

SONY

HD DIGITAL VIDEOCODER

HDD-1000

ADVANCED TELEVISION TEST CENTER
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703/739-3850



Digital *HDVS*
OPERATION MANUAL

1st Edition

Serial No. 10001 and Higher

WARNING

For the customers in the USA

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for Class A computing devices pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a computing device pursuant to Subpart J of Part 15 of FCC rules.

WARNING: Changing the voltage selector may require the use of a different line cord or attachment plug, or both. To reduce the risk of fire or electric shock, refer servicing to qualified service personnel.

For the customers in Canada

This apparatus complies with the Class A limits for radio noise emissions set out in Radio Interference Regulations.

Pour les utilisateurs au Canada

Cet appareil est conforme aux normes Classe A, pour bruits radioélectriques, tel que spécifié dans le Règlement sur le brouillage radioélectrique.

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SECTION 1 GENERAL

1.1 PURPOSE AND SCOPE
1.2 REFERENCES
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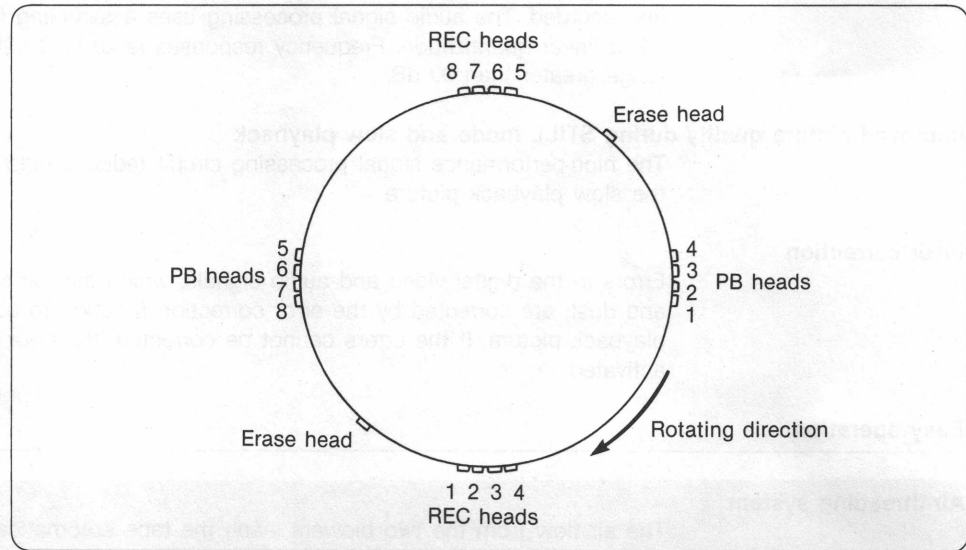
1-1. Outline

The HDD-1000 is a 1-inch helical scan digital VTR which records and plays back signals conforming to the "High Definition TV Standards" approved by the BTA and SMPTE.

With the HDDP-1000 HD VTR signal processor added, the HD digital VTR system is formed. In addition to retaining the excellent operational characteristics and functions of the conventional BVH-series VTR, this system is developed for the coming High Definition broadcasting era.

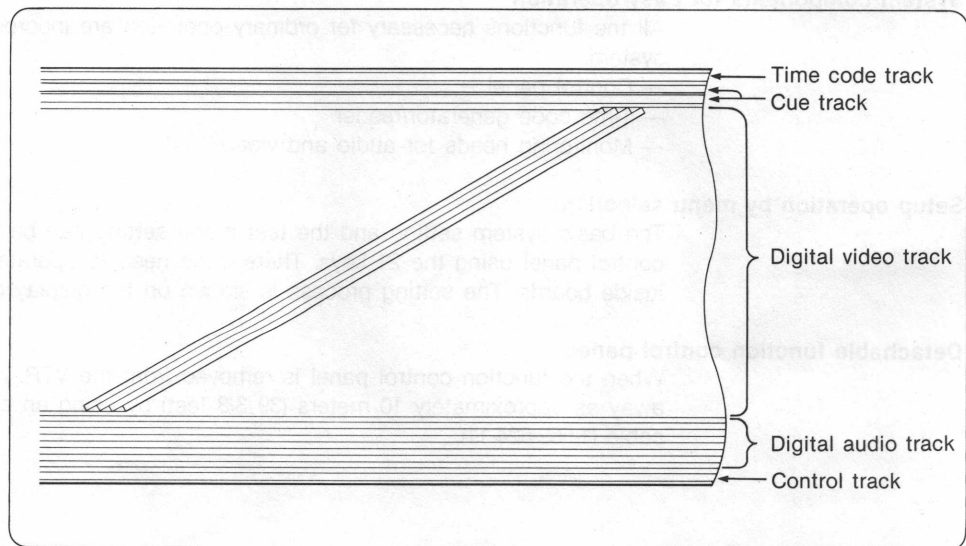
Head allocation on the drum

Eight heads each are allocated respectively for recording and playing back video signals.



The audio and other heads are inside the front cover. (Refer to 2-4-3.)

Tape format



High quality video and audio

Recording or playback are in digital format, thus high quality video and audio signals are produced. The quality of the video and audio signals will not deteriorate even more than twenty duplications.

Digital video signal

The digital video signal conforms to the BTA standard. The video signal is processed with sampling frequency of 74.25 MHz at 8-bit quantization realizing a signal-to-noise ratio of 56 dB.

Digital audio signal

The digital audio signal conforms to the AES/EBU format. Eight digital audio channels are recorded. The audio signal processing uses a sampling frequency of 48 kHz at 16-bit linear quantization. Frequency responses is 20 Hz to 20 kHz, realizing a dynamic range greater than 90 dB.

Improved picture quality during STILL mode and slow playback

The high-performance signal processing circuit reduces noise in the still picture and in the slow playback picture.

Error correction

Errors in the digital video and audio signals, which can be caused by the tape defect and dust, are corrected by the error correction function to obtain a high-quality playback picture. If the errors cannot be corrected, the error concealment function is activated.

Easy operation

System components for easy operation

All the functions necessary for ordinary operation are incorporated into the main system.

- Control panel
- Time code generator/reader
- Monitoring heads for audio and video

Setup operation by menu selection

The basic system setting and the test mode setting can be made on the function control panel using the 21 keys. There is no need to operate the switches on the inside boards. The setting process is shown on the display of the panel.

Detachable function control panel

When the function control panel is removed from the VTR, it can be used from as far away as approximately 10 meters (39 3/8 feet) by using an optional HR extension cable (1-559-524-11).

Useful functions

Multi cue function

Cue points can be set up to 10 points and can be easily reached back later on.

Color playback function during variable speed playback modes

In SHUTTLE, JOG and VAR modes, the color picture is noiseless for the still playback and during $\pm 1/4$ normal speed playback. In SHUTTLE mode, the color picture is recognizable even during ± 8 times normal speed playback.

Set designs for reliable operation

Error message display

If an error occurs during operation, the error message appears on the display to show what is wrong. The error message can also be superimposed on the picture monitor.

Easy maintenance

Reliability and serviceability of the HDD-1000 are improved by the following features:

- Accessibility to the chassis, circuit boards, motors, control panel, etc.
- Movable slant guides make drum cleaning easy.
- Less interface circuits, harnesses and connectors due to adoption of the large circuit boards.
- The use of LSI reduces the number of ICs and other components.
- Semi-automatic adjustment of the tape transport section by the computerized servo system.

Various system interfaces

4 kinds of remote control interfaces

The HDD-1000 is equipped with the three kinds of remote control interfaces for controlling the VTR functions, including the 9-pin serial and parallel interfaces; and with one interface for controlling the monitor signals.

The 9-pin serial interface particularly is indispensable for making the editing system, enabling the direct connection to the existing editing control units.

Optional RS-232C interface available

The optional BKH-3002 RS-232C interface kit can be installed in the HDD-1000 to control basic VTR functions.

Mounting

Side panel kit

When the HDD-1000 is used alone, the optional BKH-3001 side panel kit is available.

1-2. Specifications

General

Power requirements	100 to 120/220 to 240 V AC $\pm 10\%$ selectable, 50/60 Hz
Power consumption	HDD-1000: 600 W max. HDDP-1000: 1100 W max.
Operating temperature	10°C to 35°C (50°F to 95°F)
Storage temperature	-20°C to +60°C (-4°F to +140°F)
Humidity	10 to 85 % (non-condensing)
Weight	HDD-1000: 70 kg (154 lb 5 oz) HDDP-1000: 100 kg (220 lb 7 oz)
Dimensions (w/h/d)	HDD-1000: 480×677×572 mm (19×26 ³ / ₄ ×22 ⁵ / ₈ inches) HDDP-1000: 424×650×650 mm, including projecting parts (16 ³ / ₄ ×25 ⁵ / ₈ ×25 ⁵ / ₈ inches)
Recording format	High Definition TV Standard
Tracks/channels	Video 8 (16 tracks/field) Digital audio..... 8 Analog audio (cue)..... 2 Time code 1 CTL..... 1
Tape speed	80.5 cm/sec.
Writing speed (relative speed)	51.5 m/sec.
Recording time	63 minutes with 11.75-inch reel
Servo lock time	Within 3.5 sec. (From STANDBY mode to frame capstan mode)
Tape timer accuracy	± 1 frame (with continuous CTL signal)
Error correction	Correction and detection Video: Two-dimensional chain code with outer/inner error correction code Audio: CRCC & Cross interleave
Fast forward/rewind time	Less than 5 min. with 1-hour tape
Recommended tapes	Sony 1-inch metal tape or equivalent, 17.5 μm $\pm 1\mu\text{m}$ thickness
Tape reel	NAB standard 6.5- to 11.75-inch reel

Video

Sampling frequency	74.25 MHz
Quantization	8 bits/sampling
Channel coding	8-8 coding
Video bandwidth	Y: 0 to 27 MHz ± 0.5 dB to 30 MHz ± 1.5 dB P _B , P _R : 0 to 13.5 MHz ± 0.5 dB to 15 MHz ± 1.5 dB
S/N ratio	56 dB
K factor	Less than 1 (2T pulse)
Tilt	Less than 1 (horizontal, vertical)
Linearity	Less than 1 % (low frequency)
Channel delay time	Less than 3.5 nsec.
Input/output return loss	More than 26 dB
Input level variable	± 2 dB (analog input)
Output level variable	± 2 dB (analog output) Digital output level is fixed. Sync phase: +1.5 to -0.5 μsec . (13.5 nsec./step)

Digital audio (DA1 to DA8 CH)

Frequency response	20 Hz to 20 kHz ± 0.5 dB (at 1 kHz, 4 dBm nominal)
Dynamic range	More than 90 dB (at 1 kHz, emphasis ON)
Distortion	Less than 0.05 % (1 kHz, emphasis ON, 0 VU headroom 18 dB)
Wow & flutter	Below measurable limit
Crosstalk	Less than -80 dB (between channels, at 1 kHz)
Sampling frequency	48 kHz (synchronized to video)
Emphasis	T ₁ = 50 μ sec/T ₂ = 15 μ sec (ON/OFF selectable)
Quantization	16 bits/sampling
Level (analog)	Input: -16 dBm to +10 dBm (4 dBm nominal, 600 Ω /10 k Ω impedance, balanced) Output: 4 dBm, 600 Ω impedance, balanced
Headroom	18 dB
Delay (output)	± 0.5 frame (to video signal)

Analog audio (cue track)

Frequency response	50 Hz to 20 kHz ± 1 dB
S/N ratio	More than 50 dB (at operation level)
Distortion	Less than 1.2 % (0 VU headroom 12 dB)
Wow & flutter	Less than 0.2 % (0.5 to 200 Hz, NAB, unweighted)
Level	Input: -16 dBm to +16 dBm (600 Ω /10 k Ω impedance, balanced) Microphone input: -60dBm (600 Ω , balanced) Output: 4 dBm, 600 Ω impedance, balanced

Input/output signal

HDD-1000

Line input/output

Cue input (XLR)	-16 dBm to +16 dBm, 600 Ω /10 k Ω , balanced (microphone input: -60 dBm)
Cue output (XLR)	+4 dBm nominal, 600 Ω , balanced
Time code input/output (XLR)	SMPTE/EBU time code, 600 Ω , balanced
Monitor output (XLR)	+4 dBm, 600 Ω , balanced, variable, L/R channels, analog audio signal selectable
Headphones output	8 Ω , unbalanced, variable

TO PROCESSOR

Digital video (D-SUB 50-pin)

Digital audio (D-SUB 50-pin)

Remote control

REMOTE-1 (D-SUB 15-pin)

For BKH-2016 CCJ converter

REMOTE-2A IN, REMOTE-2A OUT, REMOTE-2B IN/OUT (D-SUB 9-pin)

For 9-pin serial interface

REMOTE-3¹⁾ (D-SUB 50-pin)

For parallel remote signals

AUX (D-SUB 9-pin)

For future use

HDDP-1000

Video input/output

Analog (BNC)	G/B/R, Y/P _B /P _R input: 1.0 V _{p-p} \pm 2 dB SYNC input: \pm 0.3 V \pm 3 dB G/B/R, Y/P _B /P _R output: 0.7 V _{p-p} (video), \pm 0.3 V (sync) SYNC output: \pm 0.3 V, 75 Ω , G/B/R or Y/P _B /P _R selectable
Digital (D-SUB 50-pin)	Y: 8 bit parallel (74.25 MHz) P _B /P _R : multiplex 8 bit parallel (74.25 MHz), ECL level Clock: 74.25 MHz
Monitor output (BNC)	G/B/R, Y/P _B /P _R : 0.7 V _{p-p} (video), \pm 0.3 V (sync) SYNC: \pm 0.3 V
Waveform monitor output (BNC)	G/B/R, Y/P _B /P _R : 0.7 V _{p-p} (video), \pm 0.3 V (sync), 75 Ω SYNC: \pm 0.3 V (input/output video), 0.3 V _{p-p} (CTL) 0.4 V _{p-p} (RF envelope), 75 Ω

Audio input

Analog (XLR) -16 dBm to +16 dBm, 600 Ω /10 k Ω , balanced

Digital (XLR, D-SUB 15-pin)

AES/EBU format

Audio output

Analog (XLR) +4 dBm nominal, 600 Ω , balanced

Digital (XLR, D-SUB 15-pin)

AES/EBU format

TO VTR

Digital video (D-SUB 50-pin)

Digital audio (D-SUB 50-pin)

Remote control

RS-232C (D-SUB 25-pin) For RS-232C interface

1) For the input/output signals of the REMOTE-3 connector, refer to APPENDIX B.

Supplied accessories

HDD-1000

- Empty reel R1-11VA 11.75-inch reel (1)
- Connector plug D-SUB 50-pin connectors (1 set)
- Headphone plug adaptor (1)
- Screws + B5×16 (4)
- Spring washers M5 (4)
- Washers M5 (4)
- Extension board (1)
- Key ID label (2)
- Overlay sheet (blank) (2)
- Maintenance sheet (1)
- Operation manual, maintenance manual (1 set)

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- Extension board (1)
- VTR-processor connecting cable (3)
- Extension coaxial cable 600 mm (8)
- Rack mount fittings (1 set)
- AC adaptor plug (1)
- Operation manual, maintenance manual (1 set)

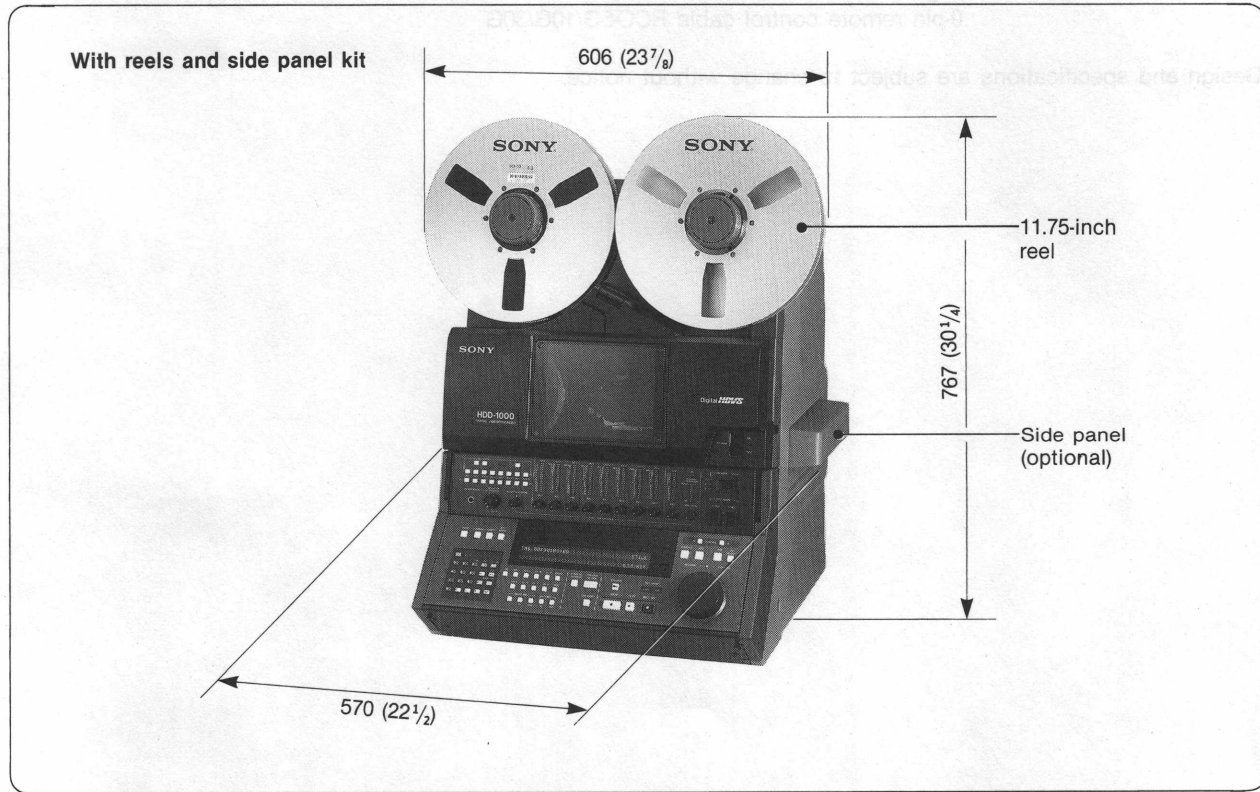
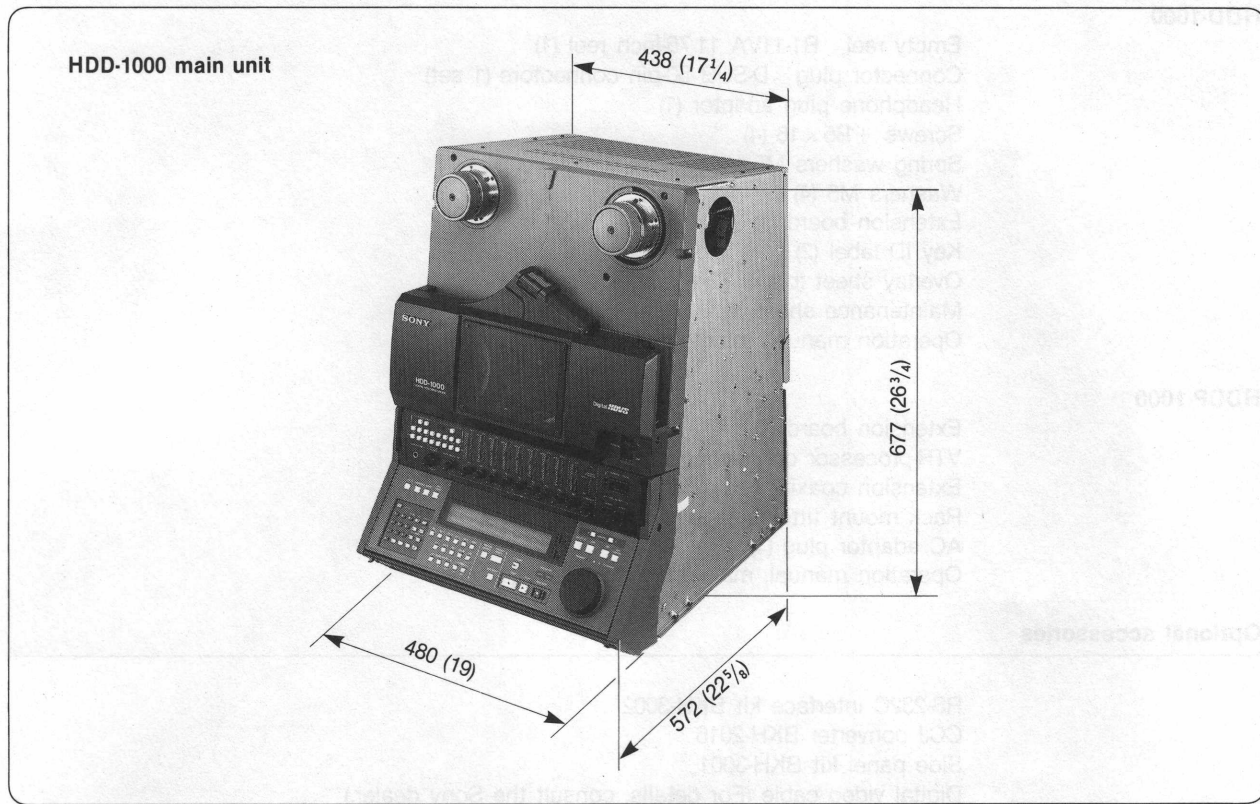
Optional accessories

- RS-232C interface kit BKH-3002
- CCJ converter BKH-2016
- Side panel kit BKH-3001
- Digital video cable (For details, consult the Sony dealer.)
- Digital audio cable ECD-3C/10C/30C
- 9-pin remote control cable RCC-5G/10G/30G

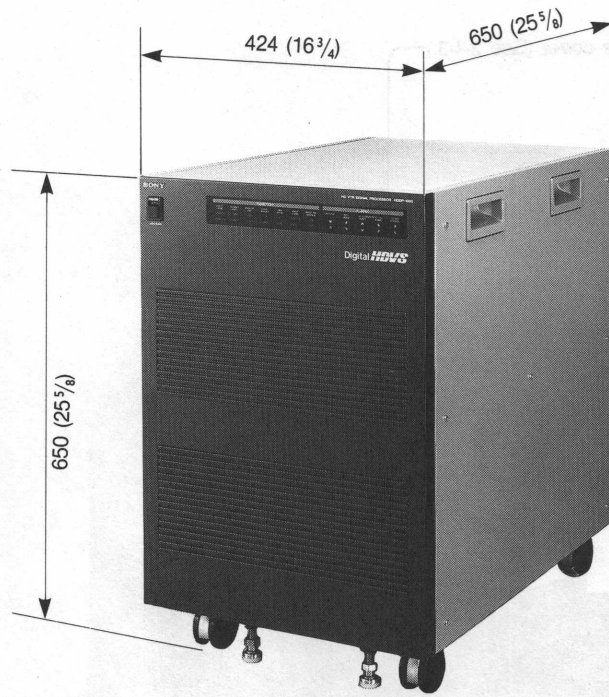
Design and specifications are subject to change without notice.

Dimensions

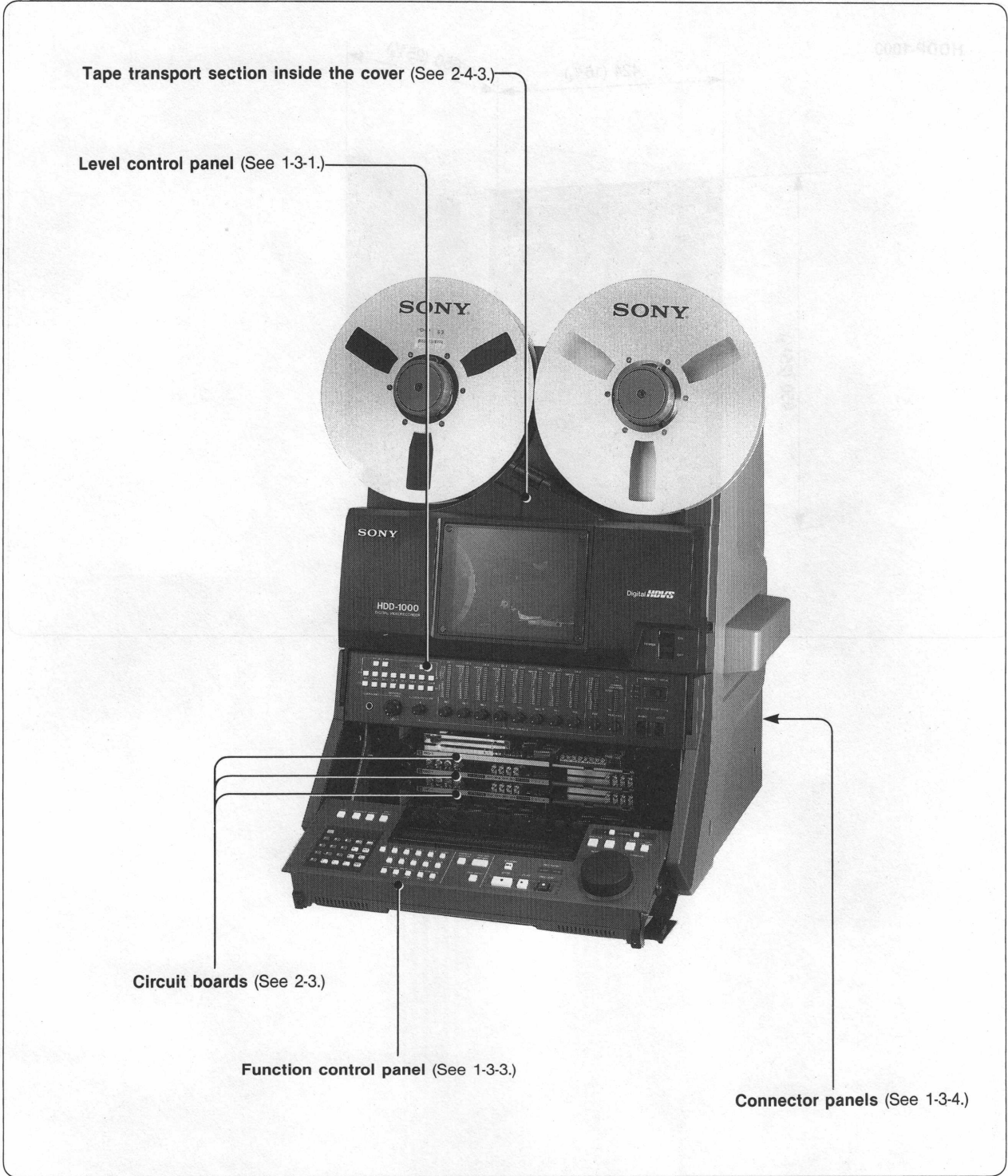
Unit: mm (inch)



HDDP-1000



1-3. Location and Functions of Parts



Tape transport section inside the cover (See 2-4-3.)

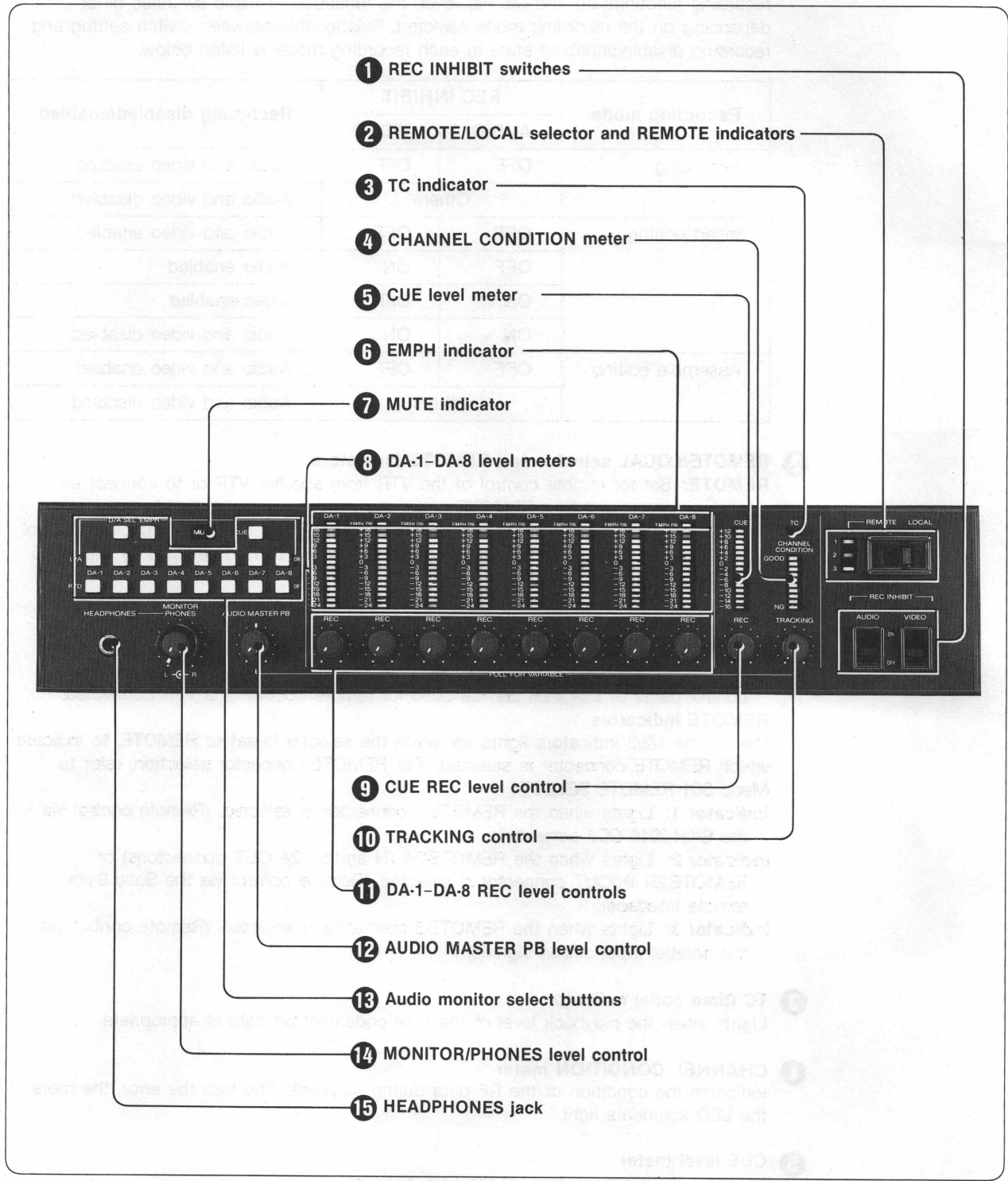
Level control panel (See 1-3-1.)

Circuit boards (See 2-3.)

Function control panel (See 1-3-3.)

Connector panels (See 1-3-4.)

1-3-1. Level Control Panel



1 REC INHIBIT switches

The AUDIO ON/OFF and VIDEO ON/OFF switches turn audio recording and video recording functions on and off. However, the functions of these switches differ depending on the recording mode selected. Relationship between switch setting and recording disabled/enabled state in each recording mode is listed below.

Recording mode	REC INHIBIT		Recording disabled/enabled
	AUDIO	VIDEO	
Recording	OFF	OFF	Audio and video enabled
	Others		Audio and video disabled
Insert editing	OFF	OFF	Audio and video enabled
	OFF	ON	Audio enabled
	ON	OFF	Video enabled
	ON	ON	Audio and video disabled
Assemble editing	OFF	OFF	Audio and video enabled
	Others		Audio and video disabled

2 REMOTE/LOCAL selector and REMOTE indicators

REMOTE: Set for remote control of the VTR from another VTR or to connect an editing control unit to a REMOTE connector on the connector panel.

When set to this position, only certain buttons and the dial on the function control panel will operate. The panel controls to be enabled can be selected by Menu I05 LOCAL KEY ENABLE.

Lamps and the timer display continue to display the settings made before the remote control mode was selected.

LOCAL: Set when the HDD-1000 is operated by itself or when used as a master recorder in editing or in parallel operation. When set to this position, the function control panel of this VTR can be used for remote control of a VTR connected.

REMOTE indicators

One of the 1/2/3 indicators lights up, when the selector is set to REMOTE, to indicate which REMOTE connector is selected. (For REMOTE connector selection, refer to Menu S01 REMOTE SELECT.)

Indicator 1: Lights when the REMOTE-1 connector is selected. (Remote control via the BKH-2016 CCJ converter)

Indicator 2: Lights when the REMOTE-2A IN and/or -2A OUT connector(s) or REMOTE-2B IN/OUT connector is selected. (Remote control via the Sony 9-pin remote interface)

Indicator 3: Lights when the REMOTE-3 connector is selected. (Remote control via the parallel input/output signals)

3 TC (time code) indicator

Lights when the playback level of the time code/user bit data is appropriate.

4 CHANNEL CONDITION meter

Indicates the condition of the RF data during playback. The less the error, the more the LED segments light.

5 CUE level meter

Indicates the playback level of the CUE channel.

6 EMPH (emphasis) indicator

Lights when the emphasis of the input/playback signal for each channel (DA-1 to DA-8) is ON.

7 MUTE (Muting) indicator
Lights when one or more digital audio channels (DA-1 to DA-8) are muted.

8 DA-1-DA-8 (digital audio 1-8) level meters
Indicate audio level for each channel with 15 LED segments (Peak-hold indication). Indication range is -21dB to +18dB (3dB a segment), but the bottom segment always lights.
The audio signal to be indicated changes depending on the settings of the TAPE/IN key, INPUT button on the function control panel, and the VTR operation mode as follows.

VTR operation mode TAPE/IN key and INPUT button setting	STOP mode	REC/EDIT mode	Other modes
TAPE	TAPE	TAPE(MONITOR)	TAPE
TAPE/EE	EE	EE	TAPE
INPUT	INPUT or EE	INPUT or EE	INPUT or EE

9 CUE REC level control
Pulled-out position: The cue channel recording level can be adjusted.
Pushed-in position: Adjusted to the preset level. For presetting operation, refer to "3-2. RECORDING".

10 TRACKING control
Pulled-out position: The tracking error during playback can be adjusted.
Pushed-in position: Adjusted to the factory preset position.

11 DA-1 - DA-8 REC (recording) level controls
Pulled-out position: The audio recording level can be adjusted.
Pushed-in position: Adjusted to the factory preset level.

12 AUDIO MASTER PB (playback) level control
Pulled-out position: Simultaneously adjusts the audio playback levels of DA-1 through DA-8, which are output from the ANALOG/DIGITAL AUDIO OUT 1 through 8 connectors. However, the gain of the audio playback signals are set to 0 dB when the ASSEMBLE/INSERT button is lit.
Pushed-in position: The gain of the audio playback signals are set to 0dB.

While the INPUT button is held down

While the INPUT button is held down, the DA-1-DA-8 level meters indicate the signal levels controlled by the DA-1 - DA-8 REC level controls 11.
The INPUT or EE signal can be selected by Menu 104 INPUT CHECK MODE.

13 Audio monitor select buttons

Select the audio output signals from the HEADPHONES jack and the MONITOR OUTPUT L/R connectors.

DA-1-DA-8

When pressed, lights and the displayed signal is output. There are two buttons (L and R) for each channel.

CUE

When pressed, lights and the output signal changes to that from the CUE channel. When DIGITAL is selected in Menu S13 CUE INPUT SELECT, the two channel buttons (from DA-1 to DA-8), which are selected for the input signals to the CUE channel, light to indicate they are selected.

You can change the input signals for the CUE channel by pressing one of the DA-1 through DA-8 buttons to be changed while pressing this button.

D/A SEL

When pressed, the DA-1 to DA-8 buttons indicate which signal is selected, analog or digital, to be input to the DA-1 to DA-8 channels respectively. The upper button lights when the analog input signal is selected, while the lower button lights when the digital input signal is selected.

You can change the selection by pressing the DA-1 through DA-8 buttons (upper or lower) to be changed while pressing this button.

Note

When you select the digital input signal for a channel, the button might blink (but not kept lit), indicating that the digital signal is not input to the channel or that the digital input signal is not synchronized with the reference signal.

EMPH

When pressed, the DA-1 to DA-8 buttons indicate whether the emphasis is set to on or not for each channel to which analog signal is input respectively. The upper button lights when the emphasis is set to on, and the lower button lights when the emphasis is set to off.

You can change the setting by pressing one of the DA-1 through DA-8 buttons (upper or lower) to be changed while pressing this button.

14 MONITOR/PHONES level control

Adjusts the listening level of the headphones or the output level of the audio MONITOR OUTPUT L/R connectors (rear).

15 HEADPHONES jack

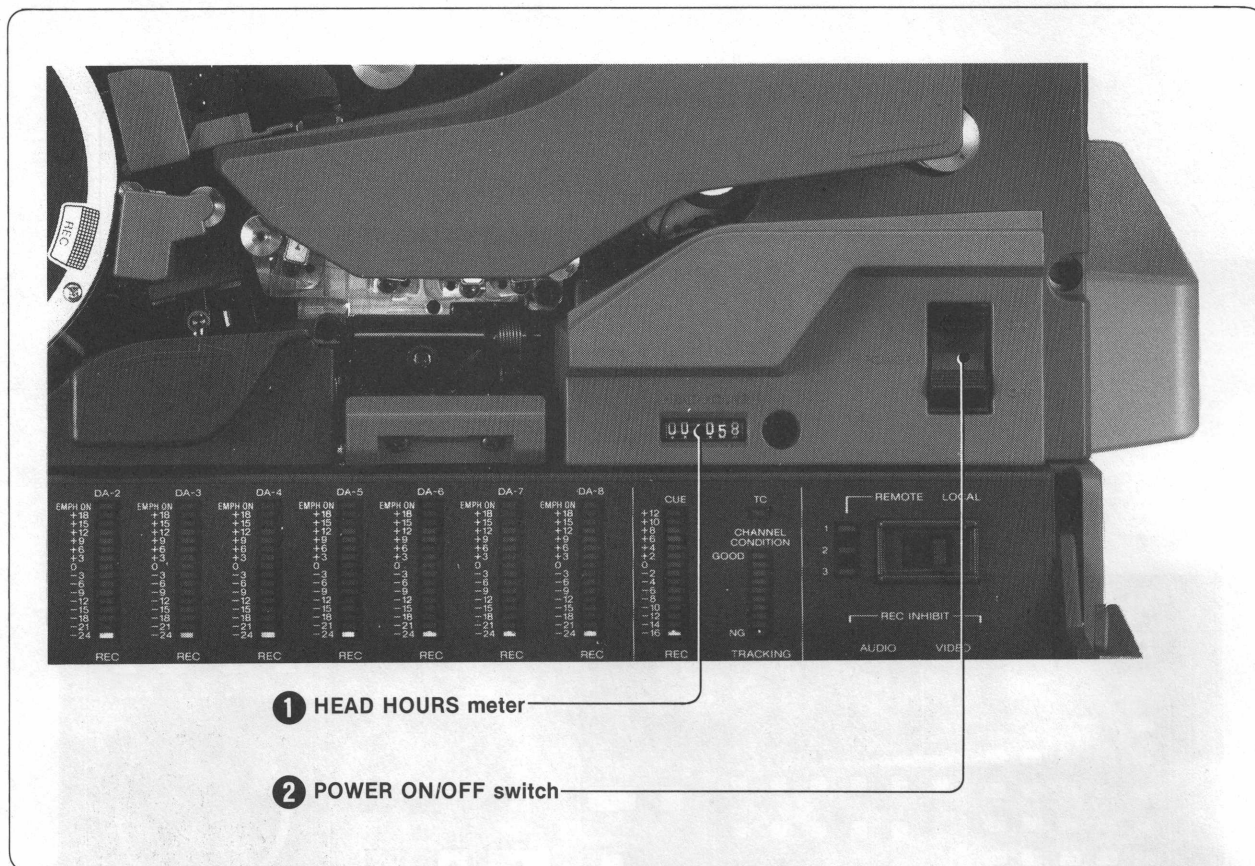
Connect 8-ohm headphones to monitor the audio output signal selected by the Audio monitor select buttons **13**.

When headphones are connected, audio signals are not output to the MONITOR OUTPUT L/R connectors.

Note

Be careful not to damage the headphone plug when removing the front cover. To avoid this, it is recommended to use the attached L-shaped headphone plug.

1-3-2. Inside the Front Cover



1 HEAD HOURS meter

2 POWER ON/OFF switch

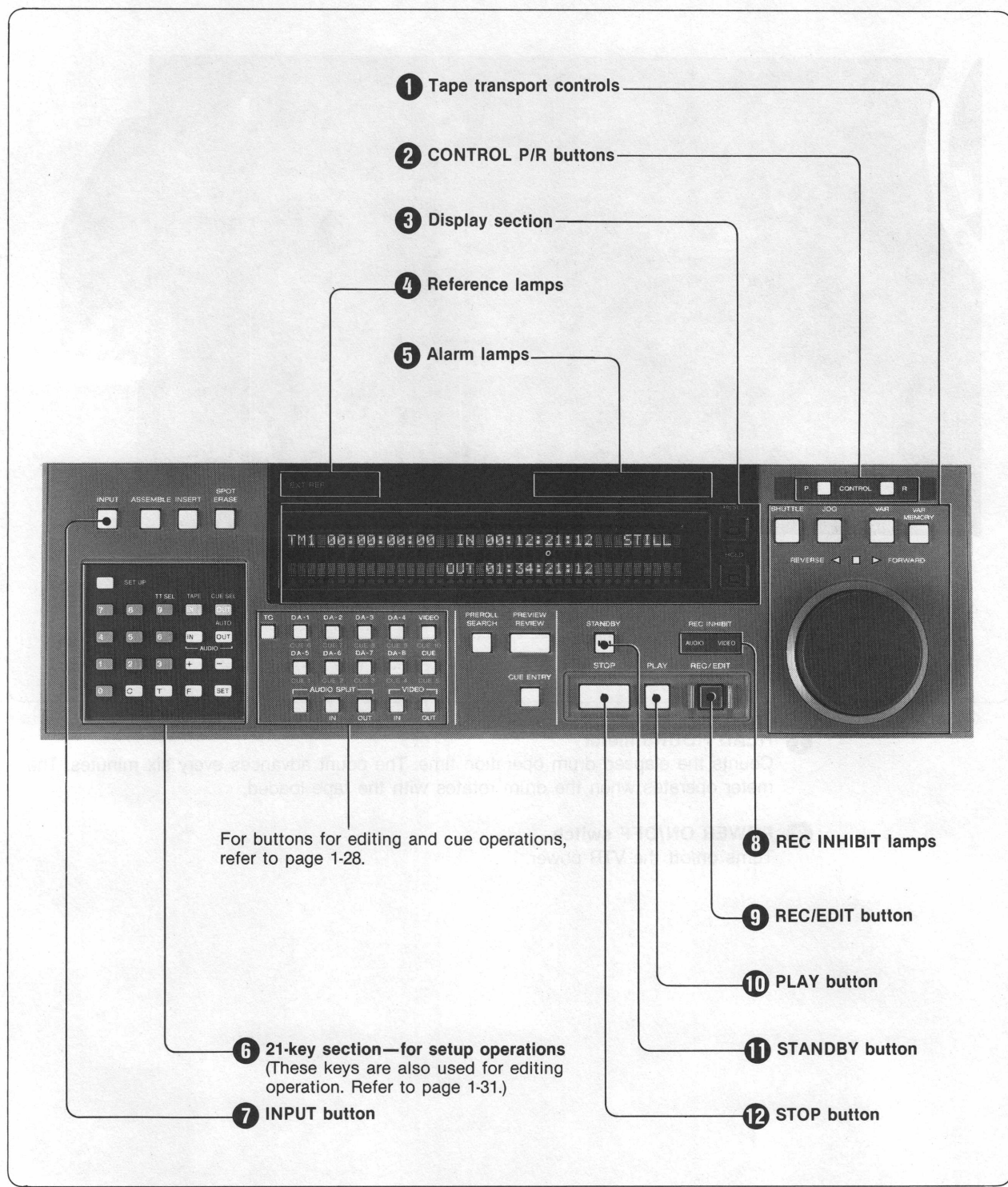
1 HEAD HOURS meter

Counts the elapsed drum operation time. The count advances every six minutes. The meter operates when the drum rotates with the tape loaded.

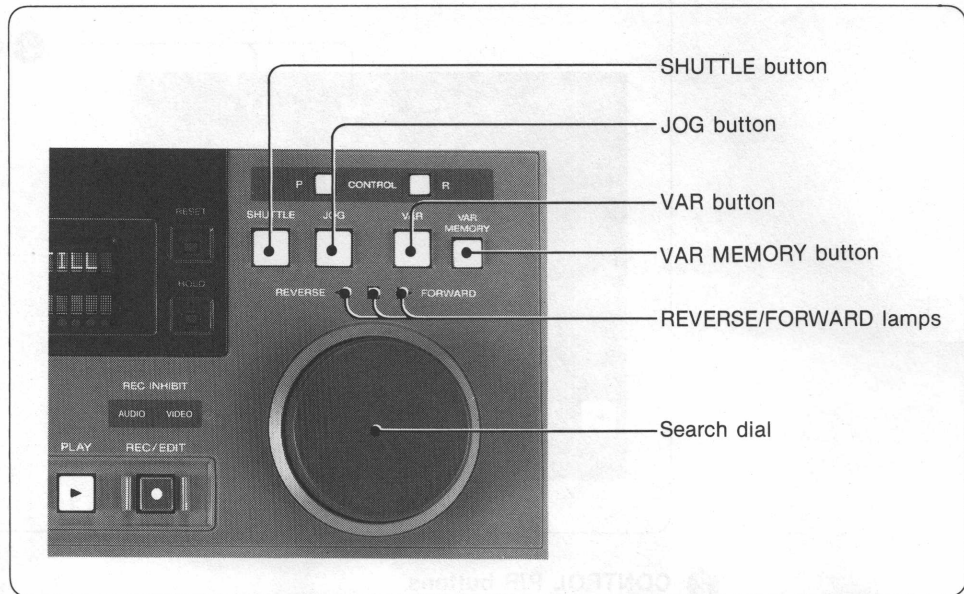
2 POWER ON/OFF switch

Turns on/off the VTR power.

1-3-3. Function Control Panel



1 Tape transport controls



SHUTTLE button

When this button is pressed, the button lamp lights up, and the VTR enters the SHUTTLE mode. Refer to "3-3-2. SHUTTLE Mode".

JOG button

When this button is pressed, the button lamp lights up, and the VTR enters the JOG mode. Refer to "3-3-3. JOG Mode".

VAR (variable) button

When this button is pressed, the button lamp lights up, and the VTR enters the PROGRAM JOG mode. This button is also used to set the tape speed in advance. Refer to "3-3-4. PROGRAM JOG Mode".

VAR (variable) MEMORY button

When the AUTO lamp in the 21-key section is lit, pressing this button allows the search dial operation (change of tape speed and direction) in the PROGRAM JOG mode to be memorized for later tape operation in the same speed pattern. Refer to "3-3-5. VAR MEMORY Mode".

REVERSE/FORWARD lamps (left and right: green, center: red)

These lamps indicate the tape drive direction. (The central red lamp is normally lit.) When the tape is manually driven with the search dial, the REVERSE or FORWARD lamp indicates the direction of the current tape operation.

When a tape speed and direction are set in advance for the PROGRAM JOG mode, the REVERSE or FORWARD lamp indicates the preset direction.

When the tape comes near the end, the central red lamp and the REVERSE/FORWARD lamp blink.

Search dial

Controls the tape speed and direction.

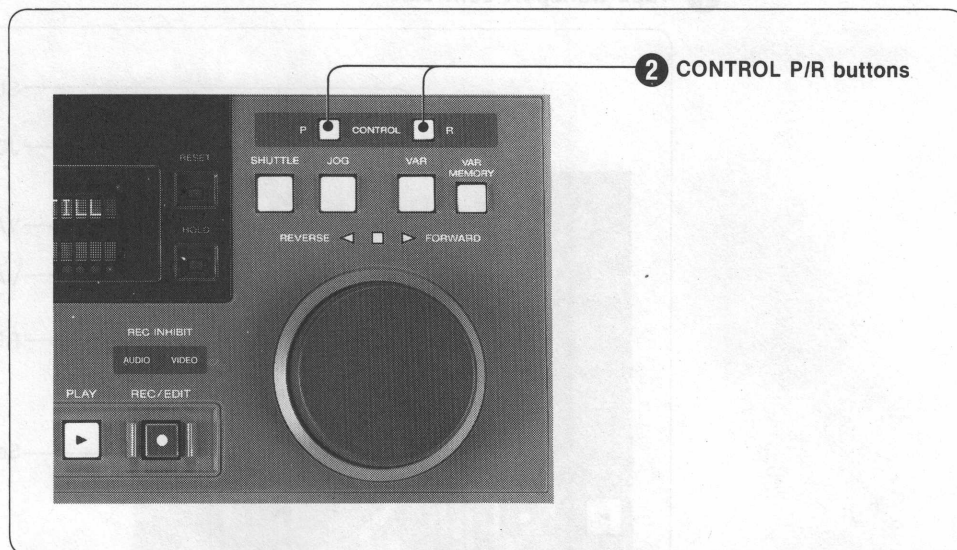
Turn to the right for forward playback and to the left for reverse playback.

In JOG, SHUTTLE or PROGRAM JOG mode, turn this dial to change the tape direction and speed.

In STOP, STANDBY, PLAY or REC mode, turn this dial to set the tape speed and direction in advance for the PROGRAM JOG mode. The preset tape speed is displayed in Block 5 of display.

In STOP mode, turn this dial while pressing the STOP button, or **in the PLAY, REC or EDIT REC mode**, turn this dial while pressing the STANDBY button, to display the memorized addresses of the LOST LOCK errors that occurred during the preceding playback in Blocks 4 and 3 of display.

In SET UP menu mode, this dial is used to select the setup menu.



2 CONTROL P/R buttons

When another VTR is connected to the REMOTE-2A OUT or REMOTE-2B IN/OUT connector (rear), and RM2A or RM2B (depending on the related connector) is selected in menu S01 REMOTE SELECT, setting the level control panel REMOTE/LOCAL selector to LOCAL allows this VTR to operate as a master recorder (called simply "the recorder") of a connected VTR (called "the player"). In this mode, the following controls can be selected with the CONTROL P/R buttons. The P and R button lamps are turned on/off by pressing the corresponding buttons.

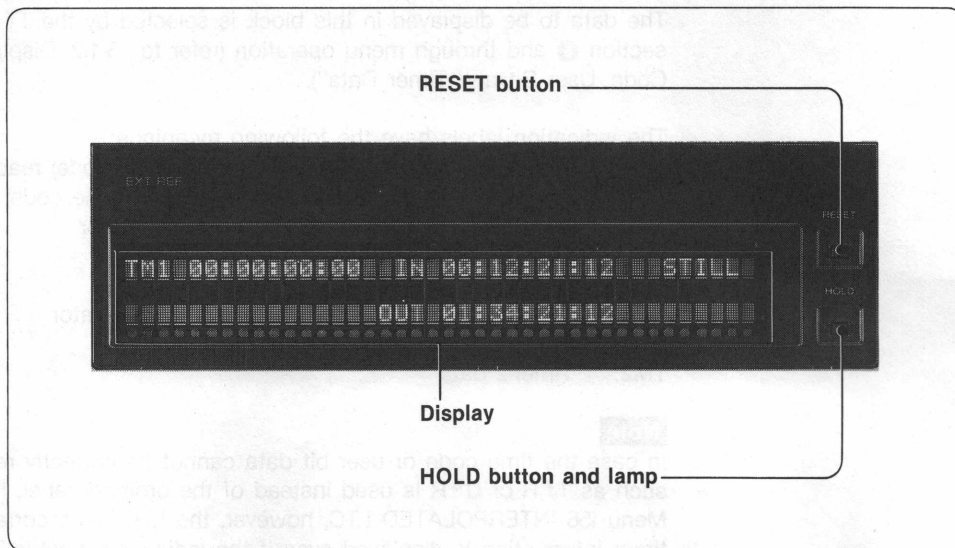
P button lit: The operation buttons (for editing and tape transport) on this VTR make the connected player operate in the remote control mode. The panel also displays the player's operation mode.

R button lit: The control panel operates this VTR as a recorder. In the AUTO EDIT mode (refer to "3-4-2. Automatic Editing"), PREVIEW, AUTO EDIT and REVIEW functions of both the recorder and the player can be controlled with this VTR's control panel.

Both P and R buttons lit: The player and recorder can be operated in parallel when ENABLE is selected in menu S08 PARA RUN.

Both P and R buttons unlit: The control panel of this VTR can operate this VTR only. The button lamps are also unlit when the recorder cannot communicate with the player.

3 Display section



RESET button

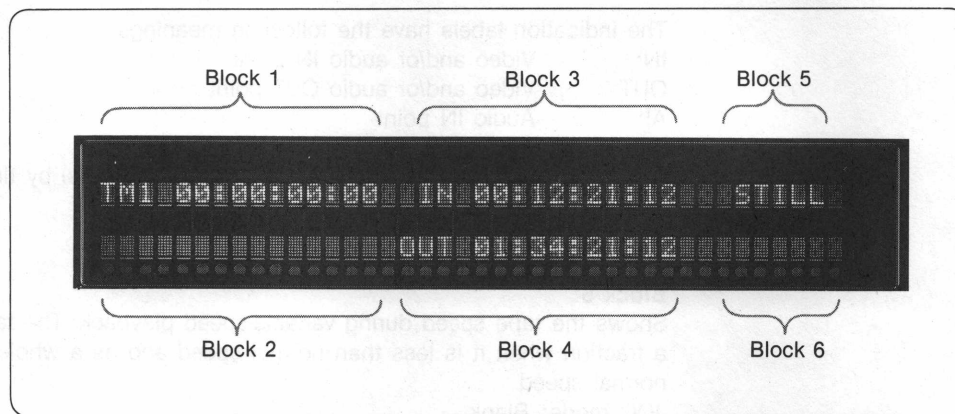
Press this button to reset the timer-1 data, the data from the time code generator, or the user bit data displayed in block 1, or to reset the display to zero.

HOLD button and lamp

Press at the desired point to hold the data displayed in Block 1 of the display. The HOLD lamp lights, indicating the HOLD mode. To display the current data to be read, press the HOLD button again: the HOLD lamp goes out.

Display

The display is divided into the following 6 blocks:



- Each eight-digit number indicates hours: minutes: seconds: frames.
- The indication mode of timer-1 and timer-2 data can be switched between the +/- (12-hour) mode and 24-hour mode by Menu I54 TIMER DISPLAY MODE.
- The display is also used for menu operation (refer to "1-4-2. 21 Keys for Menu Selection and Menu Display Format").

Block 1

Shows the tape running time of the recorder or the player which is being operated. The data to be displayed in this block is selected by the TT SEL key in the 21-key section ⑥ and through menu operation (refer to "3-1-2. Display and Setting of Time Code, User Bit and Timer Data").

The indication labels have the following meanings:

TCR: Time code read by LTC (longitudinal time code) reader
 TCR . : Time code read by VITC (vertical interval time code) reader
 TCG: Time code generated by time code generator
 UBR: User bit data read by LTC reader
 UBR . : User bit data read by VITC reader
 UBG: User bit data generated by time code generator
 TM1: Timer-1 data
 TM2: Timer-2 data

Note

In case the time code or user bit data cannot be correctly read, an indication label such as T*R or U*R is used instead of the ordinary label. If ENABLE is selected in Menu 156 INTERPOLATED LTC, however, the LTC value correctly interpolated by the timer information is displayed even if the indication label is T*R.

Block 2

Shows the time code or the timer data on the player when the VTR is operated in the AUTO EDIT mode in combination with another HD VTR.

Block 3

Shows the previous display content of Block 4. The data indicated in Block 4 is shifted to this block by the subsequent operation.

Block 4

Shows the data entered or accessed by the keys in the 21-key section ⑥ and CUE number buttons ⑩.

The indication labels have the following meanings:

IN: Video and/or audio IN point
 OUT: Video and/or audio OUT point
 AI: Audio IN point
 AO: Audio OUT point
 DUR: Duration (time between IN and OUT points) by timer-1 data
 LAP: Duration by timer-2 data
 C1 to C10: Cue points for CUE1 to CUE10 buttons

Block 5

Shows the tape speed during variable-speed playback. The tape speed is indicated as a fraction when it is less than normal speed and as a whole number when it is over normal speed.

JOG mode: Blank

SHUTTLE and PROGRAM JOG mode: Tape speed

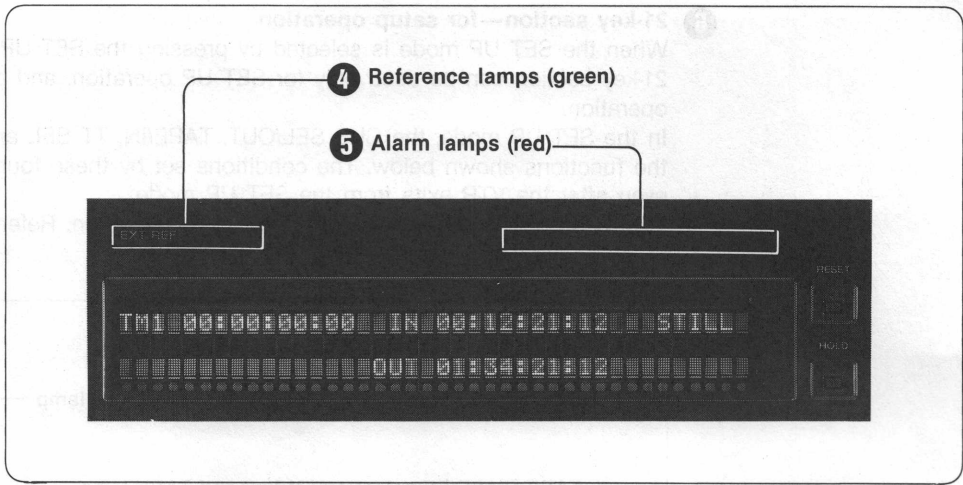
VARIABLE MEMORY mode: V

Other mode: Memorized tape speed of the PROGRAM JOG

In the SET UP mode, error messages appear in Block 5.

Block 6

Displays an error message. Refer to Appendix A "Error Message List".



4 Reference lamps
 Lights to indicate the reference signal selected with Menu S12 COMMON REF SELECT.

EXT REF lamp (green)
 Lights when the external reference signal fed through the VIDEO IN SYNC connector (HDDP-1000 rear) is selected.

INPUT lamp (green)
 Lights when the input video signal is selected as a reference signal.

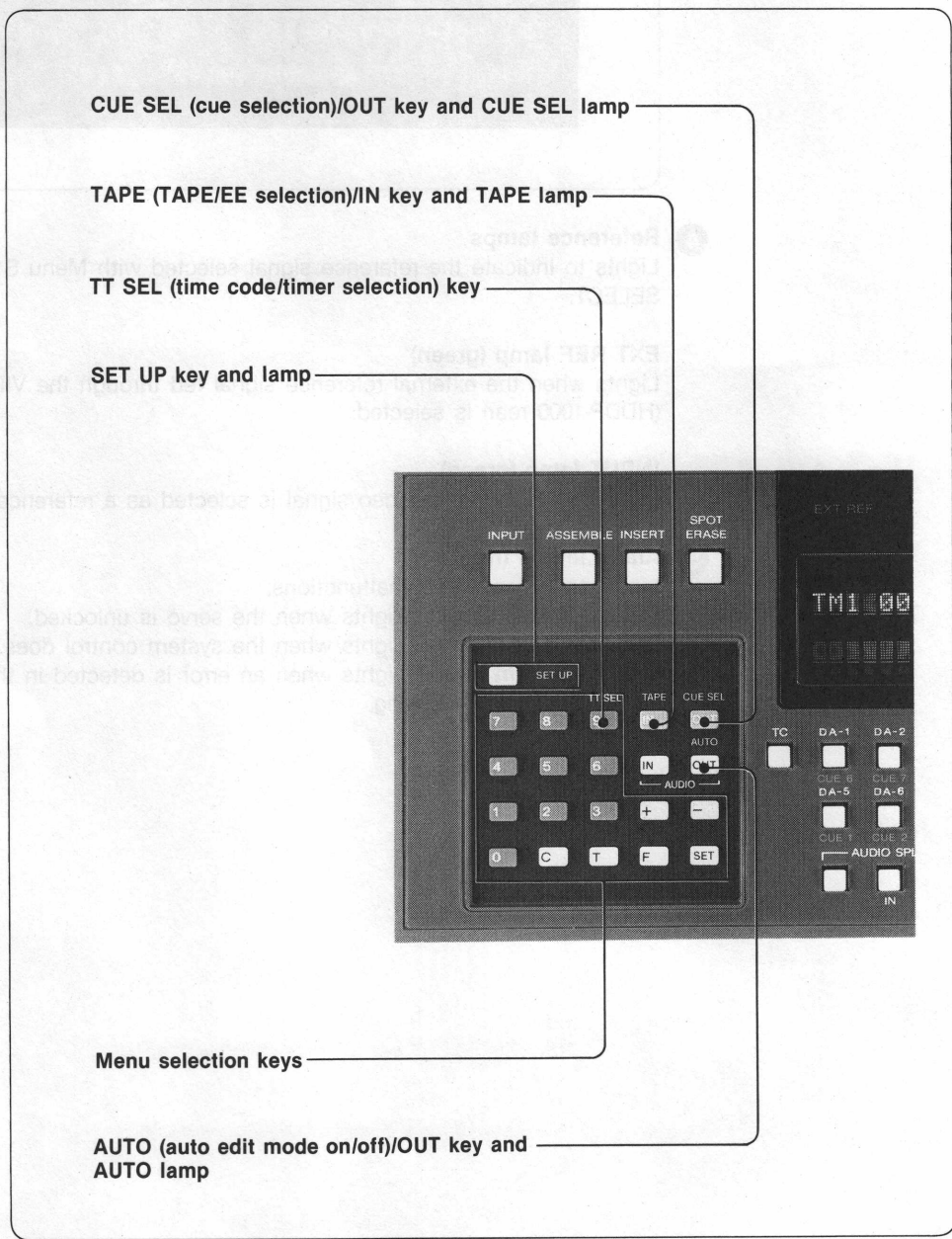
5 Alarm lamps (red)
 Lights to indicate VTR malfunctions.
SERVO alarm lamp: Lights when the servo is unlocked.
SYSTEM alarm lamp: Lights when the system control does not function properly.
DIGITAL alarm lamp: Lights when an error is detected in the audio or video digital signal processing.

6 21-key section—for setup operation

When the SET UP mode is selected by pressing the SET UP key, the keys in the 21-key section can be used only for SET UP operation, and cannot be used for editing operation.

In the SET UP mode, the CUE SEL/OUT, TAPE/IN, TT SEL and AUTO/OUT keys have the functions shown below. The conditions set by these four keys remain unchanged even after the VTR exits from the SET UP mode.

The menu selection keys are used for menu operation. Refer to “1-4-2. 21 Keys for Menu Selection and Menu Display Format”.



Menu selection keys

Use these keys to select a menu. Refer to “1-4-2. 21 Keys for Menu Selection and Menu Display Format”.

SET UP key and lamp

When the SET UP key is pressed, the VTR enters the SET UP mode, and the SET UP lamp starts blinking. When the key is pressed again, the SET UP lamp goes out, and the VTR exits from the SET UP mode.

TT SEL key

Each time this key is pressed, the data displayed in Block 1 of the control panel display is changed cyclically in the order of time code (or user bit data), timer-1 data, and timer-2 data.

TAPE/IN key and TAPE lamp

This key and INPUT button ⑦ select the output signal from the VIDEO OUT 1/2, DIGITAL VIDEO OUT, MONITOR OUT, ANALOG and DIGITAL AUDIO OUT and MONITOR OUTPUT L/R connectors as shown in the following charts on pages 1-24 and 1-25.

The setting of the key is indicated with the TAPE lamp as follows:

TAPE lamp	Setting
lit	TAPE
unlit	TAPE/EE

Notes

- While the INPUT button ⑦ is depressed, INPUT is selected regardless of the key setting.
- For the output signal during editing, refer to “3-4-2. Automatic Editing”.

CUE SEL/OUT key and CUE SEL lamp

When this key is pressed, the CUE SEL lamp lights, and the VTR enters the CUE ENTRY mode.

In this mode, the DA-1 to DA-4 and VIDEO channel preset buttons function as the CUE5 to CUE10 buttons, and the DA-5 to DA-8 and CUE channel preset buttons function as the CUE1 to CUE5 buttons. For multi-cue searching, refer to “3-1-3. Multi-cue Operation”. When the CUE SEL/OUT key is pressed again, the CUE SEL lamp goes out, and the above buttons resume their original functions.


AUTO/OUT key and AUTO lamp


When this key is pressed, the AUTO lamp lights, and the VTR enters the AUTO EDIT mode (refer to “3-4-2. Automatic Editing”).

When the key is pressed again, the lamp goes out, and the VTR exits from the AUTO EDIT mode.

Video

Setting of TAPE/ IN key and INPUT button ⑦	VTR operation mode				Between IN and OUT points of the recorder in PREVIEW mode ²⁾
	STANDBY off	STANDBY on	REC, EDIT REC	PLAY & others	
TAPE	TAPE	TAPE	TAPE ¹⁾	TAPE	EE
	TAPE	TAPE	TAPE ¹⁾	TAPE	EE
TAPE/EE	EE	EE ⁴⁾ (TAPE)	EE	TAPE	EE
	EE	EE ⁴⁾ (TAPE)	EE	TAPE	EE
INPUT ³⁾	EE	EE ⁴⁾ (TAPE)	EE	TAPE	EE
	INPUT	INPUT	INPUT	INPUT	INPUT

 : Output signal from VIDEO OUT 1/2 and DIGITAL VIDEO OUT connectors

 : Output signal from MONITOR OUT connectors

1) When EE is selected in menu I17 REC CONF MODE, the E-to-E signal will be output in the REC or EDIT REC mode even if TAPE is selected with the TAPE/IN key.



2) When ENABLE is selected in menu S06 BVB (PREVIEW MODE), the black burst signal will be output between the IN and OUT points.

3) When EE is selected in menu I04 INPUT CHECK MODE, the E-to-E signal will be output in all modes when INPUT button ⑦ is pressed.

4) When the REC INHIBIT VIDEO switch (level control panel) is set to ON, the TAPE signal will be output.

Audio

Channel	Setting of TAPE/ IN key and INPUT button ⑦	VTR operation mode				Between IN and OUT points of the recorder in PREVIEW mode ¹⁾
		STANDBY off ³⁾	STANDBY on ³⁾	REC, EDIT REC	PLAY & others	
DA-1- DA-8	TAPE	MUTE	MUTE	EE	TAPE	EE
		MUTE	MUTE	CONFI	TAPE	EE
	TAPE/EE	EE	EE (TAPE) ⁴⁾	EE	TAPE	EE
		EE	EE (TAPE) ⁴⁾	EE	TAPE	EE
	INPUT ²⁾	EE	EE (TAPE) ⁴⁾	EE	TAPE	EE
		INPUT	INPUT	INPUT	INPUT	INPUT
CUE	TAPE	TAPE	TAPE	EE	TAPE	EE
		TAPE	TAPE	EE	TAPE	EE
	TAPE/EE	TAPE	TAPE	EE	TAPE	EE
		TAPE	TAPE	EE	TAPE	EE
	INPUT	EE	EE	EE	TAPE	EE
		INPUT	INPUT	INPUT	INPUT	INPUT

 : Output signal from ANALOG and DIGITAL AUDIO OUT connectors
 : Output signal from MONITOR OUTPUT L/R connectors

- 1) If ENABLE is selected in menu S06 BVB (PREVIEW MODE), the output will be muted between the IN and OUT points.
- 2) If EE is selected in menu I04 INPUT CHECK MODE, the E-to-E signal will be output in all modes when the INPUT button is pressed.

- 3) When TAPE/EE is selected with the TAPE/IN key, pressing the INPUT button ⑦ in the STOP mode latches the E-to-E output mode of the time code channel. The TIME CODE OUT connector will then continue outputting the E-to-E signal even if the INPUT button is released later. The latch will be released when the VTR enters another mode.
- 4) When the REC INHIBIT AUDIO switch (level control panel) is set to ON, the TAPE signal will be output.

9 REC/EDIT button

Used to select the recording, manual editing, automatic editing, or backspace editing mode.

Recording mode: Press the REC/EDIT and PLAY buttons together when none of the INSERT, ASSEMBLE and SPOT ERASE button lamps are lit.

Manual editing mode: Press the REC/EDIT button when the following conditions are satisfied.

- The INSERT, ASSEMBLE or SPOT ERASE button lamp is lit.
- The servo is locked in the PLAY mode.

Automatic editing mode: Press the REC/EDIT button when the following conditions are satisfied:

- The INSERT, ASSEMBLE or SPOT ERASE button lamp is lit.
- The AUTO lamp in the 21-key section is lit.
- An IN point has been entered.

Backspace editing mode: Press the REC/EDIT button when the CUE SEL lamp in the 21-key section is lit.

10 PLAY button

When this button is pressed, the PLAY and STANDBY button lamps light up, and the VTR enters the normal playback mode (normal speed in the forward direction).

11 STANDBY button

Pressing this button starts or stops the head drum rotation. In normal use, press this button to confirm that the SERVO alarm lamp **5** went out before pressing the desired operation button. However, directly pressing the desired operation button without pressing the STANDBY button can also set the VTR to the mode selected by that button.

Note

If the head drum rotation is abnormal or the head drum is not rotating at all even though the STANDBY mode is selected, the STANDBY button lamp blinks.

12 STOP button

To stop the VTR operation, press this button. The reel motor stops, and the pinch roller is left from the tape. A freeze picture is available in the STOP mode.

To clear all the cue data, press the STOP and CUE ENTRY buttons together in the CUE ENTRY mode.

To stop the blowers for air-threading, press this button while the blowers are in operation. The blowers stop but the VTR does not enter the STANDBY mode.

Note

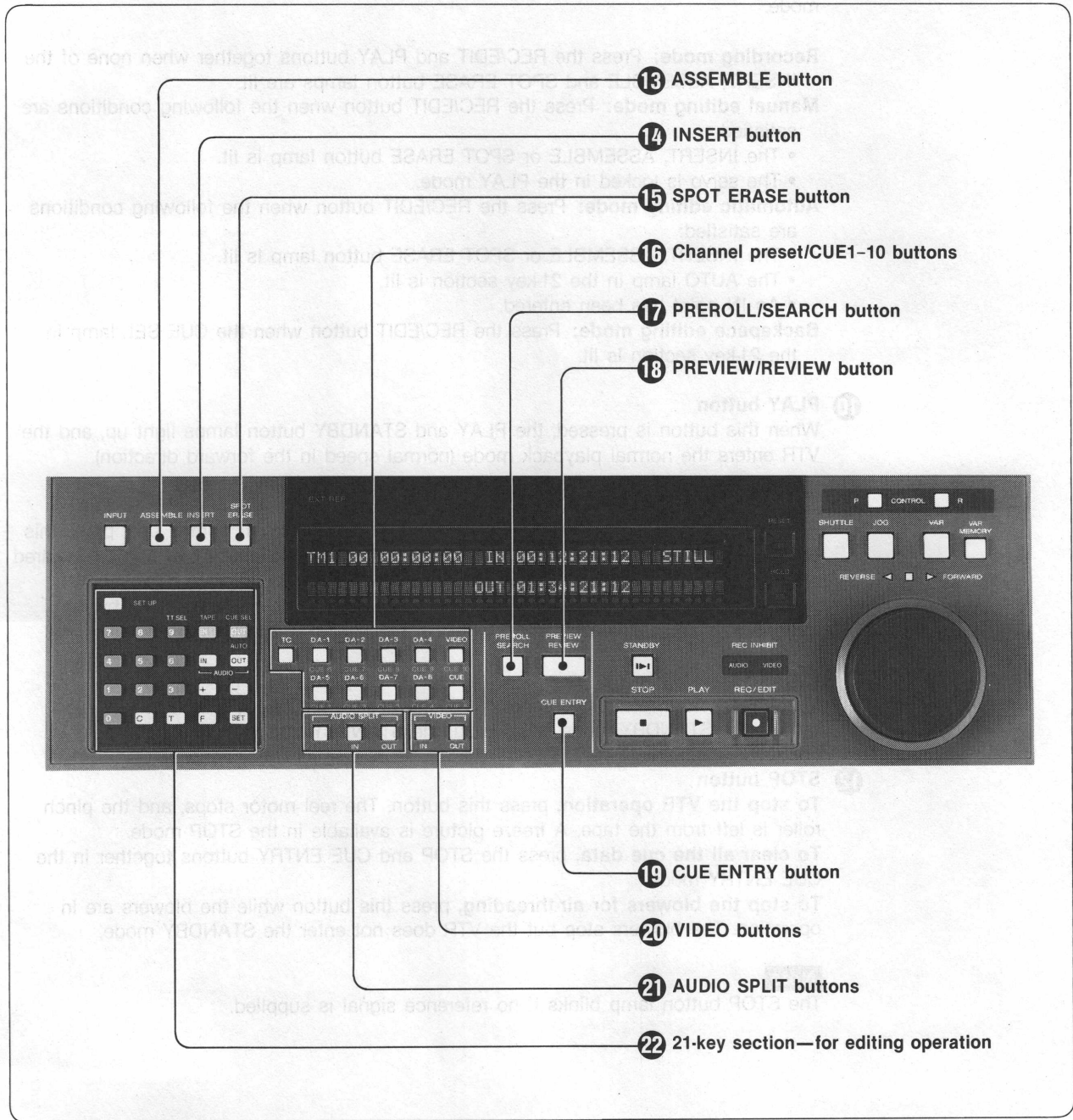
The STOP button lamp blinks if no reference signal is supplied.

Automatic release of the STANDBY mode

If the VTR remains in the STANDBY mode for more than a certain duration with no other operation button pressed, the VTR automatically exits from the STANDBY mode.

This duration can be set with Menu 113 STANDBY OFF TIMER. However, if either the ASSEMBLE button or INSERT button has already been pressed or if the AUTO lamp in the 21-key section is lit, the VTR does not exit from the STANDBY mode.

For editing and cue operations



13 ASSEMBLE button

When this button is pressed in the STOP or PLAY mode, the VTR enters the ASSEMBLE edit mode, and all the channel preset button lamps **16** light. To exit from the ASSEMBLE edit mode, press the ASSEMBLE button again.

14 INSERT button

When this button is pressed in the STOP or PLAY mode, the VTR enters the INSERT edit mode, but none of the channel preset buttons **16** will light, so press the desired channel preset button to turn it on.

Any channel select button can be turned on or off while executing the INSERT editing.

To exit from the INSERT mode, press the INSERT button again.

15 SPOT ERASE button

Pressing this button selects the SPOT ERASE mode, allowing a part of the recorded audio signal in a selected channel to be erased. Refer to "3-4.2. Automatic Editing".

16 Channel preset/CUE1-10 buttons

These buttons select channels in the INSERT or SPOT ERASE mode.

DA-1 to DA-8: Digital audio channel 1 to 8

TC: Time code channel

CUE: Cue channel

VIDEO: Video channel

When the CUE SEL lamp in the 21-key section is lit, these buttons select cue points 1 to 10 as indicated below the respective buttons.

17 PREROLL/SEARCH button

When the CUE SEL lamp in the 21-key section is unlit, pressing the PREROLL/SEARCH button makes the tape run to the cue-up point (determined by the current video IN point and the preset edit preroll time). Pressing the PREROLL/SEARCH button while pressing one of the IN, OUT, AUDIO IN and AUDIO OUT keys in the 21-key section makes the tape run to one of the following points, whichever is applicable:

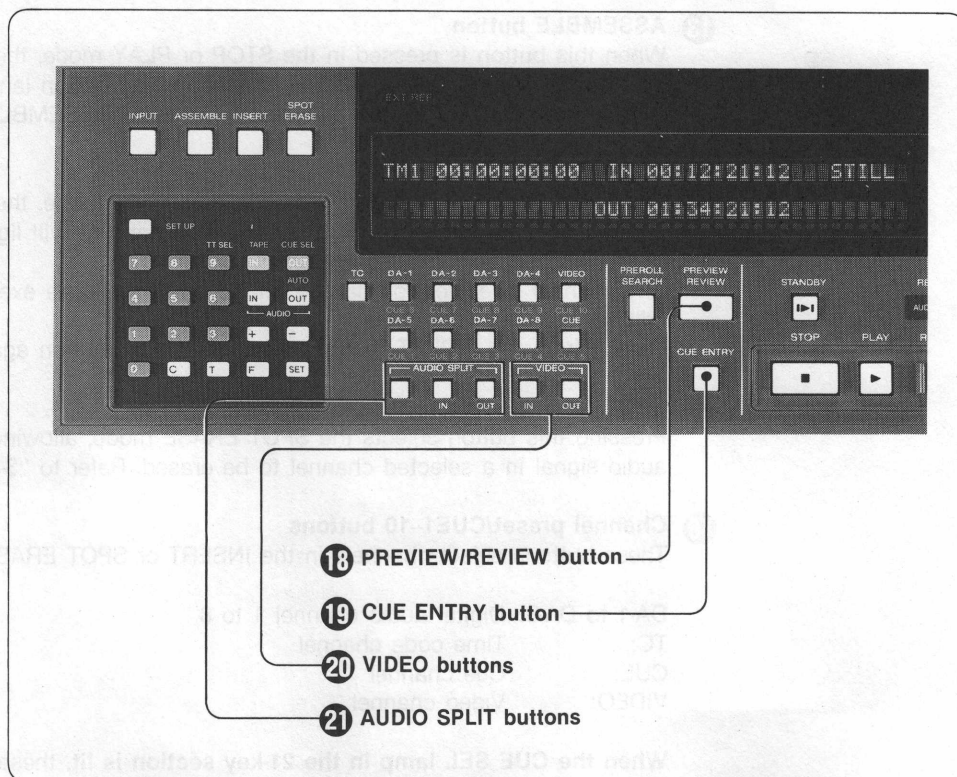
IN key: Video IN point

OUT key: Video OUT point

AUDIO IN key: Audio IN point

AUDIO OUT key: Audio OUT point

When the CUE SEL lamp in the 21-key section is lit, pressing the PREROLL/SEARCH button makes the tape run to the point determined by the last entered cue point and the preset search preroll time. Refer to "3-1.3. Multi-cue Operation".



18 PREVIEW/REVIEW button

This button is used for automatic editing. Refer to "3-4-2. Automatic Editing". The button functions as the PREVIEW button when the following conditions are satisfied:

- The data on the next editing has been set.
- That editing has not been executed.

This button functions as the REVIEW button when the following conditions are satisfied.

- The previous editing has been completed.
- The data on the next editing has not been set.

19 CUE ENTRY button

When this button is lit, repeatedly pressing the button enters cues sequentially into cue registers 1 through 10. Refer to "3-1-3. Multi-cue Operation".

20 VIDEO buttons

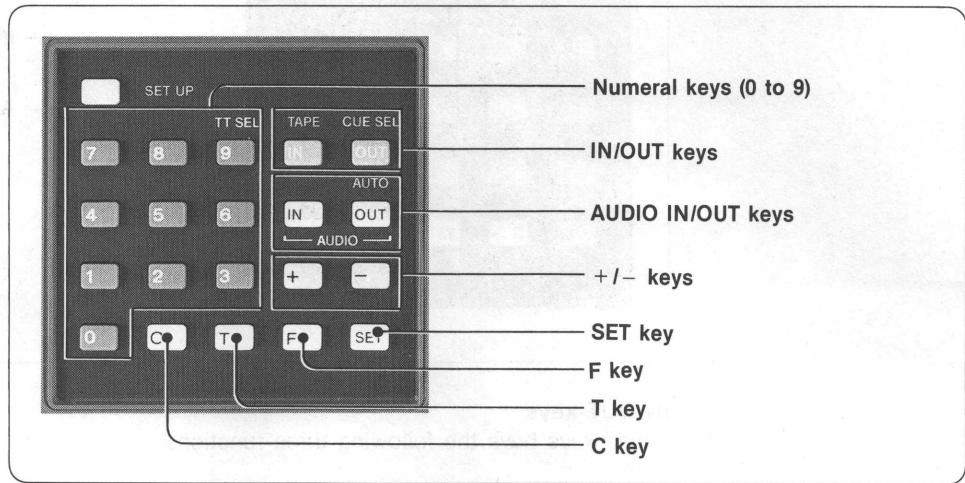
When the AUTO lamp in the 21-key section is lit, pressing VIDEO IN (or VIDEO OUT) button enters the display data on block 1 as the IN (or OUT) point. The entered data are used for the PREROLL, PREVIEW, AUTO EDIT and REVIEW operations. (When the AUTO lamp is turned off, the entered data are used for the PREROLL operation only.)

21 AUDIO SPLIT buttons

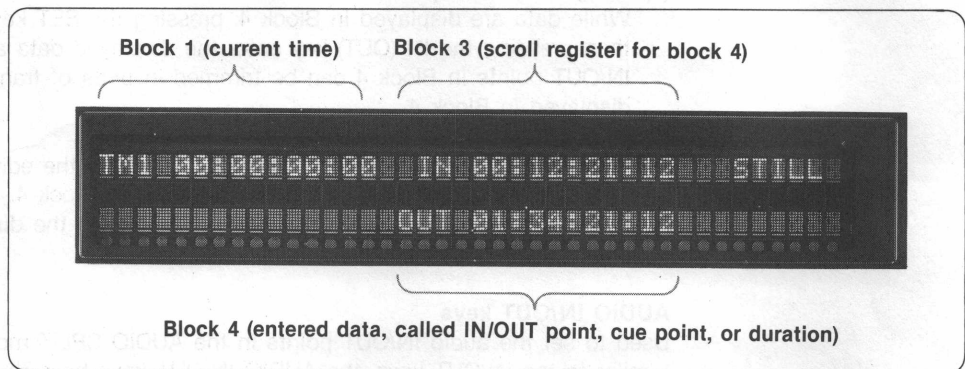
Pressing the AUDIO SPLIT button (leftmost) makes the VTR enter the AUDIO SPLIT mode, allowing the audio IN/OUT points to be input independently of the video IN/OUT points which are input with the VIDEO buttons 20. When the AUDIO SPLIT button is pressed again, the VTR exits from the AUDIO SPLIT mode. In the AUDIO SPLIT mode (with the AUDIO SPLIT button lamp lit), pressing the AUDIO SPLIT IN (or AUDIO SPLIT OUT) button enters the display data on Block 1 as the audio IN (or OUT) point. The pressed button lights up. The entered data are used for the PREROLL, PREVIEW, AUTO EDIT and REVIEW operations.

22 21-key section—for editing operations

When the SET UP mode is not selected (with the SET UP lamp off), the keys in the 21-key section are used for editing operation as described below.



Display for 21-key operation



Numeral keys

Used to enter digits into Block 4.

F (function) key

Used to enter hexadecimal digits as user bit data. Pressing one of the 0 to 5 keys while pressing the F key enters the hexadecimal digit A to F.

SET key

Used to store the number having been entered into Block 4.

C (clear) key

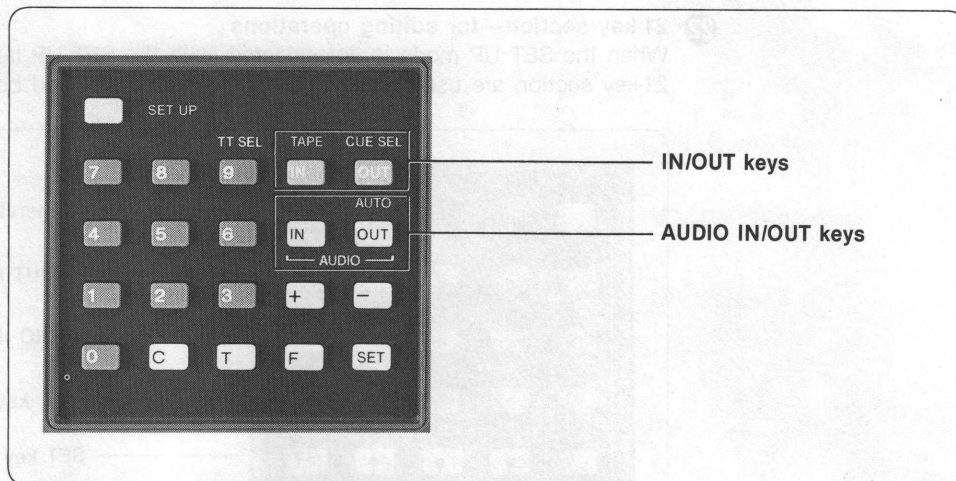
Used to erase the number having been entered into Block 4.

+/- keys

Used to add or subtract a certain value to or from the displayed data in Block 4. Press a numeral key after pressing the + or - key, and then press the SET key. The result appears in Block 4.

T (time) key

Used to shift the displayed data in Block 4 to Block 1, and store the data in the memory. Thus, the data (of time code generator or timer-1) displayed in Block 1 can be changed this way.



IN/OUT keys

These keys have the following three functions:

(1) Call of IN/OUT points

Press the IN (OUT) key to call the stored IN (OUT) point to Block 4.

(2) Entry of IN/OUT points

While data are displayed in Block 4, pressing the SET key to finalize the data and then pressing the IN (OUT) key enter the displayed data as the IN (OUT) point. The IN/OUT points in Block 4 can be trimmed in units of frames. The trimmed result is displayed in Block 4.

(3) DURATION and LAP display

When the IN and OUT keys are pressed together, the editing duration (length between the IN and OUT points) is displayed in Block 4.

For the timer-1 data, "DUR" appears on the left of the duration, and for the timer-2 data, "LAP" appears.

AUDIO IN/OUT keys

Used to set the audio IN/OUT points in the AUDIO SPLIT mode.

Similar to the IN/OUT keys, the AUDIO IN/OUT keys have the following three functions.

(1) Call of audio IN/OUT points

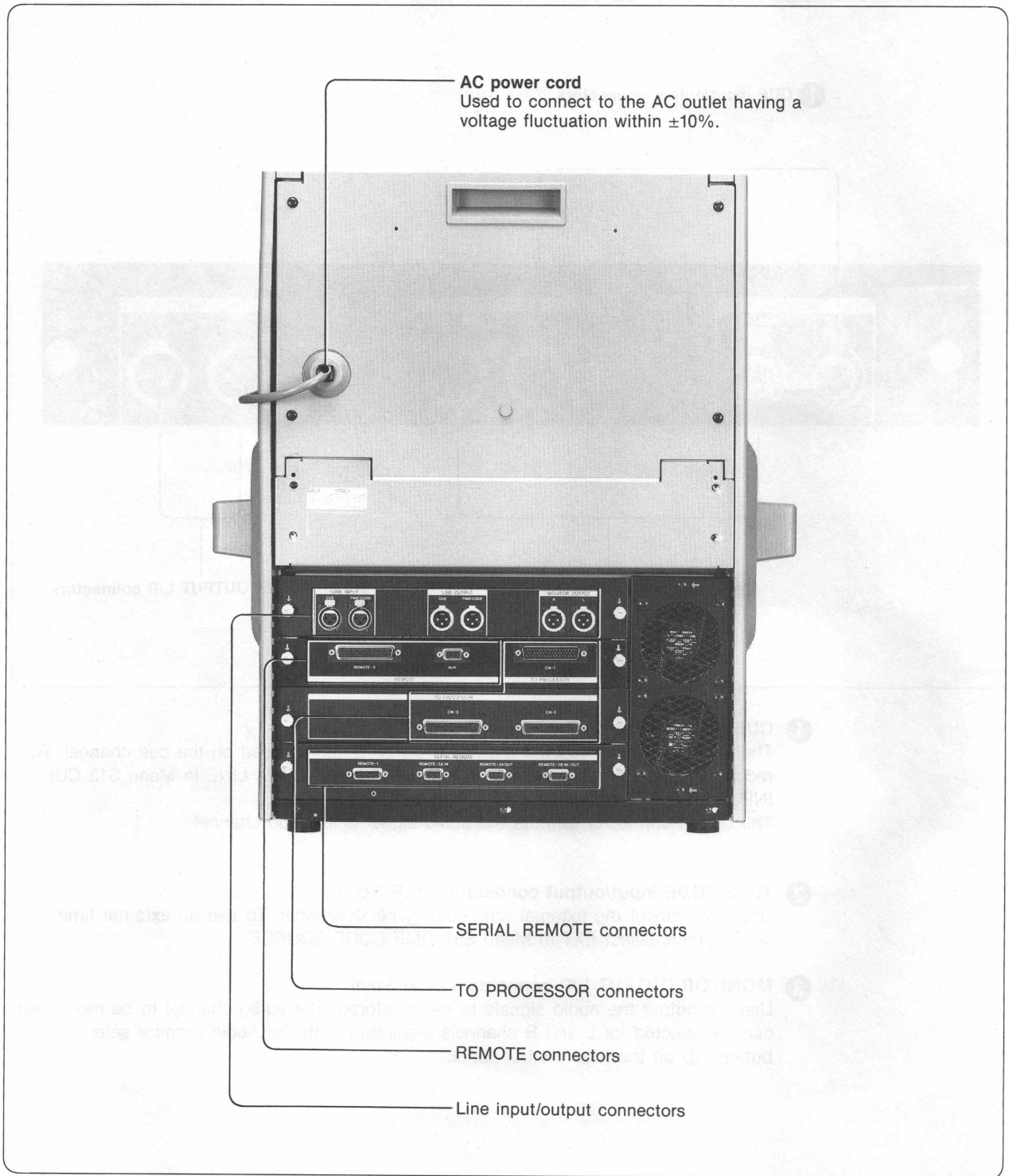
(2) Entry of audio IN/OUT points

(3) DURATION and LAP display (length between audio IN and OUT points)

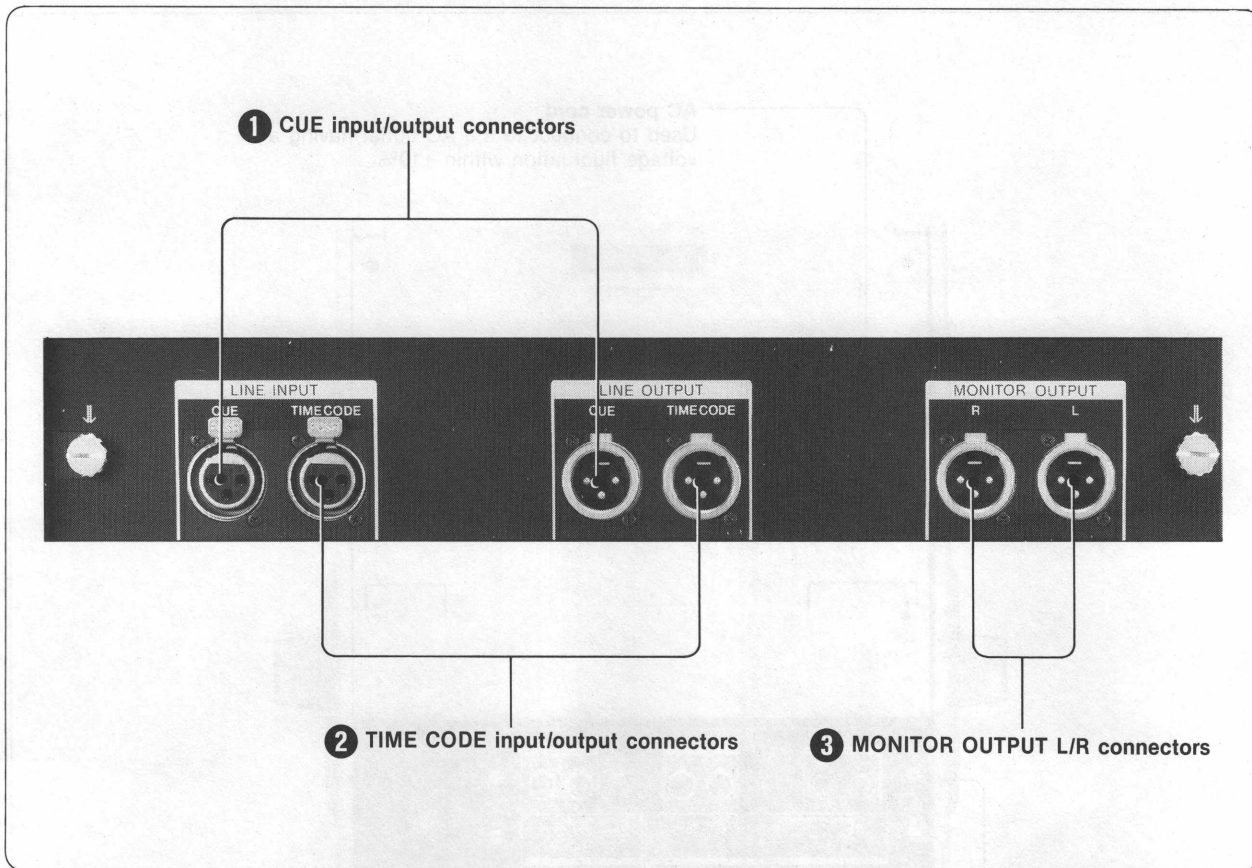
The audio channel for the above functions can be selected by pressing its corresponding channel preset button **16**.

The DURATION and LAP can be displayed between any two of the video IN, video OUT, audio IN and audio OUT points. For instance, if the IN and AUDIO OUT keys are pressed together, the length between the video IN and audio OUT points is displayed.

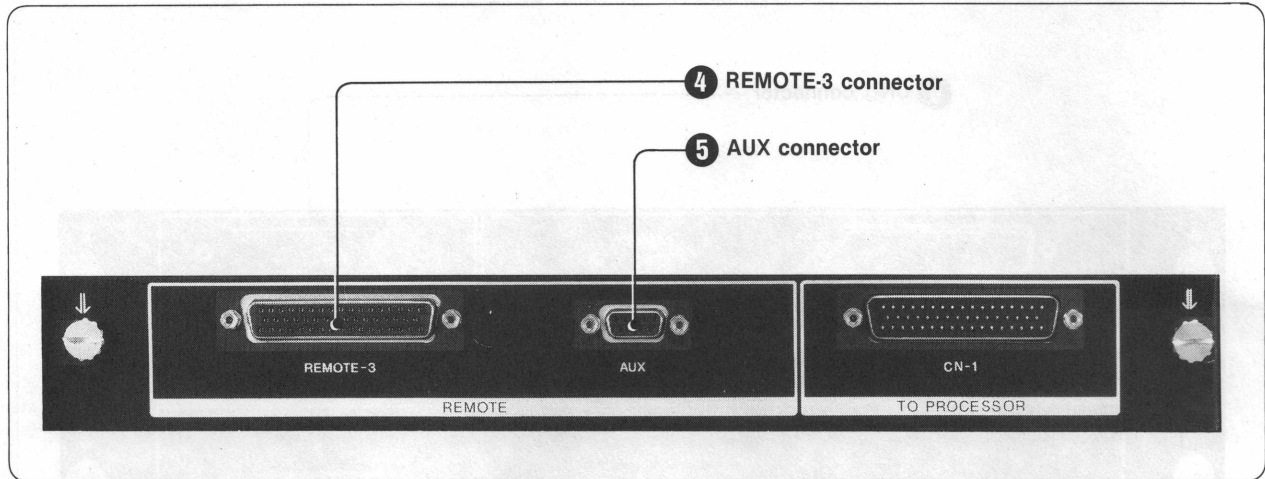
1-3-4. Connector Panel



Line input/output connectors



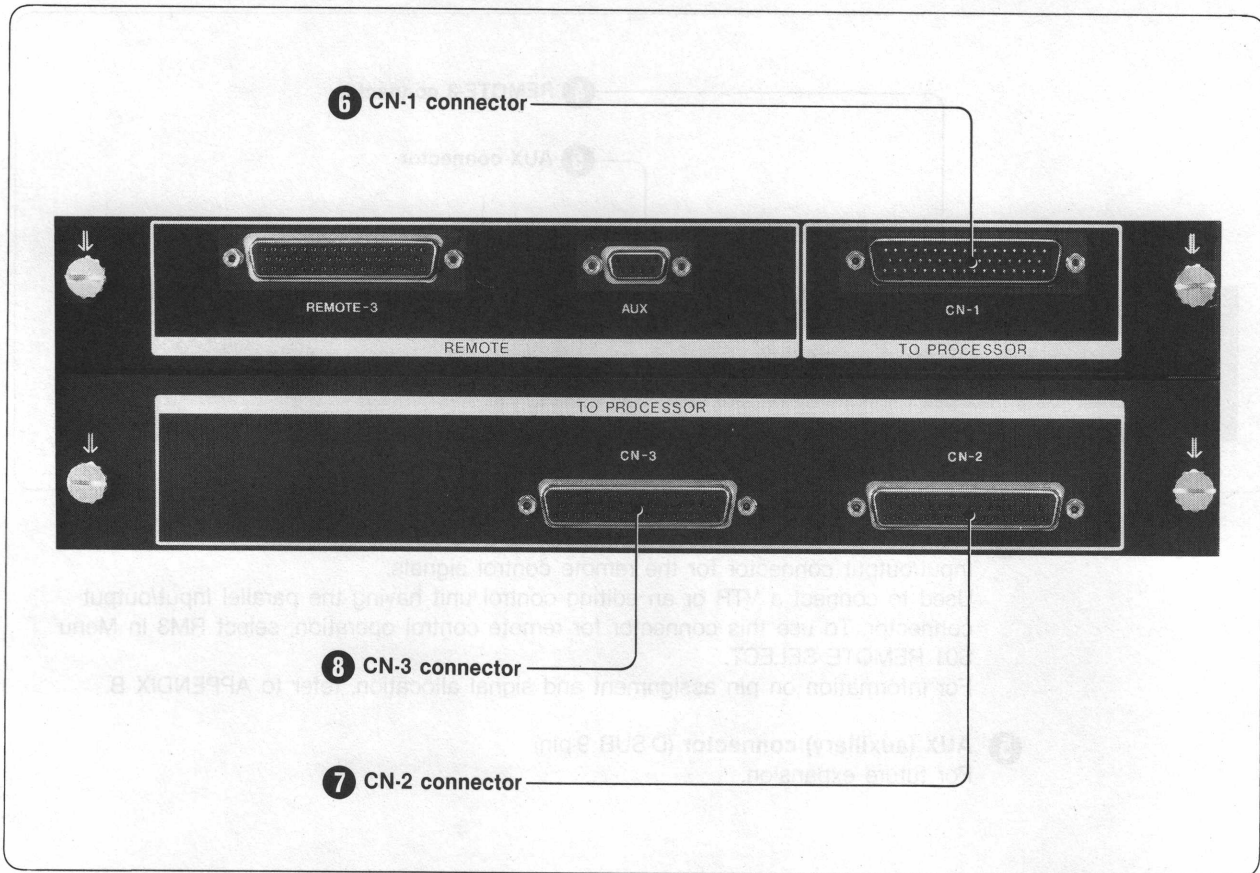
- 1 CUE input/output connectors (XLR 3-pin)**
 The input connector accepts the audio signal to be recorded on the cue channel. To record an external audio source on the cue channel, select LINE in Menu S13 CUE INPUT SELECT.
 The output connector outputs the audio signal of the cue channel.
- 2 TIME CODE input/output connectors (XLR 3-pin)**
 Used to connect the external time code generator/reader. To use an external time code source, select EXT in Menu S51 TIME CODE SOURCE.
- 3 MONITOR OUTPUT L/R connectors (XLR 3-pin)**
 Used to output the audio signals to be monitored. The audio channel to be monitored can be selected for L and R channels separately with the Audio monitor select buttons 13 on the level control panel.



- 4 REMOTE-3 (parallel remote) connector (D-SUB 50-pin)**
 Input/output connector for the remote control signals.
 Used to connect a VTR or an editing control unit having the parallel input/output connector. To use this connector for remote control operation, select RM3 in Menu S01 REMOTE SELECT.
 For information on pin assignment and signal allocation, refer to APPENDIX B.
- 5 AUX (auxiliary) connector (D-SUB 9-pin)**
 For future expansion.

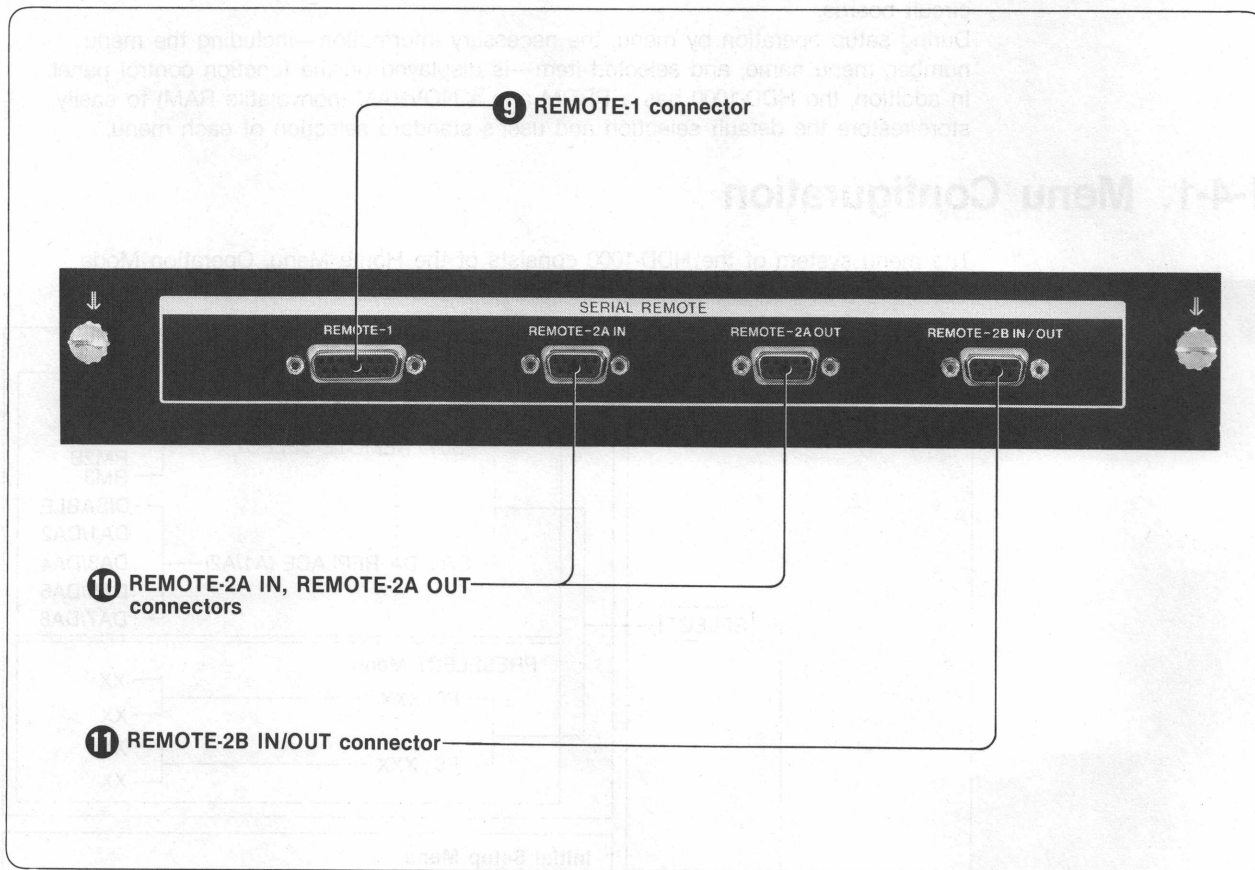
TO PROCESSOR connectors

REMOTE 3 10M3R



- 6** **CN-1 connector** (D-SUB 50-pin)
 Used to connect to the CN-1 connector of the HDDP-1000 for exchange of the audio signals.
- 7** **CN-2 connector** (D-SUB 50-pin)
- 8** **CN-3 connector** (D-SUB 50-pin)
 Used to connect respectively to the CN-2 and CN-3 connectors of the HDDP-1000 for exchange of the video signals.

SERIAL REMOTE connectors



- 9 REMOTE-1 connector (D-SUB 15-pin)**
Input/output connector for the remote control signals.
Used to connect a VTR or editing control unit having the CCJ 10-pin type remote connector via the BKH-2016 CCJ converter. To use this connector for remote control operation, select RM1 in Menu S01 REMOTE SELECT.
- 10 REMOTE-2A IN, REMOTE-2A OUT connectors (D-SUB 9-pin)**
These are the input and output connectors for 9-pin serial remote interface. Use the RCC-5G, 10G or 30G 9-pin serial remote control cable to connect to a VTR, editing control unit or remote control unit. The IN and OUT connectors are loop-through for bridge connection of the remote control signals. To use this connector for remote control operation, select RM2A in Menu S01 REMOTE SELECT.
- 11 REMOTE-2B IN/OUT connector (D-SUB 9-pin)**
Input/output connector for 9-pin serial remote interface. The function and use is the same as the REMOTE-2A except for the bridge connection. This connector becomes an input connector when the REMOTE/LOCAL selector ② on the level control panel is set to REMOTE, and an output connector when it is set to LOCAL. To use this connector for remote control operation, select RM2B in Menu S01 REMOTE SELECT.

Note

The REMOTE-2A connector and the REMOTE-2B connector cannot be used at one time.

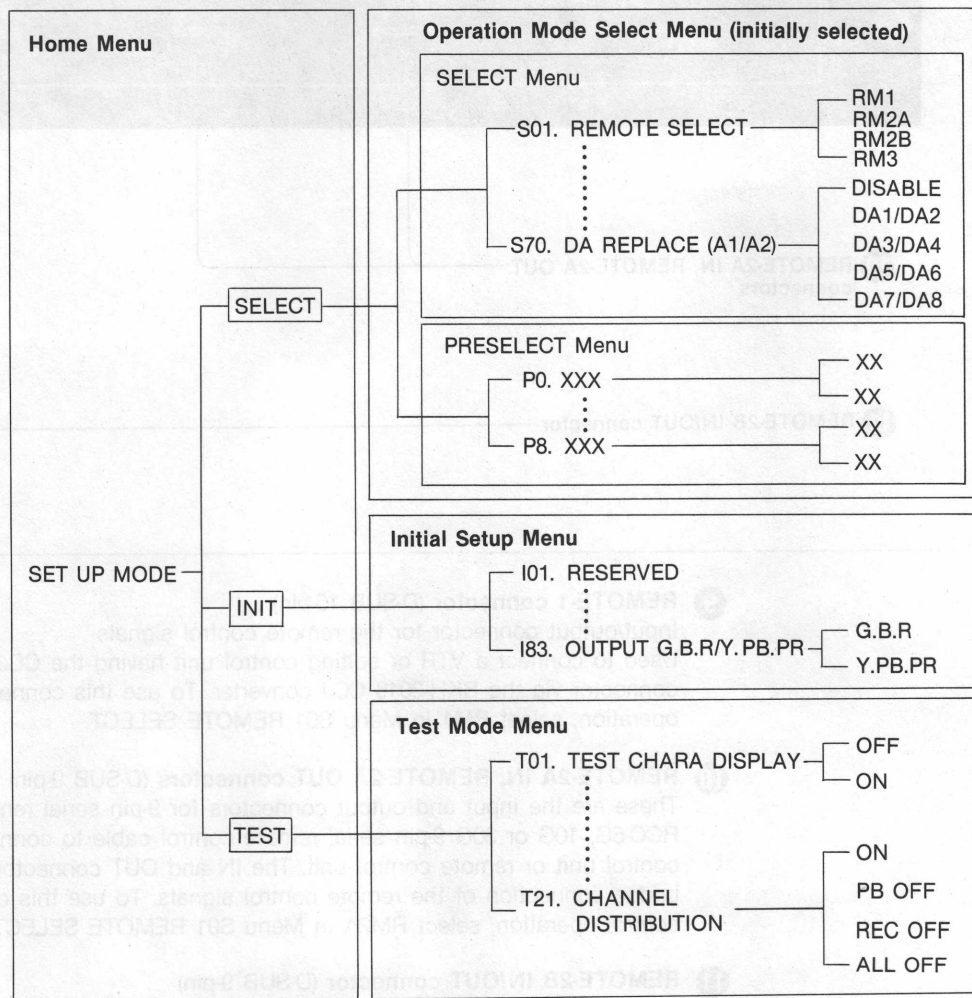
1-4. Menus

The menu system allows all the setup selections to be made by the 21 keys on the function control panel, eliminating troublesome switching operations on the internal circuit boards.

During setup operation by menu, the necessary information—including the menu number, menu name, and selected item—is displayed on the function control panel. In addition, the HDD-1000 has a PROM and a NOVRAM (nonvolatile RAM) to easily store/restore the default selection and user's standard selection of each menu.

1-4-1. Menu Configuration

The menu system of the HDD-1000 consists of the Home Menu, Operation Mode Select Menu, Initial Setup Menu, and Test Mode Menu as shown below.



The Operation Mode Select Menu, used chiefly for setup during operation, is automatically selected when the VTR enters the SET UP mode. This menu is divided into the SELECT Menu and PRESELECT Menu; the latter allows direct selection of each detailed-menu by merely pressing its corresponding numeral key assigned by the user.

The Initial Setup Menu for basic setup and the Test Mode Menu for self-diagnostics can be selected only in the Home Menu.

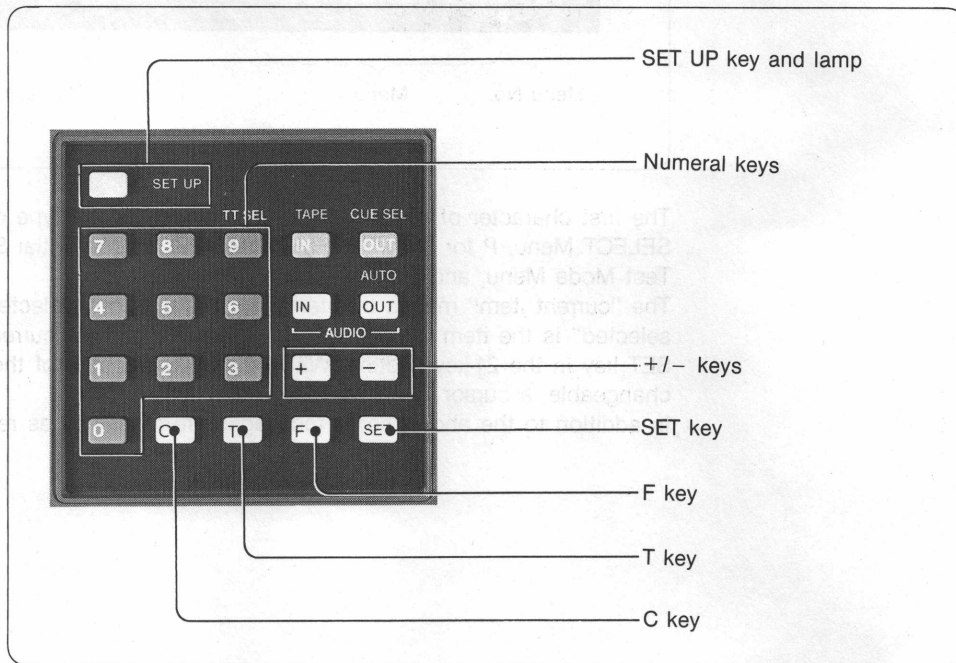
The Home Menu can be selected by pressing the C key once or several times until SET UP MODE is displayed on the function control panel.

Each of the SELECT, PRESELECT, Initial Setup and Test Mode Menus consists of detailed-menus (or "menus"). Some menus must be set when the VTR is installed.

1-4-2. 21 keys for Menu Selection and Menu Display Format

21 keys for menu selection

The following keys in the 21-key section are used for menu selection:



SET UP key and lamp

When the SET UP key is pressed, the VTR enters the SET UP mode (the Operation Mode Select Menu is automatically selected), and the SET UP lamp starts blinking. In this mode, the keys shown above are used as the menu selection keys. When the SET UP key is pressed again, the SET UP lamp goes out, and the VTR exits from the SET UP mode.

Numeral keys

Used to enter numeric data such as menu numbers and memory numbers.

+/- keys

Used to select the menu number and menu item. Pressing the + key increases the menu number, and while pressing the - key decreases it. The search dial may also be used instead of the +/- keys.

SET key

Used to finalize the selected item or entered data. Also, pressing this key selects the SELECT Menu in the Operation Mode Select Menu.

F key

Used to reassign the PRESELECT Menu.

T key

Used to transfer the setup data between the RAM and the PROM/NOVRAM.

C key

Used to select the Home Menu or to return to the previous step in the menu operation flow.

1-4-3. Operation Mode Select Menu

The Operation Mode Select Menu contains setup items which are likely to be changed during operation. This menu consists of the SELECT Menu and the PRESELECT Menu; the latter containing only such detailed-menus as have been preselected by the user for quick selection.

SELECT Menu

The sub-menus included in the SELECT Menu are:

- (1) System S01-S13
- (2) Time code, character S50-S59
- (3) Audio S70

(In the "Items" column, the default item is indicated in a box.)

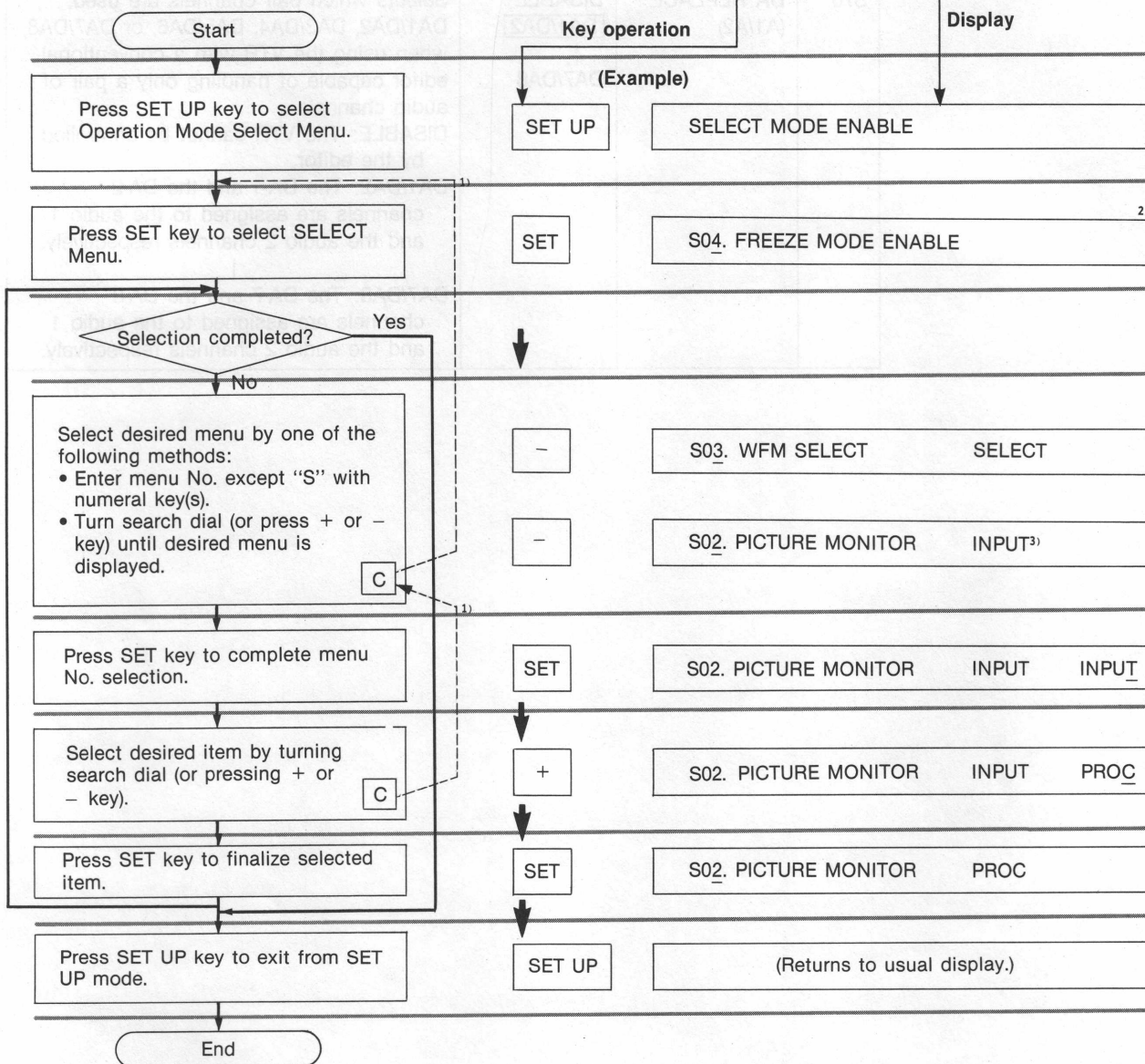
Menu No.	Menu	Items	Description
(1) System			
S01.	REMOTE SELECT	RM1 RM2A RM2B RM3	Selects the REMOTE connector(s) to be used. RM1: REMOTE-1 connector for CCJ converter RM2A: REMOTE-2A IN and REMOTE-2A OUT connectors for Sony 9-pin remote interface (with loop-through) RM2B: REMOTE-2B IN/OUT connector for Sony 9-pin remote interface (without loop-through) RM-3: REMOTE-3 connector for parallel interface
S02.	PICTURE MONITOR	INPUT PROC	Selects the video signal to be sent from the MONITOR OUT connector. INPUT: Input video signal, which cannot be selected when the digital input signal is used. PROC: Processor output
S03.	WFM SELECT	SELECT CTL CH1 CH8	Selects the signal to be sent from the WFM OUT connector. SELECT: Video signal selected by Menu S02 PICTURE MONITOR CTL: Playback CTL pulse signal CH1-CH8: Playback RF envelope signal from each head.
S04.	FREEZE MODE	DISABLE FIELD 1 FIELD 2 FRAME	Selects whether or not the freeze picture is sent from the VIDEO OUT1/2 connectors when the TAPE lamp in the 21-key section is lit. DISABLE: The freeze picture is not sent. FIELD 1/FIELD 2/FRAME: The freeze picture of the field 1/field 2/frame will be sent when the STOP button is pressed during the PLAY mode. The freeze picture of the field at that time will be sent when the STOP button is pressed during the SLOW/STILL mode, or when the STILL mode is automatically terminated.

Menu No.	Menu	Items	Description
S05.	EDIT FIELD	F1 F1/F2 F2	Selects the fields of the IN and OUT points of editing. F1: IN point is the field 1, and OUT point is the field 2. F1/F2: Fields of IN and OUT points are not fixed. If editing is started by pressing REC/EDIT button on the VTR function control panel, however, IN point is the field 1 and OUT point is the field 2. F2: IN point is the field 2, and OUT point is the field 1.
S06.	BVB (PREVIEW MODE)	DISABLE ENABLE	Selects whether BVB or VBV is carried out in preview. DISABLE: Neither BVB nor VBV is carried out. ENABLE: VBV is carried out when the VIDEO channel preset button lamp is lit, and BVB is carried out when VIDEO channel preset button lamp is unlit.
S07.	REACTION TIME	0 FRM 2 FRM 30 FRM (in 2-frame steps)	Selects the number of frames to be subtracted from the time data when stored by pressing one of the VIDEO IN/OUT buttons, AUDIO SPLIT IN/OUT buttons, CUE ENTRY button and CUE 1 to CUE10 buttons. This subtraction is carried out in order to compensate a time lag caused by manual operation.
S08.	PARA RUN	DISABLE ENABLE	Selects whether parallel operation of VTRs in the same mode is enabled or disabled when the REMOTE-2A or REMOTE-2B connector is used. DISABLE: Parallel operation disabled ENABLE: Parallel operation enabled
S09.	EOT STOP	DISABLE ENABLE D-PINCH	Selects whether or not tape transport is stopped before the end of the tape. DISABLE: Tape not stopped ENABLE: Tape stopped D-PINCH: Tape not stopped only when transported forward with the pinch on
S10.	RESERVED		
S11.	RESERVED		
S12.	COMMON REF SELECT	EXT REF AUTO INPUT	Selects the reference signal. EXT REF: External reference signal AUTO: External reference signal during playing, and the input video signal during editing/recording INPUT: Input video signal

Menu No.	Menu	Items	Description
S13.	CUE INPUT SELECT	LINE DIGITAL	Selects the signal input to the cue channel. LINE: Analog signal through the CUE connector DIGITAL: Digital signal from the processor The signals of the pair of digital audio channels, selected by the AUDIO MONITOR select buttons, are mixed and input.
(2) Time code, character			
S50.	RESERVED		
S51.	TIME CODE SOURCE	INT EXT	Selects the time code source. INT: Internal time code EXT: External time code through TIME CODE input connector
S52.	TC GEN RUN MODE	REC FREE	Selects the time code generator operation mode. REC: The time code generator count advances only in the REC mode. FREE: The time code generator count always advances.
S53.	TC READER	TC AUTO VITC	Selects the time code reader. TC: The LTC is always displayed. AUTO: The VITC is displayed in the speed range $-1/3$ to $+1/3$ normal speed, and the LTC is displayed at other speeds. VITC: The VITC is always displayed.
S54.	TC/UB DISPLAY SELECT	TC UB	Selects the data to be displayed and preset when time code is selected with the "9" key in the 21-key section. TC: Time code data UB: User bit data
S55.	TC REGEN/ PRESET SEL	REGEN PRESET AUTO	Selects the TCG mode. REGEN: Time code is regenerated. PRESET: PRESET mode is selected. AUTO: PRESET mode is selected in recording when INT is selected in Menu S51 TIME CODE SOURCE, and REGEN mode is selected in other cases.
S56.	UB REGEN/ PRESET SEL	REGEN PRESET AUTO	Selects the UBG mode. REGEN: User bit data are regenerated. PRESET: PRESET mode is selected. AUTO: PRESET mode is selected in recording when INT is selected in Menu S51 TIME CODE SOURCE, and REGEN mode is selected in other cases.
S57.	VITC RECORD	DISABLE ENABLE	Selects whether the VITC is recorded or not. When ANALOG is selected with Menu I80 INPUT ANALOG/DIGITAL, VITC is always recorded regardless of the setting of this menu. DISABLE: VITC not recorded ENABLE: VITC recorded
S58.	RESERVED		

Menu No.	Menu	Items	Description
S59.	MIXED CHARA OUTPUT	<u>DISABLE</u> MONITOR	Selects whether characters are superimposed or not. DISABLE: Not superimposed MONITOR: Superimposed on the output from MONITOR OUT connector
(3)Audio			
S70.	DA REPLACE (A1/A2)	<u>DISABLE</u> <u>DA1/DA2</u> DA7/DA8	Selects which pair channels are used, DA1/DA2, DA3/DA4, DA5/DA6, or DA7/DA8, when using the VTR with a conventional editor capable of handling only a pair of audio channels. DISABLE: The VTR cannot be controlled by the editor. DA1/DA2: The DA-1 and the DA-2 channels are assigned to the audio 1 and the audio 2 channels respectively. DA7/DA8: The DA-7 and the DA-8 channels are assigned to the audio 1 and the audio 2 channels respectively.

Flow of SELECT Menu selection



Note

The search dial cannot be used for menu selection if the JOG, SHUTTLE or VAR button lamp is lit.

1) As shown by broken lines, you can return to the preceding step by pressing the C key. The selection finalized by pressing the SET key, however, cannot be canceled this way.

2) The last selected menu is displayed.

3) Current item

PRESELECT Menu

Among the SELECT Menus, up to nine menus that are frequently used can be assigned to the numeral keys 0 to 8. The following list shows the factory-assigned PRESELECT Menus:

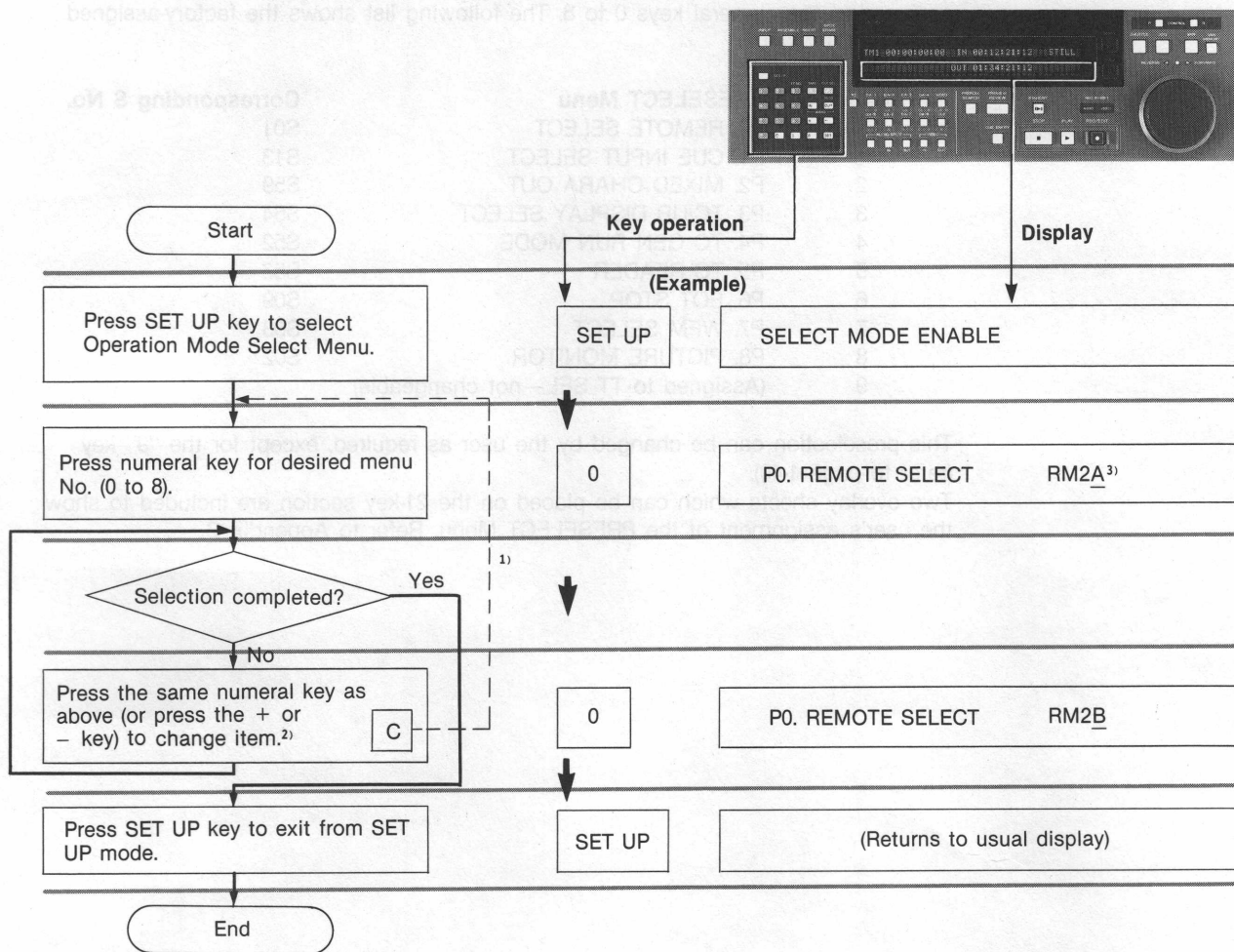
Key No.	PRESELECT Menu	Corresponding S No.
0	P0. REMOTE SELECT	S01
1	P1. CUE INPUT SELECT	S13
2	P2. MIXED CHARA OUT	S59
3	P3. TC/UB DISPLAY SELECT	S54
4	P4. TC GEN RUN MODE	S52
5	P5. TC READER	S53
6	P6. EOT STOP	S09
7	P7. WFM SELECT	S03
8	P8. PICTURE MONITOR	S02
9	(Assigned to TT SEL—not changeable)	

This preselection can be changed by the user as required, except for the "9" key (refer to page 1-49).

Two overlay sheets which can be placed on the 21-key section are included to show the user's assignment of the PRESELECT Menu. Refer to Appendix C.

Flow of PRESELECT Menu selection

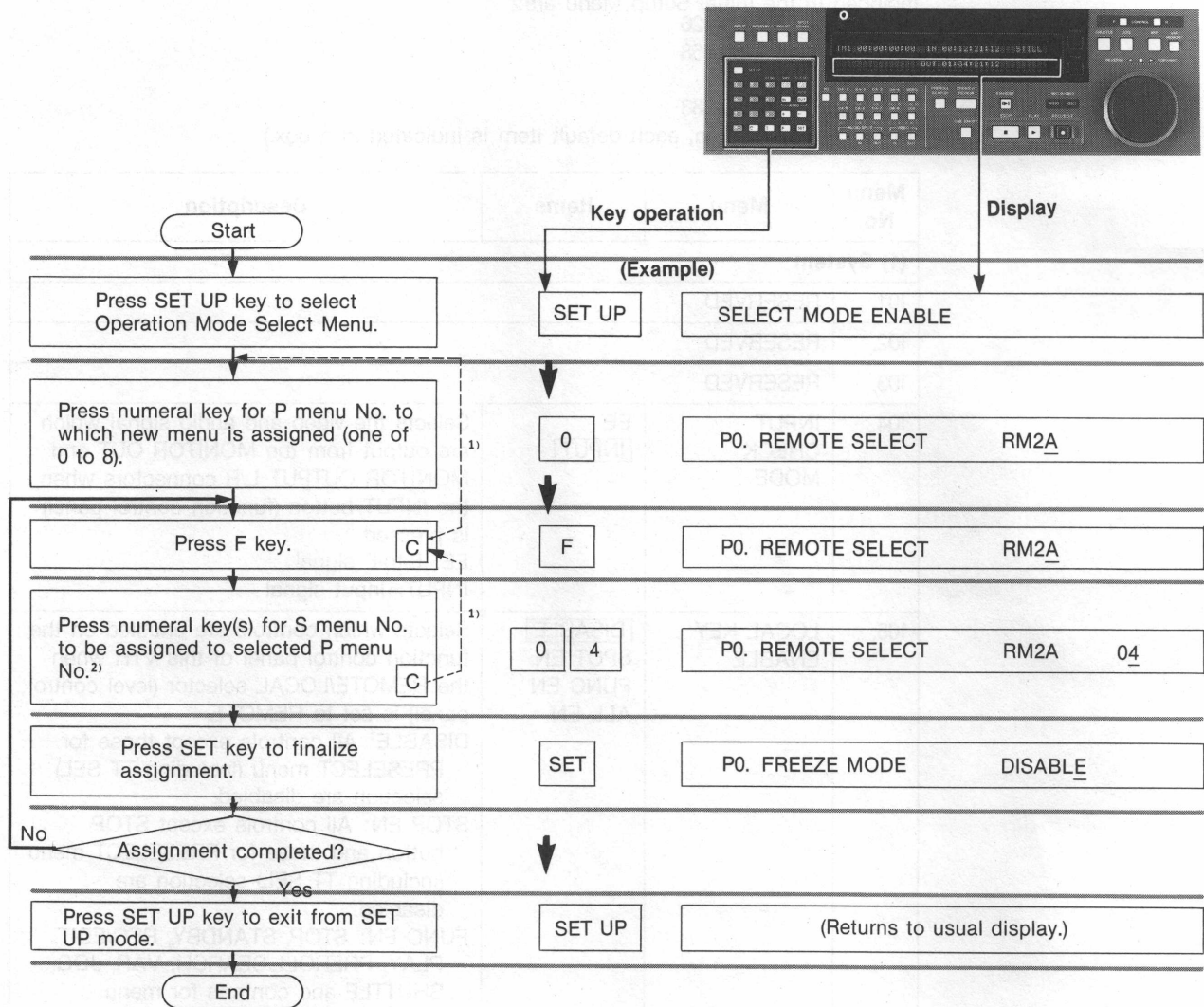
PRESELECT Menu



1) As shown by a broken line, you can return to the preceding step by pressing the C key.
 2) If a numeral key other than "9" (in this example, one of "1" to "8" keys) is pressed, the corresponding P menu is selected.

3) Current item

Flow of PRESELECT Menu assignment



1) As shown by broken lines, you can return to the preceding step by pressing the C key. The selection finalized by pressing the SET key, however, cannot be canceled this way.

2) The last entered two digits specify the menu number.

1-4-4. Initial Setup Menu

The Initial Setup Menu contains basic setup items which usually need not be changed during operation. This menu can be selected only in the Home Menu. The menus included in the Initial Setup Menu are:

- (1) System 101-126
- (2) Time code 150-158
- (3) Audio 170
- (4) Video 180-183

(In the "item" column, each default item is indicated in a box.)

Menu No.	Menu	Items	Description
(1) System			
101.	RESERVED		
102.	RESERVED		
103.	RESERVED		
104.	INPUT CHECK MODE	EE <input type="checkbox"/> INPUT	Selects the video and audio signal which are output from the MONITOR OUT and MONITOR OUTPUT L/R connectors when the INPUT button (function control panel) is pressed. EE: E-to-E signal INPUT: Input signal
105.	LOCAL KEY ENABLE	<input type="checkbox"/> DISABLE SPOT EN FUNC EN ALL EN	Selects which controls are enabled on the function control panel of this VTR when the REMOTE/LOCAL selector (level control panel) is set to REMOTE. DISABLE: All controls except those for PRESELECT menu (including TT SEL) selection are disabled. STOP EN: All controls except STOP button and those for PRESELECT menu (including TT SEL) selection are disabled. FUNC EN: STOP, STANDBY, REC/EDIT, PLAY, PREROLL/SEARCH, VAR, JOG, SHUTTLE and controls for menu selection are enabled. ALL EN: All controls except CONTROL P/R buttons are enabled.
106.	AUTO MODE INSTRUCT	<input type="checkbox"/> DISABLE ENABLE	Selects whether or not the operation sequence is indicated in automatic editing. DISABLE: Operation sequence is not indicated. ENABLE: Operation sequence is indicated. (Applicable lamps light sequentially to indicate the operation sequence.)
107.	REEL MODE SHUTTLE	<input type="checkbox"/> DISABLE ENABLE	If the tape speed is remotely controlled in the SHUTTLE mode, this menu selects whether or not the tape is capstan-driven when it is prerolled at +1.2 times normal speed or less. DISABLE: Capstan-driven ENABLE: Driven only by the reel. Select ENABLE when an editing control unit, such as BVE-900/9000 is used.

Menu No.	Menu	Items	Description
I08.	VAR JOG WITH CLICK	DISABLE <input type="checkbox"/> ×1 <input type="checkbox"/> × $\frac{7}{30}$	Selects whether or not the search dial is clicked in the VAR or VAR MEMORY mode. DISABLE: The search dial does not click. ×1: The search dial clicks at the normal speed and still position. × $\frac{7}{30}$: The search dial clicks at the normal speed, $\frac{7}{30}$ times normal speed and still position.
I09.	RESERVED		
I10.	RESERVED		
I11.	RESERVED		
I12.	STILL OFF TIMER	DISABLE 2 SEC 4 SEC <i>2e</i> → 10 SEC 20 SEC 30 SEC 1 MIN 1.5 MIN 2 MIN <input type="checkbox"/> 3 MIN	Set the STILL off timer. DISABLE: The VTR does not automatically exit from the STILL mode. 2 SEC–3 MIN: After the selected duration, the VTR automatically exits from the STILL mode and enters the STOP mode.
I13.	STANDBY OFF TIMER	DISABLE 1 MIN <input type="checkbox"/> 9 MIN (in 1-minute steps)	Set the STANDBY off timer. DISABLE: The VTR does not automatically exit from the STANDBY mode. 1 MIN–9 MIN: After the selected duration, the VTR automatically exits from the STANDBY mode. However, if the ASSEMBLE or INSERT button has already been pressed or if the AUTO lamp is lit, the VTR does not exit from the STANDBY mode.
I14.	SEARCH PREROLL TIME	<input type="checkbox"/> 0 SEC 15 SEC 20 SEC 25 SEC 30 SEC	Selects the preroll time for cue point search.
I15.	EDIT PREROLL TIME	0 SEC <input type="checkbox"/> 7 SEC 15 SEC 20 SEC 25 SEC 30 SEC	Selects the preroll time for editing.

Menu No.	Menu	Items	Description
116.	EDIT POSTROLL TIME	1 SEC <u>2 SEC</u> 15 SEC 20 SEC 25 SEC 30 SEC	Selects the postroll time for INSERT editing. The postroll time for ASSEMBLE editing is fixed to approx. 2 seconds.
117.	REC CONFI MODE	<u>CONFI</u> EE	Selects the signal to be output from the VIDEO OUT 1/2 and MONITOR OUT connectors when TAPE is selected with the TAPE/IN key (21-key section on the function control panel) in recording/editing. CONFI: Playback signal from the PB (confidence) head EE: E-to-E signal
118.	IN POINT SYNCHRO	<u>DISABLE</u> ENABLE	Selects whether or not the tape speed is adjusted between the cue up and IN points so that the time code difference coincides with the actual time elapsed. This menu is effective when ENABLE is selected in Menu 119 SYNCHRO (AUTO MODE). DISABLE: Tape speed not adjusted ENABLE: Tape speed adjusted for synchronization at the IN point when the VTR playback starts after the cue up. (The VTR must be in the STANDBY ON mode, because in the STANDBY OFF mode, too much time the head drum requires to reach the normal speed, thus making synchronization impossible.)
119.	SYNCHRO (AUTO MODE)	DISABLE <u>ENABLE</u>	In editing with two VTRs, this menu selects whether these VTRs are synchronized, or not. DISABLE: Not synchronized ENABLE: The recorder is synchronized with the player. Editing can be performed with high reliability.
120.	REM3 AUDIO REC	<u>DISABLE</u> ENABLE	Selects whether or not control of digital audio, time code and cue channel recording through the REMOTE-3 connector is enabled in the PLAY mode. DISABLE: Control disabled ENABLE: Control enabled The pin assignment of the REMOTE-3 connector will change. (Refer to APPENDIX B for assignment.)
121.	RESERVED		
122.	RESERVED		

Menu No.	Menu	Items	Description
I23.	EDIT W/O V-IN ENTRY	DISABLE ENABLE	In automatic editing with two VTRs, this menu selects whether editing is executed without entry of the video IN point on the recorder side. DISABLE: Editing is not executed without entry of the video IN point (normal selection). ENABLE: If the video IN point is not entered, it is calculated from the player video IN and audio IN points and the recorder audio IN point, and editing is executed with that calculated from video IN point.
I24.	PLAY COMMAND DELAY	- 15 FRM 0 FRM + 15 FRM (in 1-frame steps)	To make a slave VTR having a shorter response time operate in time with this VTR, choose from +1 to +15 FRM in this menu to select the delay time for the PLAY command sent to the slave VTR. Choose from -1 to -15 FRM in this menu for a slave VTR having a longer response time.
I25.	ASSEM PREVIEW MODE	MODE 1 MODE 2	Selects whether the tape runs beyond the IN point in PREVIEW for ASSEMBLE editing. MODE 1: The tape stops at the IN point. MODE 2: If the OUT point is not entered, the tape does not stop even after passing through the IN point. If the OUT point is entered, the tape stops at the OUT point.
I26.	BAUD RATE (RS-232C)	9.6K 19.2K	Selects the communication rate of the RS-232C interface (option).
(2) Time code, character			
I50.	TCG EXT DF/CTRL	DISABLE ENABLE	Selects whether or not the time code drop frame control is carried out in accordance with the drop frame bit data in the TCG PRESET command from the REMOTE-2A IN or REMOTE-2B IN/OUT connector. DISABLE: Above control not carried out ENABLE: Above control carried out
I51.	TC SENSE MODE	LTC-1 LTC-2 VITC	Selects the data to be returned in response to the CURRENT TIME SENSE command (61h, 0Ch, 03h) from the REMOTE-2A IN or REMOTE-2B IN/OUT connector. LTC-1: Longitudinal time code data LTC-2: Longitudinal time code (LTC) data if it can be properly read. If the LTC data cannot be properly read but the vertical interval time code (VITC) data can be properly read, the VITC data is returned. VITC: Vertical interval time code data if it can be properly read while the tape speed is below 1/2 times the normal speed. The LTC data is returned otherwise.

Menu No.	Menu	Items	Description
152.	TC LINE OUTPUT	REGEN PB/EE	Selects the signal which is output from the TIME CODE connector when the VTR enters the REGEN mode in Menu S55 and S56. REGEN: Output time code regenerated by the TCG. PB/EE: Output playback time code of the tape or time code regenerated by the TCG. One of two kinds of time codes is selected by the TAPE/EE switch in the 21-key section.
153.	TIME CALC MODE	12H 24H	Selects the method of determining the preroll direction in accordance with the calculation result of the time difference between the current and preroll points. 12H: If the calculation result of time difference is longer than 12 hours, the preroll direction is reversed. If not, the preroll direction is not reversed. Select this item for such a tape that has a continuous record range, including the time point of 00:00:00:00, within itself. 24H: If the preroll point time value is larger than the current point time value, the tape is prerolled in the forward direction. If the preroll point time value is smaller than the current point time value, the tape is prerolled in the reverse direction.
154.	TIMER DISPLAY MODE	+/- 12H 24H	Selects the display mode of timers 1 and 2. +/- 12H: Signed 12-hour display mode. Time data cannot be preset even in the timer-1. (However, the timer-1 data can be reset by pressing the RESET button.) 24H: 24-hour display mode. Time data can be preset in the timer-1.
155.	TC INSERT	DISABLE ENABLE	Selects whether time code insertion is to be enabled in INSERT editing. DISABLE: TC preset (insert mode) is inhibited, disabling time code insertion. ENABLE: Time code insertion is enabled.
156.	INTER-POLATED LTC	DISABLE ENABLE	Selects whether the longitudinal time code is interpolated by the timer data when they cannot be properly read. DISABLE: Not interpolated ENABLE: Interpolated by timer data
157.	RESERVED		
158.	RESERVED		

Menu No.	Menu	Items	Description
159.	LTC ERROR BYPASS	<input checked="" type="checkbox"/> ON <input type="checkbox"/> OFF	Selects whether the error bypass circuit is activated for the data output from the REMOTE-3 connector. ON: The error bypass circuit is activated. OFF: The error bypass circuit is not activated.
160.	CHARACTER RECORD	<input checked="" type="checkbox"/> DISABLE <input type="checkbox"/> ENABLE	Selects whether the characters mixed on the picture are recorded. DISABLE: Characters not recorded ENABLE: Characters recorded
161.	CHARACTER SIZE ADJ	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2	Selects the size of the characters to be superimposed on the picture.
162.	CHARACTER V. POSITION ADJ	1 2 3 4 5 6 7 <input checked="" type="checkbox"/> 8	Selects the vertical position of the characters to be superimposed on the picture.
163.	CHARACTER H. POSITION ADJ	1 2 3 <input checked="" type="checkbox"/> 4 5 6 7 8	Selects the horizontal position of the characters to be superimposed on the picture.
164.	CHARA DISPLAY MODE	1-1 1-2 1-3 2-1 <input checked="" type="checkbox"/> 2-2 2-3 3-1 3-2 3-3	Selects the display mode of the characters to be superimposed on the picture when MONITOR is selected in Menu S59 MIXED CHARA OUTPUT. <ul style="list-style-type: none"> • Character display without error message <ul style="list-style-type: none"> 1-1: White character display only 1-2: White characters with black background 1-3: Black-rimmed white characters • Character display with error message <ul style="list-style-type: none"> 2-1: White character display only 2-2: White characters with black background 2-3: Black-rimmed white characters • Error message display only <ul style="list-style-type: none"> 3-1: White character display only 3-2: White characters with black background 3-3: Black-rimmed white characters

Menu No.	Menu	Items	Description
165.	CHARA DISP (EXTEND)	<input type="checkbox"/> OFF TCR TCR. TCG UBR UBR. UBG TM1 TM2 PLAYER FRZ TM	<p>Selects the characters to be additionally superimposed below those displayed in accordance with Menu 164.</p> <p>In this mode, field information is not displayed because the display rate of characters is limited to the frame rate. If the time code or user bit data cannot be correctly read, such an indication label as T*R or U*R is used instead of the ordinary label. If ENABLE is selected in Menu 156 INTERPOLATED LTC, however, the LTC value correctly interpolated by the timer information is displayed even if the indication label is T*R.</p> <p>OFF: No additional characters displayed TCR: Time code read by LTC reader TCR . : Time code read by VITC reader TCG: Time code generated by time code generator UBR: User bit data read by LTC reader UBR . : User bit data read by VITC reader UBG: User bit data generated by time code generator TM1: Timer-1 data TM2: Timer-2 data PLAYER: Player time data in editing with two VTRs FRZ TM: Time data at execution time of freeze</p>
166.	MENU DISPLAY	<input type="checkbox"/> DISABLE <input type="checkbox"/> ENABLE	<p>Selects whether the menus are superimposed on the output video signal selected in Menu S59 MIXED CHARA OUTPUT.</p> <p>DISABLE: Menus are not superimposed. ENABLE: Menus are superimposed in the SET UP mode (SET UP lamp is blinking). Superimposition of the one-line and two-line display is not performed when menus are superimposed. (For the display formats, refer to "3-1-4 Character Superimposition".)</p>
167.	DROP FRAME MODE	<input type="checkbox"/> DISABLE <input type="checkbox"/> ENABLE	<p>Selects drop-frame mode or non-drop frame mode for the time code or timer count.</p> <p>DISABLE: Non-drop frame mode ENABLE: Drop frame mode</p>

Menu No.	Menu	Items	Description
(3) Audio			
170.	AUDIO ADVANCE/ DELAY	-800 0 +800	Adjusts the phase of the digital audio (DA-1 to DA-8) output signals. Adjustable range is from -800 to +800 samples (1 sample = approx. 20 μsec). Enter the number with the <input type="checkbox"/> +/ <input type="checkbox"/> - key and <input type="checkbox"/> 0- <input type="checkbox"/> 9 keys, and press the SET key.
(4) Video			
180.	INPUT ANALOG/ DIGITAL	DIGITAL <input type="checkbox"/> ANALOG	Selects the input video signal, digital or analog.
181.	INPUT G.B.R./ Y.PB.PR	Y.PB.PR. <input type="checkbox"/> G.B.R.	Selects the input video signal, Y/Pb/Pr or G/B/R.
182.	PROC PB REF SELECT	<input type="checkbox"/> COM REF INPUT EXT REF DIGITAL	Selects the reference of the video output signal. COM REF: Reference signal selected by Menu S12 COMMON REF SELECT INPUT: Analog G/Y input signal EXT REF: External reference (analog sync signal) DIGITAL: Digital video input signal
183.	OUTPUT G.B.R./ Y.PB.PR	Y.PB.PR <input type="checkbox"/> G.B.R.	Selects the video output signal, Y/Pb/Pr or G/B/R.

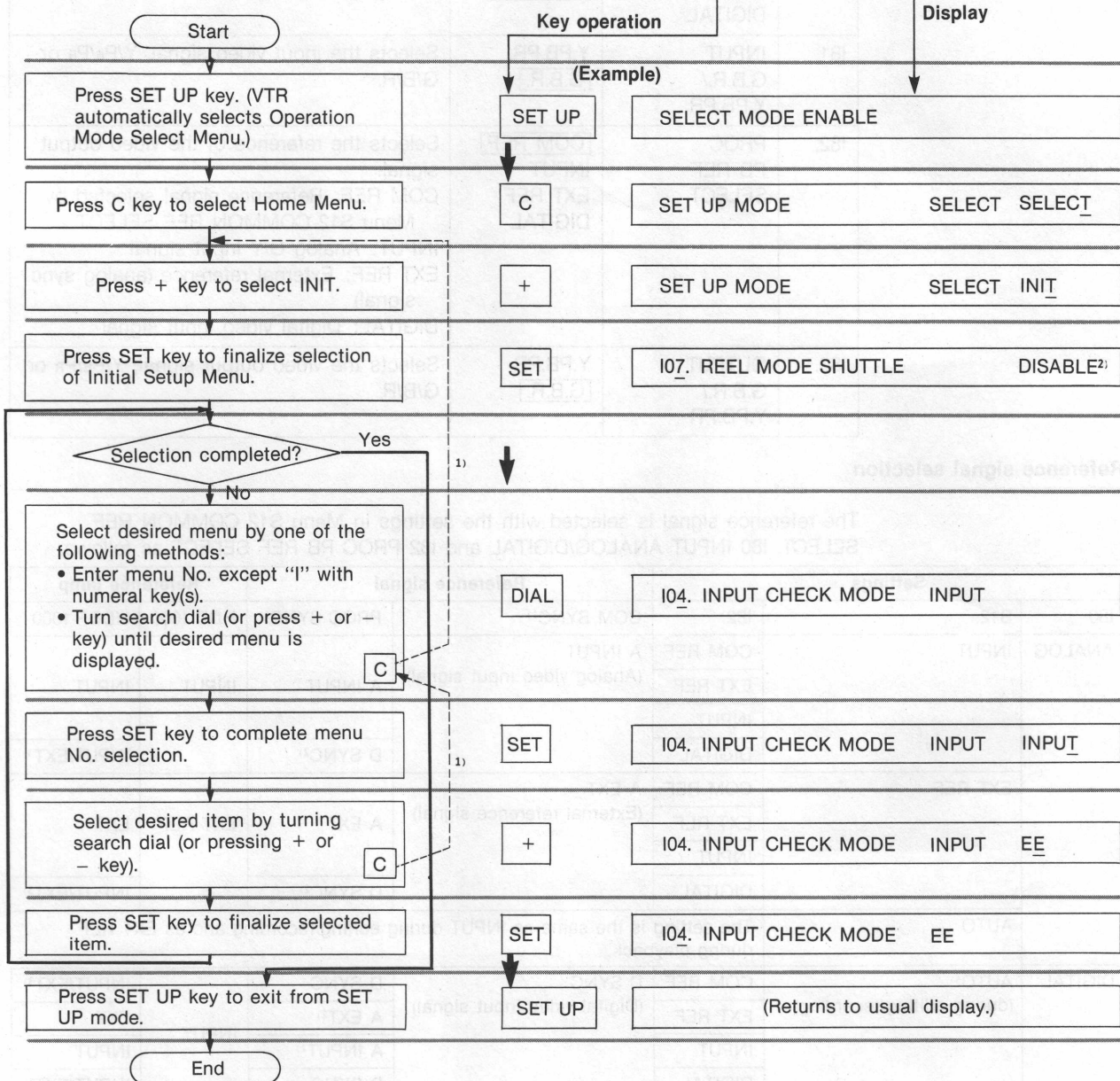
Reference signal selection

The reference signal is selected with the settings in Menu S12 COMMON REF SELECT, I80 INPUT ANALOG/DIGITAL and I82 PROC PB REF SELECT as follows.

Settings			Reference signal		Reference lamp				
I80	S12	I82	COM SYNC ¹⁾	PROC SYNC ¹⁾	HDD-1000	HDDP-1000			
ANALOG	INPUT	COM REF	A INPUT (Analog video input signal)	A INPUT	INPUT	INPUT			
		EXT REF							
		INPUT							
		DIGITAL					D SYNC ²⁾	INPUT/EXT ³⁾	
	EXT REF	COM REF	A EXT (External reference signal)	A EXT	EXT REF	EXT	EXT		
		EXT REF							
		INPUT							
		DIGITAL						D SYNC ²⁾	INPUT/EXT ³⁾
AUTO		The setting is the same as INPUT during editing/recording and as EXT REF during playback.							
DIGITAL	AUTO ⁴⁾ (during editing/recording)	COM REF	D SYNC (Digital video input signal)	D SYNC	INPUT	INPUT/EXT ³⁾			
		EXT REF					A EXT ²⁾	EXT	
		INPUT					A INPUT ²⁾	INPUT	
		DIGITAL					D SYNC	INPUT/EXT ³⁾	
	AUTO ⁴⁾ (During playback)	COM REF	D SYNC	D SYNC	EXT REF	EXT	INPUT/EXT ³⁾		
		EXT REF						A EXT ²⁾	EXT
		INPUT						A EXT ²⁾	EXT
		DIGITAL						D SYNC	INPUT/EXT ³⁾

- 1) COM SYNC: Reference signal for video recording and audio recording/playback
PROC SYNC: Reference signal for video playback
- 2) When the PROC SYNC is different from the COM SYNC, the phase difference between the two must be within -50 μsec to +50 μsec. Otherwise, normal picture may not be output, though recording is not affected.
- 3) INPUT and EXT are lit at the same time.
- 4) When Menu I80 is set to DIGITAL, S12 is automatically set to AUTO.

Flow of Initial Setup Menu selection



Note

The search dial cannot be used for menu selection if the JOG, SHUTTLE or VAR lamp is lit.

- As shown by broken lines, you can return to the preceding step by pressing the C key. The selection finalized by pressing the SET key, however, cannot be canceled this way.
- The last selected menu is displayed.

1-4-5. Saving and Restoring the Setup Data

The HDD-1000/HDDP-1000 has a PROM and a NOVRAM (nonvolatile RAM) to store the default selection and user's standard selection of each menu. The contents of these memories can be loaded into the RAM for the setup data at any time, allowing the default or user's standard setup to be easily restored.

For convenience sake, the NOVRAM areas for user's selections 1, 2 and 3 are called NOVRAM 1, NOVRAM 2 and NOVRAM 3, respectively, in the description below.

Notes

- The current items of Menu S02 PICTURE MONITOR, S03 WFM SELECT and S12 COMMON REF SELECT can be neither saved nor restored.
- The current items of all menus except Test Menu can be stored for about one week, if the VTR remains not to be turned on.

However, if the VTR is turned off for a long period of time, all items of those menus may become the default selection indicated in a box next time the VTR is turned on. Check the current items of each menu, and select them if required.

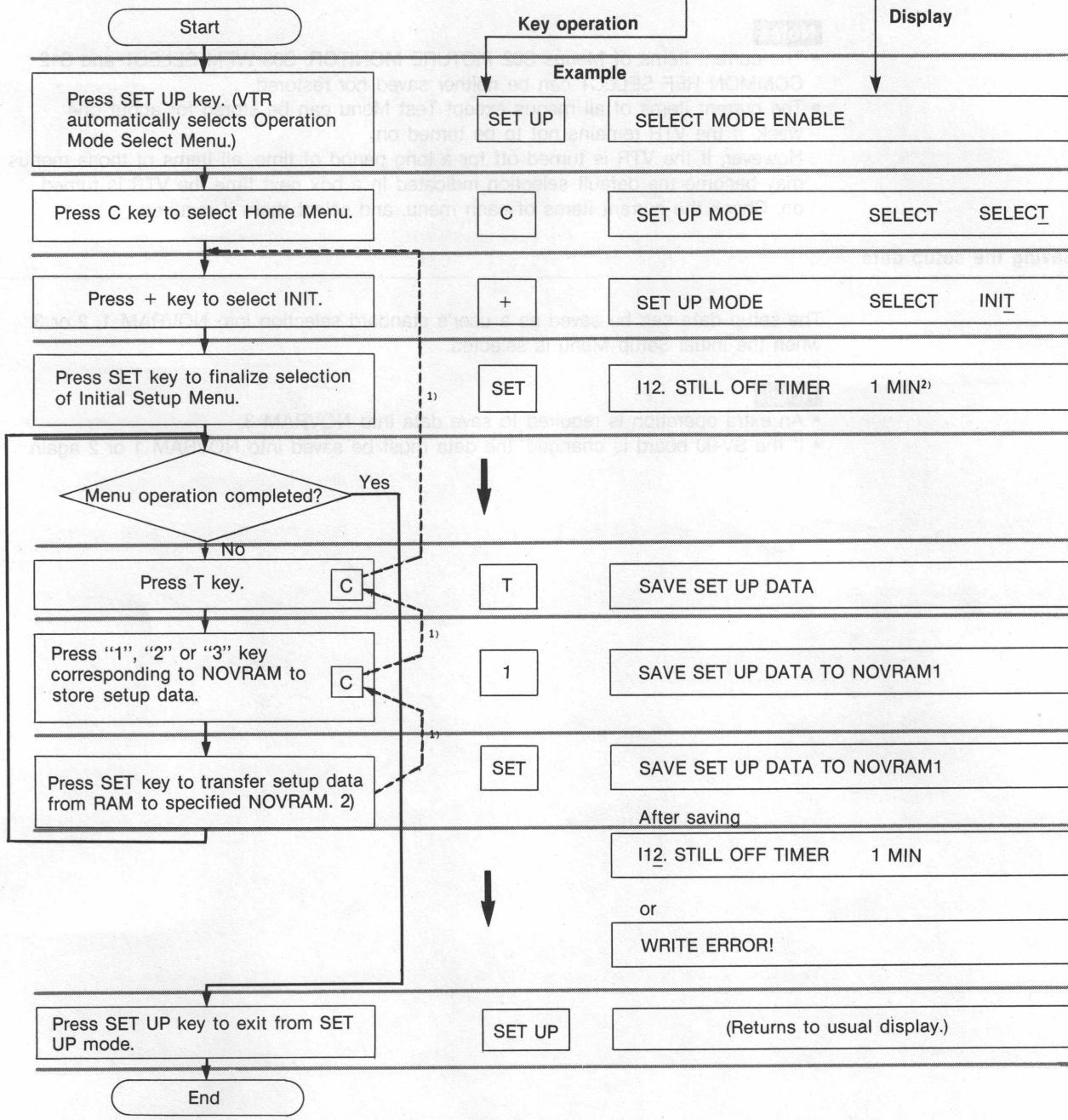
Saving the setup data

The setup data can be saved as a user's standard selection into NOVRAM 1, 2 or 3 when the Initial Setup Menu is selected.

Notes

- An extra operation is required to save data into NOVRAM 3.
- If the SV-90 board is changed, the data must be saved into NOVRAM 1 or 2 again.

Flow of setup data saving



1) As shown by broken lines, you can return to the preceding step by pressing the C key. The selection finalized by pressing the SET key, however, cannot be canceled this way.
 2) The last selected menu is displayed.

Error message "WRITE ERROR!"
 This message appears when the setup data in the RAM cannot be written to NOVDRAM 1, 2 or 3. In this case, press the C key, then retry save operation. Malfunction may occur if this message appears in retrying.

To save data in NOVDRAM 3
 Press the SET key, then press the NVWR switch on the SV-90 board following the messages displayed.

1-60

Restoring the setup data

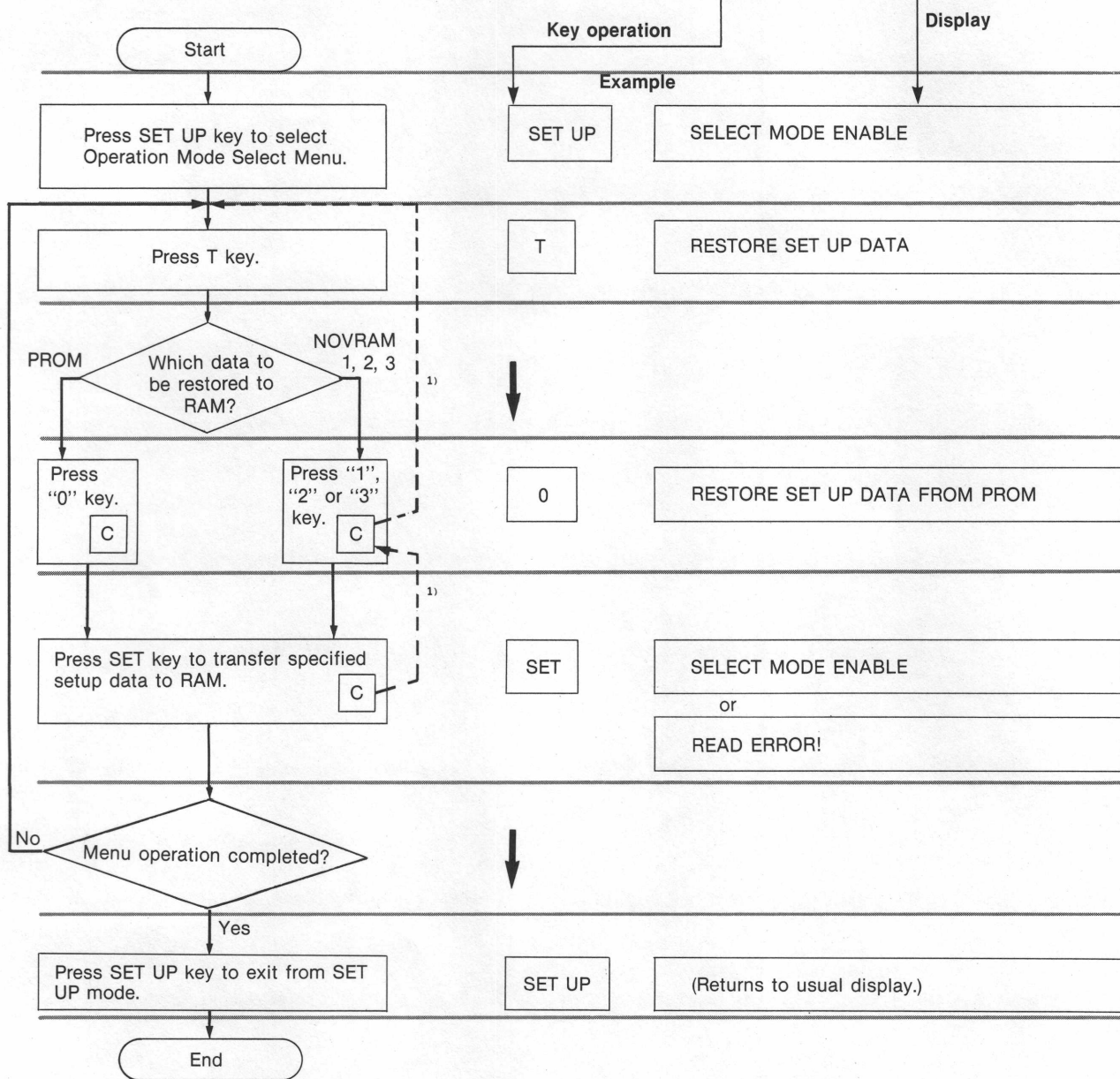
The default menu data in the PROM or the user's standard selection data 1, 2 or 3 in the NOVRAM 1, 2 or 3 can be loaded into the RAM when the Operation Mode Select Menu is selected. This allows immediate restoration of the default or user's standard setup.



Flow of setup data restoring

Restoring the setup data

The default menu data in the PROM or the user's standard selection data 1, 2 or 3 can be loaded into the RAM when the Operation Mode Select menu shows immediate restoration of the default or user's standard



1) As shown by broken lines, you can return to the preceding step by pressing the C key.

Error message "READ ERROR!"

This message appears when the setup data in NOVRAM 1, 2 or 3 cannot be restored correctly. In this case, return to the Operation Mode Select Menu by pressing the C key and proceed to saving the setup data into corresponding NOVRAM to check hardware.

1-4-6. Test Mode Menu

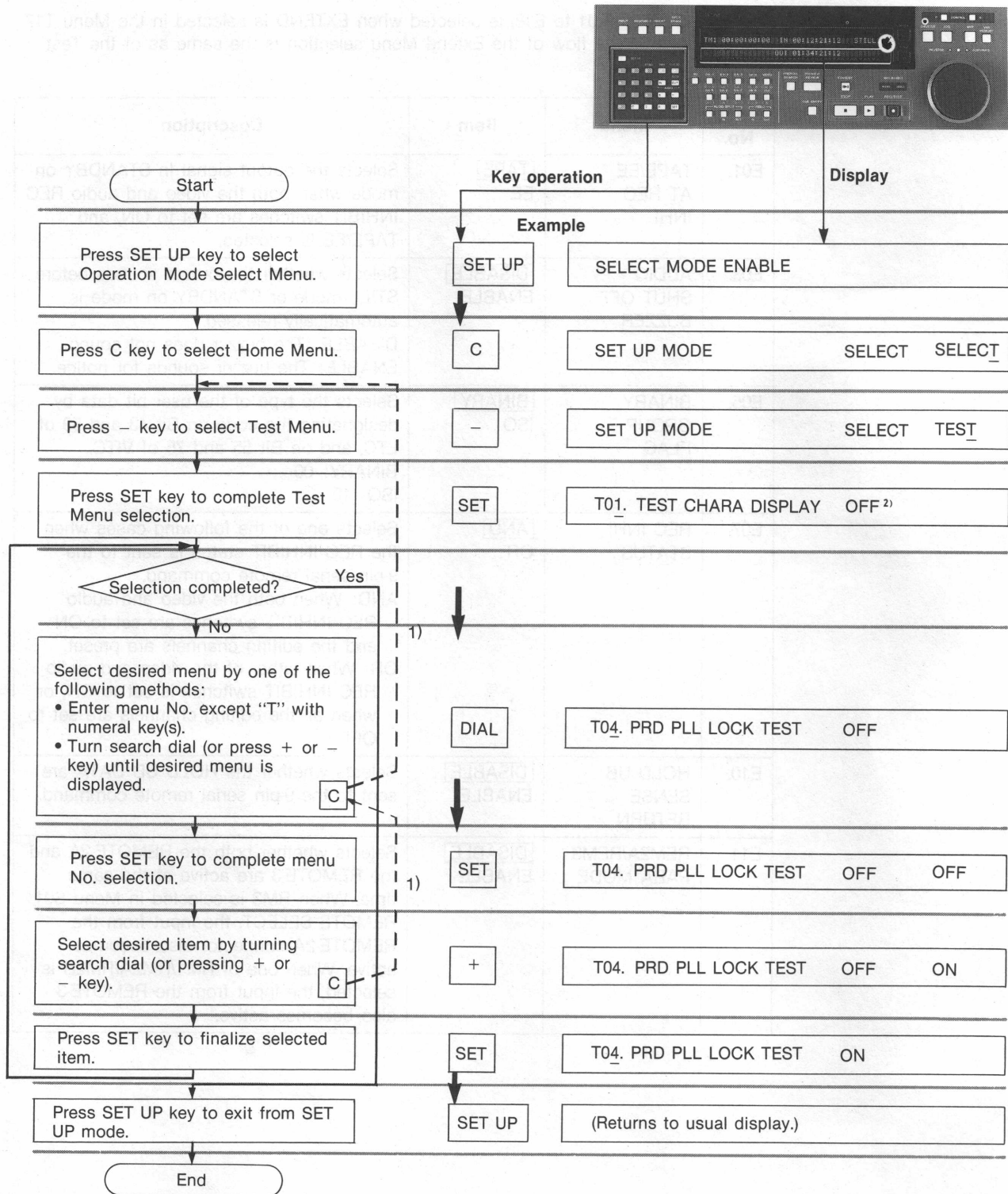
This menu is used for maintenance, not for ordinary operation.

Menu No.	Menu	Item	Description
T01.	TEST CHARA DISPLAY	ON <input type="checkbox"/> OFF	Selects whether to superimpose the characters on the picture monitor or not. All the characters will be superimposed.
T02.	CH1-CH4 REC	<input type="checkbox"/> ON OFF	Selects whether the signals from the video heads 1 to 4 will be recorded or the recording is prohibited.
T03.	CH5-CH8 REC	<input type="checkbox"/> ON OFF	Selects whether the signals from the video heads 5 to 8 will be recorded or the recording is prohibited.
T04.	PRD PLL LOCK TEST	ON <input type="checkbox"/> OFF	Selects whether the PLL in the PRD board is locked.
T05.	PRD REC TEST	ON <input type="checkbox"/> OFF	Selects whether the video recording on the PRD board is tested.
T06.	DRC TEST 1	<input type="checkbox"/> OFF STEP1 STEP2 STEP3 STEP4	Selects the adjustment mode of the PLL in the DRC board. Each STEP 1 to 4 corresponds to the adjustment volume to be used.
T07.	CONCEAL	<input type="checkbox"/> ON OFF	Selects whether the conceal function of the HDDP-1000 is turned off.
T08.	INNER CORRECTION	<input type="checkbox"/> ON OFF	Selects whether the inner correction function of the HDDP-1000 is turned off.
T09.	OUTER CORRECTION	<input type="checkbox"/> ON OFF	Selects whether the outer correction function of the HDDP-1000 is turned off.
T10.	ERR FLAG DISP (LINE)	<input type="checkbox"/> OFF MODE 1 MODE 2 MODE 3 MODE 4 MODE 5 MODE 6	Selects the mode to output the error flags of the HDDP-1000 from the line output connectors. Playback data distribution among channels can also be stopped at the same time. MODE 1: Conceal, inner correction and outer correction are all off. MODE 2: Conceal and outer correction are off. MODE 3: Conceal is off. MODE 4: Data distribution is stopped and channel shift for playback is executed under the MODE 1 condition. MODE 5: Data distribution is stopped and channel shift for playback is executed under the MODE 2 condition. MODE 6: Data distribution is stopped and channel shift for playback is executed under the MODE 3 condition.
			Note Select the external reference signal for devices connected to the analog video output connectors when you select one of the settings, from the MODE 1 to the MODE 6. The appropriate picture for error flag monitoring may not be obtained when the input video signal is selected as the reference signal on the devices.
T11.	ERR FLAG DISP (MONI)	ON <input type="checkbox"/> OFF	Selects whether the error flags of the HDDP-1000 are output from the monitor connectors.

Menu No.	Menu	Items	Description
T12.	NORMAL FWD TEST	ON <input type="checkbox"/> OFF	Selects whether to make the NORM FWD + EE signal active in the STOP mode.
T13.	OSC CONT TEST	ON <input type="checkbox"/> OFF	Selects whether to control the audio bias/erase oscillator when the tape is not running.
T14.	RESERVED		
T15.	LEVEL-CP LAMP TEST	ON <input type="checkbox"/> OFF	Selects whether to set the lamps of the level control panel to the test mode.
T16.	VIDEO TEST	ON <input type="checkbox"/> OFF	Selects whether to make the video recording circuit active in STANDBY off mode.
T17.	MAINTENANCE	<input type="checkbox"/> OFF TTP ADJ PANEL VERSION EXTEND	Selects the control panel check mode or the tape transport system check mode. OFF: Usual setting TTP ADJ: Tape transport system check mode PANEL: Control panel test mode VERSION: Display mode of the program ROM version of the HDD-1000 and the HDDP-1000. EXTEND: Extend menu E01 to E18. (Refer to page 1-66.)
T18.	SPECIAL REEL MODE	ON <input type="checkbox"/> OFF	Normally set to OFF.
T19.	MEMORY DUMP	<input type="checkbox"/> OFF ON (VTR) ON (PRO) ADDRESS	Selects the CPU whose memory data are output from the monitor connectors. ON(VTR): SY board and SV board ON(PRO): AU board and PR board ADDRESS: The address of the memory can be designated.
T20.	VIDEO TEST SG	<input type="checkbox"/> OFF COMP CB MB 10S PULSE BB	Selects the signal to be output from the built-in signal generator of the HDDP-1000. COMP: Composite signal of color bar, multi burst, pulse & bar and 10-step linearity CB: Color bar signal MB: Multi burst 10S: 10 step linearity PULSE: Pulse & bar BB: Black burst
T21.	CHANNEL DISTRIBUTION	<input type="checkbox"/> ON PB OFF REC OFF ALL OFF	Selects whether the video data is distributed among channels. ON: Distribution is active for both recording and playback. PB OFF: Distribution is active only for recording. REC OFF: Distribution is active only for playback. ALL OFF: No distribution for both recording and playback.

T22 Audio Test
s.g

Flow of TEST Menu selection



Note

The search dial cannot be used for menu selection while the JOG, SHUTTLE or VAR button lamp is lit.

1) As shown by broken lines, you can return to the preceding step by pressing the C key. The selection finalized by pressing the SET key, however, cannot be canceled this way.

2) The last selected menu is displayed.

Extend Menu

The Extend Menu (E01 to E18) is selected when EXTEND is selected in the Menu T17 MAINTENANCE. The flow of the Extend Menu selection is the same as of the Test Menu.

Menu No.	Menu	Item	Description
E01.	TAPE/EE AT REC INHIBIT	TAPE EE	Selects the output signal in STANDBY on mode when both the video and audio REC INHIBIT switches are set to ON, and TAPE/EE is selected.
E03.	AUDIO SHUT OFF BUZZER	DISABLE ENABLE	Selects whether the buzzer sounds before STILL mode or STANDBY on mode is automatically released. DISABLE: The buzzer does not sound. ENABLE: The buzzer sounds for notice.
E05.	BINARY GROUP FLAG	BINARY ISO	Selects the type of the user bit data by designating the code on Bit 43 and 59 of LTC, and on Bit 55 and 75 of VITC. BINARY: 00 ISO: 10
E07.	REC INHI STATUS	AND OR	Selects one of the following cases when the REC INHIBIT status is sent to the 9-pin serial remote command. AND: When both the video and audio REC INHIBIT switches are set to ON and the editing channels are preset. OR: When either of the video and audio REC INHIBIT switches is set to ON, or when all the editing channels are set to OFF.
E10.	HOLD UB SENSE RETURN	DISABLE ENABLE	Selects whether the HOLD UB DATA are sent to the 9-pin serial remote command.
E11.	REM2A/REM3 PARA MODE	DISABLE ENABLE	Selects whether both the REMOTE-2A and the REMOTE-3 are active at the same time. When RM3 is selected in Menu S01 REMOTE SELECT, the input from the REMOTE-2A connector also becomes active. When one of RM1/RM2A/RM2B is selected, the input from the REMOTE-3 also becomes active.

Menu No.	Menu	Items	Description
E13.	LOCKED SLOW ×1	DISABLE ENABLE	Selects whether the CTL is locked during ×1 (normal speed) playback in VAR mode.
E14.	TAPE/EE DELAY	DISABLE ENABLE	Selects whether the playback picture is not distorted with TAPE/EE selected while the search operation is done by using the DTR-2000 dynamic motion controller. DISABLE: The playback picture is distorted after the search operation as the VTR enters STILL mode via STOP mode. ENABLE: The VTR is prevented from entering STOP mode for as long as 20 fields to avoid the picture distortion.
E15.	TC OUTPUT DELAY	0 FRAME AUTO 2 FRAME	Selects whether the time code is output with 2 frames added (advanced to the video output signal) out of the 9-pin serial remote connectors and TIME CODE connector, when editing with two VTRs. ¹⁾ 0 FRAME: The video and the time code signals are output in the same phase. AUTO: Time code is output with 2 frames added only when the editing channels are preset. 2 FRAME: Time code is always output with 2 frames added.
E16.	SHUTTLE ×8 LIMITER	DISABLE ENABLE	Sets the maximum speed of the SHUTTLE mode. DISABLE: The maximum is 15 times normal speed and is not changed. ENABLE: The maximum speed is changed to 8 times normal speed to monitor the picture even in the fast forward and rewind modes when the DTR-2000 is used.
E17.	SPECIAL VAR MODE	DISABLE ENABLE	Sets to change ×1 (normal speed) playback of VAR mode. DISABLE: The speed is not changed. ENABLE: The speed is changed to 7/30 times normal speed when the DTR-2000 is used to improve operation during slow playback.
E18.	SERVO LOCK W/O AUDIO	DISABLE ENABLE	Selects whether the servo is locked under the following condition. DISABLE: The servo is not locked usually when the digital audio signals are not properly played back. ENABLE: The servo is locked when the capstan and the drum are locked.

1) The HDD-1000/HDDP-1000 system normally outputs the time code with 2 frames subtracted to match the framing of the video signal which comes 2 frames behind because of its processing. Therefore, the video and the time code signals are output in the same phase.

Menu No.	Menu	Items	Description
E13	LOOKED SLOW XT	DISABLE ENABLE	Selects whether the CTL is locked during x1 (normal speed) playback in VAB mode.
E14	TAPED DELAY	DISABLE ENABLE	Selects whether the playback picture is not distorted with TAPED selected when the search operation is done by using the DTR-500 dynamic motion controller. DISABLE: The playback picture is distorted after the search operation as the VTR enters STILL mode via STOP mode. ENABLE: The VTR is prevented from entering STOP mode for as long as 30 fields to avoid the picture distortion.
E15	TO OUTPUT DELAY	0 FRAME AUTO 2 FRAME	Selects whether the time code is output with 2 frames added (added to the video output signal) out of their own serial ports connectors and TIME CODE connector when editing with two VTRs. 0 FRAME: The video and the time code signals are output in the same phase. AUTO: Time code is output with 2 frames added only when the editing channels are preset. 2 FRAME: Time code is always output with 2 frames added.
E16	SHUTTLE X8 LIMITER	DISABLE ENABLE	Sets the maximum speed of the SHUTTLE mode. DISABLE: The maximum is 18 times normal speed and is not changed. ENABLE: The maximum speed is changed to 8 times normal speed to monitor the picture even in the fast forward and rewind modes when the DTR-500 is used.
E17	SPECIAL VAB MODE	DISABLE ENABLE	Sets to operate x1 (normal speed) playback of VAB mode. DISABLE: The speed is not changed. ENABLE: The speed is changed to 3.3 times normal speed when the DTR-500 is used to improve operation during slow playback.
E18	SERVO LOCK W/O AUDIO	DISABLE ENABLE	Selects whether the servo is locked under the following condition. DISABLE: The servo is not locked normally when the digital audio signals are not properly played back. ENABLE: The servo is locked when the caption and the data are locked.

The HDU-1000 system normally outputs the time code with 2 frames subtracted to match the period of the video signal which covers 2 frames before the start of its processing. Therefore, the video and the time code signals are output in the same phase.

Section 2. PREPARATION

- 2-1. Connection Examples..... 2-1
- 2-2. Start-Up and Turn-Off Procedures..... 2-6
- 2-3. Internal Circuit Boards 2-7
- 2-4. Tape Threading 2-12

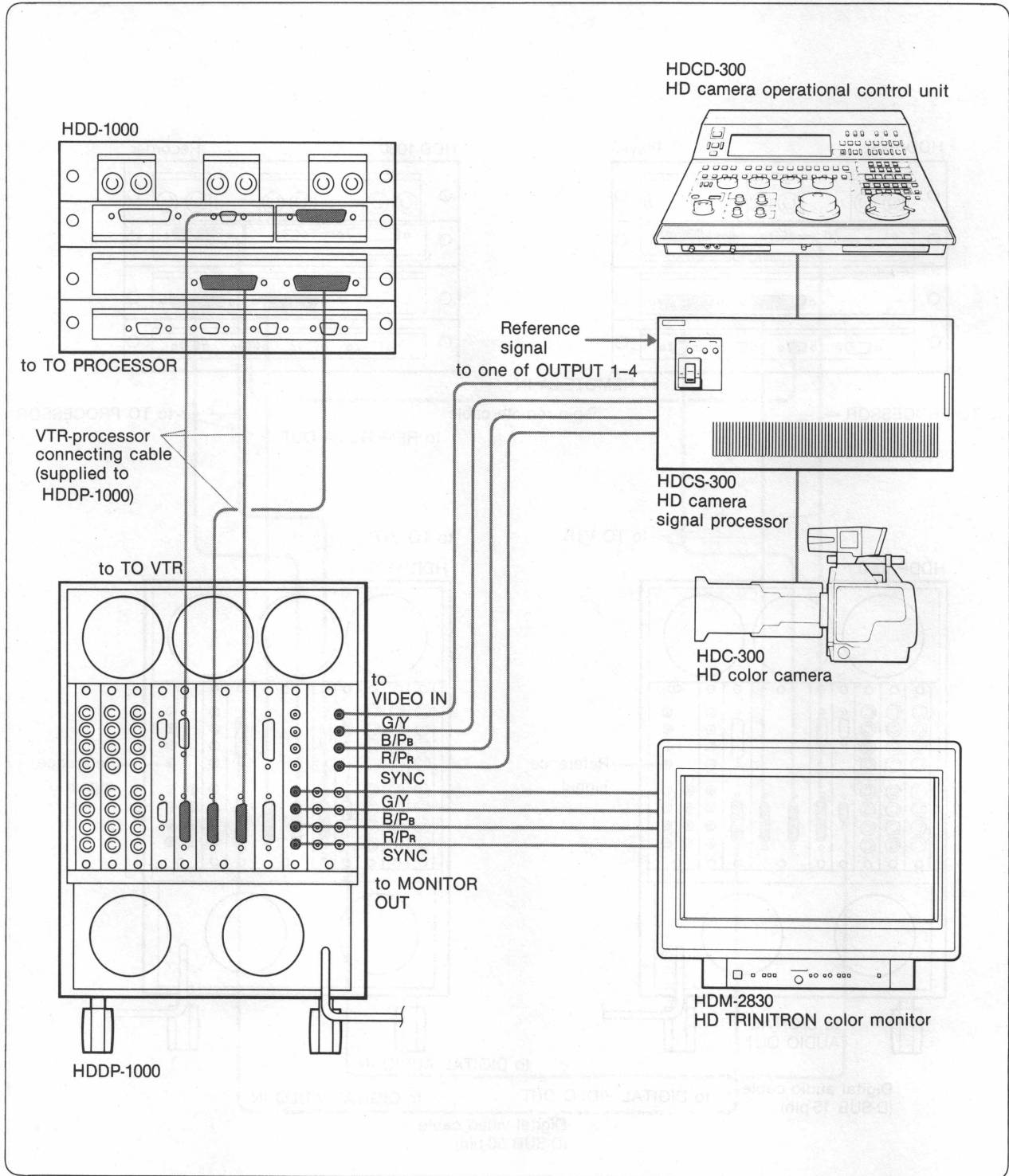
Section 2. PREPARATION

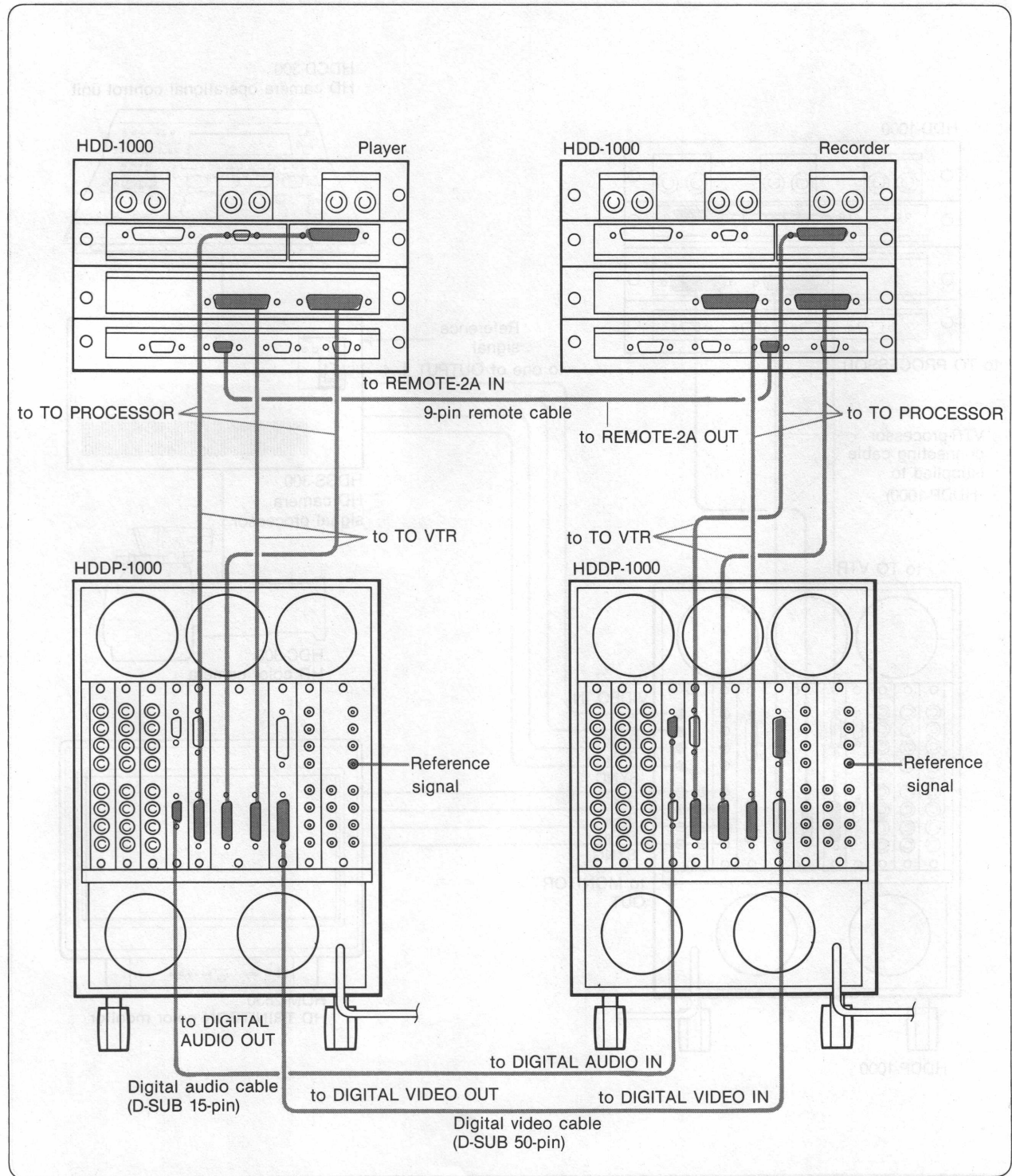
2.1. The following information is to be provided by the contractor to the Engineer at least 30 days before the start of the work:

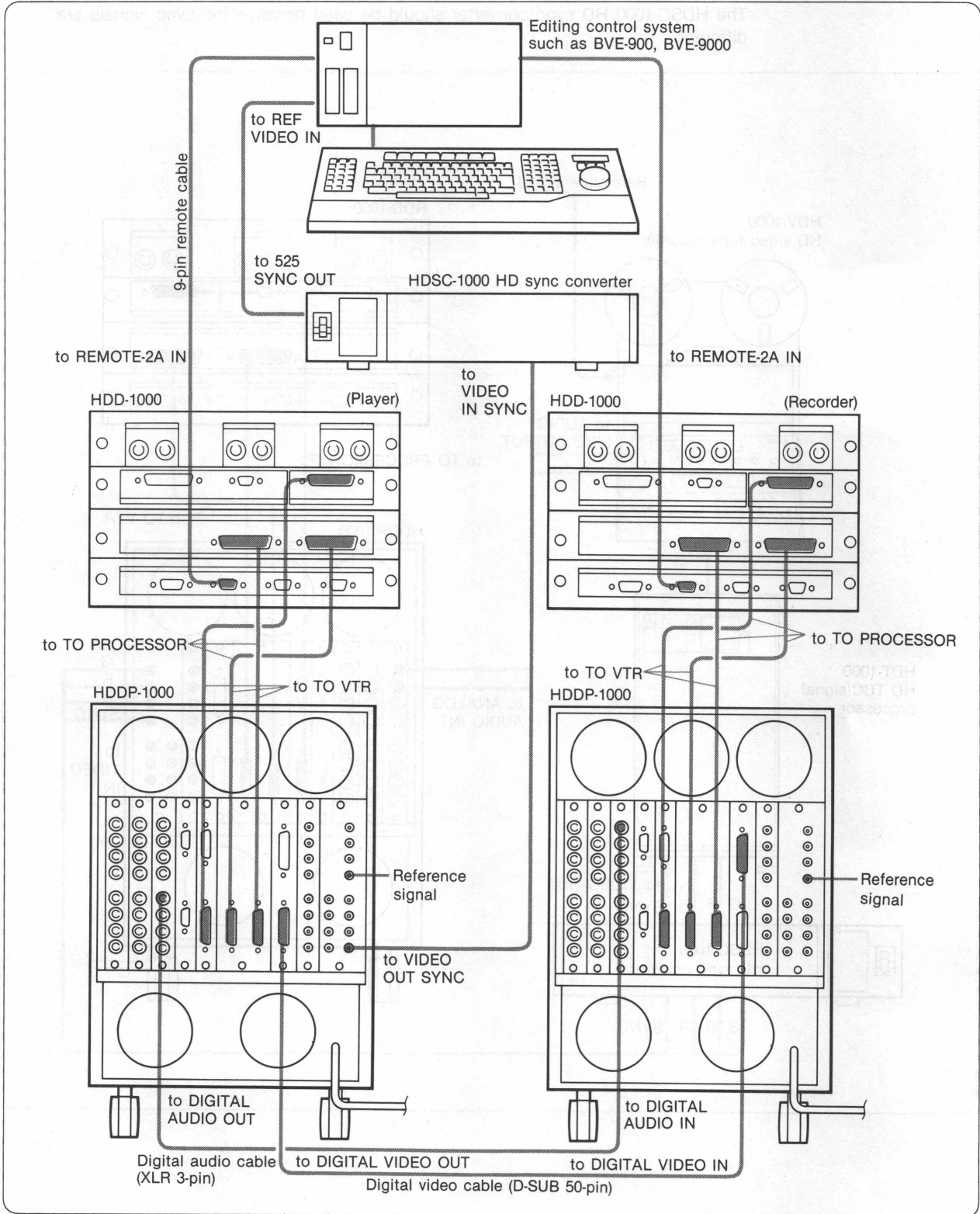
2-1. Connection Examples

Connecting an HD video camera

© 1995 Sony Electronics Inc.







Note

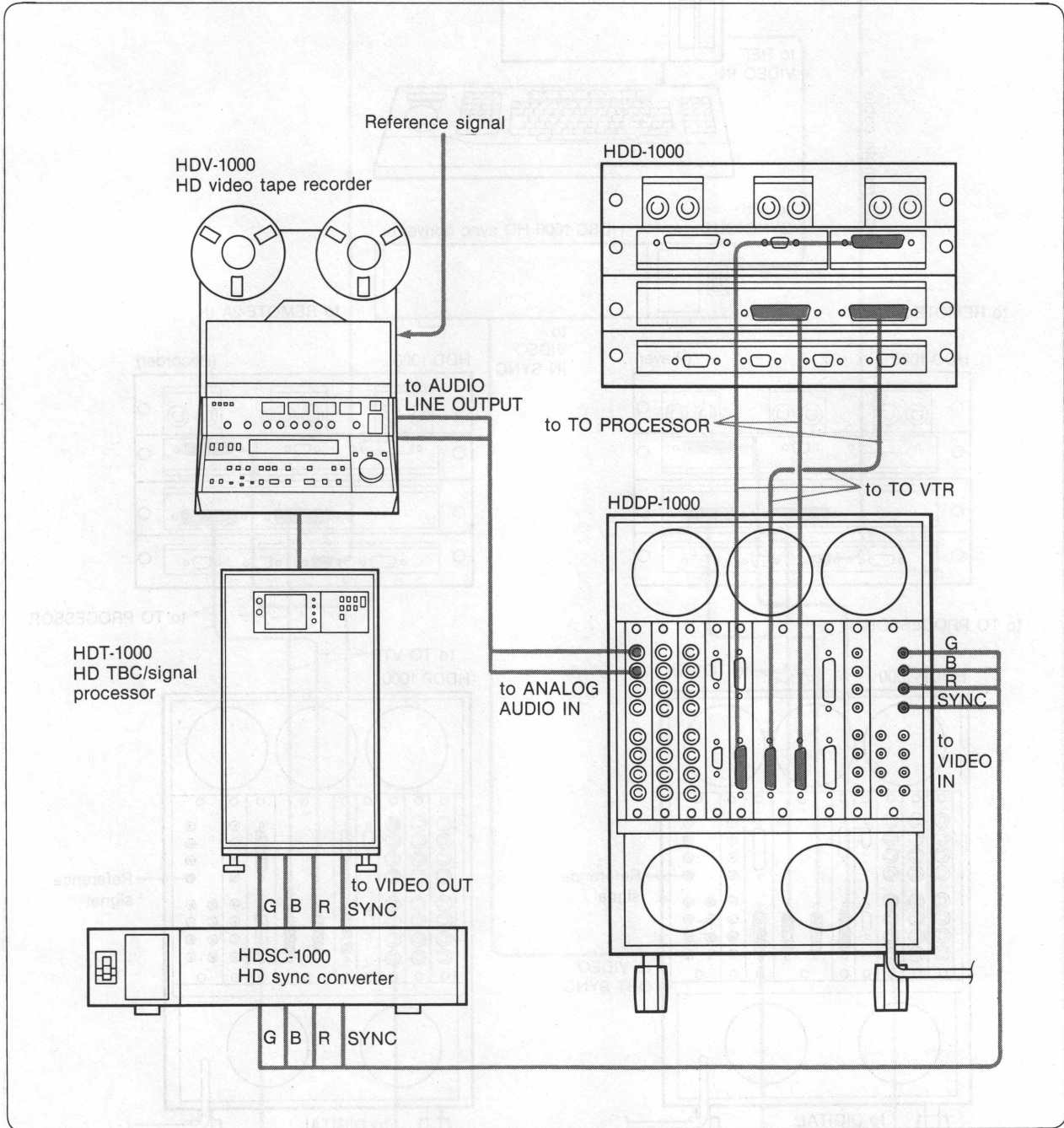
The editing control system, neither BVE-3000 nor BVE-5000, can be used with the HDD-1000/HDDP-1000 system.

Connecting an analog HD VTR

Refer to the manual for details on connecting an editor.

The HDSC-1000 HD sync converter should be used because the sync signals are different.

2-1. Connection Examples

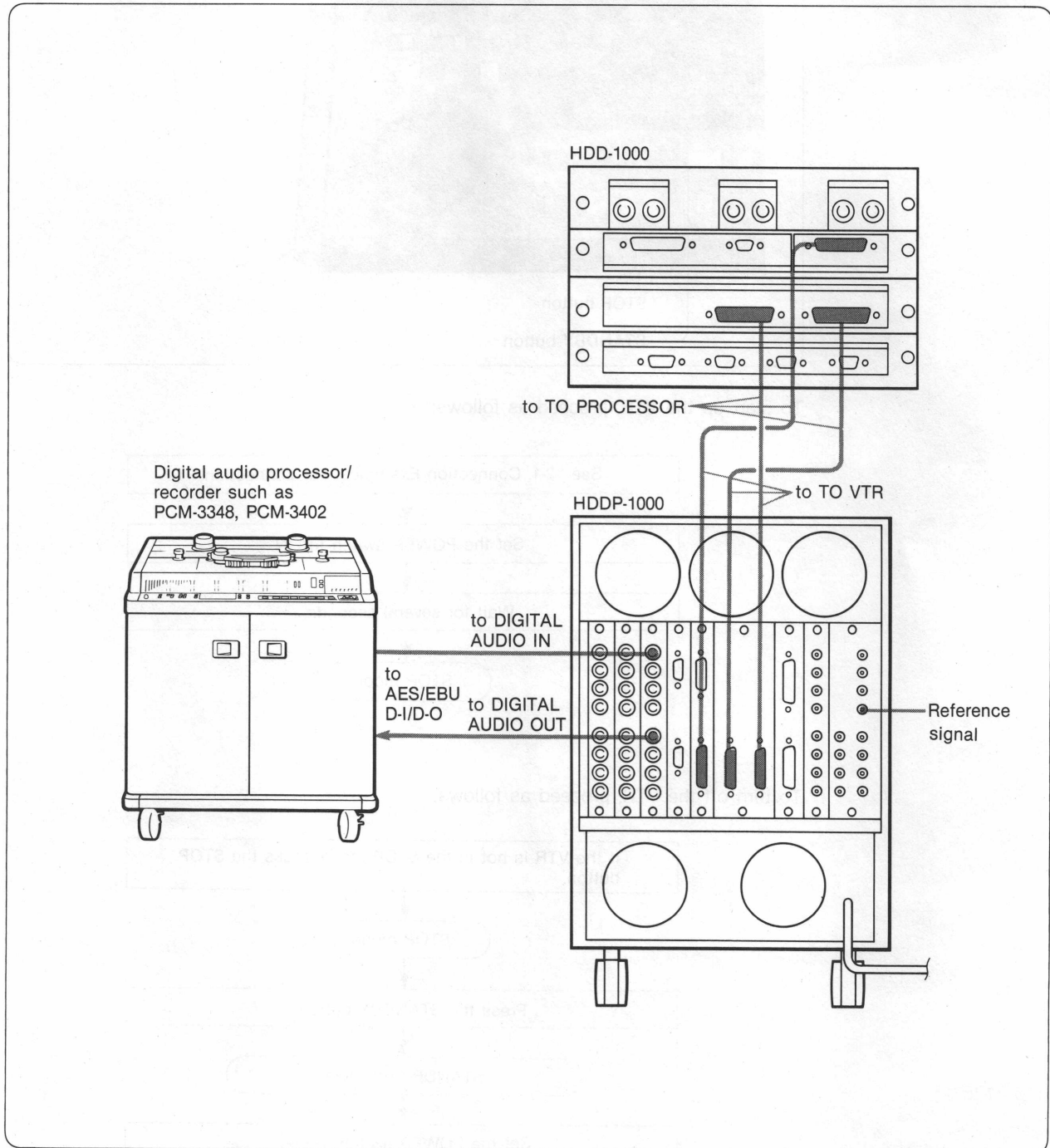


Digital audio signal connection

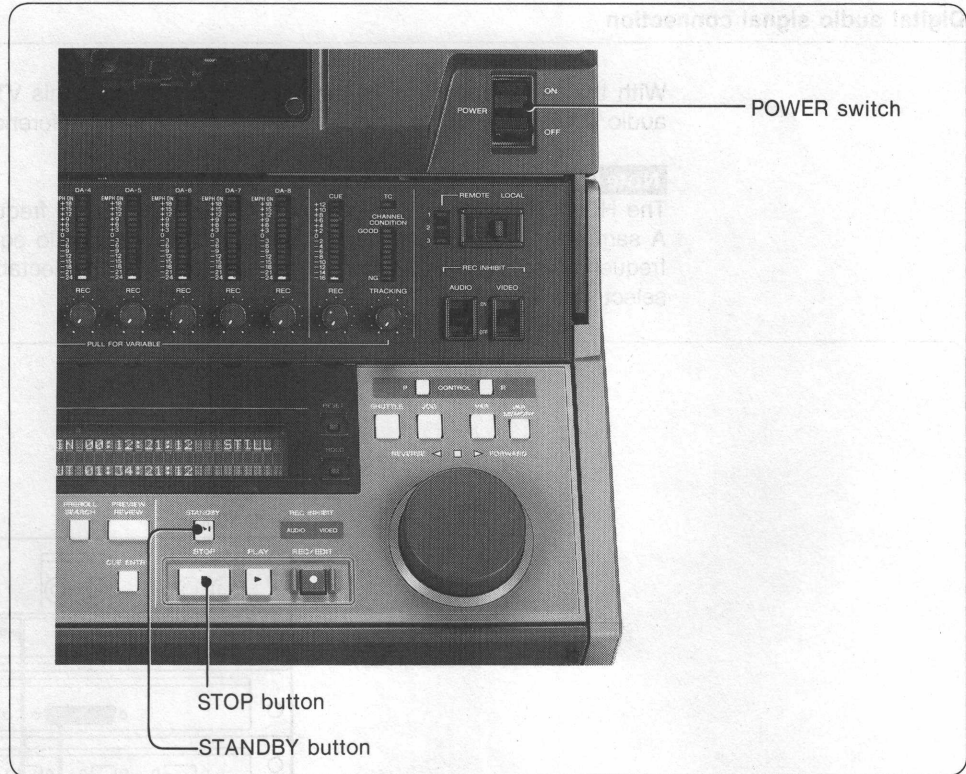
With the loop connection of the digital audio signals, this VTR and the connected audio equipment will be synchronized with the same reference signals.

Note

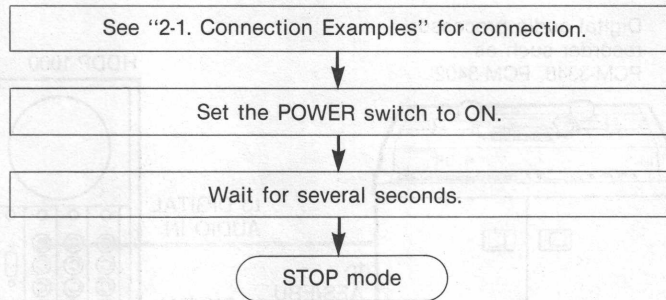
The HD digital VTR system uses 48kHz audio sampling frequency. A sampling rate converter is necessary when using audio equipment whose sampling frequency is not 48kHz. When using equipment with selectable sampling frequency, select 48kHz.



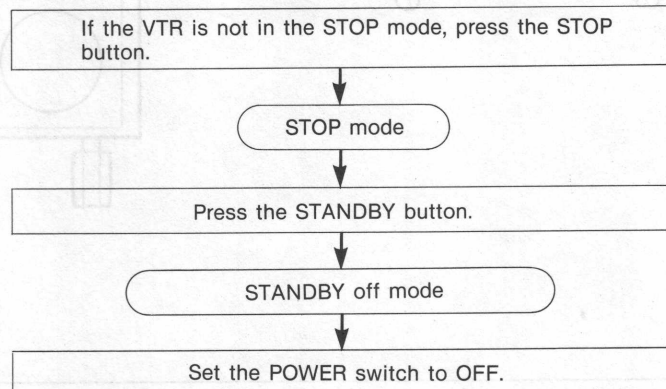
2-2. Start-up and Turn-off Procedures



To start up the VTR, proceed as follows:



To turn off the VTR, proceed as follows:



2-3. Internal Circuit Boards

2-3-1. Withdrawing and Replacing the Function Control Panel

The function control panel can be withdrawn for adjustment of the internal controls, and can be removed at about 1 meter away from the VTR for maintenance of the internal circuit boards.

Withdrawing and removing the function control panel

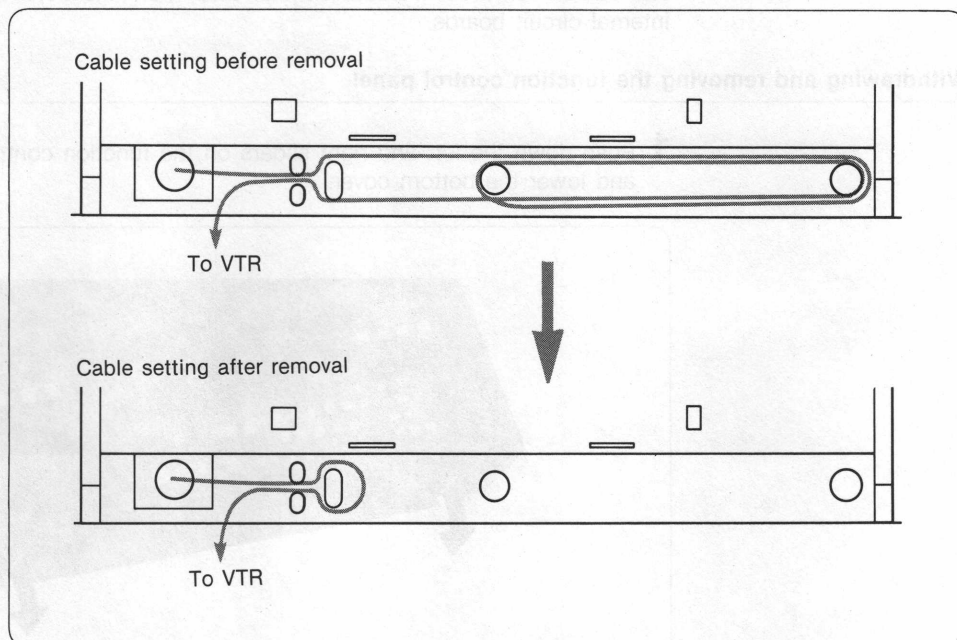
- 1 Push down the left and right sliders on the function control panel bottom cover, and lower the bottom cover.



- 2 Hold the bottom of the function control panel, and pull out the control panel.



- 3 Loosen the screws on both sides of the function control panel, and remove the panel from the left and right arms.
- 4 Release the cable from the bottom of the function control panel, and set as shown below.



Caution

Never skip this step; otherwise the cable may be damaged if an excessive force is applied.

Replacing the function control panel

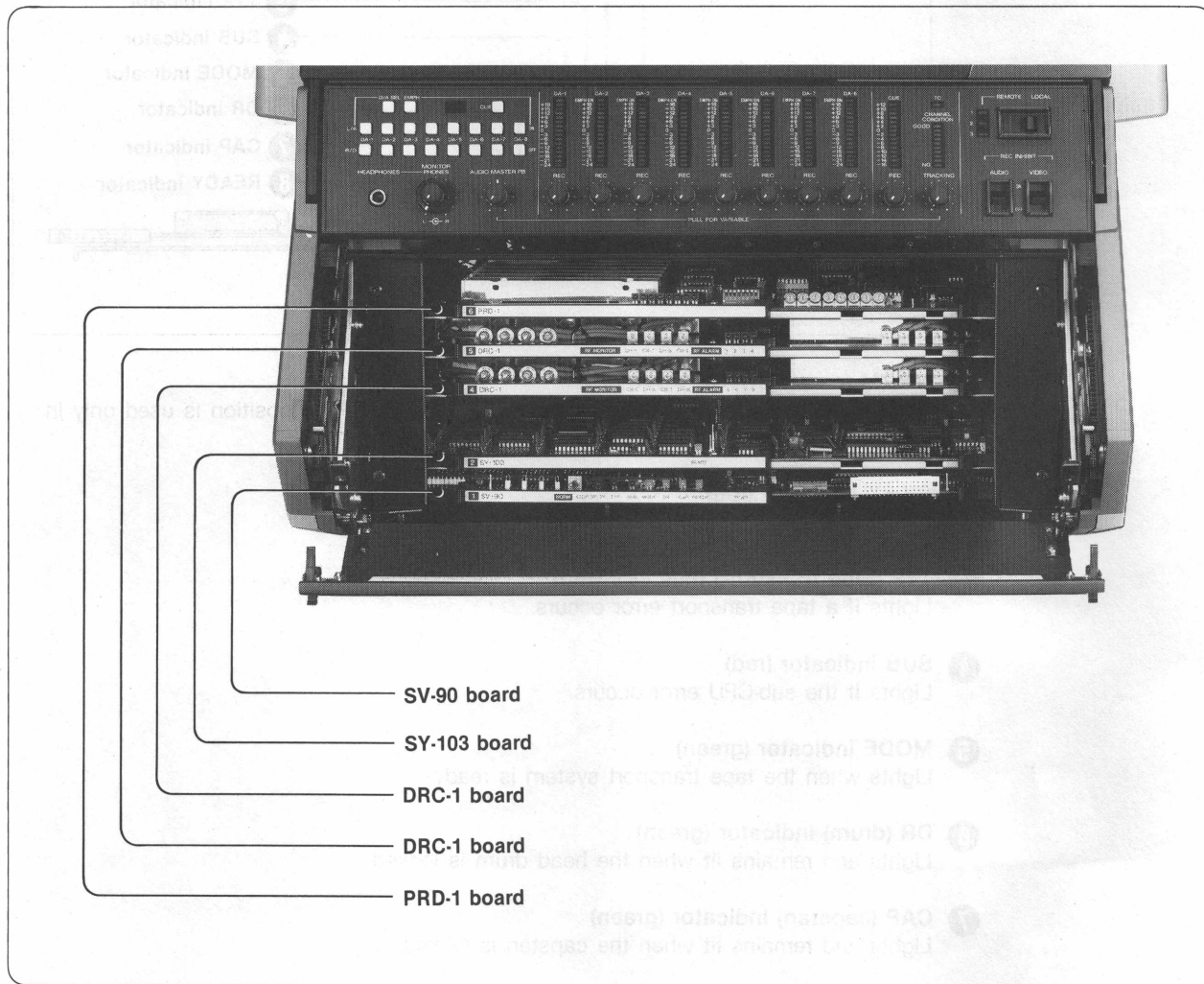
- 1 At the bottom of the function control panel, set the cable as it was before removal of the panel (see the figure above).
- 2 Install the function control panel to the left and right arms, and tighten the screws on both sides of the panel.
- 3 Hold the bottom of the function control panel, and set it in place.
- 4 Attach the function control panel bottom cover.

Caution

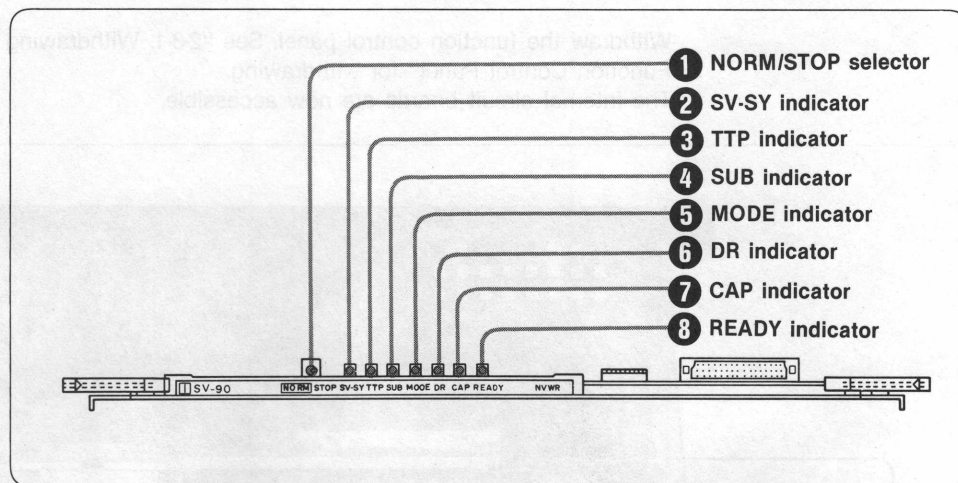
- This function control panel can be used only for the HDD-1000.
- Function control panels of other VTRs cannot be connected to the HDD-1000.

2-3-2. Switch, Indicators, and Connectors on the Boards

Withdraw the function control panel. See "2-3-1. Withdrawing and Replacing the Function Control Panel" for withdrawing.
The internal circuit boards are now accessible.

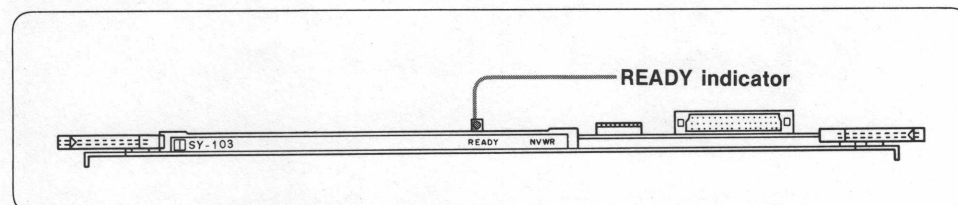


SV-90 board



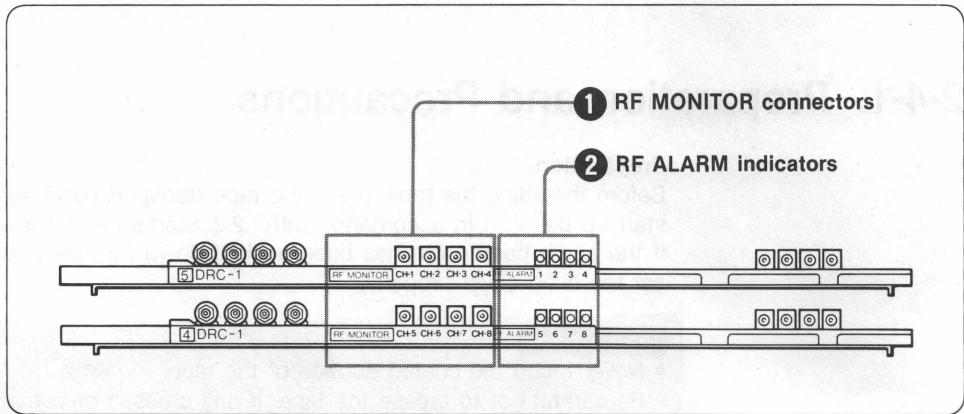
- 1 NORM (normal)/STOP selector**
For normal operation, set this selector to NORM. The STOP position is used only in tests. Never touch this selector to avoid mis-operation.
- 2 SV-SY indicator (red)**
Lights if an SV-SY interface error occurs.
- 3 TTP (tape transport) indicator (red)**
Lights if a tape transport error occurs.
- 4 SUB indicator (red)**
Lights if the sub-CPU error occurs.
- 5 MODE indicator (green)**
Lights when the tape transport system is ready.
- 6 DR (drum) indicator (green)**
Lights and remains lit when the head drum is locked.
- 7 CAP (capstan) indicator (green)**
Lights and remains lit when the capstan is locked.
- 8 READY indicator (green)**
Lights when the CPU is normally operating.

SY-103 board



- READY indicator (green)**
Lights when the CPU operates normally.

DRC-1 board



- 1 RF MONITOR connectors (CH1-CH8)**
Output the RF signals from the respective video heads (not the envelope of the RF signals). Connect an oscilloscope to the connector corresponding to the desired head. To monitor the envelope of the RF signals, use the WFM OUT connectors on the rear panel of the HDDP-1000.
- 2 RF ALARM indicators (1-8) (red)**
Light when no signal is detected by the corresponding video head during playback. A clogged head may be the cause.

2-4. Tape Threading

The HDD-1000 has an air-threading mechanism which allows easy, semiautomatic tape threading. The tape can also be threaded manually if necessary.

2-4-1. Preparation and Precautions

Preparation

Before threading the tape, clean the tape transport parts and heads as required, and start up the VTR in accordance with "2-2. Start-up and Turn-off Procedures".

If the audio head cover has been pushed down for audio head cleaning, be sure to set the head cover properly.

Precautions

- Never touch the coated surface of the tape.
- Be careful not to crease the tape. If any creased or damaged portion is found on the tape, cut off that portion.
- The take-up and supply reels may have different diameters, but the amount of tape should not exceed the take-up reel capacity.
Particularly, tape should not be rewound onto the 6.5-inch reel on the supply side from the fully-loaded 11.75-inch reel on the take-up side.
- The air-threading system is not 100% accurate. In case the system fails to thread the tape, thread it manually.

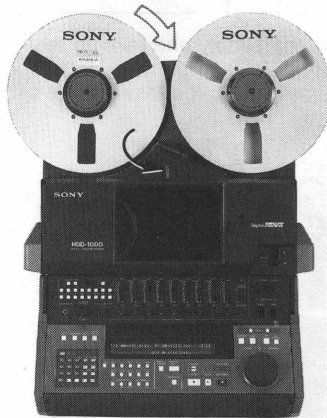
2-4-2. Air-Threading

For air-threading, proceed as follows:

Make sure that the R1-11VA empty reel is mounted on the take-up reel table, and the front cover is closed.

Mount the tape reel on the supply reel table, and tighten the reel knob.

Turn the supply reel clockwise until the tip of the tape comes on the blue table on the drum panel.



While monitoring the leading part of the tape through the front cover window, turn the supply reel counterclockwise until about 40 to 45cm of the tape comes out of the blue outlet of the front cover.

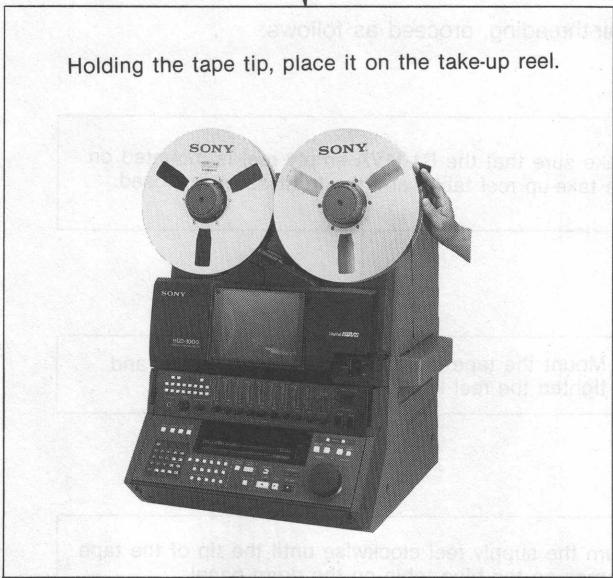
A

- If several turns of the tape are loosened, manually rewind the tape before mounting the tape reel.

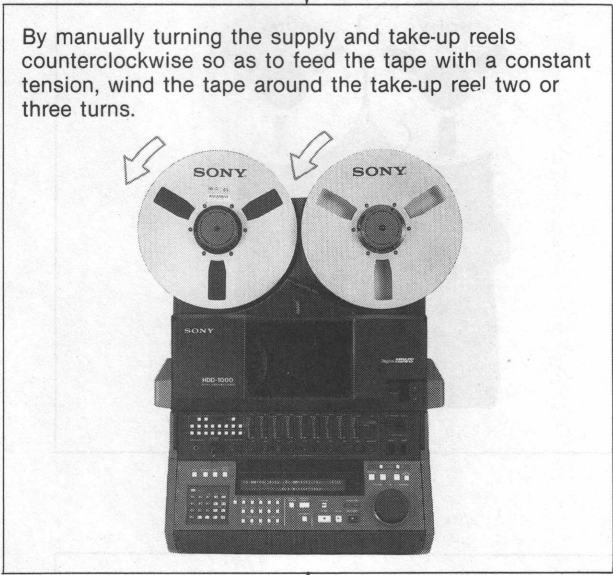
The blower system automatically starts leading the tape into the tape path.

- The blower system automatically threads the tape.
- If the tape cannot be smoothly threaded, manually rewind the tape, and repeat this step.

A



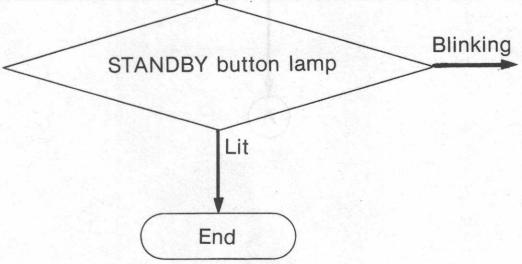
The tape sticks on the reel.



- Be sure to wind the tape around the take-up reel two or three turns. Otherwise the tape may slip off the reel when the movable guides are closed by pressing the STANDBY button, causing the tape to be caught and enfolded by the head drum.

Press the STANDBY button (function control panel).

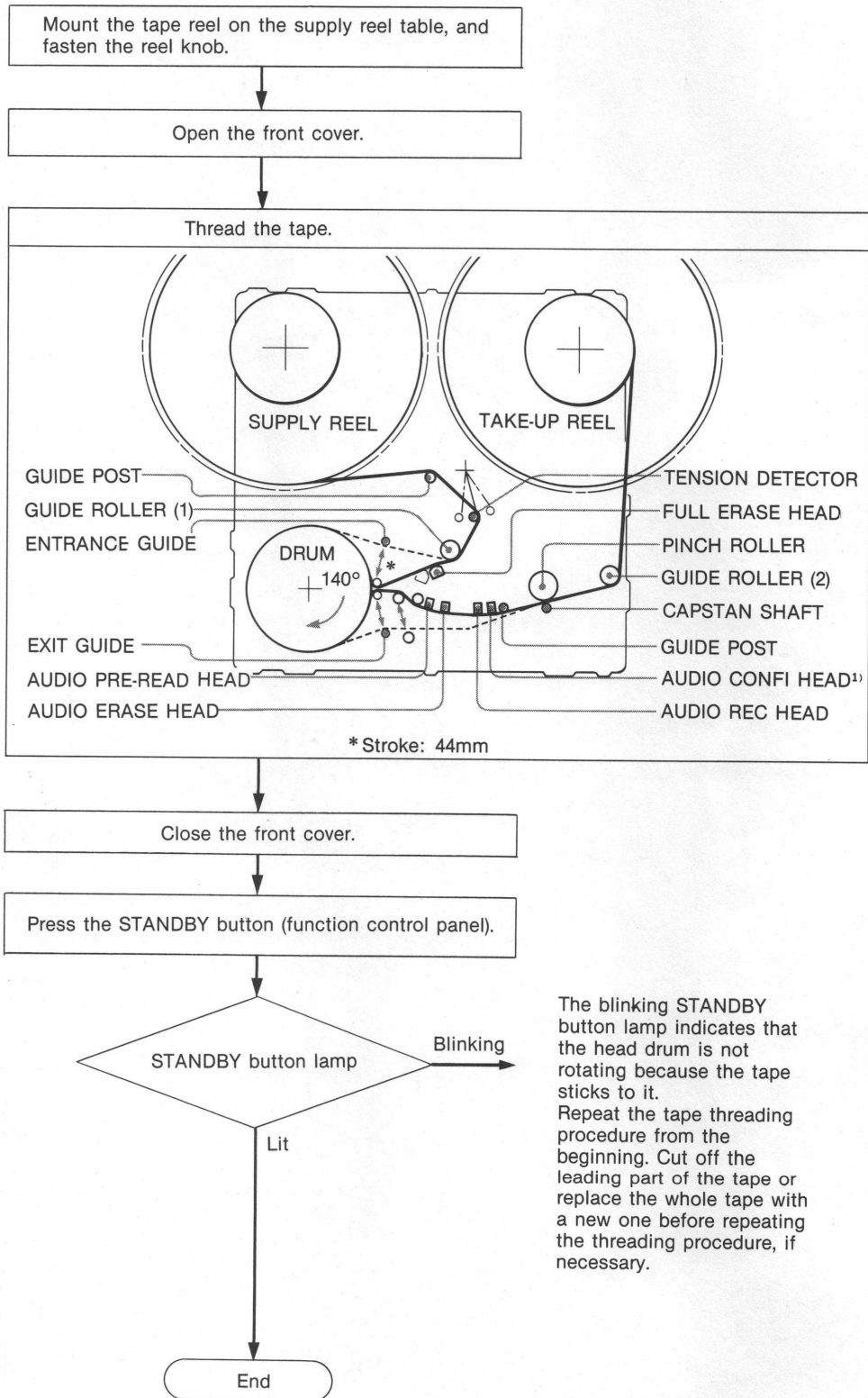
If the STOP button is pressed, the blowers stop without the VTR entering the STANDBY mode.



The blinking STANDBY button lamp indicates that the head drum is not rotating because the tape sticks to it. Repeat the tape threading procedure from the beginning. Cut off the leading part of the tape or replace the whole tape with a new one before repeating the threading procedure, if necessary.

2-4-3. Manual Threading

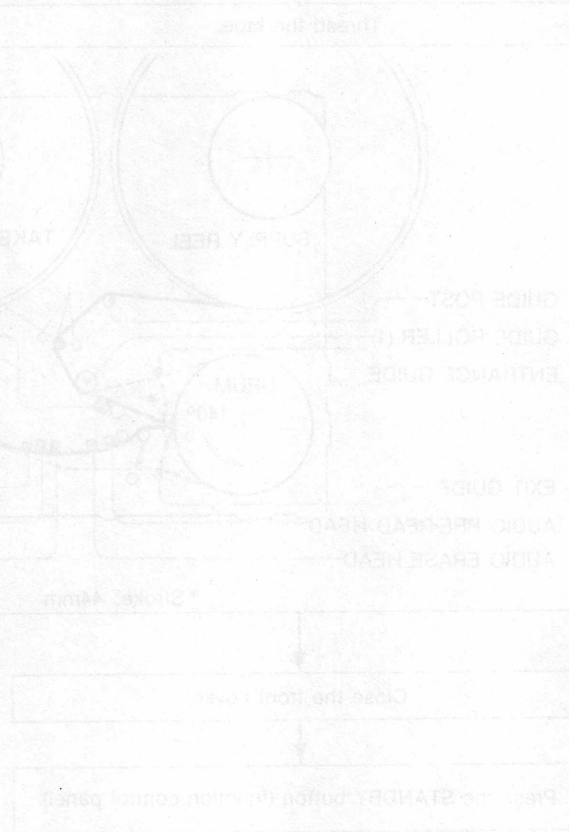
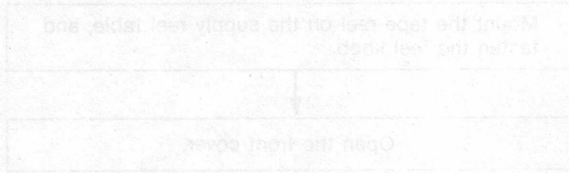
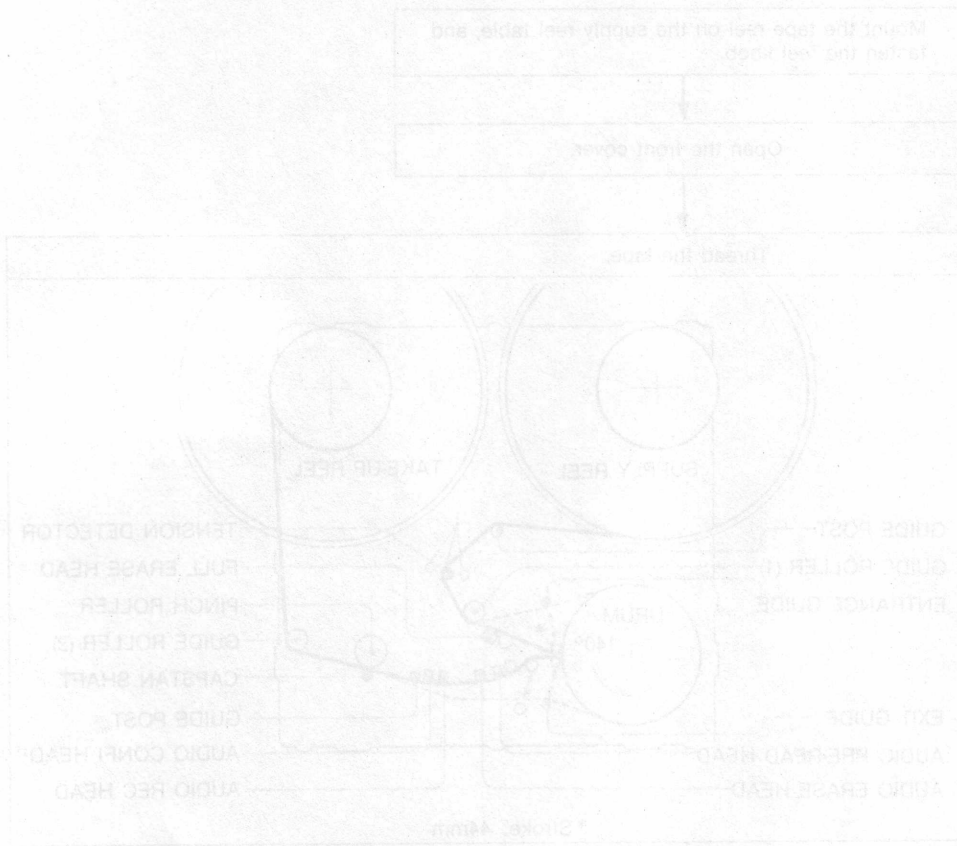
For manual threading, proceed as follows:



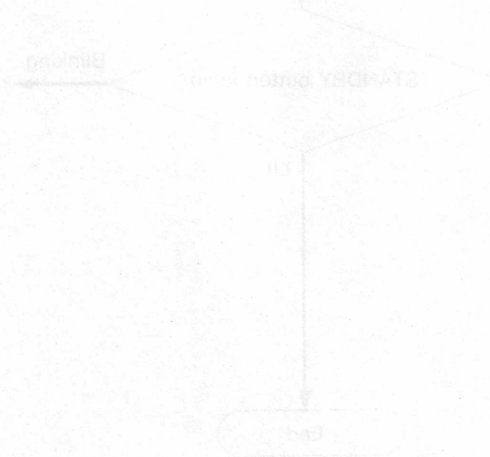
¹⁾Except for CTL

2-4.3 Manual Threading

For manual threading, proceed as follows:



The blinking STANDBY button lamp indicates that the next drum is not rotating because the tape is stuck to it. Repeat the tape threading procedure from the beginning. Cut off the leading part of the tape or replace the whole tape with a new one before repeating the threading procedure, if necessary.



Section 3. OPERATION PROCEDURES

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3-3. Playback.....	3-18
3-4. Editing.....	3-25
3-5. Remote Control.....	3-48
3-6. Alarm.....	3-49

Section 3. OPERATION PROCEDURES

3.1. General Procedures

3.2. Safety

3.3. Quality Control

3.4. Maintenance

3-1. Common Procedures

3-1-1. Adjustment on Level Control Panel

Before recording, playback or editing, adjust the following controls on the level control panel as required (this adjustment is not required when the preset levels are set with the respective controls at their pushed-in positions):

TRACKING control

In the PLAY mode, pull out and turn the TRACKING control so that the CHANNEL CONDITION meter reads a maximum deflection.

AUDIO MASTER PB level control

In the PLAY mode, pull out and turn the AUDIO MASTER PB level control to adjust the DA-1 to DA-8 levels simultaneously.

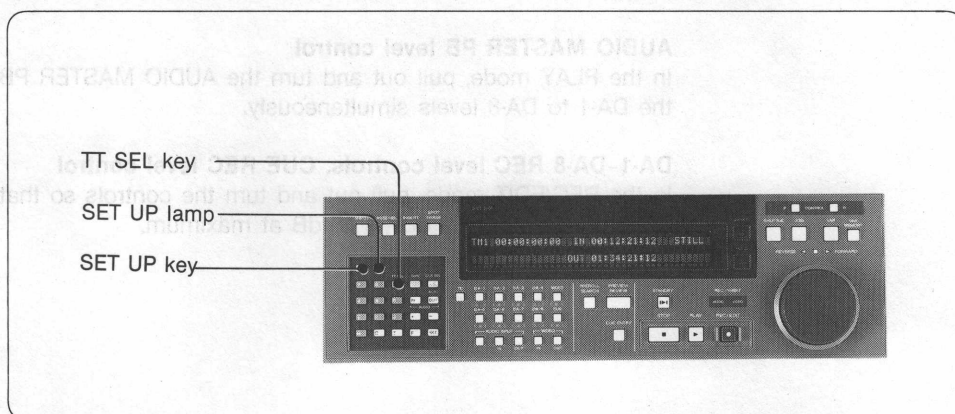
DA-1-DA-8 REC level controls, CUE REC level control

In the REC/EDIT mode, pull out and turn the controls so that the DA-1 to DA-8 or CUE meters read +9 dB ~ +15 dB at maximum.

3-1-2. Display and Setting of Time Code, User Bit and Timer Data

Selection of data displayed in Block 1

Select the time data displayed in Block 1 of the display of the function control panel as follows.



- 1 Press the SET UP key to set the unit to the SET UP mode. The SET UP lamp blinks.
- 2 Press the TT SEL key to select the data. Every time the TT SEL key is pressed, the data changes in the order of: time code (or user bit), timer-1 data and timer-2 data.

The data selected with the TT SEL key changes according to the menu setting as follows.

Time code or user bit data

Menu S54	Menu S51	Data displayed in Block 1		
		EE ¹⁾	TAPE	INPUT
TC	INT	TCR (Time code generated by time code generator)	TCR (Time code read by time code reader)	TCG (Time code generated by time code generator)
	EXT	TCR (Time code from TIME CODE input connector)		
UB	INT	UBR (User bit data generated by time code generator)	UBR (User bit data read by time code reader)	UBG (User bit generated by time code generator)
	EXT	UBR (User bit data from TIME CODE input connector)		

1) When TAPE/EE is selected with the TAPE/IN key, pressing the INPUT button in the STOP mode latches the selection of EE. This latch will continue until the VTR enters another mode. EE is also selected in the REC mode.

Timer-1 or timer-2 data

Menu I54	Data displayed in Block 1
+/- 12H	TM1 or TM2 data in 12-hour display mode
24H	TM1 or TM2 data in 24-hour display mode

Notes on data displayed in Block 1

- **Resetting of timer-1 and timer-2 data**

The timer-1 data can be reset at any time by pressing the RESET button (function control panel), but the timer-2 data cannot be reset once the tape is threaded.

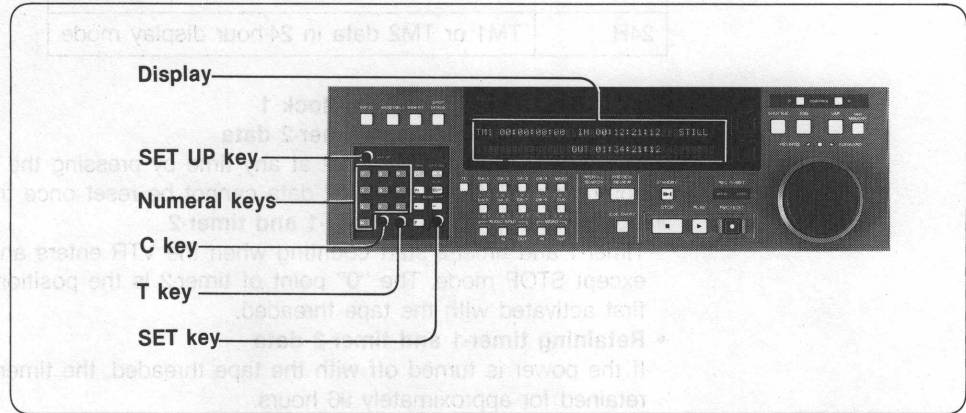
- **Counting operation of timer-1 and timer-2**

Timer-1 and timer-2 start counting when the VTR enters any tape operation mode except STOP mode. The "0" point of timer-2 is the position where the operation is first activated with the tape threaded.

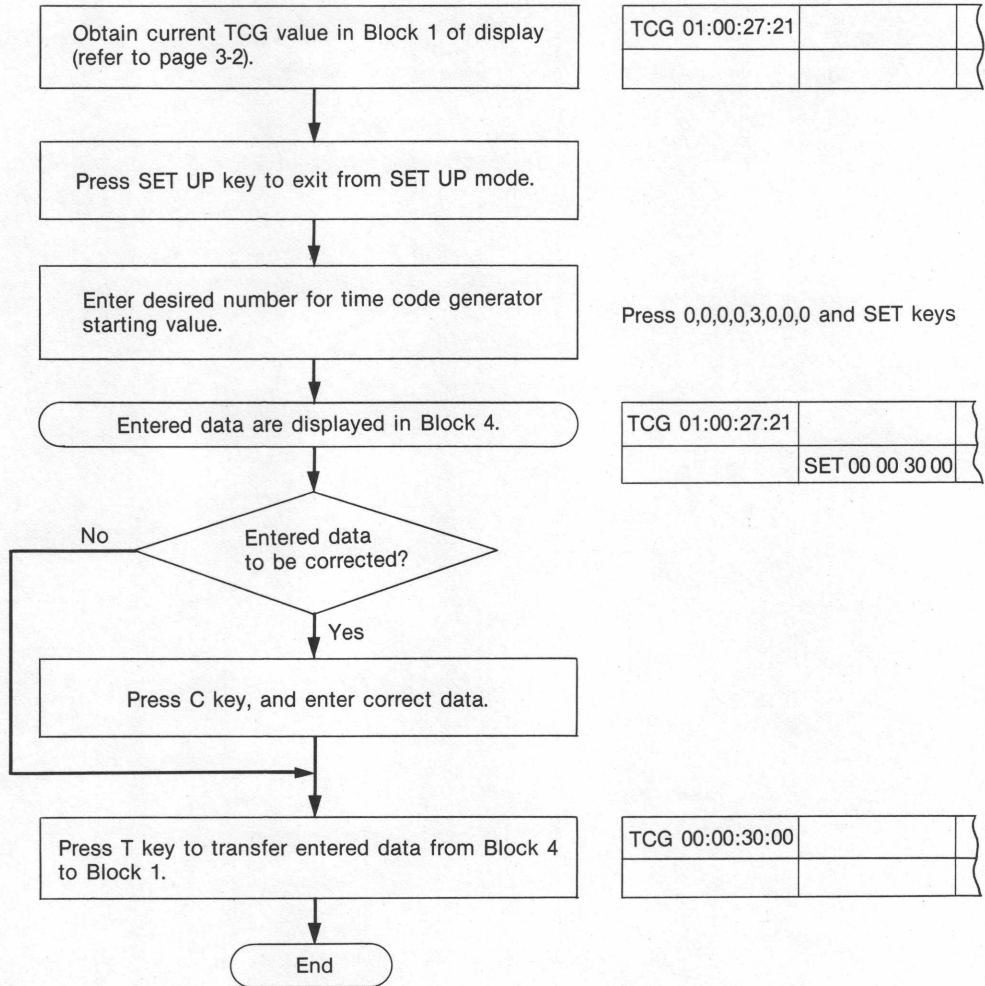
- **Retaining timer-1 and timer-2 data**

If the power is turned off with the tape threaded, the timer-1 and timer-2 data are retained for approximately 96 hours.

Setting the time code generator starting value

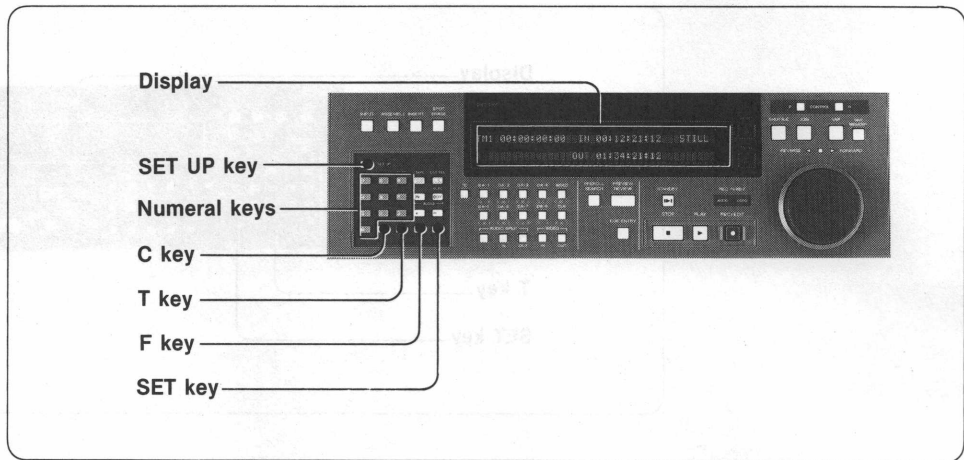


Example



To stop the time code generator while setting the data
 Select REC in Menu S52 TC GEN RUN MODE. With this setting, the time code generator stops and will start again when the VTR enters the REC mode. This makes time code setting easier.

Setting the user bit data



Obtain current UBG data in Block 1 of display (refer to page 3-2).

Example

Press SET UP key to exit from SET UP mode.

UBG 01 00 30 15	

Enter desired number for user bit data.

Press 0, F + 0 (simultaneously), 0,0,2,0,1,0 and SET keys.

Entered data are displayed in Block 4.

UBG 01 00 30 15	
	SET 0A 00 20 10

Entered data to be corrected?

Press C key, and enter correct data.

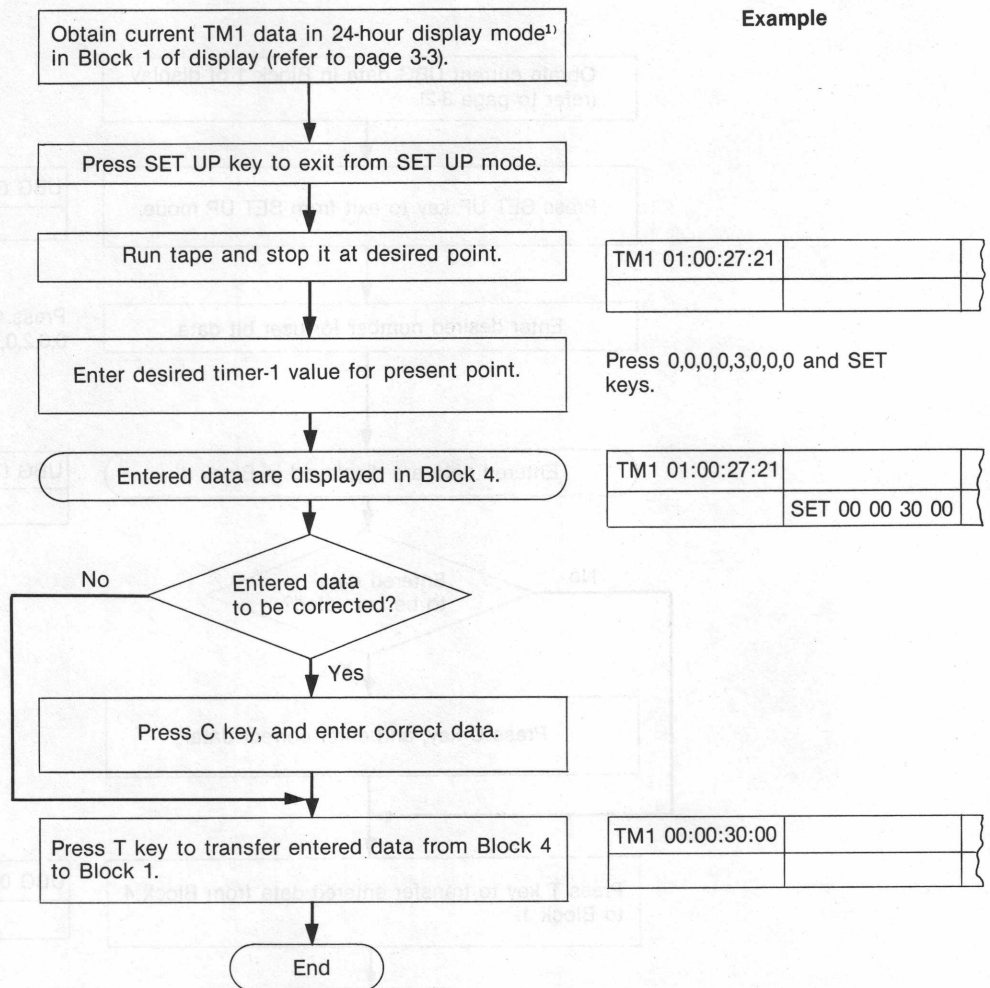
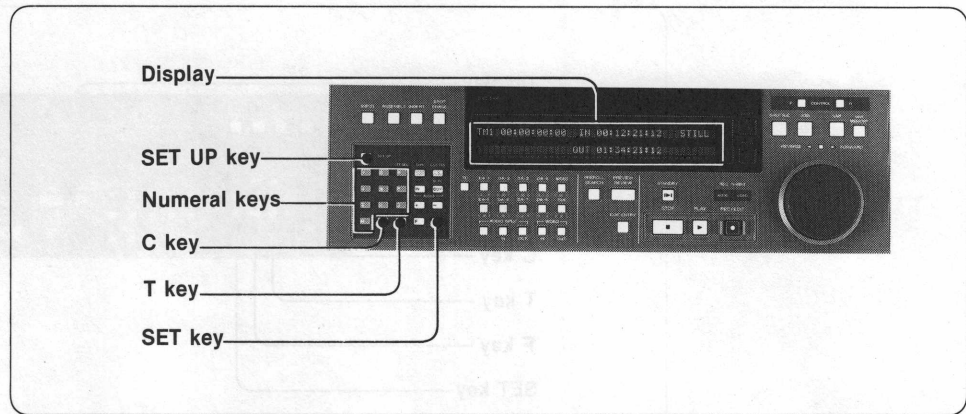
Press T key to transfer entered data from Block 4 to Block 1.

UBG 0A 00 20 10	

End

To input a hexadecimal number A to F
Press the F key and a numeral key (0 to 5) together.

Setting the timer-1 starting value

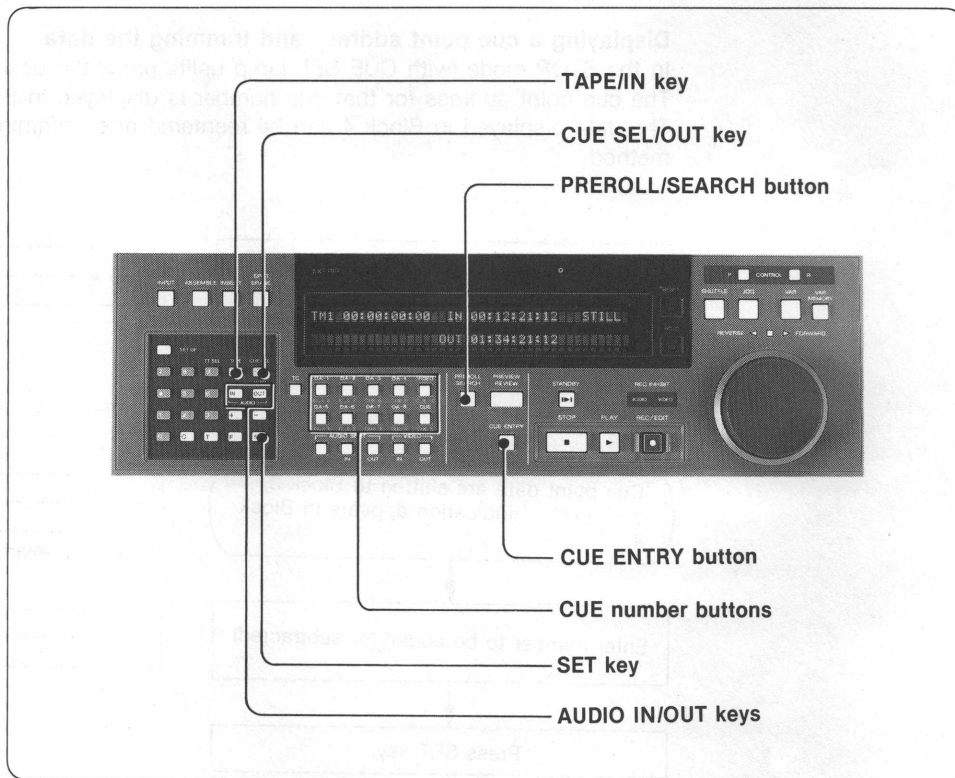


Notes

- The data cannot be preset if the timer is in the 12-hour display mode.
- If message "DATA ERR" blinks in Block 6, invalid time data are entered.

3-1-3. Multi-Cue Operation

The HDD-1000 allows up to ten cue points to be set and to be easily found later. Prior to cue operation (except for clearing of cue point and end-of-source data), be sure to press the CUE SEL/OUT key in the 21-key section to light the CUE SEL lamp. When the CUE SEL lamp lights up, the CUE ENTRY lamp also lights up when the VTR is in the mode that allows cue point to be entered.



Sequential entry of cue points

During recording or playback, press the CUE ENTRY button at desired points. Every time the CUE ENTRY button is pressed, the tape address at that time is entered as a cue point, the corresponding CUE number button lamp lights up, and the next CUE number button lamp blinks. Thus, cue points can be entered sequentially, starting with CUE1. If the CUE ENTRY button is pressed after the entry of CUE10, the CUE1 data are rewritten, and so forth.

End-of-source point

The end-of-source point is the OUT point of the last executed recording, and the time data on that point are the end-of-source data.

Back space editing

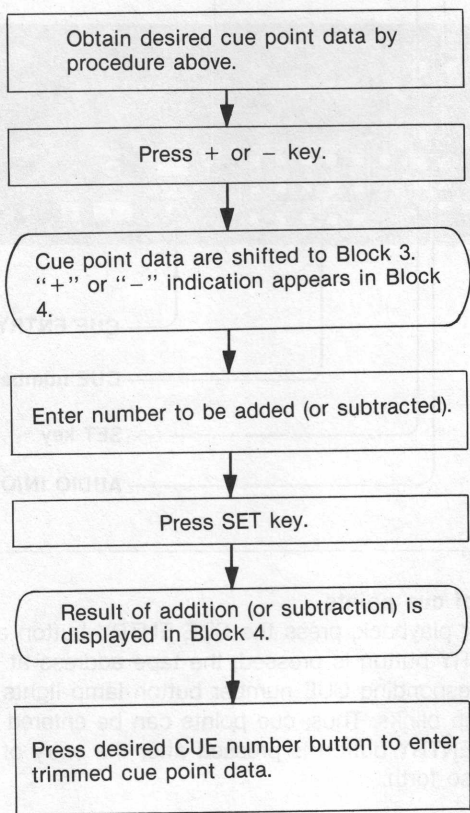
In the multi-cue mode (with the CUE SEL lamp lit), back space editing is possible. In the back space editing, editing will start with the end-of-source point by pressing the REC/EDIT key. For details, refer to page 3-9.

Direct entry of a cue point with a desired CUE number button

In the modes other than STOP or PREROLL/SEARCH mode, press a desired one of the CUE1 to CUE10 buttons. The current tape address is entered as the cue point corresponding to the pressed CUE number button. If a tape address is newly entered for that cue point, the previous address is replaced with the newly entered one. In the STOP mode, the data displayed in Block 4 on the display can be entered for one of CUE1 to CUE10 by pressing the SET key in the 21-key section and pressing the desired CUE number button.

Displaying a cue point address and trimming the data

In the STOP mode (with CUE SEL lamp unlit), press the desired CUE number button. The cue point address for that cue number is displayed in Block 4 on the display. The data displayed in Block 4 can be reentered after trimming by the following method:



Example

	C7 01:20:13:00	
--	----------------	--

	C7 01:20:13:00	
		+

This is an example of trimming by addition.

	C7 01:20:13:00	
		+ 40 00

	C7 01:20:13:00	
	SET 01 20 53 00	

	C7 01:20:13:00	
	C7 01:20:53:00	

Entering a cue point address as an IN/OUT point

When a cue point address is displayed in Block 4 by the foregoing operation, that address can be stored as an IN/OUT point of editing. To store the displayed address as an editing point, first press the SET key in the 21-key section, and then press the desired one of the IN, OUT, AUDIO IN and AUDIO OUT keys in the 21-key section. To call out the stored data, refer to page 3-31.

Cue point search

To search for the last entered cue point, press the PREROLL/SEARCH button.

To search for a particular cue point, press the corresponding CUE number button when the PREROLL/SEARCH button lamp is lit.

The preroll time for cue point search can be selected in the range of 0 to 30 seconds with Menu I14 SEARCH PREROLL TIME independently of the preroll time for editing.

Clearing the cue point and end-of-source data

To clear all the cue point data and end-of-source data, press the STOP and CUE ENTRY buttons together. For this operation, the CUE SEL lamp need not be lit.

Backspace editing

Backspace editing is an ASSEMBLE editing which starts with the OUT point of the last executed recording (the end-of-source point).

Before executing backspace editing for the first time, operate as follows:

- 1** Make a one-minute recording in the REC mode.
The end point of this first recording will be the first end-of-source point.
- 2** Set the VTR in the multi cue mode by pressing the CUE SEL/OUT key. The CUE SEL lamp lights.
- 3** Press the REC/EDIT button.
The VTR will automatically preroll the tape to a position which is a few seconds before the first end-of-source point and the backspace editing will begin from there.

Note

If the end-of-source data are not stored, error message "NO EOS" is displayed in Block 6 on the display for about five seconds, and backspace editing is not executed.

3-1-4. Character Superimposition

Character-mixed video signals can be output from the MONITOR OUT connector. This function allows the data in block 1 on the display (time code, user bit data, timer-1 data or timer-2 data), field number, error message and the additional information selected by Menu I65 CHARA DISP (EXTEND) to be superimposed on the picture. Menu information can also be superimposed on the picture as selected in Menu I66 MENU DISPLAY.

Menus for character superimposition (refer to 1-4-3 and 1-4-4)

(1) S59 MIXED CHARA OUTPUT

Selects whether the character signals are to be mixed with the output video signal from the MONITOR OUT connector.

**(2) I61 CHARACTER SIZE ADJ
I62 CHARA V.POSITION ADJ
I63 CHARA H.POSITION ADJ
I64 CHARA DISPLAY MODE**

These menus select the size, vertical and horizontal positions, and display mode (including selection of error message display) of the superimposed characters. Menus I61-I63 are not effective for menu superimposition.

(3) I65 CHARA DISP (EXTEND)

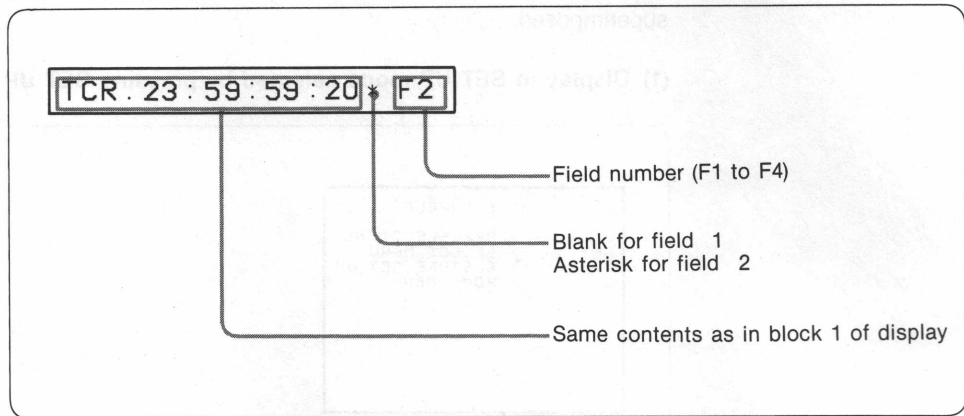
Selects whether additional characters are superimposed on the second line, and selects the type of additional information when it is displayed.

(4) I66 MENU DISPLAY

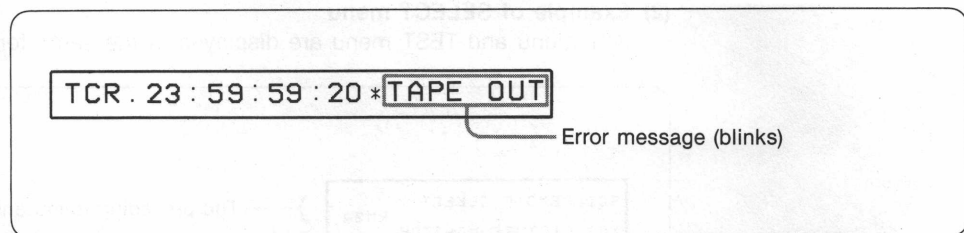
Selects whether the menu information is superimposed on the output video signals (when ENABLE is selected in Menu S59. MIXED CHARA OUTPUT). If ENABLE is selected in this menu, the menu is superimposed on the video signals in the SET UP mode by pressing the SET UP key.

Examples of the display

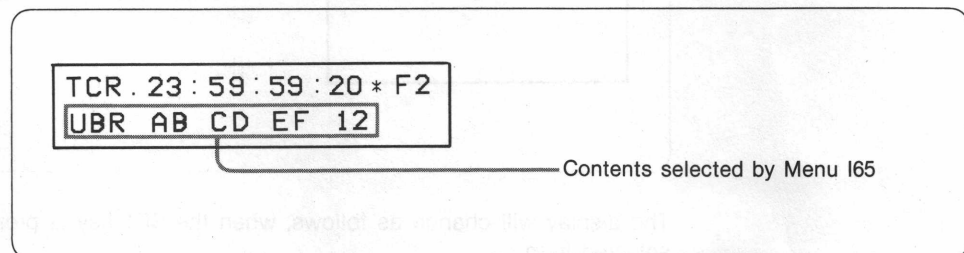
(1) One-line display without error message



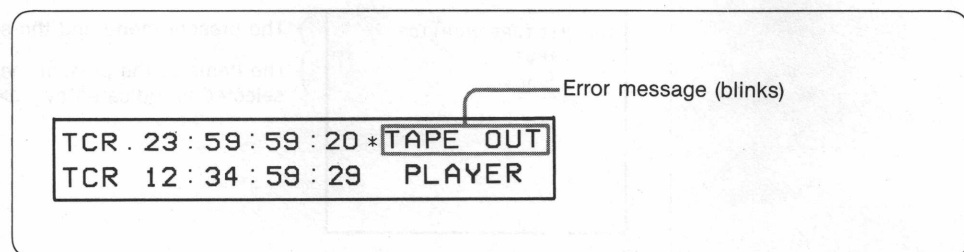
(2) One-line display with error message (when error occurs.)



(3) Two-line display without error message



(4) Two-line display with error message (when error occurs.)



Examples of menu information display

The menu selected by the menu select operation is displayed.
Superimposition of the one-line and two-line display is not performed when menus are superimposed.

(1) Display in SET UP mode selected by pressing SET UP key

```
SELECT MODE ENABLE
0 - 8 ----> PRESELECT MENU
SET  ----> SELECT MENU
T    ----> RESTORE SET UP
C    ----> HOME MENU
```

(2) Example of SELECT menu

INIT menu and TEST menu are displayed in the same format.

```
S01.REMOTE SELECT RM2A
>02.PICTURE MONITOR PROC
S03.WFM SELECT SELECT
S04.FREEZE MODE DISABLE
```

The preceding menu and the selected item
The present menu (indicated by the blinking ">") and the selected item
The succeeding menu and the selected item

The display will change as follows, when the SET key is pressed to change the selected item.

```
S02.PICTURE MONITOR
INPUT
<PROC>
```

The present menu and the selected item
The items of the present menu (The item currently selected is indicated by "<>".)

(3) Example of selecting PRESELECT menu

```
P0. REMOTE SELECT RM2A
P0=REM      P5=TCR
P1=TC SRC   P6=EOT
P2=TC REG   P7=WFM
P3=TC/UB    P8=MON
P4=TCG
```

} The present menu and item

} The present assignment of PRESELECT menu

Example with F key pressed to change assignment

```
P0. REMOTE SELECT RM2A
>>P0=S01
P0=REM      P5=TCR
P1=TC SRC   P6=EOT
P2=TC REG   P7=WFM
P3=TC/UB    P8=MON
P4=TCG
```

} Press key of S menu No. to be assigned

(4) Example of selecting HOME menu

```
SET UP MODE SELECT
TEST
< SELECT >
INIT
```

3-1-5. Freeze Picture

A freeze picture is available in the following cases:

- When the STOP button is pressed.
- When the STILL mode is automatically released with the still off timer, and the VTR enters the STOP mode.
- When the tape stops after the STOP button is pressed in the SHUTTLE mode.

To select a picture to be frozen

Select a picture of a frame, field 1 or field 2 with Menu S04 FREEZE MODE.

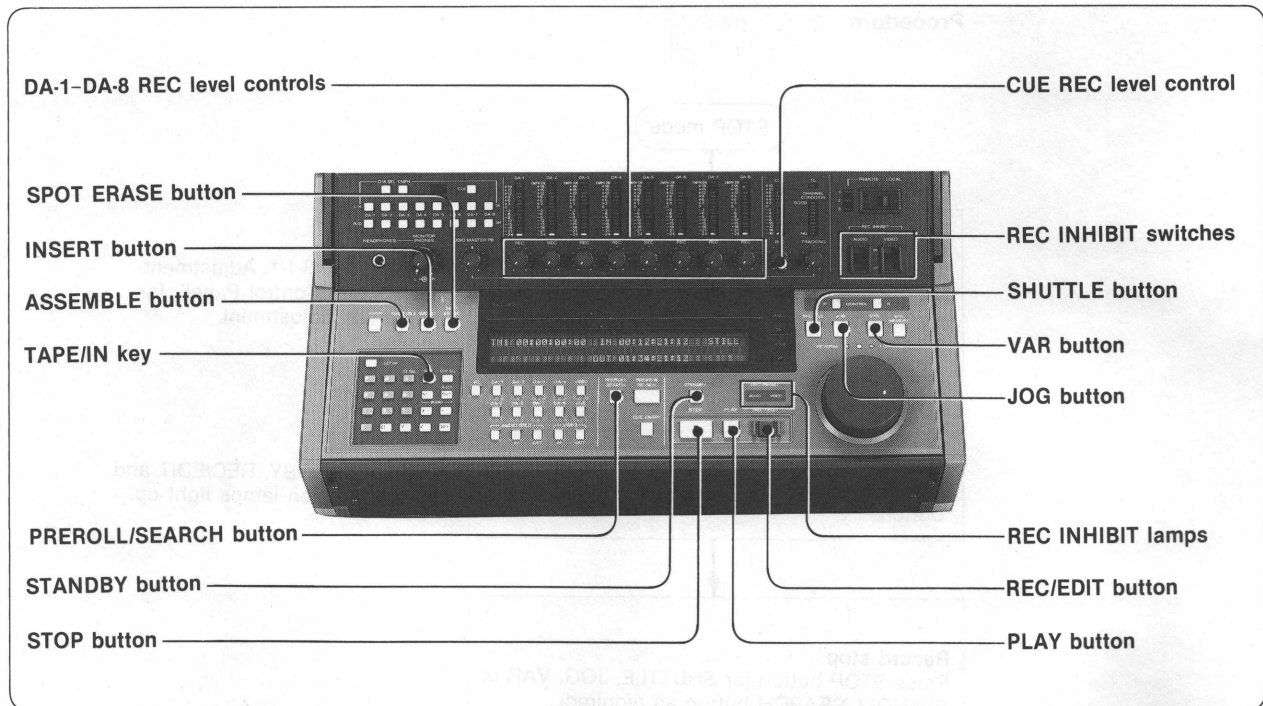
Note

A freeze picture is not available if DISABLE is selected in Menu S04 FREEZE MODE.

Still off timer

The still off timer is set with Menu I12 STILL OFF TIMER.
The timer is factory set to 3 minutes.

3-2. Recording



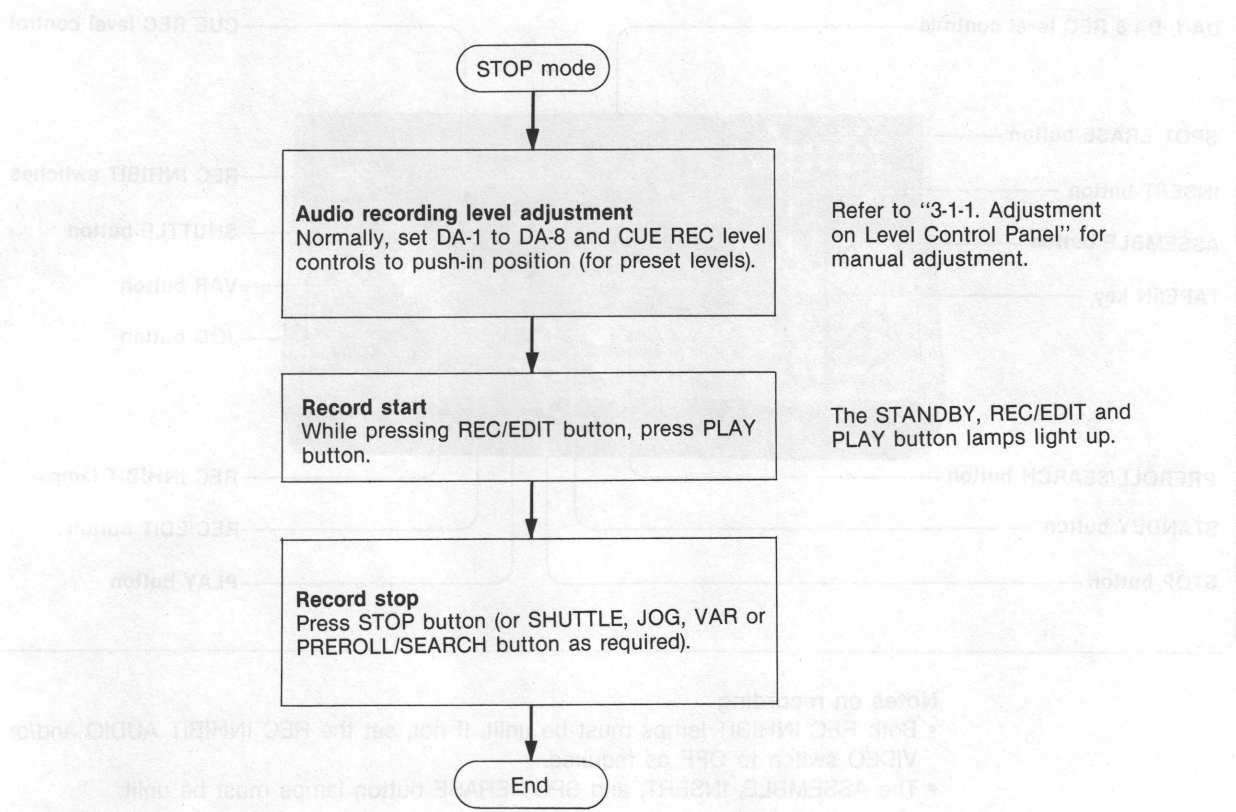
Notes on recording

- Both REC INHIBIT lamps must be unlit. If not, set the REC INHIBIT AUDIO and/or VIDEO switch to OFF as required.
- The ASSEMBLE, INSERT, and SPOT ERASE button lamps must be unlit.

Monitor signal selection

- The picture to be monitored can be selected with the TAPE/IN key in the 21-key section.
- The sound to be monitored can be selected with the AUDIO MONITOR select buttons and the TAPE/IN key.

Procedure

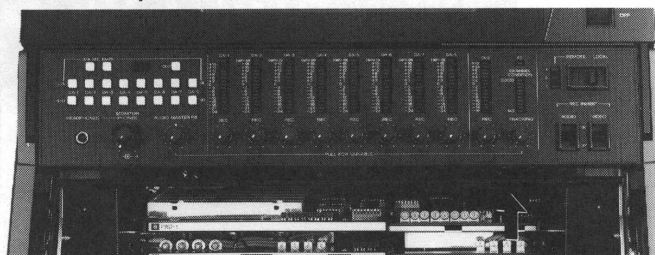


Presetting the recording level of the cue channel

The recording level of the cue channel is set to the preset value when the CUE REC level control on the level control panel is at the pushed-in position. To adjust the preset value, proceed as follows:

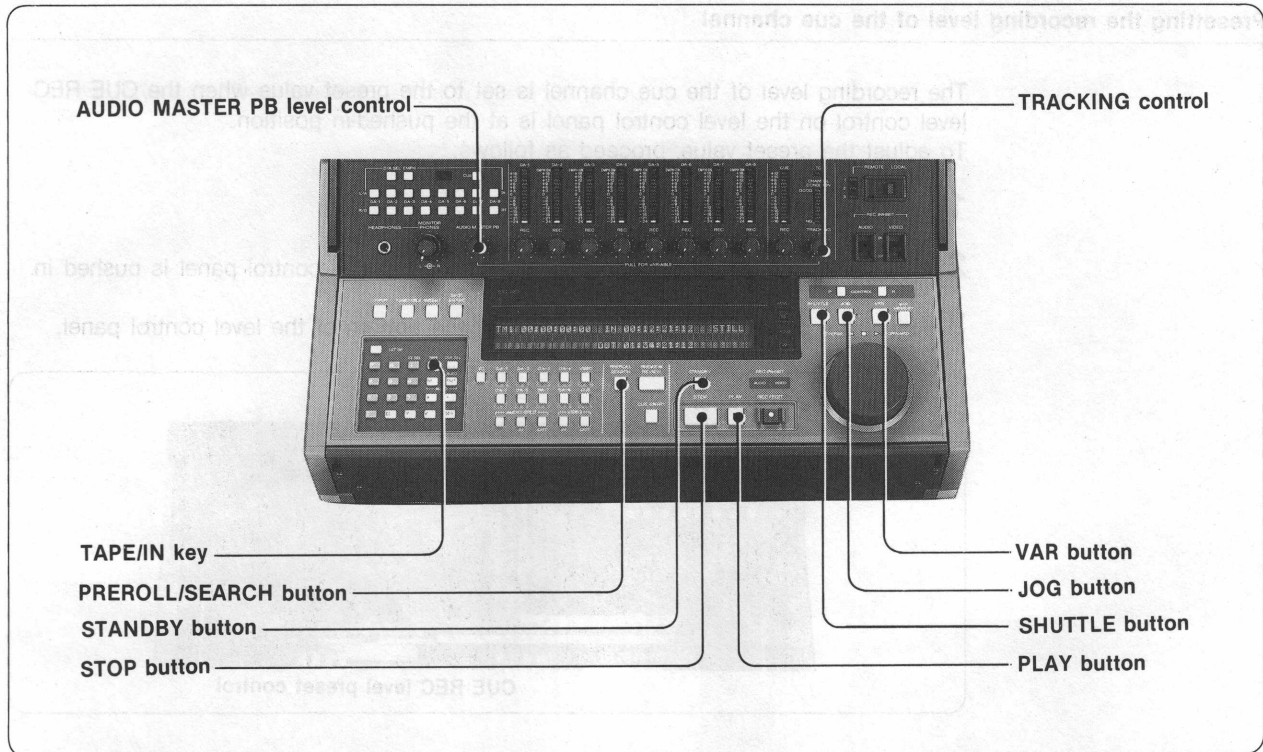
- 1 Withdraw the function control panel.
- 2 Make sure that the CUE REC level control on the level control panel is pushed in.
- 3 Adjust the preset level with the control at the bottom of the level control panel.

Bottom of level control panel

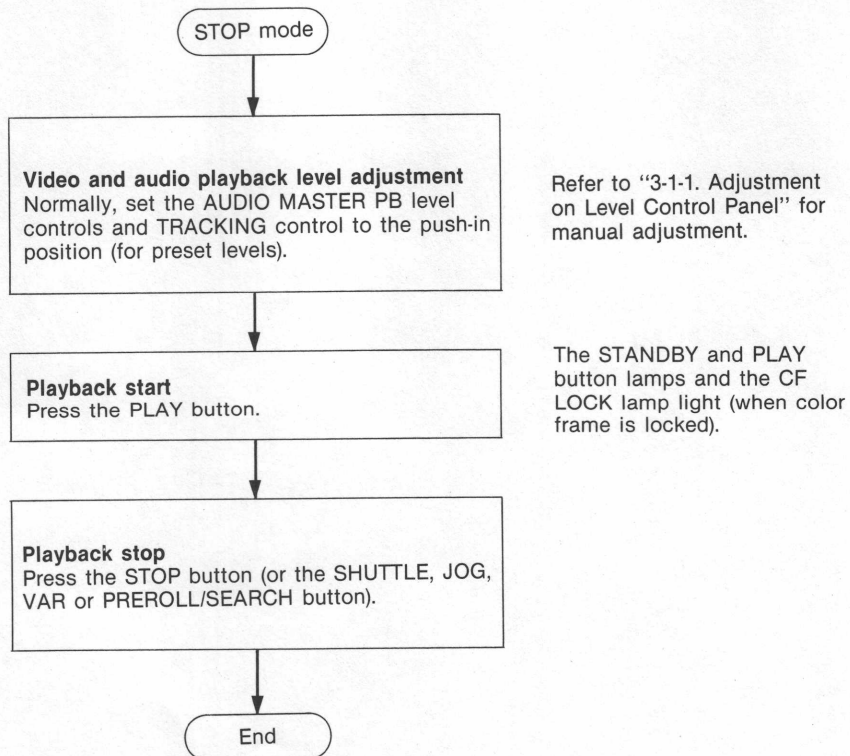


CUE REC level preset control

3-3. Playback

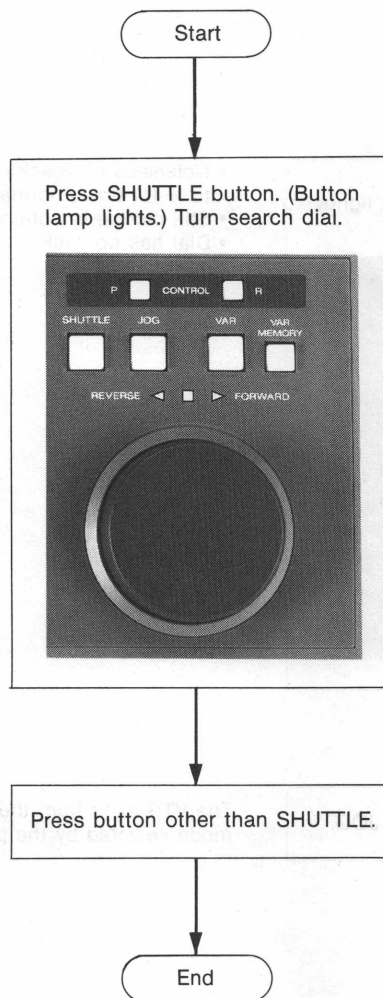


3-3-1. Normal Speed Playback



3-3-2. SHUTTLE Mode

In the SHUTTLE mode, the playback speed can be adjusted from $\pm 1/32$ to ± 15 times normal speed depending on the position of the search dial.



- Noiseless playback can be performed in the range of $-1/4$ to $+1/4$ times normal speed.
- Still picture is obtained when the dial is set to the central position.
- Dial has a click at the central position (STILL) and ± 15 times normal speed positions.
- In fast winding, the tape speed is automatically reduced near the end or top of the tape, and then the tape automatically stops (near the "0" position of timer-2 in reverse winding). If the tape is completely wound, press the SHUTTLE button and turn the search dial again in the same direction, or select DISABLE in Menu S09 EOT STOP.

The VTR exits from the SHUTTLE mode, and enters the mode selected by the pressed button.

Note

If the tape speed is over ± 8 times normal speed, the picture on the monitor which is connected to the MONITOR OUT connectors of the HDDP-1000 disappears and the monitor screen becomes gray.

Automatic release of the STILL mode

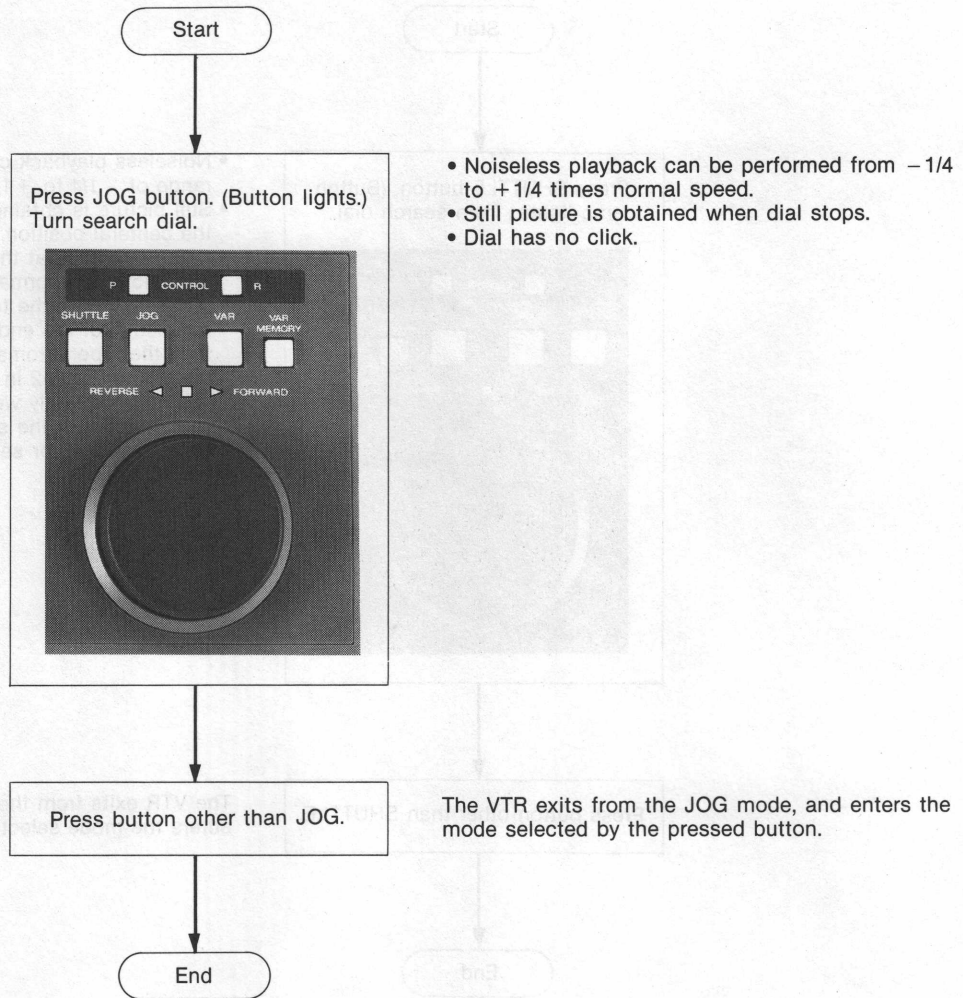
If the VTR remains in the STILL mode for the time set by Menu I12 STILL OFF TIMER, it automatically exits from the STILL mode and enters the STOP mode. To disable this, select DISABLE in Menu I12.

Shuttle mode immediately after power-on

In the SHUTTLE mode immediately after power-on, the playback speed is slow because the capstan and the capstan pinch roller set in contact. After a few seconds, they separate from each other and the playback speed increases.

3-3-3. JOG Mode

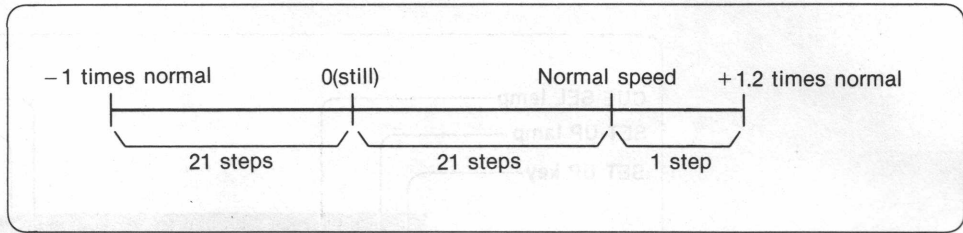
In the JOG mode, the playback speed can be adjusted from 0 to ± 3 times normal speed depending on the speed at which the dial is turned.



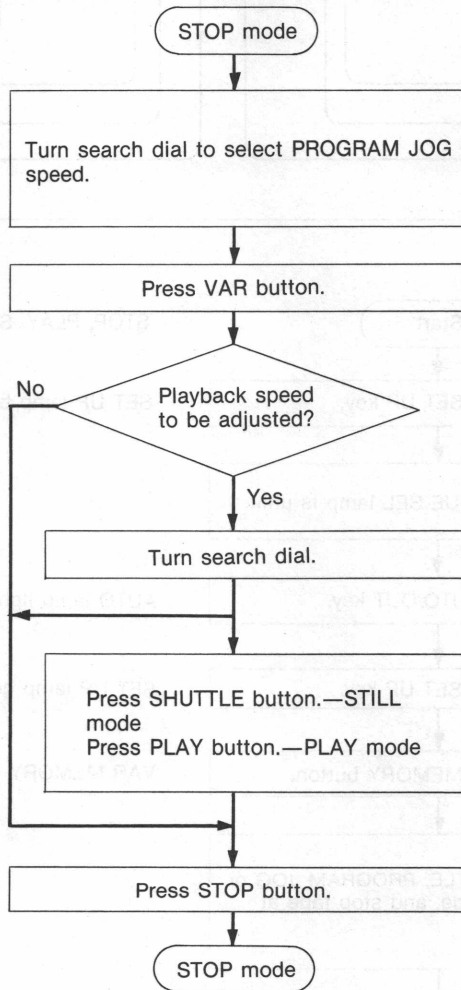
Automatic release of the STILL mode
If the VTR remains in the STILL mode for the time set by Menu 112 STILL OFF TIMER, it automatically exits from the STILL mode and enters the STOP mode. To disable this, select DISABLE in Menu 112.

3-3-4. PROGRAM JOG Mode

In the PROGRAM JOG mode, playback can be carried out at a preset PROGRAM JOG speed. The preset speed range is -1 to $+1.2$ times normal speed, and the speed can be adjusted in the following 43 steps:



This mode is also useful for a vernier function of the SHUTTLE mode.



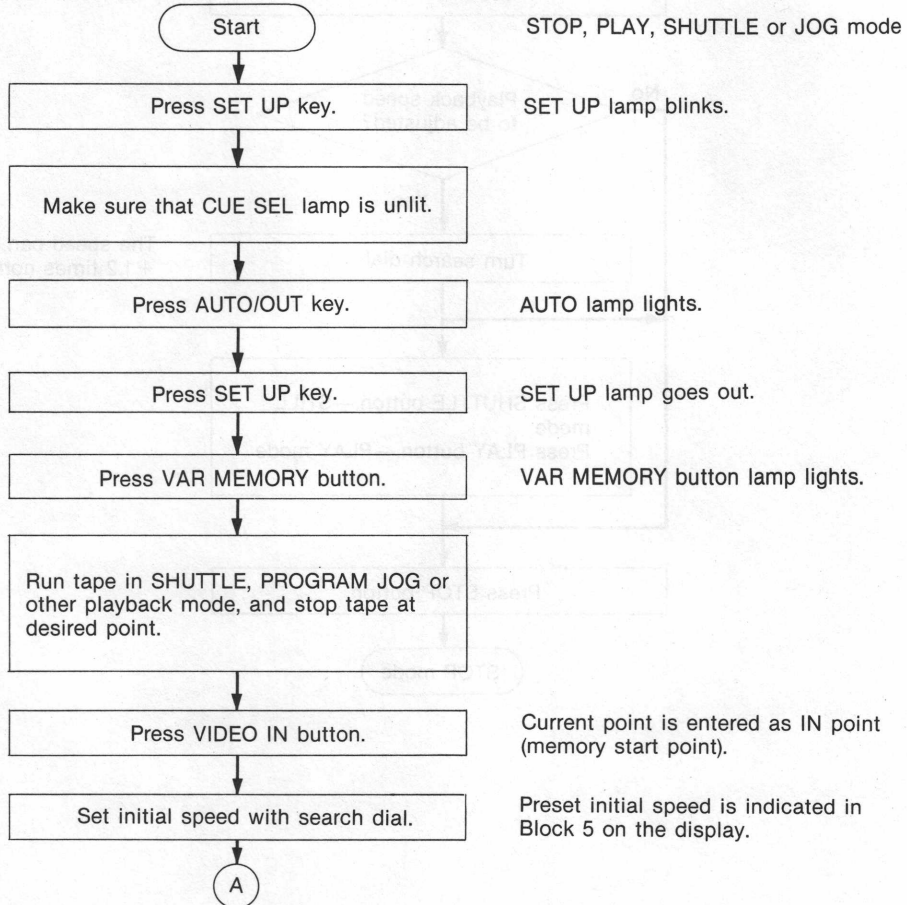
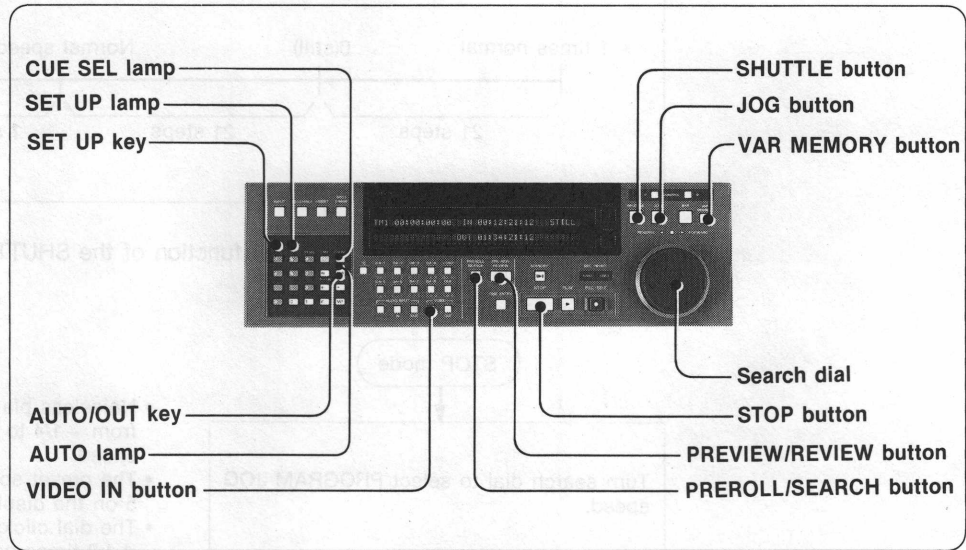
- Noiseless playback can be performed from $-1/4$ to $+1/4$ times normal speed.
- The preset speed is indicated in Block 5 on the display.
- The dial clicks at the -1 , 0 , $+1$ and $+1.2$ times normal speed positions.

Playback starts at the preset speed.

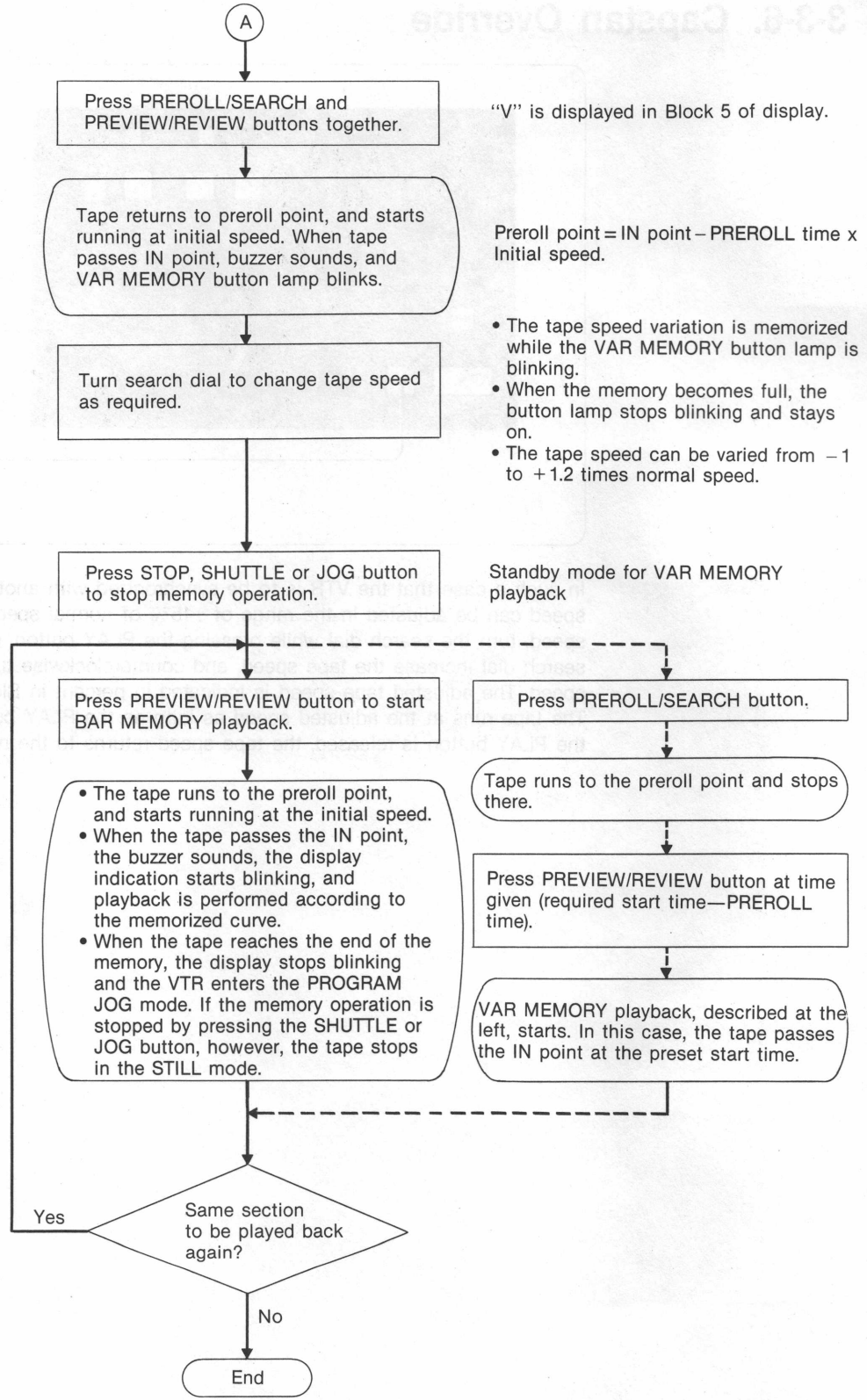
The speed can be varied from -1 to $+1.2$ times normal speed.

3-3-5. VAR MEMORY Mode

In the VAR MEMORY mode, the search dial operation (change of tape speed and direction) can be memorized for later playback in accordance with the memorized curve. The relationship between the search dial position and tape speed is the same as that in the PROGRAM JOG mode.



3-3. Playback



"V" is displayed in Block 5 of display.

Preroll point = IN point - PREROLL time x Initial speed.

- The tape speed variation is memorized while the VAR MEMORY button lamp is blinking.
- When the memory becomes full, the button lamp stops blinking and stays on.
- The tape speed can be varied from -1 to +1.2 times normal speed.

Standby mode for VAR MEMORY playback

3-3-6. Capstan Override



In such a case that the VTR is to be synchronized with another VTR, the playback speed can be adjusted in the range of $\pm 15\%$ of normal speed. To adjust the playback speed, turn the search dial while pressing the PLAY button. Clockwise turns of the search dial increase the tape speed, and counterclockwise turns decrease the tape speed. The adjusted tape speed is indicated in percent in Block 5 on the display. The tape runs at the adjusted speed as long as the PLAY button is pressed. When the PLAY button is released, the tape speed returns to the normal playback speed.

3-4. Editing

Notes on editing

The channels which can be selected for each edit mode are shown in the following table. The table also indicates whether the channels can be selected independently and whether audio split editing is possible in that mode.

○ Available × Not available

	ASSEMBLE mode	INSERT mode	STOP ERASE mode
VIDEO	○	○	×
TC	○	○	×
CUE	○	○	×
DA-1-DA-8	○	○	○ (in automatic editing only)
Independent selection	×	○	○
Audio split editing	×	○	—

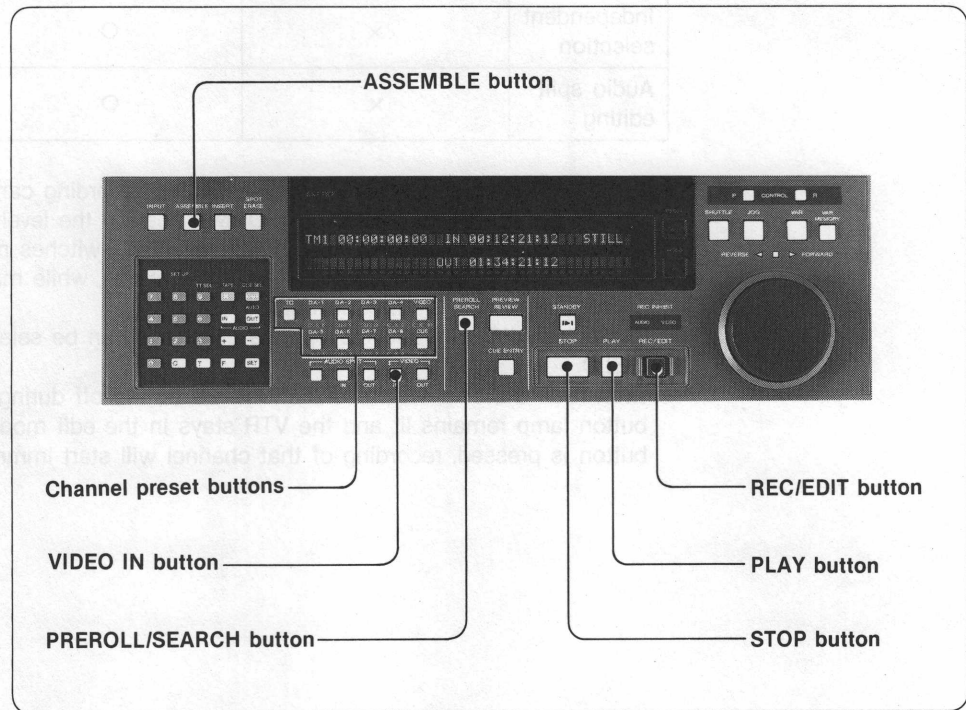
- In INSERT editing, audio recording and video recording can be selectively enabled with the REC INHIBIT AUDIO/VIDEO switches (on the level control panel). In ASSEMBLE editing, however, both REC INHIBIT switches must be OFF.
- Automatic editing is performed in units of frames, while manual editing of only the audio signals is performed in units of fields.
- The fields of the IN and OUT points of editing can be selected with Menu S05 EDIT FIELD.
- Even if all the channel preset buttons are turned off during editing, the REC/EDIT button lamp remains lit and the VTR stays in the edit mode. When a channel preset button is pressed, recording of that channel will start immediately.

3-4-1. Manual Editing

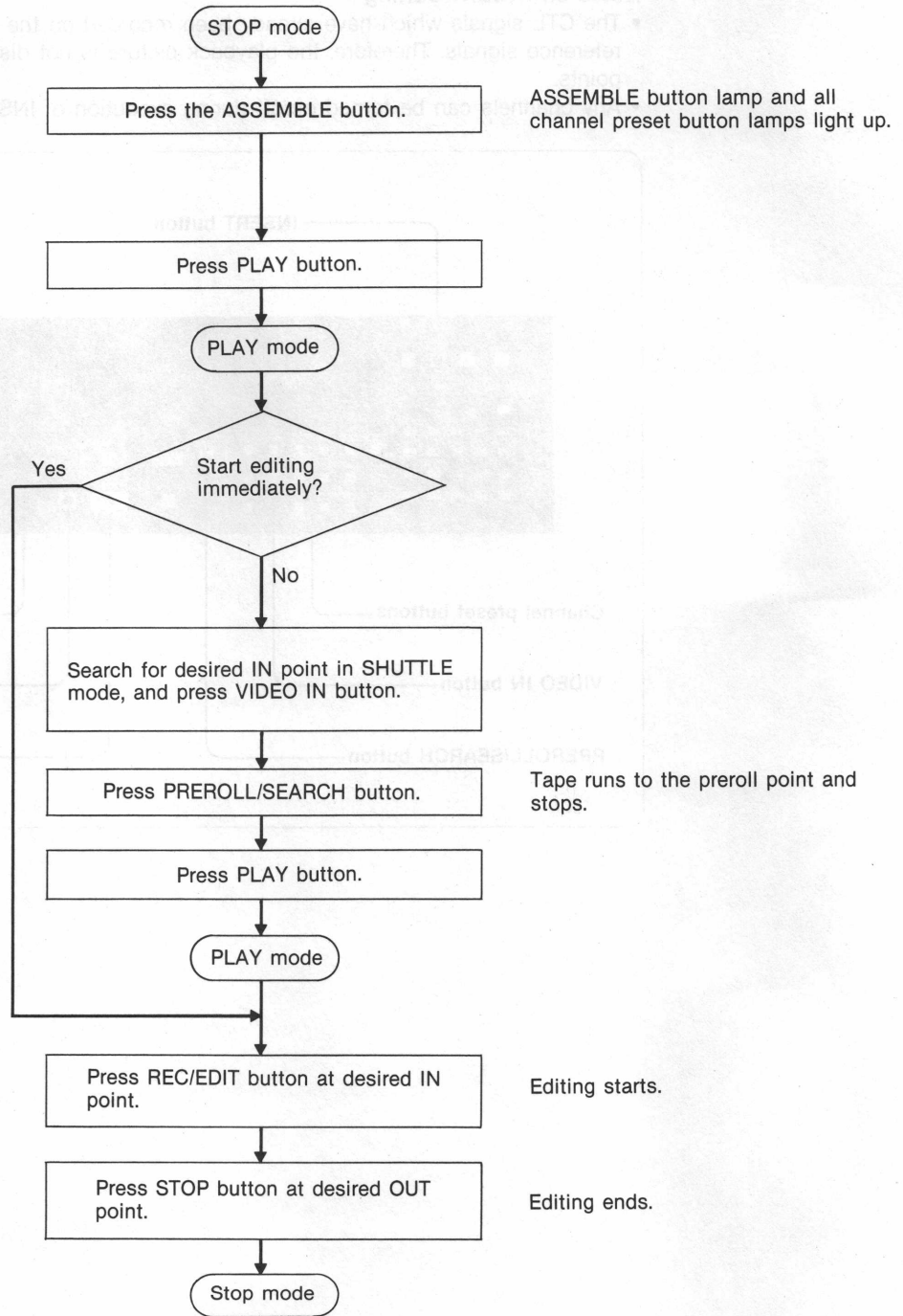
ASSEMBLE editing

Notes on ASSEMBLE editing

- The audio, video, CTL and time code signals are simultaneously recorded on the tape.
- The REC INHIBIT AUDIO/VIDEO switches must be OFF.
- The channel preset buttons do not function (always lit in ASSEMBLE mode).
- Normal recording of the video, audio and CTL signals at the position just beyond the OUT point of the last ASSEMBLE editing is not possible. Consequently, the normal playback of video and audio signals is impossible because the servo lock cannot be accomplished in this portion of the tape.

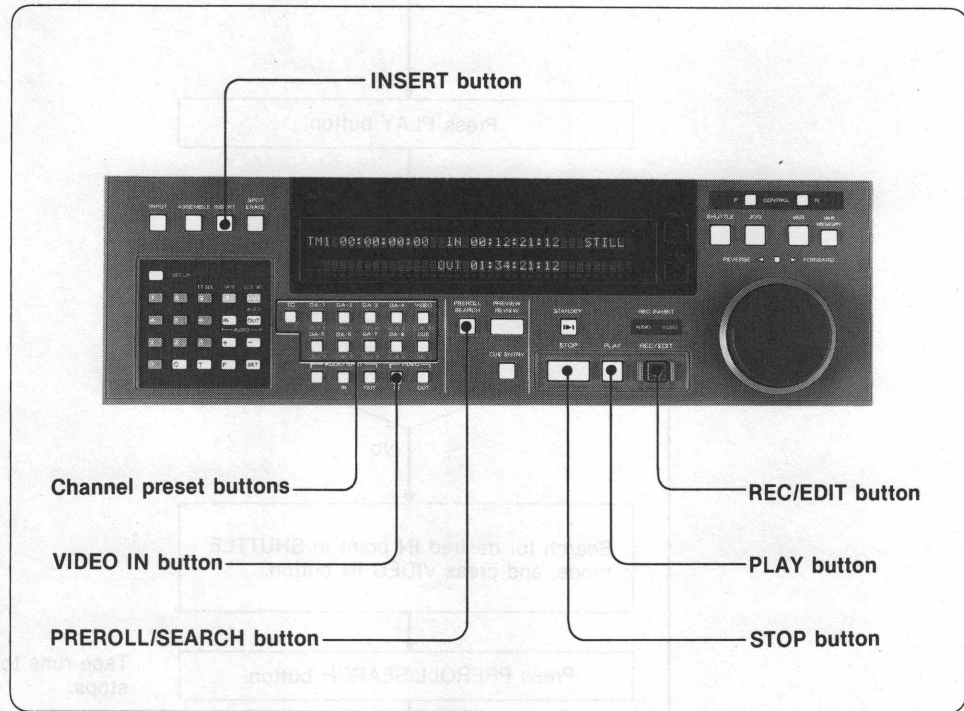


Procedure



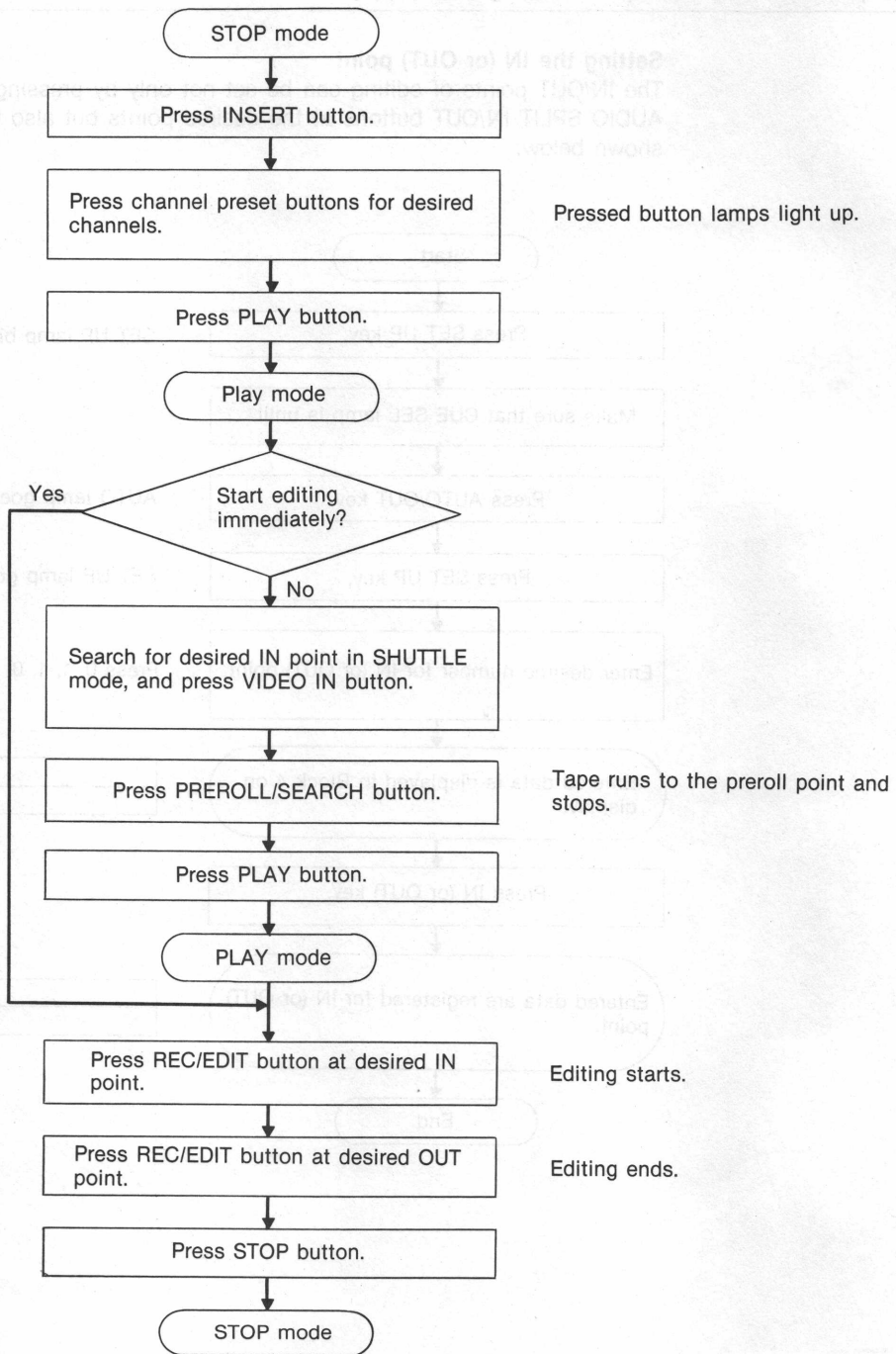
Notes on INSERT editing

- The CTL signals which have already been recorded on the tape are used as the reference signals. Therefore, the playback picture is not distorted at the IN and OUT points.
- Any channels can be turned on/off during execution of INSERT editing.



3-4. Editing

Procedure

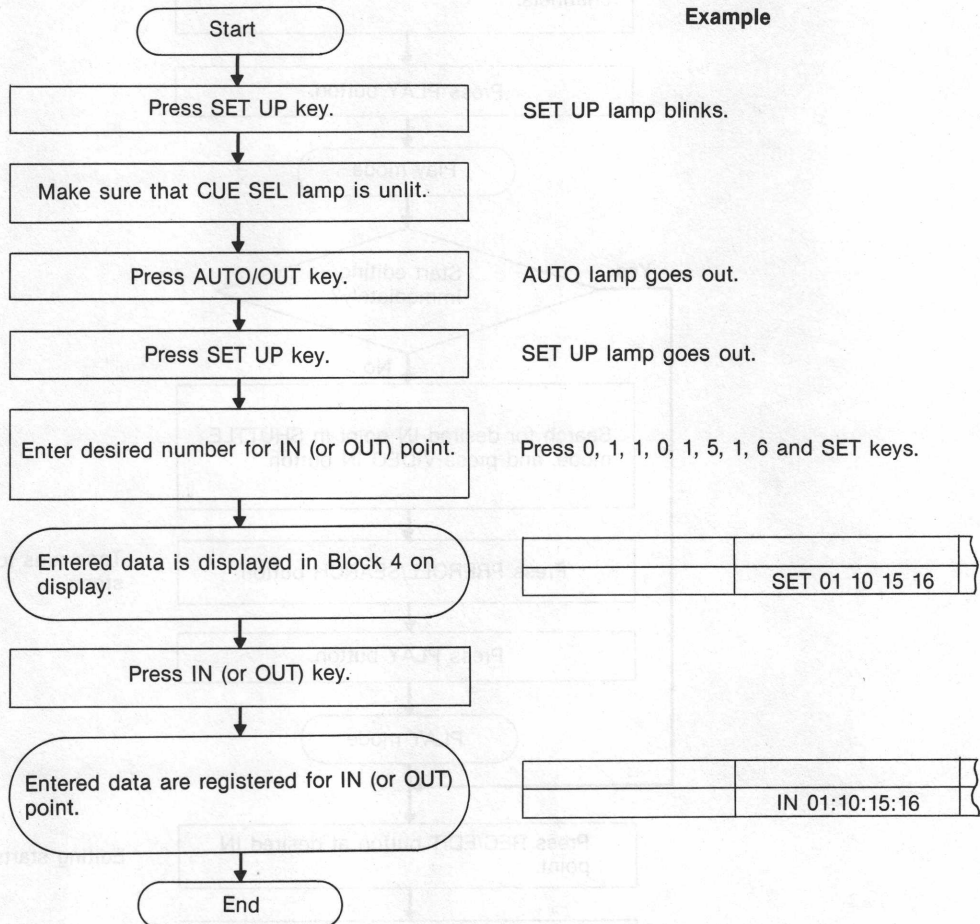


3-4-2. Automatic Editing

21-key operation for IN/OUT point setting and display

Setting the IN (or OUT) point

The IN/OUT points of editing can be set not only by pressing the VIDEO IN/OUT or AUDIO SPLIT IN/OUT buttons at the desired points but also by 21-key operation as shown below:

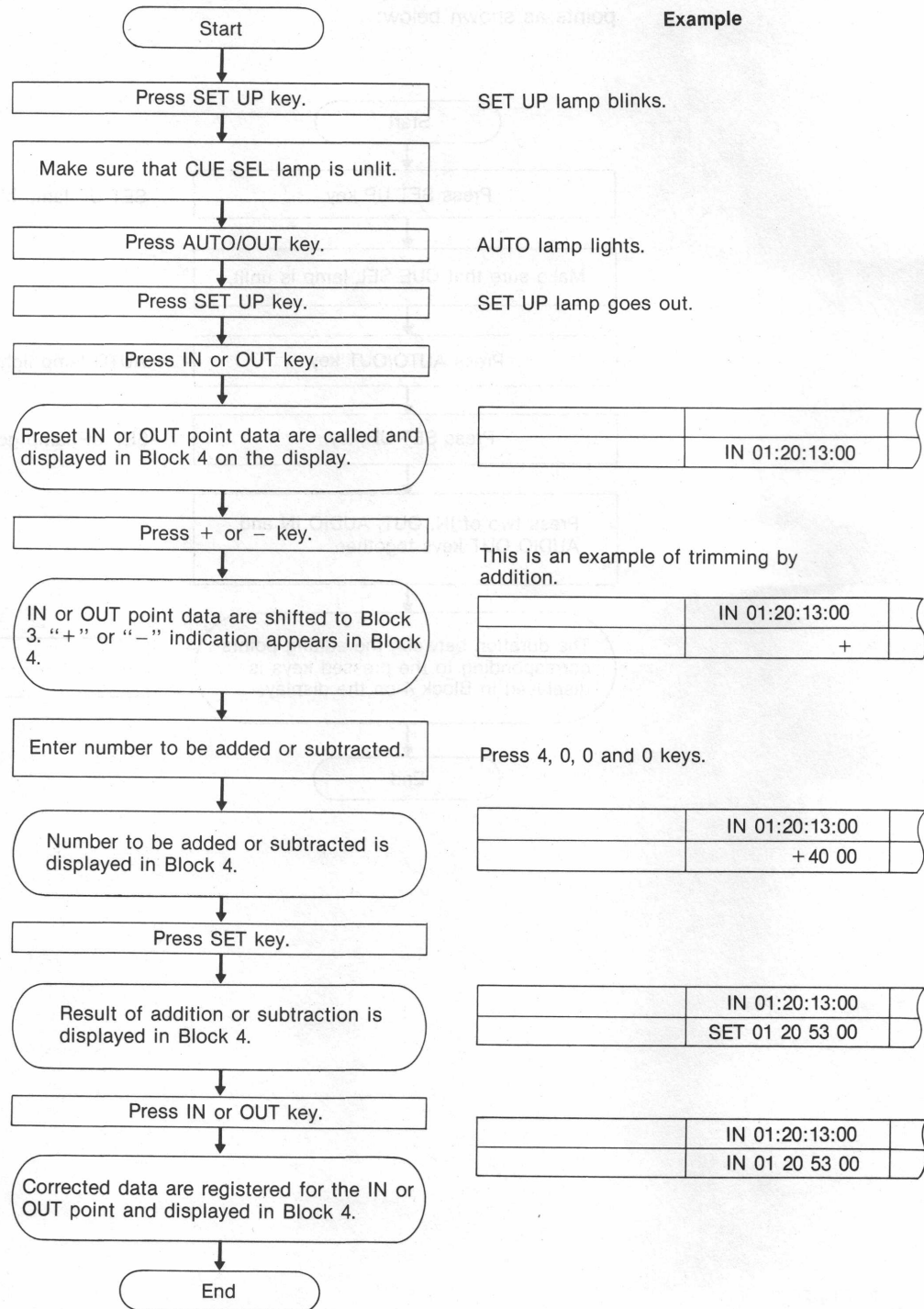


Audio IN/OUT point setting

The audio IN/OUT points can be set in the same manner by pressing the AUDIO IN (or AUDIO OUT) key instead of pressing the IN (or OUT) key.

Call and trim of IN/OUT points

Example



Note

If message "NEGATIVE" blinks in Block 6, new IN (or OUT) point value is larger (or smaller) than the OUT (or IN) point value. Input correct data.

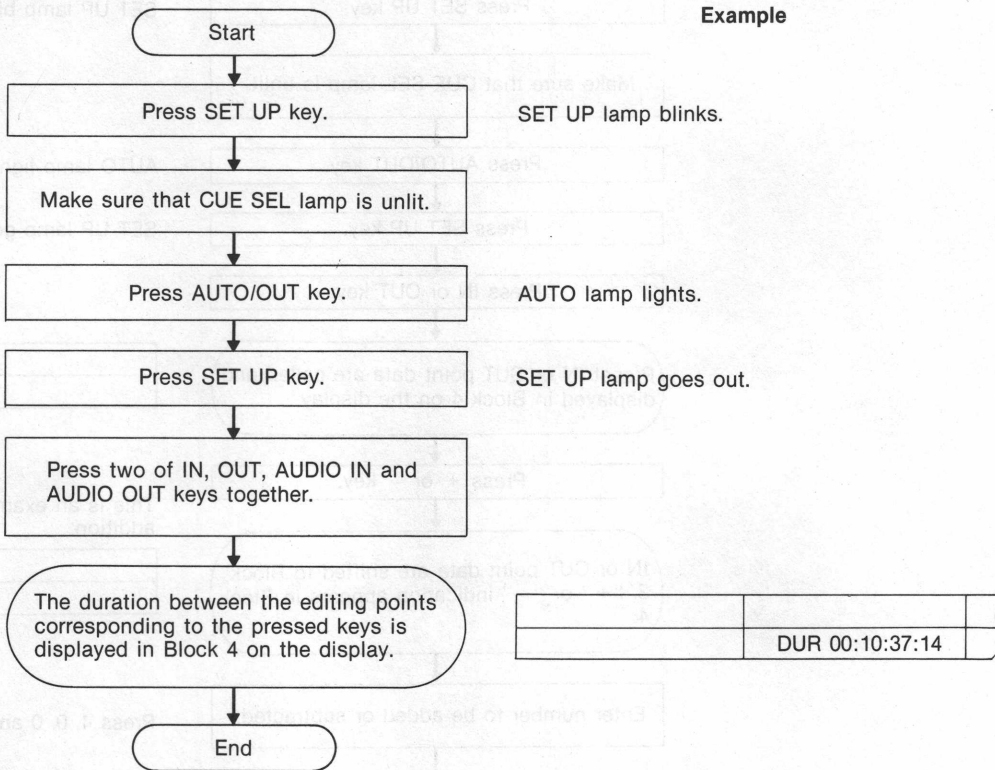
Calling and trimming audio IN/OUT point

The audio IN/OUT points can be called and trimmed in the same manner by pressing the AUDIO IN (or AUDIO OUT) key instead of pressing the IN (or OUT) key.

Display of duration

Duration can be displayed between any two of the IN, OUT, audio IN and audio OUT points as shown below:

Example



“DUR” and “LAP” indications

When the timer-1 data are displayed, the indication “DUR” appears and when the timer-2 data are displayed, the indication “LAP” appears.

When the IN and OUT points of editing have been entered and one of the ASSEMBLE, INSERT and SPOT ERASE button lamps is lit, pressing the PREVIEW/REVIEW button activates the PREVIEW function. Refer to pages 3-43 and 3-44 for the tape transport sequence.

Full PREVIEW of recorder and player

Press the CONTROL R button on the recorder VTR to turn on the button lamp, and then press the PREVIEW/REVIEW button. This makes both the recorder and the connected player enter the full PREVIEW mode. A rehearsal of the picture and sound for the entire editing section can be checked on the recorder's monitor.

PREVIEW of player

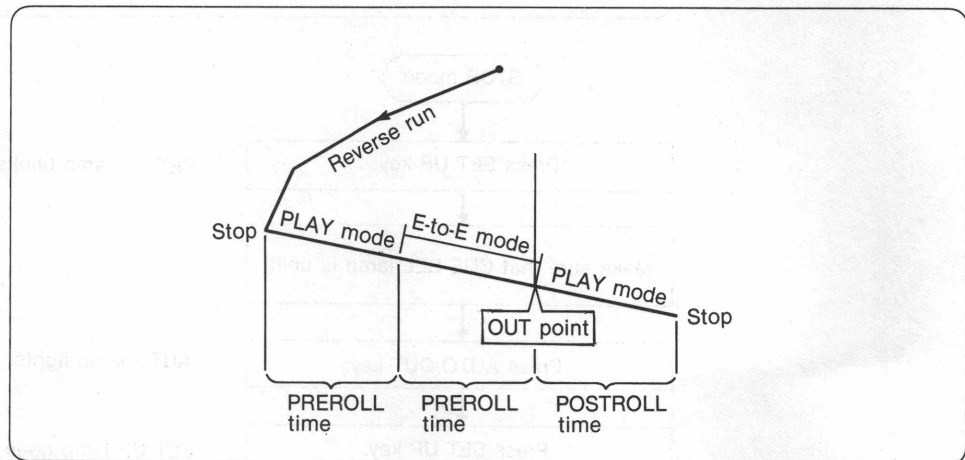
Press the CONTROL P button of the recorder VTR to turn on the button lamp, and then press the PREVIEW/REVIEW button. This makes only the player enter the PREVIEW mode.

PREVIEW of recorder

Make sure that neither of the CONTROL P/R buttons of the recorder VTR is lit, and press the PREVIEW/REVIEW button. This makes only the recorder enter the PREVIEW mode.

PREVIEW around OUT point (only in INSERT mode)

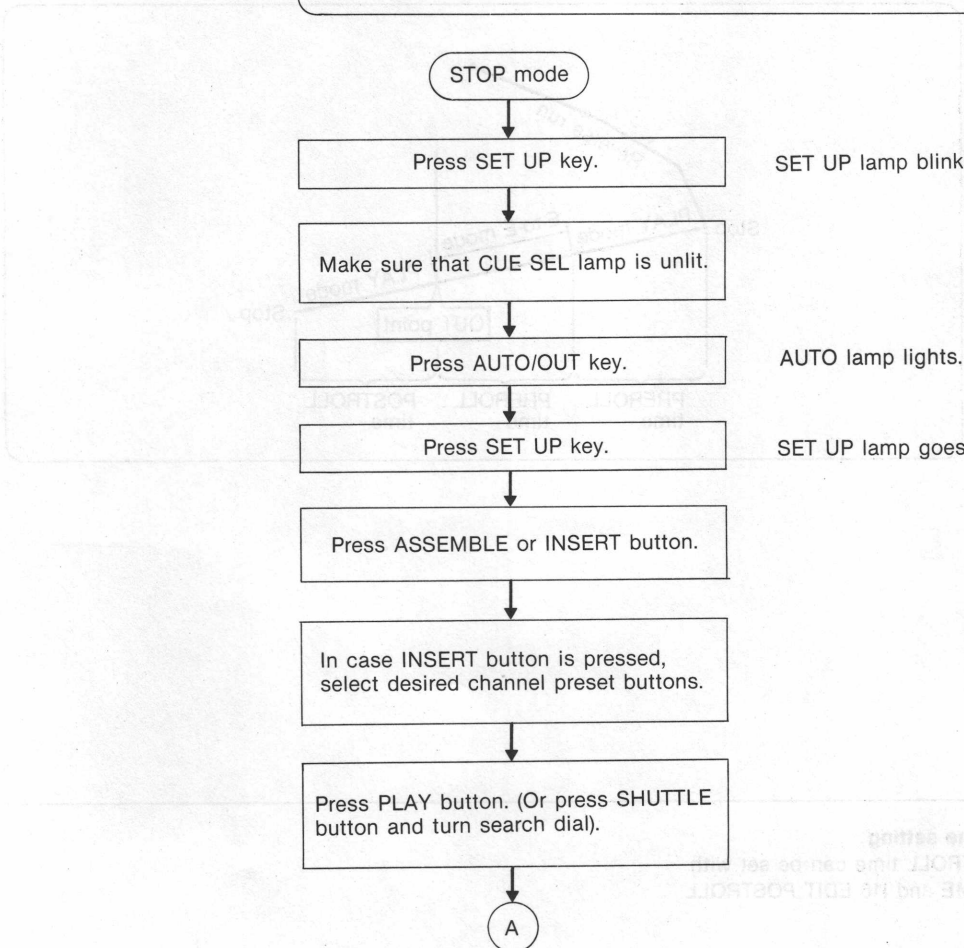
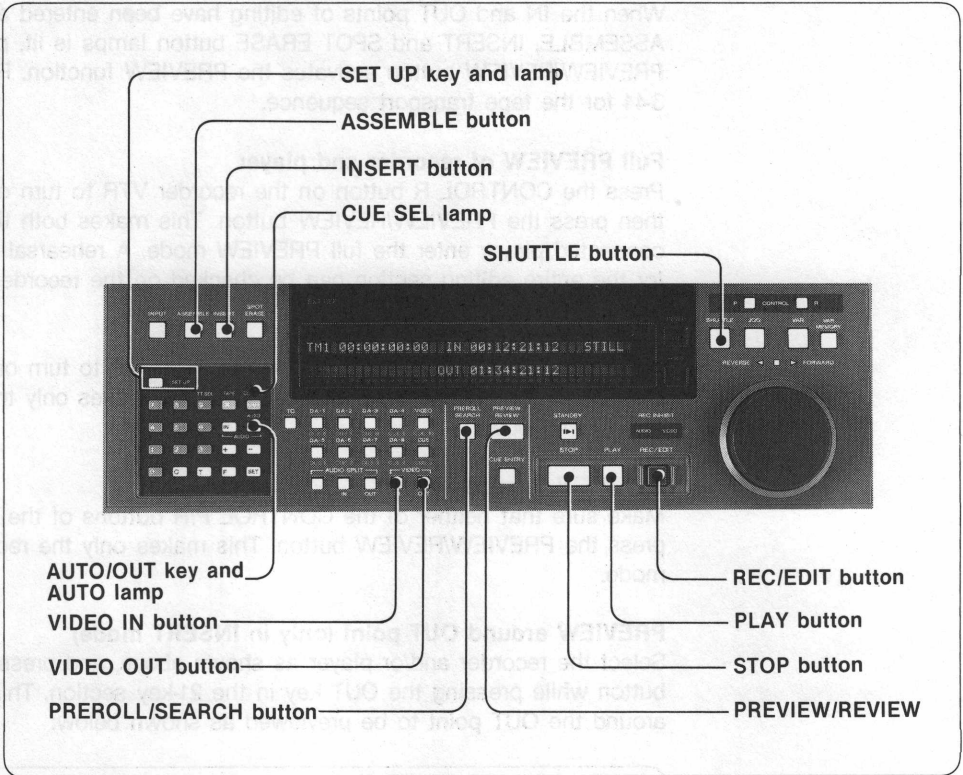
Select the recorder and/or player as shown above, and press the PREVIEW/REVIEW button while pressing the OUT key in the 21-key section. This allows only a section around the OUT point to be previewed as shown below:

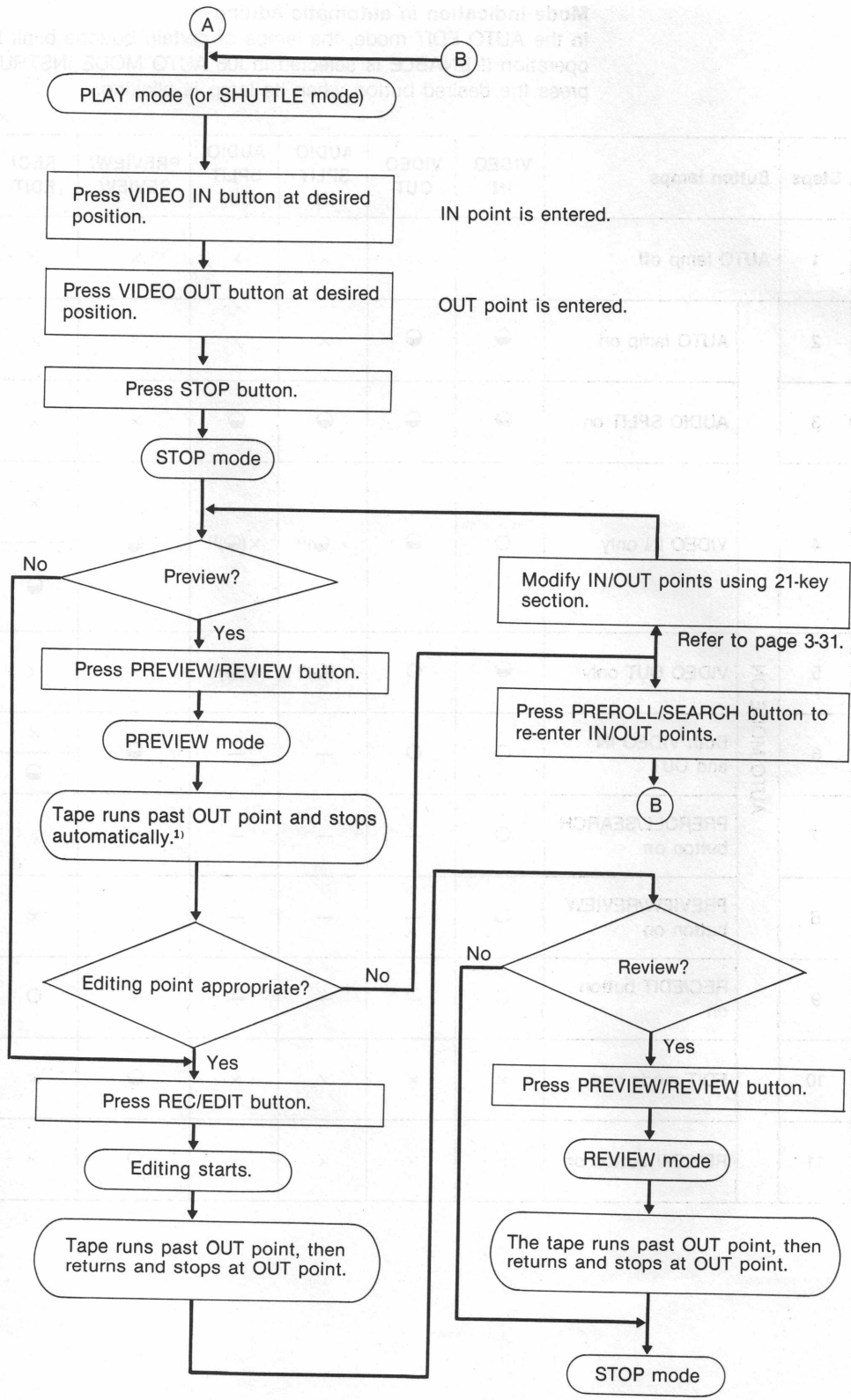


PREROLL and POSTROLL time setting

The PREROLL time and POSTROLL time can be set with Menus I15 EDIT PREROLL TIME and I16 EDIT POSTROLL TIME, respectively.

3-4. Editing





1) In the ASSEMBLE mode, the tape stops at the IN point.

Mode indication in automatic editing

In the AUTO EDIT mode, the lamps of certain buttons blink to guide the editing operation if ENABLE is selected in I06 AUTO MODE INSTRUCT. To carry out editing, press the desired button when its lamp is blinking.

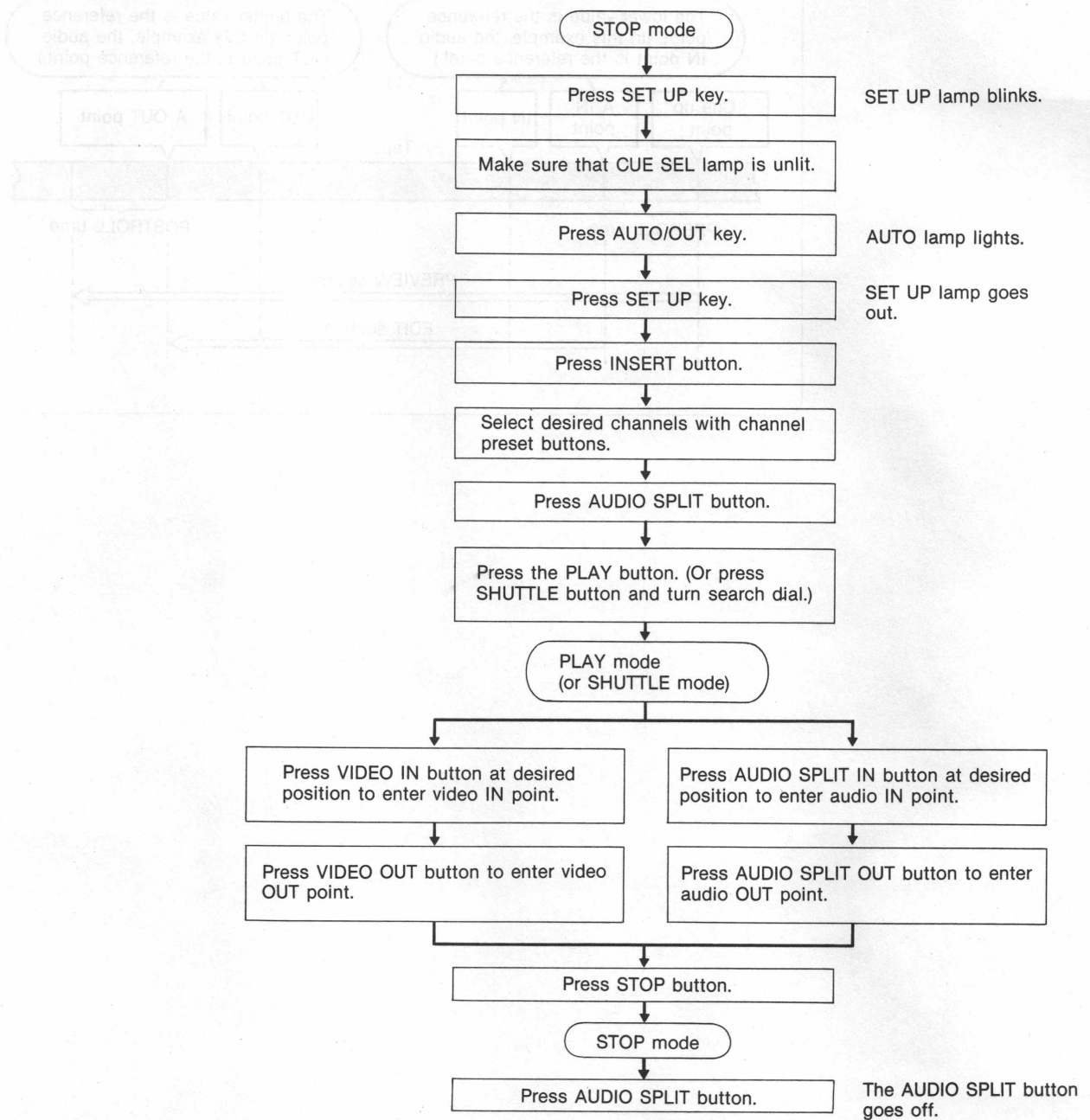
×: Off ●: Blinking ○: On

Steps	Button lamps	VIDEO IN	VIDEO OUT	AUDIO SPLIT IN	AUDIO SPLIT OUT	PREVIEW/REVIEW	REC/EDIT	Remarks
1	AUTO lamp off	×	×	×	×	×	×	
2	AUTO lamp on	●	●	×	×	×	×	
3	AUDIO SPLIT on	●	●	●	●	×	×	
4	VIDEO IN only	○	●	×(●) ¹⁾	×(●) ¹⁾	●	×	All the channel preset buttons are off.
							●	One or more channel preset buttons are on.
5	VIDEO OUT only	●	○	×(●) ¹⁾	×(●) ¹⁾	×	×	
6	Both VIDEO IN and OUT	○	○	—	—	●	×	
7	PREROLL/SEARCH button on	○	—	—	—	×	×	
8	PREVIEW/REVIEW button on	○	—	—	—	○	×	REVIEW mode.
9	REC/EDIT button on	○	—	—	—	×	○	
10	EDIT mode end	×	×	×	×	●	×	
11	REVIEW button on	×	×	×	×	○	×	REVIEW mode. The VTR returns to step 2 after finishing REVIEW.

1) The lamp blinks in the AUDIO SPLIT mode.

AUDIO SPLIT editing

In the AUDIO SPLIT mode, the audio and video IN/OUT points can be separately entered. Other operations are the same as those in the "basic operation of automatic editing" (refer to pages 3-34 and 3-35). AUDIO SPLIT editing is allowed only in the INSERT mode.



Preview and review

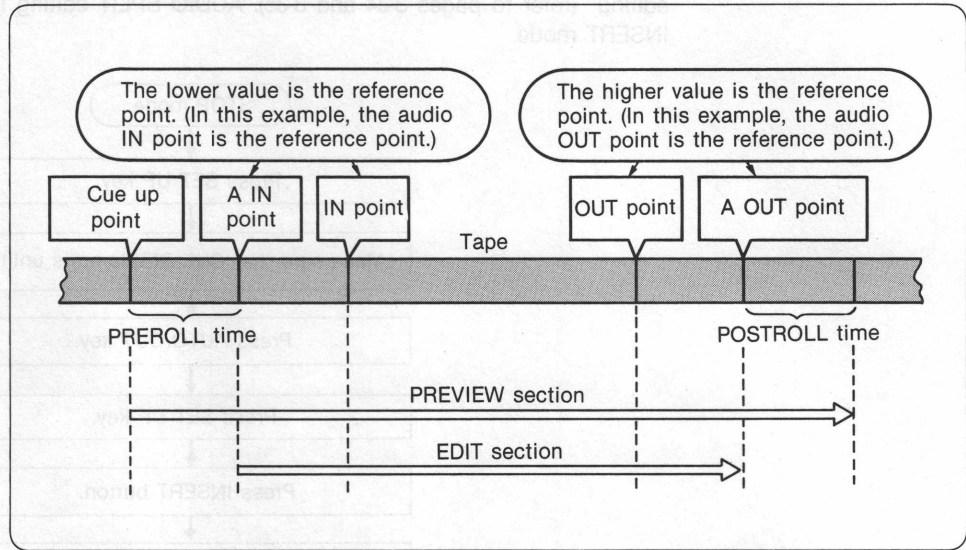
PREVIEW/REVIEW operations are the same as those in "basic operation of automatic editing."

Editing point modification

Editing point modification following PREVIEW operation is also the same as that in "basic operation of automatic editing." Modify the IN/OUT points by using the 21-key section. For modification of the audio IN/OUT points, use the AUDIO IN/OUT keys (refer to page 3-31). The IN/OUT points can be also re-entered after PREROLL operation.

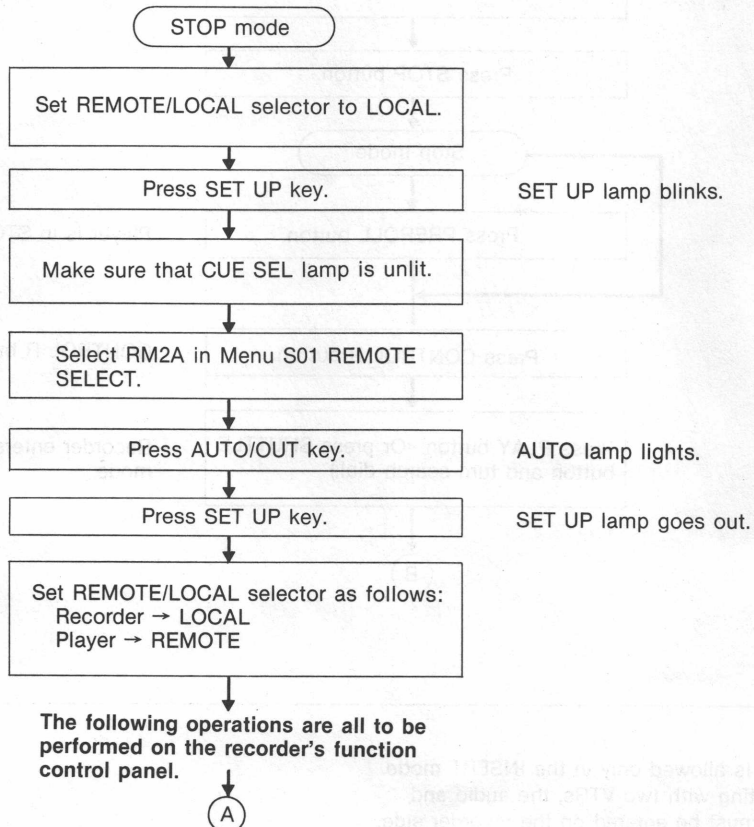
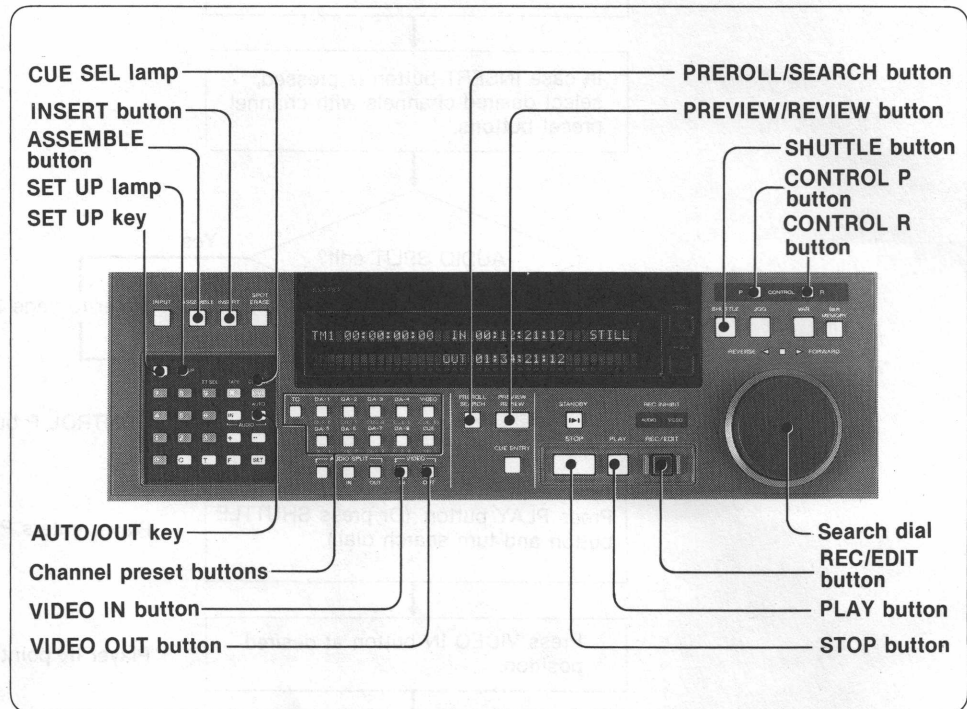
Editing section of AUDIO SPLIT editing

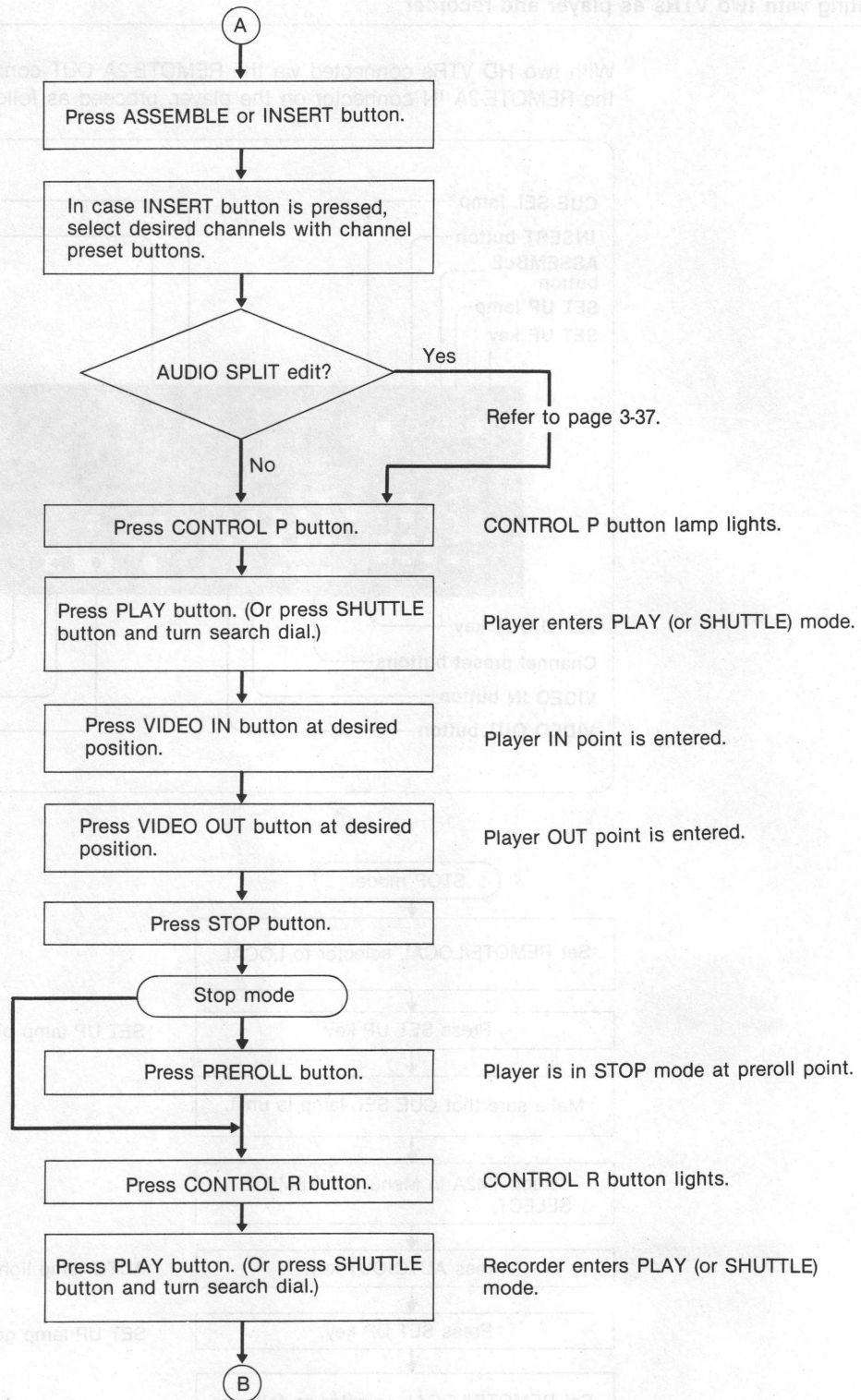
In AUDIO SPLIT editing, the audio and video editing points are set at different positions on the tape, and the reference points for editing are automatically determined as shown in the following example:



Editing with two VTRs as player and recorder

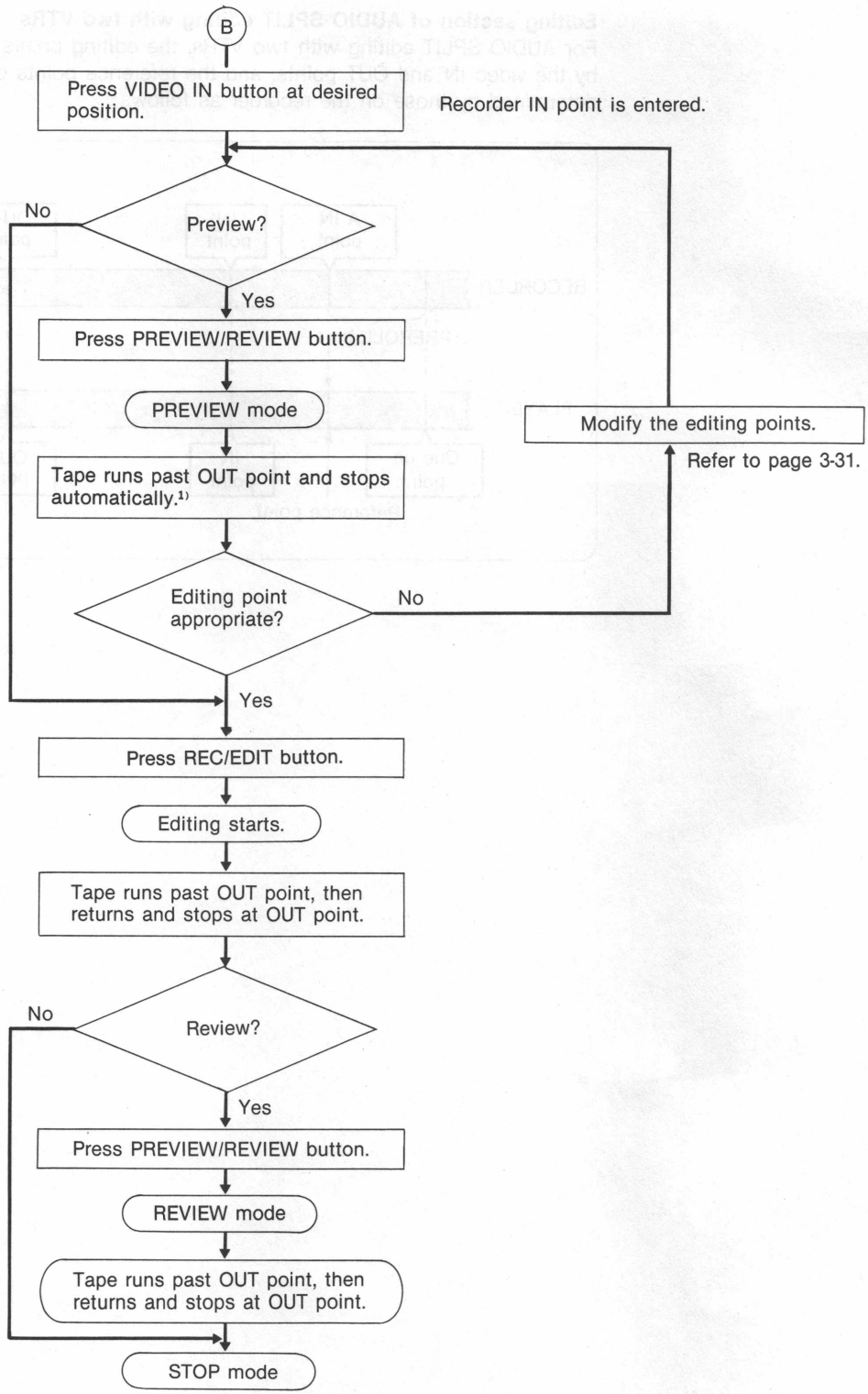
With two HD VTRs connected via the REMOTE-2A OUT connector on the recorder and the REMOTE-2A IN connector on the player, proceed as follows:





AUDIO SPLIT editing

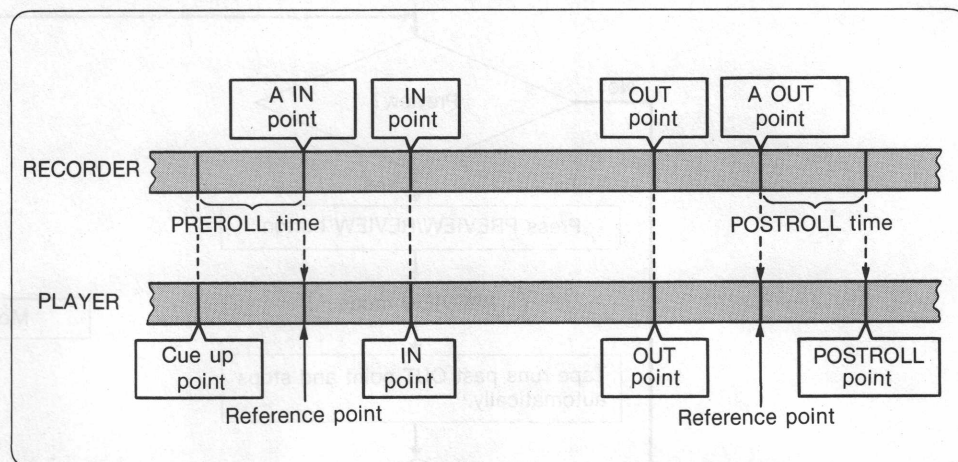
AUDIO SPLIT editing is allowed only in the INSERT mode. For AUDIO SPLIT editing with two VTRs, the audio and video IN/OUT points must be entered on the recorder side.



1) In the ASSEMBLE mode, the tape stops at the IN point.

Editing section of AUDIO SPLIT editing with two VTRs

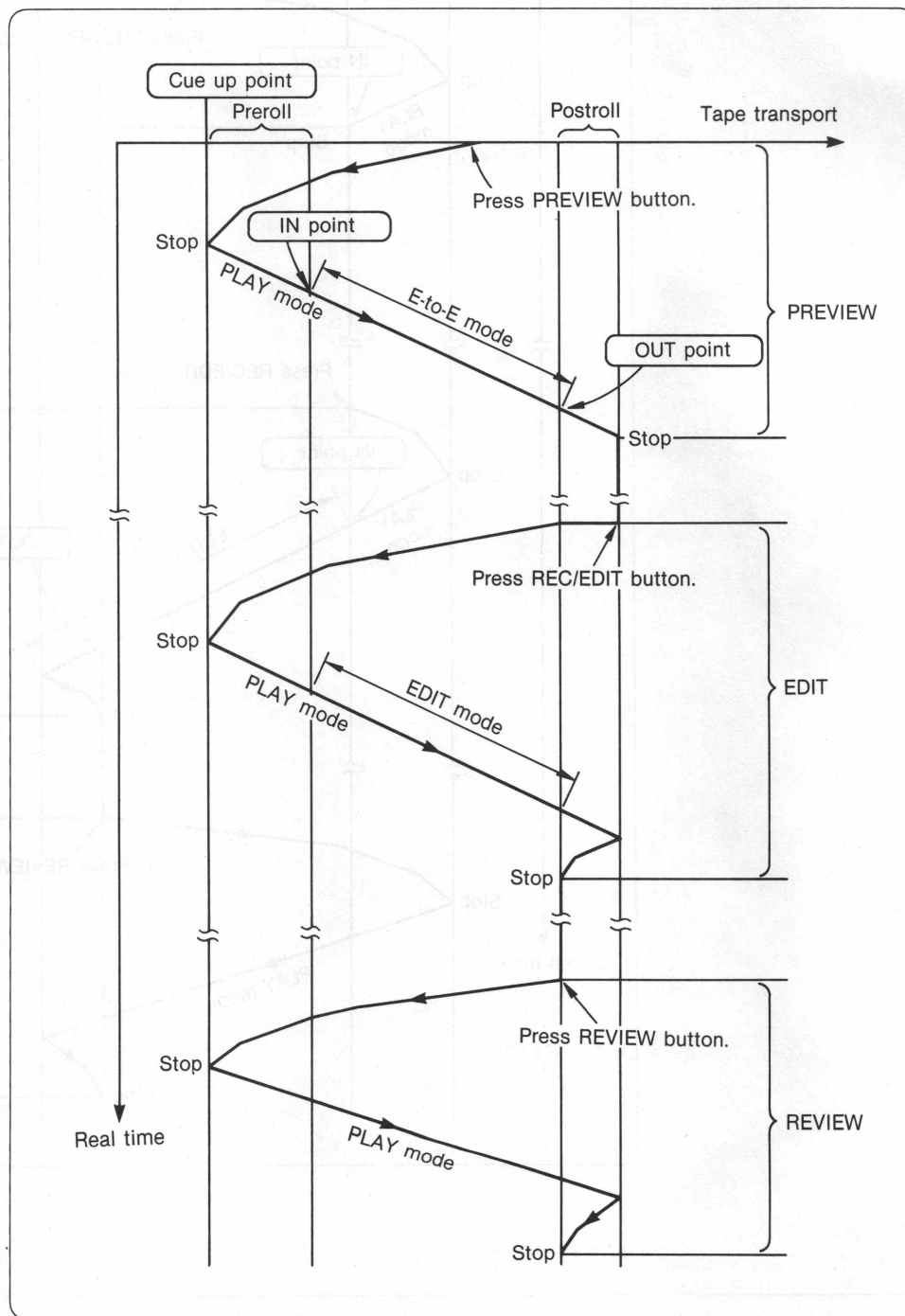
For AUDIO SPLIT editing with two VTRs, the editing points on the player are defined by the video IN and OUT points, and the reference points on the player are determined by those on the recorder as follows:



Tape transport sequence in automatic editing

The following figures show the recorder tape transport sequences in the PREVIEW, EDIT and REVIEW modes of automatic editing:

INSERT editing



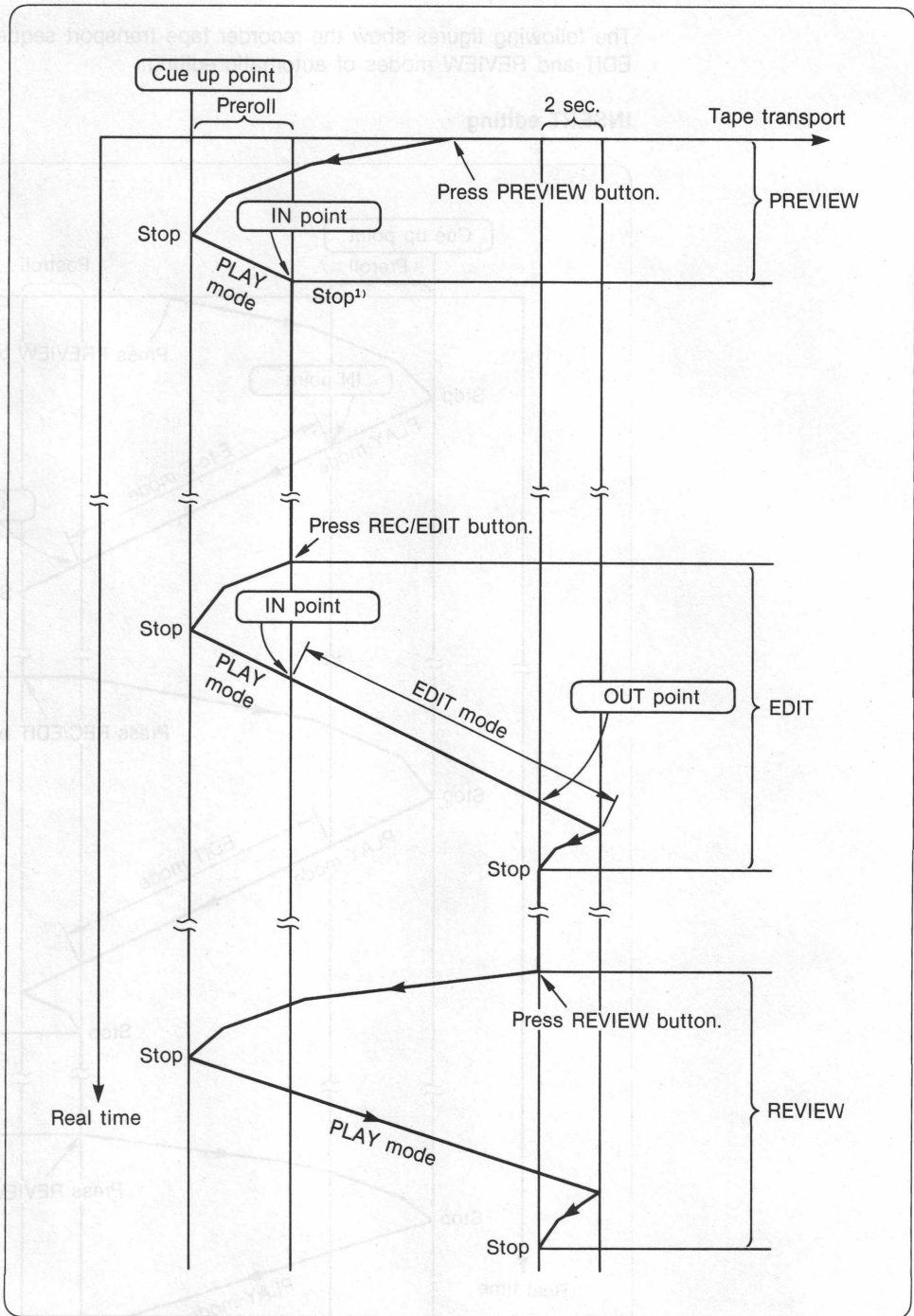
Preroll time setting

The preroll time can be set in the range of 0 to 30 seconds with Menu I15 EDIT PREROLL TIME.

Postroll time setting

The postroll time can be set in the range of 1 to 30 seconds with Menu I16 EDIT POSTROLL TIME.

ASSEMBLE editing



Preroll time setting

The preroll time can be set in the range of 0 to 30 seconds with Menu I15 EDIT PREROLL TIME.

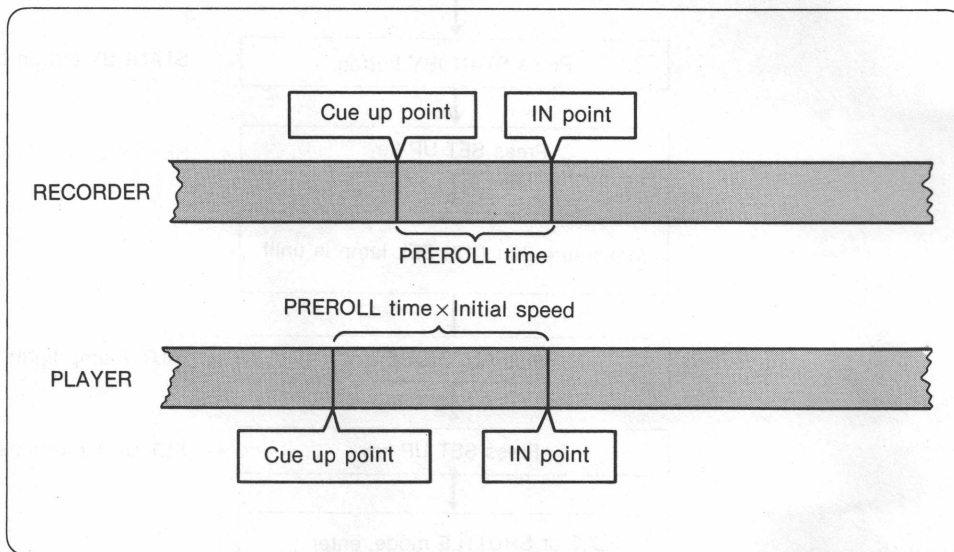
1) On the player side, the tape runs to the position two seconds beyond the OUT point and stops.

Postroll time for ASSEMBLE editing

The postroll time for ASSEMBLE editing is 2 seconds.

Editing by variable memory playback

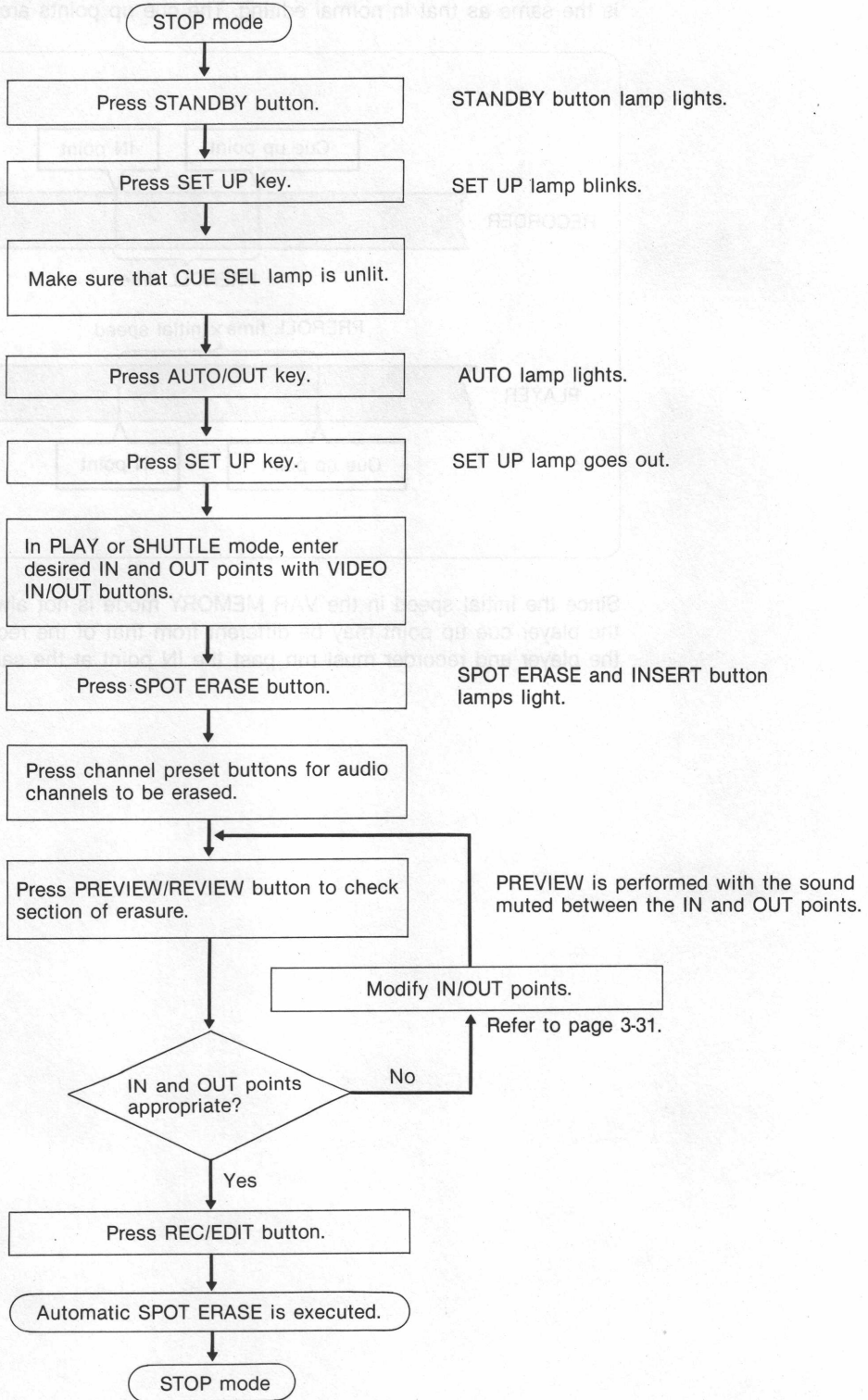
The picture played back with a player in accordance with the memorized speed curve in the VAR MEMORY mode can be recorded on a recorder. For VAR MEMORY operation of the player, refer to "3-3-5. VAR MEMORY Mode". The recorder operation is the same as that in normal editing. The cue up points are as follows:



Since the initial speed in the VAR MEMORY mode is not always the normal speed, the player cue up point may be different from that of the recorder. This is because the player and recorder must run past the IN point at the same time.

Automatic SPOT ERASE mode

This mode allows only selected audio signals to be erased from the section between the entered IN and OUT points on the tape.



Output signal during editing

The signal output from the VIDEO OUT-1/2, DIGITAL VIDEO OUT, MONITOR OUT, ANALOG/DIGITAL AUDIO OUT, MONITOR OUTPUT L/R connectors in the PREVIEW and EDIT modes can be selected with the TAPE/IN key in the 21-key section as shown below. The signal phase changes at each point marked with an X in the tables. This phase change may disturb the monitoring picture, but editing is performed normally.

Video

	TAPE/EE selection by TAPE/IN key	IN point ▼		OUT point ▼	
PREVIEW	TAPE	TAPE	EE	TAPE	
	TAPE/EE	TAPE	EE	TAPE	
EDIT	TAPE	TAPE	TAPE (confidence signal)	TAPE	
	TAPE/EE	TAPE	X EE	X TAPE	

Audio

	TAPE/EE selection by TAPE/IN key	IN point ▼		OUT point ▼	
PREVIEW	TAPE	TAPE	EE	TAPE	
EDIT	TAPE/EE				

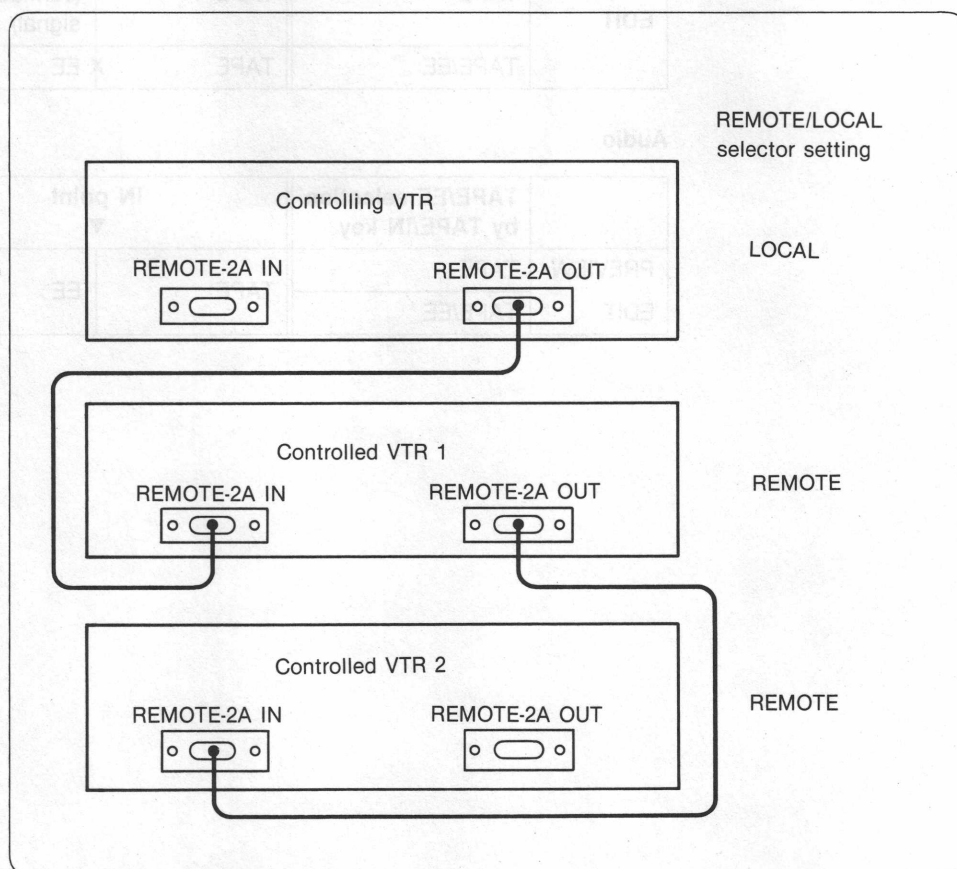
3-5. Remote Control

Notes on remote control

- For the connectable equipment, refer to the descriptions for the PARALLEL REMOTE and SERIAL REMOTE connector panels in "1-3-4. Connector Panel".
- For remote control of the VTR from another VTR or an editing control unit, the REMOTE/LOCAL selector must be set to REMOTE. In this case, it is determined which controls are enabled on the function control panel, by Menu I05 LOCAL KEY ENABLE.
- When the REMOTE-1, REMOTE-2A IN, REMOTE-2A OUT, REMOTE-2B IN/OUT, or REMOTE-3 connector is used, the corresponding item must be selected in Menu S01 REMOTE SELECT.

Parallel operation

To operate two or more HDD-1000s simultaneously in the same mode, make the following connections and select ENABLE in Menu S08 PARA RUN on each VTR. The controlled VTRs operate in the same mode as the controlling VTR.



3-6. Alarm

When the VTR malfunctions, the following lamps light or blink, and the buzzer sounds. In addition, various error messages are displayed on the function control panel (refer to APPENDIX A).

○: ON ●: Blinking ×: OFF

	STOP button 3)	STANDBY button 3)	SERVO lamp	SYSTEM lamp	Buzzer	VTR operation
VTR malfunction	—	—	○	○	Sounds	STOP
Drum unlocked ¹⁾	—	—	○	×	×	Continues
Capstan unlocked	—	—	○	×	×	Continues
Movable tape guide malfunction	—	—	×	○	Sounds	STOP
Tape disengaged	—	—	×	×	×	STOP
Overheat	—	—	×	○	Sounds	Continues
Tape sticking	—	●	×	○	Sounds	STOP
No servo reference signal	●	—	×	×	×	Continues
Tape transport malfunction ²⁾	—	—	×	○	Sounds	STOP

- 1) If the drum is unlocked for more than 15 seconds, the same alarm condition as tape sticking occurs.
- 2) If the VTR operation stops due to a tape transport malfunction, wait until the drum rotation stops. Then loosen the tape to free the tension detector so that operation can be recovered. (To stop the buzzer, press the STOP button.)

- 3) The “—” mark indicates whether the button lights or is off depends on the present VTR operating condition.

When the VTR malfunctions in following lamp light or blink and the buzzer sounds in addition, various error messages are displayed on the function control panel (refer to APPENDIX A).

○ ON ● Blinking × OFF

VTR operation	Buzzer	SYSTEM lamp	SERVO lamp	STANDBY button	STOP button	
VTR malfunction	Sounds	○	○	—	—	
Drum unlocked	×	×	○	—	—	
Cassette unlocked	×	×	○	—	—	
Magnetic tape guide malfunction	Sounds	○	×	—	—	
Tape damaged	×	×	×	—	—	
Overheat	Sounds	○	×	—	—	
Tape sticking	Sounds	○	×	●	—	
No servo reference signal	×	×	×	—	●	
Tape transport malfunction	Sounds	○	×	—	—	

② The ● mark indicates whether the button lights or off depends on the present VTR operating condition.

If the drum is unlocked for more than 18 seconds, the drum starts rotation as tape sticking occurs.
 ② The VTR operation stops due to a tape jam when malfunction with the drum rotation stops. Then, press the tape to free the rotation detector so that operation can be recovered. To stop the button, press the STOP button.

APPENDICES

- Appendix A. Error Message List A-1
- Appendix B. Connector Pin Assignment A-5
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APPENDICES

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Appendix A. Error Message List

The meanings of the error messages that blink in Block 6 on the display (and in the character display area on the monitor if error message superimposition is selected) are as follows.

Error message	Meaning
ABORT	If one of the following errors occurs, this message is displayed, and the VTR automatically enters the STOP mode. The message disappears when one of the function buttons is pressed. <ol style="list-style-type: none"> 1. In the AUTO EDIT or PREVIEW mode, the synchronization is not completed or the servo lock is out six frames before the audio or video IN point. 2. In the AUTO EDIT or PREVIEW mode with two VTRs, PREROLL is completed without the cue-up status being set though the PREROLL command was issued to the other VTR.
AD38 BD	The AD-38 board in the HDDP-1000 is not correctly inserted, or the bus-interface of the board or the interface between the HDD-1000 and the HDDP-1000 is defective.
ADA12 BD	The ADA-12 board in the HDDP-1000 is not correctly inserted, or the bus-interface of the board or the interface between the HDD-1000 and the HDDP-1000 is defective.
AU109 BD	The AU-109 board in the HDD-1000 is not correctly inserted or the bus-interface of the board is defective.
CF39 BD	The CF-39 board in the HDDP-1000 is not correctly inserted, or the bus-interface of the board or the interface between the HDD-1000 and the HDDP-1000 is defective.
CI05 BD	The CI-05 board in the HDDP-1000 is not correctly inserted, or the bus-interface of the board or the interface between the HDD-1000 and the HDDP-1000 is defective.
COM REF	Reference signals for video signal recording and audio signal recording and playback are not input. Supply the reference signals to the connector selected with Menu S12 COMMON REF SELECT and I80 INPUT ANALOG/DIGITAL.
COM REF*	The frequency of the reference signal for video signal recording and audio signal recording and playback are not right. Supply the right reference signal to the connector selected with Menu S12 COMMON REF SELECT and I80 INPUT ANALOG/DIGITAL.
DA28 BD	The DA-28 board in the HDDP-1000 is not correctly inserted, or the bus-interface of the board or the interface between the HDD-1000 and the HDDP-1000 is defective.
DATA ERR	If one of the following errors occurs, this message is displayed. The message disappears when a function button or the C key is pressed. <ol style="list-style-type: none"> 1. An invalid time code or timer value is entered as an editing point through the 21-key section. 2. An undefined command is given from the remote control unit.
DEC41 BD	The DEC-41 board in the HDDP-1000 is not correctly inserted, or the bus-interface of the board or the interface between the HDD-1000 and the HDDP-1000 is defective.
DEC41 SW	The NORM/TEST switch on the DEC-41 board in the HDDP-1000 is set to TEST.
DP95 BD	The DP-95 board in the HDDP-1000 is not correctly inserted, or the bus-interface of the board or the interface between the HDD-1000 and the HDDP-1000 is defective.
DRC1 BD	The DRC-1 board in the HDD-1000 is not correctly inserted or the bus-interface of the board is defective.
IF BOARD	The IF-207 board in the HDD-1000 is not correctly inserted or the bus-interface of the board is defective.
IO33 BD	The IO-33, IO-34, IO-39 or IFA-5 board is not correctly inserted, or the bus-interface of the board or the interface between the HDD-1000 and the HDDP-1000 is defective.
LINE ERR	The CONTROL P or R button of this VTR has been pressed when the master VTR is connected to one of the REMOTE-1/2 connectors of this VTR. This message disappears when one of the function buttons is pressed.

Error Message	Meaning
LOST LCK	The drum or capstan servo lock has been lost for an instant in recording or editing. Even if this error occurs, the operation in progress will continue. The message disappears when one of the function buttons is pressed in the LOCAL mode or when a remote function command or the LOST LOCK RESET command is received in the REMOTE mode.
NEGATIVE	The relation between the entered audio IN and OUT points or video IN and OUT points is as follows: IN \geq OUT point Re-enter the correct IN and OUT points.
NO EOS	The end-of-source point is not found and backspace editing cannot be carried out.
NO RF	The RF signal is absent, or when the TAPE lamp in the 21-key section is lit, the RF signal cannot be obtained because the drum is not rotated.
OVERHEAT	The power supply is overheating. When this error occurs, the SYSTEM alarm lamp lights and the buzzer sounds, but the operation in progress will continue. The buzzer can be stopped by pressing the STOP button.
PIF3 BD	The PIF-3 board in the HDDP-1000 is not correctly inserted, or the bus-interface of the board or the interface between the HDD-1000 and the HDDP-1000 is defective.
PR115 BD	The PR-115 board in the HDDP-1000 is not correctly inserted, or the bus-interface of the board or the interface between the HDD-1000 and the HDDP-1000 is defective.
PR BATT	The battery voltage on the PR-115 board is below the standard level.
PRD1 BD	The PRD-1 board in the HDD-1000 is not correctly inserted or the bus-interface of the board is defective.
PROC I/F	The interface or cable between the HDD-1000 and the HDDP-1000 is defective.
PRO REF	Reference signal for video signal playback is not input. Supply the reference signal to the connector selected with Menu S12 COMMON REF SELECT, I80 INPUT ANALOG/DIGITAL and I82 PROC PB REF SELECT.
PRO REF*	The frequency of the reference signal for video signal playback is not right. Supply the right reference signal to the connector selected with Menu S12 COMMON REF SELECT, I80 INPUT ANALOG/DIGITAL and I82 PROC PB REF SELECT.
PR115 SW	The TEST switch (Bit 7 of the VIDEO SYS switch and/or Bit 1 of the AUDIO SYS switch) on the PR-115 board in the HDDP-1000 is set to ON. Set the switch to OFF.
PS183 BD	The PS-183 board in the HDDP-1000 is not correctly inserted, or the bus-interface of the board or the interface between the HDD-1000 and the HDDP-1000 is defective.
SG151 BD	The SG-151 board in the HDDP-1000 is not correctly inserted, or the bus-interface of the board or the interface between the HDD-1000 and the HDDP-1000 is defective.
SIF4 BD	The SIF-4 board in the HDDP-1000 is not correctly inserted, or the bus-interface of the board or the interface between the HDD-1000 and the HDDP-1000 is defective.
SRV ERR	The SY-103 and SV-90 boards cannot communicate with each other due to an error in the servo system.
SP06 BD	The SP-06 board in the HDDP-1000 is not correctly inserted, or the bus-interface of the board or the interface between the HDD-1000 and the HDDP-1000 is defective.
SV90 SW	The NOR/STOP selector on the SV-90 board is set to STOP.
SV BOARD	The SV-90 board in the HDD-1000 is not correctly inserted or the bus-interface of the board is defective.

Checking the addresses of the lost-lock errors

The addresses where the lost-lock errors have occurred are memorized and can be checked afterward. For details, refer to page A-4.

Error message	Meaning
SY BOARD	The SY-103 board in the HDD-1000 is not correctly inserted, or the bus-interface of the board or the I/O port is defective.
SYS ERR	<ol style="list-style-type: none"> 1. A key short-circuit error is detected in the power-on initial check. When this error occurs, the SYSTEM alarm lamp lights up and the buzzer sounds. 2. The CPU on the SY-103 detects an error in the normal operating mode.
TAPE OUT	The tape is completely wound up on the supply or take-up reel, or the tape is not correctly threaded through the tape sensor. When this error occurs, the VTR automatically enters the STOP mode.
TB07 BD	The TB-07 board in the HDDP-1000 is not correctly inserted, or the bus-interface of the board or the interface between the HDD-1000 and the HDDP-1000 is defective.
TEST MD	After the VTR is operated in the TEST mode and some Test Mode Menu items are changed, the SET UP lamp is turned off without resetting those items to the defaults.
VD04 BD	The VD-04 board in the HDDP-1000 is not correctly inserted, or the bus-interface of the board or the interface between the HDD-1000 and the HDDP-1000 is defective.
VE18 BD	The VE-18 board in the HDDP-1000 is not correctly inserted, or the bus-interface of the board or the interface between the HDD-1000 and the HDDP-1000 is defective.

Checking the addresses of the lost-lock errors

In the PLAY, REC or EDIT REC mode, the addresses (time code) where the drum or capstan servo lock is lost are stored in the memory. The time code can be displayed and checked as follows.

To check the addresses

The addresses can be checked in the PLAY, REC, EDIT REC or STOP mode.

In the PLAY, REC or EDIT REC mode: Turn the search dial while pressing the STANDBY button.

In the STOP mode: Turn the search dial while pressing the STOP button.

The time code is sequentially displayed in Blocks 3 and 4 of the display, and "LOST LCK" is displayed in Block 6. Every time new data is displayed in Block 4, the data previously displayed in Block 4 is shifted to Block 3.

To erase the stored data

The stored lost-lock addresses are erased by one of the following methods:

- Set the VTR in the PLAY, REC or EDIT REC mode from the STOP mode.
- Press the RESET button while pressing the STANDBY button.

Appendix B. Connector Pin Assignment

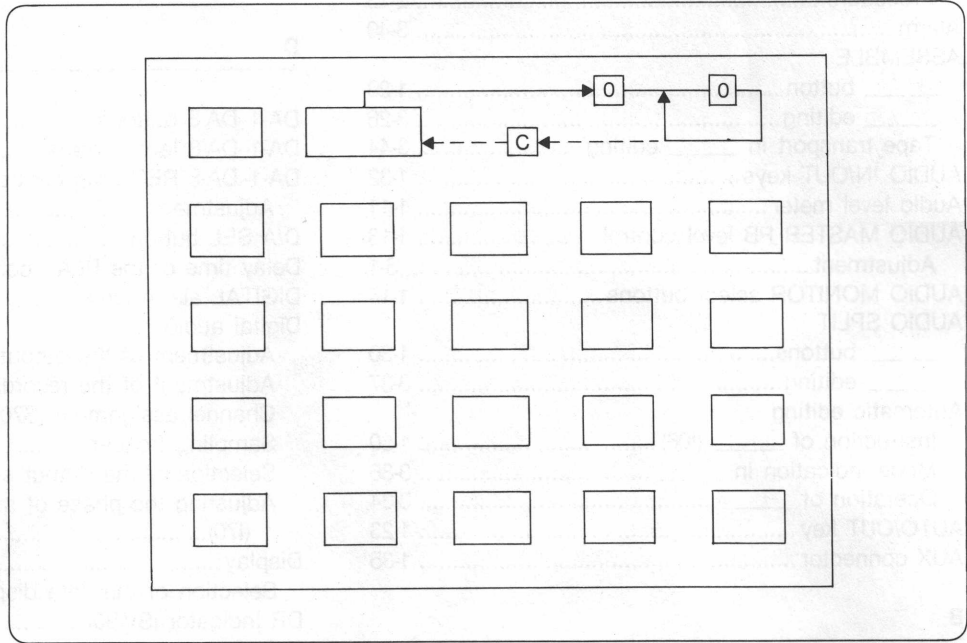
REMOTE-3 connector (50-pin)

Pin No.	Menu I20. REM3 AUDIO REC					
	DISABLE			ENABLE		
	Signals	Contents	Signals	Contents		
1	FF	IN	COMMAND INPUT	FF	IN	COMMAND INPUT
19	STBY ON	IN		STBY ON	IN	
20	REW	IN		REW	IN	
21	ENTRY	IN		ENTRY	IN	
34	PLAY	IN		PLAY	IN	
35	STOP	IN		STOP	IN	
36	REC	IN		REC	IN	
18	PREROLL	IN		PREROLL	IN	
22	STBY OFF	IN	CUE REC	IN		
2	REC SW	OUT	COMMAND RETURN	REC SW	OUT	COMMAND RETURN
3	PLAY SW	OUT		PLAY SW	OUT	
4	STOP SW	OUT		STOP SW	OUT	
5	ENTRY SW	OUT		ENTRY SW	OUT	
37	REV LAMP	OUT	SHUTTLE, JOG, VARIABLE	A1/A3/A5/A7 REC	IN ¹⁾	COMMAND INPUT
40	FWD LAMP	OUT		A2/A4/A6/A8 REC	IN ¹⁾	
46	STBY ON	OUT	STATUS OUT	STBY ON	OUT	STATUS OUT
47	PLAY	OUT		PLAY	OUT	
43	STOP	OUT		STOP	OUT	
24	REC	OUT		REC	OUT	
50	PREROLL	OUT		PREROLL	OUT	
48	REMOTE	OUT		REMOTE	OUT	
49	ALARM	OUT		ALARM	OUT	
39	A1 PRESET	OUT		A1/A3/A5/A7 REC SW	OUT	
38	A2 PRESET	OUT		A2/A4/A6/A8 REC SW	OUT	
42	A3 PRESET	OUT		TC REC SW	OUT	
41	A4 PRESET	OUT	CUE REC	OUT		
44	VIDEO PRESET	OUT	REV LAMP	OUT	SHUTTLE, JOG, VARIABLE	
26	ASSEMBLE PRESET	OUT	FWD LAMP	OUT		
45	INSERT PRESET	OUT	—		STATUS OUT	
27	EDIT	OUT	EDIT	OUT		
23	—		WARNING OUT	TC REC	IN ¹⁾	COMMAND INPUT
25	VIDEO 6 LACK	OUT		VIDEO 6 LACK	OUT	
6	REF ERROR	OUT		REF ERROR	OUT	
7	—			—		
8	DRUM LOCK	OUT		DRUM LOCK	OUT	
9	CAP LOCK	OUT	CAP LOCK	OUT		
12	DVT		Interface to SY-103 board (for TC/TM)	DVT		Interface to SY-103 board (for TC/TM)
13	DRD			DRD		
14	CK			CK		
15	DATA-1			DATA-1		
32	DATA-2			DATA-2		
16	DATA-4			DATA-4		
17	DATA-8			DATA-8		
28	DTM			DTM		
29	DGN			DGN		
30	MP			MP		
31	K4		K4			
33	GND		GND			
10	SP-2		Not used	SP-2		Not used
11	SP-1			SP-1		

• Signals are Active low. ¹⁾ Turn off switches S1-2, S1-3 and S1-4 on IF-207 board.

Appendix C. Overlay Sheet for Preselect Menu

Place the following overlay sheet on the 21-key section to show the assigned PRESELECT menu:



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HD DIGITAL VIDEOCODER

HDD-1000

SUPPELEMENT-10

Manual to be supplemented

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HDD-1000

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Sony Corporation

HDD-1000 (DC)

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Please make the following corrections to the HDD-1000 Operation Manual. All Corrections and additions are for the model with the serial No. 11201 and higher.

• Page 1-5 Correction

Digital audio

Incorrect Digital audio (DA1 to DA8 CH)
Correct Digital audio (DA1 to DA-8 CH)

• Page 1-14 Addition

11 DA-1 — DA-8 REC (digital audio recording) level controls

Note

When you select the digital audio signal as the input signal, you cannot adjust the recording level.

• Page 1-14 Correction

AUDIO MASTER PB (playback) level control

Incorrect AUDIO MASTER PB (playback) level control
Correct AUDIO MASTER PB (digital audio playback) level control

• Page 1-14 Correction

EMPH

Incorrect You can change the setting by pressing one of the DA-1 through DA-8 buttons (upper or lower) to be changed while pressing this button.
Correct You can change the setting of the analog input signal by pressing one of the DA-1 through DA-8 buttons (upper or lower) while pressing this button.

• Page 1-17 Addition

Search dial

You can also use the search dial as follows:
In the PLAY, REC or EDIT REC mode, turn this dial while pressing the STANDBY button to display the memorized addresses of the LOST LOCK errors. These errors occurred during the preceding playback in Blocks 4 and 3 of display, and display the error message "LOST LCK" in Block 6 of display. 1)

1) The mute errors, the concealed errors and the no ctl errors are displayed in the same way as the lost-lock errors.

• Page 1-19 Addition

HOLD button and lamp

When one of the following items is selected in the Menu S04 FREEZE MODE, press the HOLD button. The HOLD lamp lights up and the freeze picture is output while the HOLD lamp is lighting.

- FIELD 1
- FIELD 2
- FRAME
- PROG F1
- PROG F2
- PROG FR

Please make the following connections to the HD-1000 Operation Manual. All Connections and additions are for the model with the serial No. 17501 and higher.

- Page 1-2 Connection

Digital audio
Incorrect: Digital audio (DA1 to DA6 CH)
Correct: Digital audio (DA1 to DA-8 CH)

- Page 1-14 Addition

DA-1 -- DA-8 REC (digital audio recording) level controls

Note

When you select the digital audio signal as the input signal, you cannot adjust the recording level.

- Page 1-14 Connection

AUDIO MASTER FB (playback) level control
Incorrect: AUDIO MASTER FB (playback) level control
Correct: AUDIO MASTER FB (digital audio playback) level control

- Page 1-14 Connection

EMPH

Incorrect: You can change the setting by pressing one of the DA-1 through DA-8 buttons (upper or lower) to be changed while pressing this button.
Correct: You can change the setting of the analog input signal by pressing one of the DA-1 through DA-8 buttons (upper or lower) while pressing this button.

- Page 1-7 Addition

Search dial

You can also use the search dial as follows:
In the PAUSE, REC or EDIT REC mode, turn this dial while pressing the STANDBY button to display the memorized address of the LOST LOCK error. These errors occurred during the preceding playback in blocks 4 and 8 of display, and display the error message "LOST LOCK" in block 8 of display.

(1) The note errors, the concealed errors and the not all errors are displayed in the same way as the lost-lock error.

- Page 1-13 Addition

HOLD button and lamp

When one of the following items is selected in the Menu 504 FREEZE MODE, press the HOLD button. The HOLD lamp lights up and the freeze picture is output while the HOLD lamp is lighting.

- FIELD 1
- FIELD 2
- FRAME
- PROC F1
- PROC F2
- PROC F3

• Page 1-20 Correction

Block 4

Incorrect DUR: Duration (time between IN and OUT points) by timer-1 data.

Correct Dur: Duration (time between IN and OUT points) by timer-1 data and time code.

• Page 1-24 Correction

Footnote 2)

Incorrect When ENABLE is selected in menu S06 BVB (PREVIEW MODE), the black burst signal will be output between the IN and OUT points.

Correct When ENABLE is selected in menu S06 BVB (PREVIEW MODE), the black signal will be output between the IN and OUT points.

• Page 1-26 Addition

INPUT button

Refer to the section "3-1-2. Display and Setting of Time Code, User Bit and Timer Data" for how to select the data to be displayed.

• Page 1-44 Correction

Menu No. S55 TC REGEN/PRESET SEL, Items

Incorrect Default setting: PRESET

Correct Default setting: AUTO

• Page 1-44 Correction

Menu No. S56 UB REGEN/PRESET SEL, Items

Incorrect Default setting: PRESET

Correct Default setting: AUTO

• Page 1-46 Addition

Menu No. S79 AUDIO LEVEL METER, Description

CAL EXP: The "-18" segment blinks and the level difference between segments is set to 0.2 dB, with the level indicated with the "-18" segment at the center of the scale. ¹⁾

1) The center value can be selected in Menu I74. CALIBRATION LEVEL. The center value of the CUE channel is set to -12dB.

• Page 1-50 Addition

Footnote 2)

The following description is applied to the model with serial No. 10201 and higher. "When the +/- keys are pressed instead of the numeral keys, the number of the initial setup menu (I), the test mode menu (T) and the extend menu (E) can be selected."

• Page 1-54 Correction

Menu No. I25 ASSEM PREVIEW MODE, Description

Incorrect MODE 2: If the OUT point is entered, the tape stops at the OUT point.

Correct MODE 2: If the OUT point is entered, the tape stops two seconds after the OUT point.

Block A	Incorrect	DUR: Duration (time between IN and OUT points) by timer data.
Block B	Correct	DUR: Duration (time between IN and OUT points) by timer data and time code.

Footnote 2)	Incorrect	When ENABLE is selected in menu 808 BVB (PREVIEW MODE), the black burst signal will be output between the IN and OUT points.
Footnote 3)	Correct	When ENABLE is selected in menu 808 BVB (REVIEW MODE), the black signal will be output between the IN and OUT points.

INPUT button

Refer to the section 1-1-2. Display and Setting of Time Code, User Bit and Final Data for how to select the data to be displayed.

Menu No. 555 TC REGENPRESSET SEL, Items	Incorrect	Default setting: PRESSET
	Correct	Default setting: AUTO

Menu No. 556 UB REGENPRESSET SEL, Items	Incorrect	Default setting: PRESSET
	Correct	Default setting: AUTO

Menu No. 879 AUDIO LEVEL METER, Description

CAL EXP: The "18" peak in blink and the level distance between segments is set to 0.2 dB, with the level indicated with the "18" segment at the center of the scale.

*) The center value can be selected in Menu 174 CALIBRATION LEVEL. The center value of the CUE channel is set to -12dB.

Footnote 2)

The following description is applied to the model with serial No. 10201 and higher. When the + keys are pressed instead of the numeral keys, the number of the initial setup menu (1) the test mode menu (T) and the extend menu (E) can be selected.

Menu No. 152 ASOB PREVIEW MODE, Description	Incorrect	MODE Set the OUT point is entered, the tape stops at the OUT point.
	Correct	MODE Set the OUT point is entered, the tape stops two seconds after the OUT point.

• Page 1-56 Corrections

Incorrect I62. CHARACTER V.POSITION ADJ
Correct I62. CHARA V.POSITION ADJ

Incorrect I63. CHARACTER H.POSITION ADJ
Correct I63. CHARA H.POSITION ADJ

• Page 1-62 Correction

Flow of setup data saving

The "Menu operation completed?" block has been deleted from the flow diagram.

After you press SET key to finalize selection of Initial Setup Menu, be sure to press T key.

• Page 1-64 Correction

Flow of setup data restoring

The "Menu operation completed?" block has been deleted from the flow diagram.

After you press SET key to transfer specified setup data to RAM, be sure to press SET UP key.

• Page 2-3 Addition

Note

• Supply the reference signal to the HDDP-1000 when the BVE-800 is used.

• Page 2-12 Addition

2-4-2. Cleaning Tape Transport and Heads

In case of tape cleaner contamination

Dampen a cotton swab with the cleaning solution and clean the tip of the tape cleaner carefully. Then, wipe with a dry cotton swab. Do not touch the tip of the tape cleaner with a sharp edge.

• Page 3-1 Correction

DA-1—DA-8 REC level controls, CUE REC level control

Incorrect In the REC/EDIT mode, pull out and turn the controls so that the DA-1 to DA-8 meters or CUE read +9dB – +15dB at maximum.

Correct In the REC/EDIT mode, pull out and turn the controls so that the DA-1 to DA-8 meters read -16dB – -4dB at maximum, and the CUE level meter reads -10dB – -6dB at maximum.

• Page 3-8 Correction

Displaying a cue point address and trimming the data

Incorrect In the STOP mode (with CUE SEL lamp unlit),

Correct In the STOP mode (with CUE SEL lamp lit),

• Page 3-14 Addition

Notes

• When you select FRZ TM in the I65 CHARA DISP (EXTEND), the time data while the unit is outputting a freeze picture is superimposed over the signal output from the VIDEO MONITOR OUT connector.

located in CHARACTER V POSITION ADJ
Control in CHARACTER V POSITION ADJ

located in CHARACTER H POSITION ADJ
Control in CHARACTER H POSITION ADJ

Flow of setup data saving
The "Menu operation completed" block has been deleted from the flow diagram.
After you press SET key to initialize selection of Initial Setup Menu, be sure to press T key.

Flow of setup data restoring
The "Menu operation completed" block has been deleted from the flow diagram.
After you press SET key to transfer specified setup data to RAM, be sure to press SET key.

Notes
Supply the reference signal to the HOP-1000 when the BYE-300 is used.

2-4-2. Cleaning Taps Transport and Heads
In case of tape cleaner contamination
Dampen a cotton swab with the cleaning solution and clean the tip of the tape cleaner carefully. Then, wipe with a cotton swab. Do not touch the tip of the tape cleaner with a sharp edge.

CA-1-DA-8 REC level control, CUE REC level control
Incorrect In the RECEDIT mode, pull out and turn the controls so that the DA-1 to DA-8 meters or CUE read +9dB - +15dB at maximum.
Correct In the RECEDIT mode, pull out and turn the controls so that the DA-1 to DA-8 meters read +6dB - +9dB at maximum, and the CUE level meter reads -10dB - -6dB at maximum.

Displaying a cue point address and trimming the data
Incorrect In the STOP mode (with CUE SEL jump III),
Correct In the STOP mode (with CUE SEL jump III),

Notes
When you select INTM in the CHA CHARA DISR (EXTEND), the time data while the unit is outputting a freeze picture is superimposed over the signal output from the VIDEO MONITOR OUT connector.

• Page 3-25 Correction

Notes on editing Table

Incorrect		STOP ERASE mode
CUE		X
Independent selection		O

Correct		SPOT ERASE mode
CUE		O (in automatic editing only)
Independent selection		O (in automatic editing only)

Note

The following description has been deleted.

•Automatic editing is performed in units of frames, while editing of only the audio signals is performed in units of fields.

• Page A-1 Addition

Error message: CONCEAL

Meaning: This message is displayed when errors beyond the range that can be corrected occur in the video playback signal. The errors are concealed in the CONF1 mode while recording, editing or playing back.

• Page A-2 Correction

Error message: MUTE

Incorrect This message is displayed when errors that cannot be corrected occur in the playback signal of the digital audio channels in the CONF1 mode of the REC or EDIT REC mode.

Correct This message is displayed when errors that cannot be corrected occur in the playback signal of the digital audio channels in the CONF1 mode while recording, editing or playing back.

• Page A-2 Addition

Checking the addresses of the lost-lock errors

You can also check the addresses of the mute errors, the concealed errors and the no ctl errors in the same way that you check the addresses of the lost-lock errors. For details, refer to page A-4.

• Page A-2 Addition

The following error message has been added.

Error message: NO CTL

Meaning: This message is displayed when the CTL signal on the tape is not correctly recorded in recording or assemble editing. The audio heads may be clogged. Clean the heads.

• Page A-3 Correction

Error message: TEST MD

Incorrect TEST MD

Correct TEST MOD

• Page A-4 Correction

To erase the stored data

Change as follows:

The stored lost-lock addresses are erased by pressing the RESET button while pressing the STANDBY button.

Notes on editing

Table	
QUE	STOP ERASE mode X
Independent selection	O

Content	
QUE	SPOT ERASE mode O (in automatic editing only)
Independent selection	O (in automatic editing only)

Note

The following description has been deleted.
Automatic editing is performed in units of frames, while editing of only the audio signal is performed in units of fields.

Error message: CONCEAL

Meaning: This message is displayed when errors that cannot be corrected occur in the video playback signal. The errors are concealed in the CONF mode while recording, editing or playing back.

Error message: MUTE

Meaning: This message is displayed when errors that cannot be corrected occur in the playback signal of the digital audio channels in the CONF mode of the REC or EDIT REC mode.
This message is displayed when errors that cannot be corrected occur in the playback signal of the digital audio channels in the CONF mode while recording, editing or playing back.

Checking the addresses of the lost lock errors

You can also check the address of the mute errors, the concealed errors and the lost error to the same way that you check the addresses of the lost lock errors. For details, refer to page A-4.

The following error message has been added.

Error message: NO CTL

Meaning: This message is displayed when the CTL signal on the tape is not correctly recorded in recording or assembly editing. The audio heads may be cleaned and the heads checked.

Error message: TEST MD

Content: TEST MD
Cause: TEST MOD

To erase the stored data

Control as follows:
The stored lock addresses are erased by pressing the RESET button while pressing the STANDBY button.

• Page A-4 Correction

Checking the addresses of the mute errors

Incorrect For the model with the serial No. 10301 and higher
Correct For the model with the serial No. 10201 and higher

• Page A-4 Correction

Checking the addresses of the concealed errors

Incorrect For the model with the serial No. 10301 and higher
Correct For the model with the serial No. 10201 and higher

• Page A-4 Addition

Checking the addresses of the no ctl errors

The procedure is the same as that to check the mute errors or the concealed errors. "NO CTL" is displayed in block 6.

• Page A-5 Correction

Pin No. 37

Incorrect ENABLE Signals: A1/A3/A5/A7 REC IN
Correct ENABLE Signals: A1/DA1/DA3/DA5/DA7/CUE REC IN

• Page A-5 Correction

Pin No. 40

Incorrect ENABLE Signals: A2/A4/A6/A8/ REC IN
Correct ENABLE Signals: A2/DA2/DA4/DA6/DA8/CUE REC IN

• Page A-5 Correction

Pin No. 39

Incorrect DISABLE Signals: A1 PRESET OUT
ENABLE Signals: A1/A3/A5/A7 REC SW OUT
Correct DISABLE Signals: A1/DA1/DA3/DA5/DA7/CUE PRESET OUT
ENABLE Signals: A1/DA1/DA3/DA5/DA7 REC SW OUT

• Page A-5 Correction

Pin No. 38

Incorrect DISABLE Signals: A2 PRESET OUT
ENABLE Signals: A2/A4/A6/A8 REC SW OUT
Correct DISABLE Signals: A2/DA2/DA4/DA6/DA8/CUE PRESET OUT
ENABLE Signals: A2/DA2/DA4/DA6/DA8 REC SW OUT

• Page A-5 Correction

Pin No. 42

Incorrect DISABLE Signals: A3 PRESET OUT
Correct DISABLE Signals: TC PRESET OUT

• Page A-5 Correction

Pin No. 41

Incorrect DISABLE Signals: A4 PRESET OUT
Correct DISABLE Signals: CUE PRESET OUT

• Page A-8 Addition

Index	
Checking the addresses of the no ctl errors	A-4
Cleaning	2-12

Please replace or add the following pages with the corresponding pages of your manual.

Index A-4
Checking the address of the no. 61 wires A-4
Cleaning A-12

Please replace or add the following pages with the corresponding pages of your manual.

8 DA-1 — DA-8 (digital audio 1 — 8) level meters

Indicate the audio level for each channel with 15 LED segments.

The bottom LED segments light steadily.

For the model with the serial No. 11201 and higher: The meter indication changes according to the settings of the Menu S79. AUDIO LEVEL METER and Menu I74. CALIBRATION LEVEL as follows:

setting of the menu LED segment	Input level (dBs)						
	S79. AUDIO LEVEL METER						
	NORMAL, 2 SEC, HOLD	CAL NOR		CAL EXP (0.2dB / seg. mode)			
		LED blinks	LED lights	I74, CALIBRATION LEVEL			
			-16dB	-18dB	-20dB	-22dB	
OVER	+22	+21.9 to +22.0		over +6.7	over +4.9	over +3.1	over +1.3
(-4)	over +18	+18.0 to +18.1	over +18.1	over +6.5	over +4.7	over +2.9	over +1.1
-8	over +14	+14.0 to +14.1	over +14.1	over +6.3	over +4.5	over +2.7	over +0.9
(-12)	over +10	+10.0 to +10.1	over +10.1	over +6.1	over +4.3	over +2.5	over +0.7
-16	over +6	+6.0 to +6.1	over +6.1	+5.9 to +6.1	over +4.1	over +2.3	over +0.5
(-18)	over +4	+4.0 to +4.1	over +4.1	over +5.7	+3.9 to +4.1	over +2.1	over +0.3
-20	over +2	+2.0 to +2.1	over +2.1	over +5.5	over +3.7	+1.9 to +2.1	over +0.1
(-22)	over 0	0 to +0.1	over 0	over +5.3	over +3.5	over +1.7	-0.1 to +0.1
-24	over -2		over -2	over +5.1	over +3.3	over +1.5	over -0.3
(-28)	over -6		over -6	over +4.9	over +3.1	over +1.3	over -0.5
-32	over -10		over -10	over +4.7	over +2.9	over +1.1	over -0.7
(-37)	over -15		over -15	over +4.5	over +2.7	over +0.9	over -0.9
-42	over -20		over -20	over +4.3	over +2.5	over +0.7	over -1.1
(-48)	over -26		over -26	over +4.1	over +2.3	over +0.5	over -1.3
-∞	-∞		-∞	-∞	-∞	-∞	-∞

0dBs = 0.075V

The audio signal to be indicated changes depending on the settings of the TAPE/IN key, INPUT button on the function control panel, and the VTR operation mode as follows.

VTR operation mode TAPE/IN key and INPUT button setting	STOP mode	REC/EDIT mode	Other modes
TAPE	TAPE	TAPE (MONITOR)	TAPE
TAPE/EE	EE	EE	TAPE
INPUT	INPUT or EE	INPUT or EE	INPUT or EE

9 CUE REC level control

Pulled-out position: The cue channel recording level can be adjusted.

Pushed-in position: Adjusted to the preset level. For presetting operation, refer to "3-2. RECORDING".

10 TRACKING control

Pulled-out position: The tracking error during playback can be adjusted.

Pushed-in position: Adjusted to the factory preset position.

While the INPUT button is held down

While the INPUT button is held down, the DA-1 — DA-8 level meters indicate the signal levels controlled by the DA-1 — DA-8 REC level controls **11**.

The INPUT or EE signal can be selected by Menu 104 INPUT CHECK MODE.

11 DA-1 - DA-8 REC (recording) level controls

Pulled-out position: The audio recording level can be adjusted.
Pushed-in position: Adjusted to the factory preset level.

12 AUDIO MASTER PB (playback) level control

Pulled-out position: Simultaneously adjusts the audio playback levels of DA-1 through DA-8, which are output from the ANALOG/DIGITAL AUDIO OUT 1 through 8 connectors. However, the gain of the audio playback signals are set to 0 dB when the ASSEMBLE/INSERT button is lit.

Pushed-in position: The gain of the audio playback signals are set to 0dB.

13 Audio monitor select buttons

Select the audio output signals from the HEADPHONES jack and the MONITOR OUTPUT L/R connectors.

DA-1-DA-8

When pressed, lights and the displayed signal is output. There are two buttons (L and R) for each channel.

CUE

When pressed, lights and the output signal changes to that from the CUE channel. When DIGITAL is selected in Menu S13 CUE INPUT SELECT, the two channel buttons (from DA-1 to DA-8), which are selected for the input signals to the CUE channel, light to indicate they are selected.

You can change the input signals for the CUE channel by pressing one of the DA-1 through DA-8 buttons to be changed while pressing this button.

D/A SEL

When pressed, the DA-1 to DA-8 buttons indicate which signal is selected, analog or digital, to be input to the DA-1 to DA-8 channels respectively. The upper button lights when the analog input signal is selected, while the lower button lights when the digital input signal is selected.

You can change the selection by pressing the DA-1 through DA-8 buttons (upper or lower) to be changed while pressing this button.

Note

When you select the digital input signal for a channel, the button might blink (but not kept lit), indicating that the digital signal is not input to the channel or that the digital input signal is not synchronized with the reference signal.

EMPH

When pressed, the DA-1 to DA-8 buttons indicate whether the emphasis is set to on or not for each channel to which analog signal is input respectively. The upper button lights when the emphasis is set to on, and the lower button lights when the emphasis is set to off.

You can change the setting by pressing one of the DA-1 through DA-8 buttons (upper or lower) to be changed while pressing this button.

14 MONITOR/PHONES level control

Adjusts the listening level of the headphones or the output level of the audio MONITOR OUTPUT L/R connectors (rear).

15 HEADPHONES jack

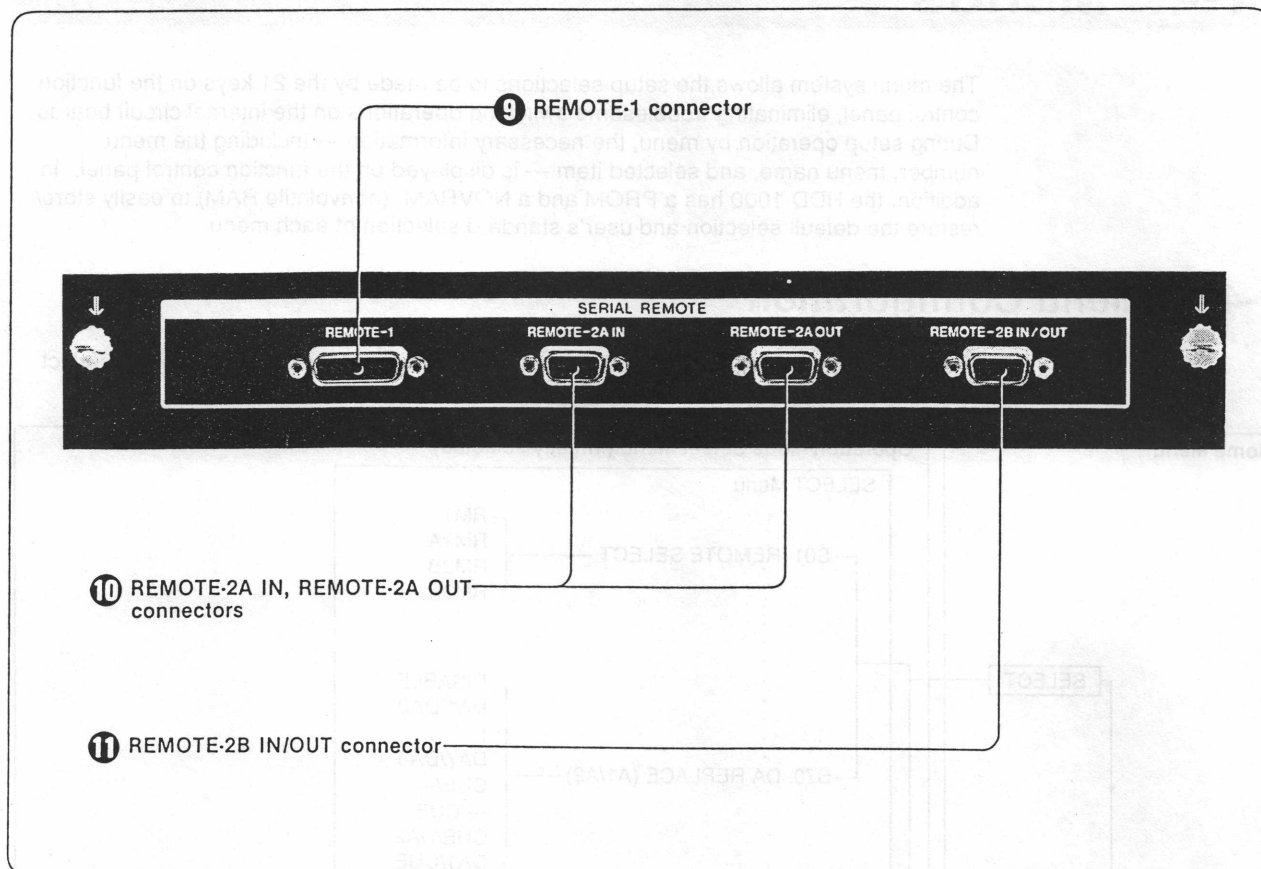
Connect 8-ohm headphones to monitor the audio output signal selected by the Audio monitor select buttons **13**.

When headphones are connected, audio signals are not output to the MONITOR OUTPUT L/R connectors.

Note

Be careful not to damage the headphone plug when removing the front cover. To avoid this, it is recommended to use the attached L-shaped headphone plug.

SERIAL REMOTE connectors



- 9 REMOTE-1 connector (D-SUB 15-pin)**
Input/output connector for the remote control signals.
Used to connect a VTR or editing control unit having the CCJ 10-pin type remote connector via the BKH-2016 CCJ converter. To use this connector for remote control operation, select RM1 in Menu S01 REMOTE SELECT.
- 10 REMOTE-2A IN, REMOTE-2A OUT connectors (D-SUB 9-pin)**
These are the input and output connectors for 9-pin serial remote interface. Use the RCC-5G, 10G or 30G 9-pin serial remote control cable to connect to a VTR, editing control unit or remote control unit. The IN and OUT connectors are loop-through for bridge connection of the remote control signals. To use this connector for remote control operation, select RM2A in Menu S01 REMOTE SELECT.
- 11 REMOTE-2B IN/OUT connector (D-SUB 9-pin)**
Input/output connector for 9-pin serial remote interface. The function and use is the same as the REMOTE-2A except for the bridge connection. This connector becomes an input connector when the REMOTE/LOCAL selector **2** on the level control panel is set to REMOTE, and an output connector when it is set to LOCAL. To use this connector for remote control operation, select RM2B in Menu S01 REMOTE SELECT.

Note

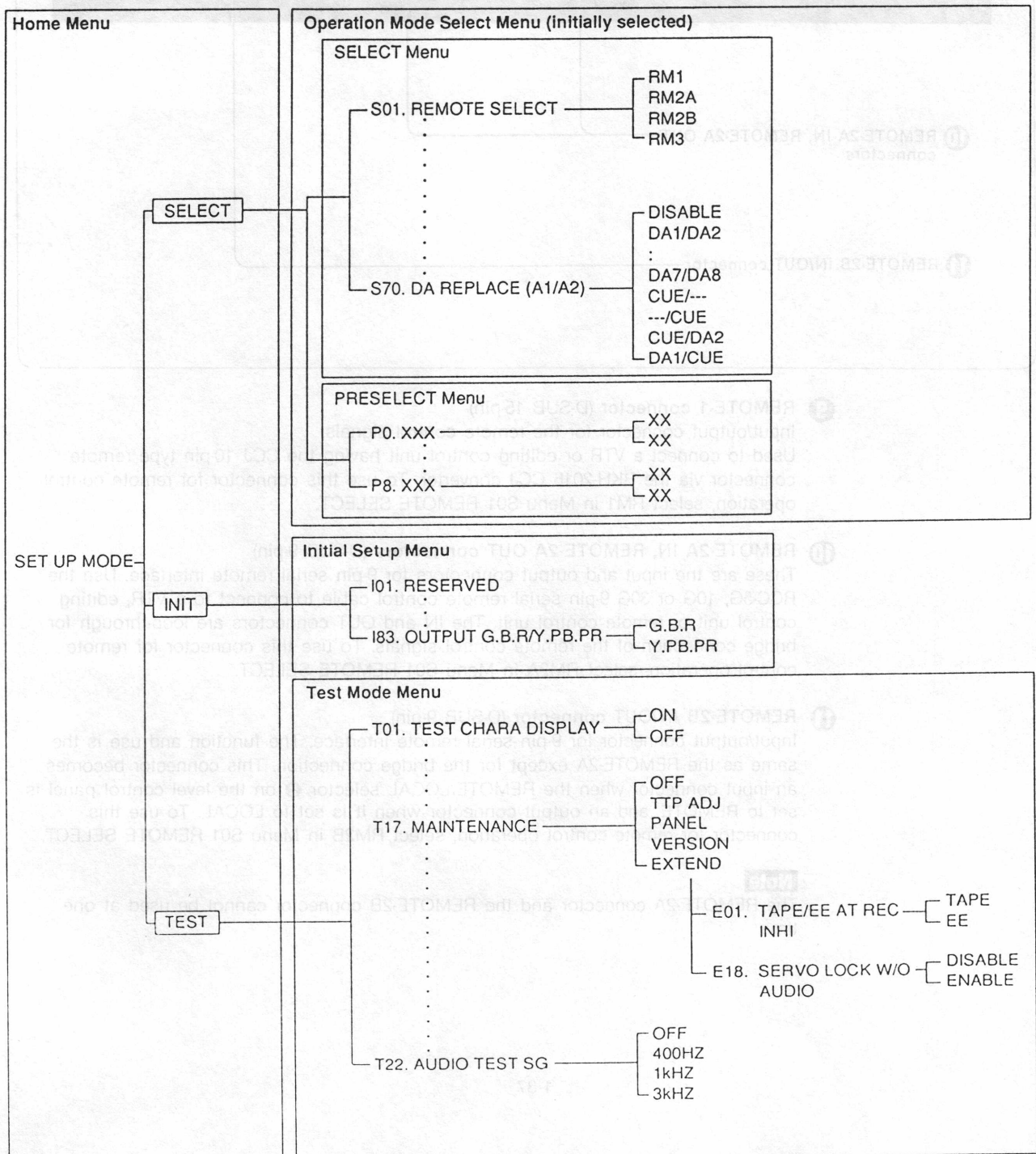
The REMOTE-2A connector and the REMOTE-2B connector cannot be used at one time.

1-4. Menus

The menu system allows the setup selections to be made by the 21 keys on the function control panel, eliminating troublesome switching operations on the internal circuit boards. During setup operation by menu, the necessary information — including the menu number, menu name, and selected item — is displayed on the function control panel. In addition, the HDD-1000 has a PROM and a NOVRAM (nonvolatile RAM) to easily store/restore the default selection and user's standard selection of each menu.

1-4-1. Menu Configuration

The menu system of the HDD-1000 consists of the Home Menu, Operation Mode Select Menu, Initial Setup Menu, and Test Mode Menu as shown below.



The Operation Mode Select Menu, used chiefly for setup during operation, is automatically selected where the VTR enters the SET UP mode. This menu is divided into the SELECT Menu and PRESELECT Menu; the latter allows direct selection of each detailed-menu by merely pressing its corresponding numeral key assigned by the user.

The Initial Setup Menu for basic setup and the Test Mode Menu for self-diagnostics can be selected only in the Home Menu.

The Home Menu can be selected by pressing the C key once or several times until SET UP MODE is displayed on the function control panel.

Each of the SELECT, PRESELECT, Initial Setup and Test Mode Menus consists of detailed-menus (or "menus".) Some menus must be set when the VTR is installed.

The Operation Mode Select Menu, used chiefly for setup during operation, is automatically selected when the VTR enters the SET UP mode. This menu is divided into the SELECT Menu and PRESELECT Menu; the latter allows direct selection of each detailed menu merely by pressing its corresponding numerical key assigned by the user. The Initial Setup Menu for basic setup and the Test Mode Menu for self-diagnostics can be selected only in the Home Menu. The Home Menu can be selected by pressing the O key once or several times until SET UP MODE is displayed on the function control panel. Each of the SELECT, PRESELECT, Initial Setup and Test Mode Menus consists of detailed menus (or menus). Some menus must be set when the VTR is installed.

Menu No.	Menu	Items	Description
S59.	MIXED CHARA OUTPUT	[DISABLE] MONITOR	Selects whether character are superimposed or not. DISABLE: Not superimposed MONITOR: Superimposed on the output from the MONITOR OUT connector
(3) Audio			
S70.	DA REPLACE (A1/A2)	[DISABLE] DA1/DA2 DA7/DA8 CUE/--- ---/CUE CUE/DA2 DA1/CUE	Selects which pair channels are used when using the VTR with a conventional editor capable of handling only a pair of audio channels. DISABLE: The VTR cannot be controlled by the editor. DA1/DA2: The DA-1 and the DA-2 channels are assigned to the audio 1 and audio 2 channels respectively. DA7/DA8: The DA-7 and the DA-8 channels are assigned to the audio 1 and the audio 2 channels respectively. CUE/---: The CUE channel is assigned to the audio 1 channel. ---/CUE: The CUE channel is assigned to the audio 2 channel. CUE/DA2: The CUE channel is assigned to the audio 1 channel, and the DA-2 channel is assigned to the audio 2 channel. DA1/CUE: The DA-1 channel is assigned to the audio 1 channel, and the CUE channel is assigned to the audio 2 channel.

For the model with the serial No. 10201 and higher:

Menu No.	Menu	Items	Description
S71.	DA-1 INPUT SELECT	[LINE IN] DA-2 PB to DA-8 PB	Selects the input signal of the digital audio channels DA-1 to DA-8. When input signals of the DA-1 PB to DA-8 PB are selected, copy between the channels is possible by using INSERT editing.
S72. 	DA-2 INPUT SELECT 	[LINE IN] DA-1 PB to DA-8 PB	LINE IN: Under normal operation, selects the line input signals. DA-1 PB: Selects the playback signal of the DA-1 channel as the input signal.
S78.	DA-8 INPUT SELECT	[LINE IN] DA-1 PB to DA-7 PB	 DA-8 PB: Selects the playback signal of the DA-8 channel as the input signal.

Menu No.	Menu	Items	Description
S79.	AUDIO LEVEL METER	NORMAL 2 SEC HOLD CAL NOR CAL EXP	<p>Selects the level meter indication of the DA-1 to DA-8 channels and of the cue channels.</p> <p>NORMAL: The meter operates as the normal peak meter.</p> <p>2 SEC: Displays the current level and at the same time holds the indication of the peak level for 2 seconds.</p> <p>HOLD: Holds the indication of the maximum peak level until a higher peak level signal is input.</p> <p>CAL NOR: Blinking mode. When a calibration signal within +0.1 dB of the signal corresponding to the "OVER" to "-20" segments is input, the corresponding segment blinks.</p> <p>CAL EXP: 0.2 dB/segment mode (for precise level adjustment). The "-18" segment blinks and the level difference between segments is set to 0.2 dB with the level indicated with the "-18" segment at the center of the scale. When the input level is within +3.9 to +4.1 dBs, the "-18" segment lights steadily.</p>

Menu No.	Menu	Items	Description
S71	DA-1 INPUT SELECT	DA-1 PB DA-2 PB DA-3 PB DA-4 PB DA-5 PB DA-6 PB DA-7 PB DA-8 PB	Selects the input signal of the digital audio channels DA-1 to DA-8.
S72	DA-2 INPUT SELECT	DA-1 PB DA-2 PB DA-3 PB DA-4 PB DA-5 PB DA-6 PB DA-7 PB DA-8 PB	When input signals of the DA-1 PB to DA-8 PB are selected, copy between the channels is possible by using INSERT editing.
S73	DA-3 INPUT SELECT	DA-1 PB DA-2 PB DA-3 PB DA-4 PB DA-5 PB DA-6 PB DA-7 PB DA-8 PB	LIVE IN: Under normal operation, selects the input signal.
S74	DA-4 INPUT SELECT	DA-1 PB DA-2 PB DA-3 PB DA-4 PB DA-5 PB DA-6 PB DA-7 PB DA-8 PB	DA-1 PB: Selects the playback signal of the DA-1 channel as the input signal.
S75	DA-5 INPUT SELECT	DA-1 PB DA-2 PB DA-3 PB DA-4 PB DA-5 PB DA-6 PB DA-7 PB DA-8 PB	DA-2 PB: Selects the playback signal of the DA-2 channel as the input signal.
S76	DA-6 INPUT SELECT	DA-1 PB DA-2 PB DA-3 PB DA-4 PB DA-5 PB DA-6 PB DA-7 PB DA-8 PB	DA-3 PB: Selects the playback signal of the DA-3 channel as the input signal.
S77	DA-7 INPUT SELECT	DA-1 PB DA-2 PB DA-3 PB DA-4 PB DA-5 PB DA-6 PB DA-7 PB DA-8 PB	DA-4 PB: Selects the playback signal of the DA-4 channel as the input signal.
S78	DA-8 INPUT SELECT	DA-1 PB DA-2 PB DA-3 PB DA-4 PB DA-5 PB DA-6 PB DA-7 PB DA-8 PB	DA-5 PB: Selects the playback signal of the DA-5 channel as the input signal.

Menu No.	Menu	Items	Description
152.	TC LINE OUTPUT	REGEN PB/EE	<p>Selects the signal which is output from the TIME CODE connector when the VTR enters the REGEN mode in Menu S55 and S56.</p> <p>REGEN: Output time code regenerated by the TCG.</p> <p>PB/EE: Output playback time code of the tape or time code regenerated by the TCG. One of two kinds of time codes is selected by the TAPE/EE switch in the 21-key section.</p>
153.	TIME CALC MODE	12H 24H	<p>Selects the method of determining the preroll direction in accordance with the calculation result of the time difference between the current and preroll points.</p> <p>12H: If the calculation result of time difference is longer than 12 hours, the preroll direction is reversed. If not, the preroll direction is not reversed. Select this item for such a tape that has a continuous record range, including the time point of 00:00:00:00, within itself.</p> <p>24H: If the preroll point time value is larger than the current point time value, the tape is prerolled in the forward direction. If the preroll point time value is smaller than the current point time value, the tape is prerolled in the reverse direction.</p>
154.	TIMER DISPLAY MODE	+/- 12H 24H	<p>Selects the display mode of timers 1 and 2.</p> <p>+/- 12H: Signed 12-hour display mode. Time data cannot be preset even in the timer-1. (However, the timer-1 data can be reset by pressing the RESET button.)</p> <p>24H: 24-hour display mode. Time data can be preset in the timer-1.</p>
155.	TC INSERT	DISABLE ENABLE	<p>Selects whether time code insertion is to be enabled in INSERT editing.</p> <p>DISABLE: TC preset (insert mode) is inhibited, disabling time code insertion.</p> <p>ENABLE: Time code insertion is enabled.</p>
156.	INTER-POLATED LTC	DISABLE ENABLE	<p>Selects whether the longitudinal time code is interpolated by the timer data when they cannot be properly read.</p> <p>DISABLE: Not interpolated</p> <p>ENABLE: Interpolated by timer data</p>

Menu No.	Menu	Items	Description
157.	INTER-POLATED VITC	DISABLE ENABLE	Selects whether the vertical interval time code(VITC) is interpolated by the LTC data when it cannot be properly read. DISABLE: VITC is not interpolated. ENABLE: VITC is interpolated.
158.	RESERVED		

Menu No.	Menu	Items	Description
159.	LTC ERROR BYPASS	<input checked="" type="checkbox"/> ON OFF	Selects whether the error bypass circuit is activated for the data output from the REMOTE-3 connector. ON: The error bypass circuit is activated. OFF: The error bypass circuit is not activated.
160.	CHARACTER RECORD	<input checked="" type="checkbox"/> DISABLE ENABLE	Selects whether the characters mixed on the picture are recorded. DISABLE: Characters not recorded ENABLE: Characters recorded
161.	CHARACTER SIZE ADJ	<input checked="" type="checkbox"/> 1 2	Selects the size of the characters to be superimposed on the picture.
162.	CHARACTER V. POSITION ADJ	1 2 3 4 5 6 7 <input checked="" type="checkbox"/> 8	Selects the vertical position of the characters to be superimposed on the picture.
163.	CHARACTER H. POSITION ADJ	1 2 3 <input checked="" type="checkbox"/> 4 5 6 7 8	Selects the horizontal position of the characters to be superimposed on the picture.
164.	CHARA DISPLAY MODE	1-1 1-2 1-3 2-1 <input checked="" type="checkbox"/> 2-2 2-3 3-1 3-2 3-3	Selects the display mode of the characters to be superimposed on the picture when MONITOR is selected in Menu S59 MIXED CHARA OUTPUT. <ul style="list-style-type: none"> • Character display without error message <ul style="list-style-type: none"> 1-1: White character display only 1-2: White characters with black background 1-3: Black-rimmed white characters • Character display with error message <ul style="list-style-type: none"> 2-1: White character display only 2-2: White characters with black background 2-3: Black-rimmed white characters • Error message display only <ul style="list-style-type: none"> 3-1: White character display only 3-2: White characters with black background 3-3: Black-rimmed white characters

Menu No.	Menu	Items	Description
180	LTC ERROR BYPASS	<input type="checkbox"/> ON <input type="checkbox"/> OFF	Selects whether the error bypass circuit is activated for the data output from the REMOTE 3 connector. ON: The error bypass circuit is activated. OFF: The error bypass circuit is not activated.
180	RECORD CHARACTER	<input type="checkbox"/> DISABLE <input type="checkbox"/> ENABLE	Selects whether the characters mixed on the picture are recorded. DISABLE: Characters not recorded. ENABLE: Characters recorded.
181	CHARACTER SIZE ADJ	1 2	Selects the size of the characters to be superimposed on the picture.
182	CHARACTER V-POSITION ADJ	1 2 3 4 5 6 7 8	Selects the vertical position of the characters to be superimposed on the picture.
183	CHARACTER H-POSITION ADJ	1 2 3 4 5 6 7 8	Selects the horizontal position of the characters to be superimposed on the picture.
184	CHARACTER DISPLAY MODE	1-1 1-2 1-3 1-4 1-5 1-6 1-7 1-8 1-9 1-10 1-11 1-12 1-13 1-14 1-15 1-16 1-17 1-18 1-19 1-20 1-21 1-22 1-23 1-24 1-25 1-26 1-27 1-28 1-29 1-30 1-31 1-32 1-33 1-34 1-35 1-36 1-37 1-38 1-39 1-40 1-41 1-42 1-43 1-44 1-45 1-46 1-47 1-48 1-49 1-50 1-51 1-52 1-53 1-54 1-55 1-56 1-57 1-58 1-59 1-60 1-61 1-62 1-63 1-64 1-65 1-66 1-67 1-68 1-69 1-70 1-71 1-72 1-73 1-74 1-75 1-76 1-77 1-78 1-79 1-80 1-81 1-82 1-83 1-84 1-85 1-86 1-87 1-88 1-89 1-90 1-91 1-92 1-93 1-94 1-95 1-96 1-97 1-98 1-99 1-100	Selects the display mode of the characters to be superimposed on the picture when MONITOR is selected in Menu 89 MIXED CHARA OUTPUT. Character display without error message. 1-1: White character display only. 1-2: White characters with black background. 1-3: Black-bordered white characters. Character display with error message. 1-4: White character display only. 1-5: White characters with black background. 1-6: Black-bordered white characters. Error message display only. 1-7: White character display only. 1-8: White characters with black background. 1-9: Black-bordered white characters. Error message display only. 1-10: White character display only. 1-11: White characters with black background. 1-12: Black-bordered white characters. Error message display only. 1-13: White character display only. 1-14: White characters with black background. 1-15: Black-bordered white characters. Error message display only. 1-16: White character display only. 1-17: White characters with black background. 1-18: Black-bordered white characters. Error message display only. 1-19: White character display only. 1-20: White characters with black background. 1-21: Black-bordered white characters. Error message display only. 1-22: White character display only. 1-23: White characters with black background. 1-24: Black-bordered white characters. Error message display only. 1-25: White character display only. 1-26: White characters with black background. 1-27: Black-bordered white characters. Error message display only. 1-28: White character display only. 1-29: White characters with black background. 1-30: Black-bordered white characters. Error message display only. 1-31: White character display only. 1-32: White characters with black background. 1-33: Black-bordered white characters. Error message display only. 1-34: White character display only. 1-35: White characters with black background. 1-36: Black-bordered white characters. Error message display only. 1-37: White character display only. 1-38: White characters with black background. 1-39: Black-bordered white characters. Error message display only. 1-40: White character display only. 1-41: White characters with black background. 1-42: Black-bordered white characters. Error message display only. 1-43: White character display only. 1-44: White characters with black background. 1-45: Black-bordered white characters. Error message display only. 1-46: White character display only. 1-47: White characters with black background. 1-48: Black-bordered white characters. Error message display only. 1-49: White character display only. 1-50: White characters with black background. 1-51: Black-bordered white characters. Error message display only. 1-52: White character display only. 1-53: White characters with black background. 1-54: Black-bordered white characters. Error message display only. 1-55: White character display only. 1-56: White characters with black background. 1-57: Black-bordered white characters. Error message display only. 1-58: White character display only. 1-59: White characters with black background. 1-60: Black-bordered white characters. Error message display only. 1-61: White character display only. 1-62: White characters with black background. 1-63: Black-bordered white characters. Error message display only. 1-64: White character display only. 1-65: White characters with black background. 1-66: Black-bordered white characters. Error message display only. 1-67: White character display only. 1-68: White characters with black background. 1-69: Black-bordered white characters. Error message display only. 1-70: White character display only. 1-71: White characters with black background. 1-72: Black-bordered white characters. Error message display only. 1-73: White character display only. 1-74: White characters with black background. 1-75: Black-bordered white characters. Error message display only. 1-76: White character display only. 1-77: White characters with black background. 1-78: Black-bordered white characters. Error message display only. 1-79: White character display only. 1-80: White characters with black background. 1-81: Black-bordered white characters. Error message display only. 1-82: White character display only. 1-83: White characters with black background. 1-84: Black-bordered white characters. Error message display only. 1-85: White character display only. 1-86: White characters with black background. 1-87: Black-bordered white characters. Error message display only. 1-88: White character display only. 1-89: White characters with black background. 1-90: Black-bordered white characters. Error message display only. 1-91: White character display only. 1-92: White characters with black background. 1-93: Black-bordered white characters. Error message display only. 1-94: White character display only. 1-95: White characters with black background. 1-96: Black-bordered white characters. Error message display only. 1-97: White character display only. 1-98: White characters with black background. 1-99: Black-bordered white characters. Error message display only. 1-100: White character display only.

Menu No.	Menu	Items	Description
165.	CHARA DISP (EXTEND)	<input type="checkbox"/> OFF TCR TCR. TCG UBR UBR. UBG TM1 TM2 PLAYER FRZ TM	<p>Selects the characters to be additionally superimposed below those displayed in accordance with Menu 164.</p> <p>In this mode, field information is not displayed because the display rate of characters is limited to the frame rate. If the time code or user bit data cannot be correctly read, such an indication label as T*R or U*R is used instead of the ordinary label. If ENABLE is selected in Menu 156 INTERPOLATED LTC, however, the LTC value correctly interpolated by the timer information is displayed even if the indication label is T*R.</p> <p>OFF: No additional characters displayed TCR: Time code read by LTC reader TCR . : Time code read by VITC reader TCG: Time code generated by time code generator UBR: User bit data read by LTC reader UBR . : User bit data read by VITC reader UBG: User bit data generated by time code generator TM1: Timer-1 data TM2: Timer-2 data PLAYER: Player time data in editing with two VTRs FRZ TM: Time data at execution time of freeze</p>
166.	MENU DISPLAY	<input type="checkbox"/> DISABLE <input type="checkbox"/> ENABLE	<p>Selects whether the menus are superimposed on the output video signal selected in Menu S59 MIXED CHARA OUTPUT.</p> <p>DISABLE: Menus are not superimposed. ENABLE: Menus are superimposed in the SET UP mode (SET UP lamp is blinking).</p> <p>Superimposition of the one-line and two-line display is not performed when menus are superimposed. (For the display formats, refer to "3-1-4 Character Superimposition".)</p>
167.	DROP FRAME MODE	<input type="checkbox"/> DISABLE <input type="checkbox"/> ENABLE	<p>Selects drop-frame mode or non-drop frame mode for the time code or timer count.</p> <p>DISABLE: Non-drop frame mode ENABLE: Drop frame mode</p>

Menu No.	Menu	Items	Description
(3) Audio			
170.	AUDIO ADVANCE/ DELAY	-800 <input type="text" value="0"/> +800	Adjusts the phase of the digital audio (DA-1 to DA-8) output signals. Adjustable range is from -800 to +800 samples (1 sample = approx. 20 µsec.) Enter the number with the <input type="text" value="+"/> / <input type="text" value="-"/> key and 0 <input type="text" value="9"/> keys, and press the SET key.
171.	AUDIO DOUBLE RECORD	<input type="text" value="DISABLE"/> <input type="text" value="ENABLE"/>	Selects whether or not the digital audio signals of the DA-1 to DA-4 channels are recorded simultaneously on the DA-5 to DA-8 tracks and the DA-1 to DA-4 tracks. DISABLE: Each channel (track) of the DA-1 to DA-8 can be used independently. ENABLE: Records the audio signals on the DA-5 to DA-8 tracks simultaneously on the DA-1 to DA-4 tracks*. In this case, the "-∞" LED segments of the DA-5 to DA-8 channels on the level meter do not light up.
172.	CROSS FADE TIME	3 MS 4 MS <input type="text" value="10 MS"/> 15 MS 20 MS 25 MS 30 MS	Selects the cross fade time for the digital audio channel.
173.	AUTO MONITOR SELECT	<input type="text" value="DISABLE"/> <input type="text" value="ENABLE"/>	Selects whether the audio monitor output signal is automatically changed depending on the mode: digital channel in PLAY mode, and CUE channel in JOG/SHUTTLE mode. DISABLE: Not automatically changed ENABLE: Automatically changed
174.	CALIBRATION LEVEL	-16 DB <input type="text" value="-18 DB"/> -20 DB -22 DB	Selects the center value of the digital audio channel when CAL EXP is selected in Menu S79 AUDIO LEVEL METER. At the same time, this menu sets the output level of the audio test signal as follows depending on your selected center value when OFF is not selected in Menu T22 AUDIO TEST SG: -16 DB: +6 dBs -18 DB: +4 dBs -20 DB: +2 dBs -22 DB: 0 dBs

* During playback, the off-the-tape signals from the DA-1 to DA-4 tracks or those from the DA-5 to DA-8 tracks, in which no errors occurred, are selected automatically, ensuring the reliability of the playback signals of the DA-1 to DA-4 channels.

(4) Video			
180.	INPUT ANALOG/ DIGITAL	DIGITAL [ANALOG]	Selects the input video signal, digital or analog.
181.	INPUT G.B.R./ Y.PB.PR	Y.PB.PR. [G.B.R.]	Selects the input video signal, Y/P _B /P _R or G/B/R.
182.	PROC PB REF SELECT	[COM REF] INPUT EXT REF DIGITAL	Selects the reference of the video output signal. COM REF: Reference signal selected by Menu S12 COMMON REF SELECT INPUT: Analog G/Y input signal EXT REF: External reference (analog sync signal) DIGITAL: Digital video input signal
183.	OUTPUT G.B.R./ Y.PB.PR	Y.PB.PR [G.B.R.]	Selects the video output signal, Y/P _B /P _R or G/B/R.

		(4) Video	
180	INPUT ANALOG DIGITAL	OUTPUT [ANALOG]	Selects the input video signal, digital or analog.
181	INPUT G.B.R. Y.P.B.P.R.	Y.P.B.P.R. [G.B.R.]	Selects the input video signal, Y.P.B.P.R. or G.B.R.
182	PROC P.B. REF SELECT	COM REF INPUT EXT REF DIGITAL	Selects the reference of the video output signal. COM REF: Reference signal selected by Menu 812 COMMON REF SELECT INPUT: Analog C.V. input signal EXT REF: External reference (analog sync signal) DIGITAL: Digital video input signal
183	OUTPUT G.B.R. Y.P.B.P.R.	Y.P.B.P.R. [G.B.R.]	Selects the video output signal, Y.P.B.P.R. or G.B.R.

Extend Menu

The Extend Menu (E01 to E18) is selected when EXTEND is selected in the Menu T17 MAINTENANCE. The flow of the Extend Menu selection is the same as of the Test Menu.

Menu No.	Menu	Item	Description
E01.	TAPE/EE AT REC INHI	<input type="checkbox"/> TAPE <input type="checkbox"/> EE	Selects the output signal in STANDBY on mode when both the video and audio REC INHIBIT switches are set to ON, and TAPE/EE is selected.
E03.	AUTO SHUT OFF BUZZER	<input type="checkbox"/> DISABLE <input type="checkbox"/> ENABLE	Selects whether the buzzer sounds before STILL mode or STANDBY on mode is automatically released. DISABLE: The buzzer does not sound. ENABLE: The buzzer sounds for notice.
E05.	BINARY GROUP FLAG	<input type="checkbox"/> BINARY <input type="checkbox"/> ISO	Selects the type of the user bit data by designating the code on Bit 43 and 59 of LTC, and on Bit 55 and 75 of VITC. BINARY: 00 ISO: 10
E07.	REC INHI STATUS	<input type="checkbox"/> AND <input type="checkbox"/> OR	Selects one of the following cases when the REC INHIBIT status is sent to the 9-pin serial remote command. AND: When both the video and audio REC INHIBIT switches are set to ON and the editing channels are preset. OR: When either of the video and audio REC INHIBIT switches is set to ON, or when all the editing channels are set to OFF.
E10.	HOLD UB SENSE RETURN	<input type="checkbox"/> DISABLE <input type="checkbox"/> ENABLE	Selects whether the HOLD UB DATA are sent to the 9-pin serial remote command.
E11.	REM2A/REM3 PARA MODE	<input type="checkbox"/> DISABLE <input type="checkbox"/> ENABLE	Selects whether both the REMOTE-2A and the REMOTE-3 are active at the same time. When RM3 is selected in Menu S01 REMOTE SELECT, the input from the REMOTE-2A connector also becomes active. When one of RM1/RM2A/RM2B is selected, the input from the REMOTE-3 also becomes active.

Menu No.	Menu	Items	Description
E13.	LOCKED SLOW x1	DISABLE ENABLE	Selects whether the CTL is locked during x1 (normal speed) playback in VAR mode.
E14.	TAPE/EE DELAY	DISABLE ENABLE	Selects whether the playback picture is not distorted with TAPE/EE selected while the search operation is done by using the DTR-2000 dynamic motion controller. DISABLE: The playback picture is distorted after the search operation as the VTR enters STILL mode via STOP mode. ENABLE: The VTR is prevented from entering STOP mode for as long as 20 fields to avoid the picture distortion.
E15.	TC OUTPUT DELAY	0 FRAME AUTO 2 FRAME	Selects whether the time code is output with 2 frames added (advanced to the video output signal) out of the 9-pin serial remote connectors and TIME CODE connector when the tape speed is about x1 (normal speed) during editing with two VTRs. ¹⁾ 0 FRAME: The video and the time code signals are output in the same phase. AUTO: Time code is output with 2 frames added only when the editing channels are preset. 2 FRAMES: Time code is always output with 2 frames added.
E16.	SHUTTLE x8 LIMITER	DISABLE ENABLE CLICK	Selects the maximum speed of SHUTTLE mode, and whether the search dial has a click position. DISABLE: The maximum is 15 times normal speed and is not changed. CLICK: The search dial has a click position at 8 times normal speed. ENABLE: The maximum speed is changed to 8 times normal speed to monitor the playback picture.
E17.	SPECIAL VAR MODE	DISABLE ENABLE	Sets to change x1 (normal speed) playback of VAR mode. DISABLE: The speed is not changed. ENABLE: The speed is changed to 7/30 times normal speed when the DTR-2000 is used to improve operation during slow playback.
E18.	SERVO LOCK W/O AUDIO	DISABLE ENABLE	Selects whether the servo is locked under the following condition. DISABLE: The servo is not locked usually when the digital audio signals are not properly played back. ENABLE: The servo is locked when the capstan and the drum are locked.

1) The HDD-1000/HDDP-1000 system normally outputs the time code with 2 frames subtracted to match the framing of the video signal which comes 2 frames behind because of its processing. Therefore, the video and the time code signals are output in the same phase.

Appendix B. Connector Pin Assignment

REMOTE-3 connector (50-pin)

Pin No.	Menu I20. REM3 AUDIO REC					
	DISABLE			ENABLE		
	Signals		Contents	Signals		Contents
1	FF	IN	COMMAND INPUT	FF	IN	COMMAND INPUT
19	STBY ON	IN		STBY ON	IN	
20	REW	IN		REW	IN	
21	ENTRY	IN		ENTRY	IN	
34	PLAY	IN		PLAY	IN	
35	STOP	IN		STOP	IN	
36	REC	IN		REC	IN	
18	PREROLL	IN		PREROLL	IN	
22	STBY OFF	IN	CUE REC	IN		
2	REC SW	OUT	COMMAND RETURN	REC SW	OUT	COMMAND RETURN
3	PLAY SW	OUT		PLAY SW	OUT	
4	STOP SW	OUT		STOP SW	OUT	
5	ENTRY SW	OUT		ENTRY SW	OUT	
37	REV LAMP	OUT	SHUTTLE, JOG, VARIABLE	A1/A3/A5/A7 REC	IN ¹⁾	COMMAND INPUT
40	FWD LAMP	OUT		A2/A4/A6/A8 REC	IN ¹⁾	
46	STBY ON	OUT	STATUS OUT	STBY ON	OUT	STATUS OUT
47	PLAY	OUT		PLAY	OUT	
43	STOP	OUT		STOP	OUT	
24	REC	OUT		REC	OUT	
50	PREROLL	OUT		PREROLL	OUT	
48	REMOTE	OUT		REMOTE	OUT	
49	ALARM	OUT		ALARM	OUT	
39	A1 PRESET	OUT		A1/A3/A5/A7 REC SW	OUT	
38	A2 PRESET	OUT		A2/A4/A6/A8 REC SW	OUT	
42	A3 PRESET	OUT		TC REC SW	OUT	
41	A4 PRESET	OUT	CUE REC	OUT		
44	VIDEO PRESET	OUT	REV LAMP	OUT	SHUTTLE, JOG, VARIABLE	
26	ASSEMBLE PRESET	OUT	FWD LAMP	OUT		
45	INSERT PRESET	OUT	—	—	STATUS OUT	
27	EDIT	OUT	EDIT	OUT		
23	—	—	WARNING OUT	TC REC	IN ¹⁾	COMMAND INPUT
25	VIDEO 6 LACK	OUT		VIDEO 6 LACK	OUT	
6	REF ERROR	OUT		REF ERROR	OUT	
7	—	—		—	—	
8	DRUM LOCK	OUT		DRUM LOCK	OUT	
9	CAP LOCK	OUT	CAP LOCK	OUT		
12	DVT	—	Interface to SY-103 board (for TC/TM)	DVT	—	Interface to SY-103 board (for TC/TM)
13	DRD	—		DRD	—	
14	CK	—		CK	—	
15	DATA-1	—		DATA-1	—	
32	DATA-2	—		DATA-2	—	
16	DATA-4	—		DATA-4	—	
17	DATA-8	—		DATA-8	—	
28	DTM	—		DTM	—	
29	DGN	—		DGN	—	
30	MP	—		MP	—	
31	K4	—	K4	—		
33	GND	—	GND	—		
10	SP-2	—	Not used	SP-2	—	Not used
11	SP-1	—		SP-1	—	

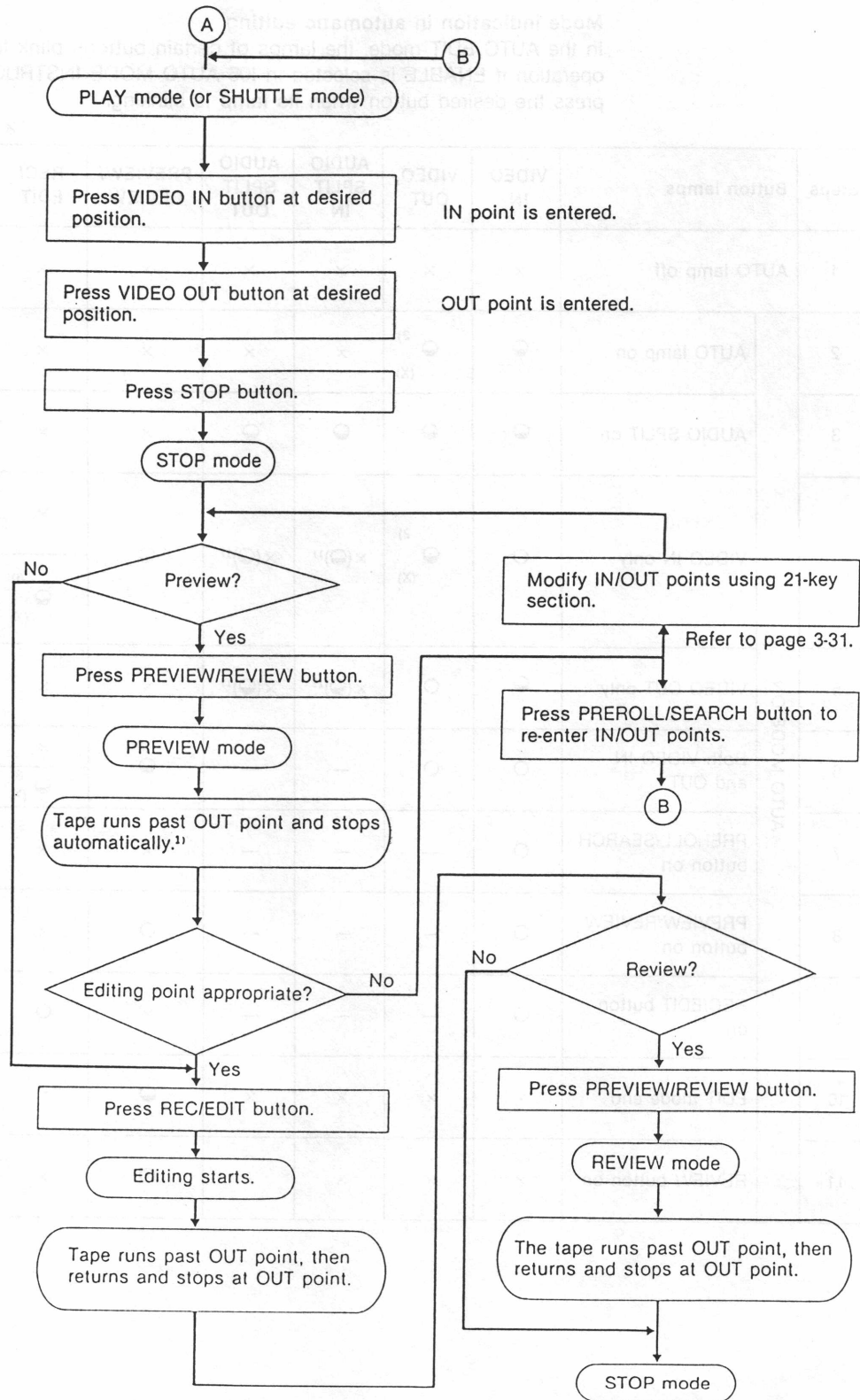
• Signals are Active low. ¹⁾ Turn off switches S1-2, S1-3 and S1-4 on IF-207 board.

Appendix B. Connector Pin Assignment

Depending on the setting of Menu S70 DA REPLACE, the following channels are selected.

S70	PIN NO.	
	37	40
DISABLE	A1	A2
DA1/DA2	DA1	DA2
DA3/DA4	DA3	DA4
DA5/DA6	DA5	DA6
DA7/DA8	DA7	DA8
CUE/--	CUE	—
--/CUE	—	CUE
CUE/DA2	CUE	DA2
DA1/CUE	DA1	CUE

Pin No.	Signal	ENABLE	Contents
1	REC SW	OUT	REC SW
2	PLAY SW	OUT	PLAY SW
3	STOP SW	OUT	STOP SW
4	RETURN	OUT	RETURN
5	ENTRY SW	OUT	ENTRY SW
6	REV LAMP	OUT	REVERSE LAMP
7	REV LAMP	OUT	REVERSE LAMP
8	STBY ON	OUT	STANDBY ON
9	PLAY	OUT	PLAY
10	STOP	OUT	STOP
11	REC	OUT	RECORD
12	PREROLL	OUT	PREROLL
13	REMOTE	OUT	REMOTE
14	ALARM	OUT	ALARM
15	ALARM	OUT	ALARM
16	ALARM	OUT	ALARM
17	ALARM	OUT	ALARM
18	ALARM	OUT	ALARM
19	ALARM	OUT	ALARM
20	ALARM	OUT	ALARM
21	ALARM	OUT	ALARM
22	ALARM	OUT	ALARM
23	ALARM	OUT	ALARM
24	ALARM	OUT	ALARM
25	ALARM	OUT	ALARM
26	ALARM	OUT	ALARM
27	ALARM	OUT	ALARM
28	ALARM	OUT	ALARM
29	ALARM	OUT	ALARM
30	ALARM	OUT	ALARM
31	ALARM	OUT	ALARM
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35	ALARM	OUT	ALARM
36	ALARM	OUT	ALARM
37	ALARM	OUT	ALARM
38	ALARM	OUT	ALARM
39	ALARM	OUT	ALARM
40	ALARM	OUT	ALARM
41	ALARM	OUT	ALARM
42	ALARM	OUT	ALARM
43	ALARM	OUT	ALARM
44	ALARM	OUT	ALARM
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91	ALARM	OUT	ALARM
92	ALARM	OUT	ALARM
93	ALARM	OUT	ALARM
94	ALARM	OUT	ALARM
95	ALARM	OUT	ALARM
96	ALARM	OUT	ALARM
97	ALARM	OUT	ALARM
98	ALARM	OUT	ALARM
99	ALARM	OUT	ALARM
100	ALARM	OUT	ALARM



1) In the ASSEMBLE mode, the tape stops at the IN point.

Mode indication in automatic editing

In the AUTO EDIT mode, the lamps of certain buttons blink to guide the editing operation if ENABLE is selected in I06 AUTO MODE INSTRUCT. To carry out editing, press the desired button when its lamp is blinking.

x: Off ◐: Blinking ○: On

Steps	Button lamps	VIDEO IN	VIDEO OUT	AUDIO SPLIT IN	AUDIO SPLIT OUT	PREVIEW/REVIEW	REC/EDIT	Remarks
1	AUTO lamp off	x	x	x	x	x	x	
2	AUTO lamp on	◐	◐ ²⁾ (x)	x	x	x	x	
3	AUDIO SPLIT on	◐	◐	◐	◐	x	x	
4	VIDEO IN only	○	◐ ²⁾ (x)	x(◐) ¹⁾	x(◐) ¹⁾	◐	x	All the channel preset buttons are off.
							◐ ³⁾ (x)	One or more channel preset buttons are on.
5	VIDEO OUT only	◐	○	x(◐) ¹⁾	x(◐) ¹⁾	x	x	
6	Both VIDEO IN and OUT	○	○	—	—	◐	x	All the channel preset buttons are off.
							◐ ³⁾ (x)	One or more channel preset buttons are on.
7	PREROLL/SEARCH button on	○	—	—	—	x	x	
8	PREVIEW/REVIEW button on	○	—	—	—	○	x	REVIEW mode.
9	REC/EDIT button on	○	—	—	—	x	○	
10	EDIT mode end	x	x	x	x	◐	x	
11	REVIEW button on	x	x	x	x	○	x	REVIEW mode. The VTR returns to step 2 after finishing REVIEW.

1) The lamp blinks in the AUDIO SPLIT mode.

2) The lamp blinks in the ASSEMBLE mode.

3) The lamp blinks in the REC INHIBIT mode.