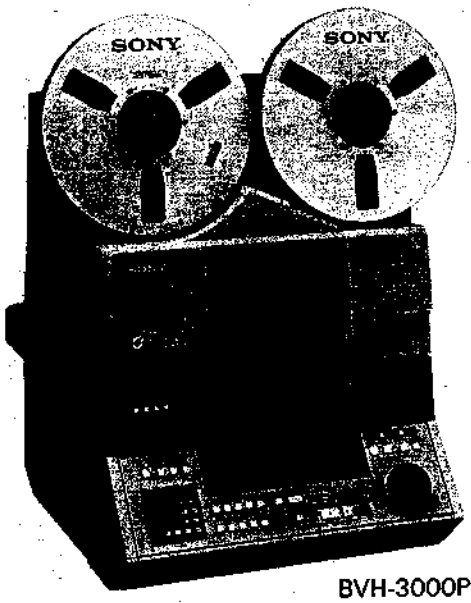
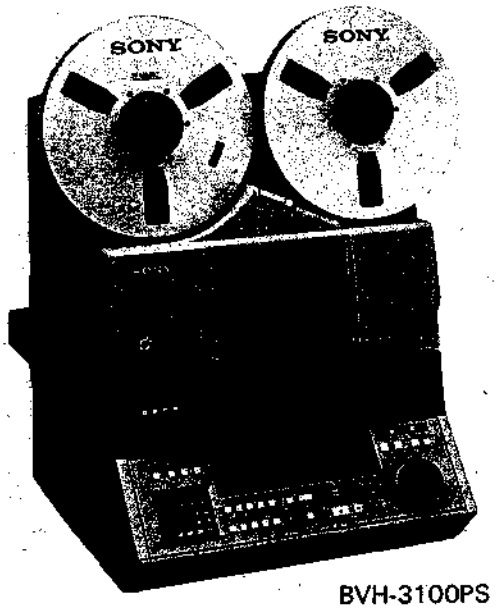
SONY

VIDEOCORDER

BVH-3000PS
BVH-3100PS



BVH-3000PS



BVH-3100PS

OPERATION MANUAL

1st Edition

Serial No. 10001 and Higher

TABLE OF CONTENTS

Section 1. GENERAL

Section 2. PREPARATION

Section 3. OPERATION PROCEDURE

APPENDIXES

Section 1. GENERAL

1-1. OUTLINE

The BVH-3000PS/3100PS is a high-performance low-cost 1-inch helical scan VTR which conforms to the EBU Type-C format. In addition to retaining all the VTR functions of the well-known BVH-2000 series, the BVH-3000/3100 also boasts much-easier-to-operate design and enhanced functions as described below:

Note

The BVH-3000PS is equipped with a sync channel, this feature is absent from the BVH-3100PS.

Each of the BVH-3000PS and BVH-3100PS can be further divided into two types: one with three audio channels and the other with four audio channels. Hereafter, a term "BVH-3000PS-A4" or "BVH-3100PS-A4" will be used for the VTR with four audio channels where such terminology is essential.

Easier-to-operate design

New type of threading

New air-threading mechanism ensures easy and semiautomatic threading.
The air flow from two blowers automatically leads the tape, eliminating the need to manually thread it through the drum and guide sections. The air suction mechanism then operates for easy tape winding on the take-up reel. The tape can also be threaded manually.

Ready-to-operate configuration

The BVH-3000PS/3100PS has all the necessary accessories for the usual applications as standard fittings. These include:

- Control panel
- Time code and VITC (vertical interval time code) generator/reader
- Dynamic tracking capability
- Time base corrector (An optional TBC processor board is required.)
- Video/audio monitoring heads

Menu-driven setup system

The BVH-3000PS/3100PS allows all setup selections, including those for the test mode, to be made by the 21 keys on the function control panel, eliminating troublesome switch operations on internal circuit boards.
The operation status during setup is all displayed on the function control panel.

Relocatable function control panel

The function control panel can be removed from the unit and relocated up to about 10 meters from the unit by using the optional cable.

Color framing indication

Separate SC-H phase indicators are provided for the reference or input signal and the off-tape signal, allowing easy checking of the phase difference between the reference or input SC-H and the tape SC-H during editing.

Enhanced functions

Two types of TBC (time base corrector) processor boards available as options
Optional TBC processor boards BKH-3020 and BKH-3060 are available for controlling the internal time base corrector. In the normal play mode, the BKH-3020 and BKH-3060 provide the same picture quality except that improved dropout compensation is provided by the BKH-3060, which replaces a dropout line with the average of its adjacent lines.
In the DT (dynamic tracking) variable-speed playback mode, the BKH-3060 further improves the picture quality by reducing the vertical movement of the picture and improving the vertical resolution.

Multi-cue capability
Up to ten cue points can be set on the function control panel. These cue points can be easily found later.

Freeze function
The BVH-3000PS/3100PS is equipped with a field memory to store picture data for field freeze.
The field freeze function can be either enabled or disabled by menu operation. If this function is enabled, the VTR automatically enters the freeze mode for tape protection several seconds after entering the still mode. The number of seconds can be set also by menu operation.

For accurate operation

Error message displaying function
Error messages are available on the display of the function control panel when errors occur. If necessary, these error messages can be superimposed on the monitored picture by menu operation.

Reliable and easy-to-maintain configuration
Reliability and serviceability have been dramatically improved by the following features:

- Easily accessible structure (chassis, circuit boards, motors, control panels, etc.)
- The switching regulator can be easily moved for maintenance.
- Movable slant guides make drum cleaning much easier.
- Use of large circuit boards containing total function blocks has reduced the number of interface circuits, harnesses, and connectors.
- Use of LSIs has reduced the number of discrete ICs and other components.
- The computer servo system allows easy and semiautomatic adjustment of the tape transport devices.

Versatile system interfaces

Five remote control interfaces
The BVH-3000PS/3100PS has five remote control interfaces—one each for the TBC, the monitor selection and for the three types of remote control signals for function control. Of these interfaces, the RS-422 function control interface has an IN/OUT selectable connector in addition to the conventional IN and OUT connectors. The function control interfaces also include a parallel interface.

RS-232C interface available as option
By using an optional BKH-3002 RS-232C interface kit the basic functions of the BVH-3000PS/3100PS can be controlled via the RS-232C interface.

Console and mounting kits
An optional SU-910A console unit is available for the BVH-3000PS/3100PS. An optional BKH-3001 side panel kit is available to allow the BVH-3000PS/3100PS to be used without installation on a console.

System installation
The BVH-3000PS/3100PS can be installed in a mobile unit, a console or a rack.

1-2. SPECIFICATIONS

General

Power requirements	100 to 240V AC ±10%, 50/60 Hz
Power consumption	500W max.
Operating temperature	5°C to 40°C (41°F to 104°F)
Storage temperature	−20°C to +60°C (−4°F to +140°F)
Humidity	10 to 90% (without condensation)
Weight	67 kg (148 lb)
Dimensions	480 x 677 x 572 mm (w/h/d)
	(19 x 26¾ x 22⅝ inches)
Recording format	EBU Type-C format
Tracks	Video track 1
	Sync track (BVH-3000PS/PS-A4 only) 1
	Audio tracks (for BVH-3000PS/3100PS) 3
	Audio tracks (for BVH-3000PS-A4/3100PS-A4) 4
	Control track 1
Tape speed	23.98 cm/sec.
Writing speed (relative speed)	
	21.39 m/sec.
Recording time	128 min. with 11.75-inch reel
Time base stability	Within 3 μsec. p-p
Servo lock time	Within 3 sec. (from STANDBY mode to 4 field capstan mode)
Tape timer accuracy	±1 frame (with continuous control track)
Fast forward/rewind time	Within 110 sec. (with 1-hour tape)
Recommended tapes	Sony 1-inch high-density tape or equivalent
Tape reel	6.5- to 11.75-inch reel

Video

Video bandwidth	Flat to 5.0 MHz: ±0.5 dB
	5.5 MHz: −3 dB
Signal-to-noise ratio	Better than 45 dB (unweighted, self-recording, at DEMOD OUT, with V1K tape)
	(Peak-to-peak composite video to rms noise measured with a Rohde & Schwartz noise meter)
Differential gain	Less than 4% (at TBC OUT)
Differential phase	Less than 4° (at TBC OUT)
Transient response "K" factor (2T pulse)	
	Less than 1 (at TBC OUT)
Tilt (horizontal and vertical)	Less than 1% (at TBC OUT)
Moire	Less than −35 dB (75% color Bars)
	Less than −32 dB (100% color Bars)
Chrominance/luminance delay	
	Less than 20 nsec. (at TBC OUT)
Lower frequency linearity	Less than 2%

Time base corrector (with optional BKH-3020 or BKH-3060 board)

Window	30 Hp-p
Residual error	Within ±3 nsec. for color Within ±15 nsec. for monochrome
Processor adjustable range	
Output video level	±3 dB
Chroma level	±3 dB
Setup level	±15 IRE
Burst chroma phase	±10°
System SC phase	More than 360°
System sync phase	−1 to +3 μsec or more

Audio

Frequency response	CH-1, CH-2, CH-3 & CH-4* 50 Hz-15 kHz $^{+1.5}_{-3.0}$ dB 200 Hz to 7.5 kHz ±1.0 dB
Signal-to-noise ratio	CH-1, CH-2 & CH-4*. Better than 56 dB (3% distortion level) CH-3: Better than 50 dB (3% distortion level)
Distortion (at 1 kHz)	CH-1, CH-2, CH-3 & CH-4* Less than 1% (at operating level)
Wow and flutter	Less than 0.1% rms (CCIR weighted)
Crosstalk (at 1 kHz)	Less than −60 dB between any two channels

Input signal

Video input	1.0 ±0.3 Vp-p, 75 ohms
External reference input	Video, 1.0 ±0.3 Vp-p, 75 ohms
CF pulse input	TTL level, 6.25 Hz
Audio line input	CH-1, CH-2, CH-3 & CH-4* +20 to −30 dBm, 600 ohms/10 k ohms, balanced
Audio-3 mic input	CH-3 −60 dBs, high impedance, unbalanced

Output signal

Video out-1/2/3	1.0 Vp-p, 75 ohms
WFM output	Selected video/CTL/RF envelope
Video monitor output	Input video/demodulator output/TBC output
Frame pulse output	TTL level, color frame/frame (selectable)
Audio line output	CH-1, CH-2, CH-3 & CH-4* 8 dBm nominal, output impedance: 50 ohms, load impedance: 600 ohms, balanced
Headphone output	8 ohms, unbalanced, variable level control
Monitor output (L/R CH)	8 dBm, output impedance: 50 ohms, load impedance: 600 ohms, balanced, variable level control
Audio monitor output	Selectable among CH-1, CH-2, CH-1 and CH-2 (stereo), CH-1 and CH-2 (mixed), and CH-3 or CH-4*

*Applicable only to BVH-3000PS-A4/3100PS-A4

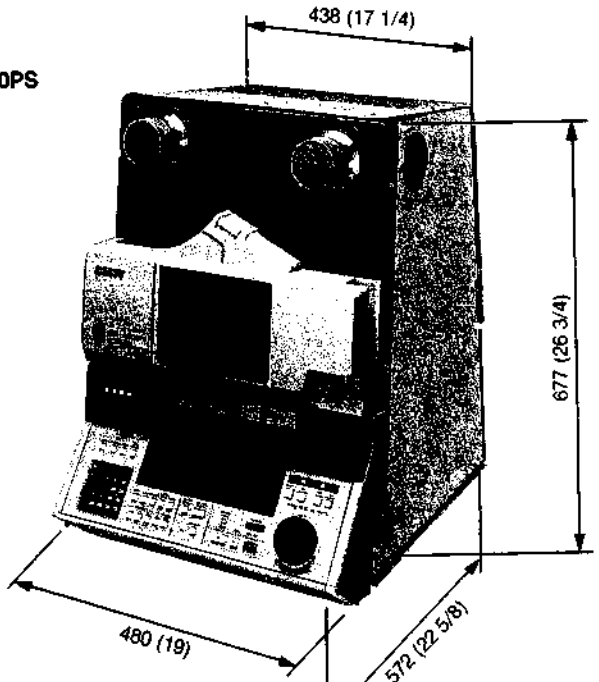
Remote control connectors and accessories

REMOTE-1	D-SUB 15-pin, for BKH-2016 (CCJ converter)
REMOTE-2A IN, -2A OUT, and -2B IN/OUT	D-SUB 9-pin, for 9-pin interface (RS-422)
REMOTE-3*	D-SUB 50-pin, for parallel communication
TBC*	D-SUB 15-pin, for TBC remote control
MONITOR SELECT*	D-SUB 37-pin, for monitor select remote control
Accessories supplied	Empty reel
	R1-11VA, 11.75-inch reel (1)
	Connector plugs
	D-SUB 37-pin connector (1 set)
	D-SUB 50-pin connector (1 set)
	Phone plug adaptor (1)
	Screws +B5x16 (4)
	Spring washers M5 (4)
	Washers M5 (4)
	Extension board (1)
	Key ID label (2)
	Overlay sheet A (printed) (1)
	Overlay sheets B (blank) (2)
	Maintenance sheet (1)
	Operation and maintenance manuals (1 set)

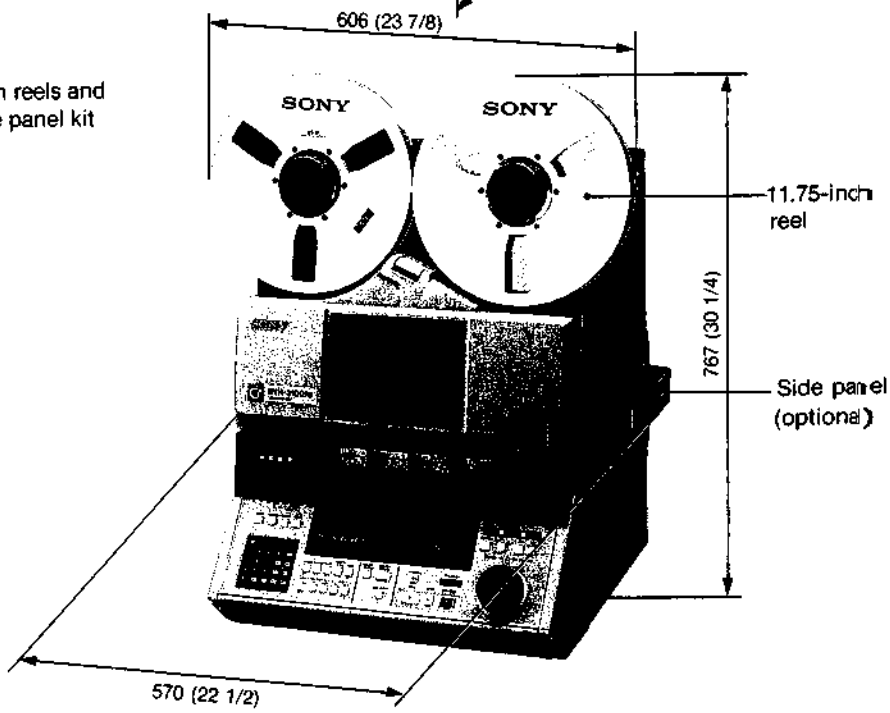
Design and specifications are subject to change without notice.

*Refer to Appendix B for connector pin assignment.

BVH-3000PS/3100PS
Main unit



With reels and
side panel kit



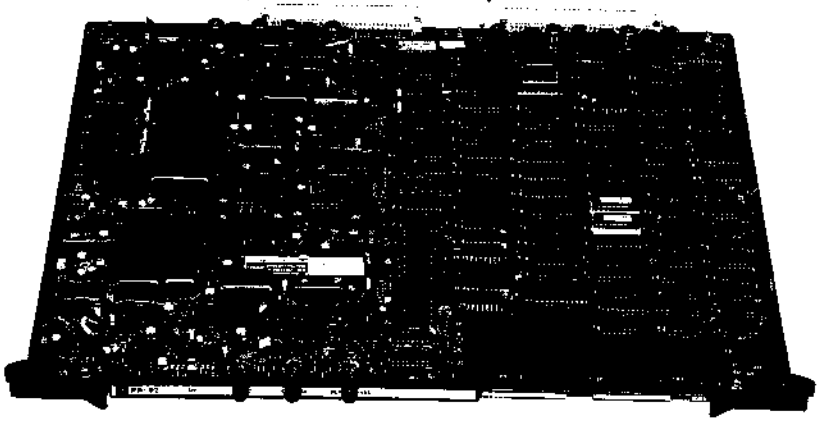
Unit: mm (inch)

1-3. OPTIONAL PARTS AND ACCESSORIES

TBC processor

The BKH-3020 or BKH-3060 board is essential to the operation of the BVH-3000PS/3100PS; one or the other of these boards must be installed. The board allows broadcasting of playback signals without an external TBC.

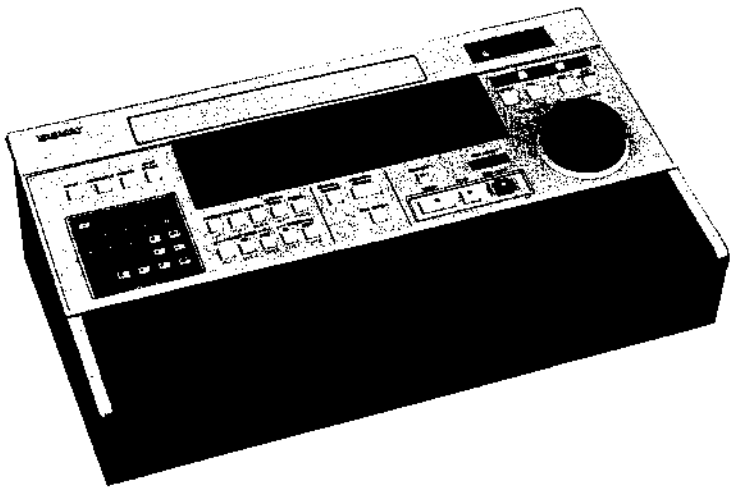
BKH-3020 TBC signal processor (PR-92 board)
The BKH-3020 is a TBC signal processor board which controls the built-in TBC to provide a high quality color picture in normal playback and in dynamic tracking playback at −1 to +3 times normal speed. Picture search operates in color at up to ±8 times normal speed and in black and white at up to ±50 times normal speed.



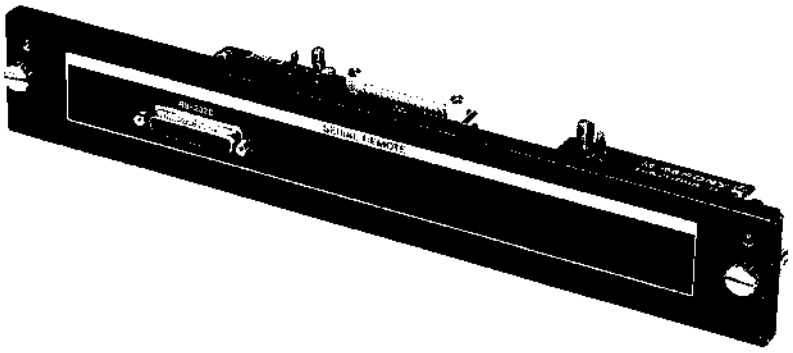
BKH-3060 high quality TBC processor (PR-97 board)
The BKH-3060 has almost the same functions as the BKH-3020, but provides a picture of higher quality by dropout compensation—replacement of a dropout line with the average of its adjacent lines.
In the DT variable-speed playback mode, the BKH-3060 further improves the picture quality by reducing the vertical movement of the picture and improving the vertical resolution.

BKH-3090 remote controller

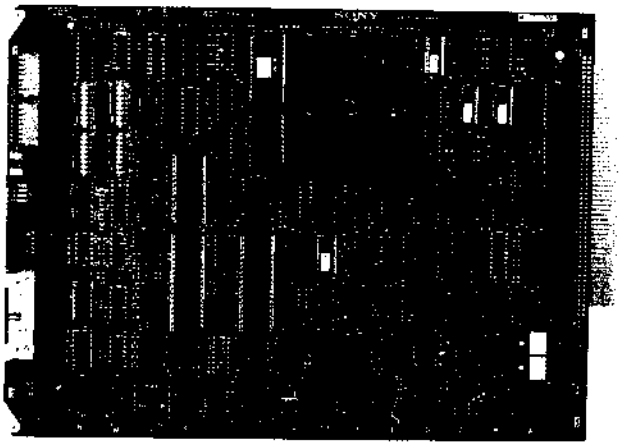
This controller is used for remote control of the BVH-3000PS/3100PS. The controller unit has been designed with the emphasis on easy operation, and an RS-422 serial communication circuit and its power supply are built in. The cable can be extended up to 1,000 meters.



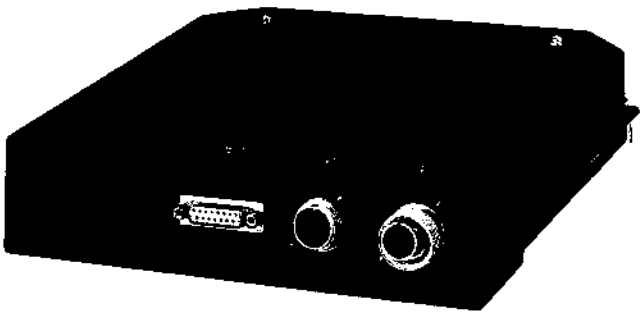
BKH-3002 RS-232C interface kit
By installing this kit in place of the RS-422 interface board, a computer of any scale, from a PC to a mainframe, can be easily connected.



BK-5005 BVE-5000 interface board
This is an interface board for connecting the BVH-3000PS/3100PS to the BVE-5000 automatic editing control unit. Install the board in the BVE-5000. Two D-SUB 9-pin connectors are supplied. (If the board is installed in the BVE-5000, the BKH-2016 CCJ converter is unnecessary.)



BKH-2016 CCJ converter
This converter enables the BVH-3000PS/3100PS to interface with conventional VTRs or editing control units with a CCJ type (round 10-pin) REMOTE connector. A cable complete with 15-pin connectors is supplied. Attach the converter to the rear panel of the BVH-3000PS/3100PS.
(For details on the equipment to be connected, refer to 1-4-4.)



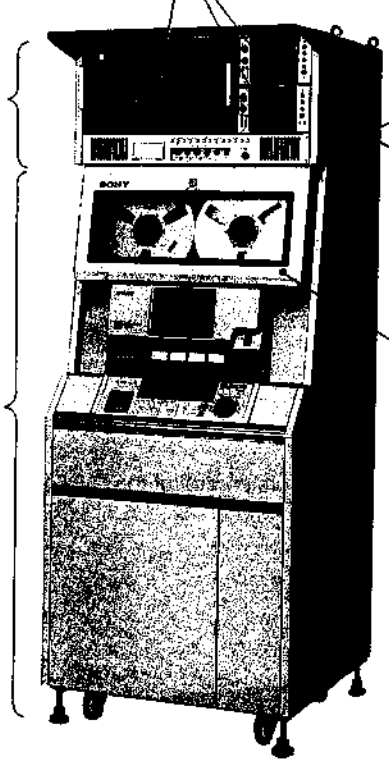
BKH-2018 9P-CCJ converter
This converter is required for remote control of the BVH-1000/1100/1180 with the BVH-3000PS/3100PS.

Rack options

Picture monitor
Waveform monitor
Vectorscope

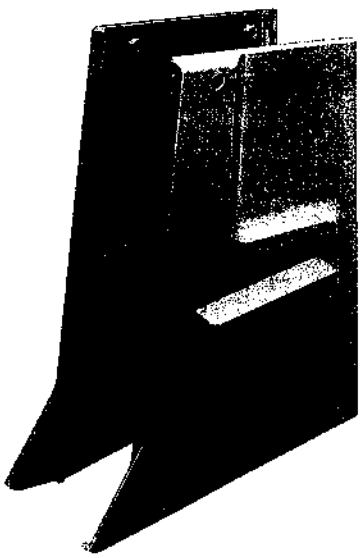
SUA-911 monitor console

SU-910A console unit



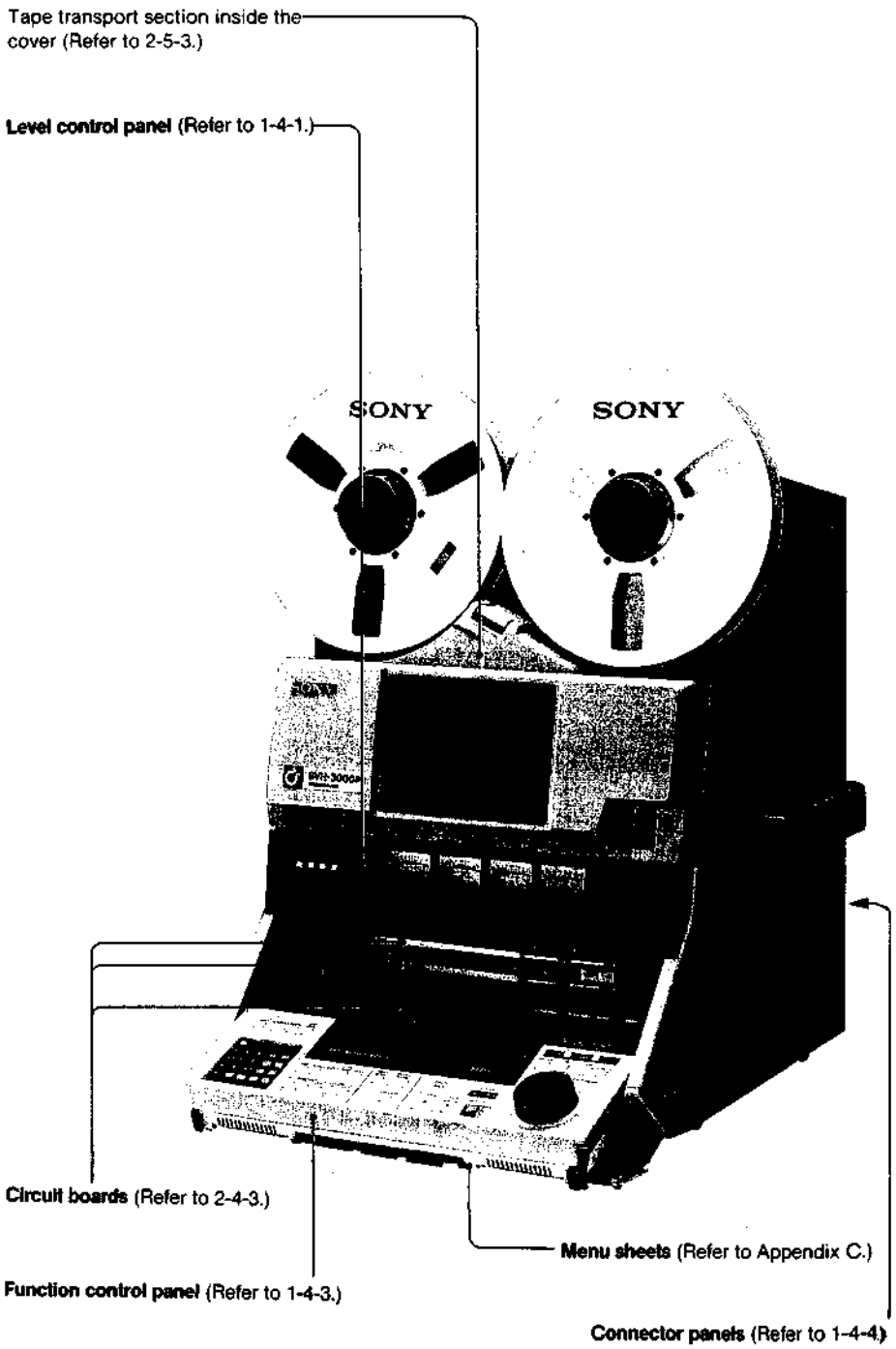
SUA-913 console top panel
This is the top panel for the SU-910A console unit. Attach this panel if the SUA-911 monitor console is not used.

SUA-912 dust cover

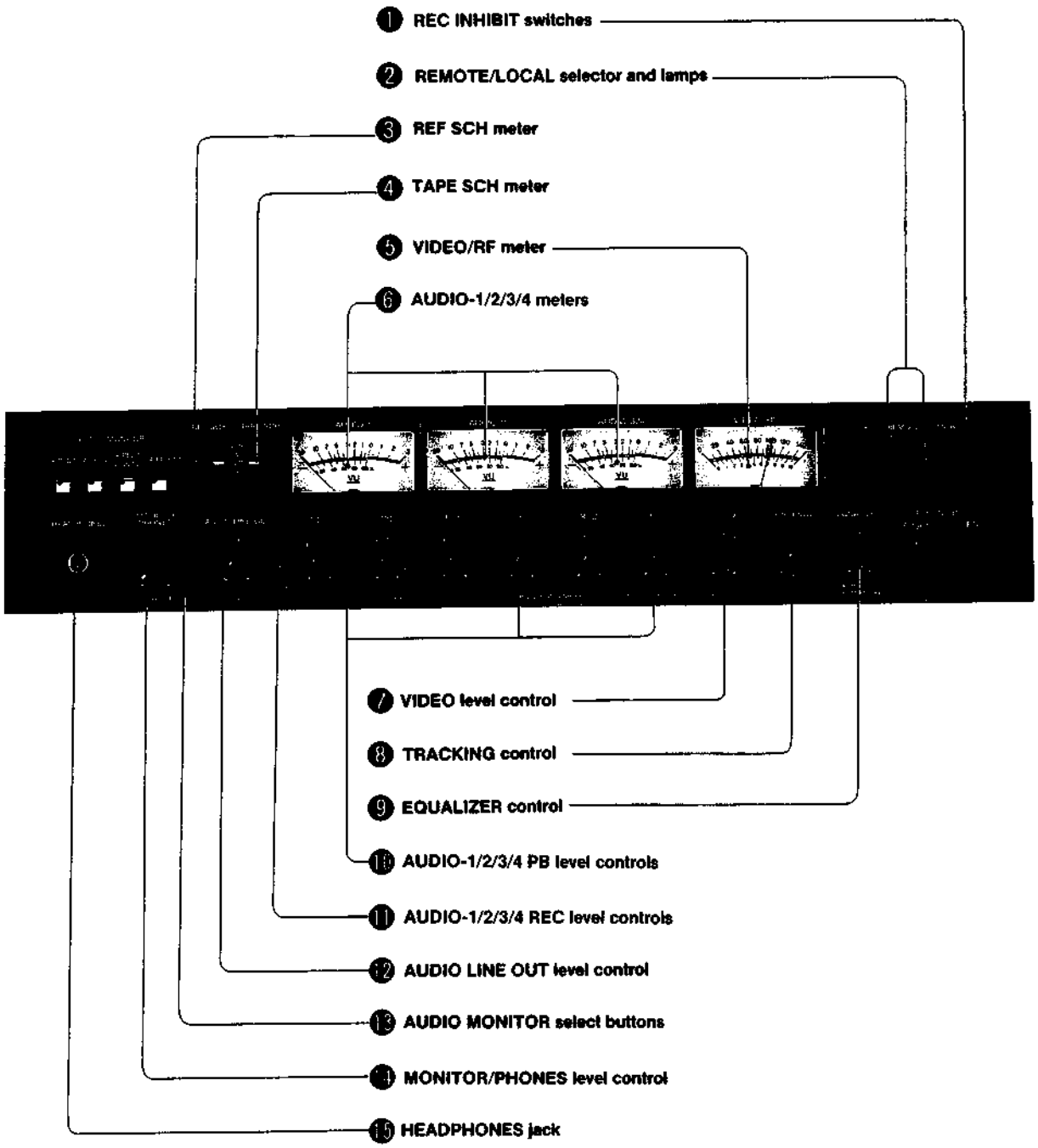


BKH-3001 side panel kit
This kit consists of a pair of side panels to be attached to the VTR when it is used alone without mounting on a console unit.

1-4. LOCATION AND FUNCTION OF PARTS



1-4-1. Level Control Panel



❶ REC INHIBIT switches

The AUDIO ON/OFF and VIDEO ON/OFF switches turn audio recording and video recording functions on or off. However, the functions of these switches differ depending on the recording mode selected. See the following table for the relationship between switch setting and recording disabled/enabled state in the respective recording modes.

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

❷ REMOTE/LOCAL selector and lamps

REMOTE: Set to this position for remote control of the VTR from another VTR or an editing control unit connected to a REMOTE connector on the connector panel. In 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 (refer to 1-5-4).
Lamps and the timer display continue to display the settings before the remote control mode was entered.

LOCAL: Set to this position when the BVH-3000PS/3100PS is operated by itself or when used as the master recorder in editing or in parallel operation. In this position, the function control panel of this VTR can be used for remote control of the connected VTR.

REMOTE lamps

One of the 1/2/3 lamps lights up when the selector is set to REMOTE, to indicate which REMOTE connector is selected. (Refer to Menu S01 REMOTE SELECT, 1-5-3, for REMOTE connector selection.)

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

Lamp 2: Lights when the REMOTE-2A IN and -2A OUT connectors or REMOTE-2B IN/OUT connector is selected. (Remote control via the RS-422 serial interface)

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

❸ REF (reference) SCH meter

Indicates an SC-H phase shift of the servo reference signal in accordance with EBU STATEMENT D 23-1984(E). The servo reference condition is optimum when the LED for ±20° is lit.

❹ TAPE SCH meter

Indicates an SC-H phase shift of the tape signal in accordance with EBU STATEMENT D 23-1984(E). The SC-H phase of the tape signal is optimum when the LED for ±20° is lit

❺ VIDEO/RF meter

Indicates the level of the input video signal, that of the RF signal from the video head, or that of the RF signal from the sync head. The signal whose level is indicated is selected by Menu S80 VIDEO METER SELECT (refer to 1-5-3).

Selected item	Meter indication
INPUT	Always the level of the input video signal.
RF(V)	In the E-to-E mode, the level of the input video signal. During playback, the level of the RF signal from the video head.
RF(S)	In the E-to-E mode, the level of the input video signal. During playback, the level of the RF signal from the sync head (BVH-3000PS only).

❻ AUDIO-1/2/3/4 meters[3]

These meters indicate the audio signal levels of the respective channels. The signal is selected with the TAPE/IN key (in the 21-key section) and INPUT button on the function control panel and the VTR operation mode.

VTR operation mode / TAPE/IN key and INPUT button setting	STOP mode	REC/EDIT mode	Other modes
TAPE	TAPE	TAPE (AUDIO 1/2/4), EE (AUDIO 3) (MONITOR)	TAPE
TAPE/EE	EE[1]	EE	TAPE
INPUT[2]	INPUT or EE	INPUT or EE	INPUT or EE

❼ VIDEO level control

Pulled-out position: The input video signal level can be adjusted in the E-to-E mode.
Pushed-in position: Adjusted to the preset level. For presetting operation, refer to 2-4-2.

❽ TRACKING control

Pulled-out position: The tracking error can be compensated during playback.
Pushed-in position: Adjusted to the factory preset level.

❾ EQUALIZER control

Pulled-out position: The chroma level of the playback video signal can be manually adjusted.
Pushed-in position: Adjusted automatically to the factory preset level by auto equalizer.

---

1) Only the AUDIO-3 meter indicates the TAPE level. To make the meter indicate the EE level, press the INPUT button. Indication of the EE level will continue until another mode is selected.
2) While the INPUT button is held down, the meters indicate the signal levels controlled by the AUDIO-1/2/3/4 REC level controls ●.
The INPUT or EE level can be selected by Menu I04 INPUT CHECK MODE.
3) The AUDIO 3/4 meter of the BVH-3000PS-A4/3100PS-A4 can be used either as the AUDIO 3 meter or as the AUDIO 4 meter in accordance with selection in Menu S70 AUDIO METER SELECT.

⓰ AUDIO 1/2/3 PB (playback) level controls (for BVH-3000PS/3100PS)
AUDIO 1/2/4 PB (playback) level controls (for BVH-3000PS-A4/3100PS-A4)
Pulled-out position: The audio playback level can be adjusted.
Pushed-in position: Adjusted to the preset level. For presetting operation, refer to 2-4-2.

⓱ AUDIO 1/2/3 REC (record) level controls (for BVH-3000PS/3100PS)
AUDIO 1/2/4 REC (record) level controls (for BVH-3000PS-A4/3100PS-A4)
Pulled-out position: The audio recording level can be adjusted.
Pushed-in position: Adjusted to the preset level. For presetting operation, refer to 2-4-2.

⓲ AUDIO LINE OUT (output) level control
Pulled-out position: Simultaneously adjusts the audio playback level of audio channels 1 and 2, which are output from the LINE OUTPUT AUDIO-1/2 connectors.
The adjustable range is ±6 dB to the level preadjusted by the AUDIO-1/2 PB level controls ⓰.
Pushed in position: This control will not work in this position.

⓳ AUDIO MONITOR select buttons
Select the audio signal output from the HEADPHONES jack ⓳ and the MONITOR OUTPUT R/L connectors (rear).
See the table below for the relation between the selected button(s) and the output audio signal(s).

Audio channel / Selected button	L	R
AUDIO 1	AUDIO 1	AUDIO 1
AUDIO 2	AUDIO 2	AUDIO 2
AUDIO 1 [1] AUDIO 2	AUDIO 1	AUDIO 2
AUDIO 3/4 [3]	AUDIO 3 or AUDIO 4	AUDIO 3 or AUDIO 4
AUDIO 1 + AUDIO 2 [2]	AUDIO 1 + AUDIO 2	AUDIO 1 + AUDIO 2

1) Stereo output is obtained with the [AUDIO 1 / AUDIO 2] button.
2) By pressing the AUDIO 1 and AUDIO 2 buttons together, mixed output of AUDIO 1 and AUDIO 2 is obtained from both L and R channels.
3) If your VTR is BVH-3000PS-A4 or BVH-3100PS-A4, select AUDIO 3 (A3) or AUDIO 4 (A4) with Menu S70 AUDIO METER SELECT.

⑭ MONITOR/PHONES level control

Adjusts the listening level of the headphones or the output level of the audio MONITOR OUTPUT connectors (rear).
When headphones are connected, audio signals are not fed to the audio MONITOR OUTPUT connectors.

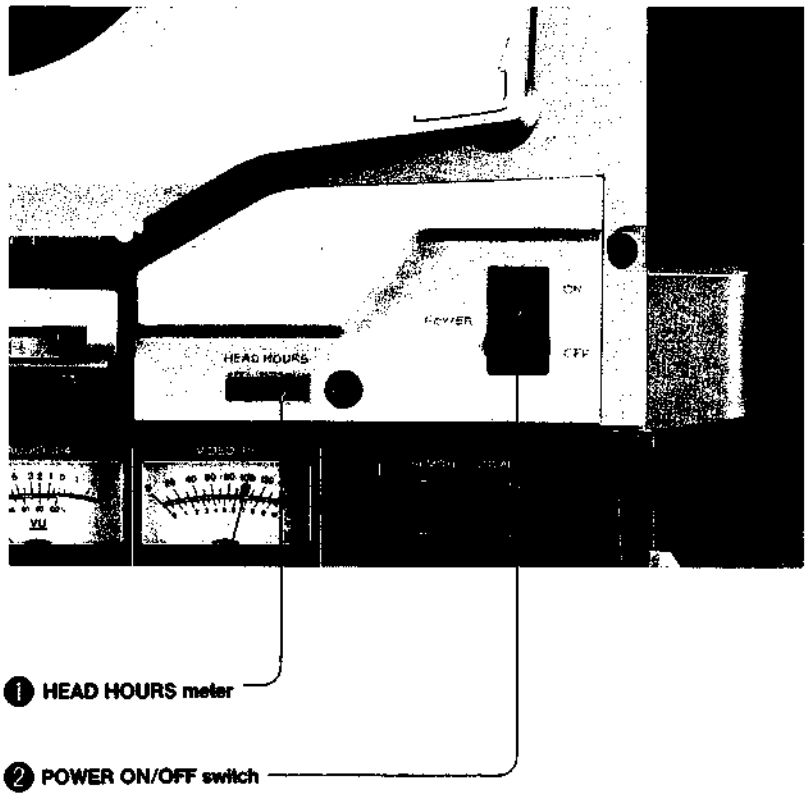
⑮ HEADPHONES jack

Connect 8-ohm headphones to monitor the audio output signal selected by the AUDIO MONITOR select buttons ⑫.

Note

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

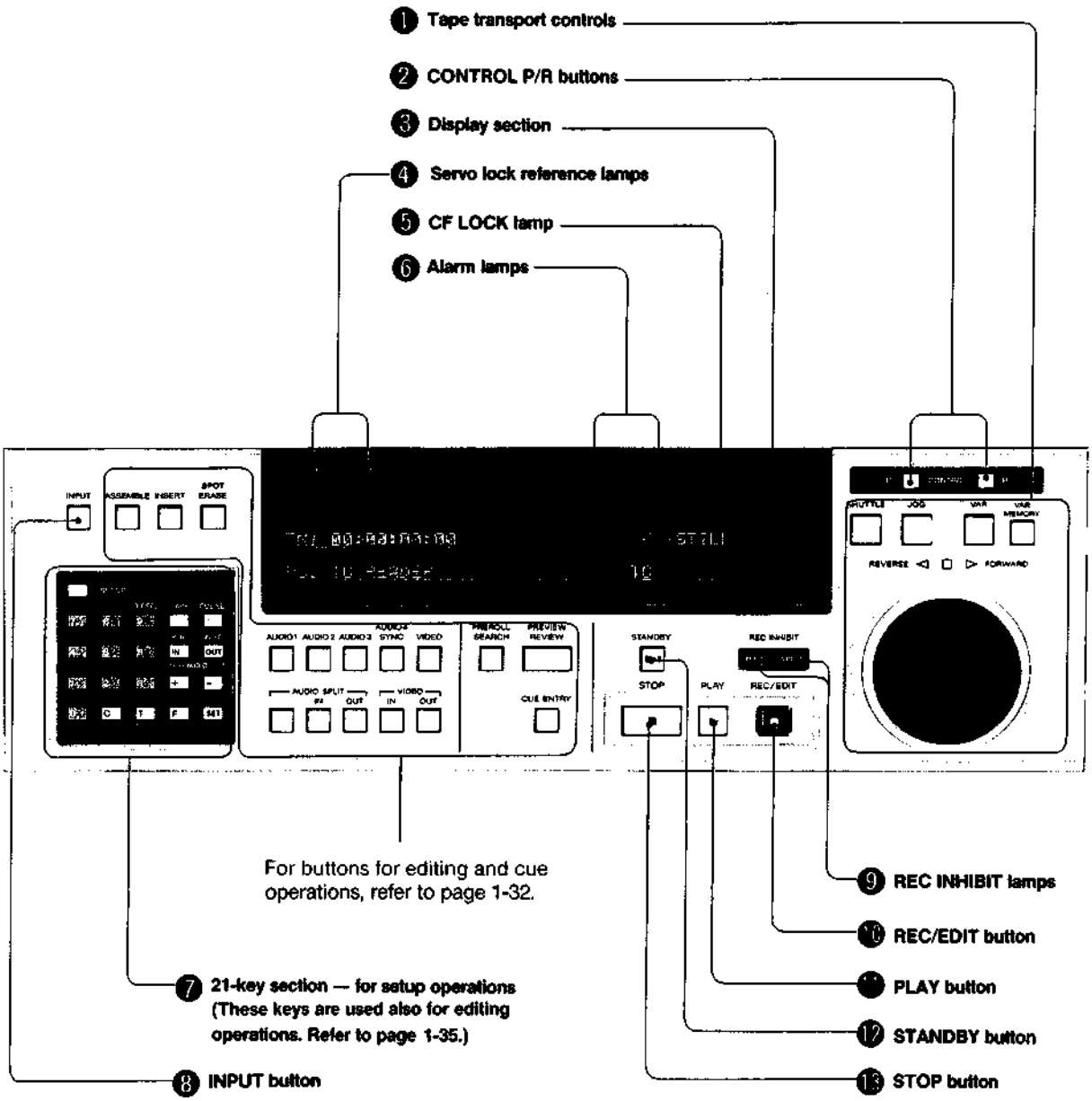
1-4-2. Inside the Front Cover



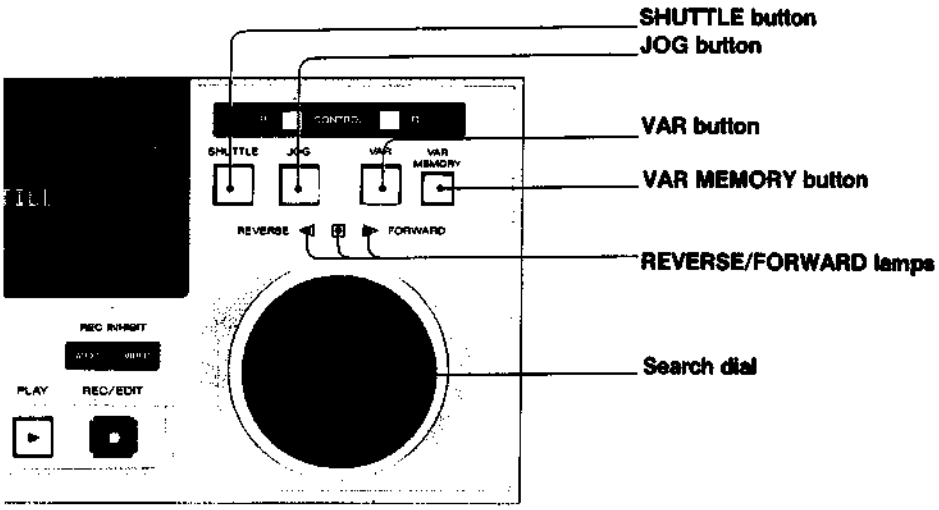
❶ HEAD HOURS Meter
Counts the elapsed drum operation time. The count advances every six minutes. The meter operates when the drum rotates with the tape loaded.

❷ POWER ON/OFF switch
Turns on/off the VTR power.

1-4-3. Function Control Panel



❶ Tape transport controls



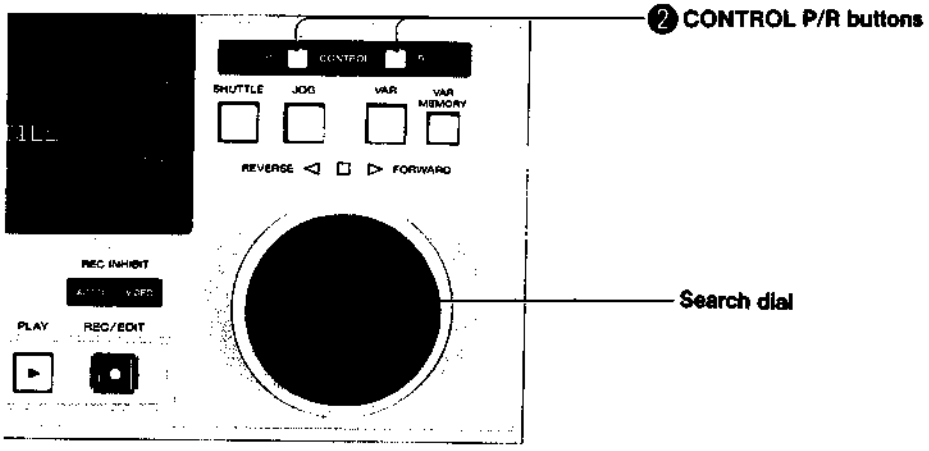
SHUTTLE button
When this button is pressed, the button lamp lights up, and the VTR enters the SHUTTLE mode. Refer to 3-3-2.

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

VAR (variable) button
When this button is pressed, the button lamp lights up, and the VTR enters the PROGRAM JOG or PROGRAM PLAY mode as selected in Menu S11 VARIABLE MODE (refer to 1-5-3). This button is used also to set the tape speed in advance. Refer to 3-3-4 and 3-3-5.

VAR (variable) MEMORY button
When the AUTO lamp in the 21-key section is lit, pressing this button allows the search dial operations (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 3-3-6.

REVERSE/FORWARD lamps (green)
These lamps indicate the tape drive direction. (The center red lamp is always 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 or PROGRAM PLAY mode, the REVERSE or FORWARD lamp indicates the preset direction.
When the tape comes near the end, the center 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.

During JOG, SHUTTLE, PROGRAM JOG or PROGRAM PLAY mode, turn this dial to change the tape direction and speed.
During STOP, STANDBY, PLAY or REC mode, turn this dial to set the tape speed and direction in advance for the PROGRAM JOG or PROGRAM PLAY mode. The preset tape speed is displayed in Block 5 of display.
During STOP mode, the error message and the memorized address of the LOST LOCK error that has occurred during the preceding playback can be displayed in Blocks 4 and 6 of display by turning the search dial while pressing the STOP button.
During SET UP menu mode, this dial is used to select the setup menu.

❷ 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 connector concerned) is selected in menu S01 REMOTE SELECT, setting the level control panel REMOTE/LOCAL selector to LOCAL allows this VTR to operate as the master recorder (called simply "the recorder") of the 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 respective buttons.

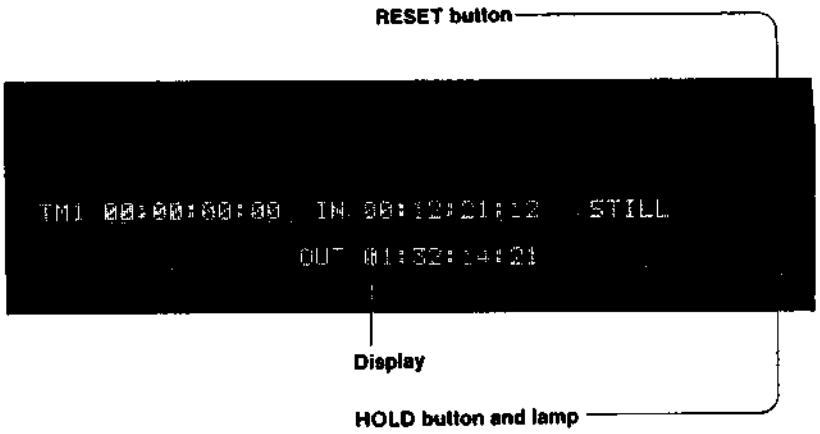
P button lit: The operation buttons (for editing and tape transport) of this VTR operate the connected player in the remote control mode. Indications on the panel also show the player's operation mode.

R button lit: The control panel operates this VTR as a recorder. In the AUTO EDIT mode (refer to 3-4-2), 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 (refer to 1-5-3).

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

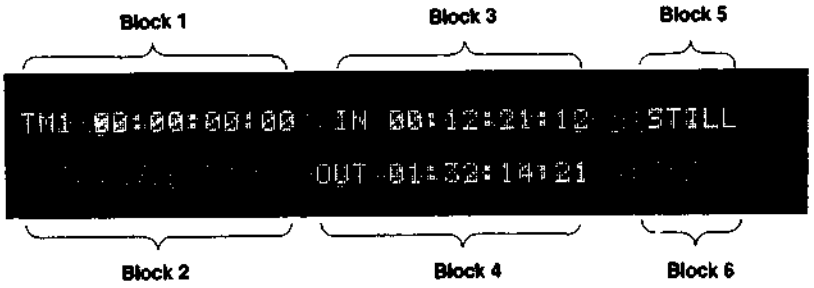
❸ Display section



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 of 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 up to indicate the HOLD mode. To display the current data to be read, press the HOLD button again: the HOLD lamp goes out.

Display
This is a two-line, 40 character dot matrix display 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 changed over between the +/– (12-hour) mode and 24-hour mode by Menu I54 TIMER DISPLAY MODE. (refer to 1-5-4).
- The display is also used for menu operation (refer to 1-5-2).

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 and through menu operation (refer to 3-1-2).

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

- When an item other than TC is selected in menu S50 A3 INPUT SELECT, an asterisk (*) replaces every digit even if the time code is selected with the TT SEL key.
- In case 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 usual label. If ENABLE is selected in Menu I56 INTERPOLATED LTC, however, the LTC value correctly interporated by the timer information is displayed even if the indication label is T*R.

Block 2
Shows the time code or the timer data of the player when the VTR is operated in the AUTO EDIT mode in combination with another BVH, BVU or BVW series VTR.

Block 3
Shows the previous display content of Block 4. The data indicated in Block 4 is shifted to this block by a subsequent operation.

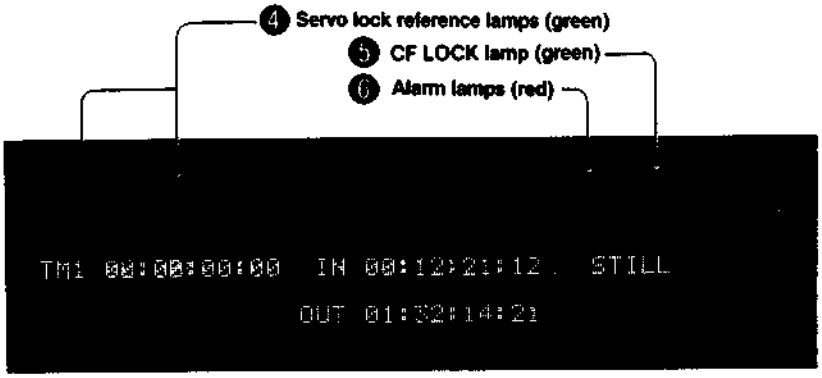
Block 4
Shows the data entered or accessed by the keys in the 21-key section ❼ and CUE number buttons.

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 in 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, PROGRAM JOG, PROGRAM PLAY mode: Tape speed
VARIABLE MEMORY mode: V
Other mode: Memorized tape speed of the PROGRAM JOG or PROGRAM PLAY

Block 6
Displays an error message. Refer to Appendix A "Error Message List."



4 Servo lock reference lamps
Lights up to indicate the reference signal selected for servo lock (refer to Menu S40 SERVO REF SELECT, 1-5-3).

EXT REF lamp (green)
Lights up when the external reference signal (composite video signal) fed through the INPUT REF VIDEO connector (rear) is selected.

INPUT lamp (green)
Lights up when the input video signal fed through the INPUT VIDEO connector (rear) is selected as the reference signal.

5 CF (color frame) LOCK lamp (green)
Lights up when the VTR is operating with its color frame locked, or when the servo CF detector is correctly detecting the servo reference signal color framing in the STOP mode with the TAPE lamp (21-key section) off.

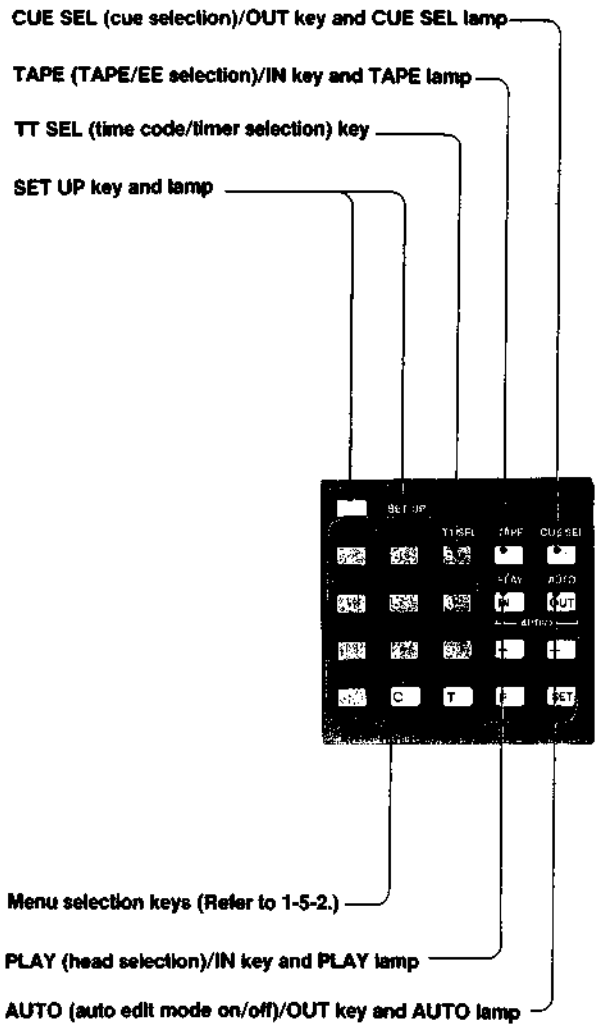
6 Alarm lamps (red)
Light up to indicate VTR malfunctions.
SERVO alarm lamp: Lights up when the servo is unlocked.
SYSTEM alarm lamp: Lights up when the system control does not function properly.

❼ 21-key section — for setup operations

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 operations, and cannot be used for editing operations.

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

The menu selection keys are used for menu operation. Refer to 1-5-2.



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. Refer to 3-1-2.

TAPE/IN key and TAPE lamp
This key and INPUT button ⑧ select the output signal from the OUTPUT VIDEO-1/2/3, LINE OUTPUT AUDIO-1/2/3/4*, and MONITOR OUTPUT VIDEO and R/L connectors:

- When TAPE is selected with this key, the TAPE lamp lights up.
- When TAPE/EE is selected with this key, the TAPE lamp goes out.
- In either of the above cases, INPUT is selected while the INPUT button ⑧ is held down.

As shown in the following table, the output signal is determined by the setting of the TAPE/IN key and INPUT button ⑧ as well as by that of the PLAY/IN key and the operation mode of the VTR.
For the output signal during editing, refer to 3-4-2.

CUE SEL/OUT key and CUE SEL lamp
When this key is pressed, the CUE SEL lamp lights up, and the VTR enters the CUE ENTRY mode.
In this mode, the AUDIO SPLIT and VIDEO entry buttons function as the CUE1 to CUE5 buttons, and the AUDIO-1, AUDIO-2, AUDIO-3, AUDIO-4/SYNC, and VIDEO buttons function as the CUE6 to CUE10 buttons. Refer to 3-1-3 for multi-cue searching. When the CUE SEL/OUT key is pressed again, the CUE SEL lamp goes out, and the above buttons regain their original functions.

AUTO/OUT key and AUTO lamp
When this key is pressed, the AUTO lamp lights up, and the VTR enters the AUTO EDIT mode (refer to 3-4-2).
When the key is pressed again, the lamp goes out, and the VTR exits from the AUTO EDIT mode.

PLAY/IN key and PLAY lamp
Every time this key is pressed, the video head for playback is changed over between the R/P (recording/playback) head and PLAY head.
When the PLAY head is selected, the PLAY lamp is lit, and the dynamic tracking function can be used. In usual cases, select the PLAY head.
In the REC or EDIT mode, however, the R/P head is automatically selected regardless of the setting of this key.

*The AUDIO-4 channel is provided only in the BVH-3000PS-A4/BVH-3100PS-A4.

Video

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

: Output signal from OUTPUT VIDEO-1/2/3
: Output signal from MONITOR OUTPUT VIDEO connectors

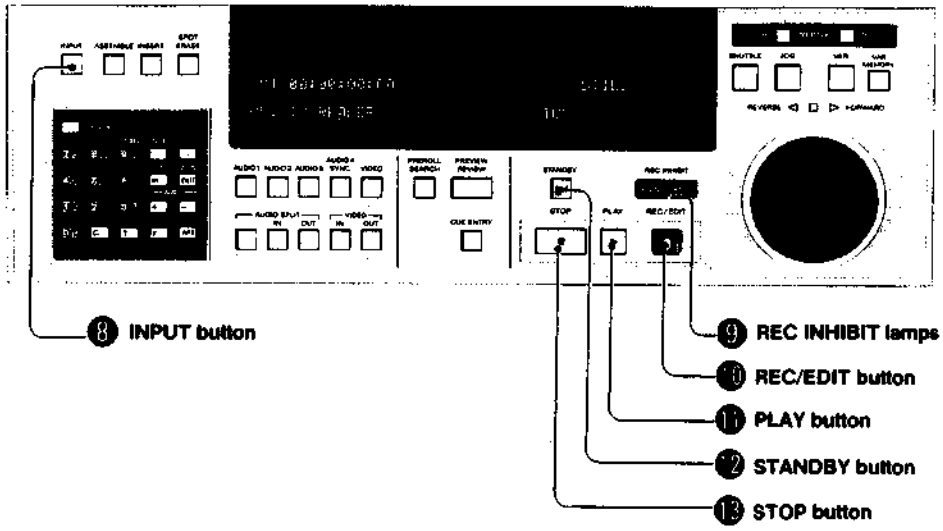
1) When EE is selected in menu I17 REC CONFI MODE, the E-to-E signal will be output in the REC or EDIT REC mode even if TAPE is selected with the TAPE/IN key.
2) When ENABLE is selected in menu S06 BVB (PREVIEW MODE), the black burst signal will be output between the IN and OUT points.
3) When EE is selected in menu I04 INPUT CHECK MODE, the E-to-E signal will be output in all modes when INPUT button ⓫ 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 ⑧	VTR operation mode				
		STANDBY off [4]	STANDBY on [4]	REC, EDIT REC	PLAY & others	Between IN and OUT points of the recorder in PREVIEW mode [2]
AUDIO-1/2/4[6]	TAPE	TAPE	TAPE	EE	TAPE [1]	EE
		TAPE	TAPE	CONFI	TAPE [1]	EE
	TAPE/EE	EE	EE(TAPE) [5]	EE	TAPE [1]	EE
		EE	EE(TAPE) [5]	EE	TAPE [1]	EE
	INPUT [3]	EE	EE(TAPE) [5]	EE	TAPE [1]	EE
		INPUT	INPUT	INPUT	INPUT	INPUT
AUDIO-3	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 LINE OUTPUT AUDIO-1/2/3/4[6] connectors
: Output signal from MONITOR OUTPUT R/L connectors
Use Menu S70 AUDIO METER SELECT to select the AUDIO-3 or AUDIO-4 channel. Refer to ⑧ in 1-4-1.

1) If the playback speed is 5 times or more the normal speed, the output will be attenuated. The playback speed for attenuation and attenuation level may be changed with Menus I70 TAPE SPEED (AUD ATT) and I71 AUDIO ATT (JOG/SHTL).
2) If ENABLE is selected in menu S06 BVB (PREVIEW MODE), the output will be muted between the IN and OUT points.
3) 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.
4) When TAPE/EE is selected with the TAPE/IN key, pressing the INPUT button ⑧ in the STOP mode latches the E-to-E output mode of the AUDIO-3 channel. The LINE OUTPUT AUDIO-3 and MONITOR OUTPUT R/L connectors will then continue outputting the E-to-E signal even if the INPUT button is freed afterwards. The latch will be released when the VTR enters another mode.
5) When the REC INHIBIT AUDIO switch (level control panel) is set to ON, the TAPE signal will be output.
6) The AUDIO-4 channel is provided only in the BVH-3000PS-A4/BVH-3100PS-A4.



8 INPUT button

While this button is held down, the signals specified for INPUT in the tables on pages 1-28 and -29 are output from the OUTPUT VIDEO-1/2/3, LINE OUTPUT AUDIO-1/2/3/4*, and MONITOR OUTPUT VIDEO and R/L connectors.

This button is used also to select the signals whose levels are to be indicated on the AUDIO-1/2/3/4* meters (refer to page 1-16), and to determine whether read value or generated value is to be displayed in block 1 of the display when the time code is selected with the TT SEL key in the 21-key section.

*The AUDIO-4 channel is provided only in the BVH-3000PS-A4/BVH-3100PS-A4.

⑨ REC INHIBIT lamps (red)

AUDIO lamp: Lights up when the REC INHIBIT AUDIO switch (level control panel) is set to ON.

VIDEO lamp: Lights up when the REC INHIBIT VIDEO switch (level control panel) is set to ON.

⑩ REC/EDIT button

Used to enter 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 is 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.

⑪ 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).

⑫ STANDBY button

Pressing this button starts or stops the head drum rotation. In normal use, press this button and check that the SERVO alarm lamp ⑧ has gone 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. If the VTR remains in the STANDBY mode for more than a certain time with no other operation button pressed, the VTR automatically exits from the STANDBY mode. This time can be set with Menu I13 STANDBY OFF TIMER. However, if either the ASSEMBLE 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.

Note

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

⑬ STOP button

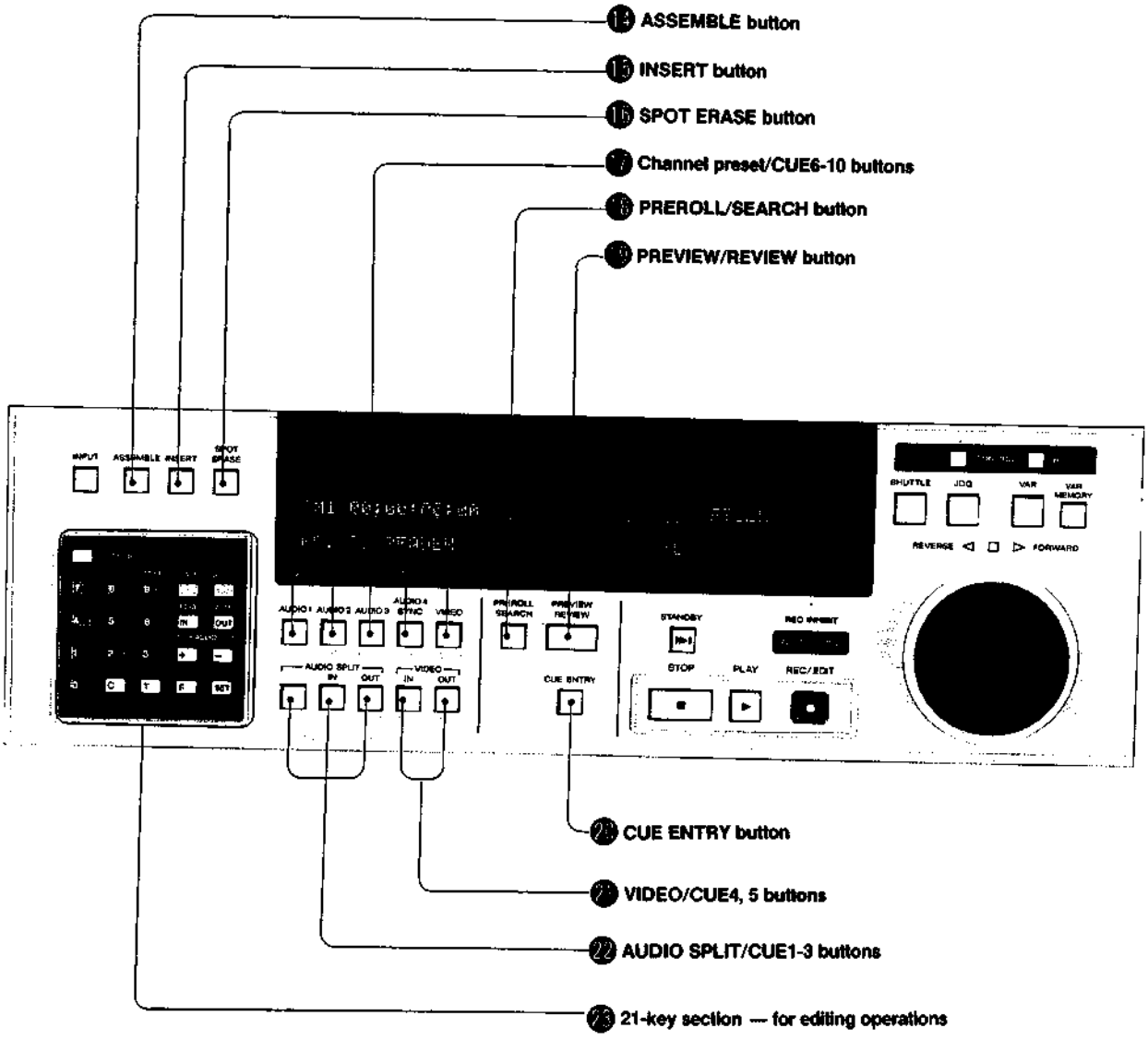
When this button is pressed, the VTR exits from any operation mode—the reel motor stops, and the pinch roller is retracted from the tape. A field freeze picture is available in this STOP mode. Refer to 3-1-5.

When the STOP and CUE ENTRY buttons are pressed together in the CUE ENTRY mode, all the cue data will be cleared.

Note

The STOP button lamp blinks if no reference signal is supplied to the servo system.

For editing and cue operations



⓮ 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 ⓱ light up.
To exit from the ASSEMBLE edit mode, press the ASSEMBLE button again.

⓯ 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 ⓱ will light up, so press the desired channel preset button to turn it on.
Any channel select button can be switched on or off while executing the INSERT editing.
To exit from the INSERT mode, press the INSERT button again.

⓰ 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.

⓱ Channel preset/CUE6-10 buttons
These buttons select channels in the ASSEMBLE, INSERT or SPOT ERASE mode.

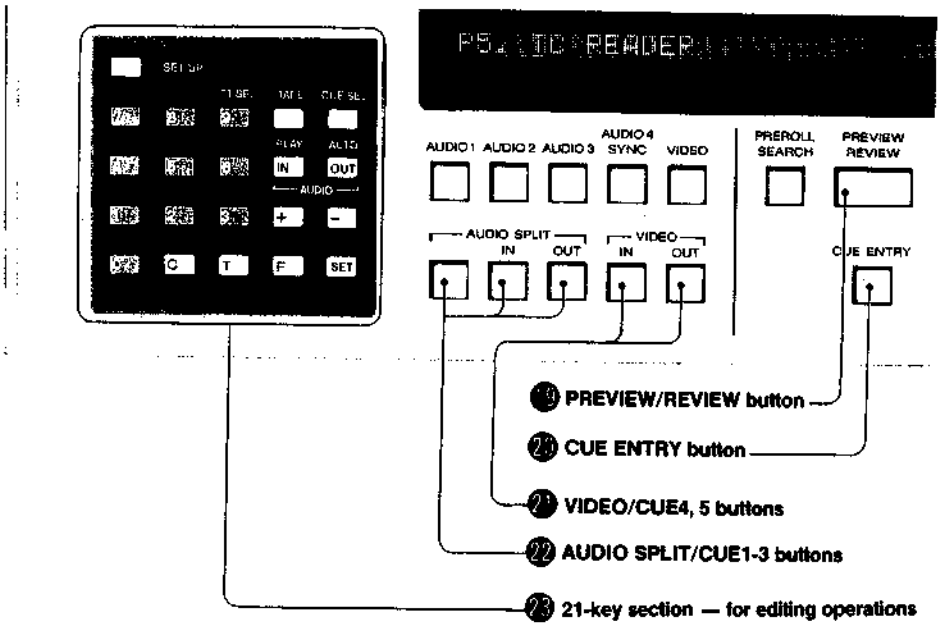
AUDIO-1:	Audio channel 1
AUDIO-2:	Audio channel 2
AUDIO-3:	Audio channel 3
AUDIO-4/SYNC:	Sync channel (BVH-3000PS/PS-A4 only) or AUDIO channel 4 (BVH-3000PS-A4/BVH-3100PS-A4 only) Either sync or AUDIO channel 4 is selected by Menu S10, SYNC A4 SELECT.
VIDEO:	Video channel

When the CUE SEL lamp in the 21-key section is lit, these buttons select cue points 6 to 10 as indicated below the respective buttons.

⓭ 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.



⑲ PREVIEW/REVIEW button

This button is used in automatic editing. Refer to 3-4.
The button functions as the PREVIEW button when the following conditions are satisfied:

- The data for 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 for the next editing has not been set.

⑳ 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.

㉑ VIDEO/CUE4, 5 buttons

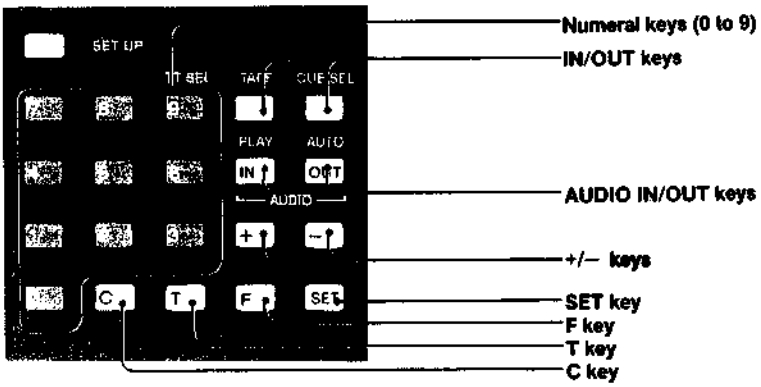
When the AUTO lamp in the 21-key section is lit, pressing VIDEO IN (or VIDEO OUT) button enters the display data of block 1 as the IN (or OUT) point. The entered data is used for the PREROLL, PREVIEW, AUTO EDIT, and REVIEW operations. (When the AUTO lamp is turned off, the entered data is used for the PREROLL operation only.)
When the CUE SEL lamp in the 21-key section is lit, these buttons function as the cue entry keys for cue points 4 and 5 respectively.

㉒ AUDIO SPLIT/CUE1-3 buttons

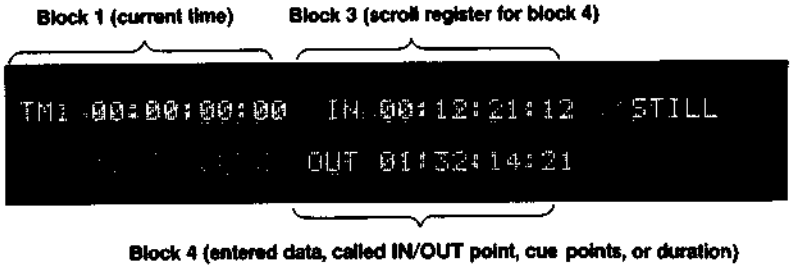
Pressing the AUDIO SPLIT button (leftmost) makes the VTR enter the AUDIO SPLIT mode, allowing the audio IN/OUT points to be input independently of the video IN/OUT points which are input with the VIDEO IN/OUT buttons ㉑. When the AUDIO SPLIT button is pressed again, the VTR exits from the AUDIO SPLIT mode.
In the AUDIO SPLIT mode (the AUDIO SPLIT button lamp lit), pressing the AUDIO SPLIT IN (or AUDIO SPLIT OUT) button enters the display data of block 1 as the audio IN (or OUT) point. The pressed button lights up. The entered data is used for the PREROLL, PREVIEW, AUTO EDIT, and REVIEW operations.
When the CUE SEL lamp in the 21-key section is lit, these three buttons function as the cue entry keys for cue points 1 to 3 respectively.

㉓ 21-key section—for editing operations

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



Display for 21-key operation

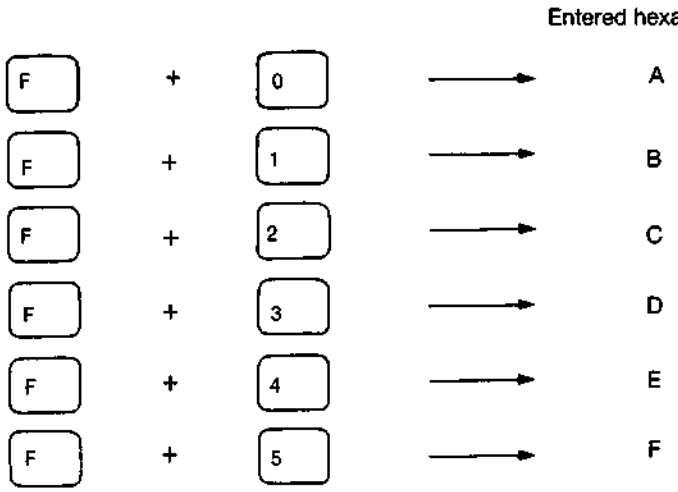


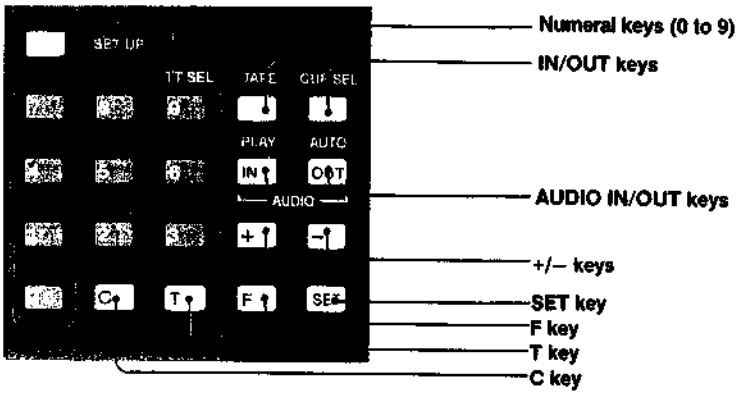
Numeral keys

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 corresponding hexadecimal digit as shown below:





SET key
Used to store the number having been entered into block 4.

C (clear) key
Erases 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
Shifts the displayed data in block 4 to block 1, and stores the data in the memory. In this way, the data displayed in block 1 (of time code generator or timer-1) can be changed.

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
When data is displayed in block 4, pressing the SET key to finalize the data and then pressing the IN (OUT) key enters 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.

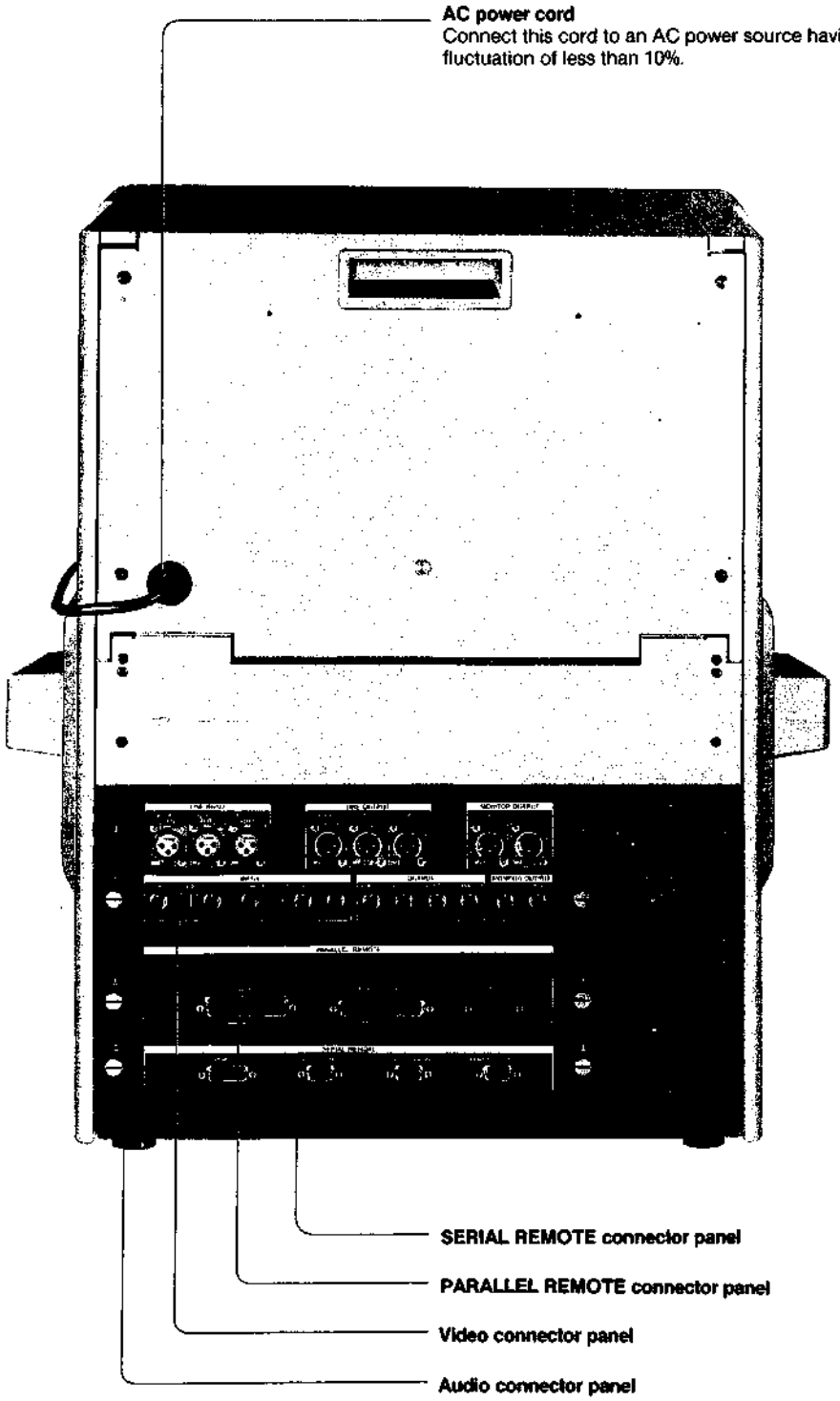
(3) DURATION and LAP display
When the IN and OUT buttons are pressed at the same time, the editing duration (the length between the IN and OUT points) is displayed in block 4.
For the timer-1 data, "DUR" appears on the left of the duration and for the timer-2 data, "LAP" appears.

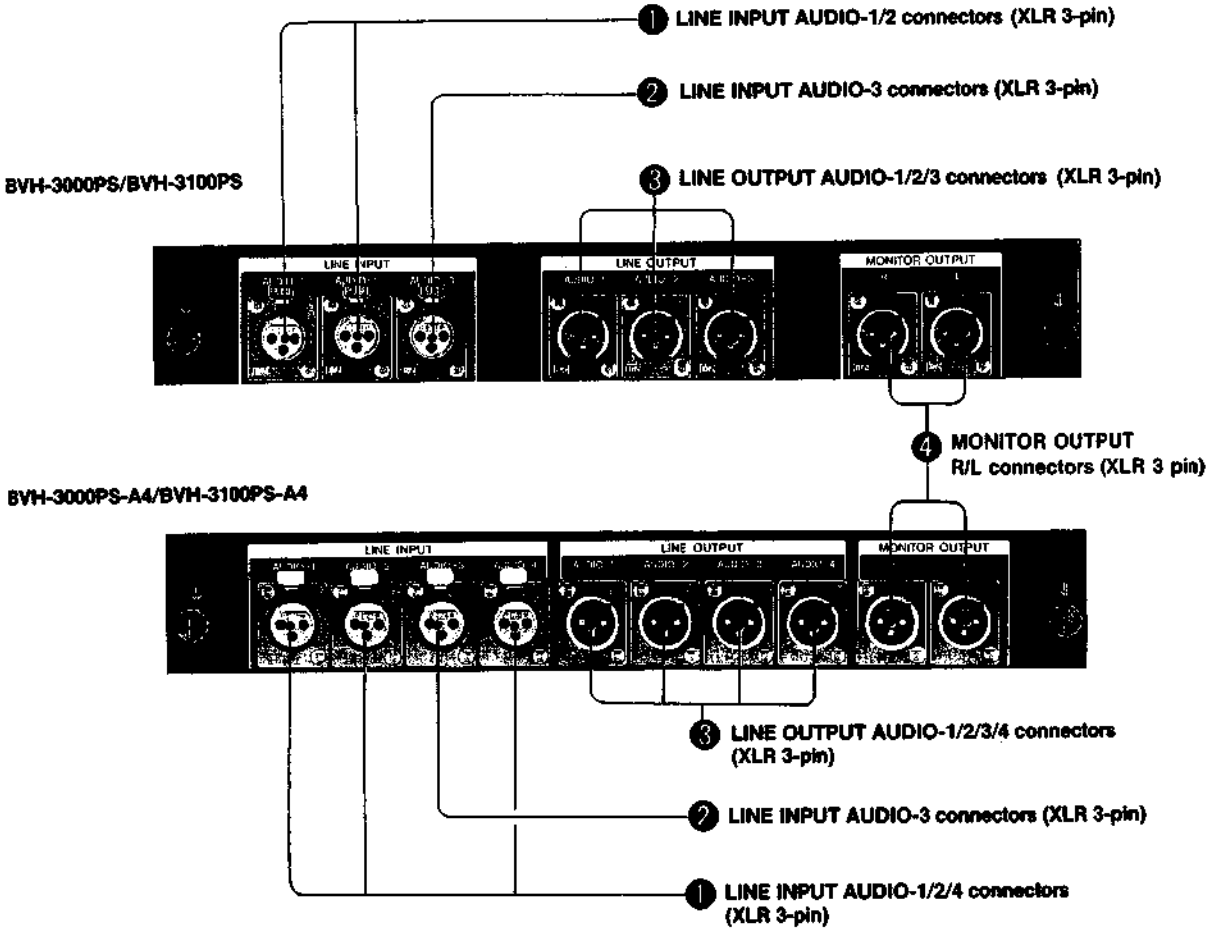
AUDIO IN/OUT keys
Used to set the audio IN/OUT points in the AUDIO SPLIT mode.
Similarly to the IN/OUT keys, the AUDIO IN/OUT keys have the following three functions:

(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 ●.
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.)

1-4-4. Connector Panels





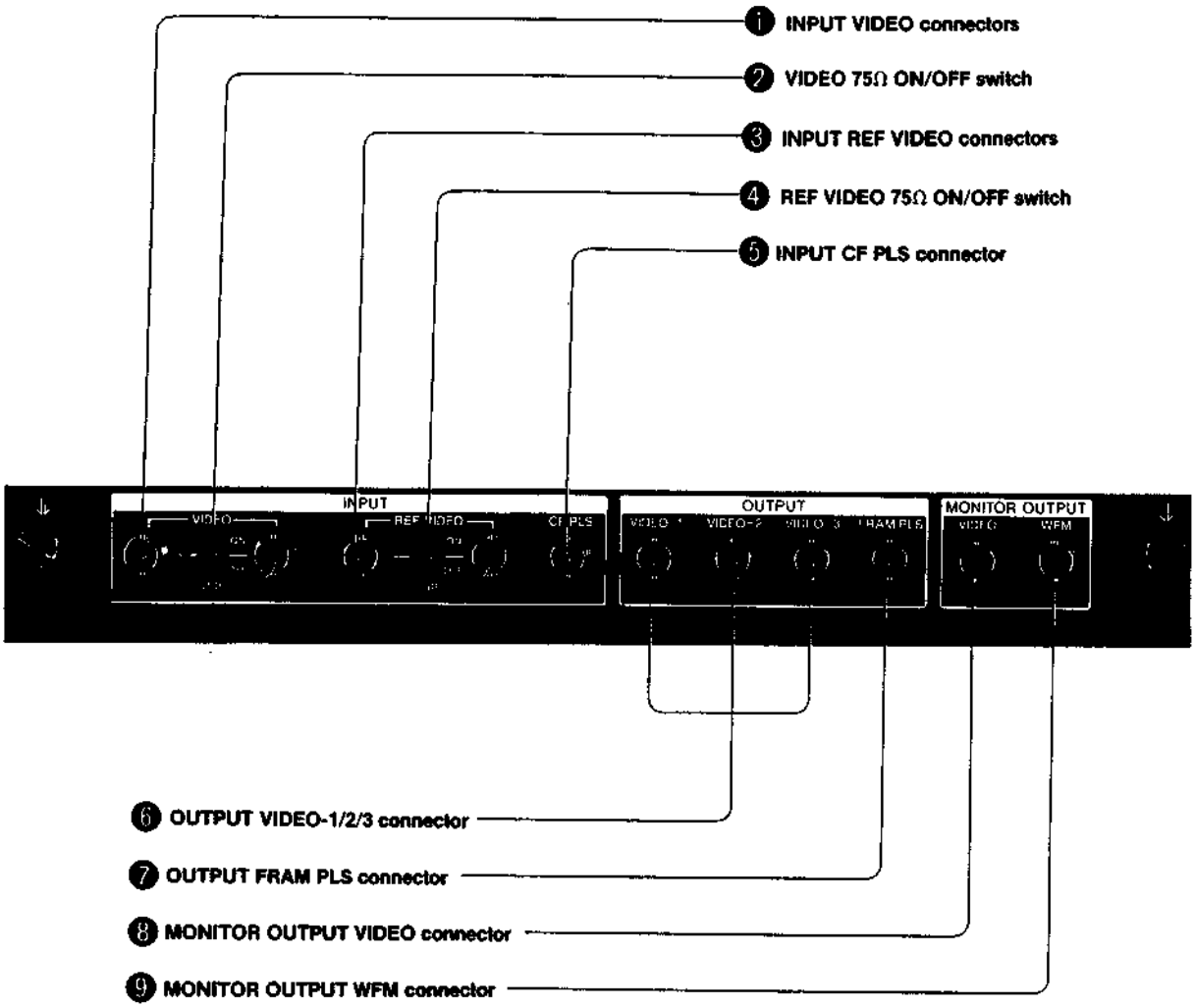
1 LINE INPUT AUDIO-1/2/4 connectors (XLR 3-pin)
There are input connectors for audio channels 1, 2 and 4.

2 LINE INPUT AUDIO-3 connector (XLR 3-pin)
This is an input connector for audio input, external time code, or microphone input for audio channel 3.
To record the audio input signal from this connector, select LINE in Menu S50 A3 INPUT SELECT. To record the external time code signal from this connector, select TC in Menu S50 A3 INPUT SELECT, and EXT in Menu S51 TIME CODE SOURCE. To record the microphone input signal from this connector, select MIC in Menu S50 A3 INPUT SELECT.

3 LINE OUTPUT AUDIO-1/2/3/4 connectors (XLR 3-pin)
These are output connectors for audio channels 1, 2, 3 and 4. The output impedance is 50 ohms.

4 MONITOR OUTPUT R/L connectors (XLR 3-pin)
These are monitor output connectors for audio channels L and R. Signals fed from these connectors are selected with the AUDIO MONITOR select buttons ⓭ on the level control panel. Refer to page 1-17.

Video connector panel



❶ INPUT VIDEO connectors (BNC type)
Used to connect an input 1.0 Vp-p video signal. One of the two connectors can be used as a loop-through output (for bridge connection) to other video equipment.

❷ VIDEO 75Ω ON/OFF switch
This is a 75 ohm termination switch for the INPUT VIDEO connectors ❶.
ON: Normal position (terminated)
OFF: Open circuit for bridge connection

❸ INPUT REF VIDEO connectors (BNC type)
Used to connect a 1.0 Vp-p video signal for external synchronization. This signal is used as the reference signal for the servo circuit when EXT REF or AUTO is selected in Menu S40 SERVO REF SELECT (when AUTO is selected, this signal is used only in playback). This signal is used also as the TBC reference signal when EXT REF is selected in Menu S86 TBC REF SELECT (when SERVO is selected in Menu S86, the TBC reference signal is selected with Menu S40).
One of the two connectors can be used as a loop-through output (for bridge connection) to other video equipment.

❹ REF VIDEO 75Ω ON/OFF switch
This is a 75 ohm termination switch for the INPUT REF VIDEO connectors ❸.
ON: Normal position (terminated)
OFF: Open circuit for bridge connection

❺ INPUT CF PLS (pulse) connector (BNC type)
Receives the external color frame pulse (TTL level) when EXT CF is selected in Menu S42 SERVO REF CF PULSE.

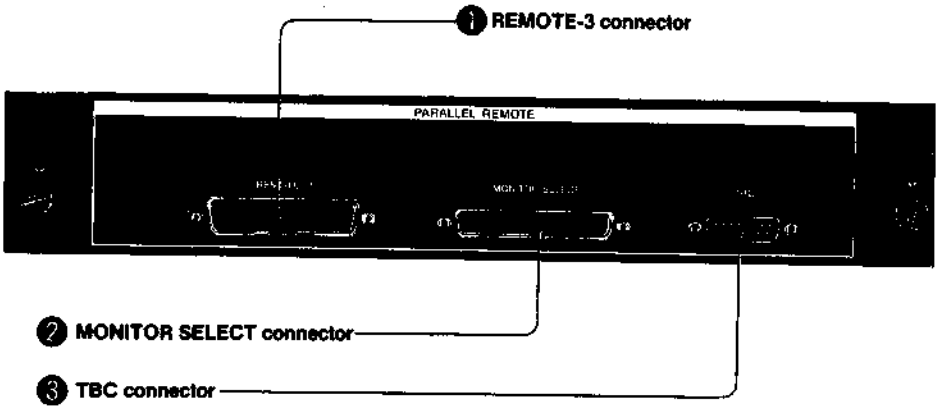
❻ OUTPUT VIDEO-1/2/3 connectors (BNC type)
These are 1.0 Vp-p 75-ohm video signal output connectors.
The VIDEO-1 connector always outputs the TBC output video signal.
The VIDEO-2 connector outputs the TBC output signal if DISABLE is selected in Menu S59 MIXED CHARA OUTPUT, or the character-mixed TBC output signal if VD2 + TBC is selected in Menu S59.
The VIDEO-3 connector outputs the TBC output signal if COMP is selected in Menu S81 COMP/NON COMP, or the TBC output signal without sync if NON COM is selected in Menu S81.

❼ OUTPUT FRAM PLS (frame pulse) connector (BNC type)
This is an output connector for the frame pulse (TTL level). Three kinds of output pulse signals, that is, REF-2, REF-4, REF-8 and PB CF can be selected with Menu I09 FRAME PULSE OUTPUT.

❽ MONITOR OUTPUT VIDEO connector (BNC type)
This connector outputs the video signal for the picture monitor; 1.0 Vp-p, 75 ohms (nominal). Any of the input video, demodulator output, and TBC output signals can be selected as the output signal with Menu S02 PICTURE MONITOR or with the remote control signal via the MONITOR SELECT connector (PARALLEL REMOTE connector panel).

❾ MONITOR OUTPUT WFM connector (BNC type)
This connector outputs the video signal for the waveform monitor; 1.0 Vp-p, 75 ohms. The video signal selected with Menu S02 PICTURE MONITOR, playback CTL signal, or the playback RF envelope signal can be selected as the output signal with Menu S03 WFM SELECT or with the remote control signal via the MONITOR SELECT connector (PARALLEL REMOTE connector panel).

PARALLEL REMOTE connector panel



1 REMOTE-3 connector (D-SUB 50-pin)

IN/OUT connector for remote control signals.
Use this connector to connect a VTR or editing control unit with parallel input/output remote control signals. RM3 must be selected in Menu S01 REMOTE SELECT to use this connector.
Refer to Appendix B for the correspondence between the connector pins and input/output signals.

Note

When using the REMOTE connectors, be sure to select the corresponding item in Menu S01 REMOTE SELECT.

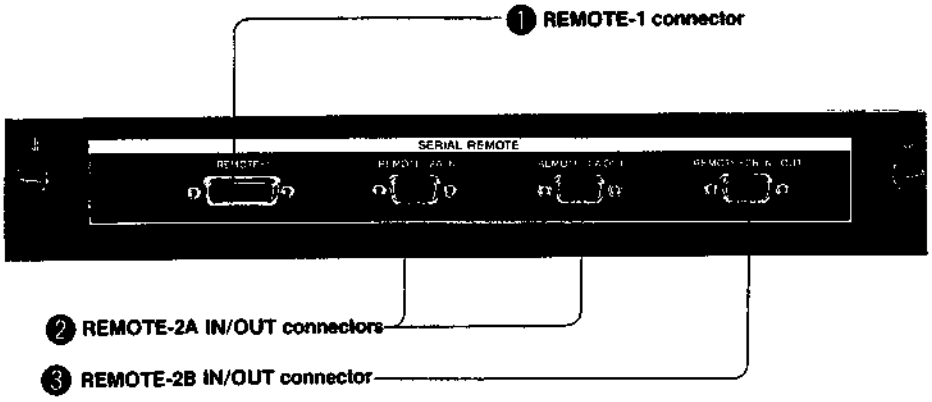
2 MONITOR SELECT connector (D-SUB 37-pin)

This connector receives the remote control signals to control the output signals of the MONITOR OUTPUT VIDEO and WFM connectors (video connector panel) and the MONITOR OUTPUT R/L connectors (audio connector panel).
Refer to Appendix B for the correspondence between the connector pins and input/output signals.

3 TBC connector (D-SUB 15-pin)

Connect a remote control unit to this connector to remotely control the time base corrector of the VTR.
Refer to Appendix B for the pin assignment of this connector.

SERIAL REMOTE connector panel



1 REMOTE-1 connector (D-SUB 15-pin)

IN/OUT connector for the remote control signals.
Use this connector and the BKH-2016 CCJ converter to connect a VTR or editing control unit having a CCJ (10-pin) REMOTE IN/OUT connector to the BVH-3000PS/3100PS. RM1 must be selected in Menu S01 REMOTE SELECT to use this connector.

—Connectable equipment—

Editing control unit: BVE-500, BVE-1000, BVE-5000 (BVE-5000 is also connectable to the REMOTE-2 connector by using the BK-5005 board instead of the BKH-2016.)
VTR: BVH-1000, BVH-1100, BVH-1100A, BVH-1180
Remote control unit: BVR-1000, BVR-1100
Dynamic motion controller: DTR-1100
Interface box: IF-1000, IF-9100

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

IN/OUT connectors for remote control signals. Use these connectors to connect VTR(s), editing control unit(s) or remote controller via RS-422 serial remote control signal cable(s). RM2A must be selected in Menu S01 REMOTE SELECT to use these connectors.
The IN/OUT connectors are loop-through, allowing bridge connection for remote control.

—Connectable equipment—

Editing control unit: BVE-800, BVE-900, BVE-3000, BVE-5000, BVE-9000 (To connect the BVE-5000, the BK-5005 board is required.)
VTR: BVH-3000PS/3100PS, BVH-2000 series, BVU-800, BVU-820, BVW-40 series
Remote controller: BKH-2017A, BKH-3090
Dynamic motion controller: DTR-2000

3 REMOTE-2B IN/OUT connector (D-SUB 9-pin)

The purpose and connectable equipment of this connector are the same as those of the REMOTE-2AIN/OUT connectors except that this connector does not allow bridge connection. RM2B must be selected in Menu S01 REMOTE SELECT to use this connector.
This connector is used as the IN connector when the REMOTE/LOCAL selector on the level control panel is set at REMOTE, and as the OUT connector when the REMOTE/LOCAL selector is set at LOCAL.

Note

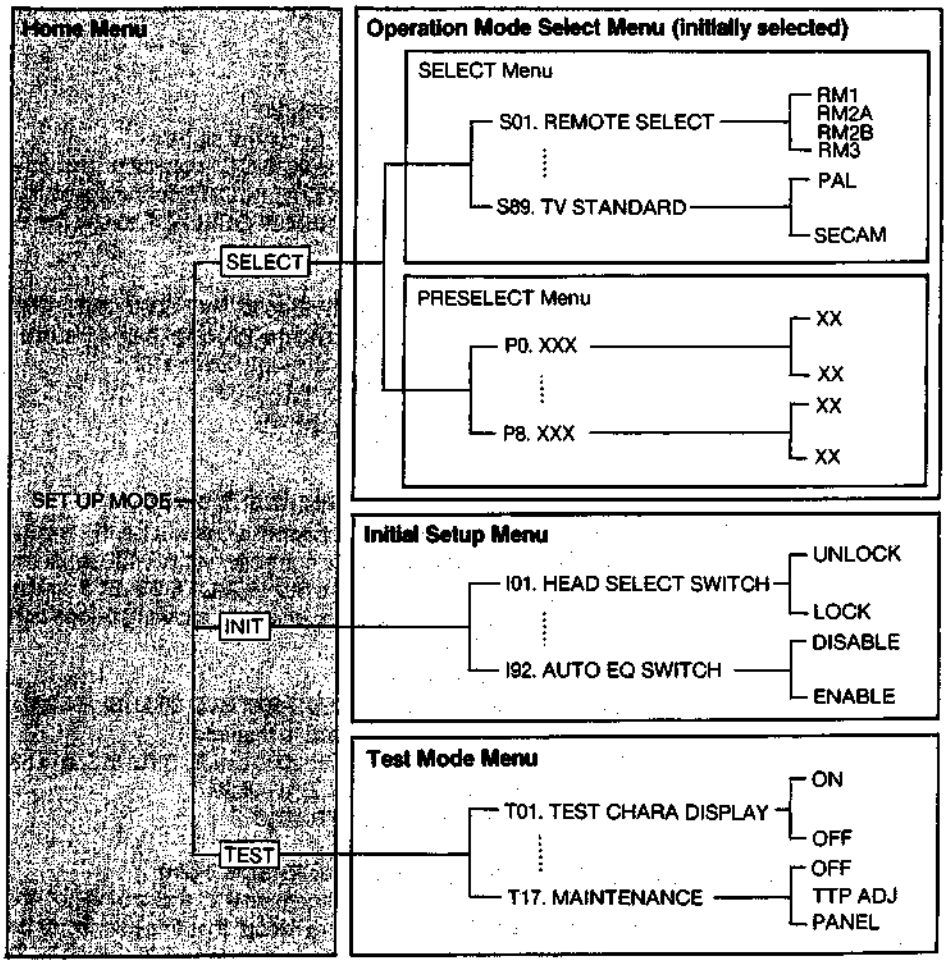
The REMOTE-2A IN/OUT connectors and the REMOTE-2B IN/OUT connector cannot be used at the same time.

1-5. MENUS

The menu system allows all setup selections to be made by the 21 keys on the function control panel, eliminating troublesome switch operations on internal circuit boards. During setup by menu operation, the necessary information — including the menu number, menu name, and selected item — is displayed on the function control panel. In addition, the BVH-3000PS/3100PS has a PROM and a NOVRAM (nonvolatile RAM) to store the default selection and user's standard selection of each menu, allowing such selections to be easily restored.

1-5-1. Menu Configuration

The menu system of the BVH-3000PS/3100PS consists of the Home Menu, Operation Mode Select Menu, Initial Setup Menu, and Test Mode Menu as shown in the following figure:



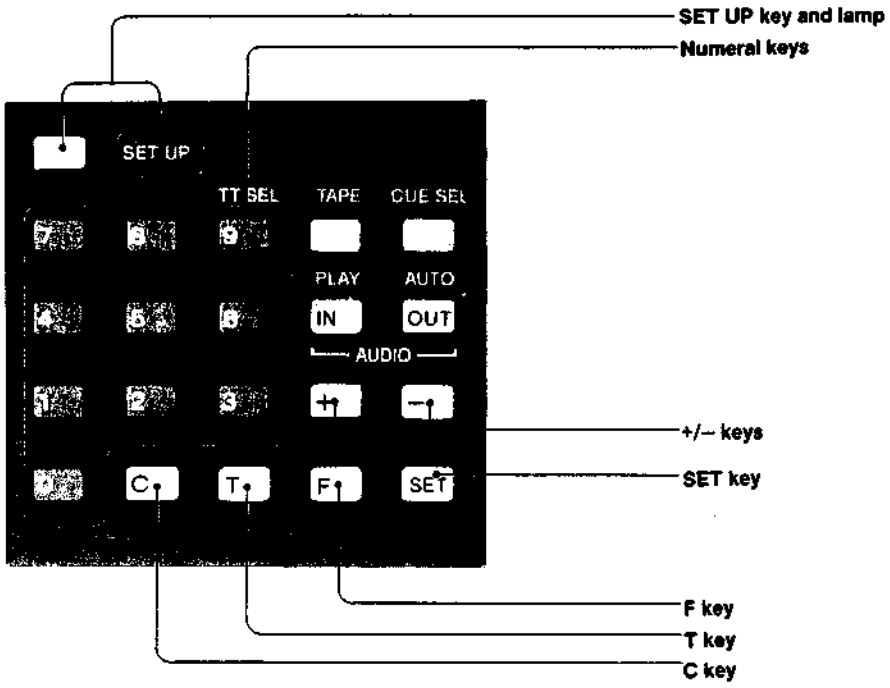
The Operation Mode Select Menu, used chiefly for setup during operation, is automatically selected when the VTR enters the SET UP mode. This menu is further divided into the SELECT Menu and PRESELECT Menu; the latter allows direct selection of each detailed-menu merely by pressing the corresponding numeral 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. For reference during operation, menu sheets containing menu items and selection flows are provided below the function control panel. Refer to Appendix C.

1-5-2. 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. The + key increases the menu number and 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. This key is used also to select 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.

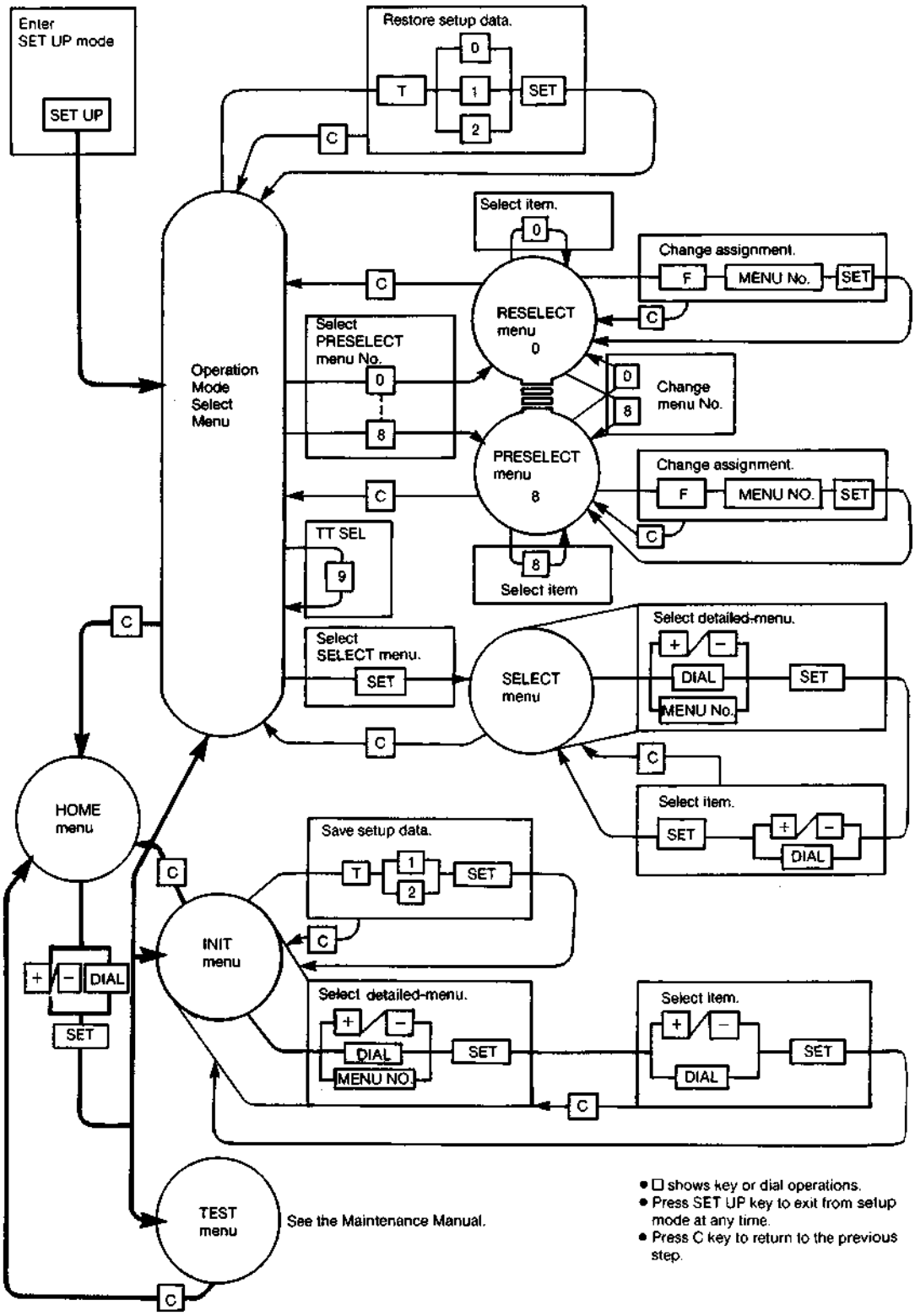
Menu display format

The menu is displayed on the lower line of the display on the function control panel. The display format is as follows:

The first character of the menu number represents the type of the menu: S for the SELECT Menu, P for the PRESELECT Menu, I for the Initial Setup Menu, and T for the Test Mode Menu.
The "current item" means the item which is currently selected. The "item to be selected" is the item which can be finalized to be the "current item" by pressing the SET key in the 21-key section. When the menu number or the item to be selected is changeable, a cursor is displayed below it.
In addition to the above, some messages are displayed as required.

State transition by 21-key and search dial operations

The following figure shows a state transiton diagram for menu selection:



1-5-3. 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 that have been preselected by the user for quick selection.

SELECT Menu

The menus included in the SELECT Menu are as follows:
(1) System S01-S11
(2) Servo S40-S44
(3) Time code, character S50-S59
(4) Video S80-S88
(In the "Items" column, the default item is indicatead in a box.)

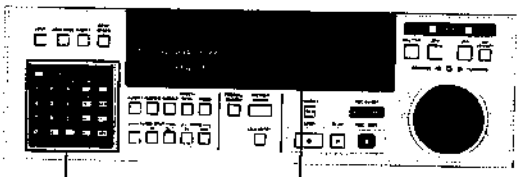
Menu No.	Menu	Items	Description
(1) System			
S01.	REMOTE SELECT	RM1 [RM2A] RM2B RM3	Selects the REMOTE connector(s) to be used. RM1: REMOTE-1 connector for CCJ converter RM2A: REMOTE-2A IN and REMOTE-2A OUT connectors for RS-422 interface (with loop-through) RM2B: REMOTE-2B IN/OUT connector for RS-422 interface (without loop-through) RM3: REMOTE-3 connector for parallel interface
S02.	PICTURE MONITOR	INPUT DEMOD [TBC OUT]	Selects the video signal to be sent out from the MONITOR OUTPUT VIDEO connector. INPUT: Input video signal DEMOD: Demodulator output TBC OUT: TBC output
S03.	WFM SELECT	[SELECT] CTL RF	Selects the signal to be sent out from the MONITOR OUTPUT WFM connector. SELECT: Video signal selected by Menu S02. PICTURE MONITOR CTL: Playback CTL pulse signal RF: Playback RF envelope signal
S04.	FREEZE MODE	[DISABLE] ENABLE	Selects whether the freeze picture is to be sent out from the OUTPUT VIDEO-1/2/3 connectors when the TAPE lamp in the 21-key section is lit. DISABLE: The freeze picture is not sent out. ENABLE: The freeze picture is sent out when the STOP button is pressed or when the still-off timer is over.
S05.	EDIT FIELD	F1 [F1/F2] F2	Selects the fields of the IN and OUT points of editing. F1: IN point is field 1, and OUT point is field 2. F1/F2: Fields of IN and OUT points are not fixed. If editing is started by pressing REC/EDIT button on VTR function control panel, however, IN point is field 1 and OUT point is field 2. F2: IN point is field 2, and OUT point is field 1.

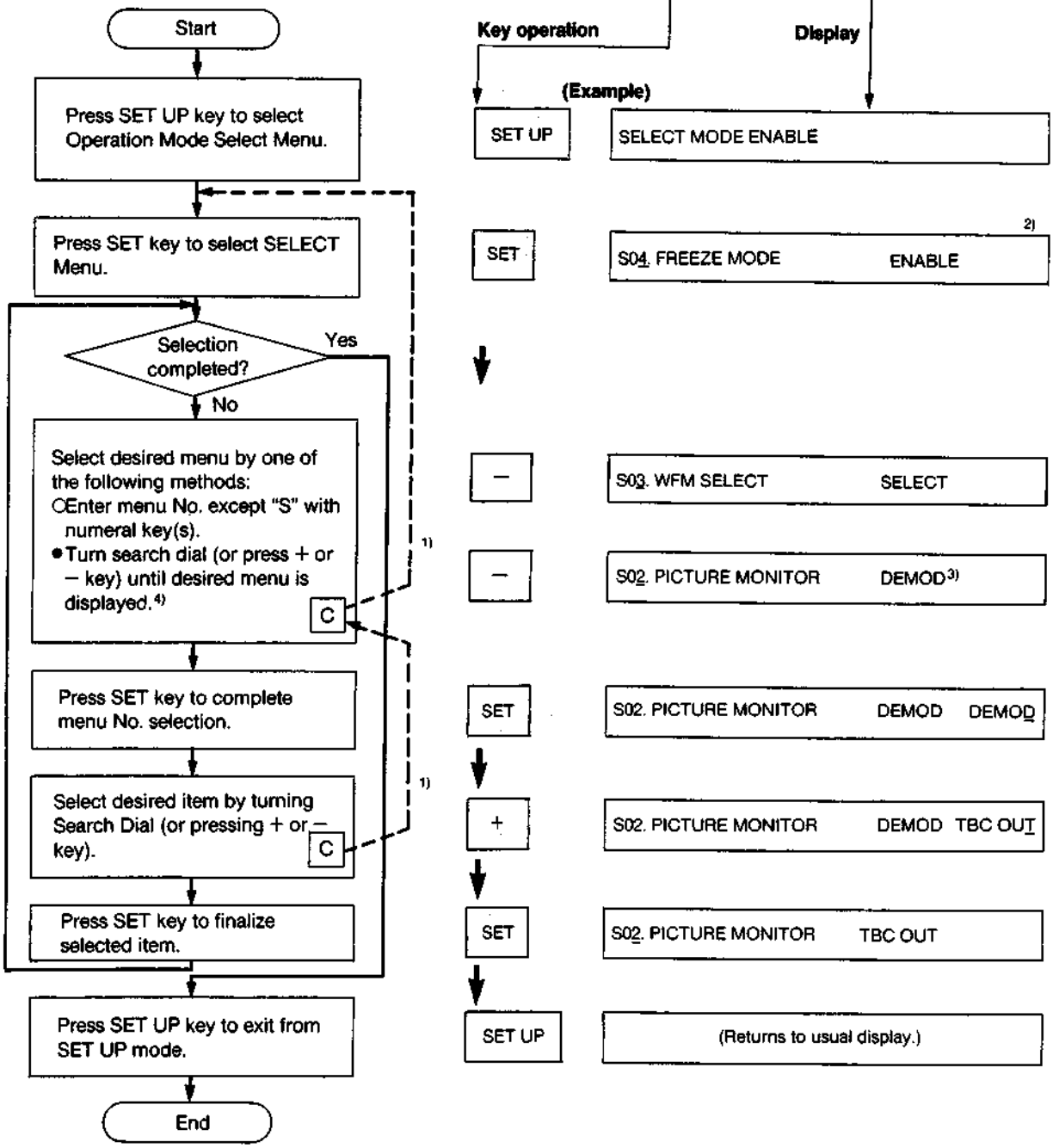
Menu No.	Menu	Items	Description
S06.	BVB (PREVIEW MODE)	[DISABLE] ENABLE	Selects whether BVB or VBV is to be carried out in preview. DISABLE: Neither BVB nor VBV is carried out. ENABLE: VBV is carried out when the VIDEO channel preset button lamp is lit, and BVB is carried out when VIDEO channel preset 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 it is stored by pressing one of the VIDEO IN/OUT buttons, AUDIO SPLIT IN/ OUT buttons, CUE ENTRY button and CUE1 to CUE10 buttons. This subtraction is carried out in order to compensate for the time lag caused by manual operation.
S08.	PARA RUN	[DISABLE] ENABLE	Selects whether parallel operation of VTRs in the same mode is to be 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 tape transport is to be stopped before the end of the tape. Disable: Tape not stopped Enable: Tape stopped D-PINCH: Tape not stopped only in case of forward transport with pinch on
S10.	SYNC A4 SELECT	1 HD [1.5 HD] A4	Selects whether the sync channel is to be subjected to playback. 1HD: Sync channel is not to be subjected to playback. 1.5HD: Sync channel is to be subjected to playback. A4: The Audio channel 4 is enabled (PS-A4 Model only).
S11.	VARIABLE MODE	[P. JOG] P. PLAY	Selects the variable playback mode. P.JOG: Program jog mode P.PLAY: Program play mode (Time compression/expansion mode)
(2) Servo			
S40.	SERVO REF SELECT	EXT REF [AUTO] INPUT	Selects the servo reference signal. EXT REF: REF VIDEO signal AUTO: REF VIDEO signal in playback or INPUT VIDEO signal in recording/editing INPUT: INPUT VIDEO signal
S41.	CAPSTAN LOCK MODE	2F [4F] 8F	Selects the capstan lock mode. 2F: 2 fields (frame synchronization) 4F: 4 fields (4 fields synchronization) 8F: 8 fields (color frame synchronization)

Menu No.	Menu	Items	Description
S42.	SERVO REF CF PULSE	[INT] EXT CF	Selects the source of the servo CF reference signal. INT: Internal CF REF signal EXT CF: External CF REF signal
S43.	SERVO CF DET SHIFT	[0 DEG] +45 DEG −45 DEG	Adjusts the servo CF detector phase.
S44.	DT FIELD/ FRAME MODE	REM [FIELD] FRAME	Selects the field/frame jog mode in DT playback. REM: Field jog/frame jog mode selection remote-controlled FIELD: Field jog mode FRAME: Frame jog mode (from still to twice the normal speed)
(3) Time code, character			
S50.	A3 INPUT SELECT	MIC LINE [TC]	Selects the audio channel 3 input mode. MIC: Microphone input LINE: Audio input signal TC: Longitudinal time code
S51.	TIME CODE SOURCE	[INT] EXT	Selects the time code source. INT: Internal time code EXT: External time code through LINE INPUT AUDIO-3 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 at −1/2 to +1/2 of 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

Menu No.	Menu	Items	Description
S55.	TC REGEN/ PRESET SEL	REGEN [PRESET] AUTO	Selects the TCG mode. REGEN: Time code is regenerated. PRESET: PRESET mode is selected. AUTO: REGEN mode is selected in ASSEMBLE editing, and PRESET mode is selected in other cases.
S56.	UB REGEN/ PRESET SEL	REGEN [PRESET] AUTO	Selects the UBG mode. REGEN: User bit data is regenerated. PRESET: PRESET mode is selected. AUTO: REGEN mode is selected in ASSEMBLE editing, and PRESET mode is selected in other cases.
S57.	VITC RECORD	DISABLE [ENABLE]	Selects whether the VITC is to be recorded. DISABLE: VITC not recorded ENABLE: VITC recorded
S59.	MIXED CHARA OUTPUT	[DISABLE] MONITOR VD2 +TBC	Selects whether characters are to be superimposed. DISABLE: Not superimposed MONITOR: Superimposed on output from MONITOR OUTPUT VIDEO connector VD2+TBC: Superimposed on output from OUTPUT VIDEO-2 connector, and when TBC OUT is selected in Menu SO2 PICTURE MONITOR, also superimposed on output from MONITOR OUTPUT VIDEO connector
(4) Audio			
S70	AUDIO METER SELECT	A3 A4	Selects the audio channel whose signal level is to be indicated with the AUDIO 3/4 meter. This menu also selects which of the AUDIO 3 and AUDIO 4 signals is to be output from the MONITOR OUTPUT R/L connectors and HEADPHONES jack when the AUDIO MONITOR select button AUDIO 3/4 is pressed. • This menu is effective only in the BVH-3000PS-A4/BVH-3100PS-A4. A3: The AUDIO 3/4 meter indicates the signal level of the AUDIO-3 channel. When the AUDIO MONITOR select button AUDIO 3/4 is pressed, the AUDIO 3 signal is output from the MONITOR OUTPUT R/L connectors and HEADPHONES jack. A4: The AUDIO 3/4 meter indicates the signal level of the AUDIO-4 channel. When the AUDIO MONITOR select button AUDIO 3/4 is pressed, the AUDIO 4 signal is output from the MONITOR OUTPUT R/L connectors and HEADPHONES jack.

Flow of SELECT Menu selection





1) As shown by broken lines, you can return to the previous step by pressing the C key. However, the selection finalized by pressing the SET key cannot be canceled by this means.
2) The last selected menu is displayed.
3) Current item
4) The search dial cannot be used for menu selection if the JOG, SHUTTLE or VAR button lamp is lit.

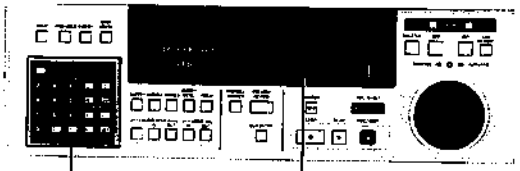
PRESELECT Menu

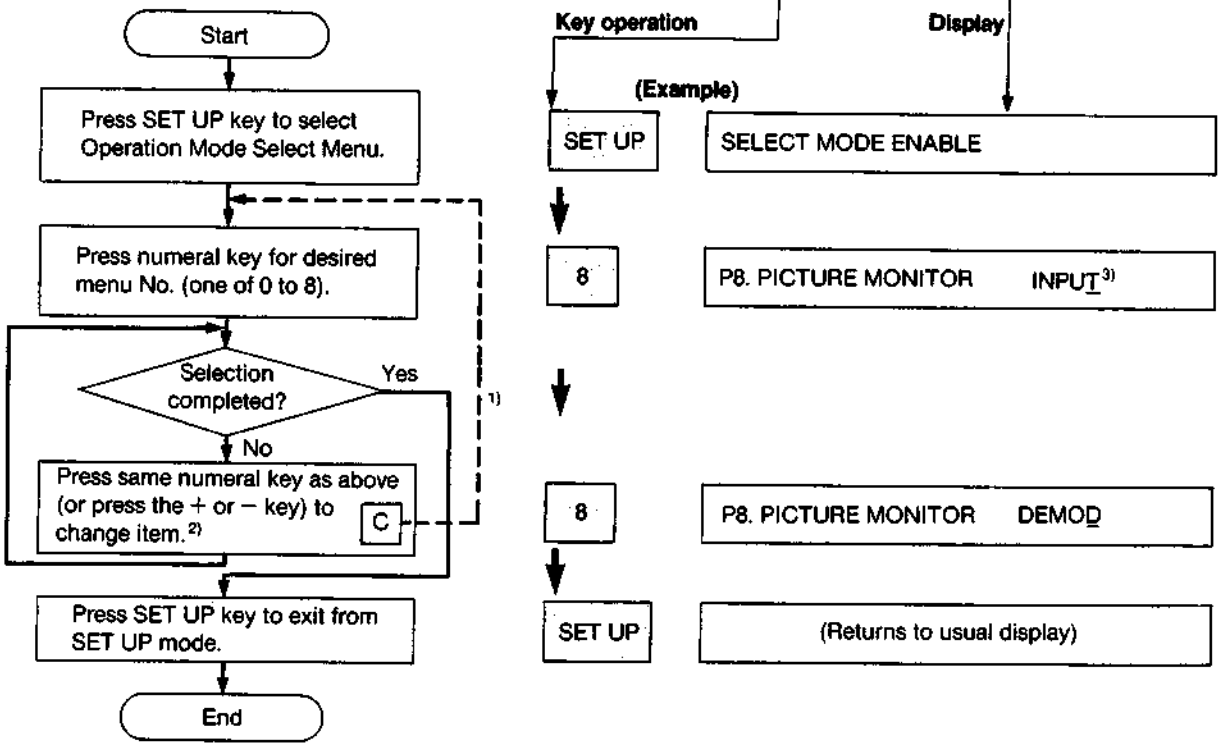
From among the SELECT Menu, up to nine menus that are frequently used can be assigned to numeral keys 0 to 8. The following list shows the factory-assigned PRESELECT Menu:

Key No.	PRESELECT Menu	Corresponding S No.
0	P0. REMOTE SELECT	S01
1	P1. VIDEO METER SELECT	S80
2	P2. PB CF DET MODE	S88
3	P3. CAPSTAN LOCK MODE	S41
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 as required by the user, except for the "9" key (refer to page 1-26).
Two types of overlay sheets, one showing the factory-assigned PRESELECT Menu and the other showing the user's assignment, are attached so that either can be placed on the 21-key section. Refer to Appendix D.

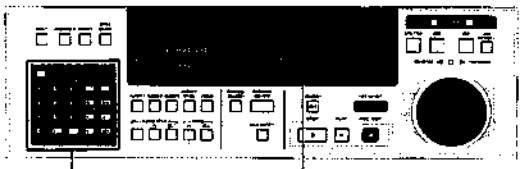
Flow of PRESELECT Menu selection

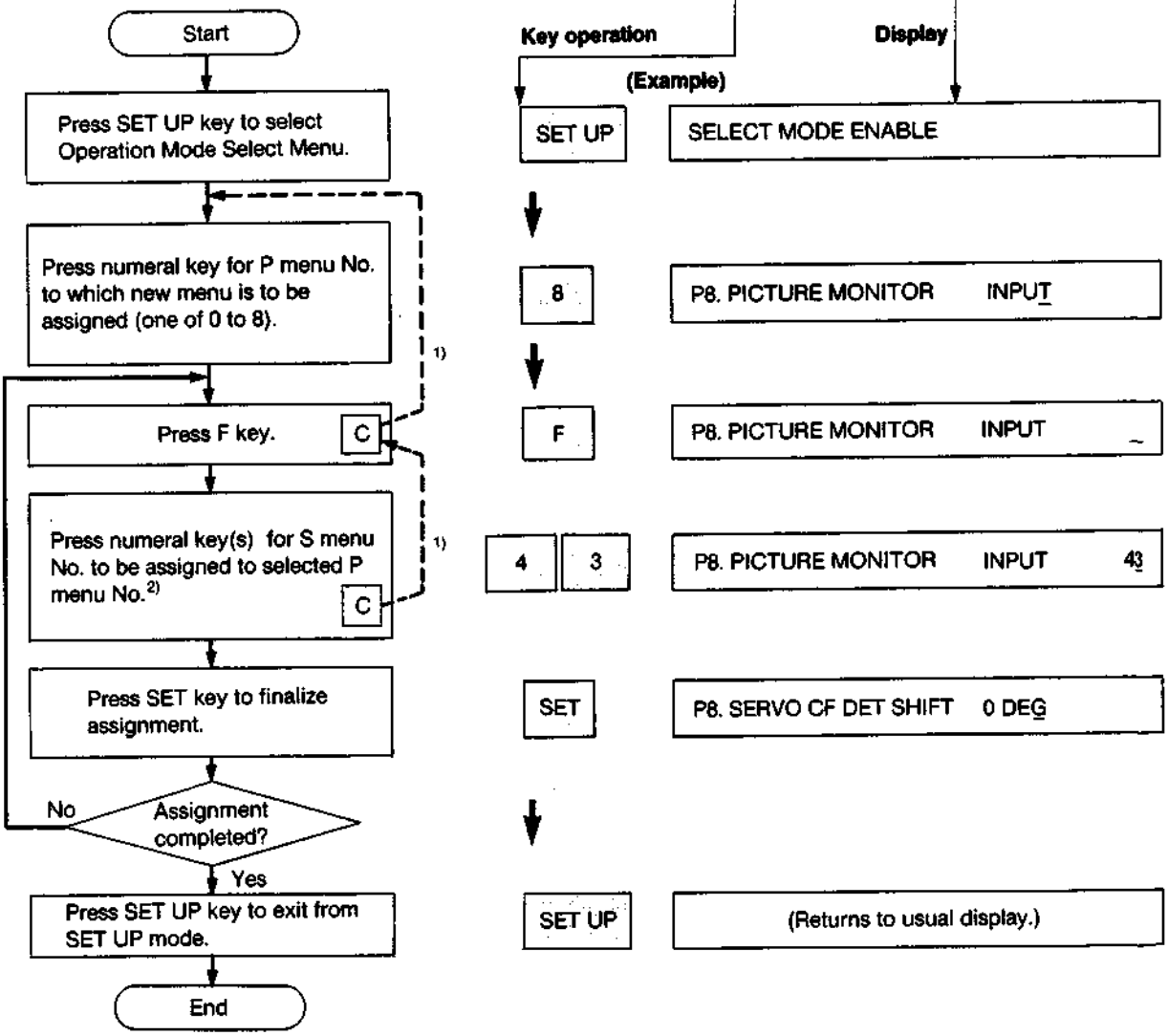




1) As shown by a broken line, you can return to the previous step by pressing the C key.
2) If another numeral key other than "9" (in this example, one of "0" to "7" keys) is pressed, the corresponding P menu is selected.
3) Current item

Flow of PRESELECT Menu assignment





1) As shown by broken lines, you can return to the previous step by pressing the C key.
2) The last entered two digits specify the menu number.

1-5-4. 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 as follows:

(1) System I01 - I26
(2) Servo I40, I41
(3) Time code, character I50 - I65
(4) Audio I70, I71
(5) Video I80 - I92
(In the "Items" column, each default item is indicated in a box.)

Menu No.	Menu	Items	Description
(1) System			
I01.	HEAD SELECT SWITCH	[UNLOCK] LOCK	Selects whether playback video head selection by the PLAY/IN key (21-key section on the function control panel) is enabled. UNLOCK: The playback video head can be changed over between the R/P and PLAY heads with the PLAY/IN key. LOCK: The current selection by the PLAY/IN key is held unchanged even if the key is operated afterwards.
I02.	RESERVED		
I03.	RESERVED		
I04.	INPUT CHECK MODE	EE [INPUT]	Selects the video and audio signals which are output from the MONITOR OUTPUT connectors when the INPUT button (function control panel) is pressed. EE: E-to-E signal INPUT: Input signals
I05.	LOCAL KEY ENABLE	[DISABLE] STOP EN FUNC EN ALL EN	Selects which controls are to be enabled on the function control panel of this VTR when the REMOTE/LOCAL selector (level control panel) is set at 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, REC/EDIT, PLAY, VAR, JOG, PREROLL/SEARCH and SHUTTLE buttons, and controls for menu selection are enabled. ALL EN: All controls except CONTROL P/R buttons are enabled.

Menu No.	Menu	Items	Description
I06.	AUTO MODE INSTRUCT	[DISABLE] ENABLE	Selects whether the operation sequence is to be indicated in automatic editing. DISABLE: Operation sequence is not indicated. ENABLE: Operation sequence is indicated. (Applicable lamps sequentially blink, indicating the operation sequence.)
I07.	REEL MODE SHUTTLE	[DISABLE] ENABLE	If the tape speed is remotely controlled in the SHUTTLE mode, this menu selects whether the tape is to be capstan-driven when it is prerolled at +3 times the normal speed or less. DISABLE: Capstan-driven ENABLE: Driven only by the reel
I08.	VAR JOG WITH CLICK	DISABLE [ENABLE]	Selects whether the search dial is to click in the VAR or VAR MEMORY mode. DISABLE: The search dial does not click. ENABLE: The search dial clicks at the normal speed and still position.
I09.	FRAME PULSE OUTPUT	[REF 2] REF 4 REF 8 PB CF	Selects the signal which is output from the OUTPUT FRAM PLS connector. REF 2: Reference frame pulse signal for 2 fields REF 4: Reference frame pulse signal for 4 fields REF 8: Reference frame pulse signal for 8 fields PB CF: Playback color frame pulse signal
I10.	EE SYNC DELAY	[DISABLE] ENABLE	In the EE mode, this menu selects whether the video output sync signal is to be delayed from the reference signal so as to make the picture and sync signals in phase (relative phase). DISABLE: The sync signal is not delayed. There is a phase difference of 4H between the picture and sync signals, and the picture signal vertically shifts. ENABLE: The sync signal is delayed by 8H. The picture and sync signals are in phase (relative phase).
I11.	EDIT SYNC DELAY	DISABLE [ENABLE]	In the PREVIEW mode, this menu selects whether the video output sync signal is to be delayed from the reference signal so as to make the picture and sync signals in phase (relative phase). DISABLE: The sync signal is not delayed. There is a phase difference of 4H between the picture and sync signals, and the picture signal vertically shifts. ENABLE: In the PLAY mode with the ASSEMBLE or INSERT button lit, the sync signal is delayed by 8H. The picture and sync signals are in phase (relative phase).

No.	Item	Data	Description
I12.	STILL OFF TIMER	DISABLE 2 SEC 4 SEC 10 SEC 20 SEC 30 SEC 1 MIN 1.5 MIN 2 MIN [3 MIN]	Selects the duration after which the VTR automatically exits from the STILL mode for tape protection. 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 ⋮ [9 MIN] (in 1-minute steps)	Selects the duration after which the VTR automatically exits from the STANDBY mode for tape protection. DISABLE: The VTR does not automatically exit from the STANDBY mode. 1 MIN - 9 MIN: After the selected duration, the VTR automatically exists from the STANDBY mode.
I14.	SEARCH PREROLL TIME	[0 SEC] ⋮ 15 SEC 20 SEC 25 SEC 30 SEC	Selects the preroll time for cue point search.
I15.	EDIT PREROLL TIME	0 SEC ⋮ [7 SEC] ⋮ 15 SEC 20 SEC 25 SEC 30 SEC	Selects the preroll time for editing.
I16.	EDIT POSTROLL TIME	1 SEC [2 SEC] ⋮ 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.
I17.	REC CONFI MODE	[CONFI] EE	Selects the signal to be output from the OUTPUT VIDEO-1/2/3 and MONITOR OUTPUT VIDEO 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 confidence head (DT head) EE: E-to-E signal

Menu No.	Menu	Items	Description
118.	IN POINT SYNCHRO	[DISABLE] ENABLE	Selects whether the tape speed is to be adjusted between the cue up and IN points so that the time code difference coincides with the actual time elapse. DISABLE: Tape speed not adjusted ENABLE: Tape speed adjusted (for synchronization at the IN point)
119.	SYNCHRO (AUTO MODE)	DISABLE [ENABLE]	In editing with two VTRs, this menu selects whether the VTRs are to be synchronized. DISABLE: Not synchronized ENABLE: The recorder is synchronized with the player.
120.	REM3 AUDIO REC	[DISABLE] ENABLE	Selects whether control of AUDIO-1/2/3 recording through the REMOTE-3 connector is to be enabled in the PLAY mode. DISABLE: Control disabled ENABLE: Control enabled
121.	SIMUL VIDEO/SYNC	DISABLE [ENABLE]	Selects whether edit preset buttons VIDEO and SYNC are to be preset independently of each other. DISABLE: The VIDEO and SYNC channels can be separately preset. ENABLE: When one of the VIDEO and SYNC channels is preset, the other is automatically preset.
122.	AUDIO EDIT W/O LOCK	[DISABLE] ENABLE	In editing of only audio channel(s), this menu selects whether the VTR is to enter the recording mode without capstan servo lock. DISABLE: The VTR does not enter the recording mode without capstan servo lock (normal selection). ENABLE: The VTR enters the recording mode without capstan servo lock.
123.	EDIT W/O V-IN ENTRY	[DISABLE] ENABLE	In automatic editing with two VTRs, this menu selects whether editing is to be 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 has not been 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 video IN point.
124.	PLAY COMMAND DELAY	[0 FRM] ↕ 15 FRM (in 1-frame steps)	In order to make a slave VTR of a shorter response time operate in time with this VTR, this menu selects the delay time for the PLAY command sent to the slave VTR.

Menu No.	Menu	Items	Description
I25.	ASSEM PREVIEW MODE	[MODE 1] MODE 2	Selects whether the tape is to be run beyond the IN point in PREVIEW for ASSEMBLE editing. MODE 1: The tape stops at the IN point. MODE 2: If the OUT point has not been entered, the tape does not stop even after passing through the IN point. If the OUT point has been 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) Servo			
I40.	CF RELOCK MODE	DISABLE [ENABLE]	Selects whether CF relocking is to be carried out when the CF pulse signal from the tape is discontinuous. DISABLE: Once the CF locks, then the CF pulse signal from the tape is ignored even if it is discontinuous. ENABLE: CF locking is always carried out in reference to the CF pulse signal from the tape.
I41.	DRUM TRACKING SHIFT	[DISABLE] ENABLE	Selects whether the tape phase is to be advanced in order to compensate for the drum advance amount in playback through the R/P head. DISABLE: The tape phase is not advanced. ENABLE: The tape phase is advanced. (The video track deviation is corrected, but the audio phase and time code are advanced).
(3) Time code, character			
I50.	TCG EXT DF/CF CTRL	[DISABLE] ENABLE	Selects whether the color frame control is to be carried out in accordance with the color 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 (61_h, $0C_h$, 03_h) 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.

I52.	A3 LINE OUTPUT	[REGEN] PB/EE	Selects the time code to be output from the LINE OUTPUT AUDIO-3 connector. REGEN: Regenerated time code PB/EE: Playback or EE time code as determined by TAPE/EE selection
I53.	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.
I54.	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 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 timer-1.
I55.	TC INSERT	DISABLE [ENABLE]	Selects whether time code insertion is to be enabled in INSERT editing. This selection is effective only when TC is selected in Menu S50 A3 INPUT SELECT. DISABLE: AUDIO-3 preset (insert mode) is inhibited, disabling time code insertion. ENABLE: Time code insertion is enabled.
I56.	INTER-POLATED LTC	DISABLE [ENABLE]	Selects whether the longitudinal time code is to be interpolated by timer data when it cannot be properly read. DISABLE: Not interpolated ENABLE: Interpolated by timer data information
I57.	VITC INSERT LINE 1	10 11 [19] | 24 25	Selects the first line where the vertical interval time code is to be inserted.

I58.	VITC INSERT LINE 2	10 11 I [21] I 24 25	Selects the second line where the vertical interval time code is to be inserted.
I59.	LTC ERROR BYPASS	[ON] OFF	Selects whether the error bypass circuit is to be 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.
I60.	CHARACTER RECORD	[DISABLE] ENABLE	Selects whether the characters mixed on the picture are to be recorded. DISABLE: Characters not recorded ENABLE: Characters recorded
I61.	CHARACTER SIZE ADJ	[1] 2 3 4	Selects the size of the characters to be superimposed on the picture.
I62.	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.
I63.	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.

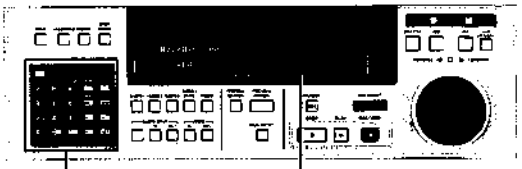
No.	Menu	Data	Description
I64.	CHARA DISPLAY MODE	1-1 1-2 1-3 2-1 [2-2] 2-3 3-1 3-2 3-3	Selects the display mode of the characters to be superimposed on the picture when MONITOR or VD2 + TBC is selected in Menu S59 MIXED CHARA OUTPUT. • Character display without error message 1-1: White character display only 1-2: White characters with black background 1-3: Black-rimmed white characters • Character display with error message 2-1: White character display only 2-2: White characters with black background 2-3: Black-rimmed white characters • Error message display only 3-1: White characters display only 3-2: White characters with black background 3-3: Black-rimmed white characters
I65.	CHARA DISP (EXTEND)	[OFF] TCR TCR. TCG UBR UBR. UBG TM1 TM2 PLAYER FRZ TM	Selects the characters to be additionally superimposed below those displayed in accordance with Menu I64. In this mode, field information is not displayed because the display rate for characters are 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 usual label. If ENABLE is selected in Menu I56 INTERPOLATED LTC, however, the LTC value correctly interpolated by the timer information is displayed even if the indication label is T*R. 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 time code 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
[illegible]			
I70.	TAPE SPEED (AUD ATT)	X1.5 [X5] X10	Selects the tape speed for audio output level attenuation when 20 DB or MUTE is selected in Menu I71. When the tape speed exceeds the specified value, the audio output level is attenuated.

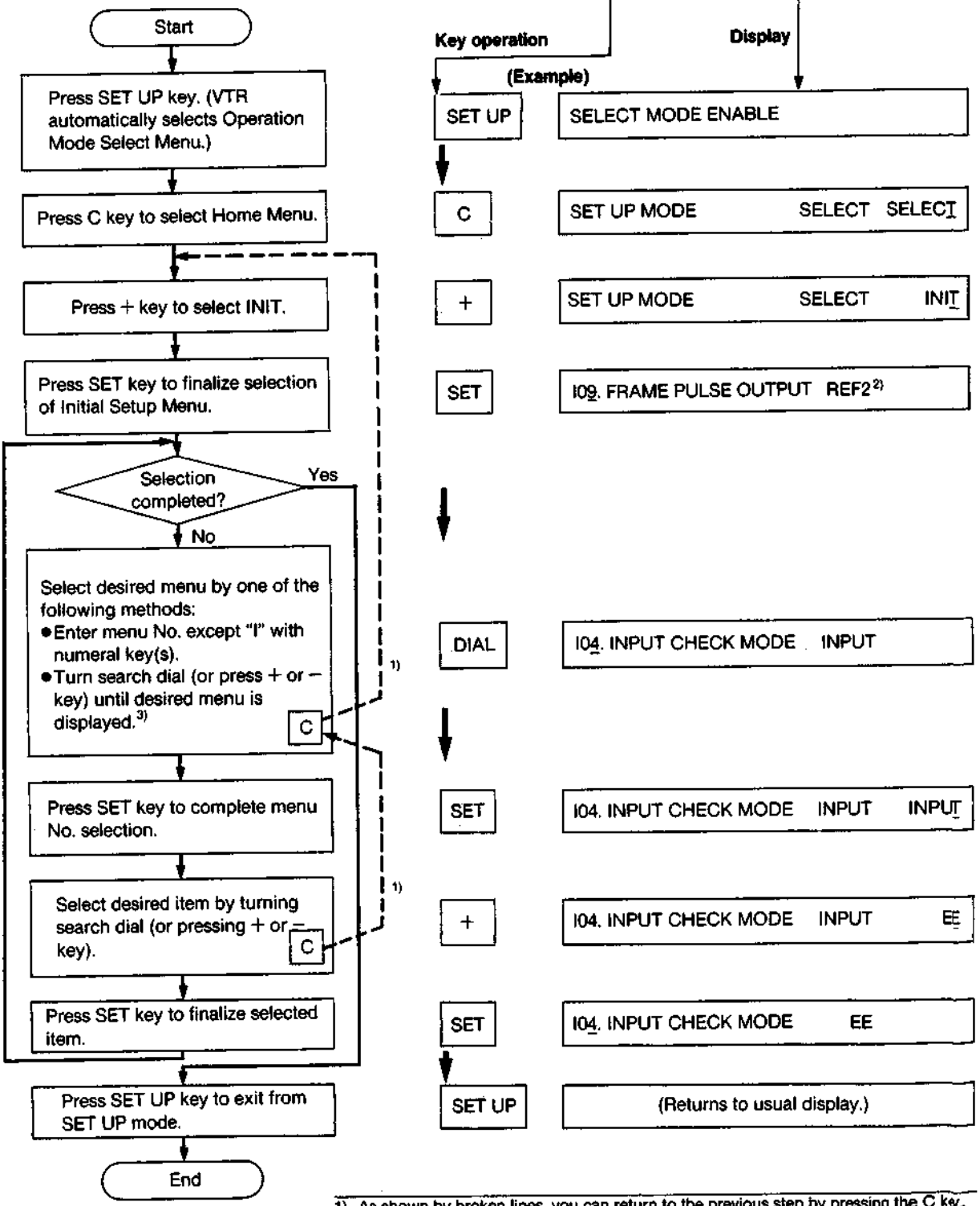
I71.	AUDIO ATT (JOG/SHTL)	OFF [20 DB] MUTE	Sets the level of attenuation carried out in accordance with the selection in Menu I70. OFF: No attenuation 20 DB: The audio output level is attenuated by 20 dB. MUTE: The audio output is muted.
I7: Video			
I80.	BLANKING LINE LINE NO. 7, 320 | LINE NO. 18, 331 ALL BLANKING	CHANGE [BLANKED] PASS [BLANKED] PASS ON [OFF]	Selects the vertical blanking lines. CHANGE: The vertical blanking lines can be changed by using the +/– keys or search dial. Submenus are sequentially displayed for the respective line numbers. Select BLANKED only for the lines to be blanked. When ALL BLANKING ON is selected, all the lines will be blanked regardless of BLANKED/PASS setting of each line.
I81.	WHITE REF INS LINE LINE NO. 6, 7, 319, 320 LINE NO. 8, 9, 321, 322 LINE NO. 10, 11, 323, 324 | LINE NO. 14, 15, 327, 328 LINE NO. 16, 17, 329, 330 | LINE NO. 20, 21, 333, 334	CHANGE ON [OFF] ON [OFF] [ON] OFF [ON] OFF ON [OFF] ON [OFF]	Selects the lines where the white reference signal is to be inserted. CHANGE: The lines where the white reference signal is to be inserted can be changed by using the +/– keys or search dial. Submenus are sequentially displayed for the respective couple of line numbers. Select ON only for the lines where the white reference signal is to be inserted. Whether the white reference signal is acutally inserted on the selected lines is determined by Menu S82 WHITE REFERENCE.
I82.	BLACK LEVEL	LOCAL [REMOTE]	Selects whether the setup level is to be locally adjusted. LOCAL: Locally adjusted with the BLACK level control on the PR-92 or PR-97 board. REMOTE: Remotely adjusted via the TBC connector. (If no remote control signal is fed to the TBC connector, the setup level is adjusted to the preset value.)
I83.	CHROMA LEVEL	LOCAL [REMOTE]	Selects whether the chroma level is to be locally adjusted. LOCAL: Locally adjusted with the CHROMA level control on the PR-92 or PR-97 board. REMOTE: Remotely adjusted via the TBC connector. (If no remote control signal is fed to the TBC connector, the chroma level is adjusted to the preset value.)

Menu No.	Menu	Items	Description
I84.	VIDEO LEVEL	LOCAL [REMOTE]	Selects whether the output video level is to be locally adjusted. LOCAL: Locally adjusted with the VIDEO level control on the PR-92 or PR-97 board. REMOTE: Remotely adjusted via the TBC connector. (If no remote control signal is fed to the TBC connector, the output video level is adjusted to the preset value.)
I85.	SYNC PHASE	[LOCAL] REMOTE	Selects whether the system sync phase is to be locally adjusted. (Select LOCAL if no remote control signal is fed to the TBC connector.) LOCAL: Locally adjusted with the SYNC PHASE control on the RD-7 board. REMOTE: Remotely adjusted via the TBC connector.
I86.	SC PHASE	[LOCAL] REMOTE	Selects whether the system SC (subcarrier) phase is to be locally adjusted. (Select LOCAL if no remote control signal is fed to the TBC connector.) LOCAL: Locally adjusted with the SC PHASE control on the RD-7 board. REMOTE: Remotely adjusted via the TBC connector.
I87.	BURST CHROMA PHASE	LOCAL [REMOTE]	Selects whether the burst/chroma phase is to be locally adjusted. LOCAL: Locally adjusted with the BURST/CHROMA control on the RD-7 board. REMOTE: Remotely adjusted via the TBC connector. (If no remote control signal is fed to the TBC connector, the burst/chroma phase is adjusted to the preset value.)
I88.	BLACK BURST OUTPUT	DISABLE [ENABLE]	Selects whether the black burst is to be output from the OUTPUT VIDEO connectors when the STANDBY lamp (function control panel) is unlit (STANDBY OFF). DISABLE: The output video signal contains striped picture, and NO RF is displayed on the monitor if error message display is enabled with Menu I64 CHARA DISPLAY MODE. ENABLE: The black burst signal is output.
I89.	BURST	[ON] OFF	Turns on/off the color burst in the video output signal. ON: The output video signal contains the color burst. OFF: The output video signal does not contain the color burst.

Menu No.	Menu	Items	Description
192.	AUTO EQ SWITCH	DISABLE [ENABLE]	Selects whether auto/manual changeover of the EQUALIZER control (level control panel) is to be enabled. DISABLE: Auto/manual changeover is disabled. That is, the chroma level of the playback video signal must be manually adjusted even if the EQUALIZER control is set at the pushed-in position. ENABLE: Auto/manual changeover is enabled.

Flow of Initial Setup Menu selection





1) As shown by broken lines, you can return to the previous step by pressing the C key. However, the selection finalized by pressing the SET key cannot be canceled by this means.
2) The last selected menu is displayed.
3) The search dial cannot be used for menu selection if the JOG, SHUTTLE or VAR lamp is lit.

1-5-5. Test Mode Menu

The Test Mode Menu is used for servicing, and usually the user need not use this menu.

Menu No.	Menu	Item
T01.	TEST CHARA DISPLAY	ON [OFF]
T02.	DOC	[ON] OFF
T03.	ADVANCE	[ON] OFF
T04.	AUTO PG	[ON] OFF
T05.	PR TEST 1	[OFF] 0 IRE 100 IRE −10 IRE
T06.	PR TEST 2	ON [OFF]
T07.	RD TEST 1	ON [OFF]
T08.	RD TEST 2	ON [OFF]
T09.	DT TEST	ON [OFF]
T10.	AUTO JUMP	[ON] OFF
T11.	DP VIDEO	ON [OFF]
T12.	NORMAL FWD TEST	ON [OFF]
T13.	OSC CONT TEST	ON [OFF]
T14.	VIDEO REC OFF TEST	ON [OFF]
T15.	CONFI TEST	ON [OFF]
T16.	VIDEO TEST	ON [OFF]
T17.	MAINTENANCE	[OFF] TTP ADJ PANEL

1-5-6. Saving and Restoring the Setup Data

The BVH-3000PS/3100PS 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 and 2 are called NOVRAM 1 and NOVRAM 2, respectively, in the description below.

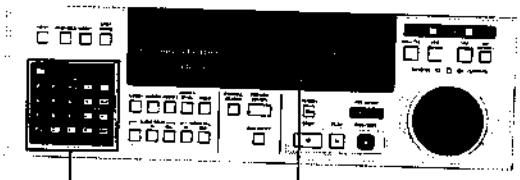
Note

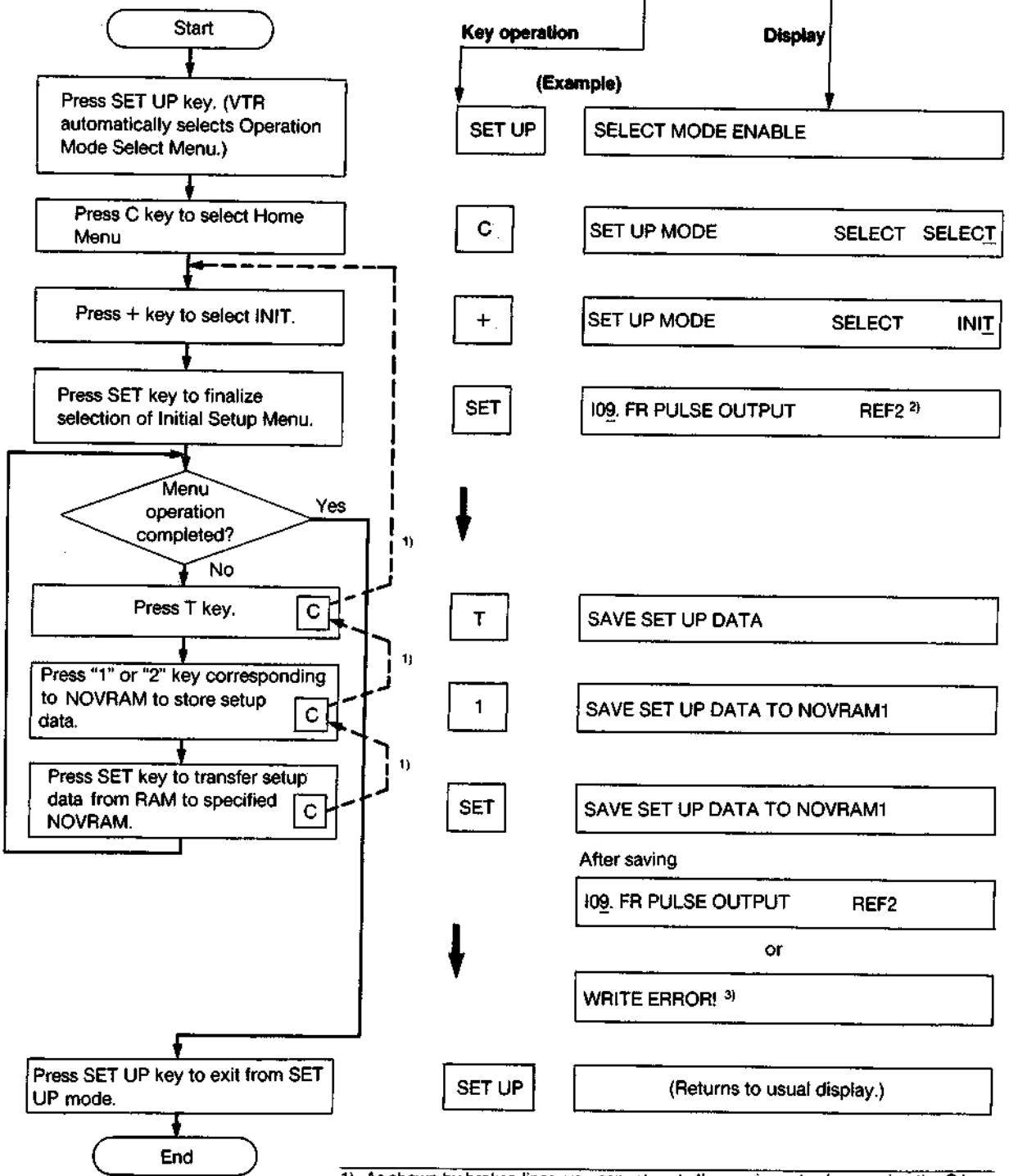
The current items of Menus S02 PICTURE MONITOR, S03 WFM SELECT and S40 SERVO REF SELECT can be neither saved nor restored.

Saving the setup data

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

Flow of setup data saving



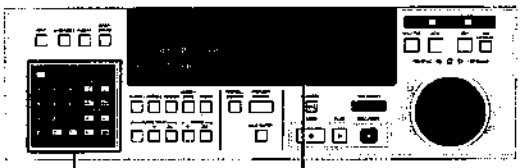


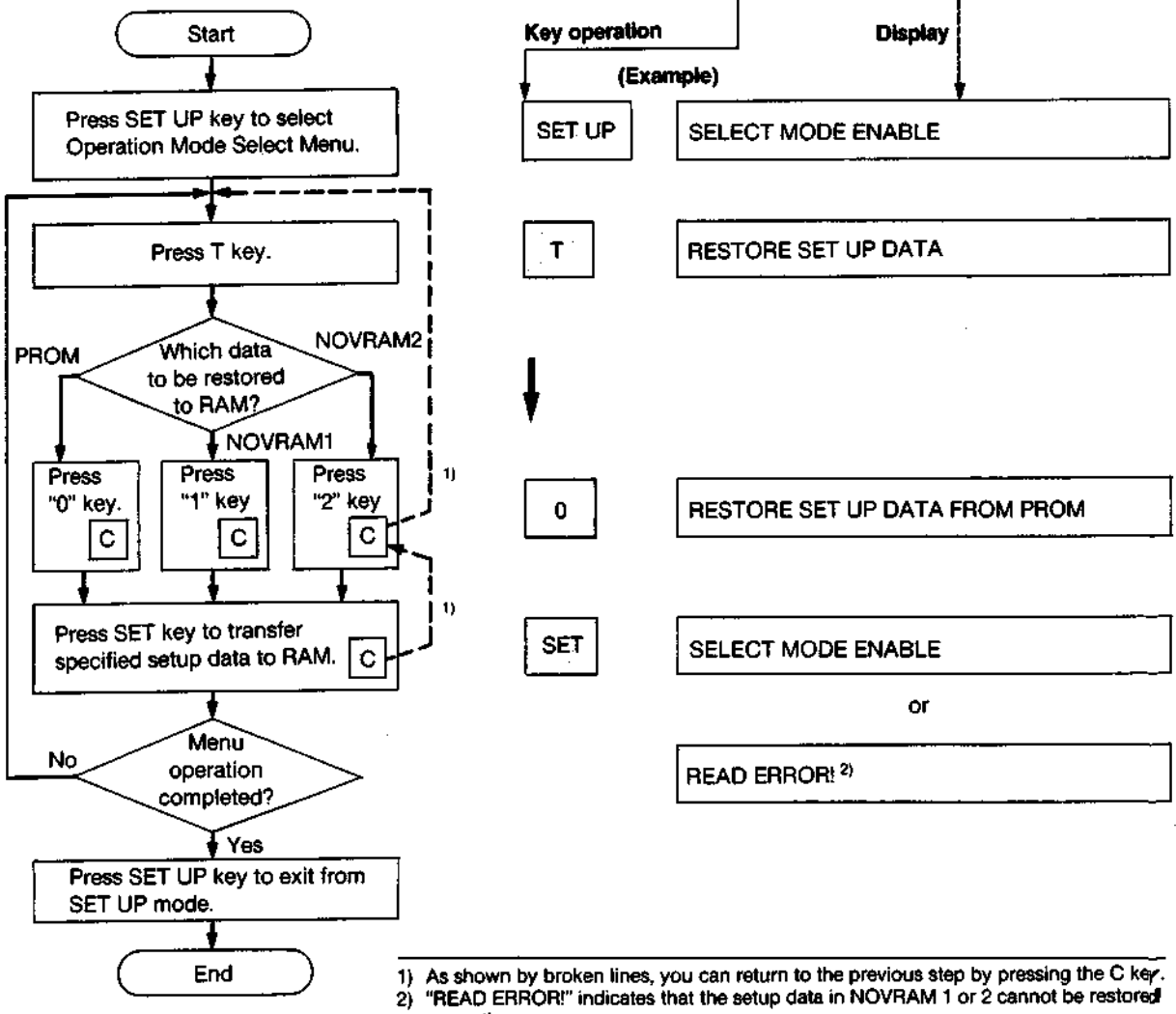
1) As shown by broken lines, you can return to the previous step by pressing the C key. However, the selection finalized by pressing the SET key cannot be canceled by this means.
2) The last selected menu is displayed.
3) "WRITE ERROR!" indicates that the setup data in the RAM cannot be written to NOVRAM 1 or 2.
In this case, press the C key and then retry save operation.
Malfunction may occur if this message appears in retrying.

Restoring the setup data

The default menu selection data in the PROM or the user's standard selection data 1 or 2 in the NOVRAM 1 or 2 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



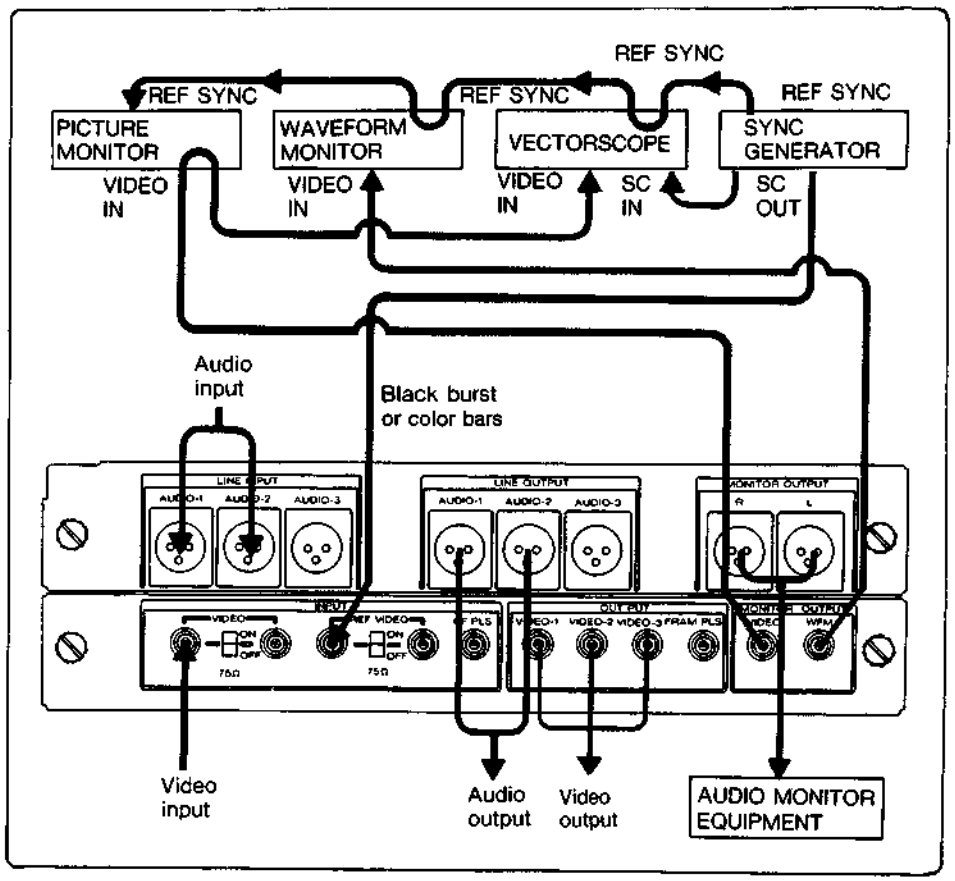


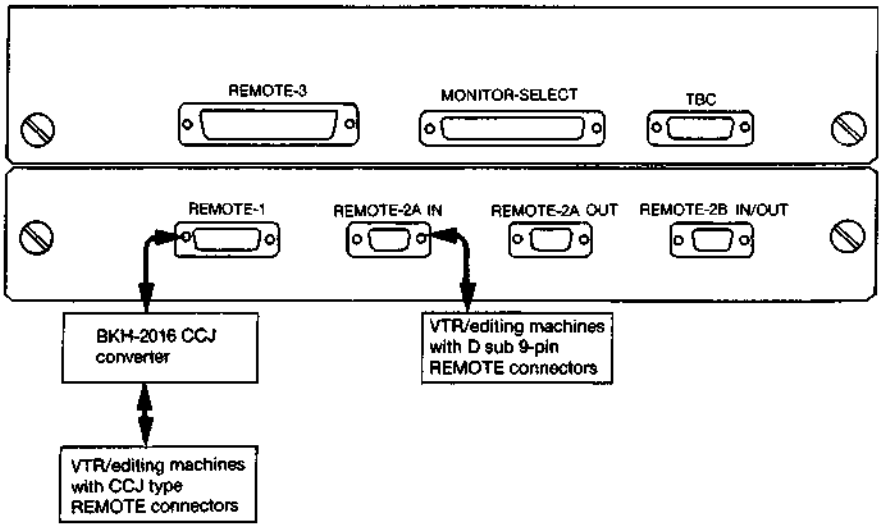
1) As shown by broken lines, you can return to the previous step by pressing the C key.
2) "READ ERROR!" indicates that the setup data in NOVRAM 1 or 2 cannot be restored correctly.
In this case, return to the Operation Mode Select Menu by pressing the C key and proceed to saving of the setup data into the corresponding NOVRAM to check hardware.

Section 2. PREPARATION

2-1. CONNECTION

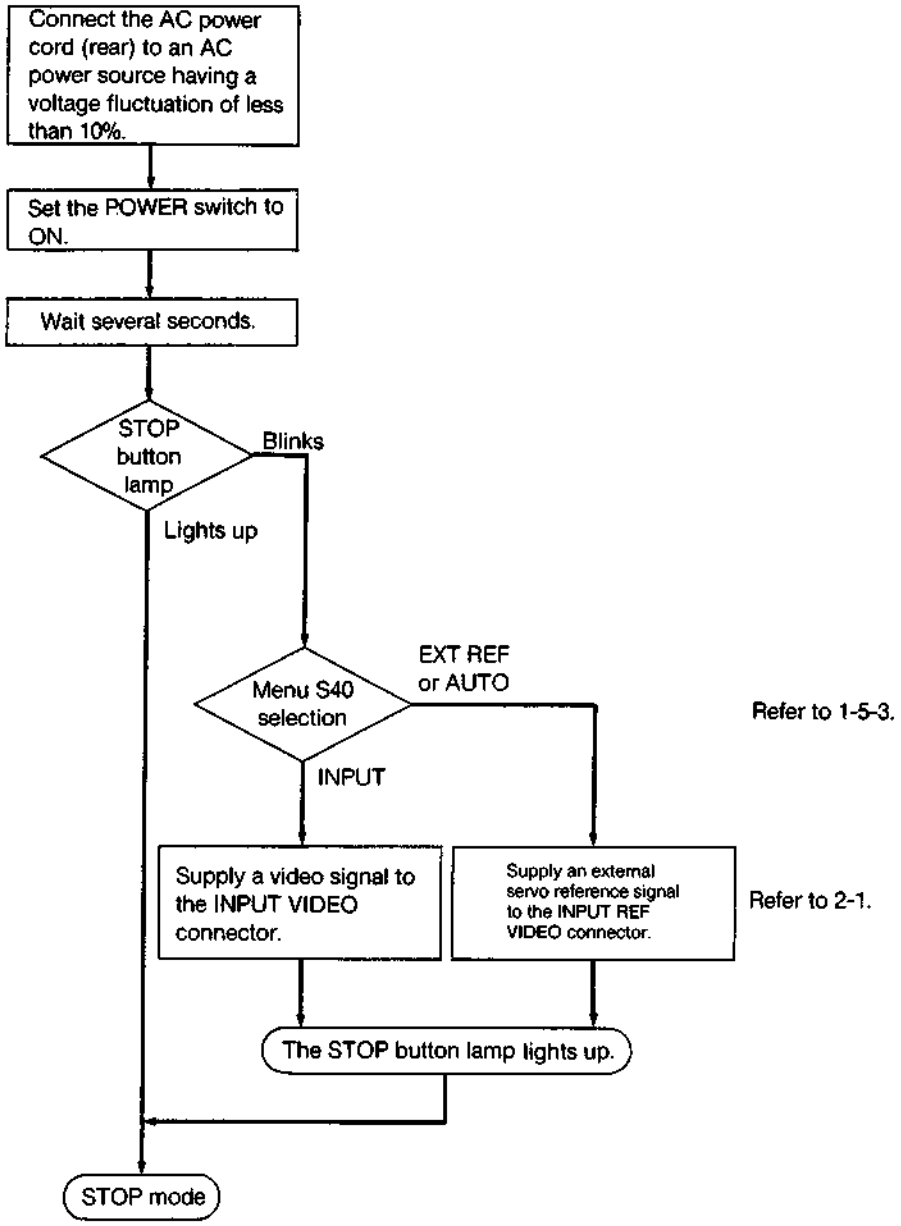
The connection diagram below shows the basic system configuration:





2-2. STARTING-UP AND TURNING-OFF PROCEDURE

To start up the VTR, proceed as follows:



To turn off the VTR, proceed as follows:

If the VTR is not in the STOP mode, press the STOP button.

↓

STOP mode

↓

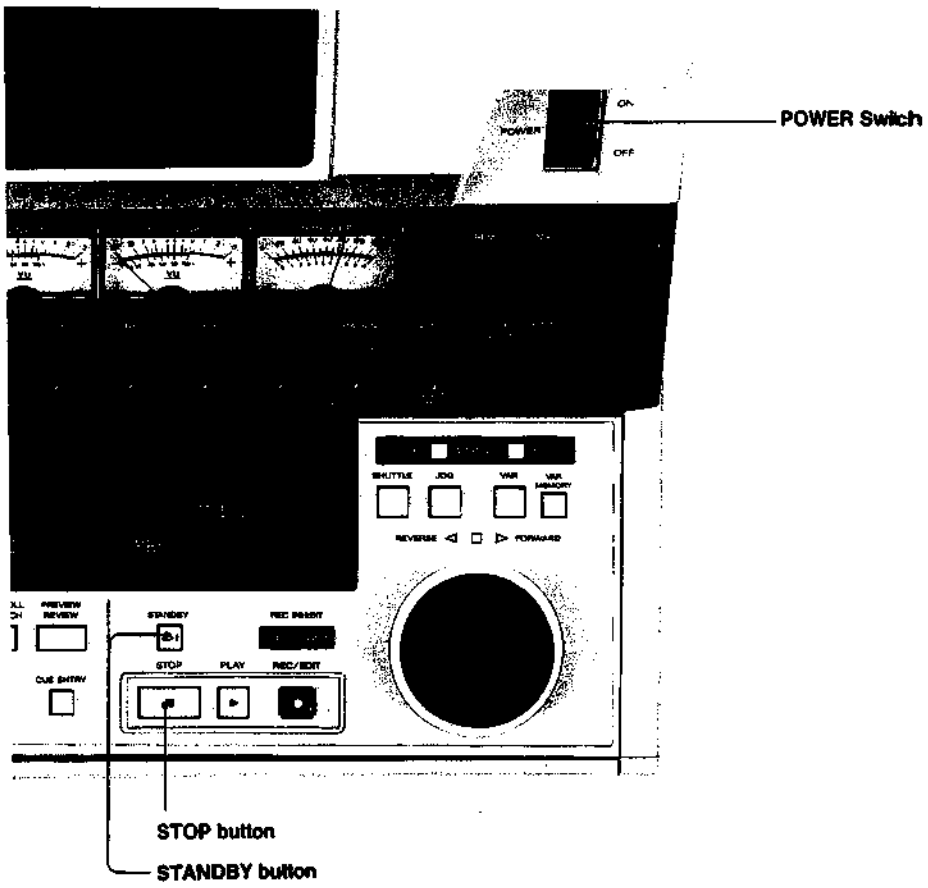
Press the STANDBY button.

↓

STANDBY off mode

↓

Set the POWER switch to OFF.

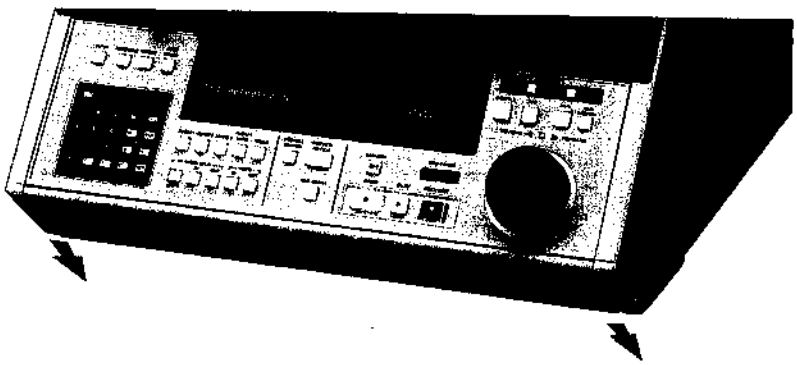


2-3. DRAWING OUT AND REPLACING THE FUNCTION CONTROL PANEL

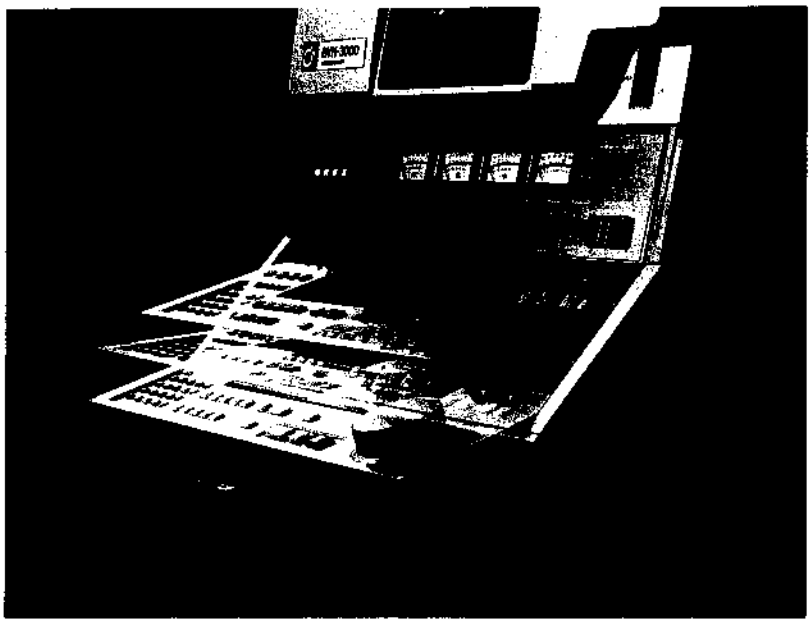
The function control panel can be drawn out for adjustment of internal controls, and can further be removed and relocated up to about 1 meter from the VTR for the purpose of the maintenance of the internal circuit boards.

Drawing out and removing the function control panel

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

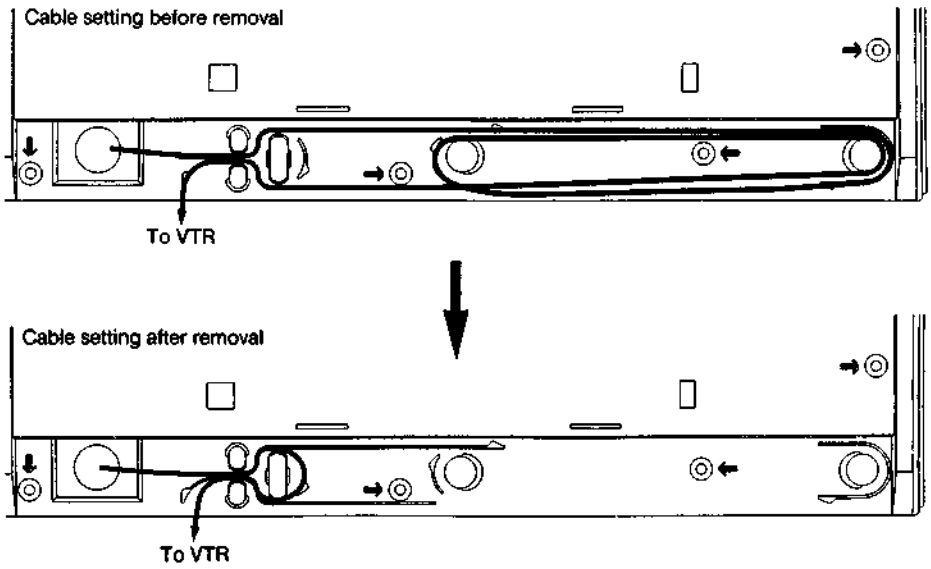


2 Hold the bottom of the function control panel, and pull out the control panel.



3 Loosen the screws on both sides of the function control panel, and remove the panel from the left and right arms.

4 Undo the cable on the bottom of the function control panel, and set it as shown in the following figure:



Caution

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

5 Place the function control panel on a desk or table within 1 meter from the VTR.

Replacing the function control panel

1 On the bottom of the function control panel, set the cable as it was before removal of the panel (see the above figure).

2 Set the function control panel on the left and right arms, and fasten the screws on both sides of the panel.

3 Hold the bottom of the function control panel, and set it in place.

4 Fit the function control panel bottom cover.

Caution

- This function control panel can be used only for the BVH-3000PS/3100PS.
- Function control panels of other VTRs cannot be connected to the BVH-3000PS/3100PS.

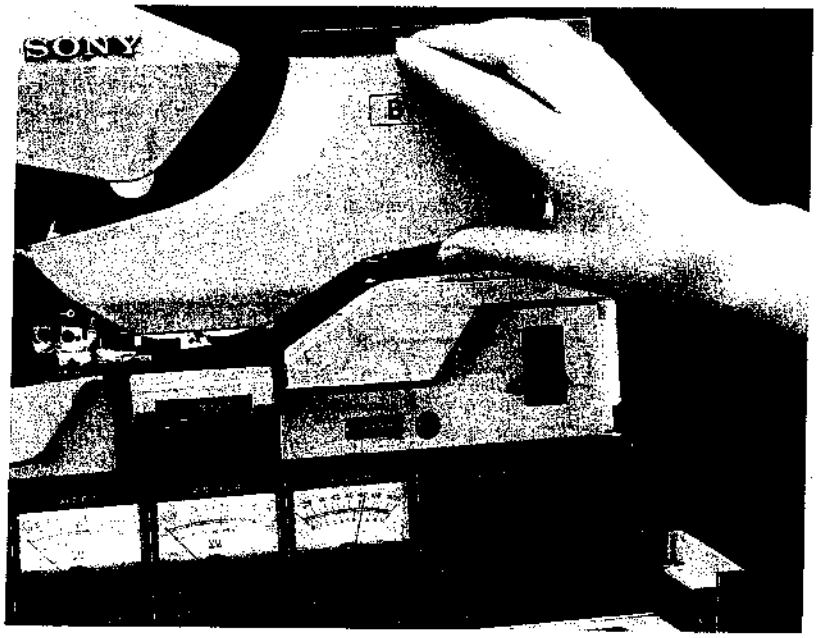
2-4. PREADJUSTMENT

2-4-1. Record Bias Adjustment

Bias Current for audio recording can be adjusted so as to suit the characteristics of the tape used.

1 Open the front cover over the tape transport section.

2 Pull out and remove the head cover.



3 Input a standard level audio signal and set the VTR in the REC mode. Adjust the CH1/2/3/4 controls using an insulated screwdriver.

2-4-2. Presetting the Recording and Playback Levels

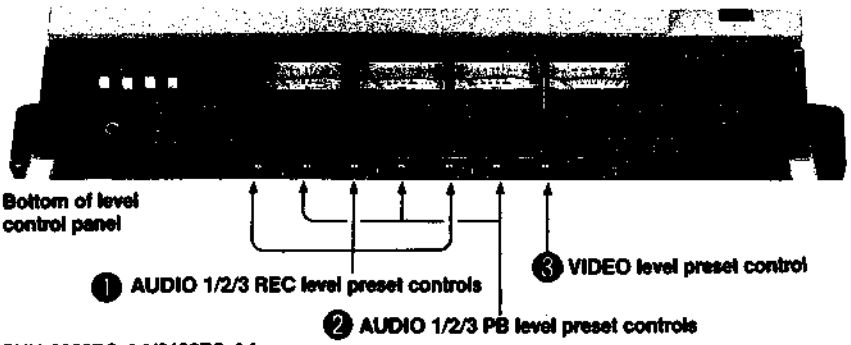
The recording and playback levels are set to their preset values when the corresponding controls on the level control panel are at the pushed-in position.
To adjust these preset values, proceed as follows:

1 Draw out the function control panel in accordance with 2-3.

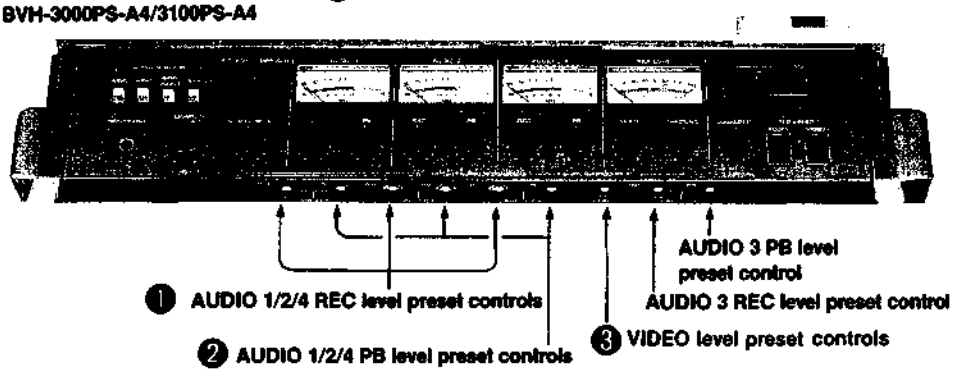
2 Make sure that the controls on the level control panel are pushed in.

3 Adjust the recording and playback preset levels with the controls on the bottom of the level control panel.

BVH-3000PS/3100PS



BVH-3000PS-A4/3100PS-A4



❶ AUDIO-1/2/3/4 REC level preset controls
Feed a standard level audio signal to the VTR, set the VTR in the REC mode, and adjust the preset levels of the AUDIO-1/2/3/4 REC level controls (1-4-1. ❶) by turning the respective REC level preset controls with an insulated screwdriver.

❷ AUDIO-1/2/3/4 PB (playback) level preset controls
While playing back a standard tape, adjust the preset levels of the AUDIO-1/2/3/4 PB level controls (1-4-1. ❷) by turning the respective PB level preset controls with an insulated screwdriver.

❸ VIDEO level preset control
Feed a 1 Vp-p standard video signal to the VTR, set the VTR in the REC mode, and adjust the preset level of the VIDEO level control (1-4-1. ❼) by turning the VIDEO level preset control with an insulated screwdriver.

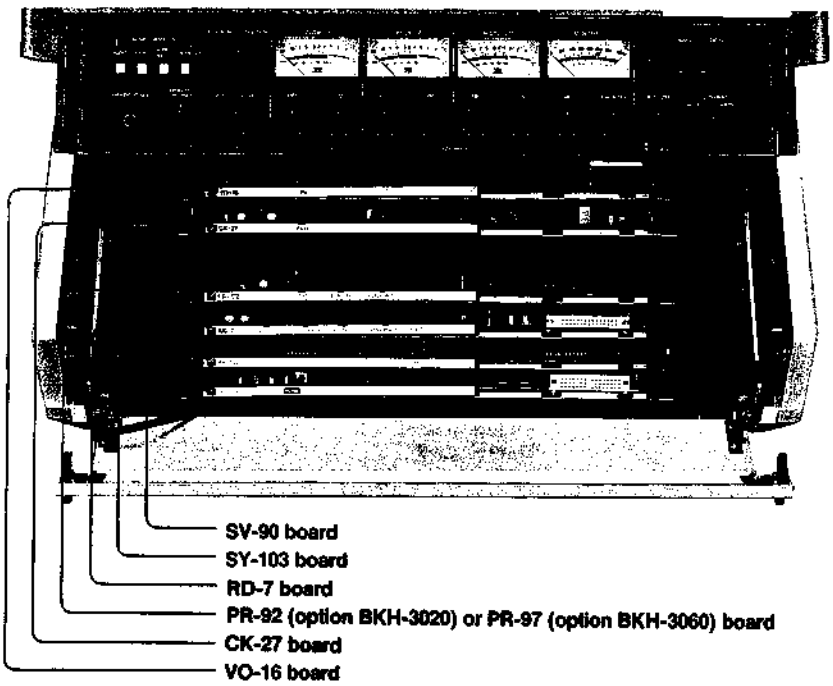
Note

For the method to replace the function control panel, refer to 2-3.

2-4-3. Adjusting the Internal Circuit Boards

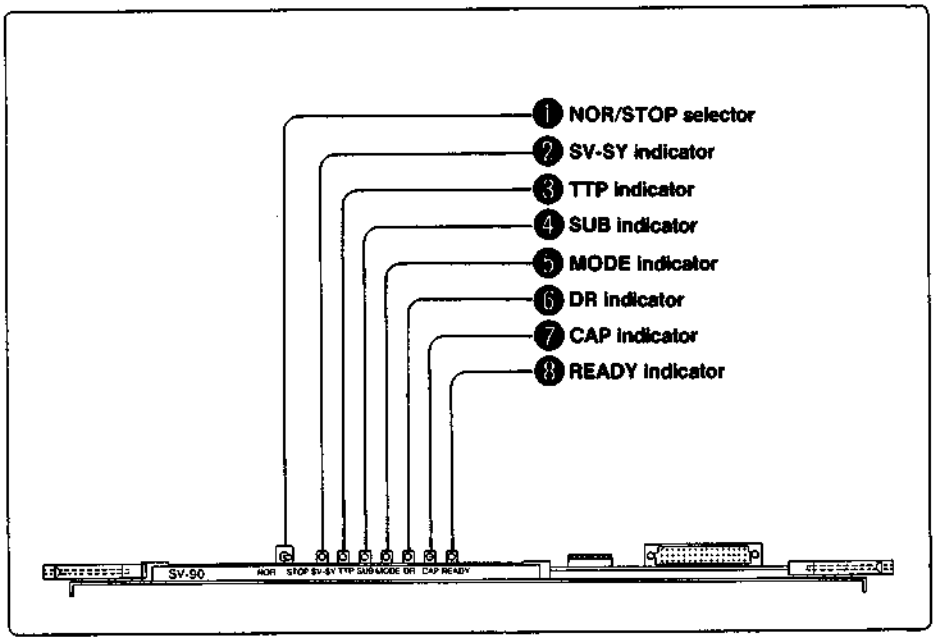
Proceed as follows to adjust the internal circuit boards:

1 Draw out the function control panel in accordance with 2-3. The internal circuit boards are now accessible.



2 While observing the applicable signals on the picture monitor, waveform monitor and vectorscope, adjust necessary items with the appropriate controls on the internal circuit boards.
The locations and functions of the controls and lamps on the internal circuit boards are as follows:

SV-90 board



1 NOR(normal)/STOP selector
For usual operations, set this selector to NOR. The STOP position is used only in tests. Do not touch this selector to avoid mis-operation.

2 SV-SY indicator (red)
Lights up if an SV-SY interface error occurs.

3 TTP (tape transport) indicator (red)
Lights up if a tape transport error occurs.

4 SUB indicator (green)
Is lit when the sub-CPU is normally operating.

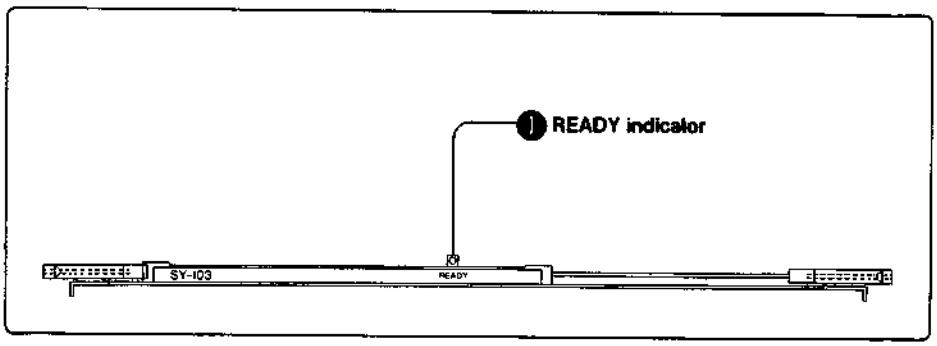
5 MODE indicator (green)
Is lit when the tape transport system is ready.

6 DR (drum) indicator (green)
Lights up and remains lit when the head drum is locked.

7 CAP (capstan) indicator (green)
Lights up and remains lit when the capstan is locked.

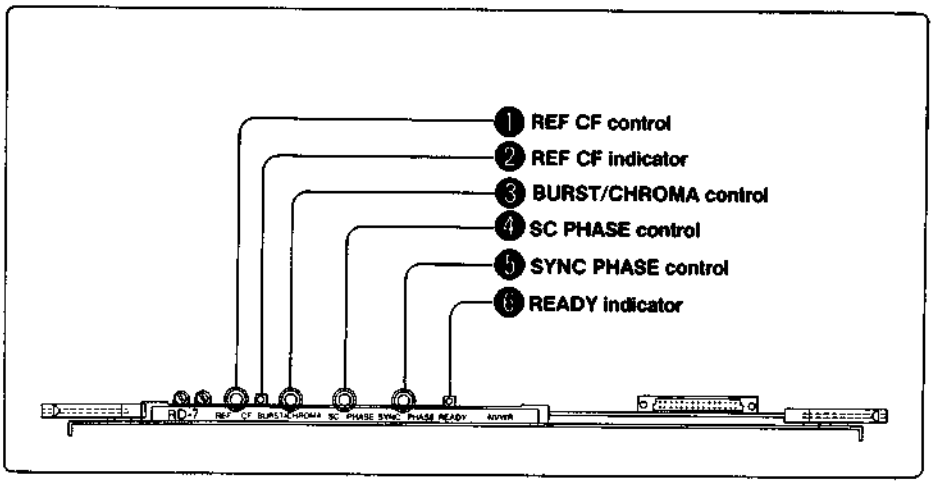
8 READY indicator (green)
Is lit when the CPU is normally operating.

SY-103 board



1 READY indicator (green)
Is lit when the CPU is normally operating.

RD-7 board



1 REF CF (reference color frame) control
Used to adjust the reference-side SC-H phase detector. Refer to 2-4-4.

2 REF CF (reference color frame) indicator (green)
Lights up brightly when the reference-side SC-H phase detector is properly adjusted.

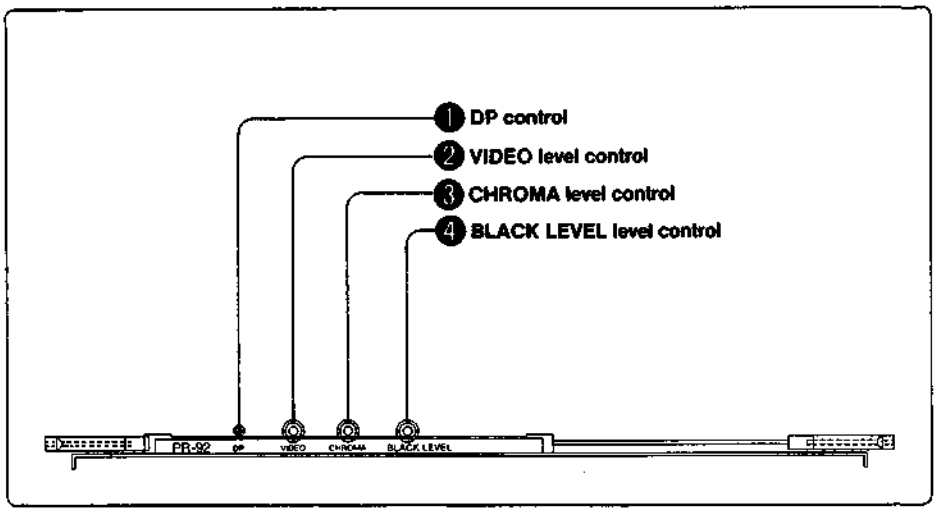
3 BURST/CHROMA control
Allows the BURST/CHROMA phase to be adjusted within the range of ±10°.

4 SC (subcarrier) PHASE control
Allows the system SC phase to be adjusted more than 360° with respect to the reference video signal.

5 SYNC PHASE control
Allows the system sync phase to be adjusted from −1 to +3μs with respect to the reference video signal.

6 READY indicator (green)
Is lit when the DT function is normally operating.

PR-92 or PR-97 board



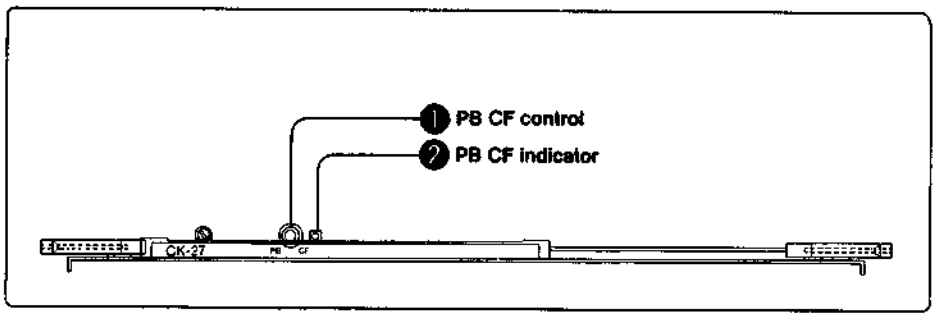
1 DP (differential phase) control
Used to adjust the DP characteristic of the playback video signal

2 VIDEO level control
Allows the output video level to be adjusted within the range of ±3 dB.

3 CHROMA level control
Allows the chroma level to be adjusted within the range of ±3 dB.

4 BLACK LEVEL level control
Allows the black level to be adjusted within the range of ±15 IRE.

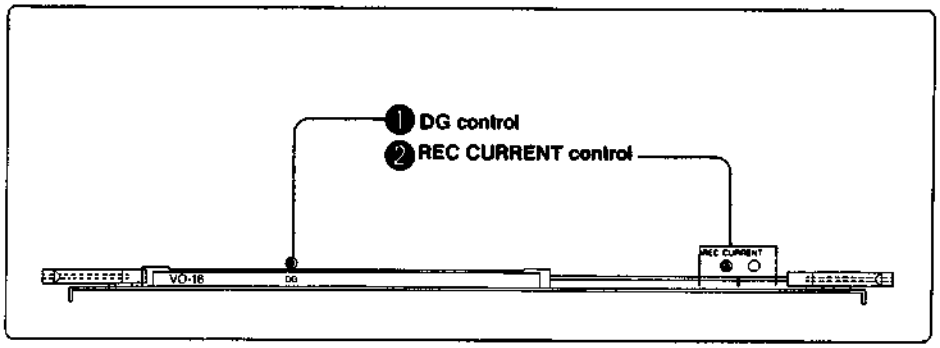
CK-27 board



1 PB CF (playback color frame) control
Used to adjust the off-tape-side SC-H phase detector. Refer to 2-4-4.

2 PB CF (playback color frame) indicator (green)
Lights up when the off-tape-side SC-H phase detector is properly adjusted.

VO-16 board



1 DG (differential gain) control
Used to adjust the DG characteristic of the playback video signal.

2 REC CURRENT control
Used to adjust the recording current level.

2-4-4. Color Framing Adjustment (only for PAL)

For usual playback or for use as player in editing system

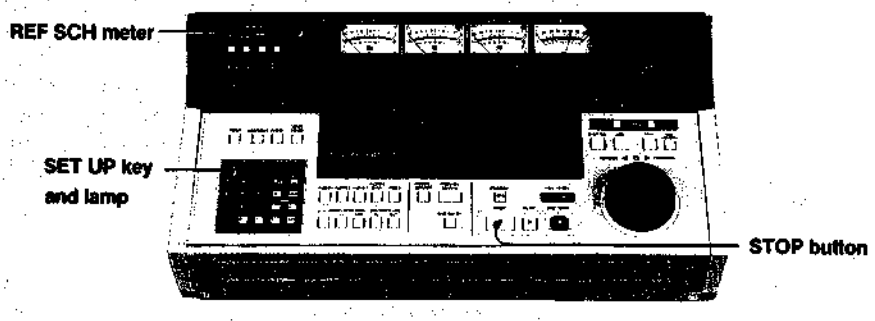
If the REF SCH meter (level control panel) indication is within ±70 (green zone), the servo reference color frame detector need not be adjusted. If not, the CF LOCK lamp (function control panel) goes out.
Similarly, if the TAPE SCH meter (level control panel) indication is within ±70 (green zone), the playback color frame detector need not be adjusted.
If both REF SCH and TAPE SCH meter indications are in the green zone, select the following items in S menus, and then carry out the "TBC reference color frame detector adjustment" on page 2-15:

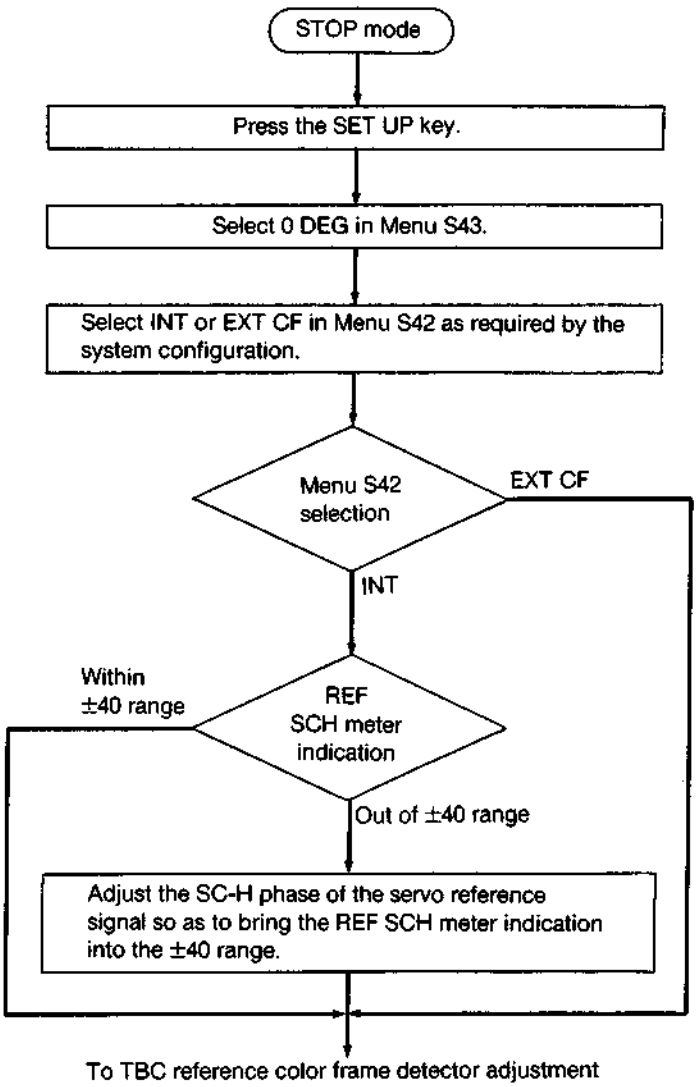
Menu	Item
S40.SERVO REF SELECT	Appropriate item as required by system configuration
S41.CAPSTAN LOCK MODE	8F
S42.SERVO REF CF PULSE	INT
S43.SV CF DET SHIFT	0 DEG
S86.TBC REF SELECT	Appropriate item as required by system configuration
S88.PB CF DET MODE	PRESET

Color framing adjustment for editing

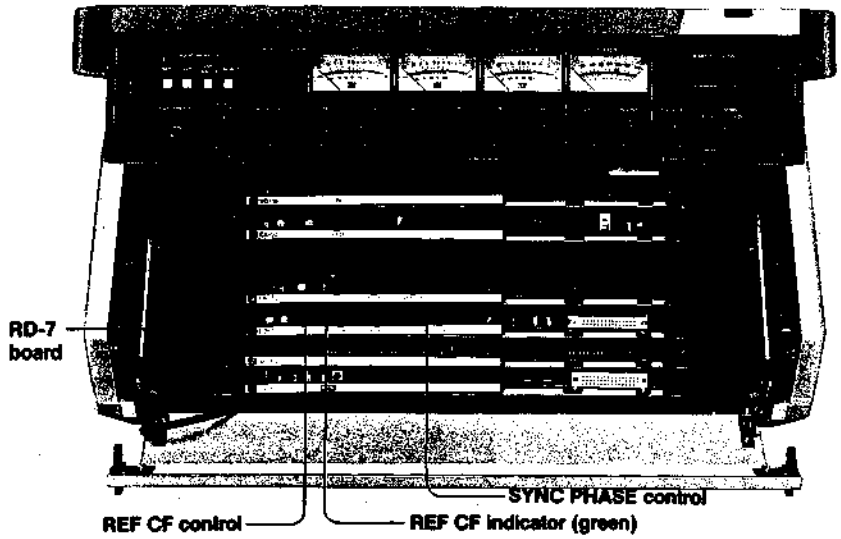
Adjust color framing as described below. The adjustment procedure can be roughly divided into three steps: servo reference color frame detector adjustment, TBC reference color frame detector adjustment, and TBC playback color frame detector adjustment.

Servo reference color frame detector adjustment

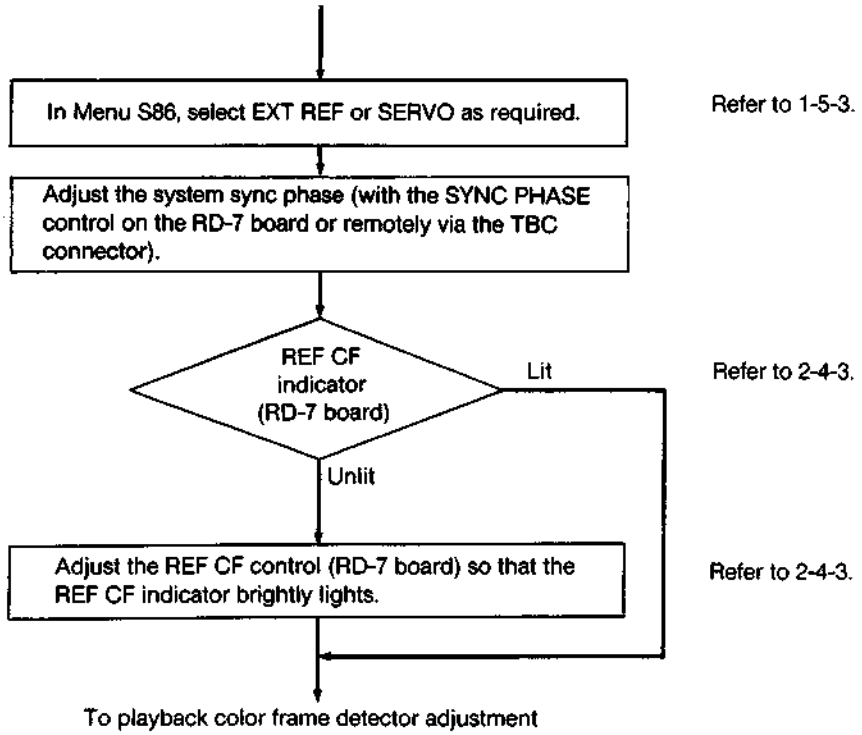




TBC reference color frame detector adjustment

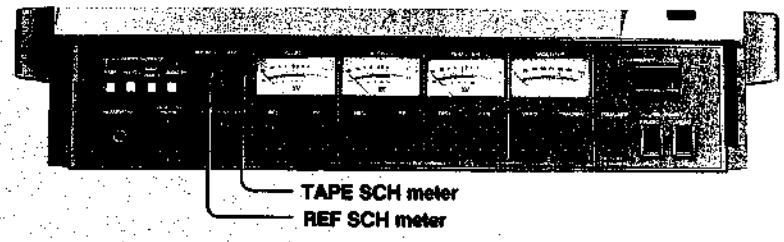


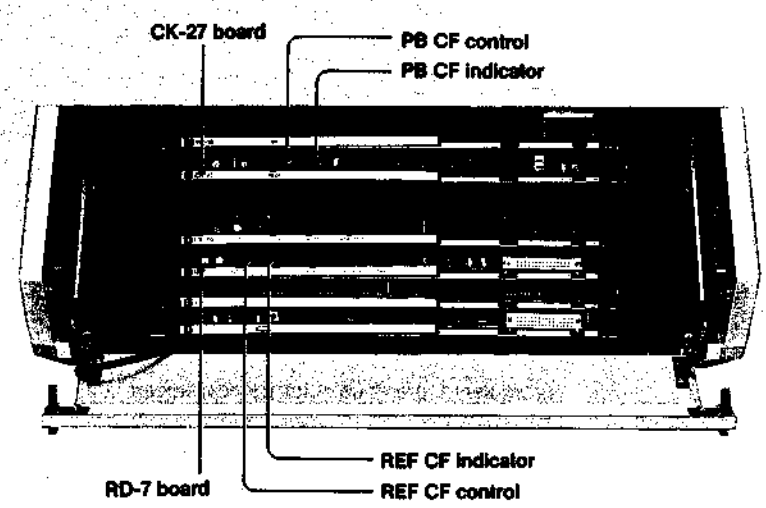
From servo reference color frame detector adjustment

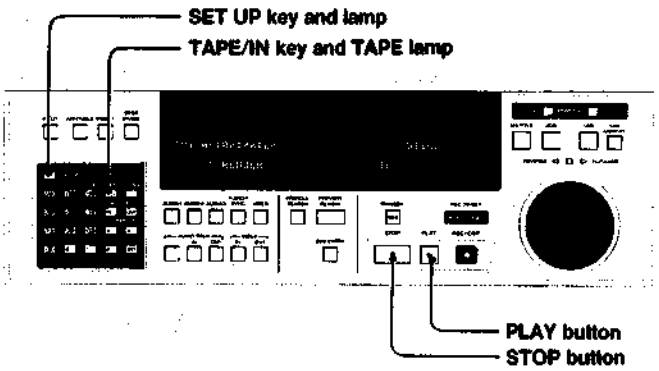


To playback color frame detector adjustment

Playback color frame detector adjustment







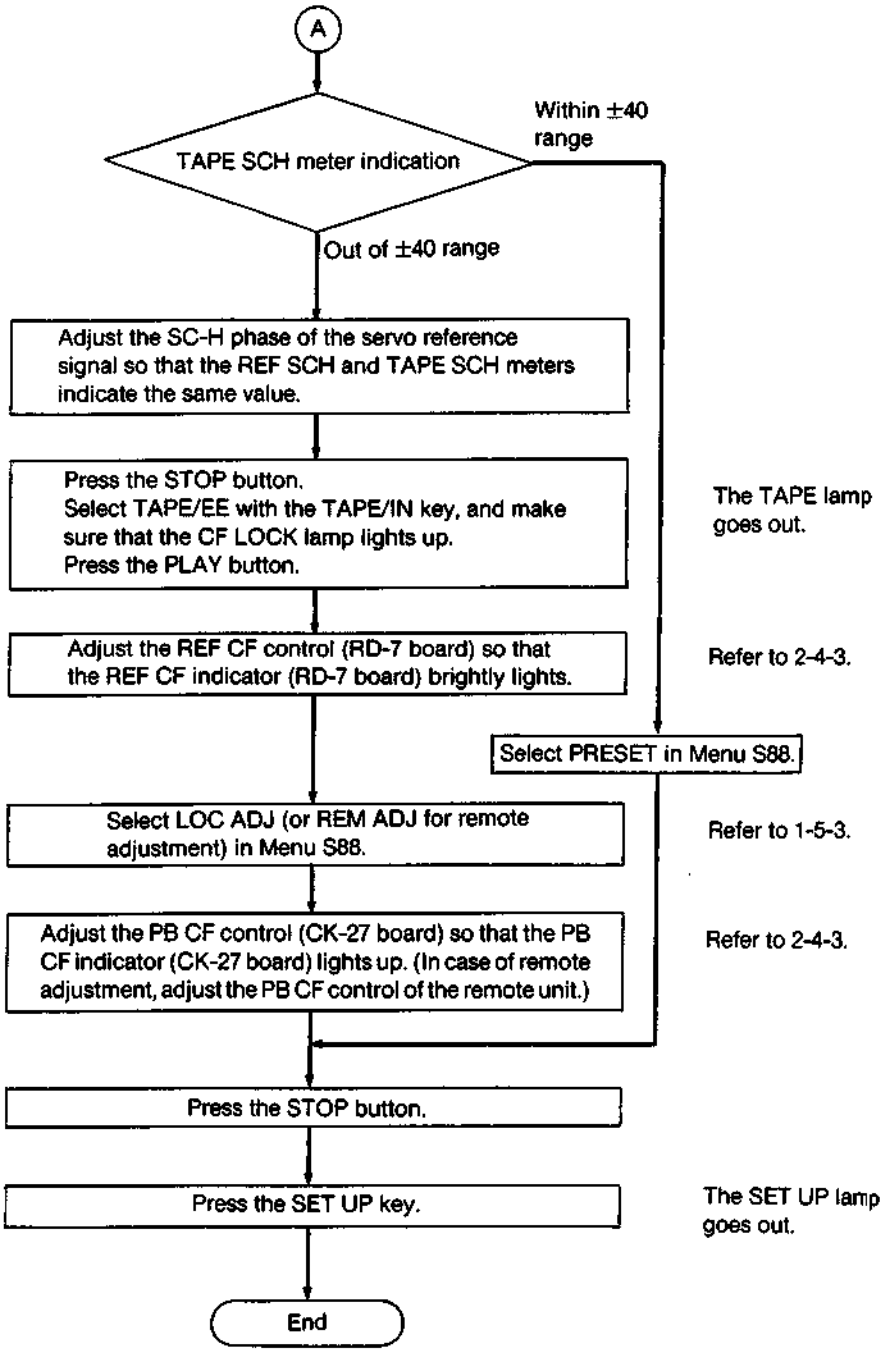
From TBC reference color frame detector adjustment

Select 8F in Menu S41.

Refer to 1-5-3.

Press the PLAY button.

(A)


A
TAPE SCH meter indication
Within ±40 range
Out of ±40 range
Adjust the SC-H phase of the servo reference signal so that the REF SCH and TAPE SCH meters indicate the same value.
Press the STOP button.
Select TAPE/EE with the TAPE/IN key, and make sure that the CF LOCK lamp lights up.
Press the PLAY button.
The TAPE lamp goes out.
Adjust the REF CF control (RD-7 board) so that the REF CF indicator (RD-7 board) brightly lights.
Refer to 2-4-3.
Select PRESET in Menu S88.
Select LOC ADJ (or REM ADJ for remote adjustment) in Menu S88.
Refer to 1-5-3.
Adjust the PB CF control (CK-27 board) so that the PB CF indicator (CK-27 board) lights up. (In case of remote adjustment, adjust the PB CF control of the remote unit.)
Refer to 2-4-3.
Press the STOP button.
Press the SET UP key.
The SET UP lamp goes out.
End

2-5. TAPE THREADING

The BVH-3000PS/3100PS has a new air-threading mechanism which allows easy tape threading. The tape can be also manually threaded if necessary.

2-5-1. Preparation and Precautions for Tape Threading

Preparation

Before threading the tape, clean the tape transport parts and heads as required, and start up the VTR in accordance with Section 2-2.
If the audio head cover has been pushed down for audio head cleaning, be sure to set the head cover properly.

Precaution

- 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.
  Especially the 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.

2-5-2. 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 front cover is closed.

↓

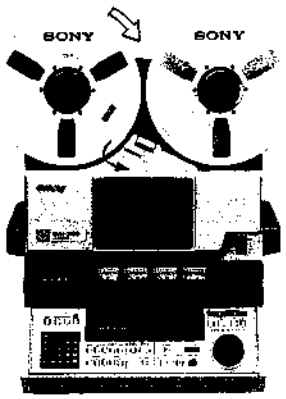
Mount the tape reel on the supply reel table, and fasten the reel knob.

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

↓

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

The blower system automatically operates to lead the tape into the tape path.



↓

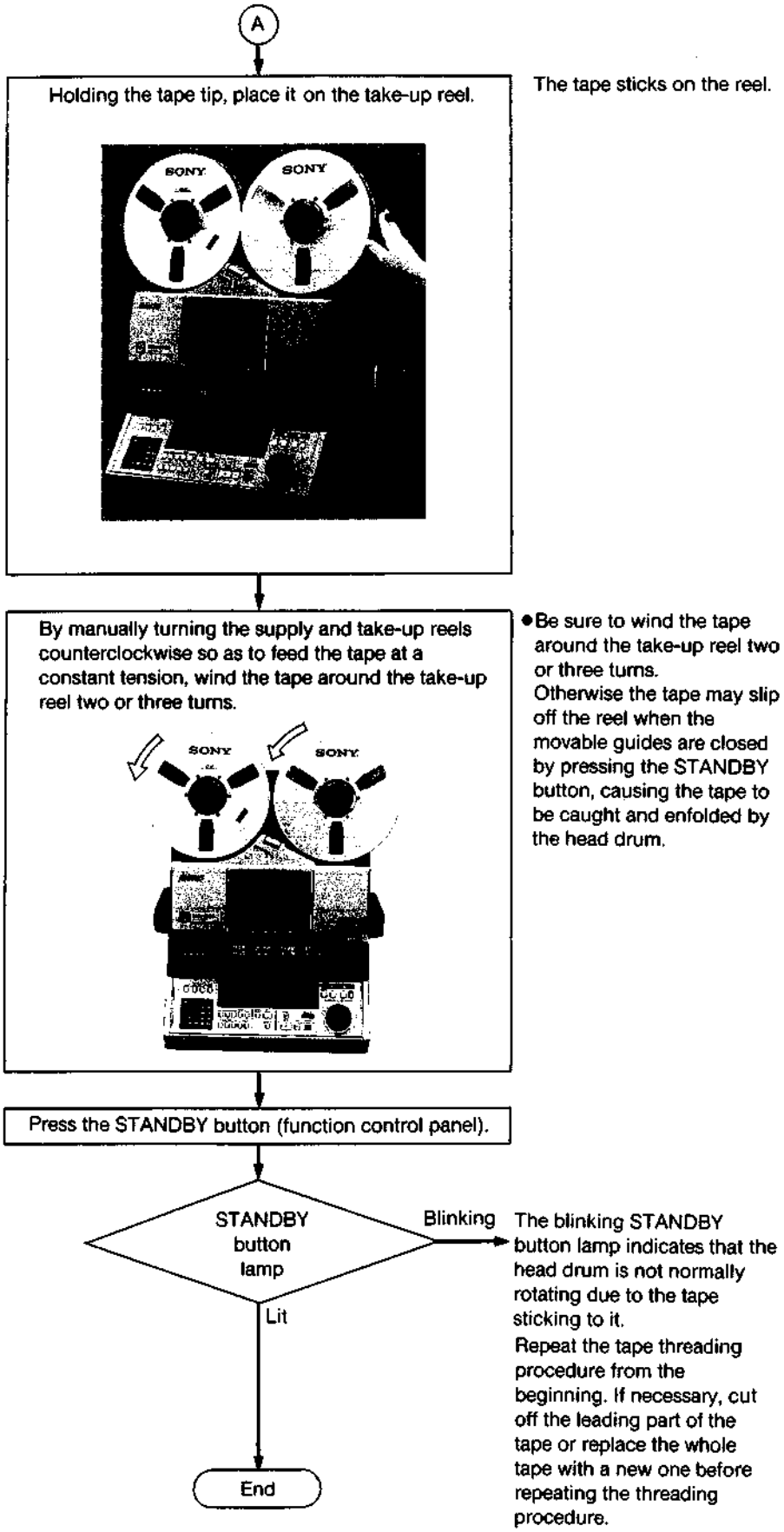
While viewing the leading part of the tape through the front cover window, turn the supply reel counterclockwise until about 40 to 45cm of the tape comes out of the blue outlet of the front cover.

The blower system automatically threads the tape.

- If the tape cannot be smoothly threaded, manually rewind the tape, and repeat this step.

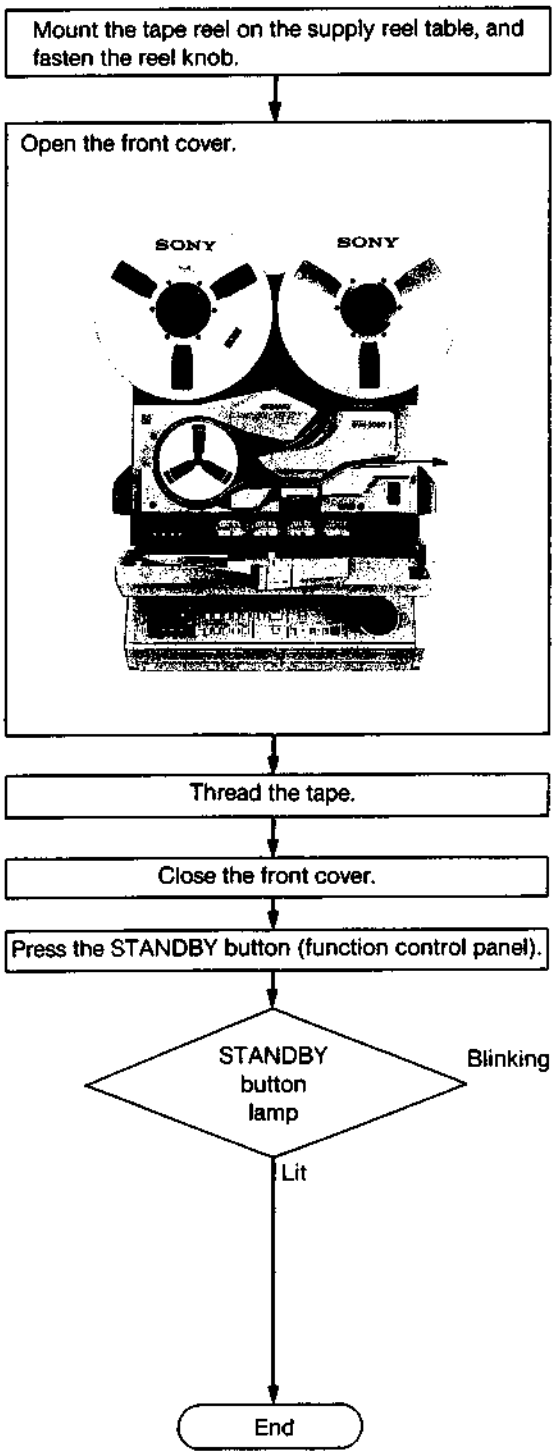
↓

(A)


A
Holding the tape tip, place it on the take-up reel.
SONY
SONY
The tape sticks on the reel.
By manually turning the supply and take-up reels counterclockwise so as to feed the tape at a constant tension, wind the tape around the take-up reel two or three turns.
SONY
SONY
● 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).
STANDBY button lamp
Blinking
The blinking STANDBY button lamp indicates that the head drum is not normally rotating due to the tape sticking to it. Repeat the tape threading procedure from the beginning. If necessary, cut off the leading part of the tape or replace the whole tape with a new one before repeating the threading procedure.
Lit
End

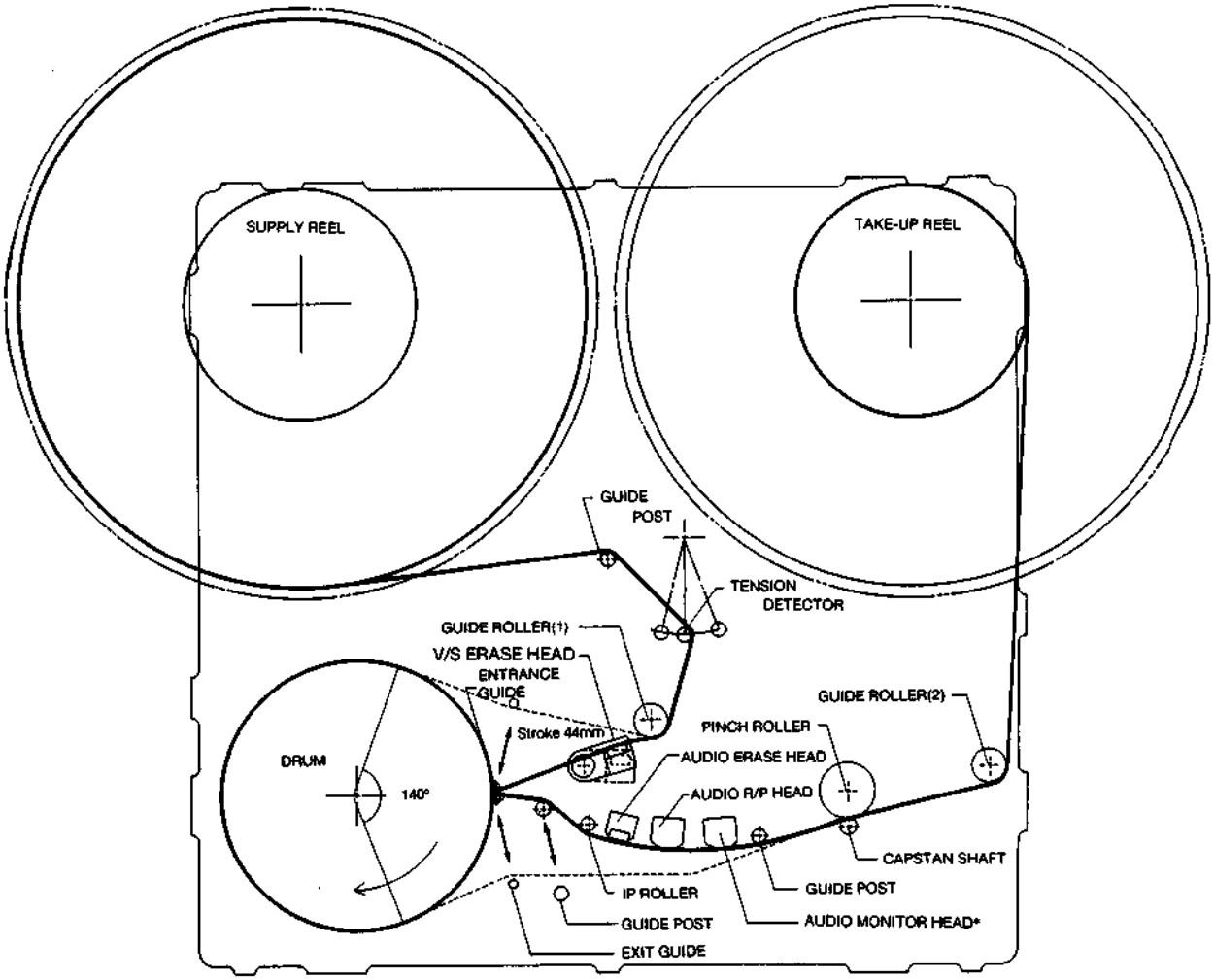
2-5-3. Manual Threading

For manual threading, proceed as follows:



Refer to the illustration on the right.

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



*Except for audio channel 3

Section 3. OPERATION PROCEDURE

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 if the preset levels are used with the respective controls set at the pushed-in position):

(1) **VIDEO level control**
In the E-to-E mode, pull out and turn the VIDEO level control so that the VIDEO/RF meter reading comes into the blue zone.

(2) **TRACKING control**
Select RF(V) in Menu S80 VIDEO METER SELECT, and in the PLAY mode, pull out and turn the TRACKING control so that the VIDEO/RF meter shows the maximum deflection.

(3) **AUDIO-1/2/3 or 4* PB level controls**
In the PLAY mode, pull out and turn the AUDIO-1/2/3 or 4 PB level controls so that the maximum readings of the AUDIO-1/2/3 or 4 meters become 0 VU.

(4) **AUDIO-1/2/3 or 4* REC level controls**
In the REC/EDIT mode, pull out and turn the AUDIO-1/2/3 or 4 REC level controls so that the maximum readings of the AUDIO-1/2/3 or 4 meters become 0 VU.

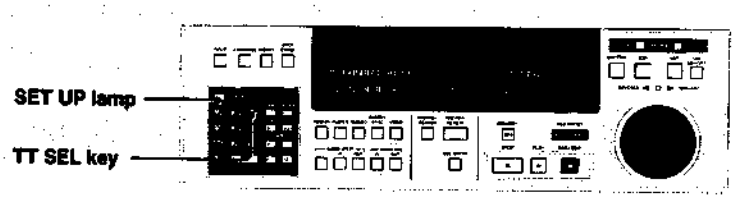
- If TC is selected in Menu S50 A3 INPUT SELECT and INT is selected in Menu S51 TIME CODE SOURCE, the AUDIO-3 REC level control will not function.

* If your VTR is BVH-3000PS-A4 or BVH-3100PS-A4, use the AUDIO 3 PB and AUDIO 3 REC level controls on the bottom of the level control panel to adjust the AUDIO 3 playback and recording levels, respectively.

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

Selection of data displayed in block 1

The data displayed in block 1 of the display on the function control panel can be selected as follows:



TT SEL key (with SET UP lamp blinking)

Time code or user bit data displayed

Press

- For display of time code or user bit data, TC must be selected in Menu S50 A3 INPUT SELECT.

While INPUT button is pressed

Menu S54	Data displayed in block 1
TC	TCG (Time code generated by time code generator)
UB	UBG (user bit data generated by time code generator)

Others → See the table on the next page.

TM1 (Timer-1) data displayed

Press

TM2 (Timer-2) data displayed

Press

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

Time code and user bit data displayed in block 1 (not in case INPUT button is pressed)

Menu S51	Menu S54	Menu S52	Menu S57	Data displayed in block 1	
				TAPE/EE	TAPE
TC	TC	INT	—	TCR (time code generated by time code generator)	TCR (time code read by LTC reader)
		EXT	—	TCR (time code from LINE INPUT AUDIO-3)	
	UB	INT	—	UBR (user bit data generated by time code generator)	UBR (user bit data read by LTC reader)
		EXT	—	UBR (user bit data from LINE INPUT AUDIO-3)	
VITC	TC	—	ENABLE	TCR. (time code data generated by time code generator)	TCR. (time code data read by VITC reader)
		—	DISABLE	TCR. (time code inserted in INPUT VIDEO)	
	UB	—	ENABLE	UBR. (user bit data generated by time code generator)	UBR. (user bit data read by VITC reader)
		—	DISABLE	UBR. (user bit data inserted in INPUT VIDEO)	
AUTO	TC	—	—	Same as TC in Menu S53 In the STOP mode, however, same as VITC in Menu S53.	TCR. (time code read by VITC reader when tape speed is less than 1/2 normal speed) TCR (time code read by LTC reader when tape speed is higher than 1/2 normal speed)
	UB				UBR. (user bit data read by VITC reader when tape speed is less than 1/2 normal speed) UBR (user bit data read by LTC reader when tape sped is higher than 1/2 normal speed)

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

Refer to 1-5-3 for the S menus and 1-5-4 for the I menus.

S50. A3 INPUT SELECT
S51. TIME CODE SOURCE
S53. TC READER
S54. TC/UB DISPLAY SELECT
S57. VITC RECORD
I54. TIMER DISPLAY MODE

Notes on data displayed in block 1

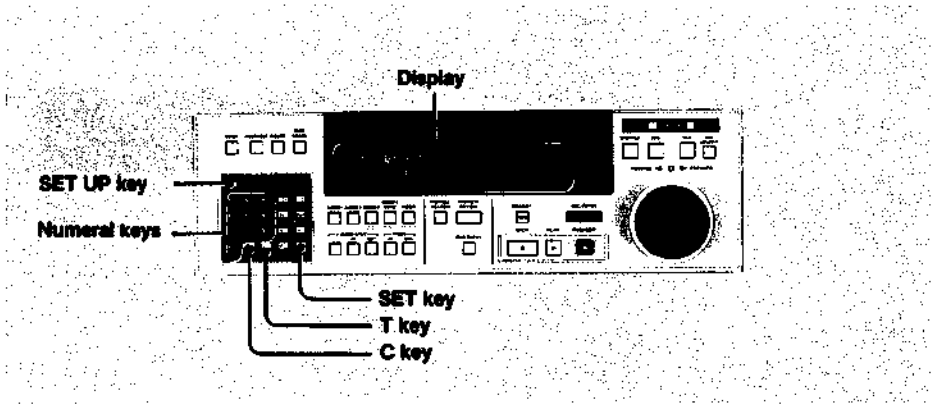
(1) **Time code source changeover**
To change over the time code source between the internal time code and external time code, use Menus S51 TIME CODE SOURCE (refer to 1-5-3).

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

(3) **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. The "0" point of timer-2 is the position where the operation is first activated with the tape threaded.

(4) **Retaining of timer-1 and timer-2 values**
If power is turned off with the tape threaded, the timer-1 and timer-2 values are retained for approximately 96 hours.

(1) Setting the time code generator starting value



Example

Obtain the current TCG value in block 1 of the display (refer to pages 3-2 and -3). (If necessary, select REC in Menu S52 TC GEN RUN MODE. This stops the time code generator, which will start again as soon as the VTR enters the REC mode, thus making time code setting much easier.)

TCG 01:00:27:21	

↓

Press the SET UP key to exit from the SET UP mode.

↓

Enter the desired number for the time code generator starting value.

Press 0, 0, 0, 0, 3, 0, 0, 0 and SET keys.

↓

The entered data is displayed in block 4.

TCG 01:00:27:21	
	SET 00 00 30 00

↓

Entered data to be corrected?

No →

Yes ↓

Press the C key, and enter the correct data.

↓

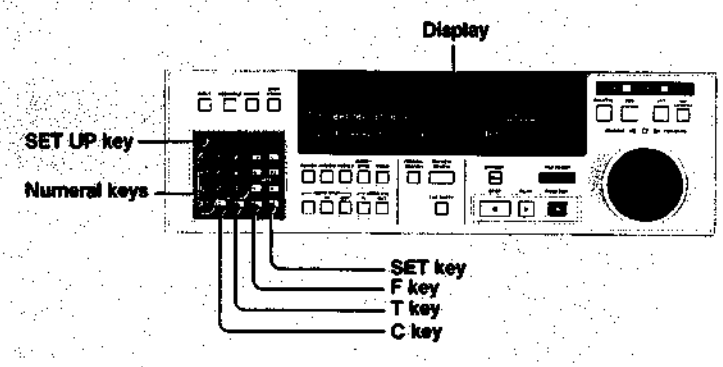
Press the T key to transfer the entered data from block 4 to block 1.

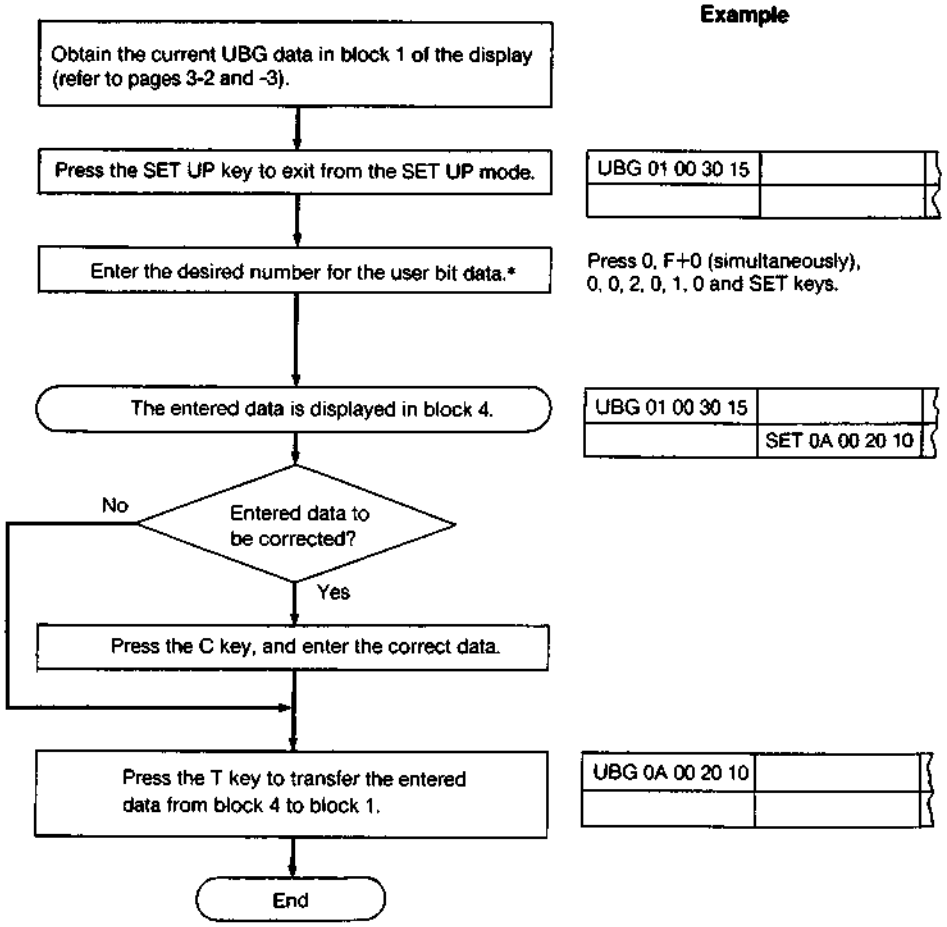
TCG 00:00:30:00	

↓

End

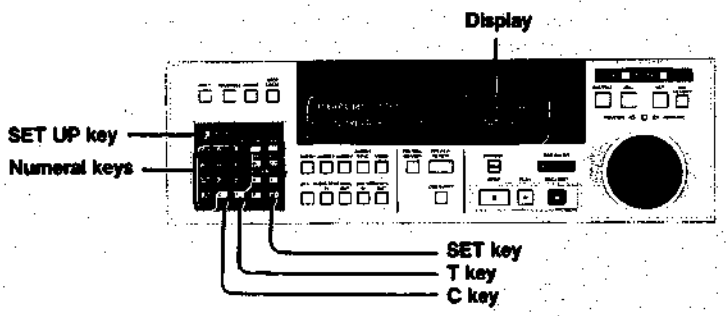
(2) Setting the user bit data

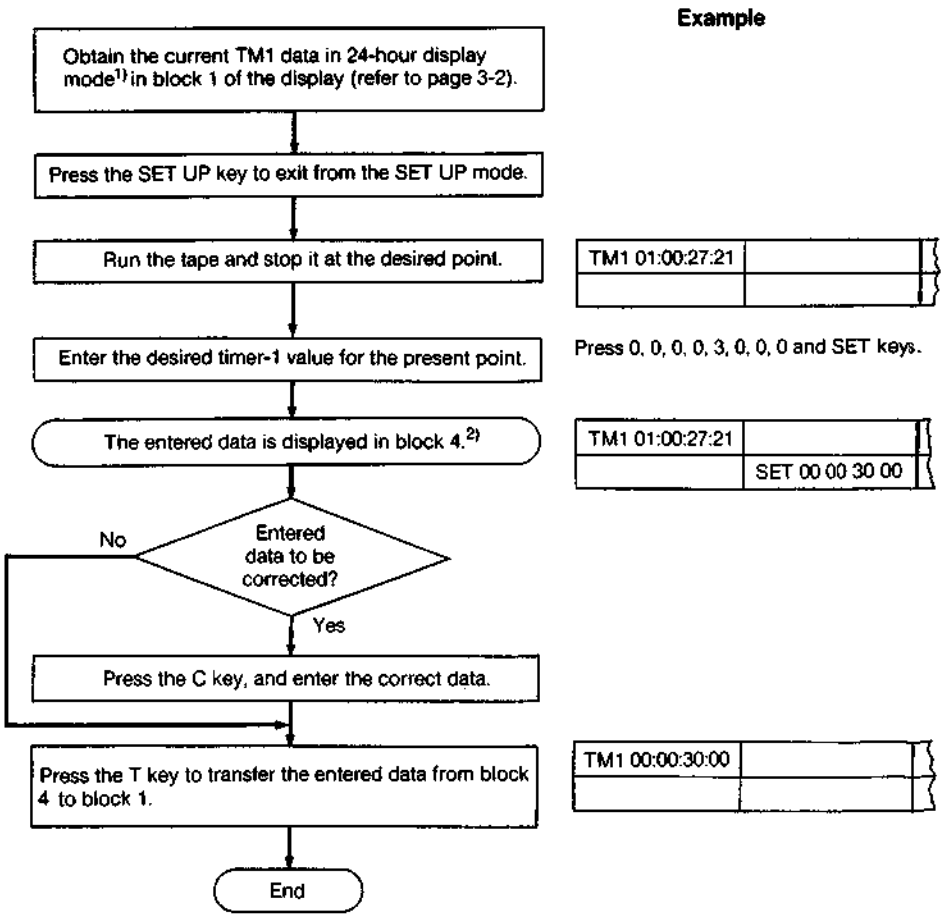




* To input a hexadecimal number, simultaneously press the F key and a numeral key (one of 0 to 5). Refer to page 1-35.

(3) Setting the timer-1 starting value

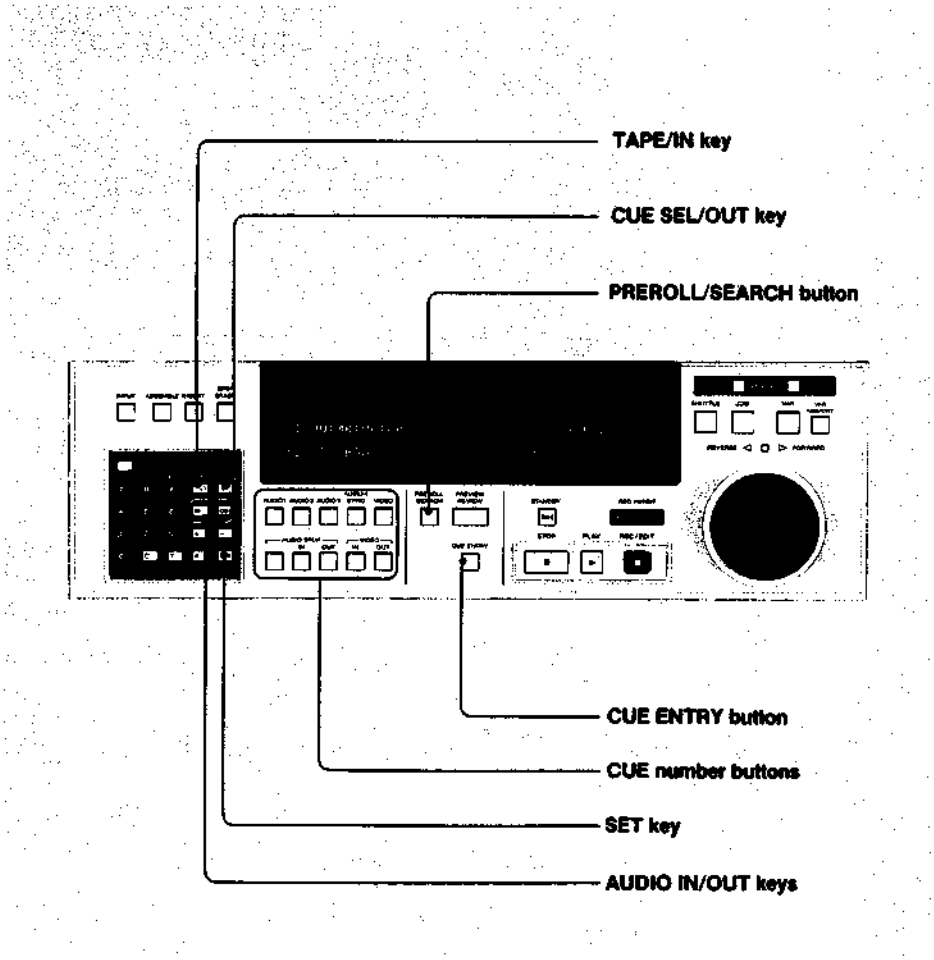




1) The data cannot be preset if the timer is in the 12-hour display mode.
2) If message "DATA ERR" blinks in Block 6, invalid time data has been entered.

3-1-3. Multi-Cue Operation

The BVH-3000PS/3100PS 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 if the VTR is in a mode allowing cue point entry operation.



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 from CUE1. If the CUE ENTRY button is pressed after entry of CUE10, the CUE1 data is rewritten, and so forth.

Direct entry of a cue point

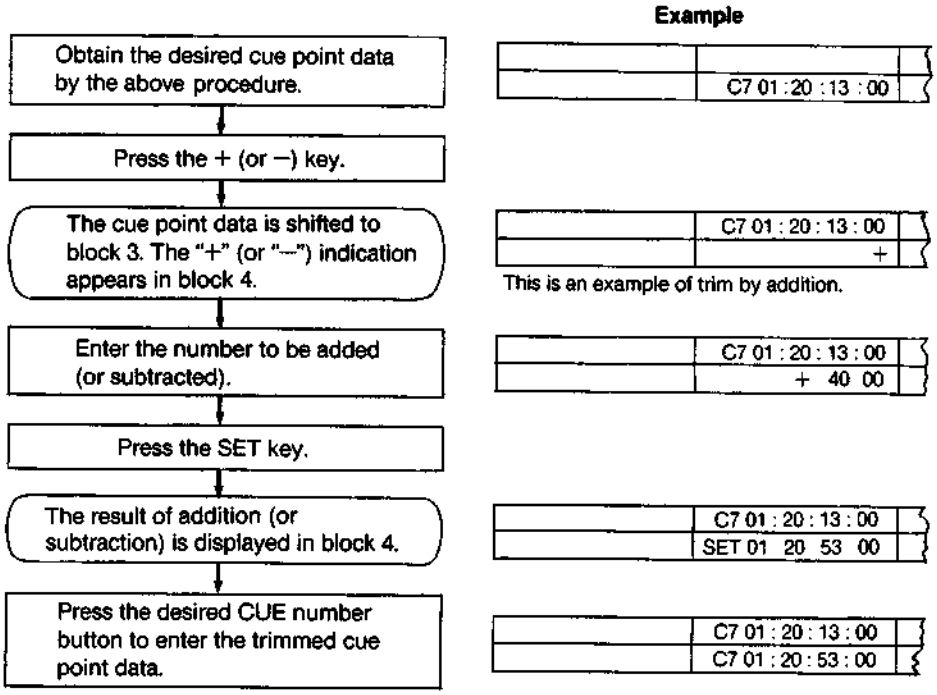
In a mode other than STOP or PREROLL/SEARCH, press a desired one of the CUE1 to CUE10 buttons. The current tape address is entered as the cue point corresponding to the pressed CUE number button. If a tape address has been entered for that cue point, the old address is replaced with the newly entered one.

In the STOP mode, the data displayed in block 4 of the display can be entered for one of CUE 1 to CUE 10 by pressing the SET key in the 21-key section and then pressing the desired CUE number button.

Displaying a cue point address

In the STOP mode (CUE ENTRY lamp off), press the desired CUE number button. The cue point address for that cue number is displayed in block 4 of the display.

The data displayed in block 4 can be reentered after trimming by the following method:



Entering a cue point address as an IN/OUT point

When a cue point address is displayed in block 4 by the above 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. Refer to page 3-28 for the procedure to read out the data stored here.

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 within the range of 0 to 30 seconds with Menu I14 SEARCH PREROLL TIME independently of the preroll time for editing (refer to 1-5-4).

Backspace editing

Press the REC/EDIT button. This will start editing from the end-of-source point.* If the end-of-source data is not stored, error message "NO EOS" is displayed in block 6 of the display for about five seconds, and backspace editing is not executed.

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.

* The end-of-source data is the OUT point time data of the last executed recording.

3-1-4. Character Superimposition

A character-mixed video signal can be output from the OUTPUT VIDEO-2 connector and/or the MONITOR OUTPUT VIDEO connector as selected by Menu S59 MIXED CHARA OUTPUT (refer to 1-5-3). This function allows the data in block 1 of the display (time code, user bit data, timer-1 value or timer-2 value), field number, error message, and the additional information selected by Menu I65 CHARA DISP (EXTEND) to be superimposed on the picture.

Menus for character superimposition (refer to 1-5-3 and 1-5-4)

(1) S59 MIXED CHARA OUTPUT
Selects whether the character signal is to be mixed with the output video signal, and determines the output connector(s) for the character-mixed video output.

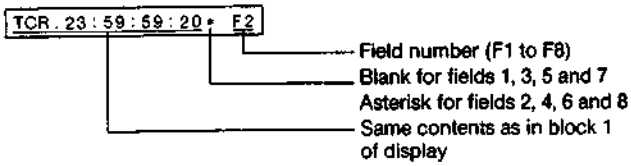
Output connector / S59 selection	OUTPUT VIDEO-2	MONITOR OUTPUT VIDEO
DISABLE	Not mixed	
MONITOR	Not mixed	Mixed
VD2=1, TBC	Mixed	Mixed only when TBC OUT is selected in Menu S02 PICTURE MONITOR.

(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.

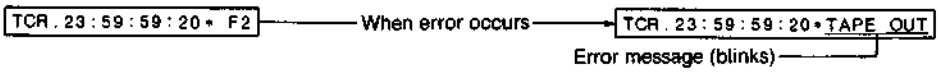
(3) I65 CHARA DISP (EXTEND)
Selects whether additional characters are to be superimposed on the second line, and selects the type of the additional information when it is displayed.

Examples

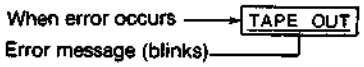
(1) One-line display without error message



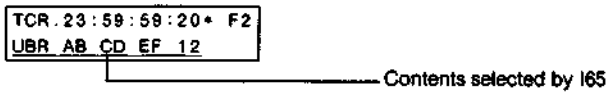
(2) One-line display with error message



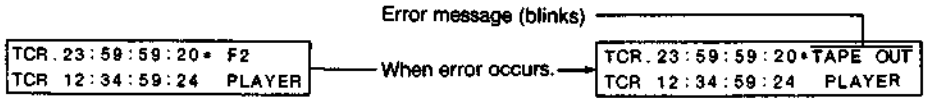
(3) Display of error message only



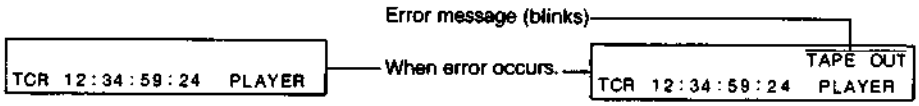
(4) Two-line display without error message



(5) Two-line display with error message



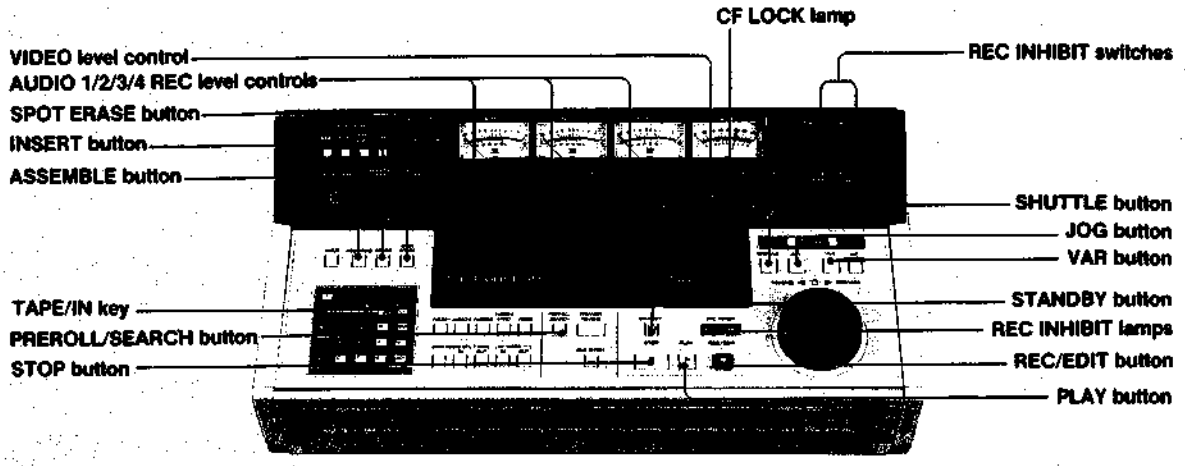
(6) One-line display with error message in two-line mode



3-1-5. Field Freeze Picture

When the TAPE lamp in the 21-key section is lit, a field freeze picture is available in the STOP mode if ENABLE is selected in Menu S04 FREEZE MODE. The freeze picture is obtained when the STOP button is pressed or when the VTR mode changes from STILL to STOP by still-off timer operation. If the STOP button is pressed in the SHUTTLE mode, however, the freeze picture is obtained when the tape stops. When the ASSEMBLE or INSERT button lamp is lit, the field freeze is not available.
While a field freeze video signal is output, "FREEZE" is displayed in block 6 of the display.

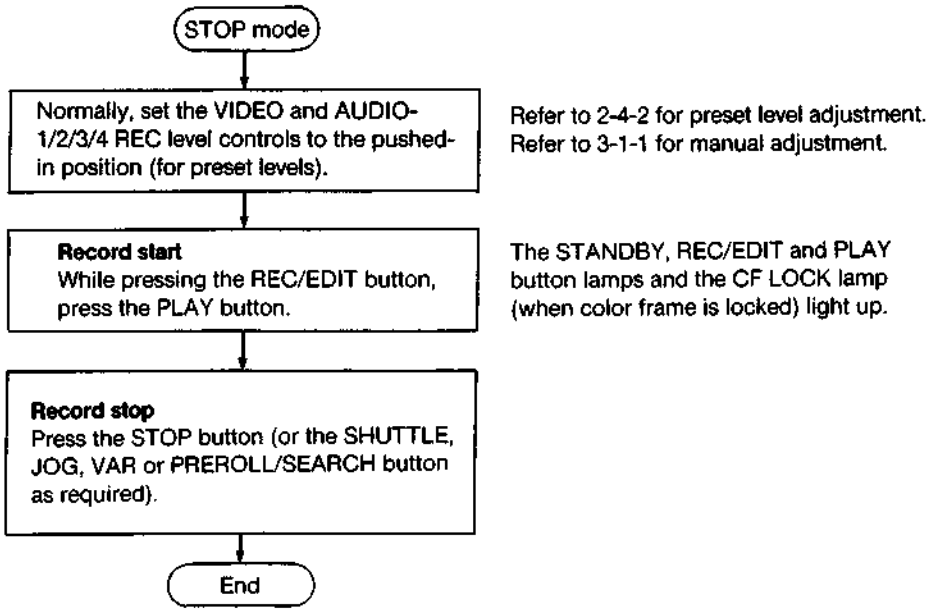
3-2. RECORDING



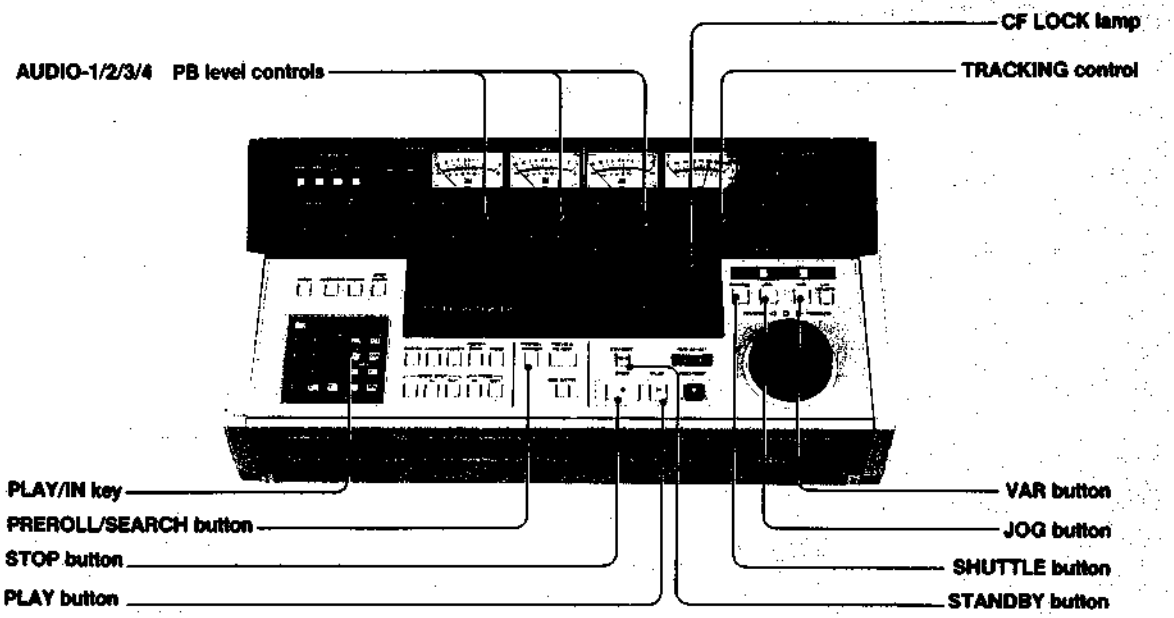
Notes on recording

- 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.
- The picture to be monitored can be selected with Menu S02 PICTURE MONITOR and 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.
- The R/P head is used irrelevantly to the head selection by the PLAY/IN key in the 21-key section.

Procedure



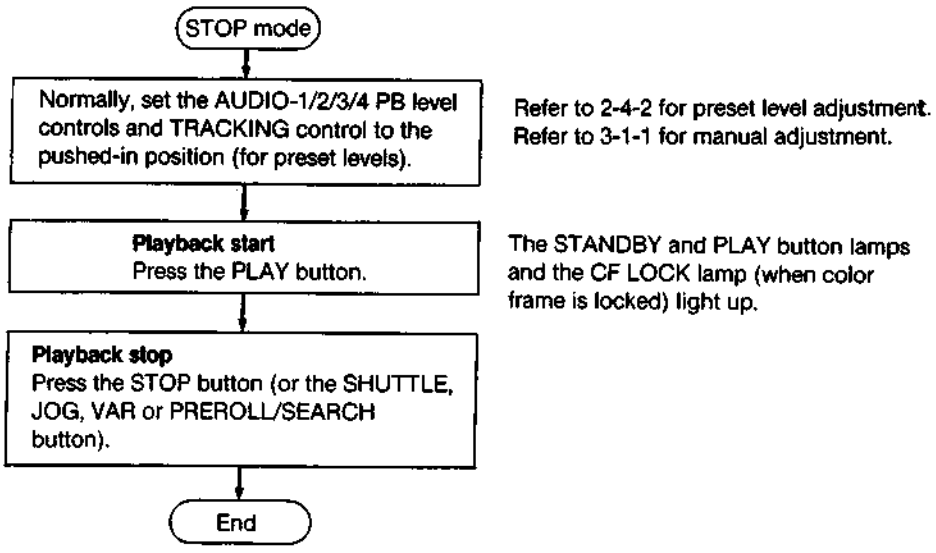
3-3. PLAYBACK



Note on playback

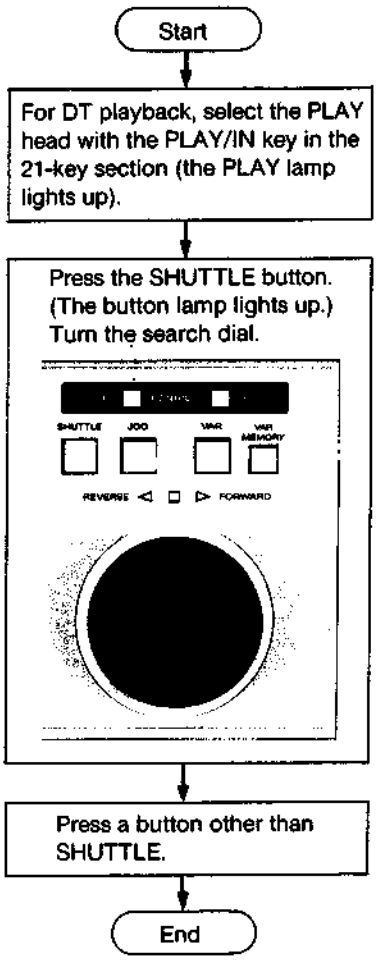
- The video head for playback, R/P or PLAY, can be selected with the PLAY/IN key in the 21-key section.

3-3-1. Normal Speed Playback



3-3-2. SHUTTLE Mode

In the SHUTTLE mode, the playback speed can be adjusted from ±1/32 to ±50 times normal speed depending on the position of the search dial.



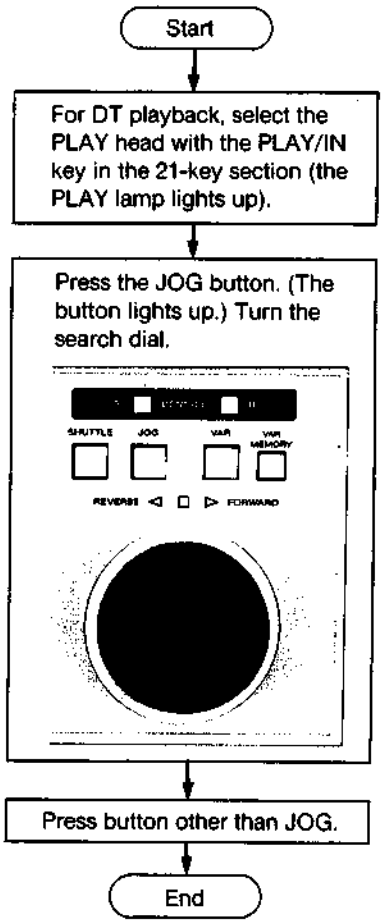
Noiseless playback can be performed from −1 to +3 times normal speed.

- A still picture is obtained when the dial is set to the center position.
- The dial has a click at the center position (STILL) and ±50 times normal speed positions.
- 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. If this is to be disabled, select DISABLE in Menu I12 (refer to 1-5-4).
- 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 to be completely wound, press the SHUTTLE button and turn the search dial again in the same direction, or select DISABLE in Menu S09 EOT STOP (refer to 1-5-3).

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

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.



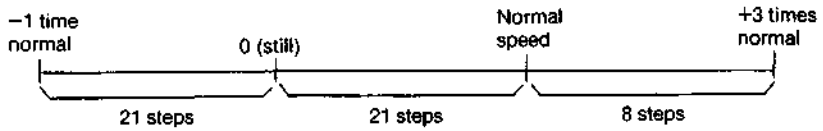
Noiseless playback can be performed from -1 to +3 times normal speed.

- A still picture is obtained when the dial stops.
- The dial has no click.
- 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. If this is to be disabled, select DISABLE in Menu I12 (refer to 1-5-4).

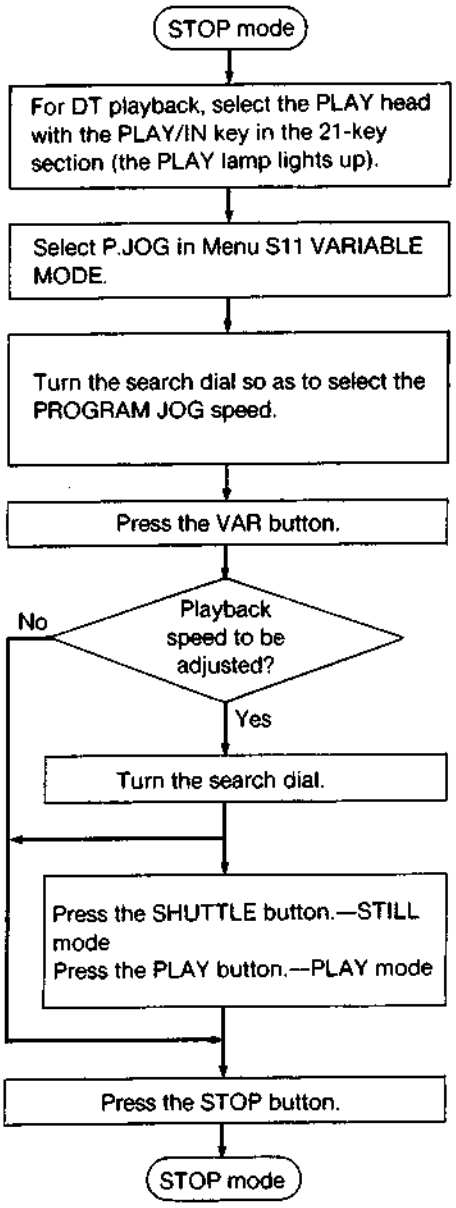
The VTR exits from the JOG mode, and enters the mode selected by the pressed button.

3-3-4. PROGRAM JOG Mode

In the PROGRAM JOG mode, playback can be carried out at a preset tape speed. The speed preset range is −1 to +3 times the normal speed, and the speed can be adjusted in the following 50 steps:



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



Noiseless playback can be performed from −1 to +3 times normal speed.

Refer to 1-5-3.

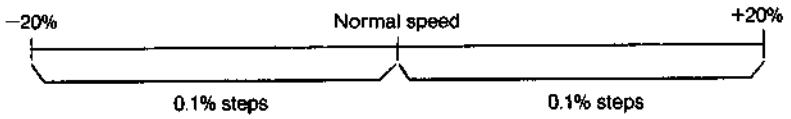
- The selected PROGRAM JOG speed is preset. This speed is indicated in block 5 of the display.
- The dial clicks at the −1, 0, +1 and +3 times normal speed positions.

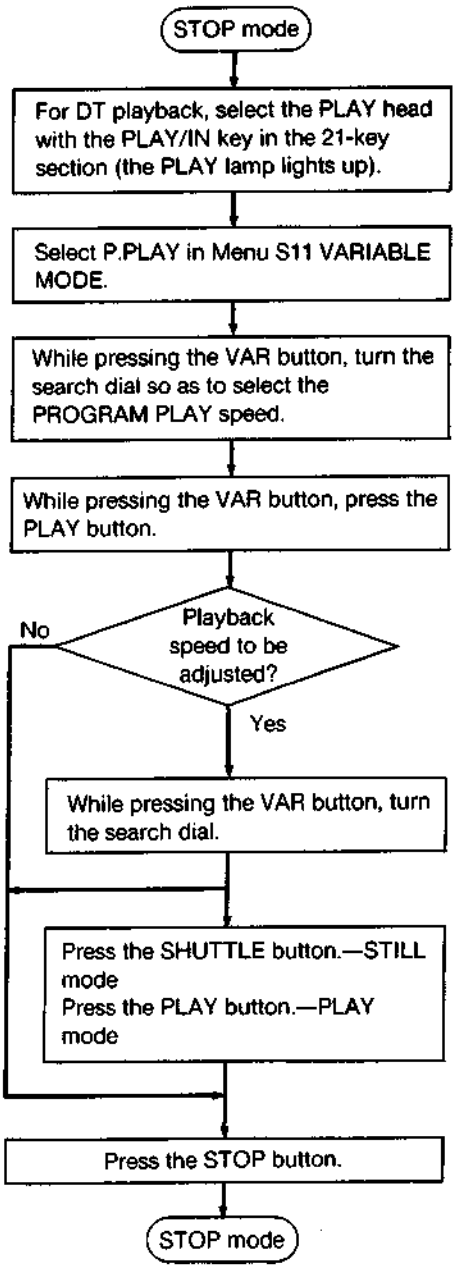
Playback starts at the preset speed.

The speed can be varied from −1 to +3 times.

3-3-5. PROGRAM PLAY Mode (Time Compression/Expansion Mode)

In the PROGRAM PLAY mode, playback can be carried out at a preset tape speed. The speed preset range is −20% to +20% of the normal speed, and the speed can be adjusted in 0.1% steps as shown below:





The PROGRAM PLAY speed can be preset also in the STANDBY, PLAY or REC mode.

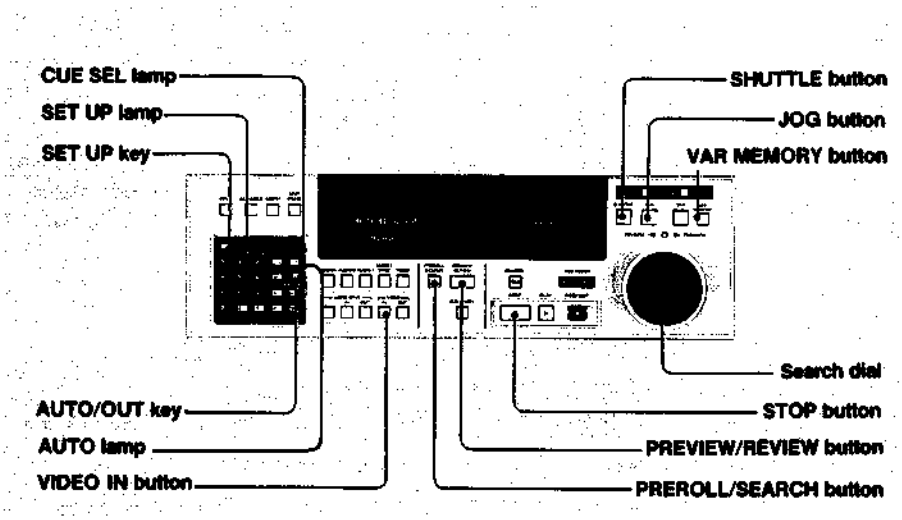
Refer to 1-5-3.

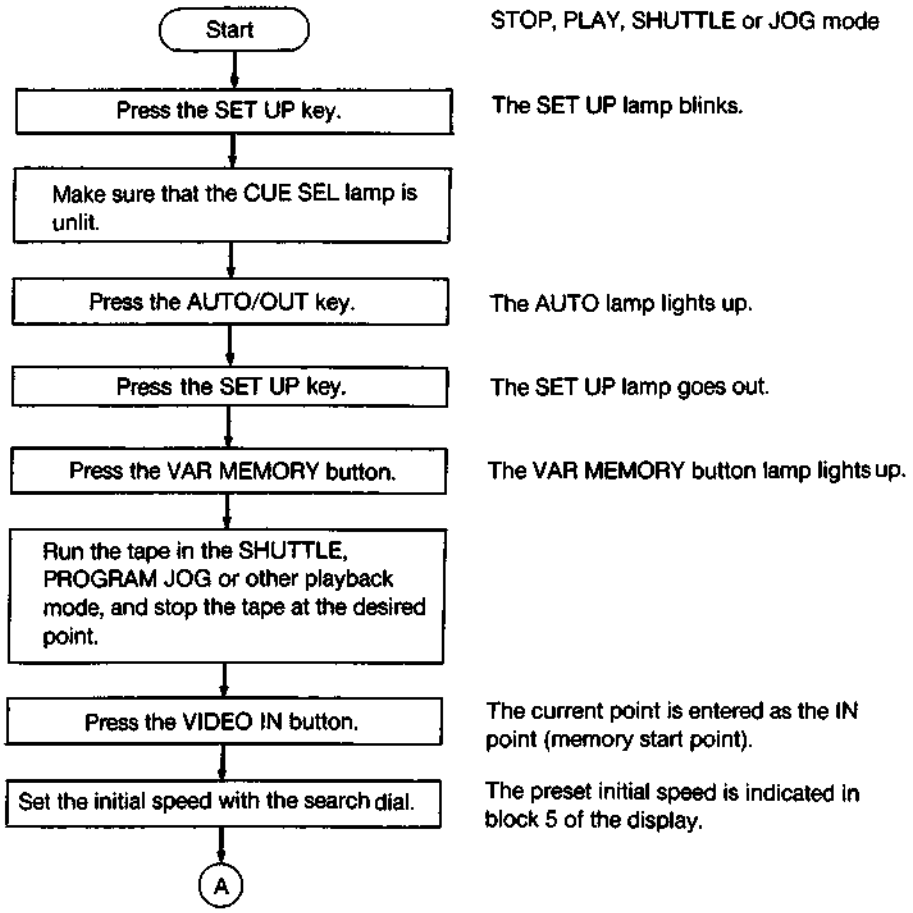
The selected PROGRAM PLAY speed is preset. This speed is indicated in percent in block 5 of the display.

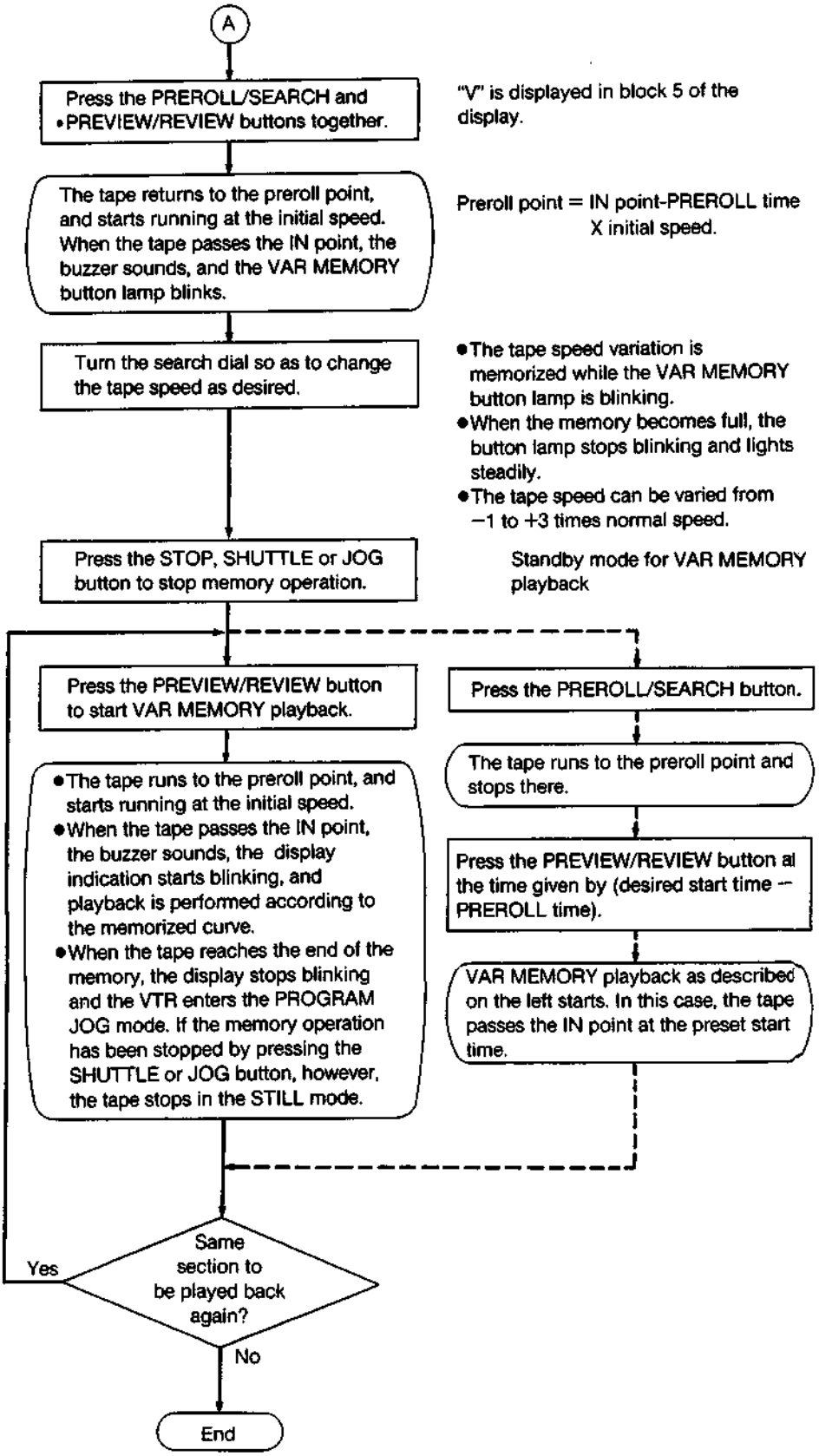
Playback starts at the preset speed.

3-3-6. VAR MEMORY Mode

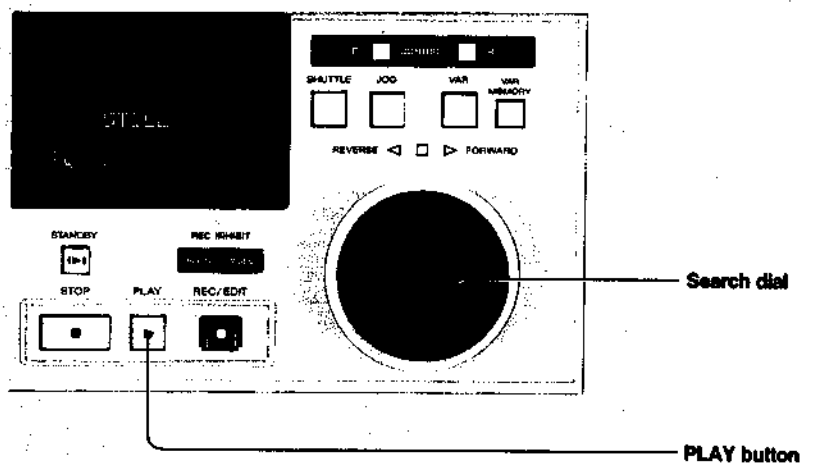
In the VAR MEMORY mode, the search dial operation (change of tape speed and direction) can be memorized for later playback in accordance with the memorized curve. The correspondence between the search dial position and tape speed is the same as that in the PROGRAM JOG mode.






A
Press the PREROLL/SEARCH and •PREVIEW/REVIEW buttons together.
"V" is displayed in block 5 of the display.
The tape returns to the preroll point, and starts running at the initial speed. When the tape passes the IN point, the buzzer sounds, and the VAR MEMORY button lamp blinks.
Preroll point = IN point-PREROLL time X initial speed.
Turn the search dial so as to change the tape speed as desired.
●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 lights steadily.
●The tape speed can be varied from −1 to +3 times normal speed.
Press the STOP, SHUTTLE or JOG button to stop memory operation.
Standby mode for VAR MEMORY playback
Press the PREVIEW/REVIEW button to start VAR MEMORY playback.
●The tape runs to the preroll point, and starts running at the initial speed.
●When the tape passes the IN point, the buzzer sounds, the display indication starts blinking, and playback is performed according to the memorized curve.
●When the tape reaches the end of the memory, the display stops blinking and the VTR enters the PROGRAM JOG mode. If the memory operation has been stopped by pressing the SHUTTLE or JOG button, however, the tape stops in the STILL mode.
Press the PREROLL/SEARCH button.
The tape runs to the preroll point and stops there.
Press the PREVIEW/REVIEW button at the time given by (desired start time − PREROLL time).
VAR MEMORY playback as described on the left starts. In this case, the tape passes the IN point at the preset start time.
Same section to be played back again?
Yes
No
End

3-3-7. 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 ±15% of the normal speed. To adjust the playback speed, turn the search dial while pressing the PLAY button. Clockwise turn of the search dial increases the tape speed, and counterclockwise turn decreases the tape speed. The adjusted tape speed is indicated in percent in block 5 of 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

- Capability of selective handling of one or several channels depends on the editing mode. See the following table:

○ Available ✕ Not available

	ASSEMBLE mode	INSERT mode	SPOT ERASE mode
VIDEO only	○	○	—
AUDIO-1 only	✕	○	○
AUDIO-2 only	✕	○	○
AUDIO-3 only	✕	○	○
All channels (VIDEO and AUDIO-1/2/3)	○	○	○ (Only audio channels)
Audio split editing	○	○	—

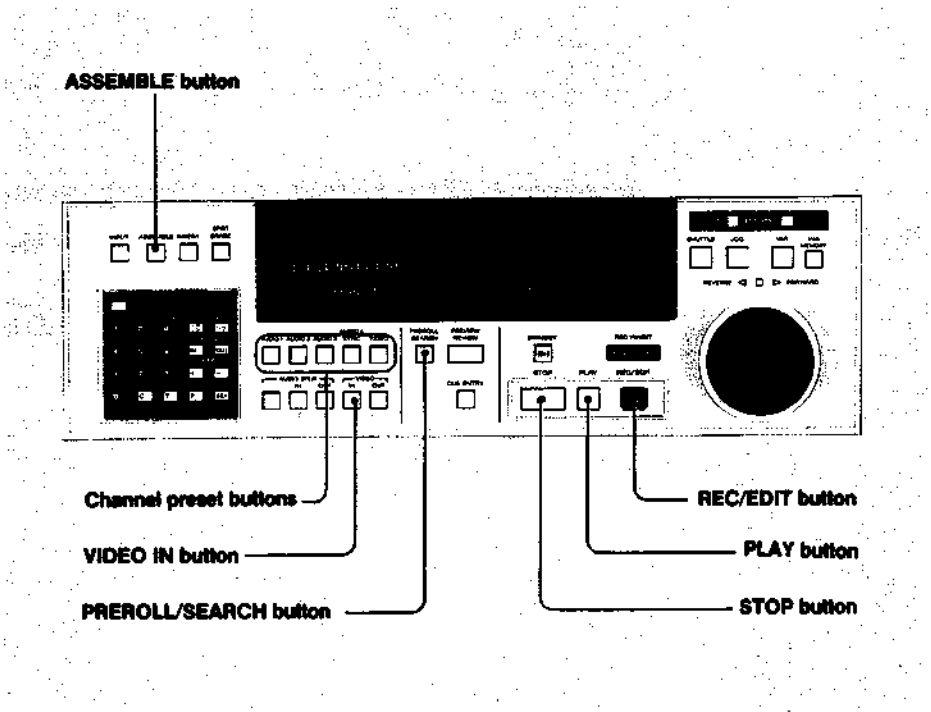
- Automatic editing is performed in units of frames, while manual editing of only the audio signal is performed in units of fields.
- The fields of the IN and OUT points of editing can be selected with Menu S05 EDIT FIELD (refer to 1-5-3).
- Even if all the channel preset buttons are turned off during 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

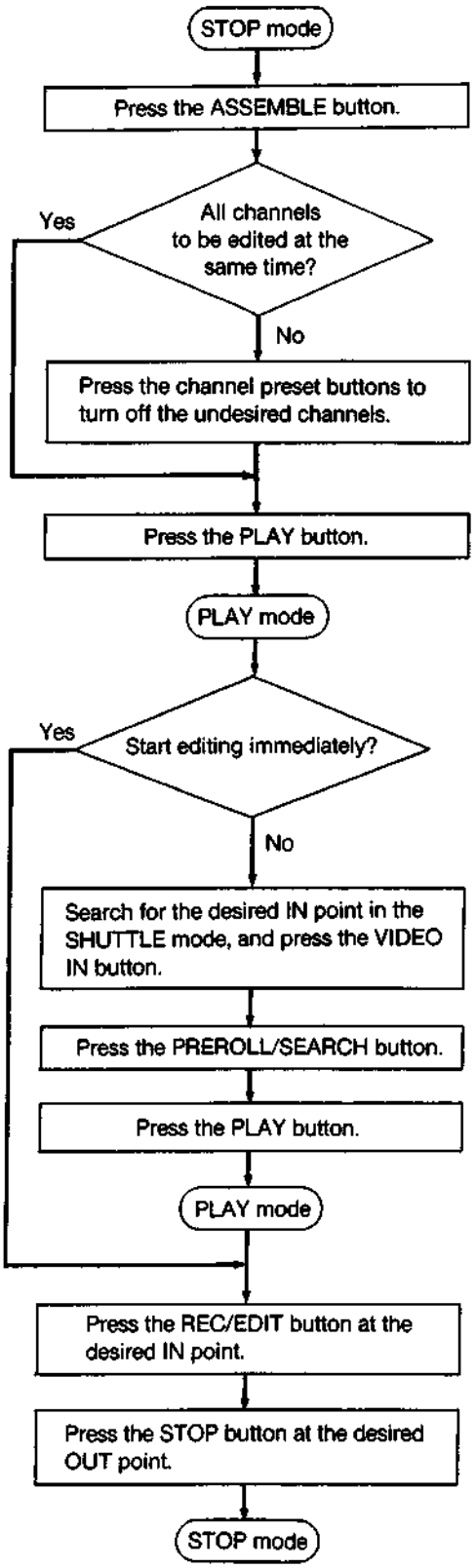
ASSEMBLE editing

Notes on ASSEMBLE editing

- The audio, video and CTL signals are simultaneously recorded on the tape.
- Neither video nor audio signal will be recorded at the portion just beyond the OUT point of ASSEMBLE editing.

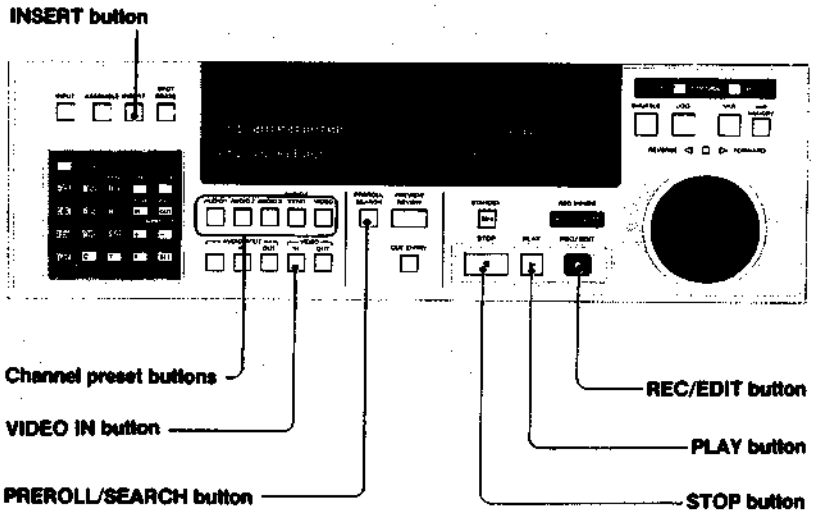


Procedure

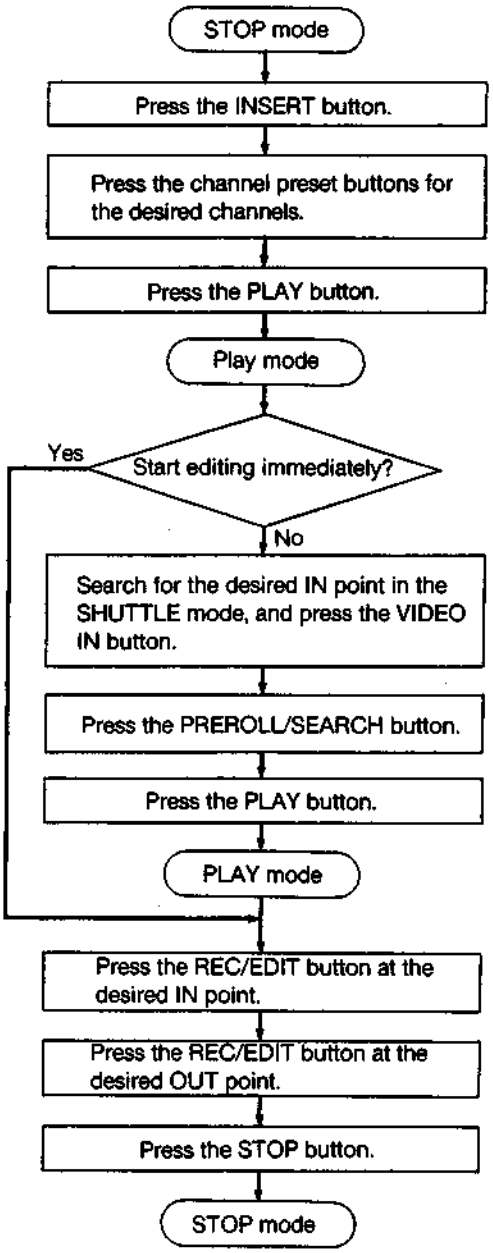

STOP mode
Press the ASSEMBLE button.
The ASSEMBLE button lamp and all the channel preset button lamps light up.
Yes
All channels to be edited at the same time?
No
Press the channel preset buttons to turn off the undesired channels.
Press the PLAY button.
PLAY mode
Yes
Start editing immediately?
No
Search for the desired IN point in the SHUTTLE mode, and press the VIDEO IN button.
Refer to 3-3-2.
Press the PREROLL/SEARCH button.
The tape runs to the preroll point and stops.
Press the PLAY button.
PLAY mode
Press the REC/EDIT button at the desired IN point.
Editing starts.
Press the STOP button at the desired OUT point.
Editing ends.
STOP mode

Notes on INSERT editing

- The CTL signal which has already been recorded on the tape is used as the reference signal. 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.

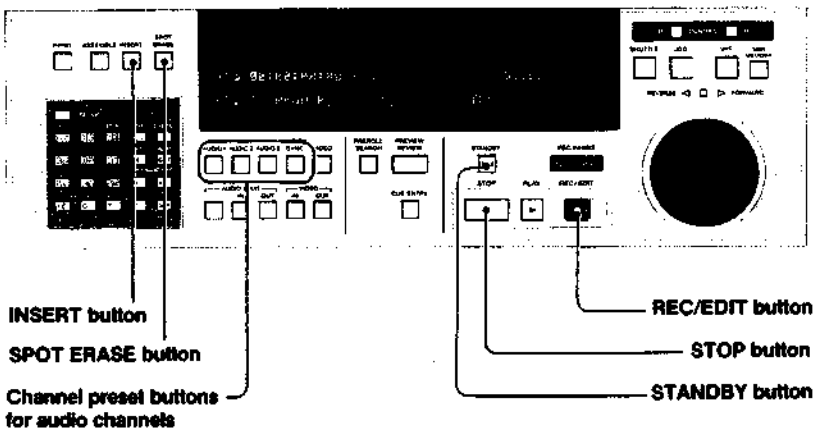


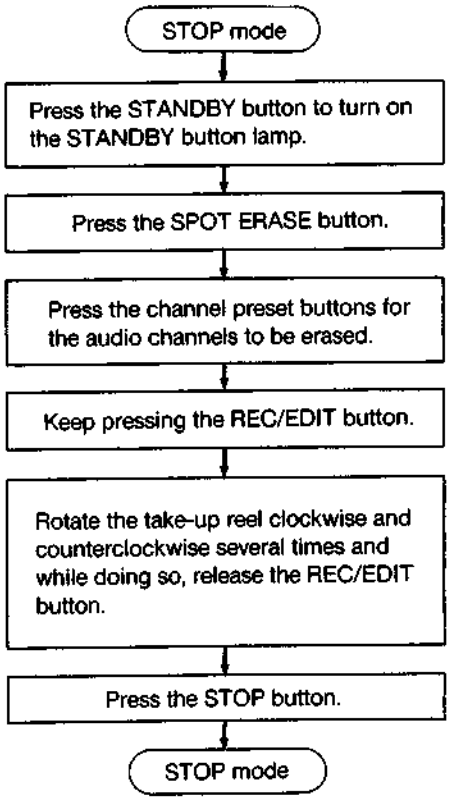
Procedure


STOP mode
Press the INSERT button.
Press the channel preset buttons for the desired channels.
The pressed button lamps light up.
Press the PLAY button.
Play mode
Yes
Start editing immediately?
No
Search for the desired IN point in the SHUTTLE mode, and press the VIDEO IN button.
Refer to 3-3-2.
Press the PREROLL/SEARCH button.
The tape runs to the preroll point and stops.
Press the PLAY button.
PLAY mode
Press the REC/EDIT button at the desired IN point.
Editing starts.
Press the REC/EDIT button at the desired OUT point.
Editing ends.
Press the STOP button.
STOP mode

Manual SPOT ERASE mode

This mode allows only selected audio signals to be erased from a desired portion of the tape.





The SPOT ERASE and INSERT button lamps light up.

The audio erase head (refer to page 2-21) operates while the button is pressed.

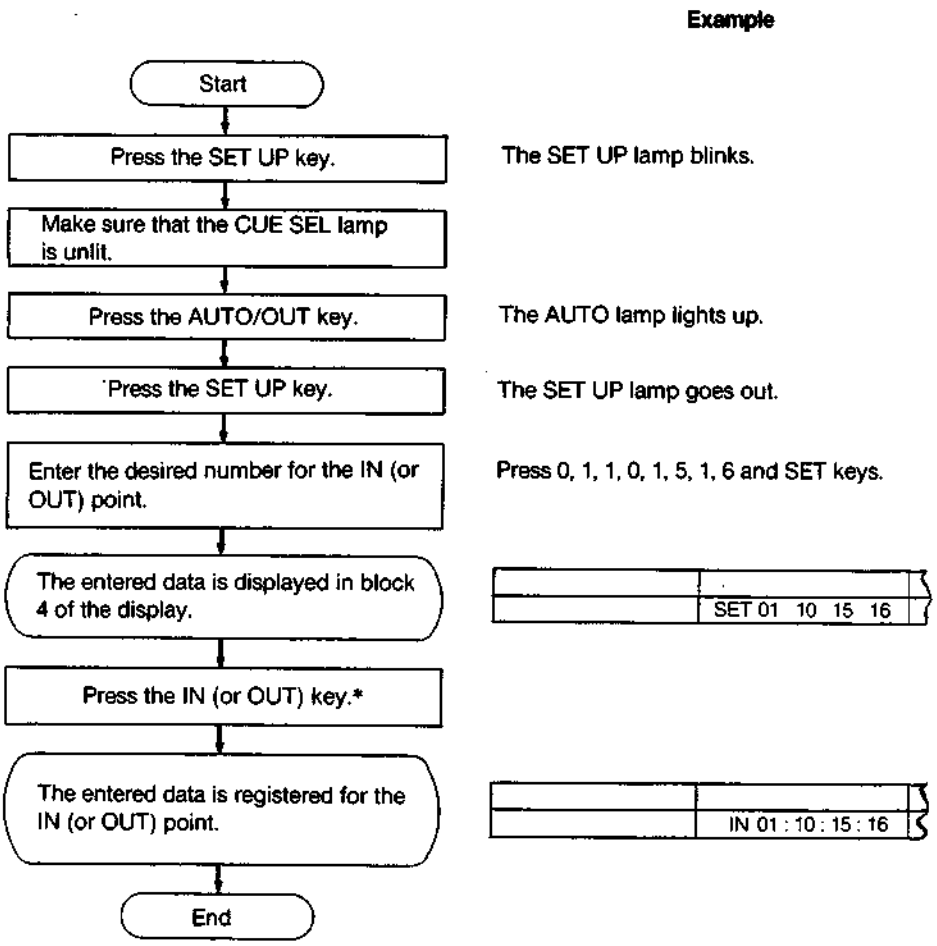
The section passing the erase head is erased.

3-4-2. Automatic Editing

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

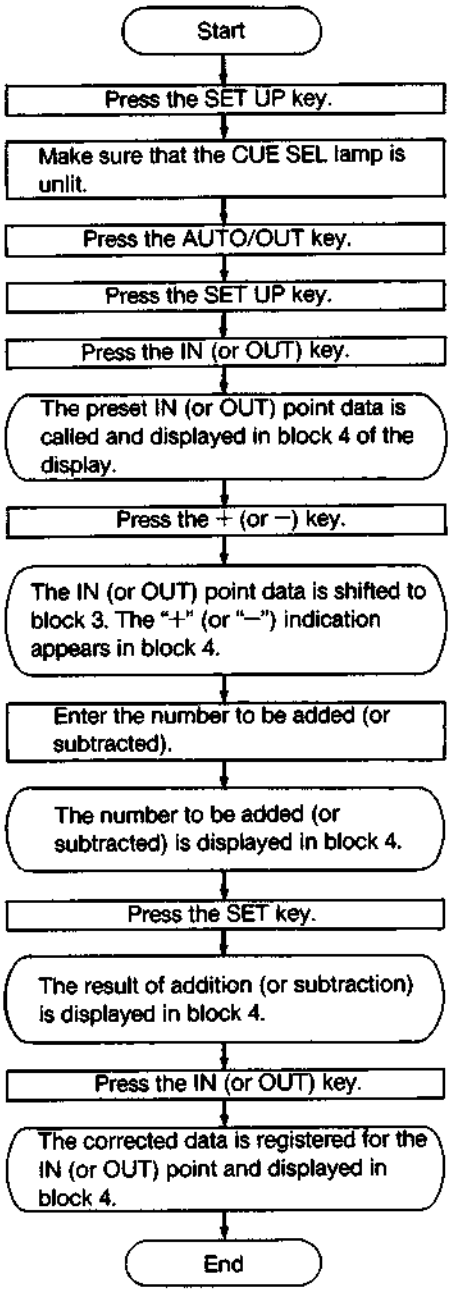
Setting the IN (or OUT) point

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:



* 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

The SET UP lamp blinks.

The AUTO lamp lights up.

The SET UP lamp goes out.

	IN 01 : 20 : 13 : 00

	IN 01 : 20 : 13 : 00
	+

This is an example of trim by addition.

Press 4, 0, 0 and 0 keys.

	IN 01 : 20 : 13 : 00
	+ 40 00

	IN 01 : 20 : 13 : 00
	SET 01 20 53 00

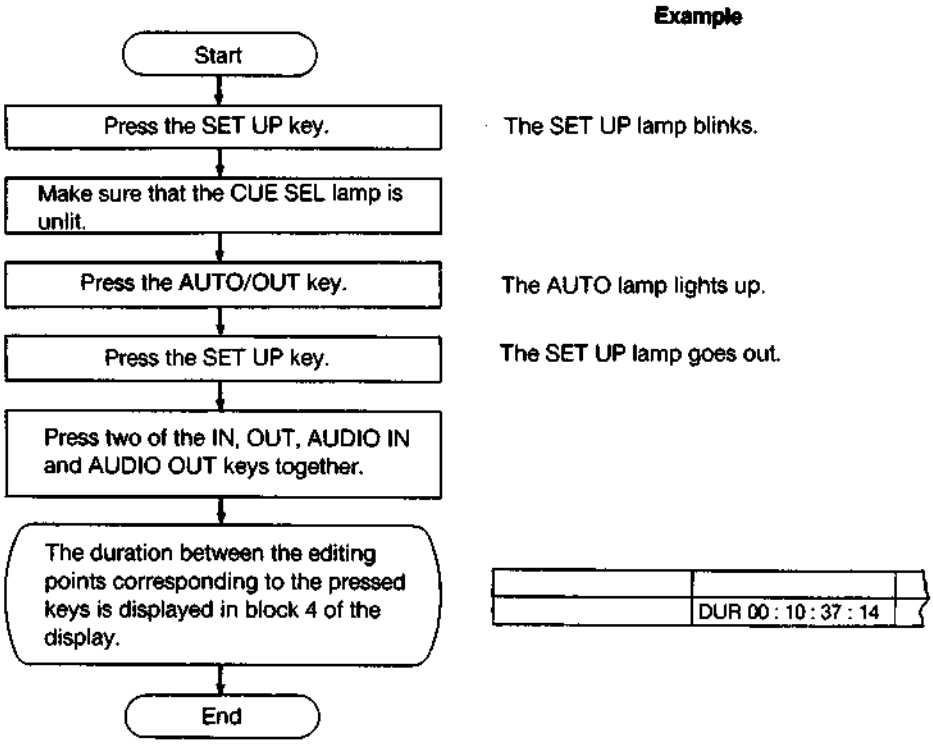
	IN 01 : 20 : 13 : 00
	IN 01 : 20 : 53 : 00

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

- 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:



- When the timer-1 data is displayed, the indication "DUR" appears and when the timer-2 data is displayed, the indication "LAP" appears.
- Timer-2 cannot be reset to zero once the tape has been loaded. It is therefore recommended to enter the IN point of the first editing event as the timer-2 data of the recorder, and the other IN/OUT points as the timer-1 data or time code.

After editing several events, select display of the recorder timer-2 data, and press the IN and OUT keys together to display the LAP (total editing duration) of all the events up to that moment.

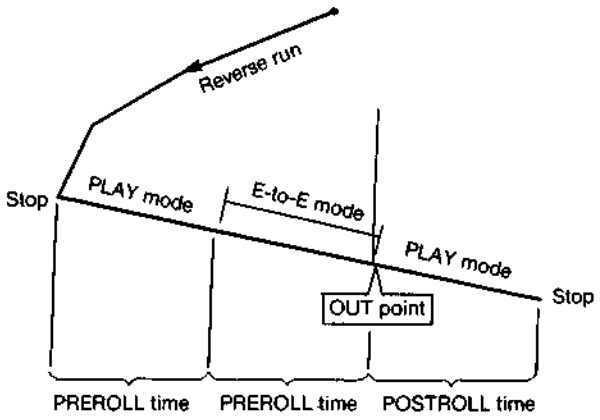
When the IN and OUT points of editing have been entered and one of the ASSEMBLE, INSERT and SPOT ERASE button lamps is lit, pressing the PREVIEW/REVIEW button activates the PREVIEW function. Refer to pages 3-41 and 3-42 for the tape transport sequence.

(1) **Full PREVIEW of recorder and player**
Press the CONTROL R button of 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.

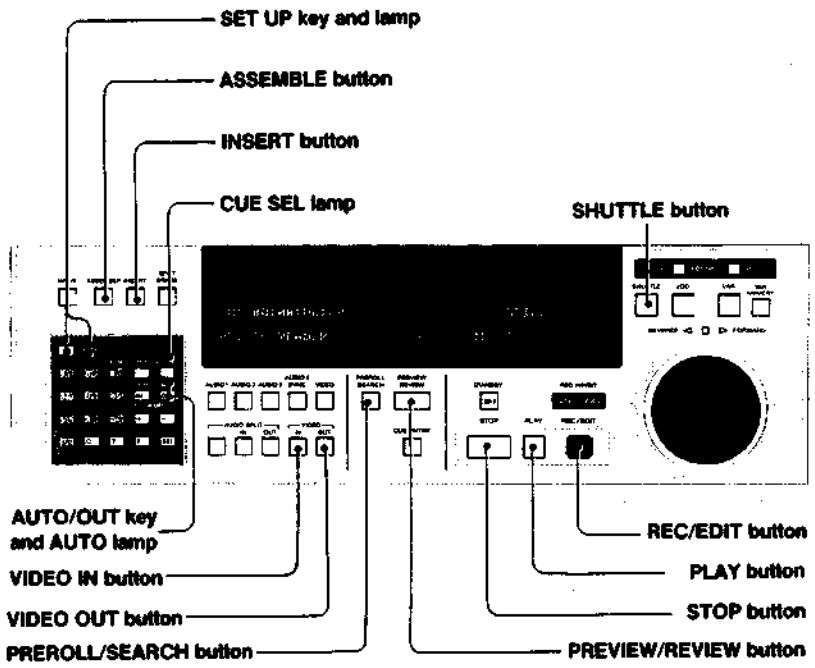
(2) **PREVIEW of player**
Press the CONTROL P button of the recorder VTR to turn on the button lamp, and then press the PREVIEW/REVIEW button. This makes only the player enter the PREVIEW mode.

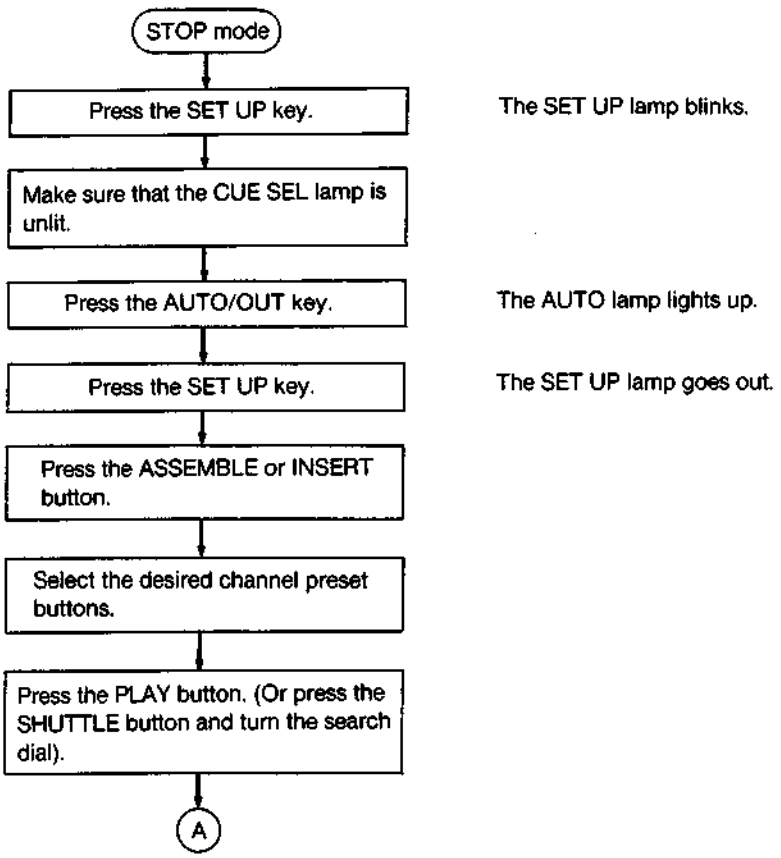
(3) **PREVIEW of recorder**
Make sure that neither of the CONTROL P/R buttons of the recorder VTR is lit, and press the PREVIEW/REVIEW button. This makes only the recorder enter the PREVIEW mode.

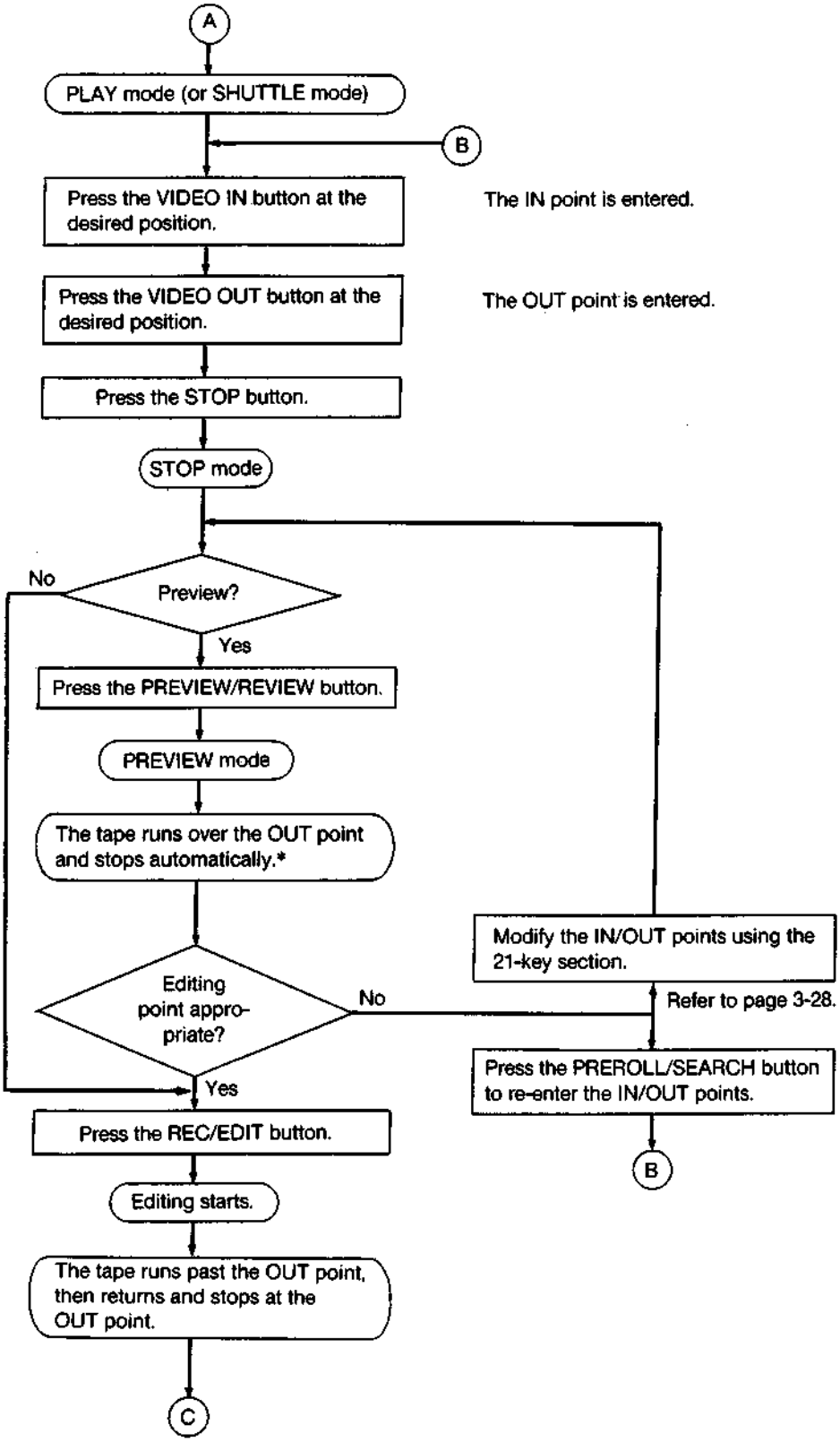
(4) **PREVIEW around OUT point (only in INSERT mode)**
Select the recorder and/or player similarly to the above, and press the PREVIEW/REVIEW button while pressing the OUT key in the 21-key section. This allows only a section around the OUT point to be previewed as shown below:



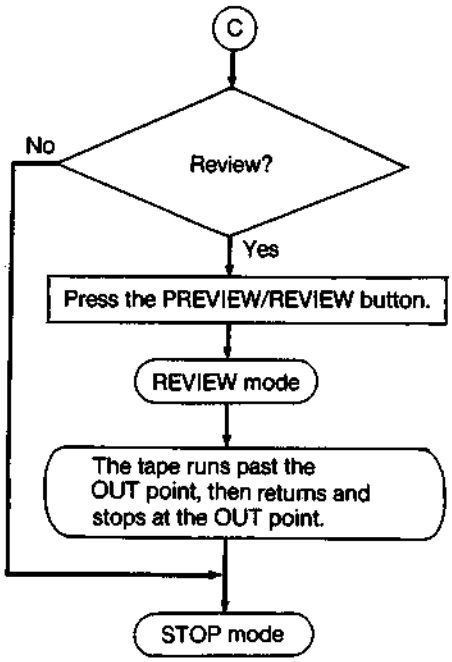
- The PREROLL time and POSTROLL time can be set with Menus I15 EDIT PREROLL TIME and I16 EDIT POSTROLL TIME, respectively.


SET UP key and lamp
ASSEMBLE button
INSERT button
CUE SEL lamp
SHUTTLE button
AUTO/OUT key and AUTO lamp
VIDEO IN button
VIDEO OUT button
PREROLL/SEARCH button
REC/EDIT button
PLAY button
STOP button
PREVIEW/REVIEW button


STOP mode
Press the SET UP key.
The SET UP lamp blinks.
Make sure that the CUE SEL lamp is unlit.
Press the AUTO/OUT key.
The AUTO lamp lights up.
Press the SET UP key.
The SET UP lamp goes out.
Press the ASSEMBLE or INSERT button.
Select the desired channel preset buttons.
Press the PLAY button. (Or press the SHUTTLE button and turn the search dial).
A



* In the ASSEMBLE mode, the tape stops at the IN point.


C
Review?
No
Yes
Press the PREVIEW/REVIEW button.
REVIEW mode
The tape runs past the OUT point, then returns and stops at the OUT point.
STOP mode

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 (refer to 1-5-4). To carry out editing, press the desired button when its lamp is blinking.

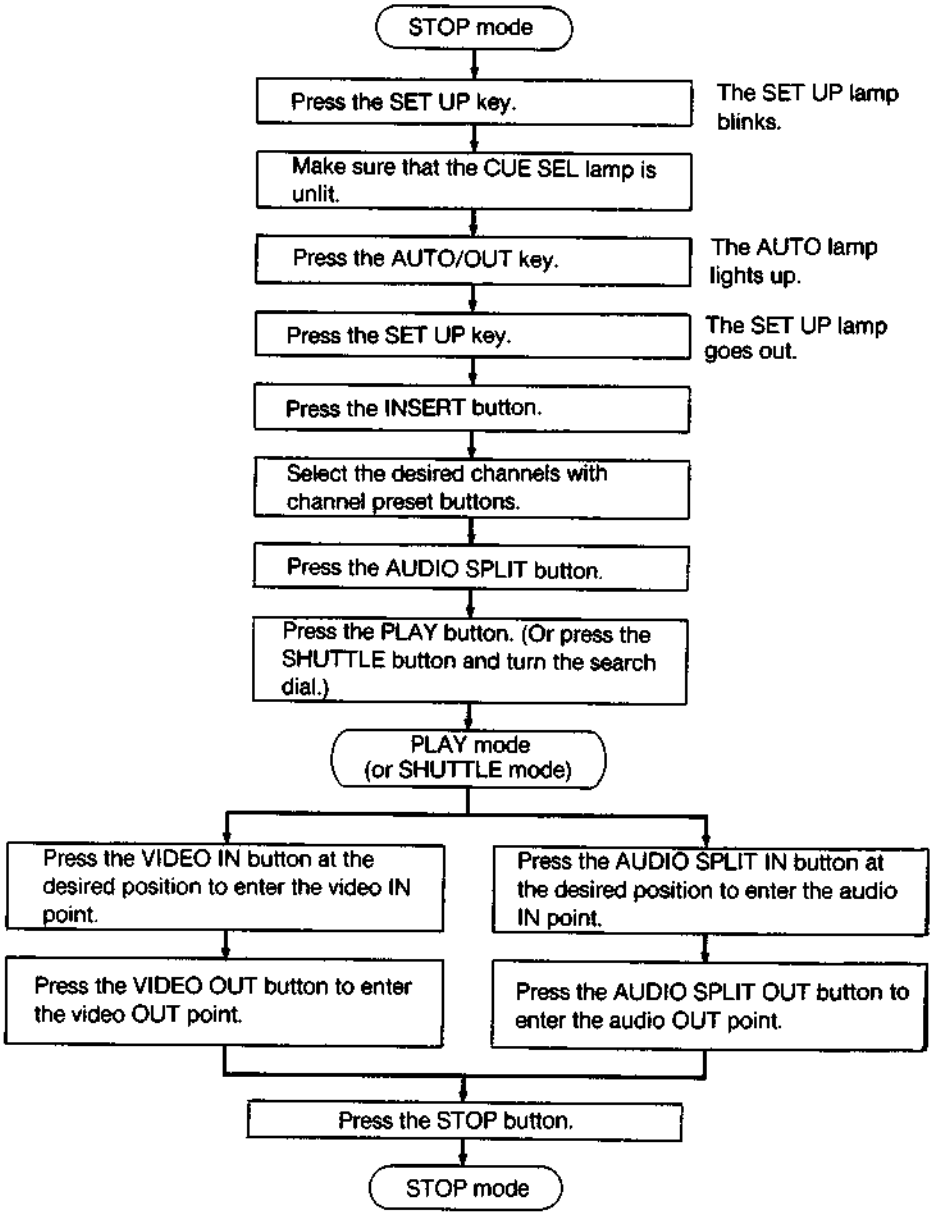
×: Off ◒: Blinking ○: On

Steps	Button lamps		VIDEO IN	VIDEO OUT	AUDIO SPLIT IN	AUDIO SPLIT OUT	PREVIEW/ REVIEW	REC/ EDIT	Remarks
1	AUTO lamp off		×	×	×	×	×	×	
2	AUTO MODE ON	AUTO lamp on	◒	◒	×	×	×	×	
3		AUDIO SPLIT on	◒	◒	◒	◒	×	×	
4		VIDEO IN only	○	◒	× (◒)*	× (◒)*	◒	×	All the channel preset buttons are off.
								◒	One or more channel preset buttons are on.
5		VIDEO OUT only	◒	○	× (◒)*	× (◒)*	×	×	
6		Both VIDEO IN and OUT	○	○	–	–	◒	×	
								◒	
7		PREROLL/SEARCH button on	○	–	–	–	×	×	
8		PREVIEW/REVIEW button on	○	–	–	–	○	×	PREVIEW 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.

* The lamp blinks in the AUDIO SPLIT mode.

AUDIO SPLIT editing

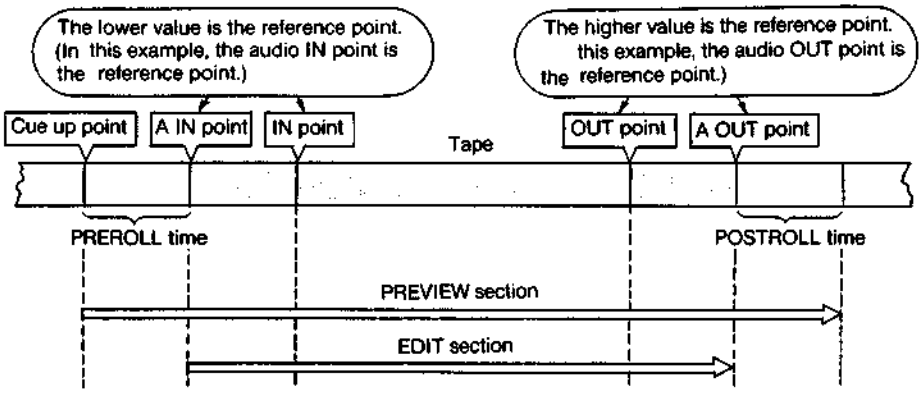
In the AUDIO SPLIT mode, the audio and video IN/OUT points can be separately entered. Other operations are the same as those in the "basic operation of automatic editing" (refer to pages 3-31 to 3-33).



- PREVIEW/REVIEW operations are the same as in "basic operation of automatic editing."
- Editing point modification following PREVIEW operation is also the same as 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 3-28). The IN/OUT points can be also re-entered after PREROLL operation.
- When the AUDIO SPLIT editing is finished, press the AUDIO SPLIT button to turn off the button lamp.

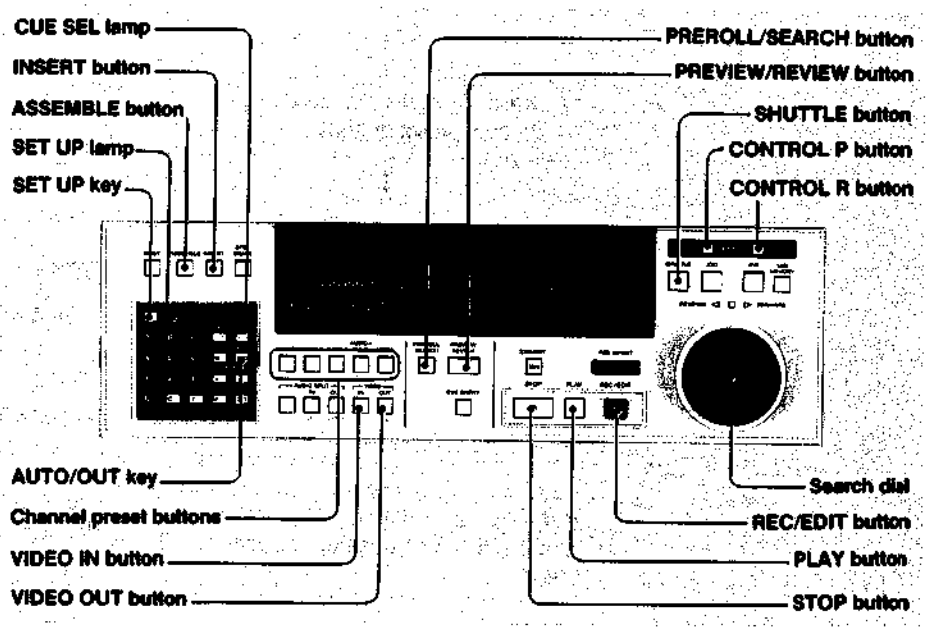
Editing section of AUDIO SPLIT editing

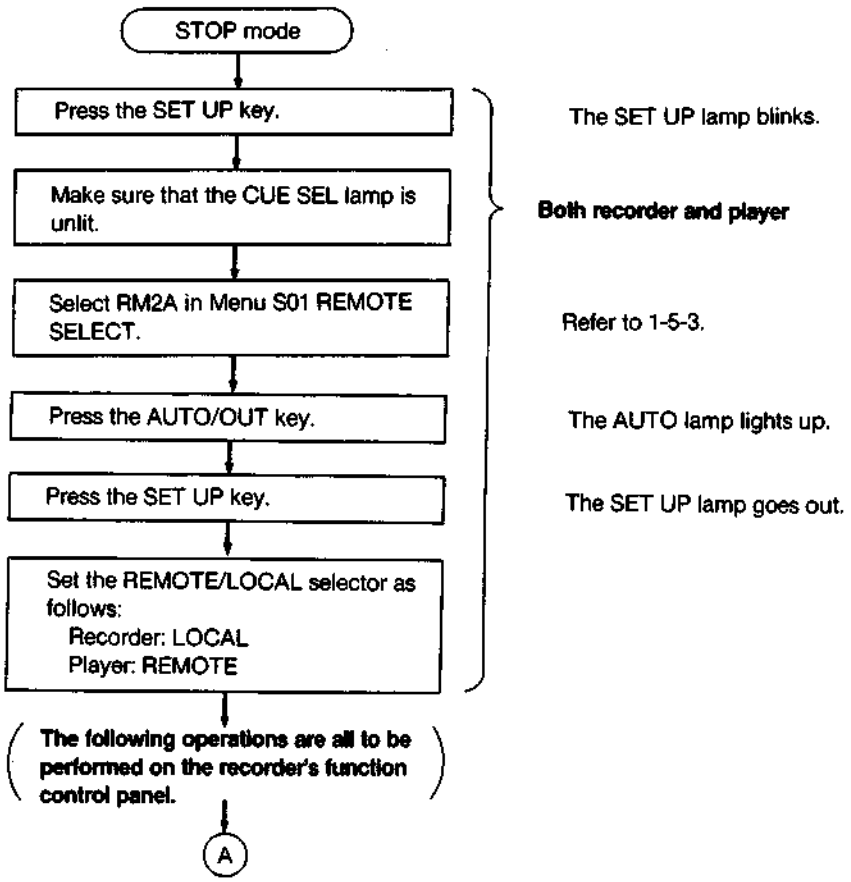
In AUDIO SPLIT editing, the audio and video editing points are set at different positions on the tape, and the reference points for editing are automatically determined as shown in the following example:

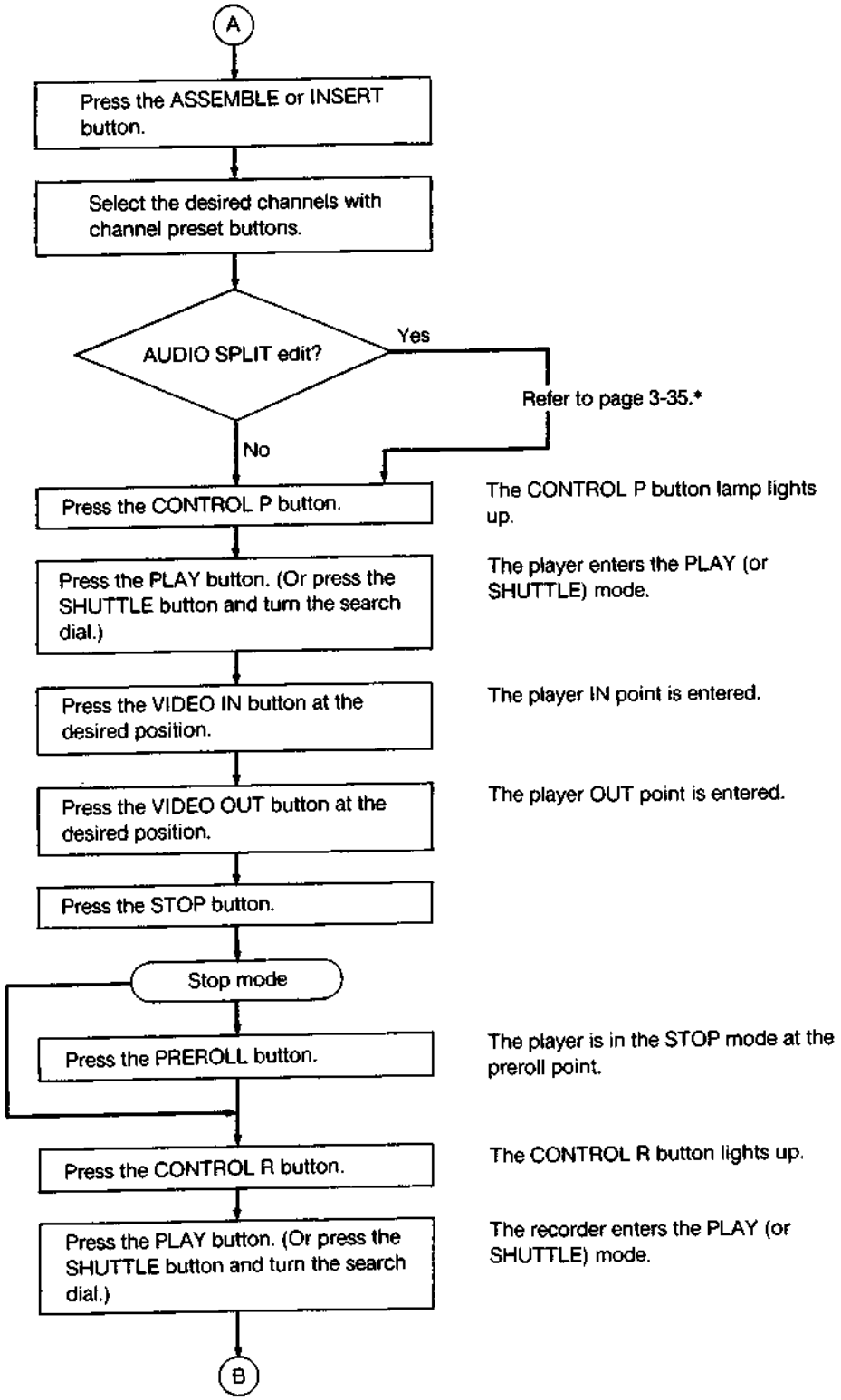


Editing with two VTRs as player and recorder

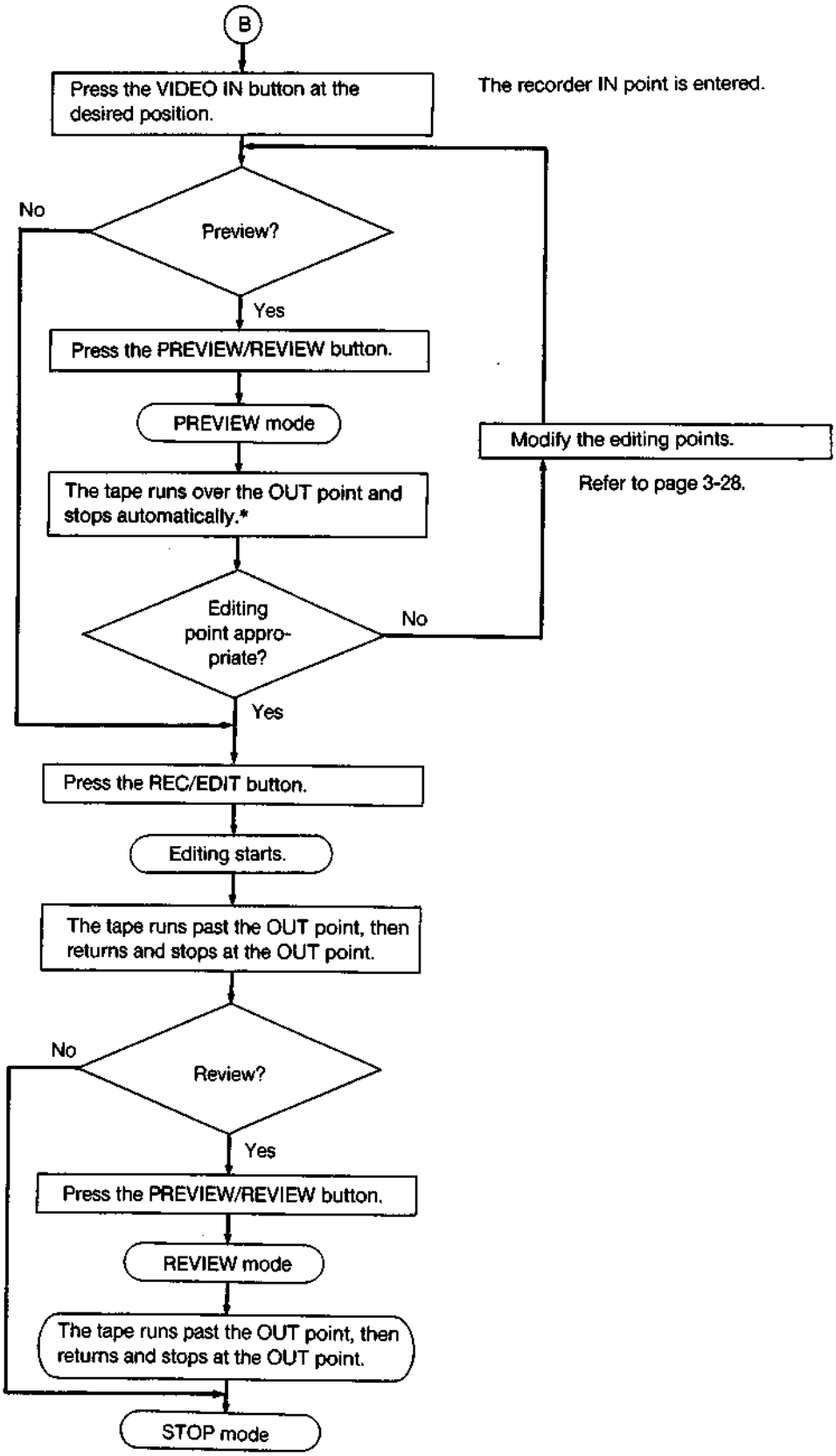
With two BVH-3000PS/3100PS VTRs connected via the REMOTE-2A OUT connector on the recorder and the REMOTE-2A IN connector on the player, proceed as follows:







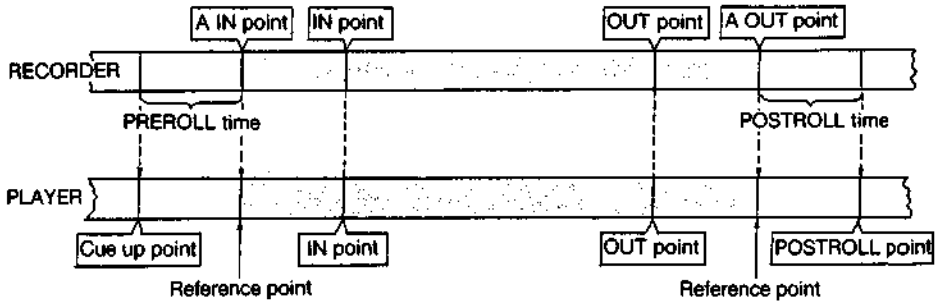
* For AUDIO SPLIT editing with two VTRs, the audio and video IN/OUT points must be entered on the recorder side.



* In the ASSEMBLE mode, the tape stops at the IN point.

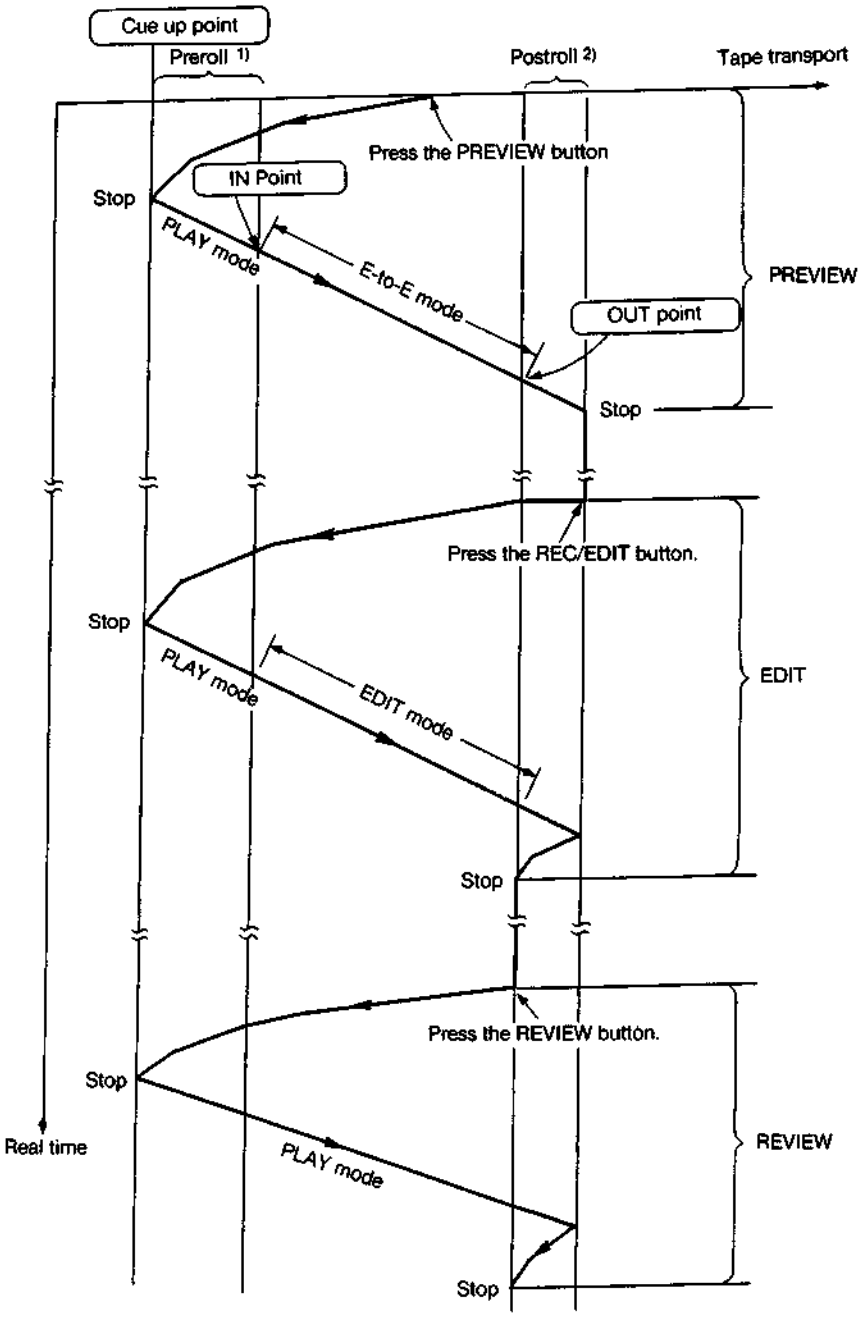
Editing section of AUDIO SPLIT editing with two VTRs

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:



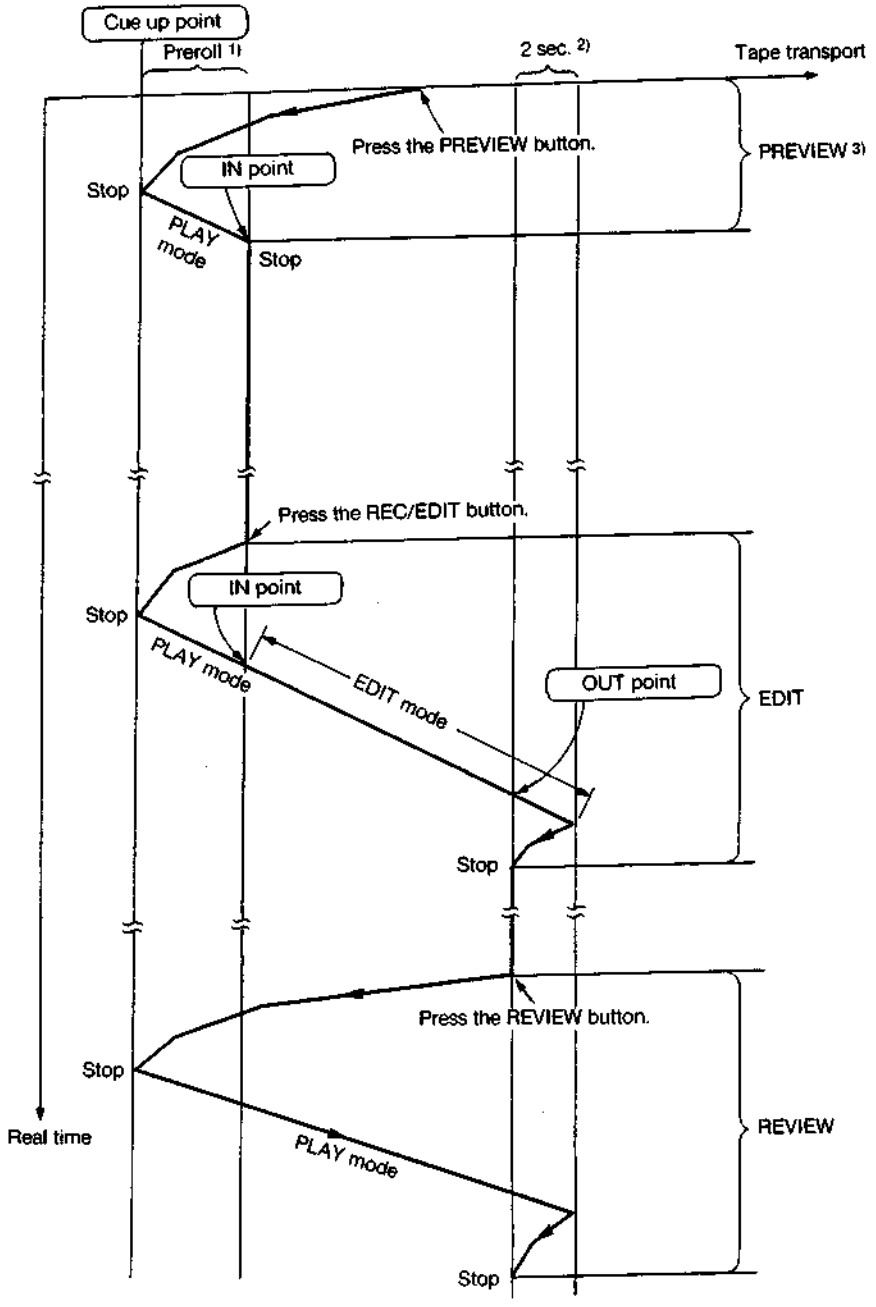
Tape transport sequence in automatic editing
The following figures show the recorder tape transport sequences in the PREVIEW, EDIT and REVIEW modes of automatic editing:

INSERT editing



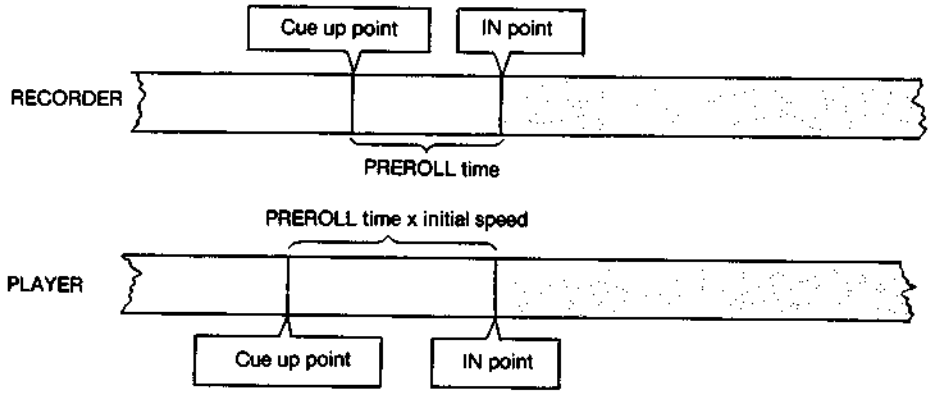
1) The preroll time can be set in the range of 0 to 30 seconds with Menu I15 EDIT PREROLL TIME. Refer to 1-5-4.
2) The postroll time can be set in the range of 1 to 30 seconds with Menu I16 EDIT POSTROLL TIME Refer to 1-5-4.

ASSEMBLE editing



1) The preroll time can be set in the range of 0 to 30 seconds with Menu I15 EDIT PREROLL TIME. Refer to 1-5-4.
2) The postroll time for ASSEMBLE editing is fixed at approx. two seconds.
3) On the player side, the tape runs to the position approx. two seconds beyond the OUT point and stops.

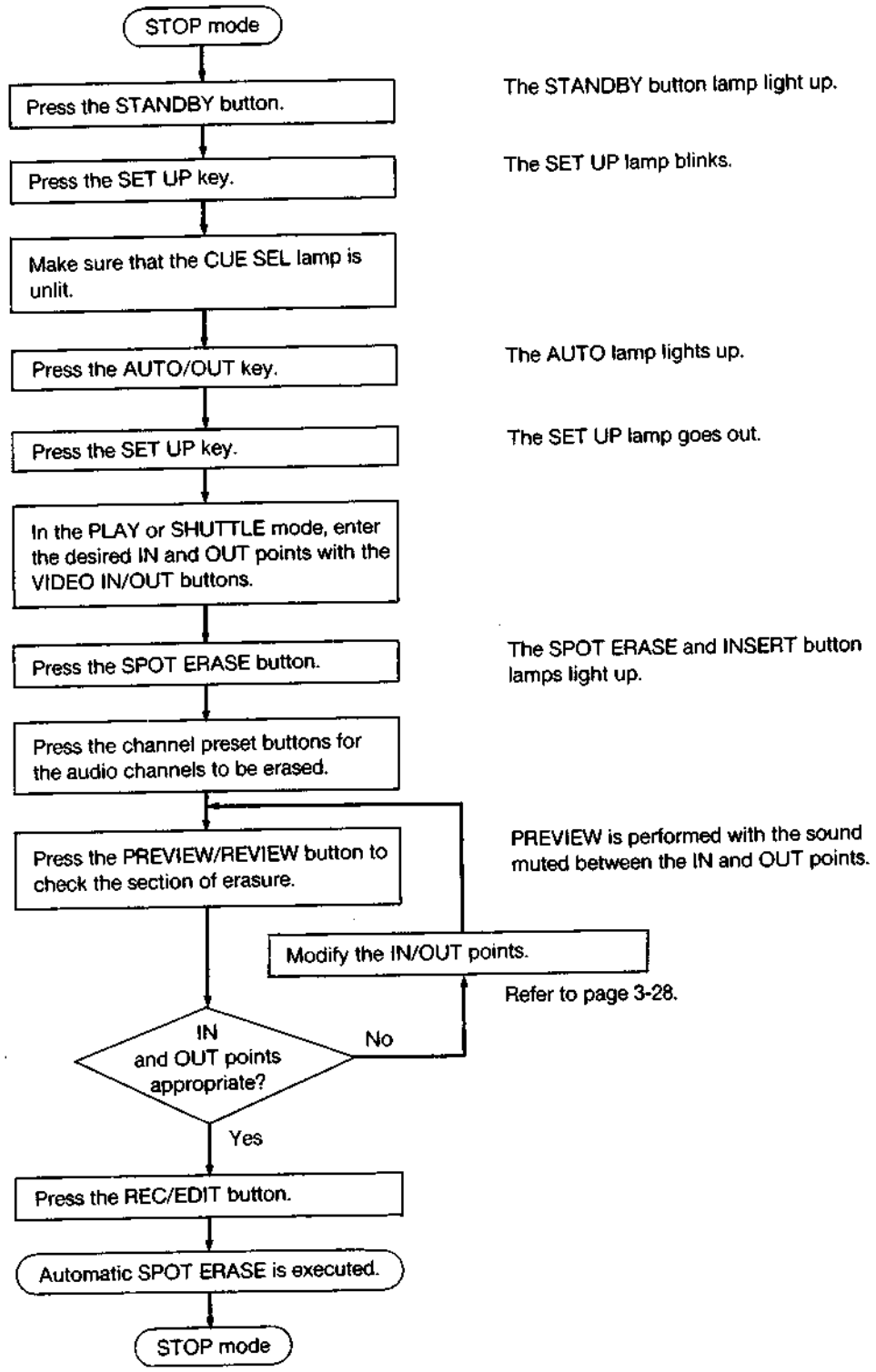
The picture played back with a player in accordance with the memorized speed curve in the VAR MEMORY mode can be recorded on a recorder. For VAR MEMORY operation of the player, refer to 3-3-6. The recorder operation is the same as that in normal editing. The cue up points are as follows:



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 monitoring during editing

The monitor output signal in the PREVIEW and EDIT modes can be selected with the PLAY/IN and TAPE/IN keys 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 monitor (MONITOR OUTPUT VIDEO connector)
When the PLAY lamp in the 21-key section is unlit (R/P head is selected.)

	TAPE/EE selection by TAPE/IN key	IN point ▼		OUT point ▼
PREVIEW	TAPE	R/P head OFF TAPE	EE	R/P head OFF TAPE
	TAPE/EE	R/P head OFF TAPE	EE	R/P head OFF TAPE
EDIT	TAPE	R/P head OFF TAPE X	PLAY head (CONFI) OFF TAPE X	R/P head OFF TAPE
	TAPE/EE	R/P head OFF TAPE	EE	R/P head OFF TAPE

When the PLAY lamp in the 21-key section is lit (Automatic skew and automatic PG are off.)

	TAPE/EE selection by TAPE/IN key	IN point ▼		OUT point ▼
PREVIEW	TAPE	R/P head OFF TAPE	EE	R/P head OFF TAPE
	TAPE/EE	R/P head OFF TAPE	EE	R/P head OFF TAPE
EDIT	TAPE	PLAY head OFF TAPE	PLAY head OFF TAPE	PLAY head OFF TAPE
	TAPE/EE	PLAY head OFF TAPE X	EE X	PLAY head OFF TAPE

Audio monitor

LINE OUTPUT connectors

	TAPE/EE selection by TAPE/IN key	IN point ▼		OUT point ▼
PREVIEW	TAPE	R/P head OFF TAPE	EE	R/P head OFF TAPE
EDIT	TAPE/EE			

MONITOR OUTPUT R/L connectors

	TAPE/EE selection by TAPE/IN key			OUT point ▼
PREVIEW	TAPE	R/P head OFF TAPE	EE	R/P head OFF TAPE
	TAPE/EE			
EDIT	TAPE	MONITOR head OFF TAPE	MONITOR head OFF TAPE	MONITOR head OFF TAPE
	TAPE/EE	R/P head OFF TAPE	EE	R/P head OFF TAPE

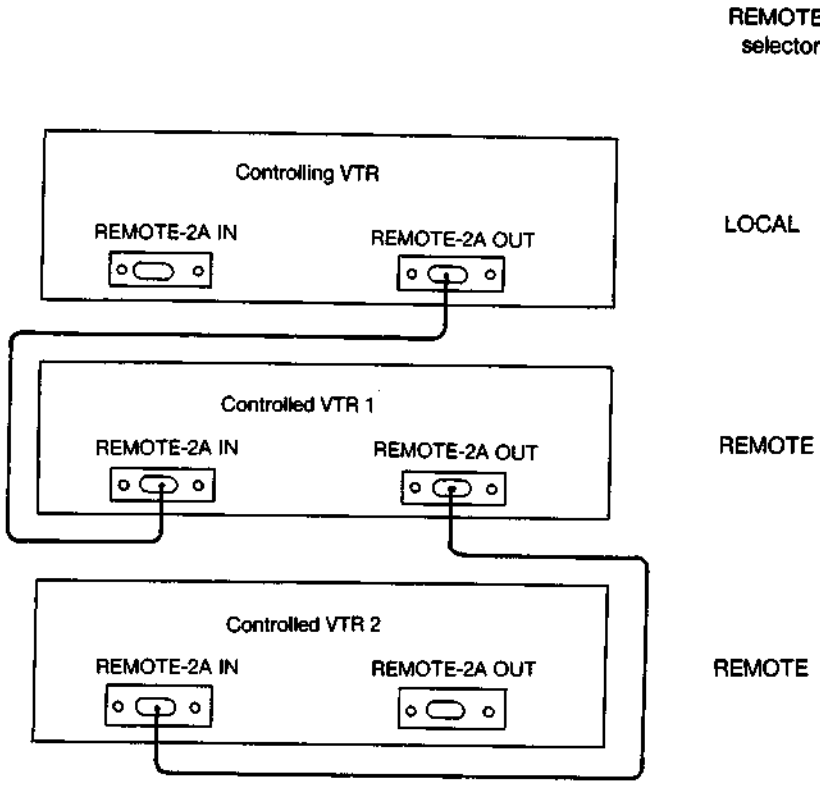
3-5. REMOTE CONTROL

Notes on remote control

- For the connectable equipment, refer to the descriptions for the PARALLEL REMOTE and SERIAL REMOTE connector panels in 1-4-4.
- 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, which controls are enabled on the function control panel is determined by Menu I05 LOCAL KEY ENABLE. Refer to 1-5-4.
- 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. Refer to 1-5-3.

Parallel operation

To operate two or more BVH-3000PS/3100PS VTRs 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 up or blink, and the buzzer sounds. In addition, various error messages are displayed on the function control panel (refer to Appendix A).

O: ON ◒: Blinking ×: OFF

	STOP button	STANDBY button	SERVO lamp	SYSTEM lamp	Buzzer	VTR operation
VTR malfunction	×	×	O	O	Sounds	STOP
Drum unlocked*	×	×	O	×	×	Continues
Capstan unlocked	×	×	O	×	×	Continues
Movable guide malfunction	×	×	×	O	Sounds	STOP
Tape disengaged	×	×	×	×	×	STOP
Overheat	×	×	×	O	Sounds	Continues
Tape sticking	×	◒	×	O	Sounds	STOP
No servo reference signal	◒	×	×	×	×	Continues

* If the drum is unlocked for more than 15 seconds, the same alarm condition as for tape sticking occurs.

APPENDIXES

APPENDIX A. ERROR MESSAGE LIST

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

Error message	Meaning
SYS ERR	1. A key shortcircuit error has been 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 board has detected an error in the normal operating mode.
SRV ERR	The SY-103 and SV-90 boards cannnot communicate with each other due to an error in the servo system.
OVERHEAT	The power supply is overheating. When this error occurs, the SYSTEM alarm lamp lights up and the buzzer sounds, but the operation in progress will continue. The buzzer can be stopped by pressing the STOP button.
LINE ERR	The CONTROL P or R button of this VTR has been pressed when the master VTR is connected with one of the REMOTE-1/2 connectors of this VTR. This message disappears when one of the function buttons is pressed.
ABORT	When 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. 1. In the AUTO EDIT or PREVIEW mode, the synchronization is not finished 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 has been completed without the cue-up status being set though the PREROLL command was issued to the other VTR.
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.

* In the PLAY, REC or EDIT REC mode, the time codes for the addresses where the drum or capstan servo lock is lost are stored. These time codes can be read out and displayed in the PLAY, REC or EDIT REC mode or in the STOP mode immediately after the PLAY, REC or EDIT REC mode.

Displaying the time codes for lost-lock addresses
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 codes are 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.

Erasing the stored lost-lock data
The stored lost-lock data can be erased by one of the following methods:
- Make the VTR enter into the PLAY, REC or EDIT REC mode from the STOP mode.
- Press the RESET button while pressing the STANDBY button.

Error message	Meaning
NEGATIVE	The relation between the entered audio IN and OUT points or video IN and OUT points is as follows: IN point ≧ OUT point Re-enter the correct IN and OUT points.
DATA ERR	When one of the following errors occurs, this message is displayed. The message disappears when a function button or the C key is pressed. 1. An invalid time code or timer value has been entered as an editing point through the 21-key section. 2. An undefined command has been received from the remote VTR.
TAPE OUT	The tape has been 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.
NO EOS	The end-of-source point is not found when backspace editing is to be carried out.
TBC REF	The TBC reference signal is not received. That is, the TBC reference signal is not properly supplied to the connector selected with Menu S86 TBC REF SELECT.
SV REF	The servo reference signal is not received. That is, the servo reference signal is not properly supplied to the connector selected with Menu S40 SERVO REF SELECT. The current selection is indicated by the EXT REF or INPUT lamp on the function control panel.
SV90 SW	The NOR/STOP selector on the SV-90 board is set at STOP.
RD BATT	The voltage of the battery on the RD-7 board has lowered below the limit.
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 rotating.
AU BOARD	The AU-88 board is not properly installed, or an error has occurred in the bus interface.
VO BOARD	The VO-16 board is not properly installed, or an error has occurred in the bus interface.
PR BOARD	The PR-92/97 board is not properly installed, or an error has occurred in the bus interface.
RD BOARD	The RD-7 board is not properly installed, or an error has occurred in the bus interface.
PA BOARD	The PA-56 board is not properly installed, or an error has occurred in the bus interface.
TEST MOD	After the VTR was operated in the TEST mode with some Test Mode Menu items changed, the SET UP lamp has been turned off without resetting those items to the default ones.

APPENDIX B. CONNECTOR PIN ASSIGNMENT

1. REMOTE-3 Connector (50-pin)

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

2. MONITOR SELECT Connector (37-pin)

Pin No.	COMMAND IN	Pin No.	STATUS OUT
9	INPUT VID	13	INPUT VID
28	DEMOD	32	DEMOD
10	TBC	14	TBC
29	SPARE	33	SPARE
11	SELECTED VID	15	SELECTED VID
30	CTL	34	CTL
12	RF ENVELOPE	16	RF ENVELOPE
31	SPARE	35	SPARE
20	AUDIO-1	4	AUDIO-1
2	AUDIO-2	23	AUDIO-2
21	AUDIO-1/2	5	AUDIO-1/2
3	AUDIO-3	24	AUDIO-3
22	(AUDIO-4)	6	(AUDIO-4)
1	+5V (AUDIO)	8	+5V (VIDEO)
7	GND (AUDIO)	17	GND (VIDEO)
26	GND (AUDIO)	36	GND (VIDEO)

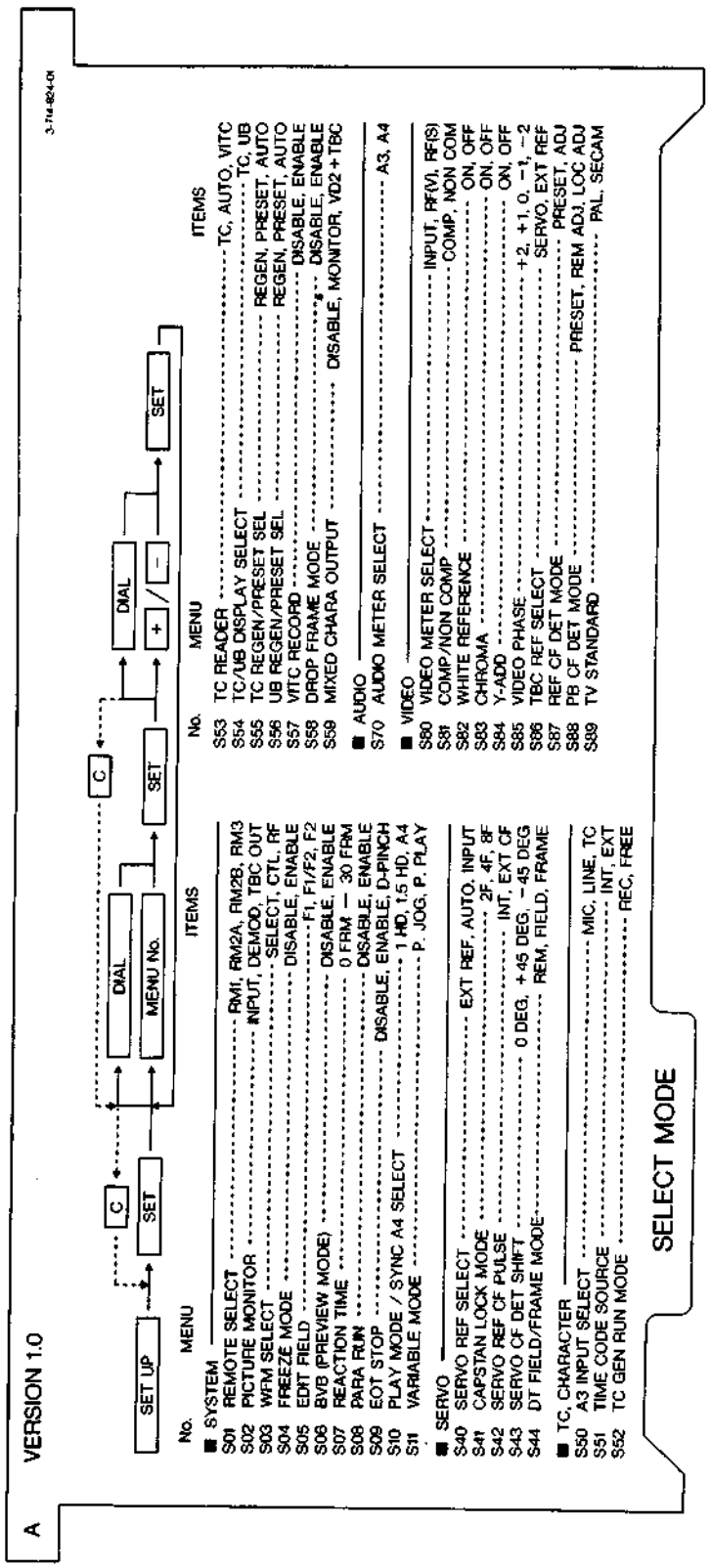
COMMAND IN: Active low
STATUS OUT: Active low, sink current max. 350 mA

3. TBC Connector (15-pin)

Pin No.	Signal
1	SYNC CONT
2	HUE CONT
3	SC CONT
4	VIDEO CONT
5	SET UP CONT
6	CHROMA CONT
7	REM -12V
8	RETURN
9	FRAME GROUND
10	LED (PB CF IN)
11	SA
12	LED (PB CF ADJ)
13	PB CF CONT
14	SE
15	REM +12V

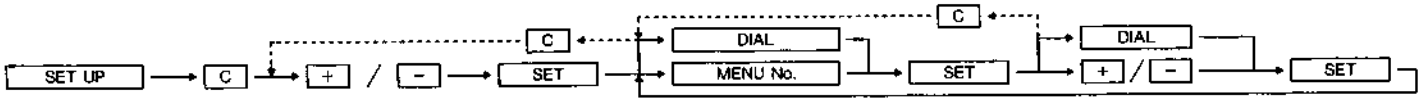
APPENDIX C. MENU SHEETS

1. Menu Sheet A (SELECT MODE)



B VERSION 1.0

3-714-823-01



No.	MENU	ITEMS
■ SYSTEM		
101	HEAD SELECT SWITCH	UNLOCK, LOCK
102	RESERVED	
103	RESERVED	
104	INPUT CHECK MODE	EE, INPUT
105	LOCAL KEY ENABLE	DISABLE, STOP EN, FUNC EN, ALL EN
106	AUTO MODE INSTRUCT	DISABLE, ENABLE
107	REEL MODE SHUTTLE	DISABLE, ENABLE
108	VAR JOG WITH CLICK	DISABLE, ENABLE
109	FRAME PULSE OUTPUT	REF2, REF4, REF8, PB CF
110	EE SYNC DELAY	DISABLE, ENABLE
111	EDIT SYNC DELAY	DISABLE, ENABLE
112	STILL OFF TIMER	DISABLE, 2 SEC — 3 MIN
113	STANDBY OFF TIMER	DISABLE, 1 MIN — 9 MIN
114	SEARCH PREROLL TIME	0 SEC — 30 SEC
115	EDIT PREROLL TIME	0 SEC — 30 SEC
116	EDIT POSTROLL TIME	1 SEC — 30 SEC
117	REC CONFI MODE	CONFI, EE
118	IN POINT SYNCHRO	DISABLE, ENABLE
119	SYNCHRO (AUTO MODE)	DISABLE, ENABLE
120	REM3 AUDIO REC	DISABLE, ENABLE
121	SIMUL VIDEO/SYNC	DISABLE, ENABLE
122	AUDIO EDIT W/O LOCK	DISABLE, ENABLE
123	EDIT W/O V-IN ENTRY	DISABLE, ENABLE
124	PLAY COMMAND DELAY	0 FRM — 15 FRM
125	ASSEM PREVIEW MODE	MODE 1, MODE 2
126	BAUD RATE (RS-232C)	9.6K, 19.2K
■ SERVO		
140	CF RELOCK MODE	DISABLE, ENABLE
141	DRUM TRACKING SHIFT	DISABLE, ENABLE
■ TC, CHARACTER		
150	TCG EXT DF/CF CTRL	DISABLE, ENABLE
151	TC SENSE MODE	LTC-1, LTC-2, VITC
152	A3 LINE OUTPUT	REGEN, PB/EE
153	TIME CALC MODE	12H, 24H
154	TIMER DISPLAY MODE	+/−12H, 24H
155	TC INSERT	DISABLE, ENABLE
156	INTERPOLATED LTC	DISABLE, ENABLE
157	VITC INSERT LINE 1	(SEE OP MANUAL)
158	VITC INSERT LINE 2	(SEE OP MANUAL)
159	LTC ERROR BYPASS	ON, OFF
160	CHARACTER RECORD	DISABLE, ENABLE

CONTINUE

INIT MODE 1

C VERSION 1.0

3-714-825-01

No.	MENU	ITEMS
161	CHARACTER SIZE ADJ	1, 2, 3, 4
162	CHARA V. POSITION ADJ	1, 2, 3, 4, 5, 6, 7, 8
163	CHARA H. POSITION ADJ	1, 2, 3, 4, 5, 6, 7, 8
164	CHARA DISPLAY MODE	(SEE OP MANUAL)
165	CHARA DISP (EXTEND)	(SEE OP MANUAL)
■ AUDIO		
170	TAPE SPEED (AUD ATT)	X1.5, X5, X10
171	AUDIO ATT (JOG/SHTL)	OFF, 20 DB, MUTE
■ VIDEO		
180	BLANKING LINE	(SEE OP MANUAL)
181	WHITE REF INS LINE	(SEE OP MANUAL)
182	SET UP / BLACK LEVEL	LOCAL, REMOTE
183	CHROMA LEVEL	LOCAL, REMOTE
184	VIDEO LEVEL	LOCAL, REMOTE
185	SYNC PHASE	LOCAL, REMOTE
186	SC PHASE	LOCAL, REMOTE
187	HUE / BURST CHROMA PHASE	LOCAL, REMOTE
188	BLACK BURST OUTPUT	DISABLE, ENABLE
189	BURST	ON, OFF
190	TBC PROCESS	DISABLE, ENABLE
191	SCH PHASE (VID OUT)	NORM, INVERT
192	AUTO EQ SWITCH	DISABLE, ENABLE

TEST MODE

No.	MENU	ITEMS
T01	TEST CHARA DISPLAY	ON, OFF
T02	DOC	ON, OFF
T03	ADVANCE	ON, OFF
T04	AUTO PG	ON, OFF
T05	PR TEST 1	OFF, 0 IRE 100, −10 IRE
T06	PR TEST 2	ON, OFF
T07	RD TEST 1	ON, OFF
T08	RD TEST 2	ON, OFF
T09	DT TEST	ON, OFF
T10	AUTO JUMP	ON, OFF
T11	DP VIDEO	ON, OFF
T12	NORMAL FWD TEST	ON, OFF
T13	OSC CONT TEST	ON, OFF
T14	VIDEO REC OFF TEST	ON, OFF
T15	CONFI TEST	ON, OFF
T16	VIDEO TEST	ON, OFF
T17	MAINTENANCE	(SEE SVC MANUAL)

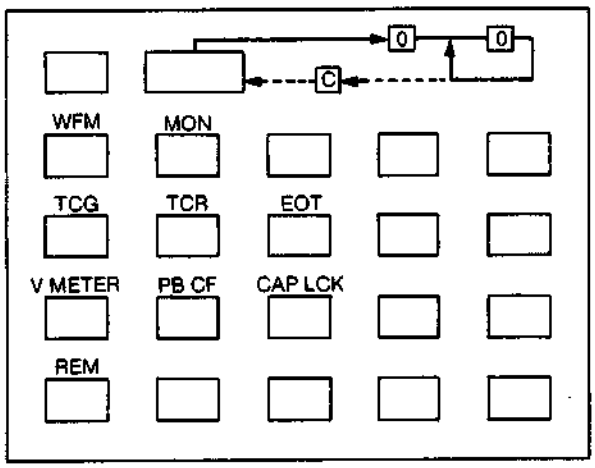
SEE MANUAL FOR DETAILS OF MENU.

INIT MODE 2

APPENDIX D. OVERLAY SHEETS FOR PRESELECT MENU

Place one of the following overlay sheets on the 21-key section to show the current PRESELECT menu assignment:

1. Overlay Sheet A
This sheet shows the factory-preassigned PRESELECT menus.



2. Overlay Sheet B
If you have changed the PRESELECT menu assignment, use this sheet and stick applicable ones of the attached key ID labels on it.