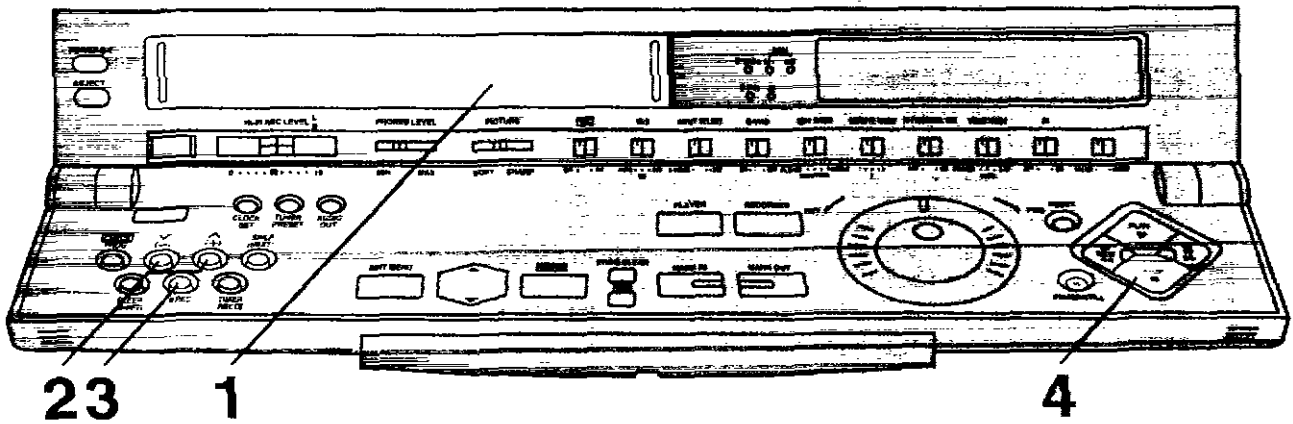
For vertical locking adjustment

Use the + and - buttons to minimize any vertical jitter during still-picture playback.

- Even after manual adjustment, noise bars or vertical jitter may not be eliminated completely, especially for tapes recorded on another VTR. This is not malfunction.



Manual Recording



Operations	Display Symbols
1 	 <p>Insert a cassette tape. • If it has already been inserted, press POWER to turn the VTR on.</p>
2 	 <p>Select TV station.</p>
3 	 <p>Start recording.</p>
4 	<p>Stop recording.</p>

To select the Desired Tape Speed

Press SP/LP before recording.



To interrupt Recording

Press PAUSE/STILL during recording.
Press again to continue recording.

PAUSE/STILL



To record One TV Programme while Viewing Another Programme

- 1 Refer to the manual recording operations steps 1 to 3.
- 2 Select the TV programme on your TV set you wish to view at the present time.

To display the Approximate Remaining Tape Time

- 1 Press TAPE SELECT to select the corresponding cassette tape length.

TAPE SELECT



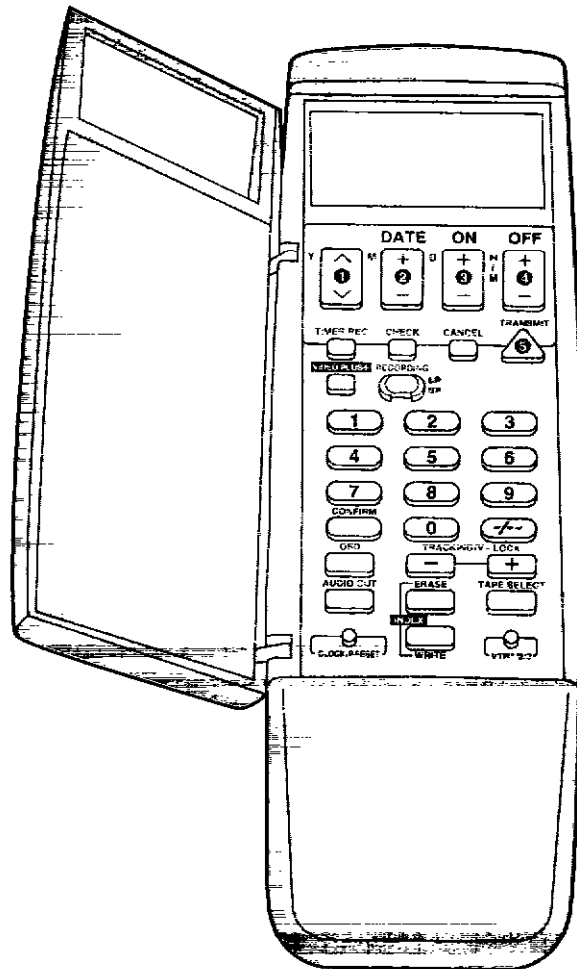
- E195: For E30, -60, -90, -120, -180 and -195 tapes
- E240: For E240 tape
- E260: For E260 and -300 tapes

- 2 Press DISPLAY.

DISPLAY



→Clock→Counter→Remaining Tape Time→



Notes:

- When a video cassette with a broken off tab is inserted, the "E00" indication will flash to indicate that recording is not possible.
- The recording pause mode will be automatically released after 5 minutes, and be back to the stop mode.

Advanced Operations

Timer Recording

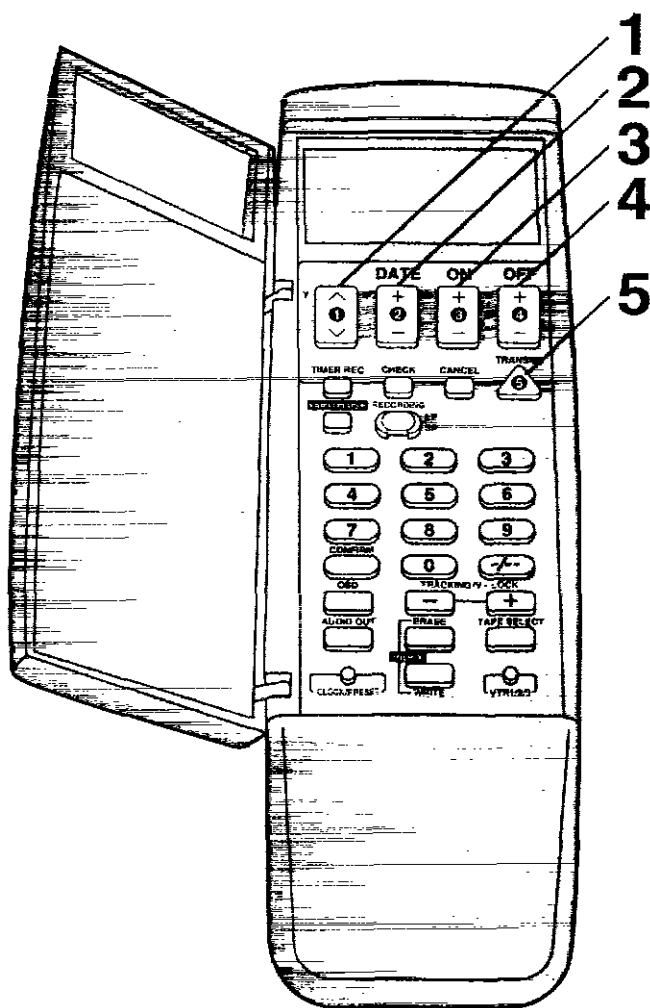
Up to 8 timer programmes can be recorded up to one month in advance by setting the timer, including daily and weekly programmes.

The NICAM Broadcast System

Other Functions

Timer Recording

Using the Remote Controller



Preparation

- Insert a cassette tape with an intact erasure prevention tab.
- Set EDIT MODE to PLAYER or RECORDER, not PASSIVE.
- Open the door of the remote controller.

For Example:

Programme position (channel); 2
 Date; 27th, October
 Starting time; 20:02
 Ending time; 21:30

Operations Display Symbols

1 Set Programme position (channel) "2".



2 Set Date "27".



3 Set Starting time "20:02".



- When it is kept pressed, the indication changes in 30-minute steps.

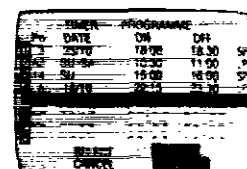
4 Set Ending time "21:30".



5 Press TRANSMIT.



On Screen Display



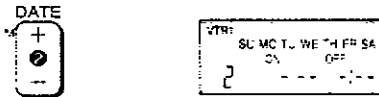
6 Close the door of the remote controller.

Daily Timer Recording

For this timer function, several groups of days can be selected.

- (A) Daily recording from Sunday to Saturday
- (B) Daily recording from Monday to Saturday
- (C) Daily recording from Monday to Friday

In step 2, select the desired days by pressing **DATE** —. For Example, (A)



Weekly Timer Recording

In step 2, select the desired day by pressing **DATE** —. For example, SU (Sunday)



Timer Recording from External Signal Source

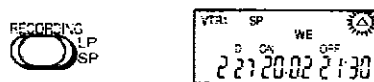
If Timer Recording is performed by a unit connected to the AV1/AV2 Socket or the Audio/Video/S-Video input sockets, select the A1, A2 or A3 indicator in step 1 for the programme position.

- A1: Through the AV1 socket
 - A2: Through the AV2 socket
 - A3: Through the AV3 sockets on front panel
- Set **INPUT SELECT** on the VTR.
S-VIDEO: Through the S-VIDEO IN and AUDIO IN sockets
LINE: Through the VIDEO IN and AUDIO IN sockets



Selecting the Desired Tape Speed

Press **RECORDING SP/LP** in any of steps 2-4.



Checking a Timer Programme

•The VTR must be turned on, or the timer recording indicator "□" is lit.

Press **CHECK**.



On Screen Display

Pr	DATE	ON	OFF	
01A2	SU-SA	18:30	19:00	LP
0214	SJ	15:00	16:00	SP
03	18:10	22:15	23:30	LP
02	27:10	28:02	21:30	SP
SELECT CANCEL				

Cancelling a Timer Programme

•The VTR must be turned on, or the timer recording indicator "□" is lit.

1 Press **CHECK** repeatedly to select the desired timer programme number.



Pr	DATE	ON	OFF	
03	25:10	18:00	18:30	SP
01A2	SU-SA	18:30	19:00	LP
05	18:10	22:15	23:30	LP
02	27:10	28:02	21:30	SP
SELECT CANCEL				

2 Press **CANCEL**.



Pr	DATE	ON	OFF	
03	25:10	18:00	18:30	SP
01A2	SU-SA	18:30	19:00	LP
05	18:10	22:15	23:30	LP
02	27:10	28:02	21:30	SP
SELECT CANCEL				

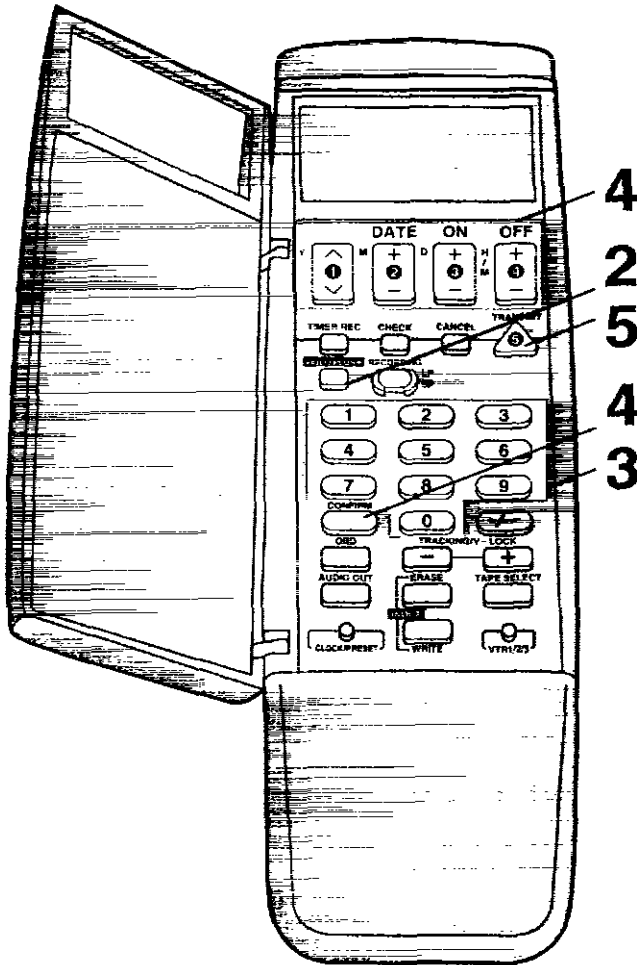
Notes:

- When **EDIT MODE** is set to **PASSIVE**, the timer recording function does not work.
- If a timer recording is not performed to the end (due to insufficient tape or cancellation by the user), the programmed timer recording data will be cancelled from the memory by 4 a.m. two days later. However, if the Timer Record Function is activated at that time, the programmed timer recording data will be cancelled at 4 a.m. the next day.

Programming the Video Plus+ PlusCode

Programming is now easier than ever: simply enter the PlusCode provided in the programme schedule column carried by newspapers and magazines.

PlusCodes are numbers which are assigned to each programme listed in the TV programme schedule carried in newspapers and TV guides. When these codes are entered and **TRANSMIT** is pressed, the codes are converted into the actual programming and sent to the VTR.



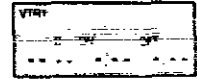
Preparation

- Insert a cassette tape with an intact erasure prevention tab.
- Set the programme positions on both the VTR and remote controller as shown on pages 20–21.

Operations

Display Symbols

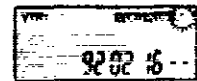
- 1** Open the door of the remote controller.



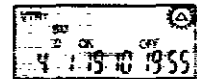
- 2** Press **VIDEO PLUS+**.



- 3** Enter a PlusCode.
Example: 920216



- 4** Press **CONFIRM** to check that the number corresponds to the right programme.



- To make any corrections, use buttons 1–9.

- 5** Press **TRANSMIT**.



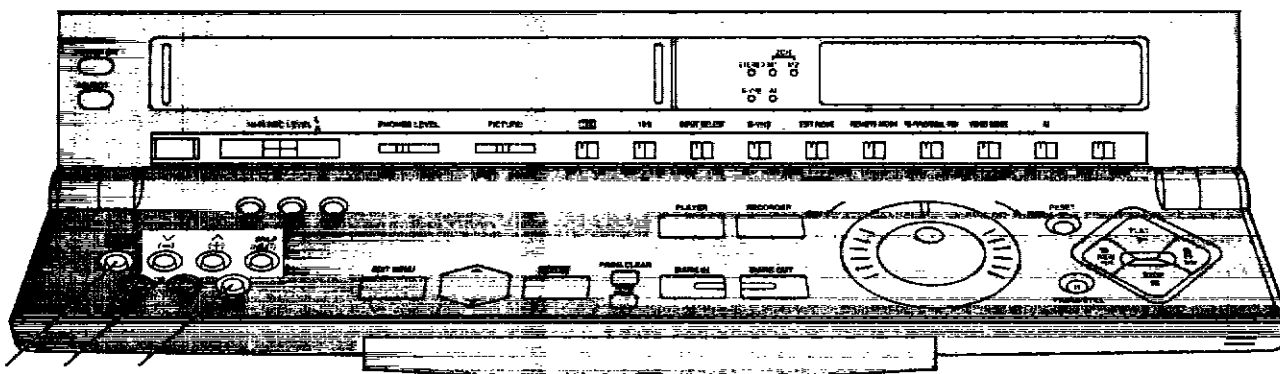
On Screen Display

TIME	DATE	ON	OFF
19:00	19-10	19:00	19:30
19:30	19-10	19:30	20:00
20:00	19-10	20:00	20:30
20:30	19-10	20:30	21:00

- 6** Close the door of the remote controller.

Notes:

- To select the desired tape speed, press **RECORDING SP/LP** in any of steps 3–4.
- When the PlusCode is used for programming, the recording time may be slightly longer than the actual programme time.
- Repeat steps 2 to 4 if "Err" appears on the remote controller.
- When programming two or more programmes, repeat steps 2 to 5.
- The procedures for checking and canceling whatever has been programmed are the same as for remote control programming.



1 2 3

Using the Buttons on the VTR

Preparation














Insert a cassette tape with an intact erasure prevention tab.

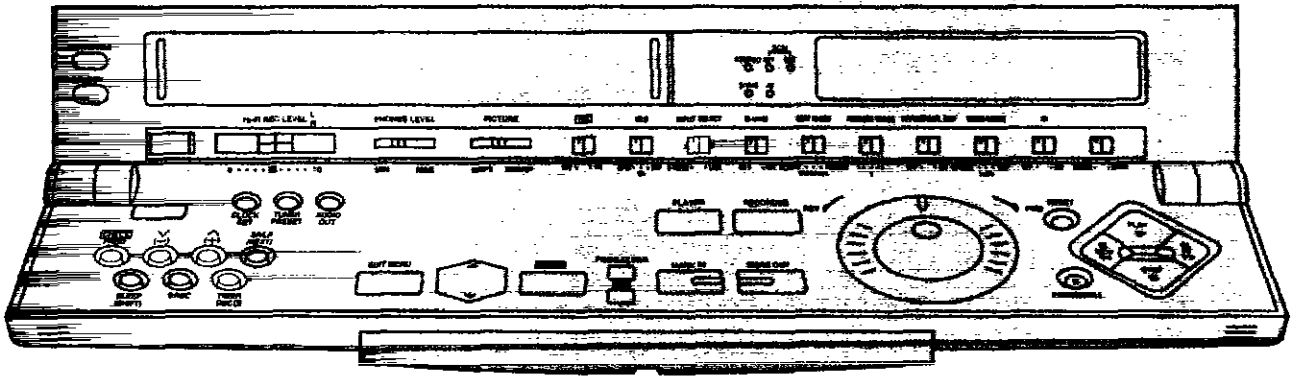
For Example:

Timer programme number; 1
 Programme position (channel); 2
 Date; 27th, October
 Starting time; 20:02
 Ending time; 21:30
 (present date; 16th October)

Operations

Display Symbols

<p>1</p> 		<p>Select Timer programme number "1".</p>
<p>2</p> <p>Set each item by pressing \wedge (+) or \vee (-) and SP/LP (NEXT).</p> 		<p>Set Programme position (channel) "2".</p>
		<p>Set Date "27". •For daily and weekly recording, see next page.</p>
		<p>Set Starting time (hour) "20".</p>
		<p>Set Starting time (minute) "02".</p>
		<p>Set Ending time (hour) "21".</p>
		<p>Set Ending time (minute) "30". •There is no need to press SP/LP (NEXT).</p>
<p>3</p> 		<p>To activate timer recording, press TIMER REC.</p>



Setting for Daily and Weekly Timer Recording

In the Date setting step, press \vee (-) repeatedly until the desired day (days) is displayed.

Daily recording

From Sunday to Saturday



From Monday to Saturday



From Monday to Friday



Weekly recording

For example, Sunday



Timer Recording from External Signal Source

If Timer Recording is performed by a unit connected to the AV1/AV2 Socket or the Audio/Video/S-Video input sockets, select the A1, A2 or A3 indicator for the programme position.

A1: Through the AV1 socket

A2: Through the AV2 socket

A3: Through the AV3 sockets on front panel

Set **INPUT SELECT** on the VTR.

S-VIDEO: Through the S-VIDEO IN and AUDIO IN sockets

LINE: Through the VIDEO IN and AUDIO IN sockets

Selecting the Desired Tape Speed

After step 2, press **SP/LP (NEXT)** and select SP or LP by pressing \wedge (+) or \vee (-).

Setting other Programmes in Succession

Repeat steps 1 and 2.

Checking a Timer Programme

Select the timer programme number to be checked by pressing **CHECK/PROG**.

On Screen Display



NO.	DATE	ON	OFF	SP
1	SU SA	18:30	11:00	SP
2	SU	18:00	18:00	SP
3	MO TU	22:15	23:30	SP
CANCEL				

Cancelling a Timer Programme

1 Press **TIMER REC** to turn off the timer recording function.

2 Select the timer programme number to be canceled by pressing **CHECK/PROG**.

3 Press \wedge (+) and \vee (-) simultaneously for more than 3 seconds.



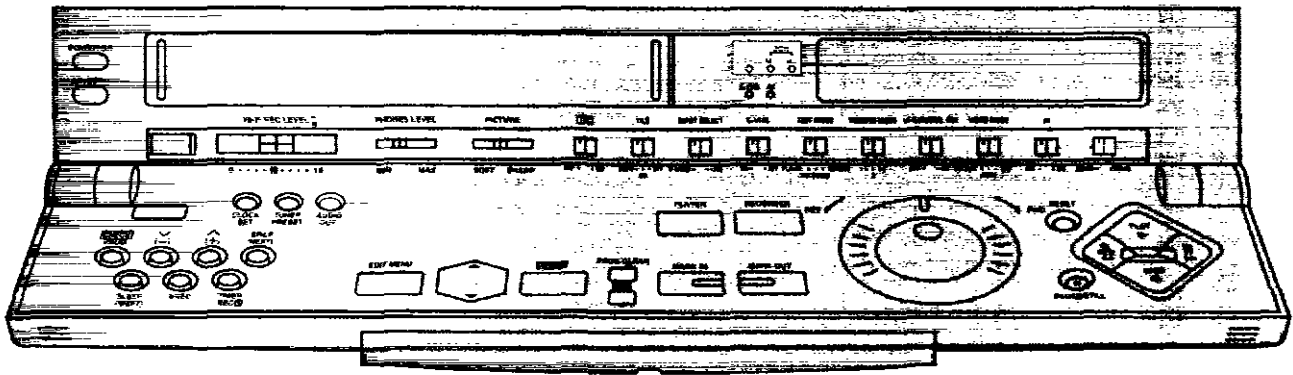
NO.	DATE	ON	OFF	SP
1	MO TU	18:30	18:00	SP
2	MO TU	22:15	23:30	SP
CANCEL				

PDC (Programme Delivery Control)

The Programme Delivery Control (PDC) is a very convenient system which assures that the TV programmes you have programmed for timer recording will be recorded exactly from beginning to end, even if the actual broadcasting time differs from the scheduled time due to delayed start or extension of the programme duration. Also, if a programme is interrupted and, for example, some special news are inserted, the recording will also be interrupted automatically and resumed when the programme continues.

- The PDC indicator lights when the correct PDC signals are transmitted from the broadcasting station.
- When the unit is set for programmed recording, the PDC indicator lights whether or not PDC signals are transmitted. This indicates that the recording has been programmed with PDC. To programme a recording without PDC, press **SLEEP (SHIFT)** in step 2: this cancels the PDC function and turns off the PDC indicator. If not cancelled, timer programmed start time will be delayed by up to 1 minute.
- In the case of PDC recording, use the **correct** time (PDC time) for recording the TV programmes. PDC recording is not performed when the time (PDC time) is incorrect, even if only by one minute, i.e. start time as published TV programme guide in newspaper, magazine, teletext, etc.
- Since PDC signals are received when a recording is programmed using PDC, the power of the unit's tuner section is turned on and the programmed broadcasting is received. When a multiple number of programmes have been programmed for timer recording, all of the broadcasts concerned will be received in sequence. These broadcast pictures can be seen on the video playback channel and AV out (no sound).
- If the actual broadcasting times of timer recordings overlap (regardless of whether they are PDC-controlled), the recording that starts first always has priority, and the recording of the next programme will start only after the first timer recording has finished.
- When the PDC signal drops out because the broadcast signal is weak, or when a broadcasting station does not transmit a regular PDC signal, the timer recording will be performed in the normal mode (without PDC) even if it was programmed for PDC.
In this case, even if the timer recording is performed, whatever has been programmed will not be cancelled at that particular time until 4 a.m. on the following day.
- When programmes aired by different TV stations are programmed by PDC at a time when one programme ends as another starts, the first minute at the start of the second programme will not be recorded.

The NICAM Broadcast System



NICAM is a 2 Channel sound broadcast system to provide either a high quality stereo sound track or 2 independent MONO sound tracks, M1 and M2.

NICAM programmes are always accompanied by standard sound broadcasts and you can select the desired sound with **NICAM/MONO** (when recording) or with **AUDIO OUT** (when playback).

The NICAM digital stereo sound can only be recorded on the Hi-Fi audio track.

When a stereo, dual-soundtrack or mono NICAM programme is being received, the indicators are lit to inform you of the type of broadcast.

Reception of a NICAM Stereo Broadcast

When the STEREO indicator is lit, set **NICAM/MONO** to NICAM to be able to record on the Hi-Fi sound track in stereo.

The Audio cable or the 21 pin scart cable must also be connected to a stereo TV in order to hear the NICAM sound in stereo.

Reception of a NICAM Dual-Sound Broadcast

When the M1 and M2 indicators are lit, set **NICAM/MONO** to NICAM if you want to record both channels on the Hi-Fi sound track. M1 is the left-hand channel and M2 is the right-hand channel.

Reception of a NICAM Monaural Broadcast

When a NICAM monaural broadcast is being received, only the M1 indicator is lit. To hear such a signal on both channels and to record it on both channels of the Hi-Fi track, set **NICAM/MONO** to NICAM.

- To record the regular sound (ordinary normal sound) on the FM audio tracks when a NICAM programme is received, set **NICAM/MONO** to MONO.

Important Note for the NICAM System:

When this VTR tuner is switched on, it will automatically switch to a NICAM broadcast, if NICAM is being transmitted. During test transmissions, it is possible that the sound received doesn't correspond to the picture being viewed. In order to receive a synchronized sound and picture, select monaural sound with either **AUDIO OUT** or with **NICAM/MONO**. This will only apply until NICAM transmissions are fully operational.

At this time the NICAM signal is transmitted on stereo channels only, since the M1 and M2 formats are not yet available. Even if the soundtrack is in MONO the stereo indicator will remain illuminated.

Other Functions

VHS Index Search System

It is very easy to find the beginning of each recording, because a special index signal is recorded at the start of each recorded segment on the tape.

For example:

Searching for the 2nd recorded segment in the forward direction.

Press **INDEX** **▶▶** twice.



- After finding the specific recorded segment, playback starts automatically.
- For the reverse direction, press **INDEX** **◀◀**.
- Up to 20 programmes can be searched for in both directions.

Recording Index Signals

Index signals are recorded in following cases. **WRITE** indicator appears on the Display.

- When a recording is started by pressing **REC**.
- When **REC** is pressed during recording.
- When timer recording is activated.
- When **WRITE** is pressed during playback.

Erasing Index Signals

1 Search the Index signal to be erased by pressing **INDEX** **▶▶** or **◀◀**.

- Be sure not to omit this step. Otherwise, this function may not work correctly.

2 Press **PAUSE/STILL** when playback starts.

3 Press **ERASE**.

- Erasing is possible during playback if **ERASE** is pressed during the five seconds following the index signal.

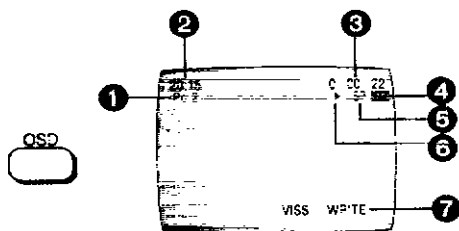
Notes:

- The index search function can only work correctly, if the index signals are spaced at least 3 minutes apart in the SP mode and 5 minutes apart in the LP mode.
- Index signals can not be recorded or erased on a video cassette with a broken off tab.

On Screen Display

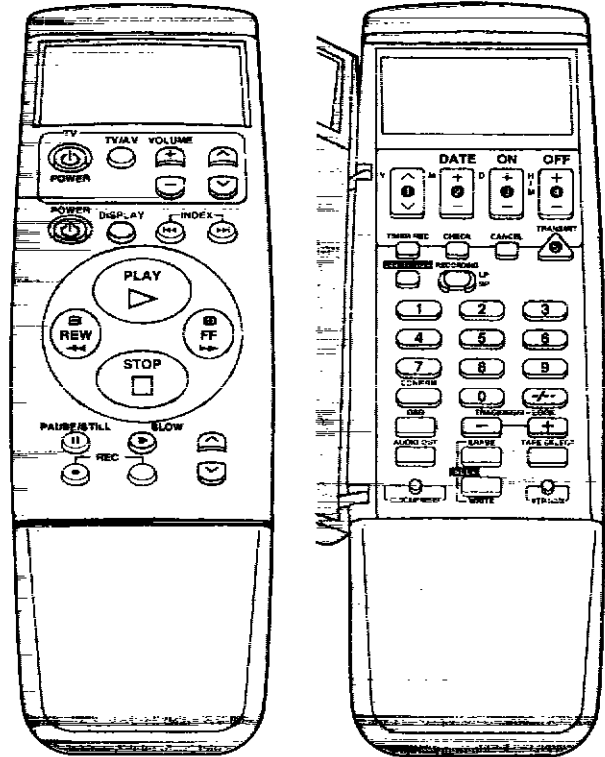
Press **OSD** to make the On Screen Display appear on the TV screen.

- To make this display disappear, press **OSD** again.



Note:

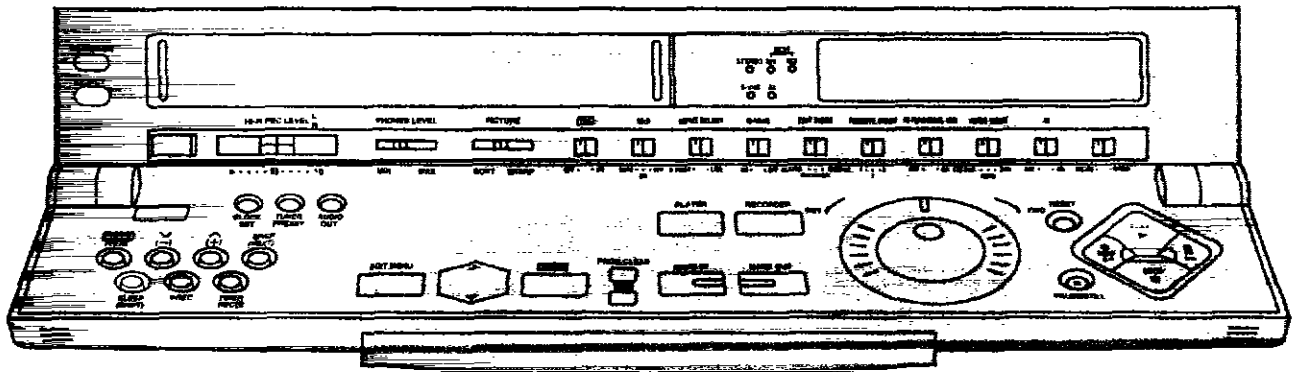
On Screen Display will not appear during NTSC playback.



- 1 Programme position
- 2 Present time
- 3 Tape counter
- 4 Cassette-in indicator
- 5 Tape speed indicator
- 6 Tape running display

Stop, Eject	■
Rewind, Review	◀◀
Fast Forward, Cue	▶▶
Playback	▶
Reverse Playback	◀
Still Playback	
Recording, Insert, Audio Dubbing	●
Recording Pause, Insert Pause, Audio Dubbing Pause	●
Slow Playback	▶
Reverse Slow Playback	◀

- 7 Index signal writing or erasing indicator



Automatic VTR Off Time Setting

Press **SLEEP** for the desired time.



- Each press gives a 30 minutes time span up to 9 hours.
- To cancel the setting time, press **SLEEP** repeatedly to set 0:00.

NTSC Playback

Tapes recorded in the NTSC system can be played back with this VTR via a PAL system TV set.

- The playback picture may roll up or down. If the TV set is equipped with a V-HOLD control, it may be possible to stop the picture movement by adjusting this control.
- Depending on the TV set used, the picture may be in black and white. However, this is not an indication of a malfunction.
- NTSC is the TV broadcasting system used in U.S.A., Japan, and some other countries.
PAL is another TV broadcasting system used in U.K., Germany and many other parts of the world.
This VTR will not replay or record tapes on the SECAM broadcasting system.
PAL 525/60 is modified version of the PAL broadcasting system to allow most UK TV's to reproduce a colour picture when an NTSC tape is replayed on this VTR. However due to the system change, the picture may shrink, roll or not reproduce colour on some televisions.

Note:

Because the PAL 525/60 is not a true PAL signal, NTSC recordings cannot be dubbed onto another VTR. In addition, NTSC tapes replayed on this VTR, cannot be dubbed onto another VTR.

Other Automatic Functions

Automatic Playback

When a cassette without an erasure prevention tab is inserted, the VTR starts playback automatically.

VTR-off Playback

When the VTR is off, an inserted cassette can be played back by pressing **PLAY**.

Automatic Rewinding

When the tape reaches its end during recording (except for timer recording) or playback, it will automatically be rewound to the beginning.

Automatic Switching Off and Ejection

When the VTR is switched off, an inserted cassette can be ejected simply by pressing **EJECT**. The VTR will eject the cassette and automatically turn itself off again.

Editing Operations

Editing Preparation

Connections
Editing Functions

Manual Editing

Copying
Insert, AV Insert Editing and Audio Dubbing

Programme Editing

Assemble Editing
Insert, AV Insert Editing and Audio Dubbing
Other Editing Functions

Editing when not Using an Edit Cable

Editing Preparation

This VTR is equipped with programme editing functions. If connected via edit cable to another VTR or a movie camera, it is possible to control such functions as tape playback and editing.

Connections

Using This VTR as the Recording VTR

- Connect this VTR to the playback unit with an edit cable.
 - Connect the AV1 socket on this VTR to the TV.
 - Connect the AV2 socket or the AUDIO/VIDEO/S-VIDEO IN (AV3) sockets on this VTR to the playback unit.
 - Select A2 or A3 by pressing $\wedge \vee$ on this VTR.
 - A2: Through the AV2 socket
 - A3: Through the AV3 sockets on front panel
- Set **INPUT SELECT** on this VTR.
- S-VIDEO: Through the S-VIDEO IN and AUDIO IN sockets
 - LINE: Through the VIDEO IN and AUDIO IN sockets
- Set **EDIT MODE** on this VTR to **RECORDER**.
 - Control is performed by this VTR.

Connecting This VTR with Another Identical One

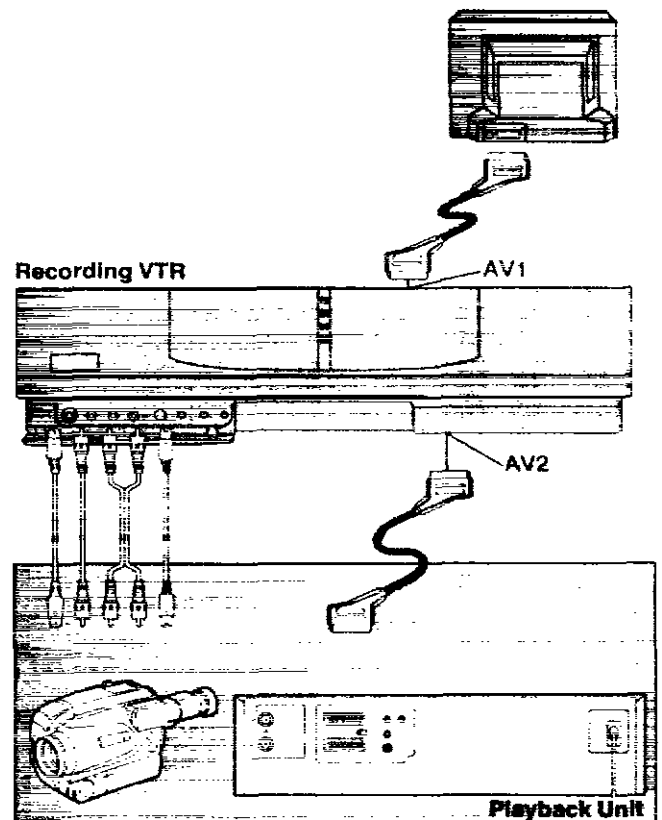
- Connect the two VTRs with an edit cable.
- Connect the AV1 socket on the recording VTR to the TV.
- Connect the AV1 socket on the playback VTR to the AV2 socket on the recording VTR.
- Select A2 by pressing $\wedge \vee$ on the recording VTR.
- Set **EDIT MODE** to **PASSIVE** on the playback VTR, and to **RECORDER** on the recording VTR.
- Control is performed by the recording VTR.

Using This VTR as the Playback VTR

- Connect this VTR to the recording unit with an edit cable.
- Connect the AV1 socket on this VTR to the TV.
- Connect the AV2 socket on this VTR to the recording unit.
- Select A2 by pressing $\wedge \vee$ on this VTR.
- Set the input switch on the recording unit to AV.
- Set **EDIT MODE** on this VTR to **PLAYER**.
- Control is performed by this VTR.

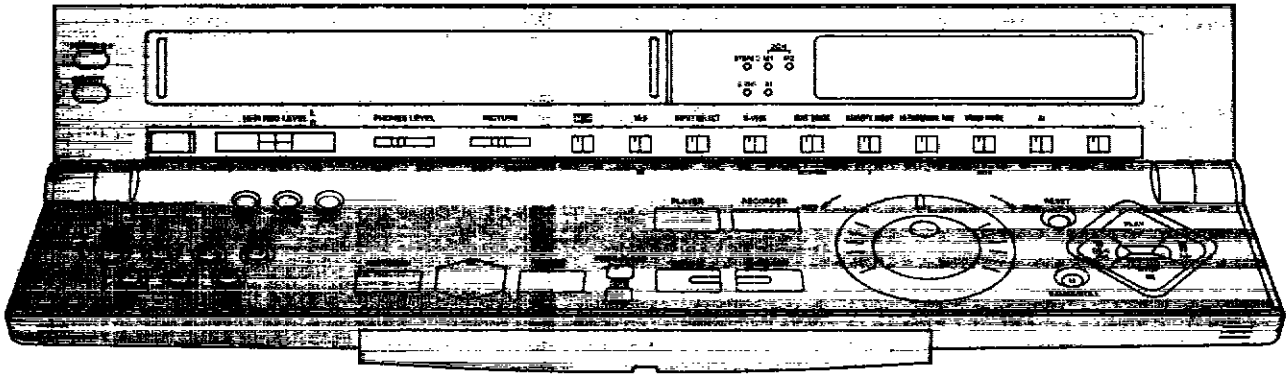
Caution:

When this VTR is used as the playback VTR, it may not be possible to perform editing operations properly depending on the type of the recording VTR. In such a case, use this VTR as the recording VTR.



Notes:

- When connecting a VTR or movie camera which does not have an edit socket, see page 56.
- During editing operations, use controls on this VTR, not the other unit.
- When a movie camera is connected, operating this VTR will not facilitate reverse playback or reverse slow playback on the movie camera.
- When **EDIT MODE** on this VTR is set to **PASSIVE**, operation will not be possible after editing function has been performed, and the Cn Screen Display will not appear. Disconnect the edit cable and set **EDIT MODE** to **PLAYER** or **RECORDER** to resume operation.
- When making a connection using an edit cable, disconnection of the AC mains lead on this VTR may result in erroneous display patterns on the other unit.
- When operating the Jog Dial and Shuttle Ring, it is only possible to reset the tape counter of the other unit during still playback.
- The supplied edit cable cannot be used to connect two other VTRs with edit sockets.
- The On Screen Display does not appear when no input signals are supplied from another unit or when a non-recorded cassette is played.
- The On Screen Display may appear distorted if the picture is affected by noise.



Editing Functions

Using this VTR, 4 types of manual editing and 4 types of programme editing can be selected. In programme editing, after programming up to 10 scenes for each type, editing can be performed automatically.

Manual Editing

- Copying
- Insert Editing
- AV Insert Editing
- Audio Dubbing

Programme Editing

- Assemble Editing
- Insert Editing
- AV Insert Editing
- Audio Dubbing

Copying

Allows the re-recording (copying) of the picture and sound from one tape onto another tape.

Insert Editing

Allows the partial replacement of the picture and Hi-Fi sound on a recorded tape. Normal sound is left in its original state.

Playback VTR



Recording VTR



Edited Tape

- To hear the original sound, select the normal sound track by pressing **AUDIO OUT**.
- To hear the new sound and original sound mixed together, set **Hi-Fi/NORMAL MIX** to ON.

AV Insert Editing

Allows the partial replacement of the picture and both the Hi-Fi and normal sound on a recorded tape.

Audio Dubbing

Allows the partial replacement of the normal sound on a recorded tape. Hi-Fi sound is left in its original state.

- To hear the new sound, select the normal sound track by pressing **AUDIO OUT**.
- To hear the new sound and original sound mixed together, set **Hi-Fi/NORMAL MIX** to ON.

Assemble Editing

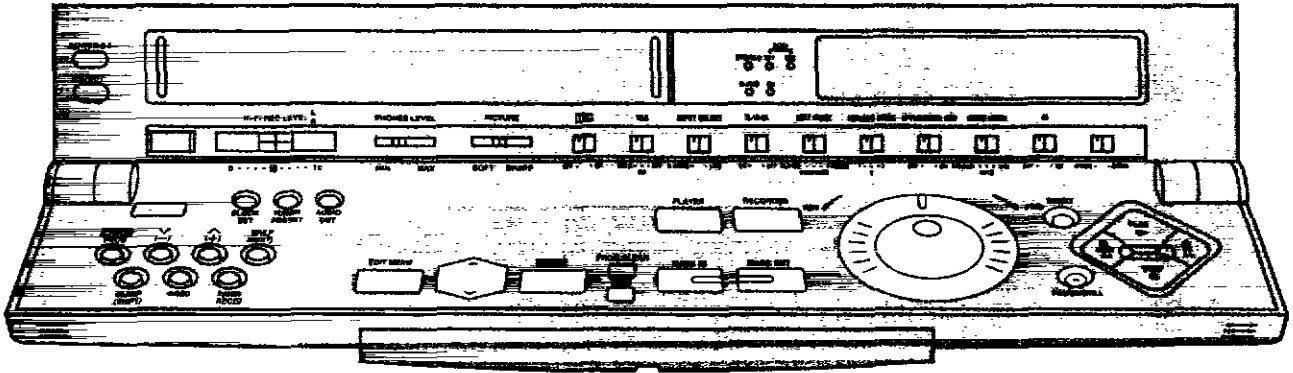
Allows the required scenes (picture and sound) to be picked up from one or more recorded tapes and recorded in any desired order onto another tape.

Playback VTR



Recording VTR

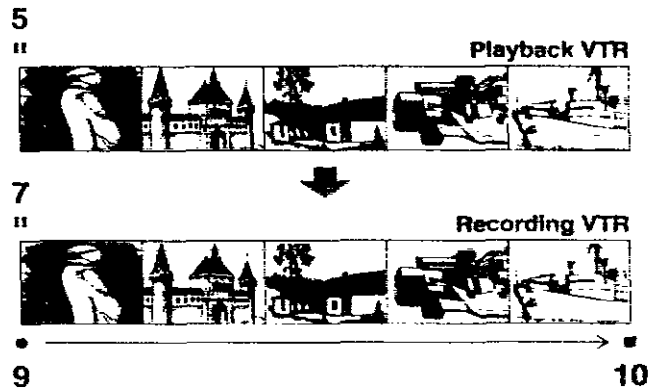
Manual Editing



Copying

Preparation

- Make the necessary connections. See page 42.
- Insert a recorded cassette into the playback VTR, and a cassette with an intact erasure prevention tab into the recording VTR.
- Confirm that the TV is on and the VTR viewing channel is selected.

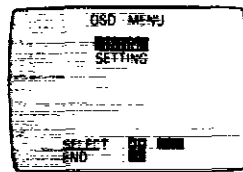
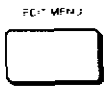


Operations

On Screen Display

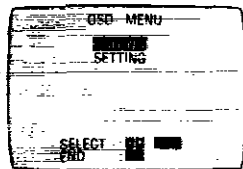
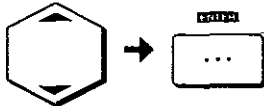
Set for Editing

1



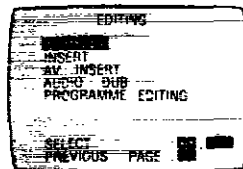
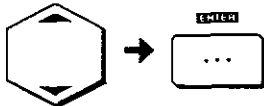
Press **EDIT MENU**.

2



Select **EDITING**.

3

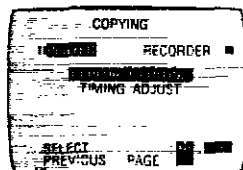


Select **COPYING**.

- If the playback VTR receives no input signals, the On Screen Display may disappear. In such a case, follow the next step and then the On Screen Display will appear.

Playback VTR

4



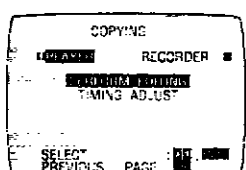
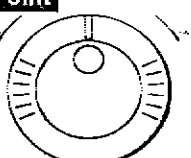
Press **PLAYER** and **PAUSE/STILL**.

- The picture from the playback VTR appears on the screen.

Operations

On Screen Display

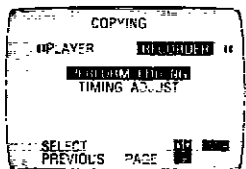
5 Start Point



Search for the edit start point on the playback VTR.

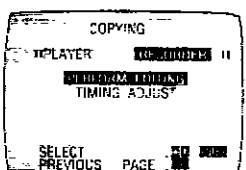
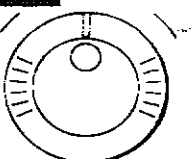
Recording VTR

6



Press **RECORDER** and **PAUSE/STILL**.
 •The picture from the recording VTR appears on the screen.
 •Steps 6 and 7 need not be performed when a non-recorded cassette is used.

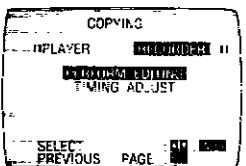
7 Start Point



Search for the edit start point on the recording VTR.

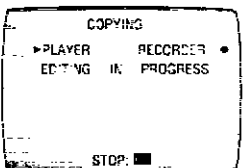
Start Editing

8



Select **PERFORM EDITING**.

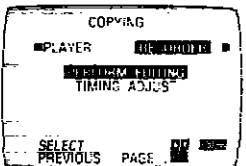
9



Press **ENTER**.
 •Editing begins.

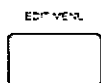
Stop Editing

10



Press **ESC** to stop editing.

11



Press **EDIT MENU**.
 •The On Screen Display disappears.

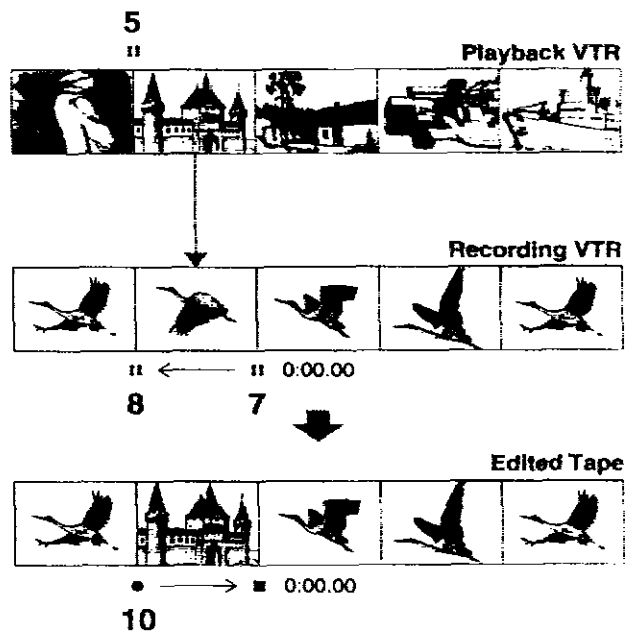
Insert, AV Insert Editing and Audio Dubbing

Preparation

- Make the necessary connections. See page 42.
- Insert a recorded cassette into the playback VTR, and a cassette with an intact erasure prevention tab into the recording VTR.
- Confirm that the TV is on and the VTR viewing channel is selected.

Example: Insert Editing

AV Insert Editing and Audio Dubbing are also performed using the same procedure.

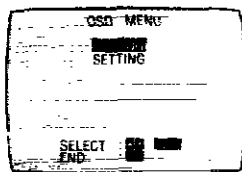


Operations

On Screen Display

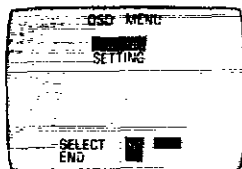
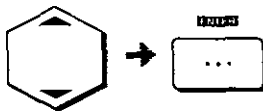
Set for Editing

1



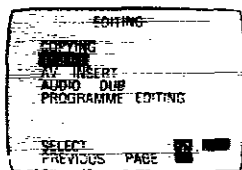
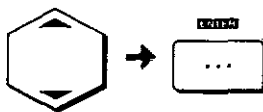
Press **EDIT MENU**.

2



Select **EDITING**.

3

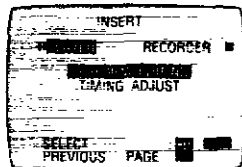


Select **INSERT**.

- If the playback VTR receives no input signals, the On Screen Display may disappear. In such a case, follow the next step and then the On Screen Display will appear.

Playback VTR

4



Press **PLAYER** and **PAUSE/STILL**.

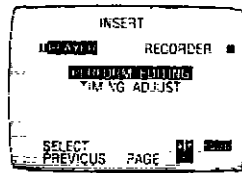
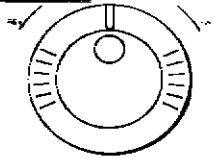
- The picture from the playback VTR appears on the screen.

Operations

On Screen Display

5

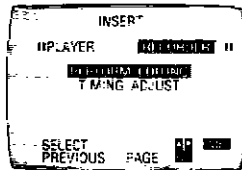
Start Point



Search for the edit start point on the playback VTR.

Recording VTR

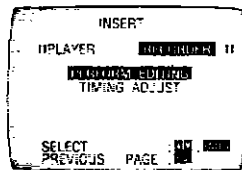
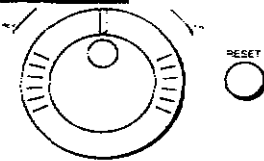
6



Press **RECORDER** and **PAUSE/STILL**.
 •The picture from the recording VTR appears on the screen.

7

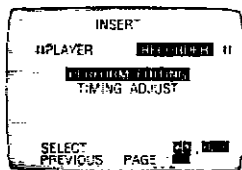
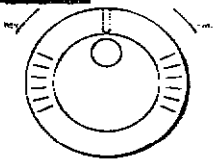
End Point



Search for the edit end point on the recording VTR and press **RESET**.

8

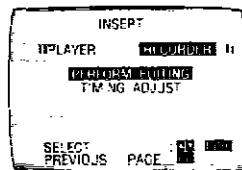
Start Point



Search for the edit start point on the recording VTR.

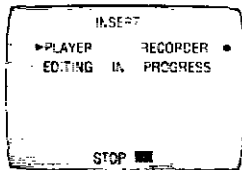
Start Editing

9



Select **PERFORM EDITING**.

10



Press **ENTER**.
 •Editing begins.
 •Editing will finish when the counter reaches 0:00.00.

11



Press **EDIT MENU**.
 •The On Screen Display disappears.

Note:
 If the VITC function is activated, **RESET** will be inoperative. In such a case, turn off the VITC function.

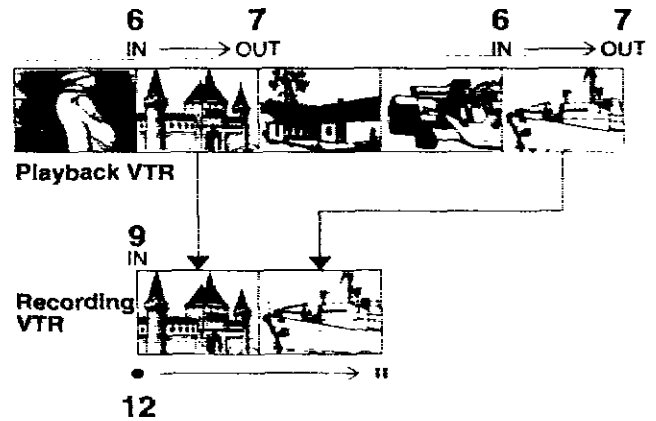
Programme Editing

Assemble Editing

By setting the edit start point and end point on the playback VTR, along with the edit start point on the recording VTR, assemble editing of up to 10 scenes can be performed automatically.

Preparation

- Make the necessary connections. See page 42.
- Insert a recorded cassette into the playback VTR, and a cassette with an intact erasure prevention tab into the recording VTR.
- Confirm that the TV is on and the VTR viewing channel is selected.

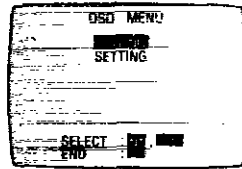


Operations

On Screen Display

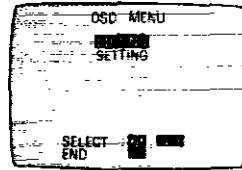
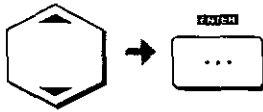
Set for Editing

1



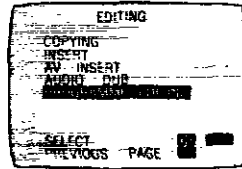
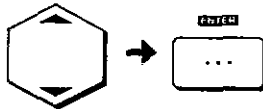
Press **EDIT MENU**.

2



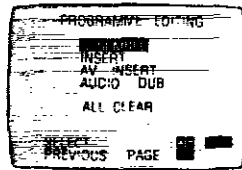
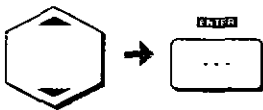
Select **EDITING**.

3



Select **PROGRAMME EDITING**.

4

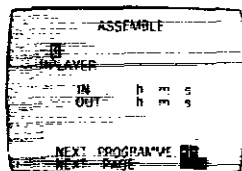


Select **ASSEMBLE**.

- If the playback VTR receives no input signals, the On Screen Display may disappear. In such a case, follow the next step and then the On Screen Display will appear.

Playback VTR

5

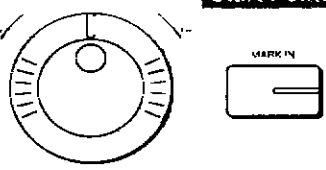


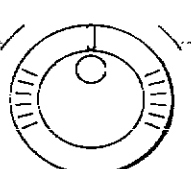

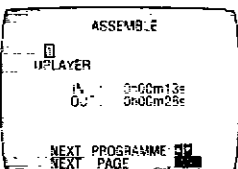

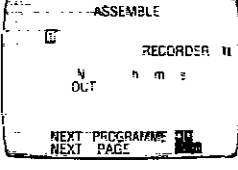
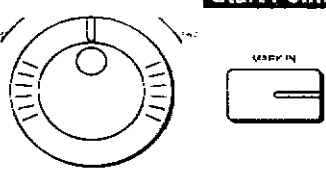
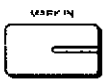
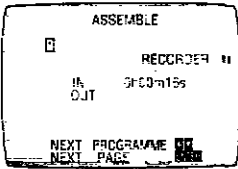

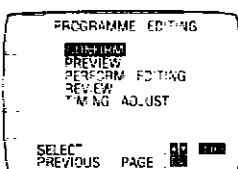

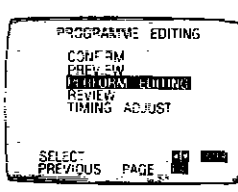

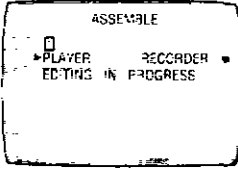


Press **PLAYER** and **PAUSE/STILL**.

- The picture from the playback VTR appears on the screen

Operations

On Screen Display

<p>6</p> 	<p>Start Point</p> 		<p>Search for the edit start point on the playback VTR and press MARK IN.</p>	
<p>7</p> 	<p>End Point</p> 		<p>Search for the edit end point on the playback VTR and press MARK OUT.</p> <ul style="list-style-type: none"> • If there is more than one programme, select a programme number using ▼ and ▲, and repeat steps 6 and 7. 	
<p>Recording VTR</p>		<p>8</p> 		<p>Press RECORDER and PAUSE/STILL.</p> <ul style="list-style-type: none"> • The picture from the recording VTR appears on the screen.
<p>9</p> 	<p>Start Point</p> 		<p>Search for the edit start point on the recording VTR and press MARK IN.</p> <ul style="list-style-type: none"> • Step 9 need not be performed when a non-recorded cassette is used. 	
<p>10</p> 	<p>Start Editing</p>		<p>Press ENTER.</p> <ul style="list-style-type: none"> • The edit start point and the edit end point are memorized. 	
<p>11</p> 	<p>Start Editing</p>		<p>Select PERFORM EDITING.</p>	
<p>12</p> 	<p>Start Editing</p>		<p>Press ENTER.</p> <ul style="list-style-type: none"> • Editing begins. • After editing of all programmes is completed, the both VTRs stop in still playback mode. 	

Editing Operations

Insert, AV Insert Editing and Audio Dubbing

There are 2 types of programme.

To insert only a particular portion:

Set the edit start point and end point on the playback VTR, and the edit start point on the recording VTR.

To insert within fixed limits:

Set the edit start point on the playback VTR, and the edit start and end point on the recording VTR.

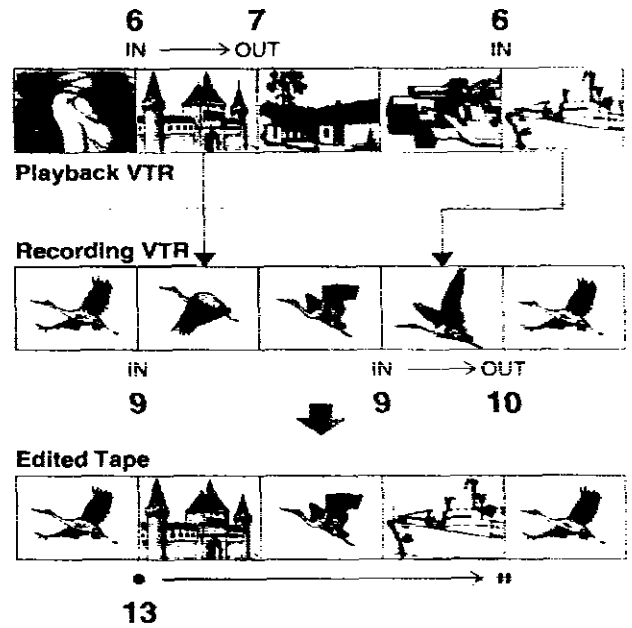
- If four points are set, insertion will end when the first end point is reached.

Preparation

- Make the necessary connections. See page 42.
- Insert a recorded cassette into the playback VTR, and a cassette with an intact erasure prevention tab into the recording VTR.
- Confirm that the TV is on and the VTR viewing channel is selected.

Example: Insert Editing

AV Insert Editing and Audio Dubbing are also performed using the same procedure.



Operations On Screen Display


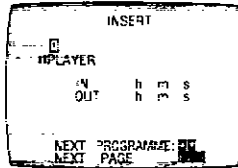
Set for Editing			
1			Press EDIT MENU .
2			Select EDITING .
3			Select PROGRAMME EDITING .
4			Select INSERT . • If the playback VTR receives no input signals, the On Screen Display may disappear. In such a case, follow the next step and then the On Screen Display will appear.

Operations

On Screen Display

Playback VTR

5


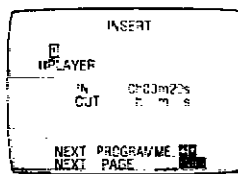



Press **PLAYER** and **PAUSE/STILL**.

- The picture from the playback VTR appears on the screen.

6


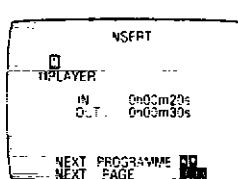
Start Point

Search for the edit start point on the playback VTR and press **MARK IN**.

7

End Point


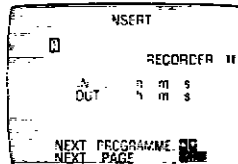



Search for the edit end point on the playback VTR and press **MARK OUT**.

- This step is not necessary if the end point on the recording VTR has been set.

Recording VTR

8


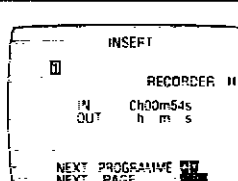



Press **RECORDER** and **PAUSE/STILL**.

- The picture from the recording VTR appears on the screen.

9


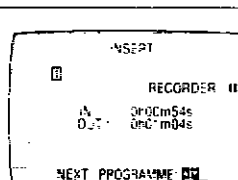
Start Point

Search for the edit start point on the recording VTR and press **MARK IN**.

10


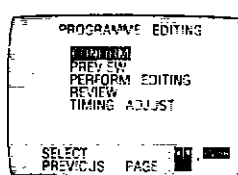
End Point

Search for the edit end point on the recording VTR and press **MARK OUT**.

- This step is not necessary if the end point on the playback VTR has been set.
- If there is more than one programme, select a programme number using **▼** and **▲**, and repeat steps 5 to 10.

11

Press **ENTER**.

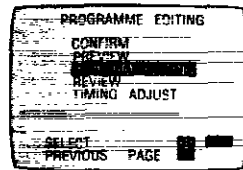
- The edit start point and the edit end point are memorized.

Operations

On Screen Display

Start Editing

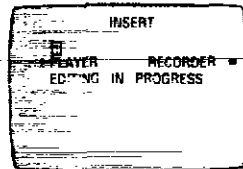
12



Select **PERFORM EDITING**.

- If a programme is not correct, it will appear on the screen. Set the edit start and end points correctly.
- To see a preview before performing editing, select **PREVIEW**. See page 54.

13



Press **ENTER**.

- Editing begins.
- After editing of all programmes is completed, the both VTRs stop in still playback mode.

Notes for Programme Editing:

- For the edit start point, use a location which is at least 10 seconds from the beginning of the tape. Otherwise, the programme will not be executed.
- Programme editing can be suspended in mid-execution by pressing **ESC**. As a result, however, the picture immediately after suspending may disappear.
- Programmes are stored even after editing is completed. Unless they are cancelled, programmes are stored even after the power has been turned off.
- Programme editing can not be performed with a movie camera that has a 4-digit counter. It can be performed with only a movie camera which has a counter display in hours, minutes, seconds format.

The following Panasonic movie cameras will not work in the programme editing mode with this VTR.

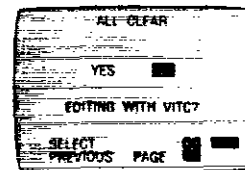
VHS full movies: NV-M10B, NV-M40B, NV-MS4B

VHS-C movies: NV-MS90B

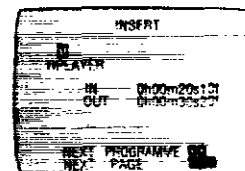
(As of April 1994)

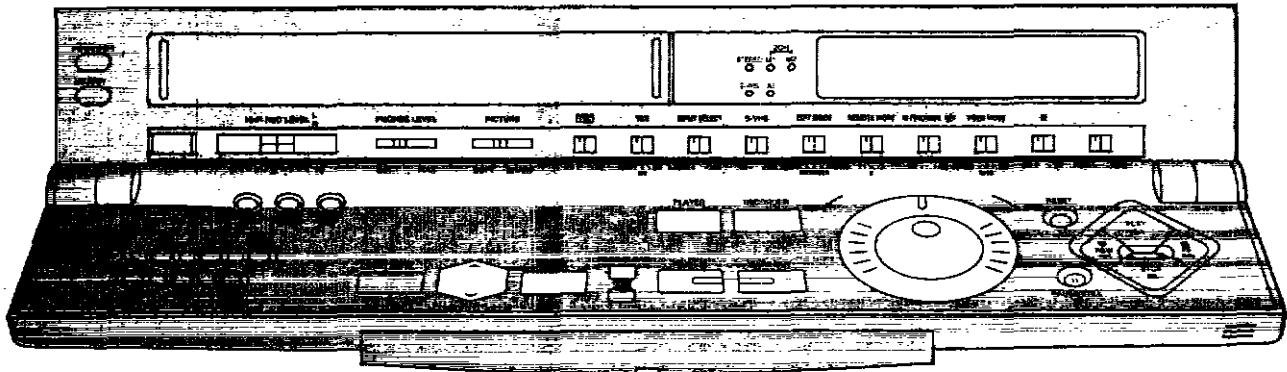
When the VITC function is on:

- If the programme on the normal counter has been stored, the On Screen Display shown below may appear after step 4.
If editing is to be performed using the VITC function, select **YES** to cancel all the editing programmes. (When the VITC function is off, the On Screen Display shown below will appear if the programme with the time code has been stored.)



- When **MARK IN** or **MARK OUT** is pressed, the time code is displayed on the screen in increments of hours, minutes, seconds and frames (25 frames per second).

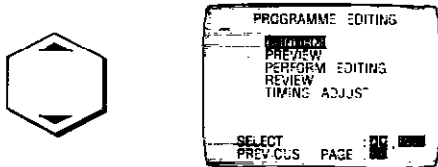




Other Editing Functions

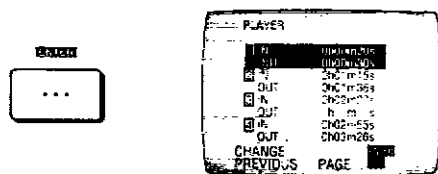
To confirm and Change Editing Programmes

1 Select **CONFIRM** after setting the edit start and end points.



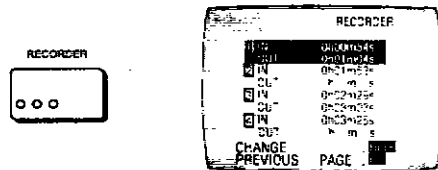
2 Press **ENTER**.

•The programme list for the playback VTR is displayed.

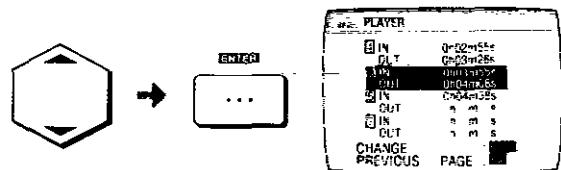


3 Press **RECORDER** to confirm the programmes on the recording VTR.

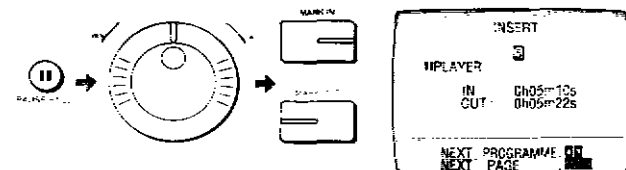
•Press **PLAYER** to return to the programme list on the playback VTR.



4 Select the programme to be changed.



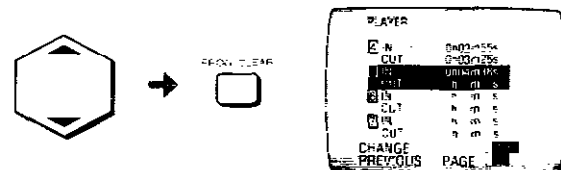
5 Search for the start or end point to be changed and press **MARK IN** or **MARK OUT**.

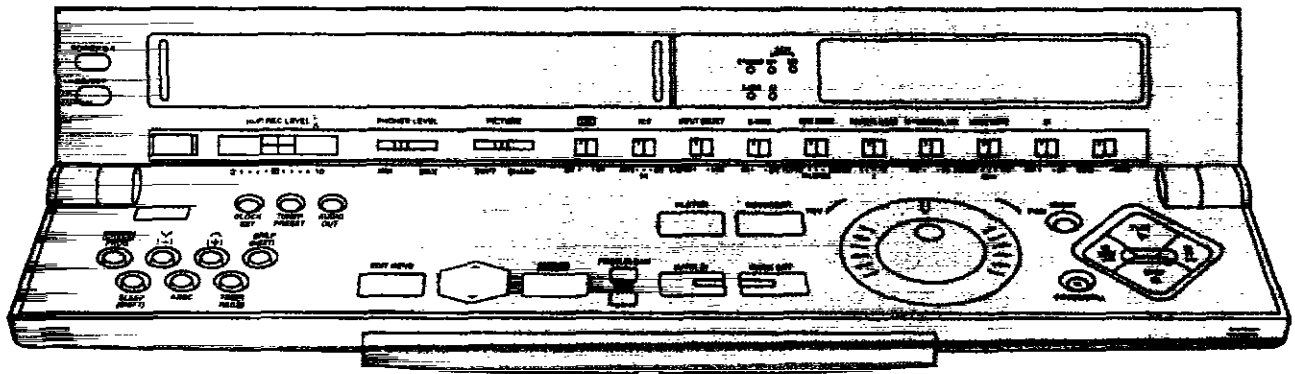


6 Press **ENTER**.

To cancel an Editing Programme

In step 4 above, select the programme to be canceled and press **PROG. CLEAR**.

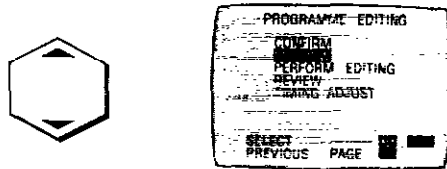




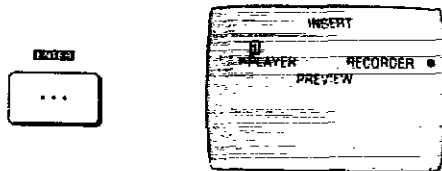
Preview Function

Before performing actual editing, this function allows confirmation of editing operations without recording.

- 1 Select **PREVIEW** after setting the edit start and end points.



- 2 Press **ENTER**.
 - Preview begins.



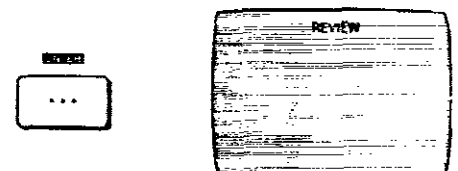
Review Function

After editing has been completed, this function plays back from the edit start point to the edit end point on the recording VTR.

- 1 Select **REVIEW** after performing editing.



- 2 Press **ENTER**.
 - Review begins.



Notes:

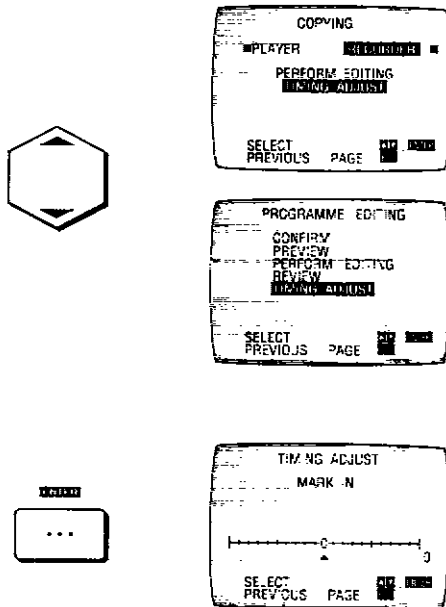
- Preview function works only when this VTR is used as the recording VTR.
- Preview function does not work during assemble editing.

Edit Timing Adjustment

When performing editing in conjunction with a unit which has a different mechanism, there may be a lag in the edit start point due to a deviation between the time a pause cancellation signal is received by the recording unit and the time recording actually begins.

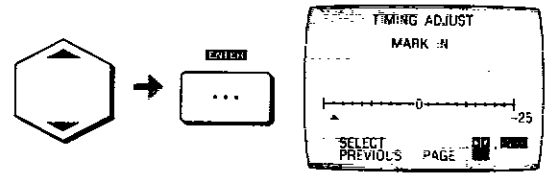
Edit Timing Adjustment is used to compensate the edit start and end time in light of this start-up time deviation.

- 1 Record the second hand on a stopwatch with a movie camera.
- 2 Insert this recorded cassette into the playback unit, and a cassette with an intact erasure prevention tab into the recording VTR.
- 3 Using the point where the second hand reaches zero as the edit start point, perform copying.
- 4 Play back the copied tape, and check how many seconds had elapsed at the recording start point.
 - If timing is correct, recording should begin at exactly zero seconds.
- 5 Select **TIMING ADJUST** from the screen below.

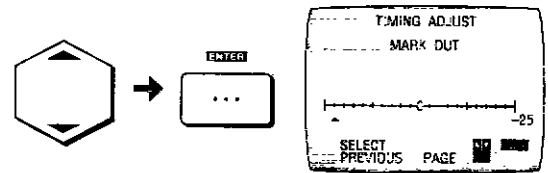


6 Press ENTER.

- 7 Adjust the timing for the start point by setting the amount of the discrepancy of the second hand.
 - The setting is displayed in frame ($\frac{1}{25}$ of a second) units. Thus if, for example, one second had elapsed, set to -25.
 - Corrections can be made in the range of ± 30 frames (1.2 second).



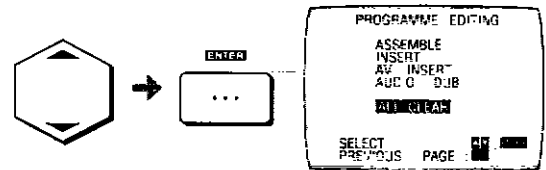
- 8 Adjust the timing for the end point in the same manner.



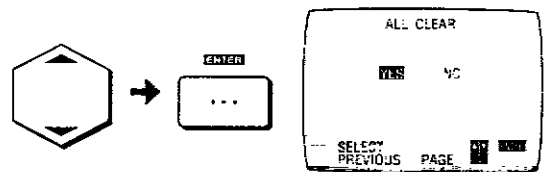
Note:
Edit timing adjustment function only works during programme editing.

To cancel All Editing Programmes

- 1 Select **ALL CLEAR** from the screen below.



- 2 Select **YES**.
 - All programmes will be canceled.



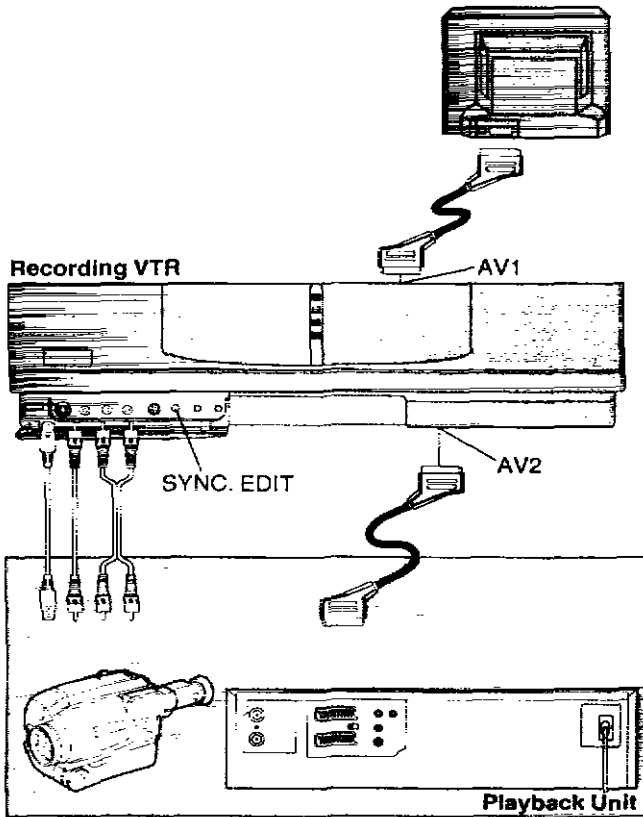
Editing when not Using an Edit Cable

To connect a VTR or Movie Camera without an Edit Socket and use This VTR as the Recording VTR

- Connect the AV1 socket on this VTR to the TV.
 - Connect the AV2 socket or the AUDIO/VIDEO/S-VIDEO IN (AV3) sockets on this VTR to the playback unit.
 - Select A2 or A3 by pressing $\wedge \vee$ on this VTR.
 - A2: Through the AV2 socket
 - A3: Through the AV3 sockets on front panel
- Set **INPUT SELECT** on this VTR.
- S-VIDEO: Through the S-VIDEO IN and AUDIO IN sockets
- LINE: Through the VIDEO IN and AUDIO IN sockets
- Set **EDIT MODE** on this VTR to RECORDER.
 - Control is performed by the respective units.

Preparation

- Make the necessary connections.
- Insert a recorded cassette into the playback unit, and a cassette with an intact erasure prevention tab into the recording VTR.
- Confirm that the TV is on and the VTR viewing channel is selected.



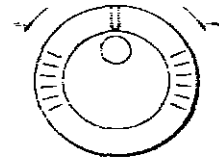
Assembly Editing

Operations

- 1 Press **PAUSE/STILL** on the recording VTR.



- 2 Search for the end of the previous recording.



- 3 Press **REC** to set for the new recording.



- 4 Start playback on the playback unit.

- 5 Press **PAUSE/STILL** again to start the new recording.



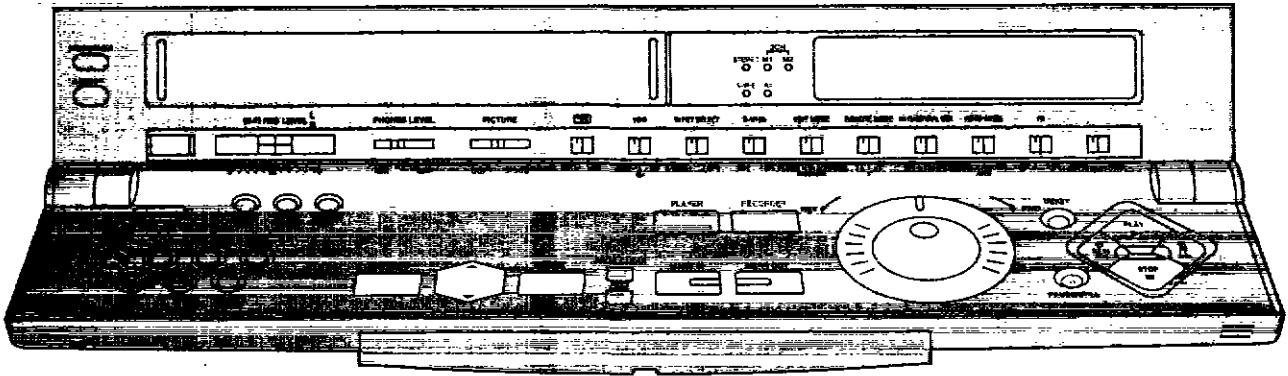
- 6 Press **STOP** to stop recording.



Synchronized Editing

By connecting a VTR or movie camera with synchronized editing capability to this VTR using a synchro connection cord (optional), it is possible to synchronize the playback start and stop of the playback unit with the recording start and stop of this VTR.


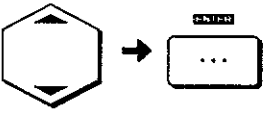
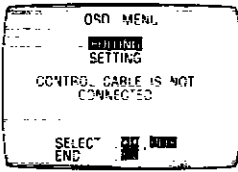
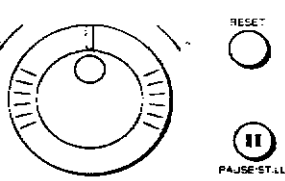
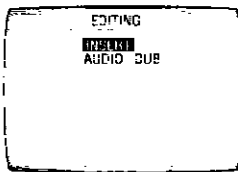
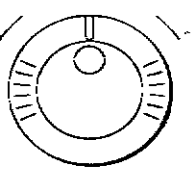

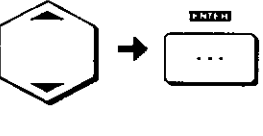



- 1 Put the recording VTR into the recording pause mode by pressing **REC** and **PAUSE/STILL**.
- 2 Put the playback unit into the still playback mode at the point where editing is to begin.
- 3 Press **PAUSE/STILL** on the recording VTR.
 - The playback unit switches over to the playback mode, and copying begins automatically.



Insert Editing, AV Insert Editing and Audio Dubbing

Operations

On Screen Display

1		Press EDIT MENU .	
2			Select EDITING .
3			Press PAUSE/STILL and search for the edit end point, and press RESET . • It is not required for audio dubbing to search for the edit end point and reset.
4			Search for the edit start point.
5			Select INSERT or AUDIO DUB . • AV insert editing is selected if both AUDIO DUB and INSERT are selected. • If once selected, Insert or Audio Dubbing mode is still active even if the On Screen Display disappears by pressing EDIT MENU .
6			Start playback on the playback unit.
7			Press PAUSE/STILL . • Editing begins. • Insert and AV insert editing will finish when the counter reaches 0:00.00. • Press STOP to stop audio dubbing.

Helpful Hints

Setting the Clock of the VTR

Before Requesting Service

Before requesting service, check the following points once again.

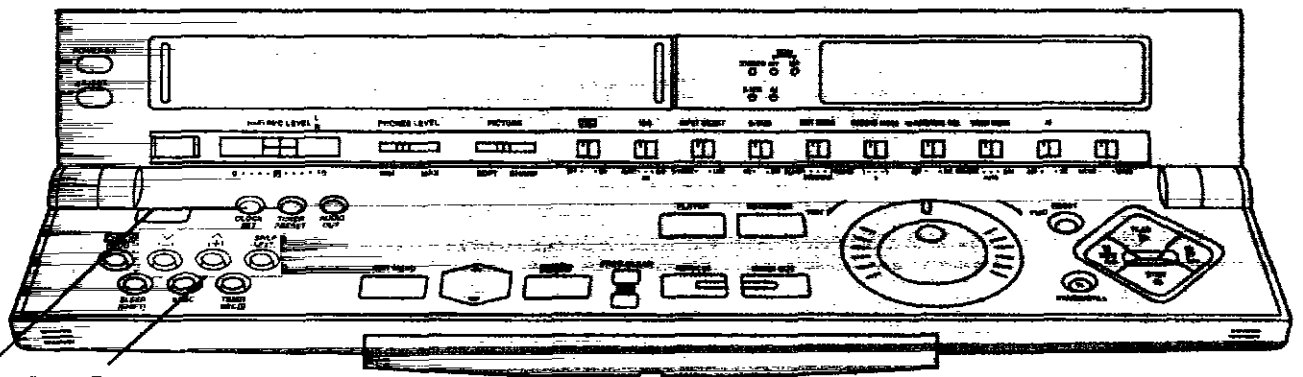
Precautions

Please read these cautions before you operate this VTR.

Flow Chart for On Screen Displays

Specifications

Setting the Clock of the VTR



1,3 2

In addition to setting the VTR clock from the remote controller, it can also be set directly from the VTR.

Preparation

Turn on the VTR.

For Example:

Date: 16th, October, 1999

Time: 20:15

Operations

Display Symbols

1



Keep **CLOCK SET** pressed for more than 2 seconds.

2

Set each item by pressing **^ (+)** or **v (-)** and **SP/LP (NEXT)**.



Set Year "99".



Set Month "10".



Set Date "16".



Set Hour "20".



Set Minute "15".

• There is no need to press **SP/LP (NEXT)**.

3



Press **CLOCK SET**.

• The clock will start.

Time Reset Function

If the clock is less than two minutes slow or fast, it can easily be reset to the proper time, e.g. from radio announcement.

For example: Resetting the clock to 12:00.00.

1 Press **CLOCK SET** at any time between 11:58.00 and 12:01.59 for more than 2 seconds.

2 Press **CLOCK SET** again as soon as you hear the 12:00.00 time signal

Note:

The clock operates for at least 60 minutes by its backup system in the event of power failure.

Before Requesting Service

*Setting the Clock of the VTR
Before Requesting Service*

Before requesting service, check the following points once again.

VTR will not operate correctly			
SYMPTOM	CAUSE	REMEDY	CHECKED
VTR display is not illuminated.	Mains lead is not connected.	Reconnect mains lead to VTR.	
VTR display is illuminated but VTR will not operate.	VTR is in timer mode.	Press TIMER REC to operate VTR manually.	
	Safety devices are operating.	Disconnect mains lead and wait for 1 minute. Reconnect mains supply and check functions.	
	Condensation may have formed.	Do not operate VTR for 1 hour.	

Playback will not operate correctly			
SYMPTOM	CAUSE	REMEDY	CHECKED
Picture noisy or not in colour. Horizontal bars or lines run down the screen.	Tracking is not correct.	Adjust the tracking. See page 27.	
	TV set is not tuned to VTR.	Operate NORMAL/S-VIDEO OUT/TEST SIGNAL on VTR and check TV tuning. See page 18.	
	Video heads are clogged or worn.	Consult your dealer for further advice.	

Recording will not operate correctly

SYMPTOM	CAUSE	REMEDY	CHECKED
"E" indication flashes whenever recording is attempted.	Erasure prevention tab on cassette is broken off.	Use tape with intact erasure prevention tab, or cover tab hole with adhesive tape, if original recording is no longer required.	
Picture is recorded with noise or blank screen.	Aerial or aerial lead is defective.	Check aerial connection to VTR. See page 8. Check your normal TV picture. If there is no picture, check your aerial.	
	VTR is not correctly tuned.	Re-tune VTR. See page 20.	
	A1, A2 or A3 is selected.	Select the required TV programme.	
Timer recording cannot be performed.	Clock or calendar is incorrectly set.	Check clock and calendar. Set to present time. (Note this is a 24 hour clock.) See page 19.	
	Recording start or end time settings are incorrect.	Set recording start and end time correctly.	
	VTR is not set for timer recording.	Press TIMER REC after programming for timer recording.	
AV external recordings cannot be made.	A1, A2 or A3 is not selected.	Select A1, A2 or A3 by pressing $\wedge \vee$.	
	External AV connections are incorrect.	Check that connections for external video and audio source are correct. See page 42.	

Remote controller will not work correctly

SYMPTOM	CAUSE	REMEDY	CHECKED
Remote controller does not operate correctly.	Remote controller transmitter beam is not reaching VTR.	Ensure that remote controller is being pointed at VTR and that transmitter beam is not obstructed.	
	Distance is too far.	Use remote controller within 7 m of VTR. If this range is not possible, replace batteries.	
	Batteries are exhausted.	Replace batteries. Note precaution for replacement on page 11.	
	Batteries are incorrectly fitted with (+/-) reversed.	Fit batteries correctly as shown on page 11.	

Precautions

Before Requesting Service
Precautions

Please read these cautions before you operate this VTR.

Avoid Sudden Changes in Temperature

If the VTR is suddenly moved from a cold place to a warm place, moisture may form on the tape and inside the VTR.

Humidity and Dust

Avoid places where there is high humidity or much dust, which may cause damage to internal parts.

Do Not Obstruct the Ventilation Holes

The ventilation holes prevent abnormal increase in temperature. Do not block or cover these holes. Especially avoid covering the holes with soft materials such as cloth or paper.

Keep away from High Temperature

Keep the VTR away from extreme direct heat such as direct sunlight, heating radiators, or closed automobiles.

Keep Magnets away

Never bring a magnet or magnetized object near the VTR because it will adversely affect the performance of the VTR.

No Fingers or Other Objects Inside

Touching internal parts of this VTR is dangerous, and may cause serious damage to the VTR. Do not attempt to disassemble the VTR. There are no user serviceable parts inside.

Keep Water away

Keep the VTR away from flower vases, tubs, sinks, etc. CAUTION: If liquids are spilled into the VTR, serious damage could occur. If you spill any liquid into the VTR, consult qualified service personnel.

Lightning

To avoid damage by lightning, disconnect the aerial plug from the VTR.

Cleaning the VTR

Wipe the VTR with a clean, dry cloth. Never use cleaning fluid, or other chemicals. And do not use compressed air to remove dust.

Stacking

Place the VTR in a horizontal position, and do not place anything heavy on it.

Video Head Clogging

The video heads place picture signals on the tape during recording and read picture signals from the tape during playback and they are, therefore, of critical importance for the picture quality. If the VTR is used over extremely long periods of time, these heads may become dirty and clogged. In such a case, the signals can no longer be recorded correctly, and the playback picture will be distorted accordingly. This is the case, for example, during the playback of a tape, the sound is reproduced normally, but no picture is seen, or the picture is greatly distorted. When such a symptom case occurs have the recorder checked by qualified service personnel.

Condensation may form in the VTR if:

- The VTR is in a room when the heater has just been turned on.
- The VTR is in a room with steam or high humidity.
- The VTR is brought from cold surroundings into a well-heated room.
- The VTR is suddenly brought from cool surroundings, such as an air-conditioned room or car, to a place which is hot and humid.

Note:

Do not operate the VTR for at least 1 hour if any of the above conditions occur.

This VTR does not incorporate a dew sensor.

Tape Care

Some do's and don'ts on tape care.

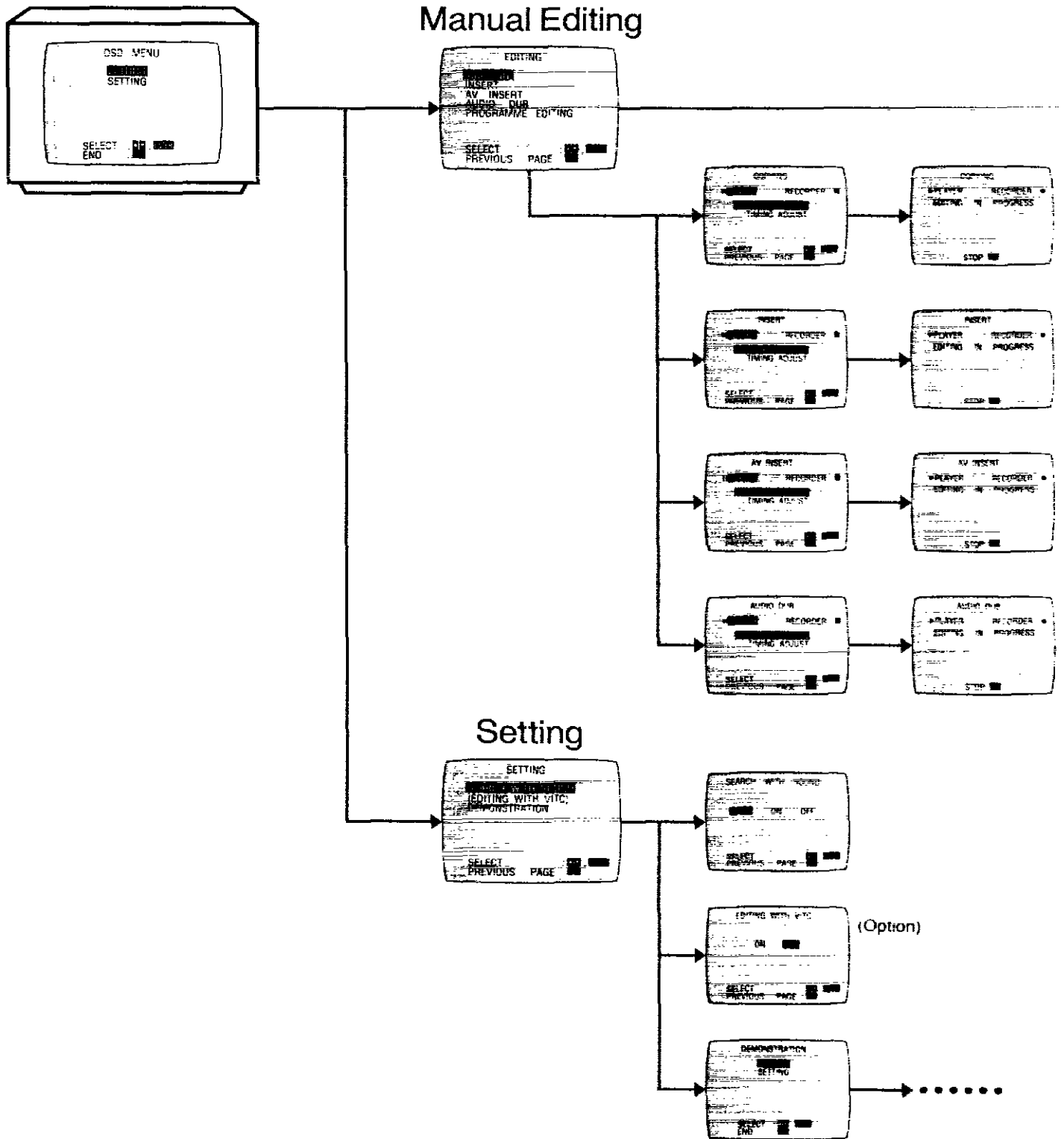
DO:

- 1) Use a good quality branded tape, such as Panasonic.
- 2) Keep in the Box supplied with your tape, or a video case, when not in use.
- 3) Try to use all the tape on a cassette by making recordings not only at the tape start but also in the middle and end sections. This will avoid many repeated recordings at the beginning of the tape resulting in premature wear.
- 4) Take care to insert a tape correctly into the VTR to avoid damage.

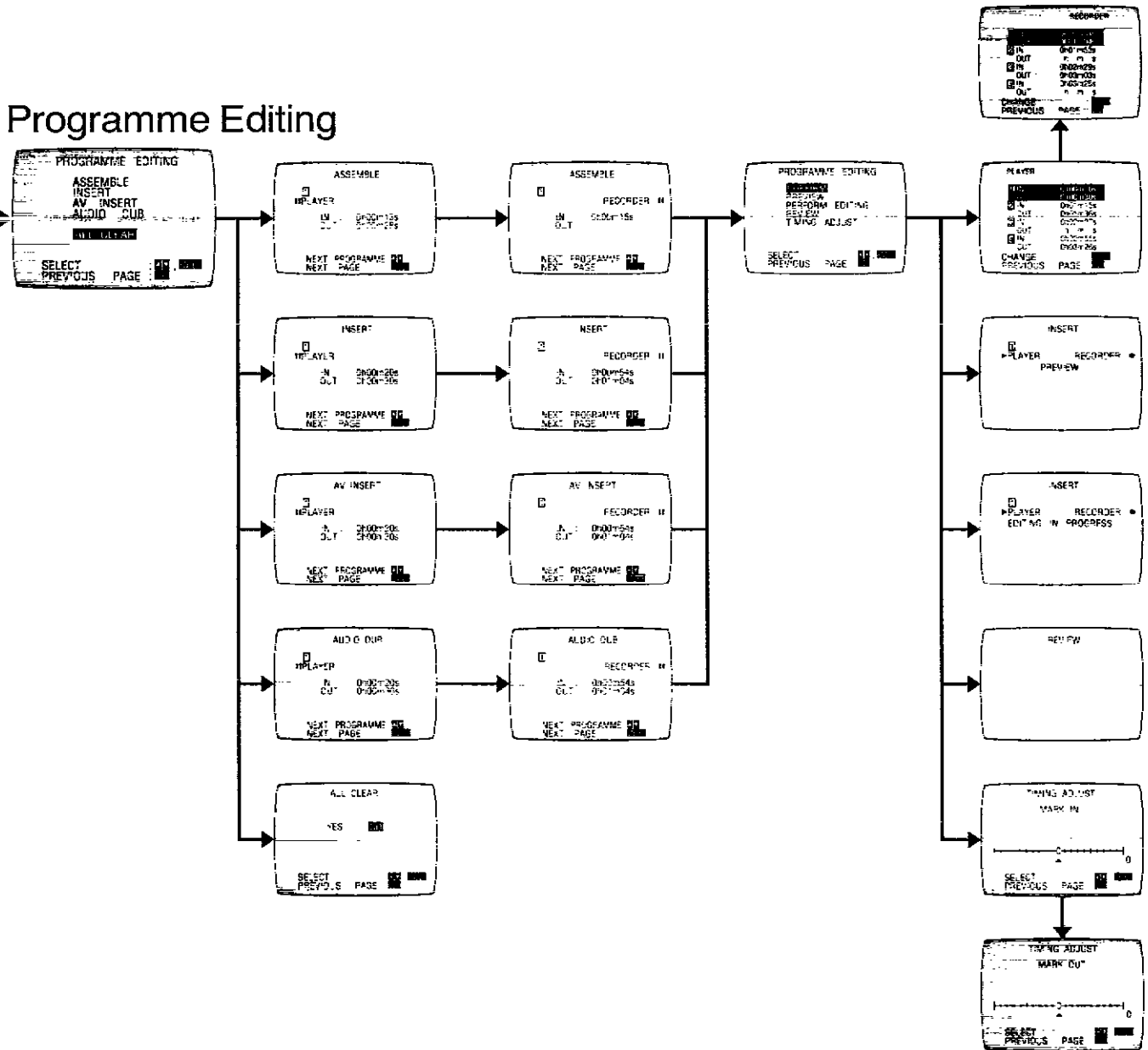
DO NOT:

- 1) Expose the tape to high humidity or temperature.
- 2) Expose to liquid.
- 3) Expose to dust particles by storing directly on a carpet for example.
- 4) Use a damaged tape or attempt to repair.
- 5) Dismantle the cassette housing.
- 6) Attempt to lift the front cassette flap or touch the tape surface.

Flow Chart for On Screen Displays



Programme Editing



Note:

With VITC function, the time code is displayed on the screen in increments of hours, minutes, seconds and frames (25 frames per second).
The normal counter also switches to time code display.

Helpful Hints

Specifications

NV-HS1000BYP... (U.K. model)

Power Source:	220–240 V AC, 50–60 Hz	
Power Consumption:	41 watts	
Video Recording System:	2 rotary heads, helical scanning system	
Video Heads:	4 heads	
Tape Speed:	SP: 23.39 mm/sec. LP: 11.7 mm/sec.	
Tape Format:	VHS/S-VHS tape	
Record/Playback Time:	SP: 240 min. with NV-E240	SP: 260 min. with NV-SE260
	LP: 480 min. with NV-E240	LP: 520 min. with NV-SE260
VIDEO		
Television System:	CCIR; 625 lines, 50 fields, PAL colour signal	
Modulation System:	Luminance; FM azimuth recording	
	Colour signal; converted subcarrier phase shift recording	
Input Level:	AV1/AV2;	1.0 Vp-p, 75 ohm, terminated
	VIDEO IN (AV3) (PHONO);	1.0 Vp-p, 75 ohm, terminated
	S-VIDEO IN (AV3);	1.0 Vp-p, 75 ohm, terminated
Output Level:	AV1/AV2;	1.0 Vp-p, 75 ohm, terminated
	VIDEO OUT (PHONO);	1.0 Vp-p, 75 ohm, terminated
	S-VIDEO OUT;	1.0 Vp-p, 75 ohm, terminated
	RF Modulated;	UHF channel 36 (±6), 75 ohm
AUDIO		
Input Level:	AV1/AV2;	–6 dBV, more than 10 kohm
	AUDIO IN (AV3) (PHONO);	–10 dBV, more than 47 kohm
	MICROPHONE (M3);	–70 dBV
Output Level:	AV1/AV2;	–6 dBV, less than 1 kohm
	AUDIO OUT (PHONO);	–8 dBV, less than 1 kohm
	HEADPHONES;	–30 dBV, 8 ohm
Audio Track:	1 track (Normal-mono only), 2 channels (Hi-Fi sound-stereo)	
Video Horizontal Resolution:	Colour; more than 240 lines (VHS/SP) more than 400 lines (S-VHS/S-Video Socket)	
Dynamic Range:	Audio; more than 90 dB (Hi-Fi audio track)	
Audio Frequency Response:	20 Hz–20 kHz	
Wow and Flutter:	0.005% Wrms/Hi-Fi	
Operating Temperature:	5°C–40°C	
Operating Humidity:	35%–80%	
Weight:	7.4 kg	
Dimensions:	430 (W) × 120 (H) × 398 (D) mm	
Standard Accessories:	1 pc. RF Coaxial Cable	
	1 pc. Remote Controller	
	2 pcs. "R6" Size Batteries	
	1 pc. Audio Cable	
	1 pc. AC Mains Lead	
	1 pc. Edit Cable	
	1 pc. S-Video Cable	

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.