

SONY®

DIGITAL VIDEOCASSETTE RECORDER

DNW-A25WS

DNW-A25WSP



OPERATION MANUAL

1st Edition English

WARNING

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

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

For the customers in the USA

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

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

For the customers in Europe

This product with the CE marking complies with the EMC Directive (89/336/EEC) issued by the Commission of the European Community. Compliance with this directive implies conformity to the following European standards:

- EN55103-1: Electromagnetic Interference (Emission)
- EN55103-2: Electromagnetic Susceptibility (Immunity)

This product is intended for use in the following Electromagnetic Environment(s):
E1 (residential), E2 (commercial and light industrial), E3 (urban outdoors) and E4 (controlled EMC environment, ex. TV studio).

For the customers in the USA and Canada

RECYCLING LITHIUM-ION BATTERIES



You can help preserve our environment by returning your used rechargeable batteries to the collection and recycling location nearest you.

For more information regarding recycling of rechargeable batteries, call toll free 1-800-822-8837, or visit <http://www/rbrc.org/>.

Caution: Do not handle damaged or leaking Lithium-Ion batteries.

RECYCLING NICKEL-CADMIUM BATTERIES



You can help preserve our environment by returning your used rechargeable batteries to the collection and recycling location nearest you.

Note: In some areas the disposal of Nickel-Cadmium batteries in household or business trash may be prohibited.

For more information regarding recycling of rechargeable batteries, call toll free 1-800-822-8837, or visit <http://www/rbrc.org/>.

Caution: Do not handle damaged or leaking Nickel-Cadmium batteries.

Voor de Klanten in Nederland

- Dit apparaat bevat een vast ingebouwde batterij die niet vervangen hoeft te worden tijdens de levensduur van het apparaat.
- Raadpleeg uw leverancier indien de batterij toch vervangen moet worden. De batterij mag alleen vervangen worden door vakbekwaam servicepersoneel.
- Gooi de batterij niet weg maar lever deze in als klein chemisch afval (KCA).
- Lever het apparaat aan het einde van de levensduur in voor recycling, de batterij zal dan op correcte wijze verwerkt worden.



Table of Contents

Chapter 1 Overview

1-1 Features	1-1
1-2 System Configuration	1-3
1-3 Locations and Functions of Parts	1-4
1-3-1 Display Panel	1-5
1-3-2 Control Panel.....	1-7
1-3-3 Front Control Section	1-18
1-3-4 Connector Panel	1-20
1-3-5 Top Panel	1-24

Chapter 2 Preparations

2-1 Power Preparations	2-1
2-1-1 Usable Batteries	2-1
2-1-2 Using the BP-L60A/L90A Battery Pack	2-1
2-1-3 Using the BP-90A Battery Pack.....	2-2
2-1-4 Using AC Power	2-4
2-2 Connection	2-6
2-3 Handling Cassettes	2-7
2-3-1 Loading/Ejecting Cassettes	2-7
2-3-2 Preventing Accidental Erasures	2-10
2-4 Setting Reference Video Signals	2-11
2-5 Setting Timecode	2-13
2-5-1 Setting an Initial Value and Recording Timecode	2-14
2-5-2 Synchronizing the Internal Timecode Generator with an External Signal	2-16
2-5-3 Synchronizing the Internal Timecode Generator with Playback Timecode – Timecode Recording during Auto Editing	2-17
2-5-4 Recording External Timecode without Regeneration	2-18
2-5-5 First Edit Function	2-18
2-6 Submenu Screen Display	2-19
2-6-1 Displays on the Home Page of the Submenu	2-19
2-6-2 Submenu Basic Operations	2-21

(Continued)

Table of Contents

Chapter 2
Preparations
(continued)

2-7 Input and Output Settings for Video and Audio Signals (Submenu) 2-24

2-7-1 Making Settings in the Audio Settings Pages 2-24

2-7-2 Making Settings in the Audio Settings Subpages 2-26

2-7-3 Making Settings in the Video Settings Pages 2-29

2-8 General Settings Pages of the Submenu 2-32

Chapter 3
Editing

3-1 Selecting an Edit Mode 3-1

3-1-1 Assemble Editing 3-1

3-1-2 Insert Editing 3-2

3-2 Finding Edit Points — Search 3-3

3-3 Setting Edit Points 3-5

3-3-1 Setting Edit Points 3-5

3-3-2 Checking Edit Points 3-6

3-3-3 Cueing Up Edit Points 3-6

3-3-4 Previewing Edit Results 3-7

3-3-5 Modifying Edit Points 3-8

3-3-6 Setting Edit Points Using the Recorder Unit Only 3-9

3-4 Executing an Edit 3-10

3-4-1 Outline of Editing Operations 3-10

3-4-2 Starting an Edit 3-11

3-4-3 Redoing an Edit 3-12

3-4-4 Displaying the Results of Editing 3-12

3-5 DMC Editing 3-14

3-5-1 Overview of DMC Editing 3-14

3-5-2 Setting Edit Points and Playback Speeds 3-15

3-5-3 Executing DMC editing 3-16

3-6 Preread Editing 3-17

3-7 Special Editing 3-19

3-7-1 Quick Editing 3-19

3-7-2 Continuous Editing 3-20

3-7-3 Manual Editing 3-21

Chapter 4
Recording
and
Playback

- 4-1 Recording 4-1**
 - 4-1-1 Preparations for Recording 4-1
 - 4-1-2 Recording Operation 4-1
- 4-2 Sequential Recording 4-2**
- 4-3 Playback 4-4**
 - 4-3-1 Preparations for Playback 4-4
 - 4-3-2 Playback Operation 4-5
 - 4-3-3 Capstan Override Playback 4-6

Chapter 5
Shot Mark/
Shot Data

- 5-1 Overview of Shot Mark/Shot Data Function ... 5-1**
 - 5-1-1 Shot Mark Function Features 5-1
 - 5-1-2 Shot Mark Operation Menu 5-2
 - 5-1-3 Reading Shot Data 5-3
- 5-2 Shot Mark Operations 5-4**
 - 5-2-1 Reading Shot Marks 5-4
 - 5-2-2 Writing Shot Marks 5-4
 - 5-2-3 Creating a Virtual Shot Mark 5-5
 - 5-2-4 Displaying Shot Mark List 5-5
 - 5-2-5 Deleting Shot Marks 5-8
 - 5-2-6 Sorting Shot Marks 5-8
 - 5-2-7 Cueing up a Mark 5-9

Chapter 6
Setup
Menu

- 6-1 Menu System Configuration 6-1**
- 6-2 Basic Menu 6-1**
 - 6-2-1 Items in the Basic Menu 6-1
 - 6-2-2 Basic Menu Operations 6-6
- 6-3 Extended Menu 6-11**
 - 6-3-1 Items in the Extended Menu 6-11
 - 6-3-2 Extended Menu Operations 6-36

Table of Contents

Appendixes

Removing a Cassette When Tape Slack Occurs A-1

Head Cleaning A-1

Moisture Condensation A-2

Digital Hours Meter A-3

Specifications A-5

Information Displayed on the LCD Monitor A-11

Combining Two VTRs A-16

Using the Shoulder Belt A-18

Using the Carrying Case A-19

Using the Soft Carrying Case A-20

Glossary A-22

Index I-1

1-1 Features

The DNW-A25WS/A25WSP is a digital portable editing recorder for the Betacam SX format. It is equipped with a color LCD monitor and speaker to enable editing of news material in the field.

The features of this unit include the following.

Betacam SX format

This unit supports the Betacam SX format, developed by Sony as the digital version of the Betacam SP format. No format conversion is needed for use with nonlinear editing systems and server systems.

Playback compatibility with Betacam SP

It can play tapes recorded in the Betacam and Betacam SP formats, allowing you to make effective use of Betacam and Betacam SP cassettes recorded in the past. You can assemble news gathering systems that combine this unit with conventional Betacam SP camcorders.

Digital signal processing

This unit processes 4:2:2 component digital signals in the D-1 format.

Inter-frame data compression

Inter-frame data compression by MPEG2 4:2:2 Profile @ Main Level (1 GOP = 2 frames) reduces the volume of data to about $\frac{1}{10}$.

Rich variety of input and output signals

The following input and output signals are supported.

- SDI (serial digital interface) video and audio
- Analog composite video
- Analog audio
- Timecode

Powerful editing functions

Combining two DNW-A25WS/A25WSP units allows you to perform assemble editing, insert editing, and audio split editing. DMC (dynamic motion control) is possible when both the source and recording sides use the Betacam SX format.

This unit can also be connected to a BVE series or other editor for remote editing.

Sequential recording

Combining two DNW-A25WS/A25WSP units allows you to perform sequential recording from one unit to another.

When you perform overwrite recording using only two cassettes, the last two hours recording can be obtained at any time. When you renew the cassette about every 1 hour, endless recording is possible.

1-1 Features

Good Shot marks/Shot Data

During tape rewinds, this unit reads the REC Start (RS) and Good Shot (GS) marks recorded by Betacam SX camcorders, and builds an index. The index facilitates quick cue-ups of desired marks (index search function), for greater editing efficiency.

When shot marks are recorded on the tape, you can display and sort lists of the shot marks.

Preread editing

You can execute preread editing, using video or audio signals recorded on the tape as the edit source for insert editing. Using this function, the previously read signals can be sent to mixers for mixing and returned to the original channels.

AC and DC power

This unit is equipped with V-shoe attachment, on which BP-L60A/L90A or BP-90A battery or an AC adaptor can be mounted. The unit can operate for about 80 minutes with BP-L90A battery mounted. For AC operation, you can connect an AC-550/550CE or AC-DN2B adaptor.

525 or 625 versatility

When using the Betacam SX format, 525 or 625 mode recording and playback can be selected from a menu. When using the Betacam and Betacam SP formats, only simple viewing is possible for tapes recorded in different mode.

Combination of two units

Using the BKNW-225 to combine two DNW-A25WS/A25WSP units gives you a portable editor.

Economical

- Betacam SP cassettes and inexpensive UVW cassettes can be used in addition to Betacam SX cassettes.
- Special high-durability heads and components contribute to reduced maintenance costs.

Compact and lightweight

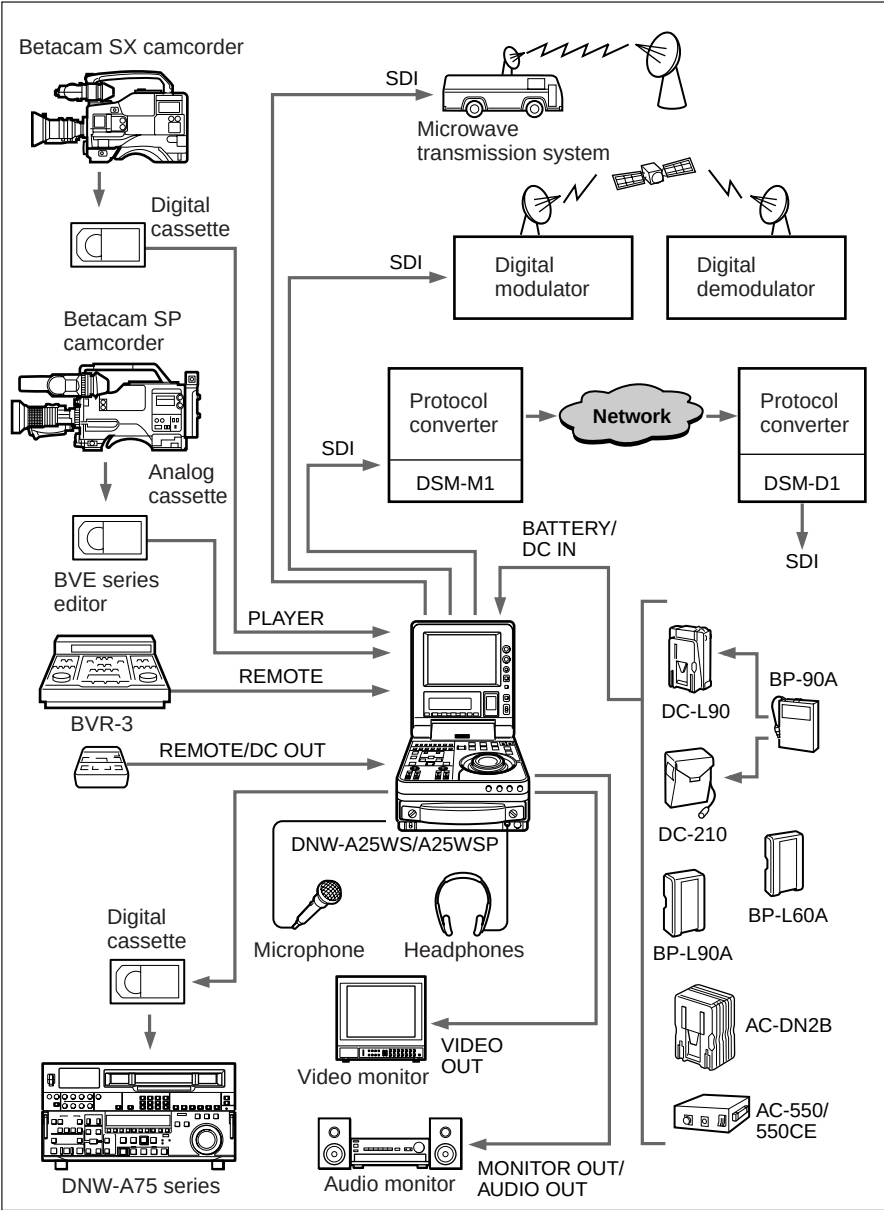
Even though it is a standalone editing recorder equipped with an LCD monitor and a speaker, thanks to its compact design and light weight, you can carry it easily.

Switchable aspect ratio

You can switch the aspect ratio of video signals displayed on the LCD monitor between 16: 9 (edge crop mode), 16: 9 (letter box mode) and 4: 3.

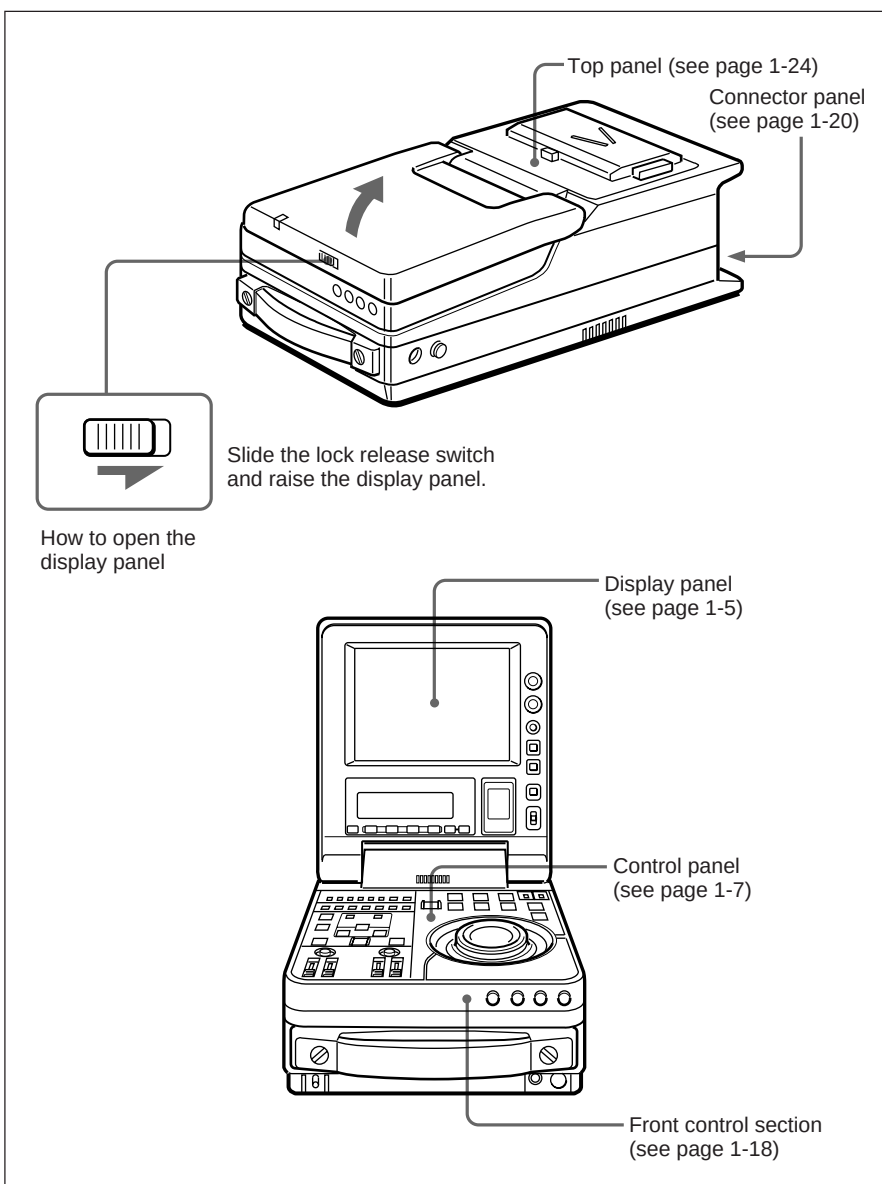
1-2 System Configuration

The figure below shows an example of an editing system configured around the DNW-A25WS/A25WSP.

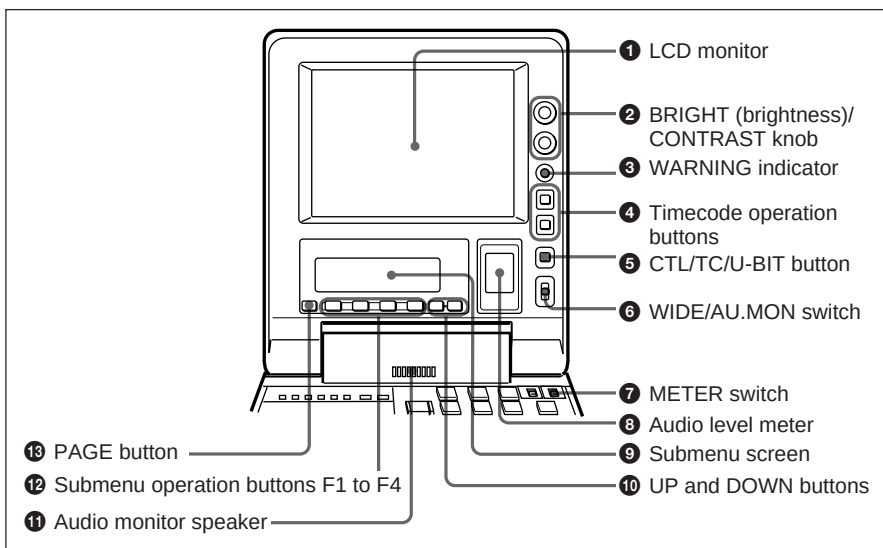


1-3 Locations and Functions of Parts

This unit is comprised of the parts shown in the figure below.



1-3-1 Display Panel



1 LCD monitor

Displays the playback or E-E pictures. Time data, status information, and setup menus, etc are superimposed on the LCD monitor.

2 BRIGHT (brightness)/CONTRAST knob

Adjusts the brightness and contrast of the LCD monitor 1. Adjustments have no effect on the recorded or output video.

3 WARNING indicator

Lights when the battery is exhausted or an error occurs.

It flashes in the following cases.

- When the end of battery power is near
- When the number of memorized shot marks reaches to 200 during shot mark reading or when you start reading shot marks after 200 marks have been read.

- When the tape's recording mode does not agree with the playback mode set on the unit (SP TAPE switch position) during playback of a Betacam SP tape if setup menu item 127 is set to ON (page 6-13).

4 Timecode operation buttons

HOLD button: Stops the progress of the timecode generator. Press this button before setting timecode or user bits to hold those values.

RESET button: Resets the CTL, TC, and U-BIT values displayed in the submenu screen 9 to 0. Resetting the CTL value erase all edit points that have been set.

For more information, see section 2-5 "Setting Timecode" (page 2-13).

1-3 Locations and Functions of Parts

5 CTL/TC/U-BIT button

Alternately selects CTL (control), TC (timecode), and U-BIT (user bits) as the time data used in editing and displayed in the submenu screen 9.

6 WIDE/AU.MON (aspect ratio/ audio monitor output) switch

Selects audio monitor output channel assignments or aspect ratios, depending on whether the WID/MON item of the submenu is set to AU.MON or WIDE (see page 2-34).

When the WID/MON item of the submenu is set to AU.MON, this switch selects the signals assigned to audio monitor outputs L and R.

1/2: Assign channel 1 to audio monitor output L (left), and assign channel 2 to audio monitor output R (right).

MIX: Assign mixed signals from channel 1 and channel 2 to audio monitor outputs L and R.

2/1: Assign channel 2 to audio monitor output L, and assign channel 1 to audio monitor output R.

When the WID/MON item of the submenu is set to WIDE, this switch selects the aspect ratio of playback video signals or input video signals displayed on the LCD monitor.

EDGE: Aspect ratio 16:9 (edge crop mode)

L.BOX: Aspect ratio 16:9 (letter box mode)

OFF: Aspect ratio 4: 3

7 METER switch

Selects the audio channel whose level is displayed by the audio level meter

8.

CH-1/2: Display the recording, playback, and E-E levels of audio channels 1 and 2.

CH-3/4: Display the recording, playback, and E-E levels of audio channels 3 and 4.

8 Audio level meter

Displays the recording and playback audio levels of two (CH-1/2 or CH-3/4) of the four audio channels (CH-1 to CH-4), as selected with the METER switch 7.

9 Submenu screen

Displays time data, status information, submenu, setup menu and error messages.

For more information about the submenu, see section 2-6-1 “Displays on the Home Page of the Submenu” (page 2-19).

10 UP and DOWN buttons

Press to make settings in the submenu.

Settings made by submenu include video and audio input and output settings, and reference video signal settings. For details, see section 2-6-1 “Displays on the Home Page of the Submenu” (page 2-19).

11 Audio monitor speaker

Plays the mixed audio signal of L and R selected with the MONITOR L/R in the submenu. Adjust the volume with the LEVEL knob on the front control panel. You cannot monitor sound from the speaker when headphones are connected to the HEADPHONES jack.

For more information about the MONITOR L/R, see page 2-26.

12 Submenu operation buttons F1 to F4

Select items in the submenu.

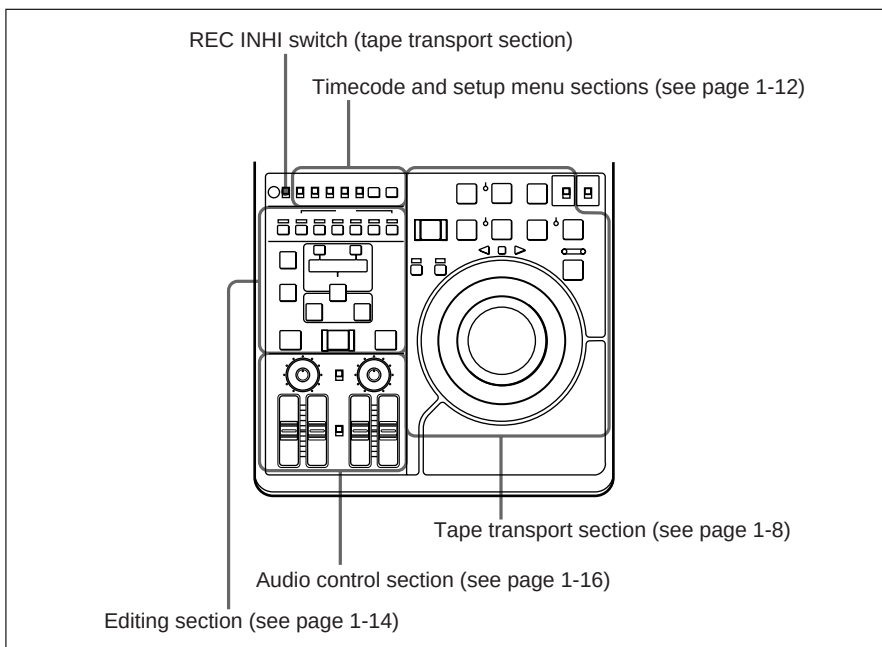
For more information about the submenu, see section 2-6-1 “Displays on the Home Page of the Submenu” (page 2-19).

13 PAGE button

Switches between pages in the submenu.

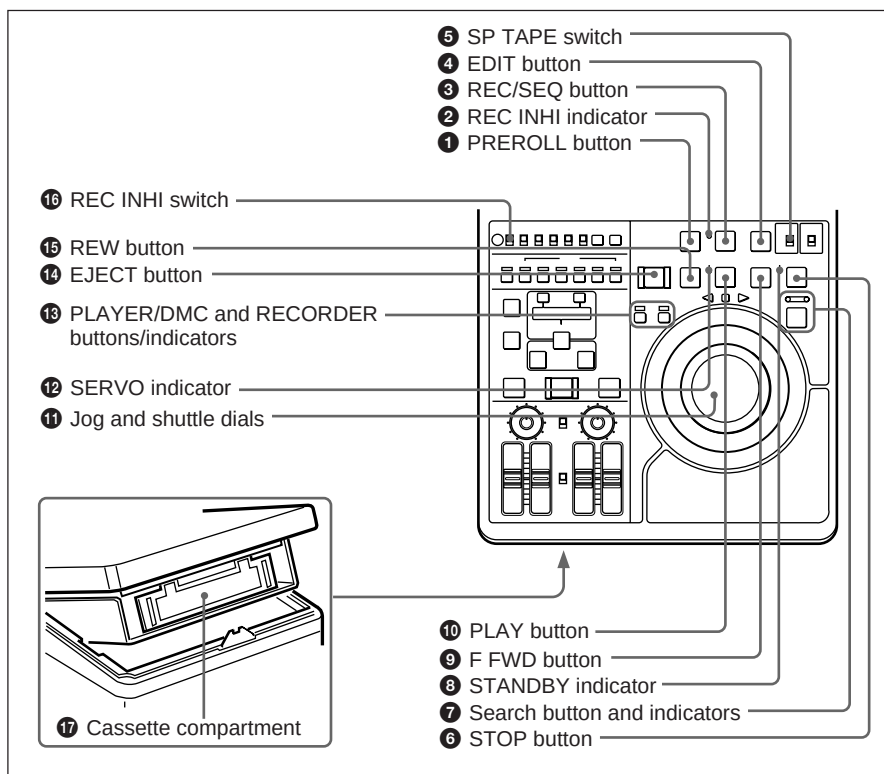
For more information about the submenu, see section 2-6-1 “Displays on the Home Page of the Submenu” (page 2-19).

1-3-2 Control Panel



1-3 Locations and Functions of Parts

Tape transport section



1 PREROLL button

Press to run the tape up to the preroll point (located in advance of the IN point by the amount of the preroll time). You can set the preroll time using setup menu item 001. You can set the state of the unit at the end of preroll by using setup menu item 401. By pressing this button at the same time as the IN/OUT or AUDIO IN buttons in the editing section, you can search for a timecode set in advance and stop at that position. (The tape is cued up to the preset timecode position.)

2 REC INHI (recording inhibit) indicator

Lights under the following situations.

- Set the REC INHI switch **16** to ON.
- Press in the erasure prevention plug.
- Insert the Betacam SP cassette and set the SP TAPE switch **5** to SP PB ONLY.
- Insert the Betacam cassette (oxide tape).

When the REC INHI switch 16 is set to OFF, it is possible to set this indicator flashing instead of lighting under the latter three situations. For details, see setup menu item 107 on page 6-12.

3 REC/SEQ (recording/sequence) button

Press together with the PLAY button 10 to start recording.

When two DNW-A25WS/A25WSP units are combined, this button allows you to perform sequential recording from one unit to another.

For details, see 4-2 “Sequential Recording” (page 4-2).

To monitor E-E mode

You can monitor input signals in E-E mode by pressing this button from stop mode. The button lights when pressed. To return to the original picture, press the STOP button 6.

You can view E-E video during playback, search, fast forward, and rewind by pressing this button. The E-E video continues for as long as the button is kept pressed.

4 EDIT button

Press together with the PLAY button 10 to perform manual editing.

To monitor E-E mode

You can monitor input signals in E-E mode by pressing this button from stop mode. The button lights when pressed, and the input signals selected with the ASSEMBLE or INSERT buttons appear in E-E mode. To return to the original picture, press the STOP button 6. You can view E-E video during playback, search, fast forward, and rewind by pressing this button. The E-E video continues for as long as the button is kept pressed.

5 SP TAPE switch

Selects the recording/playback format when a Betacam SP cassette (including UVW cassette) is loaded.

SX: Record or play back in Betacam SX format.

SP PB ONLY: Play back in Betacam SP format. (Recording to a Betacam SP cassette is impossible.)

Note

This switch does not function for Betacam (oxide) and Betacam SX cassettes. These cassettes are distinguished automatically from the Cassette ID hole when the cassette is loaded.

1-3 Locations and Functions of Parts

⑥ STOP button

Press this button, lighting it, to stop playback or recording. When you stop playback, the LCD monitor displays E-E or still picture playback, depending on the settings of the monitor output switches in the timecode and setup menu section.

When setup menu item 105 is set to ON (page 6-11), this button flashes if the reference video signal specified in the OUT REF item of the submenu (page 2-29) and item 309 in the setup menu (page 6-16) is not being input.

For more information about reference video signal settings, see page 2-11.

⑦ Search button and indicators

Press to enter search mode. (The JOG or SHUTTLE indicator lights.)

When the unit is in jog or shuttle mode, keep this button depressed for about 1 second to enter variable mode. (The both indicators light.) To return to shuttle mode, keep this button depressed again for about 1 second. In shuttle or variable mode, you can start playback at preset speed by rotating the shuttle dial to the desired position and pressing this button.

⑧ STANDBY indicator

Lights when the tape drum is rotating with tension applied (standby on). It goes out when the drum stops rotating and tension is released (standby off). To protect the tape, the unit normally changes to standby off when stop mode continues for longer than eight minutes. If you operate a dial or any of the tape transport buttons except STOP while the unit is in this state, the unit changes to standby on and enters the mode of the button or dial that you pressed.

Press the ENTRY and STOP buttons at the same time to switch between standby on and standby off manually.

For more information about tape protection, see the setup menu items in the 500s on page 6-20.

⑨ F FWD (fast forward) button

Press this button, lighting it, to fast forward the tape.

When using a tape on which shot marks have been recorded, you can press this button together with the TRIM -/LIST button to read shot marks from the tape, and press this button together with the TRIM +/- MARK button to cue up shot mark positions.

For details, see Chapter 5 “Shot Mark/Shot Data”.

10 PLAY button

Press this button, lighting it, to start playback. Recording starts when you press this button together with the REC/SEQ button, and manual editing starts when you press this button together with the EDIT button. If you press this button only during recording or manual editing, recording or manual editing stops and the unit returns to playback mode. This button is also used to display the shot data if it is recorded on the tape.

For details, see 5-1-3 “Reading Shot Data” (page 5-3).

11 Jog and shuttle dials

To search in shuttle or variable mode, rotate the outer ring (shuttle dial). To search in jog mode, press the inner ring (jog dial) until it clicks and then rotate. Rotate in the clockwise direction to search in the forward direction (the FORWARD indicator lights), and rotate in the counterclockwise direction to search in the reverse direction (the REVERSE indicator lights).

For more information about search, see page 3-3.

12 SERVO indicator

Lights when the drum servo and capstan servo are locked.

13 PLAYER/DMC and RECORDER buttons/indicators

When two DNW-A25WS/A25WSP units are combined and connected via the REMOTE (9-pin) connectors, press to control one unit from another.

PLAYER/DMC button: The buttons of the editing and tape transport sections on the recorder side of the control panel work to control the player unit. You can also press this button together with the ENTRY/SHIFT button to put the combined units into DMC edit mode.

For details, see 3-5 “DMC Editing” (page 3-14).

RECORDER button: The buttons of the editing and tape transport sections on the recorder side of the control panel work to control the recorder itself.

14 EJECT button

Press to eject the cassette or open the cassette compartment **17**. The button lights while the cassette is being ejected. If you insert a cassette which cannot be used on this unit, the button flashes. Press the button to eject the cassette.

15 REW (rewind) button

Press this button, lighting it, to rewind the tape. When using a tape on which shot marks have been recorded, you can press this button together with the TRIM -/LIST button to read shot marks from the tape, and press this button together with the TRIM +/MARK button to cue up shot mark positions.

For details, see Chapter 5 “Shot Mark/Shot Data”.

1-3 Locations and Functions of Parts

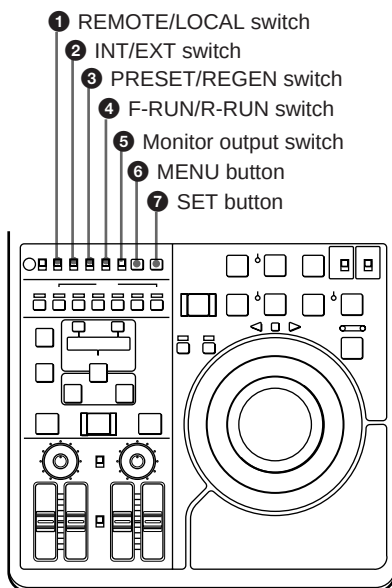
16 REC INHI switch

When on, recording to the tape is inhibited, regardless of the state of the cassette's erasure prevention plug. (The REC INHI indicator 2 lights.)

17 Cassette compartment

Insert a cassette here. Press the EJECT button 14 to open the compartment.

Timecode and setup menu sections



1 REMOTE/LOCAL switch

Selects the source for control of this unit. When two DNW-A25WS/A25WSP units are connected, set this switch on the player unit to REMOTE.

REMOTE: This unit is controlled from the device connected to the REMOTE connector. In this case, all VTR operations using this unit's control panel are disabled except the STOP and EJECT buttons.

LOCAL: This unit is controlled from the control panel. Normally set the switch to this position.

When the REMOTE is selected, you can determine which tape transport control buttons on the control panel are enabled. See setup menu item 006 on page 6-3.

② INT/EXT (internal/external timecode) switch

Selects the timecode to use.

INT: Use the timecode generated by this unit's built-in timecode generator.

EXT: Use external timecode. When the VITC/LTC/AUTO item of the submenu is set to LTC or AUTO, the external timecode input to the TC IN connector. When it is set to VITC, the VITC of input video signal.

For more information about the VITC/LTC/AUTO settings, see page 2-21.

③ PRESET/REGEN (regenerate) switch

Selects the value set in the internal timecode generator.

PRESET: Preset the initial value of the timecode generated by the internal timecode generator, either by a control panel operation or by remote control from the device connected to the REMOTE connector.

REGEN: Synchronize the internal timecode generator with the timecode read by the internal timecode reader.

④ F-RUN/R-RUN (free-run, rec-run) switch

Selects the progression method for the timecode generated by the internal timecode generator.

F-RUN: Timecode progresses continuously from the time when this unit is powered on, regardless of the unit's operating status.

R-RUN: Timecode progresses only during recording.

When you use this switch, set the INT/EXT switch ② to INT, and set the PRESET/REGEN switch ③ to PRESET.

⑤ Monitor output switch

Selects the output signals from the VIDEO and AUDIO OUTPUT connectors during fast forward, rewind, stop, and standby mode.

PB: Playback (PB) mode

PB/EE: E-E mode

⑥ MENU button

Use for setup menu operations. The setup menu appears on the LCD monitor when you press this button, and the original display appears when you press it again.

For more information about setup menu operations, see Chapter 6, "Setup Menu".

⑦ SET button

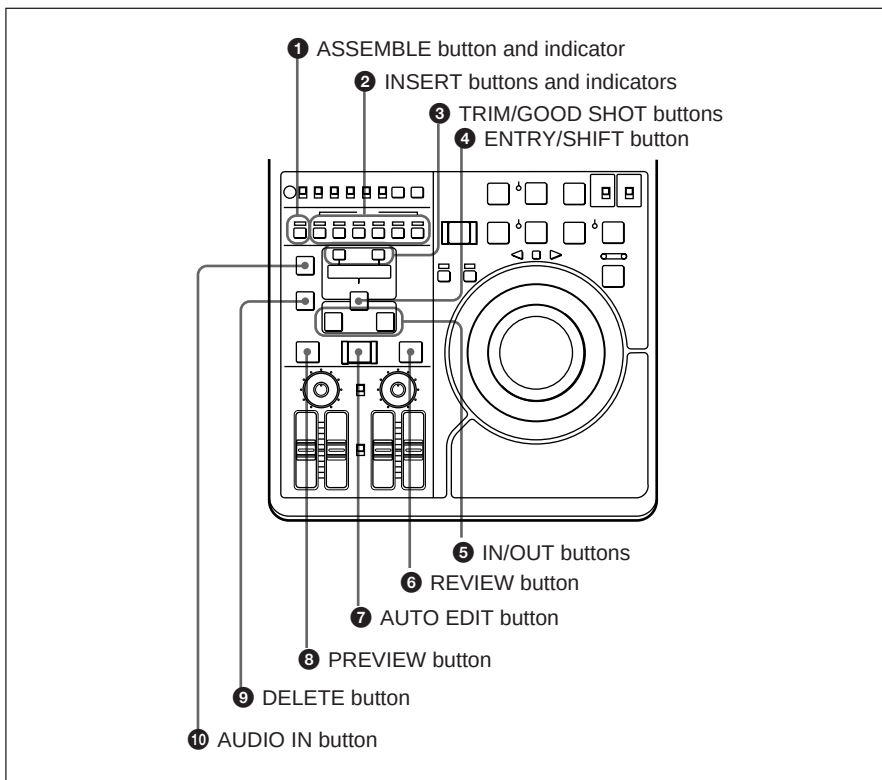
Use to make setup menu settings, timecode settings, and user bit settings.

For more information about setup menu operations, see Chapter 6, "Setup Menu". For more information about timecode and user bit settings, see 2-5 "Setting Timecode" (page 2-13).

1-3 Locations and Functions of Parts

Editing section

For editing, use two DNW-A25WS/A25WSP units or one DNW-A25WS/A25WSP unit and an editing player.



1 ASSEMBLE button and indicator

Press this button, lighting the indicator, to carry out assemble editing. Press the button again, turning the indicator off, to leave assemble edit mode.

2 INSERT buttons and indicators

Press these buttons, turning the indicators on, to select signals for insert editing. Press the buttons again, turning the indicators off, to cancel the selection.

VIDEO button: Selects the video signal.

AUDIO CH-1 to CH-4 buttons:

Select the audio signals of channels 1 to 4 (multiple selections possible).

TC button: Selects the timecode signal.

3 TRIM/GOOD SHOT buttons

Press the TRIM+/MARK or TRIM –/LIST button while pressing the IN/OUT buttons **5** or AUDIO IN button **10** to adjust edit points in unit of 1 frame. The TRIM +/MARK button advances 1 frame, and the TRIM –/LIST button returns 1 frame.

When using a tape on which shot marks have been recorded, you can press the TRIM –/LIST button together with the FWD or REW button to read shot marks from the tape, and you can press the TRIM +/MARK button together with the FWD or REW button to cue up shot mark positions.

For details, see Chapter 5 “Shot Mark/Shot Data”.

4 ENTRY/SHIFT button

Press together with the IN button, the OUT button, or the AUDIO IN button to set edit points. The buttons for the edit points that you set light.

Pressing this button together with a button with two functions, such as the PLAYER/DMC button or the REC/SEQ button, selects the function indicated in orange on the button. This button is also used to write shot marks on the tape.

For details, see 5-2-2 “Writing Shot Marks” (page 5-4).

5 IN/OUT (IN point/OUT point) buttons

Press these buttons, lighting them, together with the ENTRY/SHIFT button **4** to set an IN point (edit start point) or OUT point (end point). After setting edit points, you can press these buttons to display the edit points in the submenu screen.

6 REVIEW button

After executing an automatic edit, press this button, lighting it to review the results of the edit.

7 AUTO EDIT button

After setting edit points, press this button, lighting it to execute an automatic edit (record to the recorder unit). If an IN point has not been set, the point where you press this button is used as the IN point in the automatic edit. This button lights during execution and goes out when execution finishes.

Pressing this button when the unit is in DMC edit mode executes a DMC edit.

To conduct DMC editing, a playback speed must be set in advance. For details, see 3-5 “DMC Editing” (page 3-14).

8 PREVIEW button

Press this button, lighting it, when you want to preview editing results on the monitor after setting edit points but before executing an edit, or when you want to set the playback speed for DMC editing. If an IN point has not been set, the point where you press this button is used as the IN point in the preview. This button lights during the preview and goes out when the preview finishes.

1-3 Locations and Functions of Parts

9 DELETE button

Press together with the IN/OUT buttons 5 or the AUDIO IN button 10 to delete edit points. The buttons go out or flash.

The DELETE button flashes to indicate contradictions that will prevent previews and automatic editing, for example when the durations are different on the player and recorder units, or when the IN and OUT points are equal or reversed. In this case, set the edit points again. Also, press together with the PLAYER/DMC button to cancel DMC edit mode.

For details, see 3-5 “DMC Editing” (page 3-14).

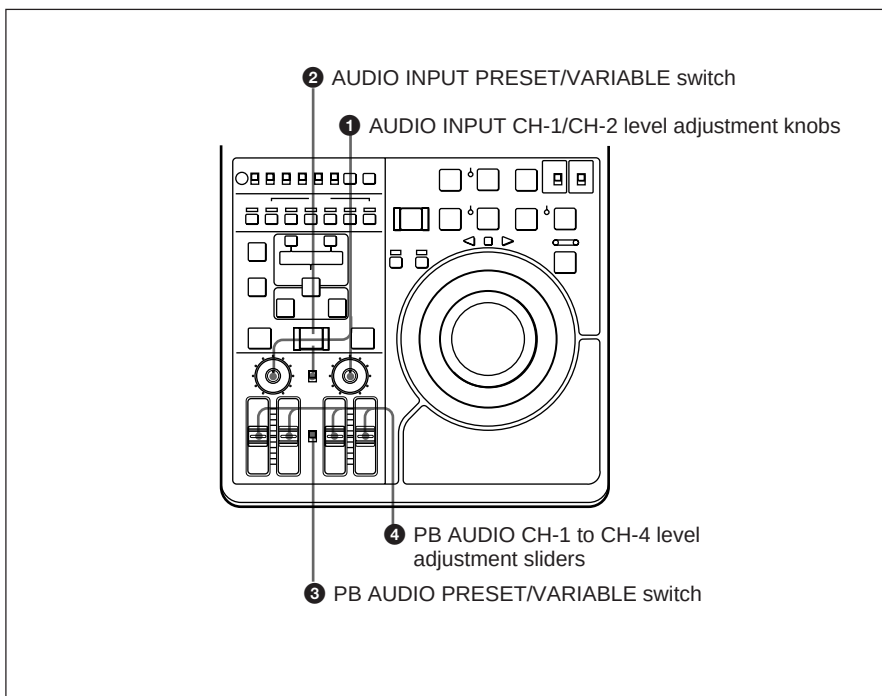
This button is also used to delete shot marks from the tape.

For details, see 5-2-5 “Deleting Shot Marks” (page 5-8).

10 AUDIO IN button

In insert editing, press this button together with the ENTRY/SHIFT button 4 to set audio IN point separately from video IN point (audio split editing). After setting audio IN points, you can press this button to display them in the submenu screen.

Audio control section



❶ AUDIO INPUT CH-1/CH-2 level adjustment knobs

Make level adjustments by channel for analog input audio connected to the AUDIO INPUT CH-1/CH-2 connectors on the connector panel.

❷ AUDIO INPUT PRESET/ VARIABLE switch

Selects the audio input level adjustment function for analog audio connected to the AUDIO INPUT CH-1/CH-2 connectors on the connector panel.

PRESET: Preset to fixed levels.

Levels cannot be adjusted with the level adjustment knobs.

VARIABLE: Levels adjustable with level adjustment knobs. This allows you to adjust the levels while viewing the audio level meters in E-E mode.

❸ PB AUDIO PRESET/ VARIABLE switch

Selects the level adjustment function for playback audio.

PRESET: Preset to fixed levels.

Levels cannot be adjusted with the level adjustment sliders.

VARIABLE: Levels adjustable with the level adjustment sliders. This allows you to adjust the levels while viewing the audio level meter.

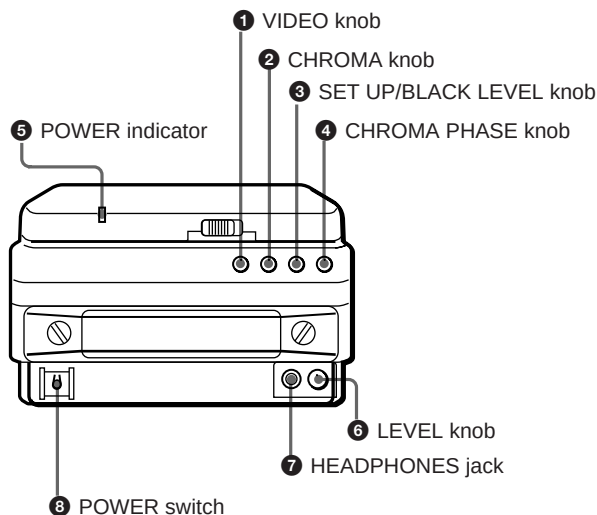
❹ PB AUDIO CH-1 to CH-4 level adjustment sliders

Make level adjustments by channel for playback audio channels 1 to 4.

For more information about switching to E-E mode, see the descriptions of the REC/SEQ and EDIT buttons (page 1-9)

1-3 Locations and Functions of Parts

1-3-3 Front Control Section



1 VIDEO knob

Adjusts the video signal output level. This knob is a push switch. When you press it to bring it into the raised position, the setting becomes **VARIABLE**. When you press it again to depress it, the setting returns to **PRESET**.

PRESET: This is the normal setting. Regardless of the knob position, the video signal output level is set to the standard value.

VARIABLE: The video signal output level can be adjusted across a range of ± 3 dB.

You can change the adjustment range by using setup menu item 714. For details, see page 6-30.

2 CHROMA knob

Adjusts the chroma signal output level. This knob is a push switch. When you press it to bring it into the raised position, the setting becomes **VARIABLE**. When you press it again to depress it, the setting returns to **PRESET**.

PRESET: This is the normal setting. Regardless of the knob position, the chroma signal output level is set to the standard value.

VARIABLE: The chroma signal output level can be adjusted across a range of ± 3 dB.

You can change the adjustment range by using setup menu item 714. For details, see page 6-30.

③ SET UP/BLACK LEVEL knob

Adjusts the setup level (in 525/60 mode) and the black level (in 625/50 mode). This knob is a push switch. When you press it to bring it into the raised position, the setting becomes VARIABLE. When you press it again to depress it, the setting returns to PRESET.

PRESET: This is the normal setting.

Regardless of the knob position, the setup level is set to the standard value.

VARIABLE: The setup level can be adjusted across a range of ± 30 IRE (in 525/60 mode) and the black level can be adjusted across a range of ± 210 mV (in 625/50 mode).

④ CHROMA PHASE knob

Adjusts the chroma phase (phase relative to burst). This knob is a push switch. When you press it to bring it into the raised position, the setting becomes VARIABLE. When you press it again to depress it, the setting returns to PRESET.

PRESET: This is the normal setting.

Regardless of the knob position, the chroma phase is set to the standard value.

VARIABLE: The chroma phase can be adjusted across a range of $\pm 30^\circ$.

⑤ POWER indicator

Lights when the POWER switch ⑧ is turned on.

⑥ LEVEL (speaker/headphones level) knob

Adjusts the volume of the speaker or headphones connected to the HEADPHONES jack ⑦.

This knob can also adjust the level of the audio signal output from the MONITOR OUT connectors when MONITOR in the submenu is set to VAR. For details, see page 2-26.

⑦ HEADPHONES jack

Connect headphones. The speaker is muted when headphones are connected.

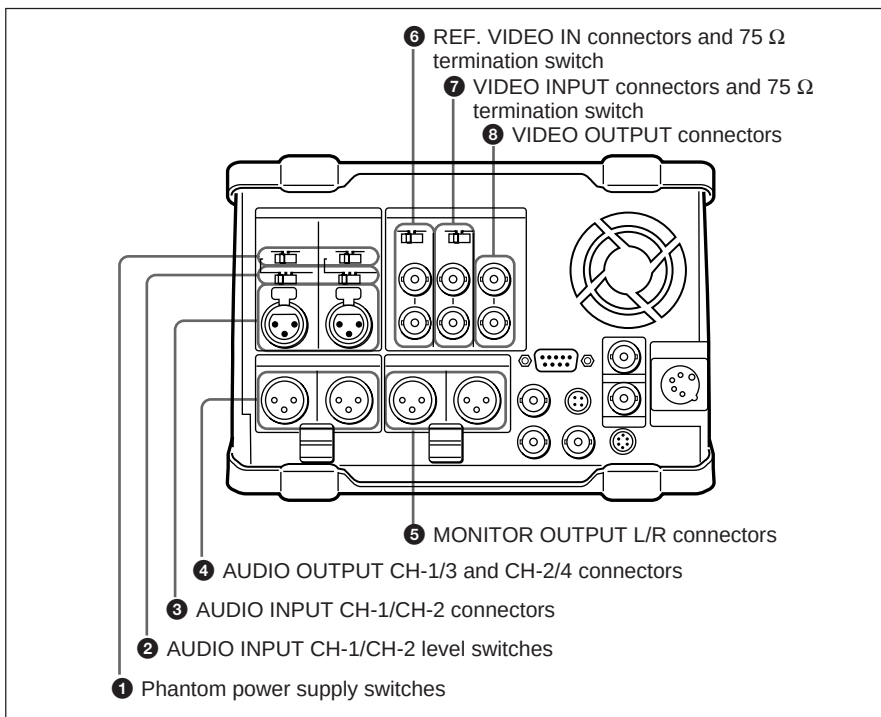
⑧ POWER switch

Powers the unit on and off. When the unit is powered, the POWER indicator ⑤ lights.

1-3 Locations and Functions of Parts

1-3-4 Connector Panel

Analog audio/video input and output section



❶ Phantom power supply switches

When the AUDIO INPUT CH-1/CH-2 level switches ❷ are set to -60 dBu, phantom power is supplied to the AUDIO INPUT connectors when these switches are set to ON.

❷ AUDIO INPUT CH-1/CH-2 level switches

Select the input level of the analog audio signals of input channels 1 and 2.

-60 dBu: Microphone input
0 dBu: Line audio input
 $+4$ dBu: Line audio input
(0 dBu = 0.775 Vrms)

❸ AUDIO INPUT CH-1/CH-2 connectors (XLR 3-pin, female)

Input the analog audio signals of input channels 1 and 2.

④ AUDIO OUTPUT CH-1/3 and CH-2/4 connectors (XLR 3-pin, male)

Output the audio signals of the channels selected with the LINE OUT in the submenu. You can select two combinations of output signals: channels 1 and 2, or channels 3 and 4.

For more information about LINE OUT settings, see page 2-26.

Note

The level can be adjusted from the control panel, but mixed signals cannot be output.

⑤ MONITOR OUTPUT L/R connectors (XLR 3-pin, male)

Output the audio signals of the channels selected with the MONITOR L/R in the submenu. The level is adjustable, and mixing is possible. Connect these connectors when you want to output mixed signals.

For more information about MONITOR L/R settings, see page 2-26.

You can also adjust the output level of the LEVEL knob in the front panel controls section with the MONITOR in the submenu. For details, see page 2-26.

⑥ REF. VIDEO IN (reference video signal input) connectors (BNC type) and 75 Ω termination switch

Input a video signal with color burst (VBS) or monochrome video signal (VS) as reference video signal. Set the 75 Ω termination switch to OFF when the signal is bridged, and to ON when the signal is not bridged.

⑦ VIDEO INPUT (analog composite video input) connectors (BNC type) and 75 Ω termination switch

Input an analog composite video signal. Set the 75 Ω termination switch to OFF when the signal is bridged, and to ON when the signal is not bridged.

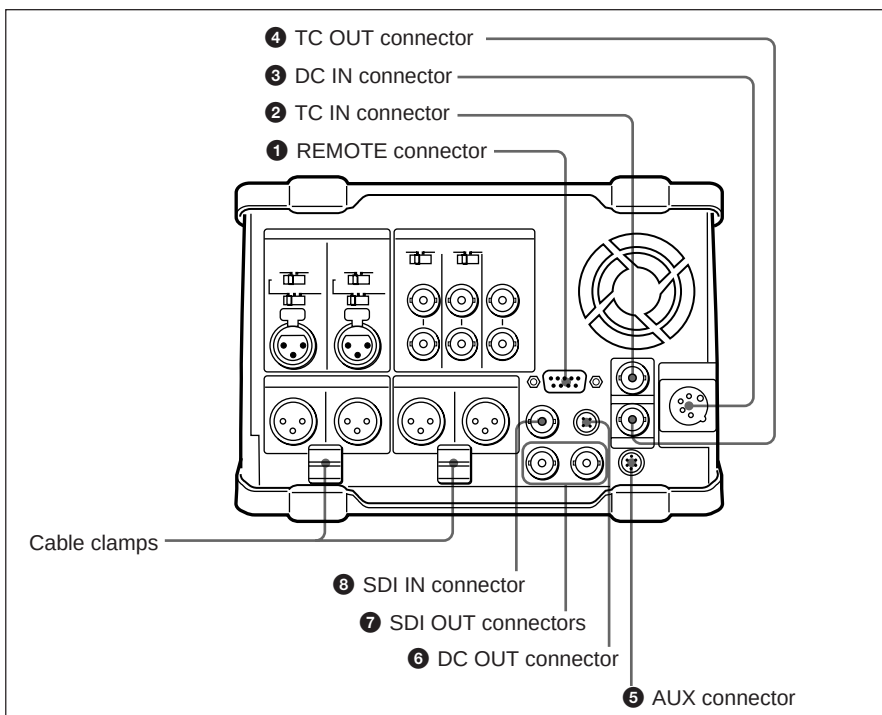
⑧ VIDEO OUTPUT (analog composite video output) connectors (BNC type)

Output analog composite video signals. When the SUPER in the submenu is set to ALL or CPSTALL, timecode, menu settings, error messages and other information is superimposed on the output of connector 2 (SUPER).

For more information about SUPER settings, see page 2-32. For details about the superimposed information, see page A-11.

1-3 Locations and Functions of Parts

Digital signal/timecode/remote control/power input and output section



① REMOTE (9-pin remote control) connector (D-SUB 9-pin)

When editing with two DNW-A25WS/A25WSP units, connect this connector on each unit using a 9-pin remote control cable (not supplied). When editing with this unit and D-1, D-2, Betacam VTR, Digital Betacam VTR or other external equipment, connect the external equipment.

② TC IN (timecode input) connector (BNC type)

To record timecode from an external device, input the timecode from the external device's timecode output connector.

③ DC IN (external power input) connector (XLR 4-pin, male)

To power this unit with AC power, connect to the DC output connector of the AC-550/550CE AC adaptor. You can also connect a BP-90A battery pack using the DC-210 Battery Adaptor.

Power supplied through this connector is used on a priority basis even when you have connected a battery pack or AC-DN2B AC Adaptor to the battery connector on the top panel.

For more information, see section 2-1 “Power Preparations” (page 2-1).

④ TC OUT (timecode output) connector (BNC type)

Outputs the following types of timecode, depending on the VTR operating status.

During playback: The playback timecode

During recording: The timecode generated by the internal timecode generator, or the timecode input through the TC IN connector.

⑤ AUX connector

This connector is used only for service.

⑥ DC OUT connector

This connector supplies power to the BVR-3 Remote Control Unit.

⑦ SDI OUT (serial digital interface output) connectors (BNC type)

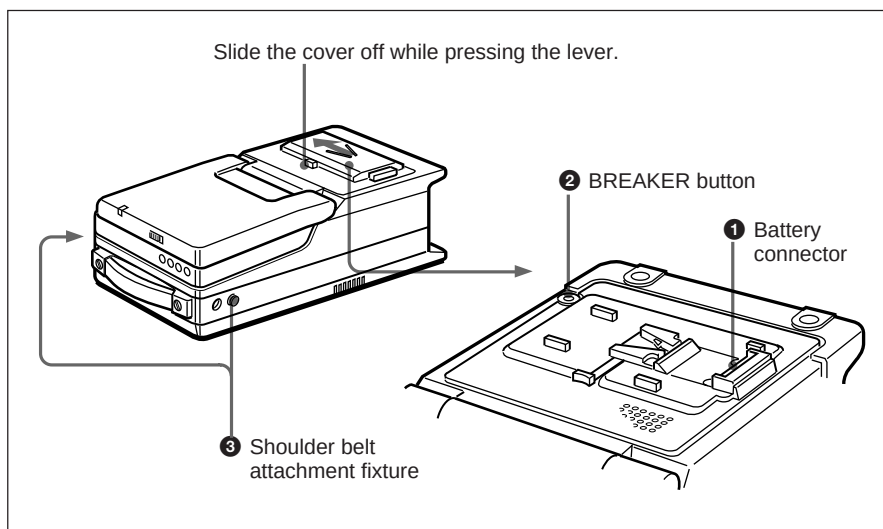
Output a D-1 format video/audio signal. The same signals are output from the left and right connectors.

⑧ SDI IN (serial digital interface input) connector (BNC type)

Input a D-1 format video/audio signal. When editing with two DNW-A25WS/A25WSP units, connect the SDI OUT connector ⑦ on the player unit with this connector on the recorder unit.

1-3 Locations and Functions of Parts

1-3-5 Top Panel



① Battery connector

Connect a BP-L60A/L90A Battery Pack, DC-L90 Battery Adaptor, or AC-DN2B AC Adaptor. When the AC-550/550CE AC Adaptor or another power supply has been connected to the DC IN connector on the connector panel, the power from the DC IN connector is used instead of the power from this connector.

For more information, see section 2-1 "Power Preparations" (page 2-1).

Note

It is impossible to use the AC-DN1 AC Adaptor.

② BREAKER button

When excess power flows inside the unit, breaker activates to protect the circuits by automatically shutting down the power. After inspecting and adjusting the unit, press this button. If there is no further trouble, the power will be restored.

③ Shoulder belt attachment fixture

Attach the supplied shoulder belt.

For more information, see "Using the Shoulder Belt" in the Appendixes (page A-18).

2-1 Power Preparations

This unit can be powered by batteries or AC power.

Note

If you attach or remove batteries or AC adaptors incorrectly, they may fall down and cause body injury. Follow the procedures described below to attach or remove them.

2-1-1 Usable Batteries

Batteries that can be used with this unit are as follows. For each type of battery, a special battery adaptor and a special battery charger are required.

Battery	Battery Adaptor	Battery Charger
BP-90A (mounted on this unit)	DC-L90	BC-210/210CE/ 410/410CE
BP-90A (connected to DC IN connector)	DC-210	BC-210/210CE/ 410/410CE
BP-L60A/ L90A	Not needed	BC-L120/ L120CE/M50

Notes about battery usage

- Before using the batteries, be sure to charge them fully with the special battery charger. Refer to the operating instructions of your battery charger for more information about how to charge the batteries.
- Batteries may not be completely charged if you charge them immediately after use when they are still warm. You should wait until the batteries cool before charging them.

2-1-2 Using the BP-L60A/L90A Battery Pack

This unit can be operated for about 80 minutes at normal temperature on a fully charged BP-L90A Battery Pack.

To charge the battery pack

Before use, charge the battery pack with the BC-L120/L120CE/M50 Battery Charger. The charging times of batteries and battery chargers are as follows.

Battery	Battery Charger	Charging Time (minutes)
BP-L60A	BC-L120/ L120CE	155
	BC-M50	220
BP-L90A	BC-L120/ L120CE	180
	BC-M50	290

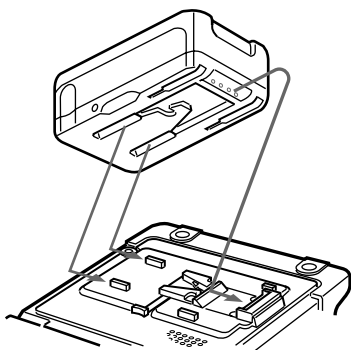
For more information about how to charge the battery pack, refer to the manual for the BC-L120/L120CE/M50.

2-1 Power Preparations

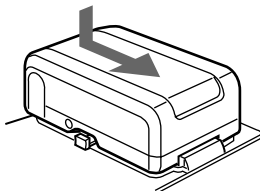
To attach the battery pack

Attach the BP-L60A/L90A as shown in the figure below. Before attaching, remove the cover of the battery connector.

Remove the cover in the same way that you remove the battery pack. For details see the next section “To remove the battery pack”.



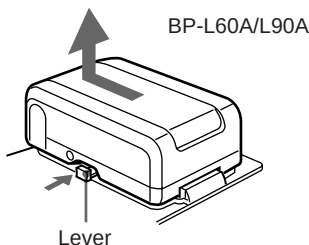
- ① Align the groove on the top panel of the BP-L60A/L90A with the guides.



- ② Slide the BP-L60A/L90A in so that its connector is firmly connected to the unit's battery connector.

To remove the battery pack

With the lever pushed in, slide the BP-L60A/L90A out.



2-1-3 Using the BP-90A Battery Pack

Different battery adaptors are used when mounting the BP-90A on the top panel of this unit and when connecting it the DC IN connector.

This unit can be operated for about 60 minutes at normal temperature on a fully charged BP-90A Battery Pack.

To charge the battery pack

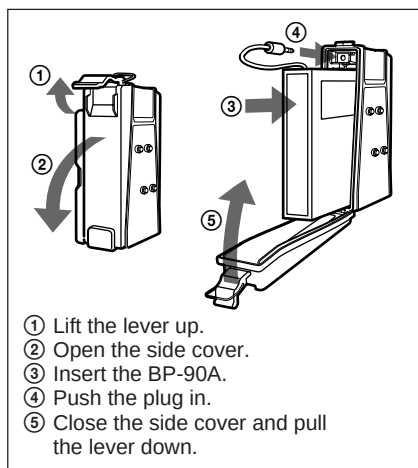
Before use, be sure to charge the battery pack with the BC-210/210CE/410/410CE Battery Charger. It takes about 2 hours to charge the BP-90A.

For more information about how to charge the battery pack, refer to the manual for the BC-210/210CE/410/410CE.

To attach to the top panel of this unit

Use the DC-L90 Battery Adaptor.

- 1** Mount the BP-90A in the DC-L90.



- 2** Attach the DC-L90 to the top panel of this unit.

Use the same method that you use to attach the BP-L60A/L90A. For details, refer to “To attach the battery pack” on the previous page.

To connect to the DC IN connector

Use the DC-210 Battery Adaptor.

For more information about connections, refer to the operating instructions of the DC-210.

You can also connect another battery pack to the DC IN connector when a BP-90A battery pack is already mounted on the top panel of this unit. When you connect an external battery pack to the DC IN connector, the power supply automatically switches to the external battery pack from an internal battery pack mounted on the top panel of the unit.

Notes

- Noise may occur in video and audio signals at the moment when the unit switches from the internal to the external battery.
- It is always the external batteries connected to the DC IN connectors that serve as power supply. You cannot switch the power supply from the external batteries to the internal batteries while the external batteries are connected to the DC IN connector.

When an external battery pack is almost exhausted

If an internal battery pack is already mounted, disconnect the external battery pack by pulling its DC power cord out from the DC IN connector. If no internal battery pack is mounted, disconnect the external battery pack after mounting a fully charged internal battery pack.

When an internal battery pack is almost exhausted

Connect a fully charged external battery pack to the DC IN connector, then exchange the internal battery pack.

2-1 Power Preparations

2-1-4 Using AC Power

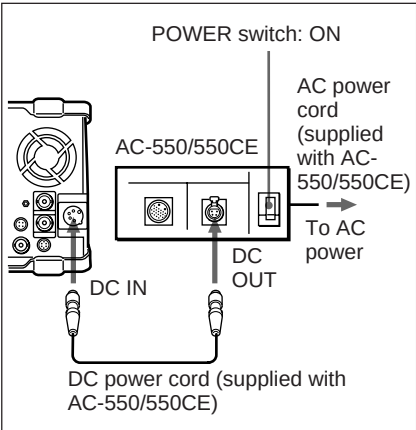
You can operate the unit from an AC power source by using the AC-550/550CE AC Adaptor or AC-DN2B AC Adaptor. Use the AC-550/550CE to connect the AC power source to the DC IN connector, and the AC-DN2B to connect the AC power source to the battery connector.

To use the AC-550/550CE

As shown in the figure, connect the AC-550/550CE to the AC power source and turn it on. When you connect AC power, the power supply automatically switches to the AC power from a battery pack mounted on the top panel of the unit.

Note

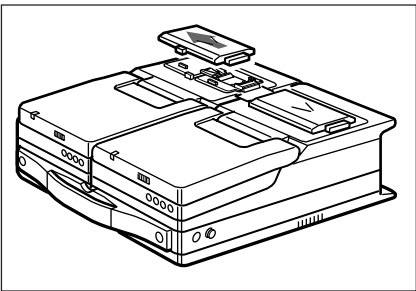
Noise may occur in video and audio signals at the moment when the unit switches from the battery pack to AC power.



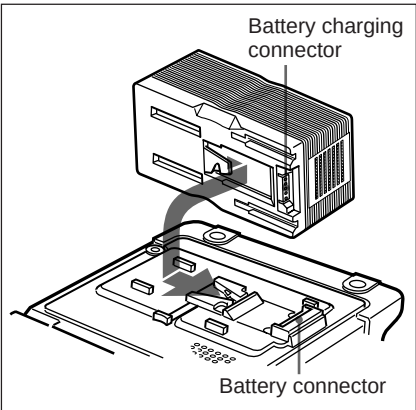
To use the AC-DN2B

Follow the procedure below to mount the AC-DN2B on the top panel of this unit, and connect to AC power. When two DNW-A25WS/A25WSP units are combined, you can supply both units with power by fitting a single AC-DN2B to either unit.

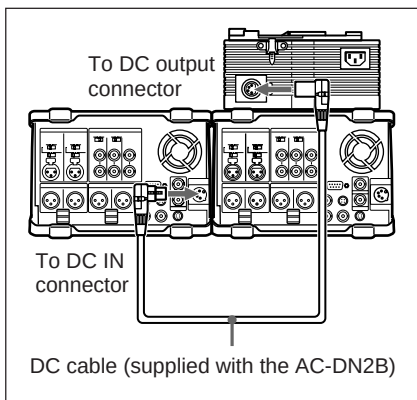
- 1 Remove the cover of the battery connector.



- 2 Insert the V-wedge shoe on the AC-DN2B in the V-groove on one unit and slide the AC-DN2B until the battery charging connector is connected to the battery connector.



- 3 Use the DC cable (supplied with the AC-DN2B) to connect the DC output connector on the AC-DN2B and the DC IN connector on the rear of another unit.

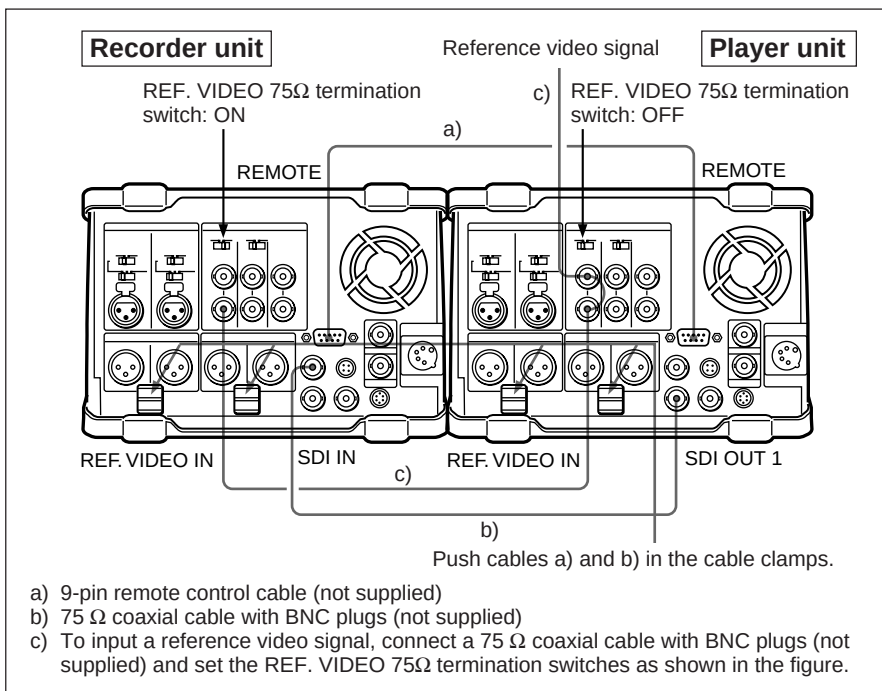


- 4 Supply the AC-DN2B with AC power.

For procedure on AC power supply to the AC-DN2B, refer to the manual for the AC-DN2B.

2-2 Connection

The figure below shows how to connect two DNW-A25WS/A25WSP units for editing.



2-3 Handling Cassettes

To record with this unit, you can use half-inch width Betacam SX S cassettes, Betacam SP S cassettes (metal tape), or UVW S cassettes (metal tape).

Usable Cassettes

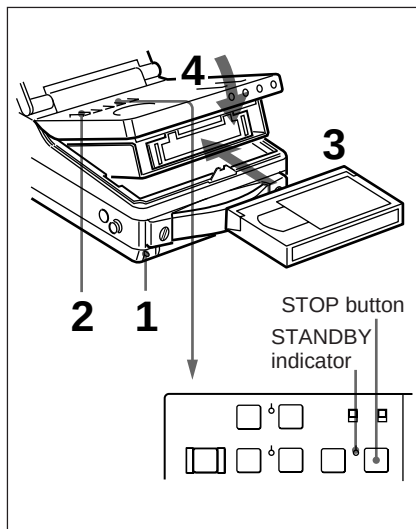
Betacam SX	BCT-12SX/22SX/32SX/60SX
Betacam SP (metal tape)	BCT-5MA/10MA/20MA/30MA
UVW (metal tape)	UVWT-10MA/20MA/30MA

Notes

- Digital Betacam cassettes cannot be used.
- Oxide tapes recorded in the Betacam format and metal tapes recorded in the Betacam SP format **can be only played back**.

2-3-1 Loading/Ejecting Cassettes

To load a cassette



- 1 Set the POWER switch to ON.
- 2 Press the EJECT button.

The control panel lifts up and the cassette compartment opens.

- 3 Load a cassette in the direction shown in the figure after checking the following points.
 - That “ERROR-10” is not displayed in the submenu screen.
 - That there is no slack in the tape.
- 4 Close the control panel. (You should hear a click.)

The STANDBY indicator lights.

2-3 Handling Cassettes

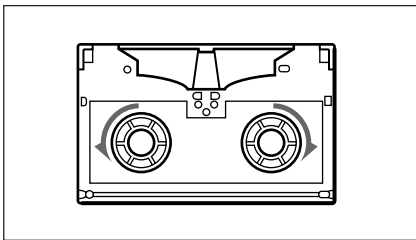
If “ERROR-10” appears in the submenu screen

This means that there is moisture condensation inside the unit. For the steps to take in this case, see “Moisture Condensation” (page A-2).

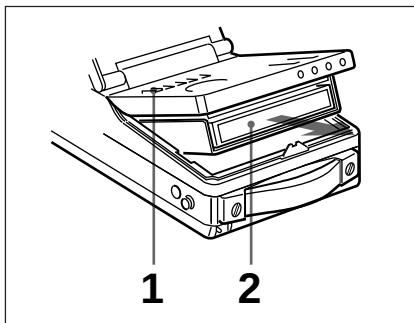
If there is slack in the tape

Take up the slack by rotating the reels in the directions shown by the arrows in the figure, keeping one reel fixed by pressing it with your finger as you rotate the other reel.

The reels stop rotating when there is no more slack.



To eject the cassette



- 1 With the unit powered on, press the EJECT button.

The control panel lifts up and the cassette compartment opens.

- 2 Remove the cassette and close the control panel.

Notes

- Do not shut the display panel while the control panel is still open. Doing so may damage the lock mechanism of the display panel.
- The EJECT cannot be used to eject a cassette when battery power falls to below about 9 V. Remove the cassette manually (*see next page*).

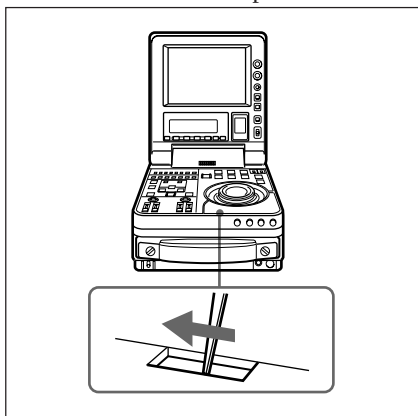
If there is no choice but to remove the cassette manually

Remove the cassette manually when battery power falls to below about 9 V.

Note

Power the unit off before removing the cassette manually. If the unit is powered, the drums may rotate and cause body injury.

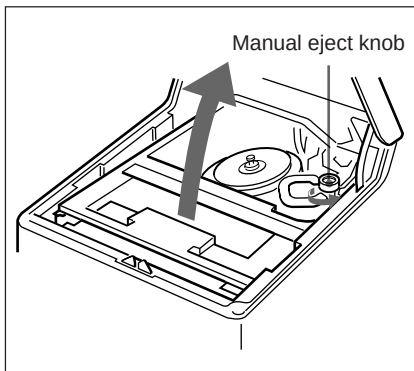
- 1 Using a tool such as tweezers, release the control panel lock.



- 2 Lift the control panel up, and press the manual eject knob (the red knob). Rotate the knob about 30 rotations in the counterclockwise direction while keeping it pressed down.

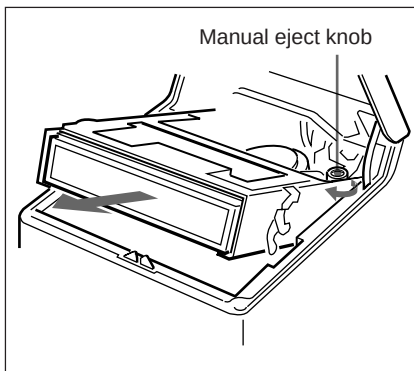
Note

Perform the operation carefully so that edges of internal parts will not injure your hand.



The cassette compartment rises up.

- 3 Remove the cassette, and rotate the manual eject knob 3 or 4 rotations in the clockwise direction while keeping it pressed down.

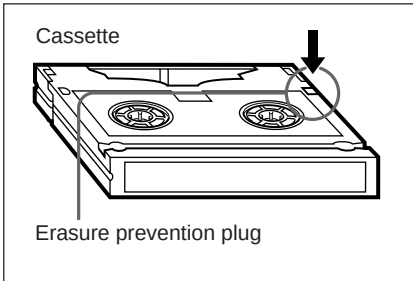


- 4 Close the control panel.

2-3 Handling Cassettes

2-3-2 Preventing Accidental Erasures

To make it impossible to accidentally erase or record over the contents of a cassette, press in the erasure prevention plug. Return the plug to its original position when you want to record on the cassette again.



2-4 Setting Reference Video Signals

This section explains how reference video signals for synchronization of video output and servo lock are selected according to settings made with this unit.

Reference video signal for video output

Output video signals are synchronized with the signal generated by this unit's internal reference video signal generator. The internal reference video signal generator can be synchronized with an external reference video signal or with an input video signal (SDI or composite video).

Reference video signal for servo lock synchronization

Servo lock can be synchronized with an external reference video signal, with an input video signal (SDI or composite video), or with the signal generated by this unit's internal reference video signal generator.

As shown in the table below, a signal for synchronization of the internal reference video signal generator and a reference video signal for synchronization of servo lock are selected according to the setting of setup menu item 309, the setting of the OUT REF in the submenu, and the operating mode of the unit.

For more information about setup menu item 309, see page 6-16. For more information about the OUT REF, see page 2-28.

Setting	Setting of setup menu item 309	"AUTO (AUTO1/AUTO2)"		"EXT"
	OUT REF setting	"REF"	"INPUT"	—
Operating mode of this unit	Recording ^{a)}	Input ^{d)}	Input	Ref ^{c)}
	Editing ^{b)}	See below, "Reference video signals in editing"		
	Other	Ref		

- a) During recording to tape.
- b) When the assemble editing or insert editing mode has been selected.
- c) Synchronize with external reference video signal (input to the REF. VIDEO IN connector).
- d) Synchronize with input video signal (SDI or composite video), as selected with "source video signal" in the submenu (see page 2-21).

2-4 Setting Reference Video Signals

Reference video signals in editing

When the OUT REF is set to REF, the signal shown in the table below is selected, depending on whether setup menu item 309 is set to AUTO1 or AUTO2.

Note

Normally select AUTO1 and synchronize the external reference video signal with the input video signal.

Select AUTO2 when the external reference video signal is not synchronized with the input video signal. If you select AUTO1 under these conditions, noise may enter the video and audio signals, making editing difficult.

Setting of setup menu item 309	AUTO1	AUTO2
Synchronization signal for internal reference video signal generator	External reference video signal	Input video signal
Synchronization signal for servo reference video signal	Input video signal	

When the signal selected in the menu is not being input

The servo reference video signal and internal reference signal generator synchronize as follows.

When “Input” is selected for the sync signal (see note d) of the table on previous page)

When a video signal is not being input, synchronize with an external reference video signal.

When “Ref” is selected for the sync signal (see note c) of the table on previous page)

When an external reference video signal is not being input, there is no external synchronization. The servo reference video signal synchronizes with the output of the internal reference video signal generator.

2-5 Setting Timecode

There are four ways to record timecode.

	INT/EXT switch	PRESET/REGEN switch
(1)	INT	PRESET
(2)	EXT	REGEN
(3)	INT	REGEN
(4)	EXT	PRESET

- (1) Record the output of the internal timecode generator with setting an initial value.
- (2) Record the output of the internal timecode generator, which has been synchronized with an external timecode generator.
- (3) Record the output of the internal timecode generator, which has been synchronized with playback timecode. (This method is always used during editing.)
- (4) Record the output of an external timecode generator without regeneration.

For more information about timecode generator settings, see the setup menu “Item 600 series: timecode generator settings” (page 6-21).

For more information about playback timecode settings, see page 4-4.

In addition to the INT/EXT switch and the PRESET/REGEN switch, the following settings are made with the submenu.

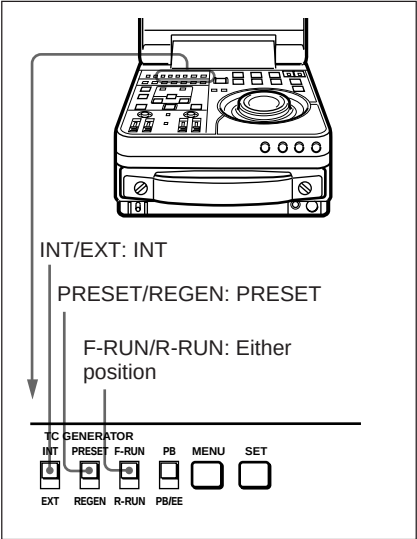
- VITC ON/OFF: (home page)
- VITC/LTC/AUTO: (home page)
- DF/NDF (525 mode): (general settings page 1/2)

For more information about the submenu, see section 2-6-1 “Displays on the Home Page of the Submenu” (page 2-19).

2-5 Setting Timecode

2-5-1 Setting an Initial Value and Recording Timecode

Set the switches and submenu items as shown below.

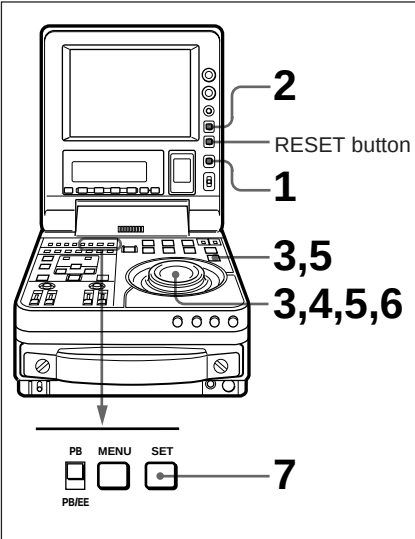


Submenu settings

Item	Setting
VITC ON/OFF (home page)	Desired setting (ON for recording)
VITC/LTC/AUTO (home page)	No setting required (ignored)
DF/NDF (general settings page 1/2)	Desired setting (in 525 mode)

To set an initial timecode value

Perform the following procedure.



- 1 Press the CTL/TC/U-BIT button and select TC.
- 2 Press the HOLD button.

The first digit of the time data (hours:minutes:seconds:frames) in the submenu screen begins to flash.

To set all digits to 0

Press the RESET button.

- 3 Confirm the JOG indicator lights, and select jog mode if not. (Shuttle mode is not recommendable.)

- 4** Select the digit to set by rotating the jog dial.

The flashing digit changes to the digit on the right when you rotate the jog dial clockwise, and to the digit on the left when you rotate it counterclockwise.

- 5** Set the value for the flashing digit by rotating the jog dial while pressing the search button.
- 6** Repeat steps **4** and **5** until you finish setting all digits.
- 7** Press the SET button.

If the F-RUN/R-RUN switch is set to F-RUN, the timecode starts to advance immediately.

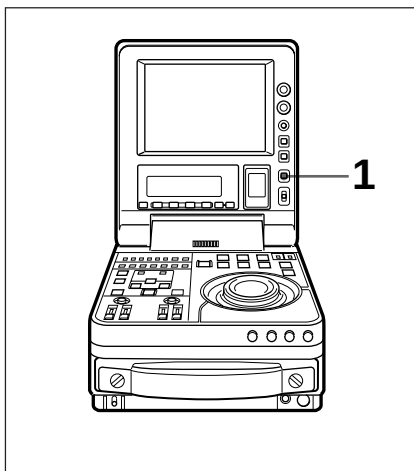
To set timecode to the current time

- 1** Set the F-RUN/R-RUN switch to F-RUN and the DF/NDF in the submenu to DF (in 525 mode only) (see page 2-32).
- 2** Carry out steps **1** to **6** of “To set an initial timecode value” to set the timecode to a time slightly ahead of the current time.
- 3** Press the SET button at the instant when the current time matches the displayed timecode.

To set user bits

You can record up to 8 hexadecimal digits of information (date, time, event number, etc.) in the timecode track.

Proceed as follows.



- 1** Press the CTL/TC/U-BIT button and select U-BIT.
- 2** Carry out steps **2** to **7** of “To set an initial timecode value”.

Settings are made in hexadecimal (0, 1, 2,... 8, 9, A, B,... E, F).

You can record ID codes in user bits. For details, see setup menu items 603 and 604 (page 6-22).

2-5 Setting Timecode

2-5-2 Synchronizing the Internal Timecode Generator with an External Signal

Use this method to synchronize multiple VTRs with an external timecode generator, and when you want to record the playback timecode signals of an external VTR without deterioration in the signal waveform. You can synchronize the internal timecode generator with either of the following kinds of external timecode.

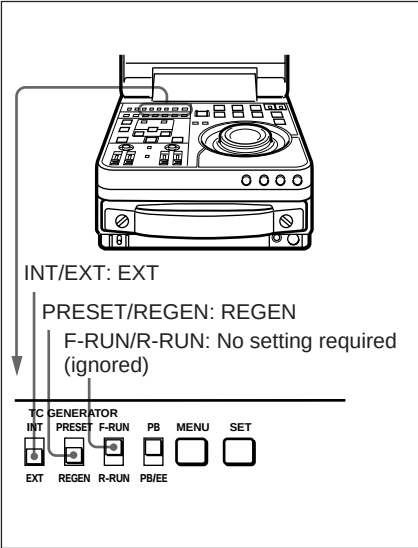
- The output of an external timecode generator, or the timecode output (LTC) of an external VTR.
- The timecode (VITC) in an input video signal.

Proceed as follows.

1 To synchronize with external timecode output (LTC): Connect the output of an external timecode generator or the timecode output of an external VTR to the TC IN connector.

To synchronize with the timecode (VITC) of an input video signal: On the home page of the submenu, select the input signal containing the VITC.

2 Set switches and submenu items as follows.



Submenu settings

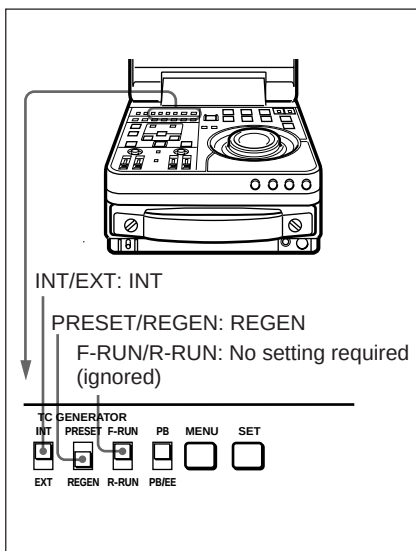
Item	Setting
VITC ON/OFF (home page)	Desired position (ON when recording VITC)
VITC/LTC/AUTO (home page)	VITC or LTC, depending on which signal you want to synchronize with (LTC when set to AUTO)
DF/NDF (general settings page 1/2)	No setting required (ignored)

The internal timecode generator begins to run in synchronization with the external signal. Once external synchronization is achieved, the internal timecode generator continues to run even if you disconnect the external timecode generator.

2-5-3 Synchronizing the Internal Timecode Generator with Playback Timecode

–Timecode Recording during Auto Editing

Set switches and submenu items as follows.



Submenu settings

Item	Setting
VITC ON/OFF (home page)	Desired position (ON when recording VITC)
VITC/LTC/AUTO (home page)	VITC or LTC, depending on which signal you want to synchronize with (LTC when set to AUTO)
DF/NDF (general settings page 1/2)	No setting required (ignored)

In automatic editing, timecode is recorded by using the output of the internal timecode generator, which has been synchronized during preroll with playback timecode read from the tape. For this reason, regardless of the actual settings of the INT/EXT and PRESET/REGEN switches, the unit operates as if the switches were set to INT and REGEN.

See setup menu item 610 (page 6-24) if you do not wish to have the INT/EXT and PRESET/REGEN settings fixed during automatic editing.

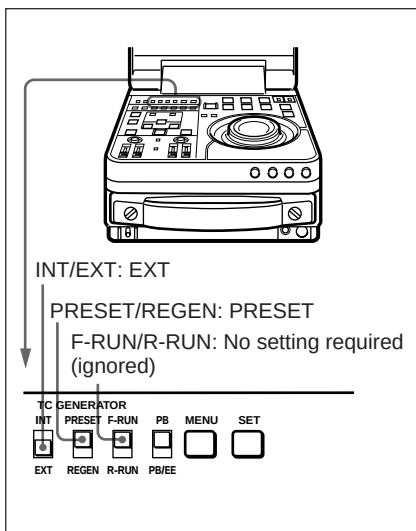
2-5 Setting Timecode

2-5-4 Recording External Timecode without Regeneration

When this method is used, the internal timecode generator is not affected by the external timecode. If you want to record the playback timecode of an external VTR, the method explained in section 2-5-2 “Synchronizing the Internal Timecode Generator with an External Signal” (page 2-16) is recommended.

Proceed as follows.

- 1 Connect the timecode output of an external timecode generator to the TC IN connector when LTC or AUTO is selected in the home page of the submenu (see page 2-21).
- 2 Set switches as follows.



2-5-5 First Edit Function

The first edit function automatically creates a base tape for insert editing. Set the timecode value for the start of recording in setup menu item 614. You can also specify the number of seconds before this timecode value at which the recording starts, using setup menu item 615. Select the video signal to be recorded on the tape with “SG” in the submenu.

Use the following procedure to create a base tape.

- 1 Set setup menu item 614 (page 6-25) to ON, and set the starting timecode value.

For details of the setting procedure, see setup menu item 603 (page 6-22).

- 2 With setup menu item 615 (page 6-25), set the number of seconds before the timecode value set in step 1 from which you want recording to start (10 to 30 seconds).

- 3 Hold down the REC button and press the AUTO EDIT button.

This switches the unit to First Edit mode.

Note

Press the REC button first. If you press the AUTO EDIT button first, this will carry out a normal auto edit.

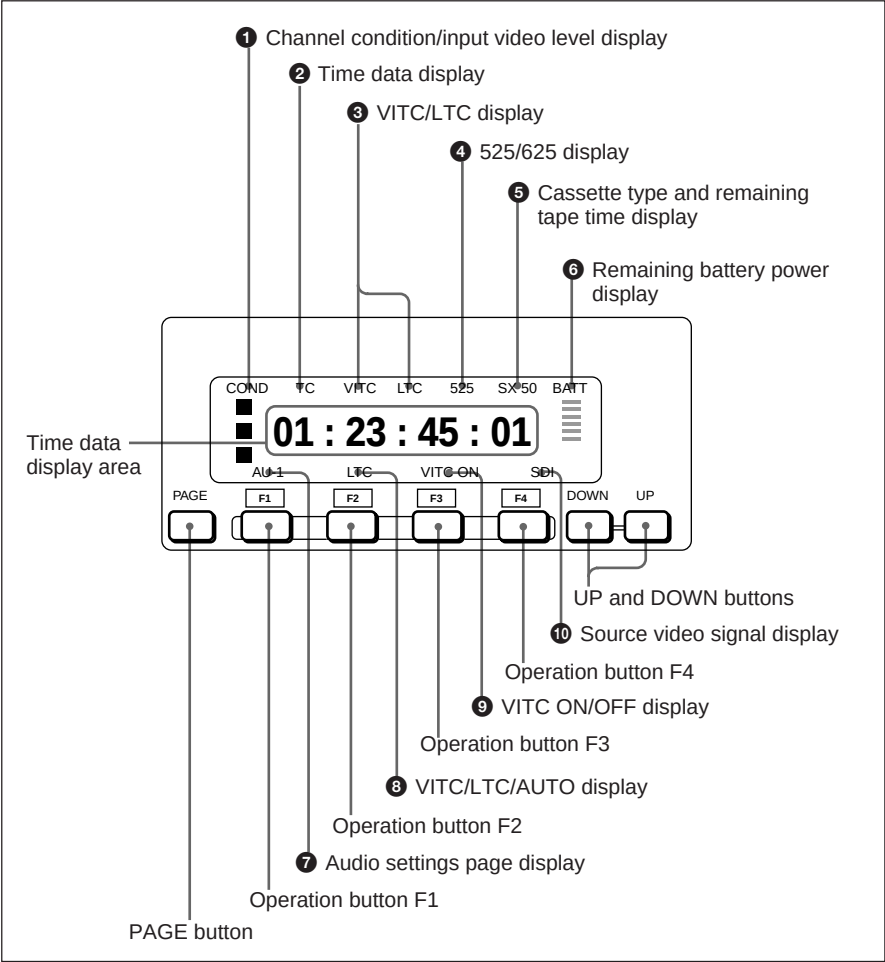
- 4 Carry out crash recording.

2-6 Submenu Screen Display

Information about the settings and operating status of the unit is displayed in the submenu screen.

2-6-1 Displays on the Home Page of the Submenu

The home page of the submenu is displayed in the submenu screen when you power the unit on.



2-6 Submenu Screen Display

❶ Channel condition/input video level display

Depending on the unit's operating status, one of the following is displayed here.

COND: Displayed during playback.

The playback condition is displayed on a scale of three levels.

CONFI: Displayed during crash recording when the CONFI is set to ON in video settings page 1/2 (*see page 2-29*). The playback condition of recorded signals is displayed on a scale of three levels.

VIDEO: Displayed in E-E mode.

When using composite video, the video level is displayed on a scale of nine levels.

PRE-R: Displayed when PREREAD on video setting page 1/2 is set to ON. During playback, the playback condition is displayed on a scale of three levels. When using composite video in E-E mode, the video level is displayed on a scale of nine levels.

❷ Time data display

Displays the time data and its type.

TC: Timecode

UB: User bits

No display: CTL

❸ VITC/LTC display

Depending on the unit's operating status, one of the following is displayed here.

During playback: VITC when VITC timecode has been read, LTC when LTC has been read.

During recording: The timecode being recorded.

During E-E: The timecode to be recorded, when it has been read.

❹ 525/625 display

Displays 525 when the unit is being used as with the 525 system, and 625 when it is being used with the 625 system.

❺ Cassette type and remaining tape time display

Displays the type of cassette in use and its remaining time (in 2-minute increments).

SX: Betacam SX

SP: Betacam SP

OX: Oxide tape

— —: No cassette is loaded.

When the remaining time falls to 2 minutes or less, the indication becomes 0 and flashes together with the cassette type indication.

Note

When the unit is playing back a Betacam SP cassette, the recording/playback format is displayed according to the setting of the SP TAPE switch on the control panel.

❻ Remaining battery power display

Displays the remaining battery power on a scale of seven levels. When the power is nearly exhausted, the BATT display flashes. When the power is completely exhausted, a flashing E (End) appears.

7 Audio settings page display

To select one of the groups of the audio settings pages (AU-1 to AU-4) or MIX/SWP, press operation button F1 to highlight this display, then press the UP or DOWN button. The selected page in the group or the audio settings subpage appears when you press the PAGE button.

For details, see “To switch between menu pages” on the next page.

8 VITC/LTC/AUTO display

To select the type of timecode to use, press operation button F2 to highlight this display, then press the UP or DOWN button. If you select AUTO, the type of timecode is distinguished automatically during playback (VITC if the playback speed is within $\pm 1/2$) and set to LTC during recording. You can switch to the general settings page by pressing the PAGE button after pressing operation button F2 to highlight this display.

For details, see “To switch between menu pages” on the next page.

9 VITC ON/OFF display

Set to ON to record VITC timecode. You can toggle the display between ON and OFF by pressing operation button F3 to highlight this display and then pressing the UP or DOWN button.

You can switch to the general settings page by pressing the PAGE button after pressing operation button F3 to highlight this display.

For details, see “To switch between menu pages” on the next page.

10 Source video signal display

You can select CMPST (composite) or SDI as the source video signal by pressing operation button F4 to highlight this display and then pressing the UP or DOWN button.

CMPST: Composite signal

SDI: SDI signal

If you press the PAGE button after highlighting this display, the video settings page appears, allowing you to make advanced settings.

For details, see “To switch between menu pages” on the next page.

When you set SG on video setting page 2/2 to one of AUDIO, VIDEO, and BOTH (see page 2-30), “SG” appears in this position.

If you press the UP or DOWN button with the SG indication highlighted, you can select one of the following: CMPST, SDI, and the option selected for “SG” on video setting page 2/2 (AUDIO, VIDEO, or BOTH).

2-6 Submenu Screen Display

2-6-2 Submenu Basic Operations

To switch between menu pages

In addition to the home page, the submenu has pages that allow you to make settings for input and output of video and audio signals, and other general settings.

You can switch between pages by pressing the buttons shown in the figure on the next page.

For more information about the video and audio settings pages, see section 2-7 “Input and Output Settings for Video and Audio Signals (Submenu)” (page 2-24).

To select an item

Display the page that contains the item you want to select, then press the operation button, F1 to F4, that is located in the same column as the item.

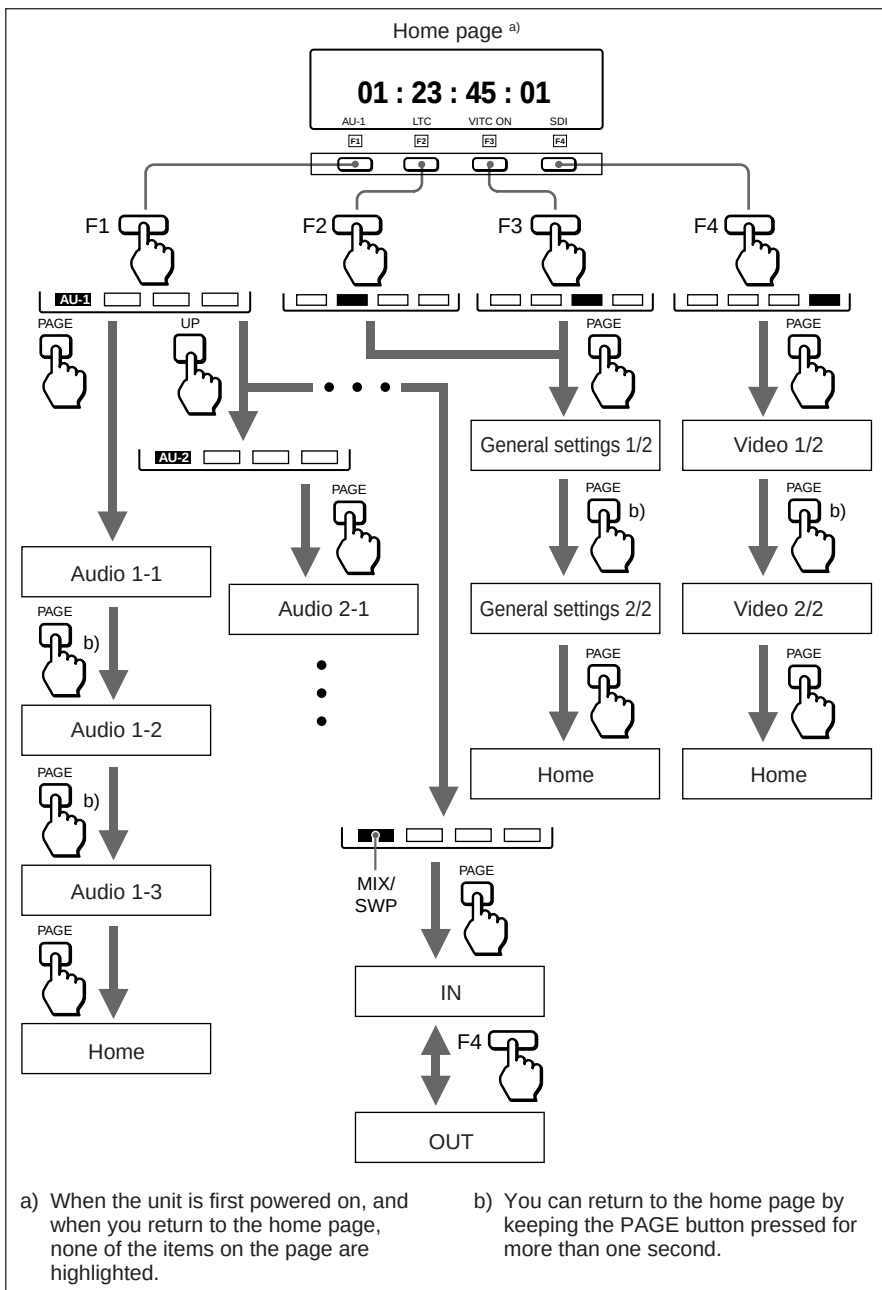
The selected item is highlighted. Press the button repeatedly until the item that you want to select is highlighted.

To change a setting

With the item that you want to change highlighted, press the UP or DOWN button.

The setting changes.

Press the UP or DOWN button repeatedly until the item is set to the value that you want.



2-7 Input and Output Settings for Video and Audio Signals (Submenu)

Using the submenu, you can make channel settings and adjust the input and output characteristics of video and audio signals.

For more information about basic submenu operations, see section 2-6-2 “Submenu Basic Operations” (page 2-21).

2-7-1 Making Settings in the Audio Settings Pages

The audio settings pages are divided into four groups, AU-1 to AU-4. To call up one of the settings pages in a group, select the group from the home page. Each settings page has a number

that indicates its group and its position within the group. For example, audio settings page 1-1 is the first page in group AU-1.

Audio settings page 1-1

IN-1
SDI-1

AUDIO INPUT
IN-2
SDI-2

IN-3
SDI-3

[AU-1-1]
IN-4
SDI-4

AGC
OFF

LIMITER
OFF

Item	Setting
AUDIO INPUT	Select the signals of audio input channels 1 to 4
IN-1	SDI-1 or ANALOG 1
IN-2	SDI-2 or ANALOG 2
IN-3	SDI-3 or ANALOG 1
IN-4	SDI-4 or ANALOG 2
AGC	Turn the audio input AGC circuits ON and OFF (enabled when the AUDIO INPUT PRESET/VARIABLE switch of the control panel is set to PRESET).
LIMITER	Turn the audio input limiter circuits ON and OFF (enabled when the AUDIO INPUT PRESET/VARIABLE switch of the control panel is set to VARIABLE).

To switch to audio settings page 1-2

Press the PAGE button.

Audio settings page 1-2

CH	MIX/SWAP		[AU-1-2]
1*IN-1	2 IN-1	3 IN-1	4 IN-1
IN-2	*IN-2	IN-2	IN-2
IN-3	IN-3	*IN-3	IN-3
IN-4	IN-4	IN-4	*IN-4

Item	Setting
MIX/SWAP CH 1 to 4	Select up to two audio input signals (IN-1 to IN-4) to be assigned to channels 1 to 4. When two signals are selected, they are mixed. To select Select the channel using operation buttons F1 to F4, and press the UP or DOWN button to add asterisks to the position of the desired input signal.

To switch to audio settings page 1-3

Press the PAGE button.

Audio settings page 1-3

LINE OUT	MONITOR	MONITOR	[AU-1-3]
CH-1/2	FIX	L*CH-1	R CH-1
		CH-2	*CH-2
		CH-3	CH-3
EMPH	DOLBY	CH-4	CH-4
OFF	OFF		

2-7 Input and Output Settings for Video and Audio Signals (Submenu)

Item	Setting
LINE OUT	Select channels 1/2 or 3/4 as the line out channels.
MONITOR	Select FIX for an output level determined according to the setting (either PRESET or VARIABLE) of the PB AUDIO PRESET/VARIABLE switch of the control panel, or VAR for an output level linked also to the LEVEL knob on the front control section.
MONITOR ^{a)}	Select monitor output L and R signals (up to four). To select Select channel for L using operation button F3 and channel for R using operation button F4, and press the UP or DOWN button to add the asterisk to the position of the desired channel.
	L Select from channels 1 to 4.
	R Select from channels 1 to 4.
EMPH	Set to ON when you want to add emphasis.
DOLBY	When playing back oxide tapes recorded in Betacam format, set to ON or OFF to match the Dolby ^{b)} setting at the time of recording.

- a) This item cannot be set when an audio settings page in group AU-1 is selected and WID/MON on general settings page 2/2 is set to AU.MON (see page 2-34) . In this case, the channels assigned to monitor outputs L and R are selected with the WIDE/AU.MON switch (see page 1-5) on the display panel.
- b) Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. “DOLBY” and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

Audio settings pages 2-1 to 4-3

Make settings in the same way as pages 1-1 to 1-3.

2-7-2 Making Settings in the Audio Settings Subpages

Use the audio settings subpages to make mix and swap input and output settings for channel 1 and channel 2.

To display the audio settings subpages

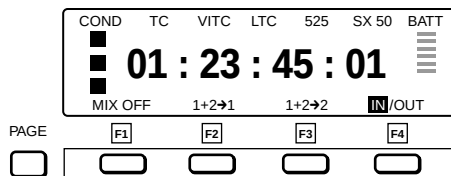
- 1** Press operation button F1 to highlight the audio settings item in the home page.

- 2** If the item displayed is not “MIX/SWP”, press the UP button until “MIX/SWP” appears.

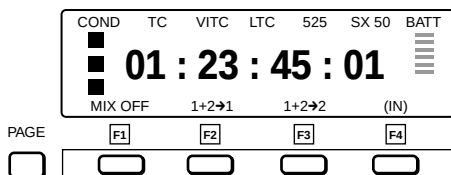
- 3** Press the PAGE button.

An audio settings subpage (input mixing page) appears as shown on the next page.

Screen displayed when WID/MON on general settings page 2/2 is set to WIDE (see page 2-34)



Screen displayed when WID/MON on general settings page 2/2 is set to AU.MON (see page 2-34)



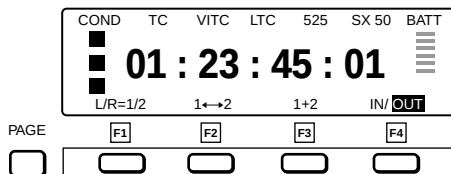
To switch pages

Press the F4 button.

An output monitor settings page like the one below appears.

Note

When WID/MON on general settings page 2/2 is set to AU.MON, the F4 button does not function, and you cannot display the monitor output settings page. To make monitor output settings, use the WIDE/AU.MON switch (see page 1-5) on the display panel.



Each press of the F4 button switches between the input mixing settings page and the output monitor settings page.

To return to the home page

Press the PAGE button.

2-7 Input and Output Settings for Video and Audio Signals (Submenu)

Contents of the audio settings subpages

When you change the settings of the audio settings subpages, the settings of the AU-1 group pages change as well, and vice versa.

However, when there is no item in the subpages corresponding to a setting made in an AU-1 group page, the setting is not reflected in the subpages.

Input mixing settings page

By pressing operation buttons F1 to F3, you can make the following three settings for mixing of input signals in audio channels 1 and 2. The selected setting is highlighted. To select input signals, use audio settings page 1-1.

MIX OFF: Assign IN-1 to channel 1, and assign IN-2 to channel 2.

1+2 → 1: Assign mixed signals of IN-1 and IN-2 to channel 1, and assign IN-2 to channel 2.

1+2 → 2: Assign IN-1 to channel 1, and assign mixed signals of IN-1 and IN-2 to channel 2.

Output monitor settings page

Note

When WID/MON on general settings page 2/2 is set to AU.MON, you cannot display this page. To make monitor output settings, use the WIDE/AU.MON switch (*see page 1-5*) on the display panel.

By pressing operation buttons F1 to F3, you can make the following three settings for left and right monitor output signals. The selected setting is highlighted.

L/R=1/2: Assign channel 1 to monitor output L (left), and assign channel 2 to monitor output R (right).

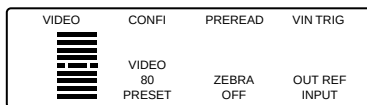
1 ↔ 2: Assign channel 2 to monitor output L, and assign channel 1 to monitor output R.

1+2: Assign mixed signals from channels 1 and 2 to monitor output L and R.

2-7-3 Making Settings in the Video Settings Pages

The following tables show the items that can be set in the video settings pages.

Video settings page 1/2



Item	Setting
VIN TRIG	Select whether or not to output a GPI signal from pin 5 of the AUX connector at the IN points of a video auto-edit (excluding audio split editing). OFF: Do not output a GPI signal. ON: Output a GPI signal.
CONF	Select whether or not to carry out CONF playback during crash recording. OFF: No CONF playback ON: CONF playback Note In insert or assemble editing, CONF playback is not possible.
PREREAD	Select whether or not to carry out preread editing. OFF: No preread editing ON: preread editing
VIDEO IN	Set the input level of composite video input signals. PRESET: Fixed at factory default level. VAR: Adjustable as desired. To adjust The current input level is displayed when you select VAR. Select the value displayed above VAR, and press the UP or DOWN button to change the displayed value. Adjust so that the input video level display bar is close to the center.
ZEBRA	Set the zebra pattern to be displayed in the LCD monitor. OFF: Do not display. 50%: Display zebra pattern with 50% or more video level. 80%: Display zebra pattern with 80% or more video level. 100%: Display zebra pattern with 100% or more video level.
OUT REF (See page 2-11 for details.)	Select the signal to which the internal reference video signal generator is synchronized. REF: Synchronize with the signal input to the REF. INPUT connector. INPUT: Synchronize with the signal selected in the home page (composite video signal or SDI signal).

2-7 Input and Output Settings for Video and Audio Signals (Submenu)

Video settings page 2/2

WIDE ^{a)}	AUD SG	VID SG	SG
OFF	SILNC	BB	OFF
PROCESS	Y/C DLY		
CONTROL	800	SYNC PH	SC PH
PANEL	PRESET	80	200

- a) The WIDE item appears when WID/MON on general settings page 2/2 is set to AU.MON (see page 2-34).

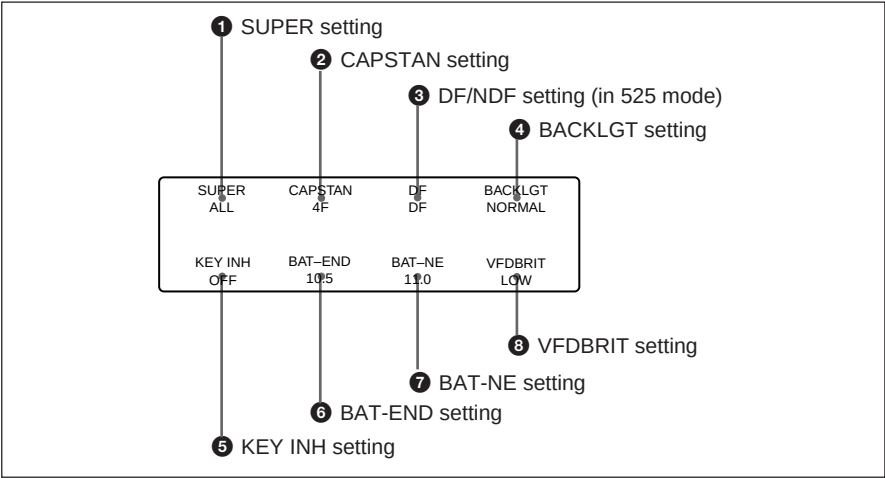
Item	Setting
PROCESS CONTROL	Select SETUP when you want to adjust the following items with the setup menu, and PANEL when you want to adjust them with the submenus and the lower control panel. • Output video level • Chroma output level • Setup level (525/60 mode) • Black level (625/50 mode) • Chroma phase • Y/C delay • Sync/subcarrier phase
Y/C DELAY	When the “PROCESS CONTROL” is set to PANEL, set the Y/C delay value. PRESET: Fixed at factory default level. VAR: Adjustable as desired. To adjust Press operation button F2 to indicate the VAR, press F2 again to highlight the value, and then press the UP or DOWN button to change the value.
SYNC PH	When the “PROCESS CONTROL” is set to PANEL, adjust the sync phase by pressing the UP or DOWN button.
SC PH	When the “PROCESS CONTROL” is set to PANEL, adjust the subcarrier phase by pressing the UP or DOWN button. The SC-H value is constant.
SG	Select the output of the internal audio or video signal generator for the source signal. OFF : Neither of the output of the internal audio nor video signal generator AUDIO: The output of the internal audio signal generator VIDEO : The output of the internal video signal generator BOTH: Both of the output of the internal audio and video signal generators
AUD SG	Select the operation of the internal audio test signal generator. SILNC : Silent signal. CH ID: Signal for recognizing each channel. 1kHz : At 1 kHz, -20 dB FS sine wave is supplied to all audio input channels.

Item	Setting
VID SG	Select the test signal to be output from the VTR's internal test signal generator. The internal test signal generator operates and outputs the selected test signal. This signal can also be recorded. CB75 : 75% color bar signal CB75R: 75% color bar signal (reverse) CB100 : 100% color bar signal BOW: Bowtie signal PLSBR: Pulse & bar signal MLTBS: Multi-burst signal HWP: H sweep signal 5STEP: 5-step signal RAMP: Ramp signal SH: Shallow ramp signal RED: Red signal GRAY: 50% flat signal WHITE: 100% flat signal SDI: SDI check field signal NTC7: NTC 7 test signal (selectable only in 525 mode) LN330: Line 330 test signal (selectable only in 625 mode) BB: Black burst signal
WIDE	Selects the aspect ratio for playback video signals or input video signals displayed on the LCD monitor. EDGE: Aspect ratio 16:9 (edge crop mode) L.BOX: Aspect ratio 16:9 (letter box mode) OFF: Aspect ratio 4:3 Note The WIDE item does not appear when WID/MON on general settings page 2/2 is set to WIDE (<i>see page 2-34</i>). In this case, select the aspect ratio by using the WIDE/AU.MON switch (<i>see page 1-5</i>) on the display panel.

2-8 General Settings Pages of the Submenu

The items shown below can be set on the general settings pages of the submenu.

General settings page 1/2



1 SUPER (superimpose) setting
Set to either of ALL, LCDMENU, or CPSTALL to specify output of superimposed text.

When set to ALL

	Output to LCD monitor	Output to VIDEO OUT 2 (SUPER) connector
Time data	Yes	Yes
Menus	Yes	Yes
Error messages/ Shot Mark list	Yes	Yes

When set to LCDMENU

	Output to LCD monitor	Output to VIDEO OUT 2 (SUPER) connector
Time data	No	No
Menus	Yes	No
Error messages/ Shot Mark list	Yes	No

When set to CPSTALL

	Output to LCD monitor	Output to VIDEO OUT 2 (SUPER) connector
Time data	No	Yes
Menus	No	Yes
Error messages/ Shot Mark list	No	Yes

For details about the information displayed, see “To display superimposed text information” (page A-11).

② CAPSTAN (capstan lock) setting

Set the capstan servo lock mode.

2F: Lock the capstan servo on 2 fields. When performing picture shift under the 525 system, set setup menu item 712 to ON (see page 6-28).

4F: Lock the capstan servo on 4 fields.

8F: Lock the capstan servo on 8 fields (625 system only).

③ DF/NDF setting (in 525 mode)

Select DF to advance timecode in drop-frame mode, and NDF to advance timecode in non-drop frame mode.

④ BACKLGT (back light) setting

Set to HIGH to increase the brightness of the LCD monitor back light.

⑤ KEY INH (key inhibit) setting

Set to ON to disable the buttons on the control panel. (Submenu operations can still be performed even when this item is set to ON.)

You can select the buttons that are disabled under setup menu item 118 (see page 6-12).

If you try to operate the disabled buttons, the message “!!KEY INH.!” appears in the time data display area in the submenu screen.

⑥ BAT-END (battery end) setting

Set a voltage value to indicate the shutdown voltage of this unit depending on the batteries you are using.

⑦ BAT-NE (battery near end) setting

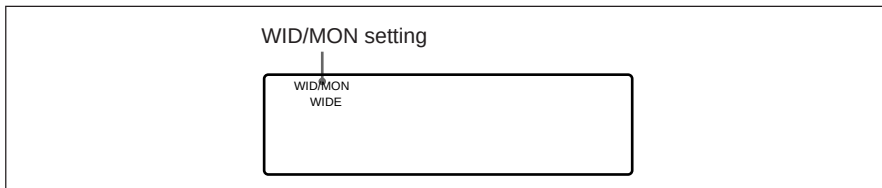
For alarms that alert you when the end of power as specified in the battery end setting ⑥ is near, specify a voltage that at which to begin the alarm display.

⑧ VFDBRIT (submenu brightness) setting

Sets the brightness of the submenu screen to HIGH or LOW.

2-8 General Settings Pages of the Submenu

General settings page 2/2



WID/MON (aspect ratio /monitor output) setting

Selects the functions to assign to the WIDE/AU.MON switch (*see page 1-5*) on the display panel.

WIDE: Switch the aspect ratio of the playback video or input video signals displayed on the LCD monitor.

Note

When this item is set to WIDE, you cannot make a WIDE setting on the video settings page 2/2 of the submenu.

AU.MON: Select signals to assign to audio monitor outputs L and R.

Note

When this item is set to AU.MON, you cannot make monitor output settings in audio settings page 1-3 and the audio settings subpage.

3-1 Selecting an Edit Mode

When you use two DNW-A25WS/A25WSP units, you can do two types of editing: assemble editing and insert editing. This section provides an outline of each type and explains how to select an edit mode.

Note

Before starting editing operation, set the recorder side REMOTE/LOCAL switch to LOCAL and the player side REMOTE/LOCAL switch to REMOTE.

3-1-1 Assemble Editing

In assemble editing, you record video and audio materials in order from the start of the tape. In addition to video, audio, CTL and timecode are recorded. If timecode is already recorded on the tape, the new timecode is recorded so as to form a continuous sequence with the existing timecode.

Assemble editing is convenient when you are recording on a new tape.

Note

Before you begin assemble editing for the first time with a new tape, video signal such as black signal, CTL and timecode must be recorded on the tape in advance of the recorder IN point for a length equal to or greater than the preroll time.

Selecting assemble mode

- 1 Press the RECORDER button on the recorder unit's control panel.

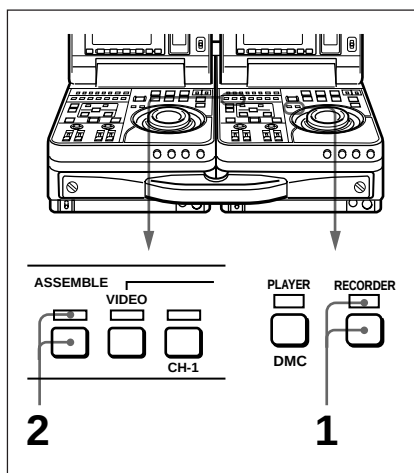
The RECORDER indicator lights.

- 2 Press the ASSEMBLE button on the recorder unit's control panel.

The ASSEMBLE indicator lights.

To cancel assemble mode

Press the ASSEMBLE button again to turn the ASSEMBLE indicator off.



3-1 Selecting an Edit Mode

3-1-2 Insert Editing

In insert editing, you insert video, audio, and timecode at desired tape positions on an already recorded tape. You can insert all three types of data at the same time, or insert one of the types separately. For audio, you can select multiple channels from among channels 1 to 4. Use insert editing when you want to do the following:

- Replace video and audio on unneeded sections of the tape with other video and audio.
- Insert music and narration into a tape with edited video.
- Insert video into a tape with edited audio.
- Record new timecode over already recorded timecode.

Note

Before you use an unrecorded tape in insert editing, video signal such as black signal, CTL and timecode must be recorded on all over the tape.

Selecting insert mode

- 1 Press the RECORDER button on the recorder unit's control panel.

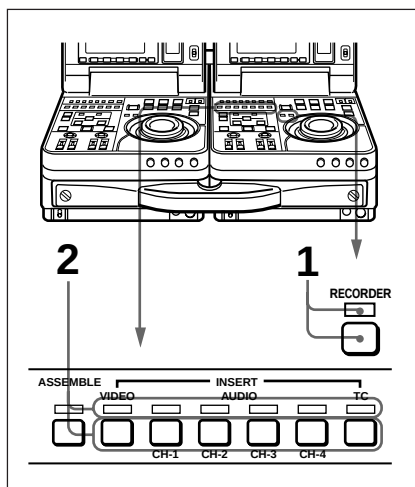
The RECORDER indicator lights.

- 2 Press one or more of the INSERT buttons on the recorder unit's control panel to select the signals you want to insert.

The corresponding INSERT indicators light.

To cancel insert mode

Press the lit INSERT buttons again to turn the corresponding indicators off. Selection of a signal is canceled when its indicator goes out.



3-2 Finding Edit Points – Search

Playback in search mode using the jog and shuttle dials allows finding edit points quickly.

On this unit, you can perform search in the following three modes: jog, shuttle and variable

Jog mode

Playback speed is determined by the rotation speed of the jog dial between ± 1 times normal speed. Rotate the dial in the clockwise direction to search in the forward direction, and rotate the dial in the counterclockwise direction to search in the reverse direction.

Shuttle mode

Playback speed is determined by the rotation angle of the shuttle dial between ± 24 times normal speed (21 steps). Click points allow playback at ± 5 times normal speed. Rotate the dial in the clockwise direction to search in the forward direction, and rotate the dial in the counterclockwise direction to search in the reverse direction.

When using the cassette recorded in Betacam/Betacam SP format, the playback speed range is between ± 10 times normal speed (19 steps).

Variable mode

Playback speed is determined by the rotation angle of the shuttle dial between ± 1 times normal speed (47 steps). Rotate the dial in the clockwise direction to search in the forward direction, and rotate the dial in the counterclockwise direction to search in the reverse direction. When using the cassette recorded in Betacam/Betacam SP format, the playback speed range is the same, but noiseless playback is not possible.

Switching between each mode

Lighting the JOG or SHUTTLE indicator shows the corresponding mode is selected. Lighting both the JOG and SHUTTLE indicators shows the variable mode is selected.

Switching from jog to shuttle or variable mode

Rotate the shuttle dial.

Switching from shuttle or variable to jog mode

Press the jog dial or rotate the jog dial while setting the shuttle dial at still position.

Switching from shuttle or jog to variable mode

Press the search button for 1 or more seconds.

3-2 Finding Edit Points – Search

Switching from variable to shuttle mode

Press the search button for 1 or more seconds.

To switch between normal playback and search modes

Press the PLAY and search buttons alternately.

As factory default setting, rotating the jog or shuttle dial switches to search mode at any time except during recording and editing.

If you change the setting of setup menu item 101, the above function will be disabled and switching to search mode will be possible only when the search button is pressed.

For details about setting, see item 101 on page 6-11.

3-3 Setting Edit Points

In editing operations, there are four edit points: an IN point and an OUT point on the recorder side, and an IN point and an OUT point on the player side. As soon as you set three of the edit points, the fourth edit point is calculated automatically.

In insert editing, you can set IN points for audio separately from the IN points for video (audio split editing).

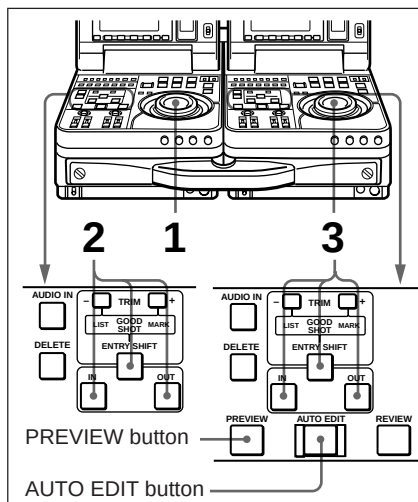
For details, see “To set audio IN points separately from video IN points (audio split editing)” (next page).

Note

If it is necessary to operate the buttons or dial on the player unit, set setup menu item 006 “LOCAL FUNCTION ENABLE” to ENA beforehand (see page 6-3).

3-3-1 Setting Edit Points

Proceed as follows to set edit points.



- 1 Rotate the player side jog or shuttle dial to find the player edit points.

For details about jog/shuttle dial operations, see 3-2 “Finding Edit Points – Search” (page 3-3).

- 2 Press the IN button together with the ENTRY/SHIFT button at the point you want to set as the IN point. Press the OUT button together with the ENTRY/SHIFT button at the point you want to set as the OUT point.

The IN and OUT points are set, and the IN and OUT buttons light.

- 3 Repeat steps 1 and 2 on the recorder side to set the recorder IN or OUT point.

As soon as you set three edit points on the player and recorder units, the PREVIEW button and the AUTO EDIT button light to indicate that you can conduct a preview or edit.

Note

If you set four or more edit points on the player and recorder units, the DELETE button flashes. You cannot conduct an edit when the unit is in this state. Delete the unneeded edit points.

For details, see 3-3-5 “Modifying Edit Points” (page 3-8).

3-3 Setting Edit Points

To set audio IN points separately from video IN points (audio split editing)

In insert editing, press the AUDIO IN button together with the ENTRY/SHIFT button at the point you want to set as the audio IN point.

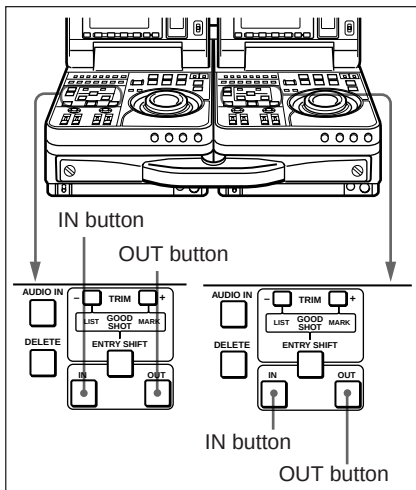
The audio IN point is set and the AUDIO IN button lights.

3-3-2 Checking Edit Points

You can check the time data of edit points and the duration between two edit points by displaying them in the submenu screen.

To display the time data of edit points

Press the recorder side or player side IN or OUT button.



3-6 Editing

While the button remains pressed, the time data for the corresponding edit point is displayed in the submenu screen.

To display the duration between two edit points

From among the recorder side and player side IN buttons (or AUDIO IN buttons) and OUT buttons, press two of the buttons together.

The duration appears in the submenu screen while the buttons are kept pressed. In some cases, negative durations preceded by a minus sign (–) may be displayed.

The displayed durations are calculated as follows.

When two edit points are set: The duration between the two edit points

When only one edit point is set: The duration between the edit point and the current tape position

When no edit points are set: The duration of the most recently set edit points

3-3-3 Cueing Up Edit Points

You can cue up any edit point, or cue up a position located a specified amount of time before the edit start point (preroll).

To set the preroll time

Using the setup menu item 001, specify how many seconds (the preroll time) in advance of the edit start point to set the preroll point.

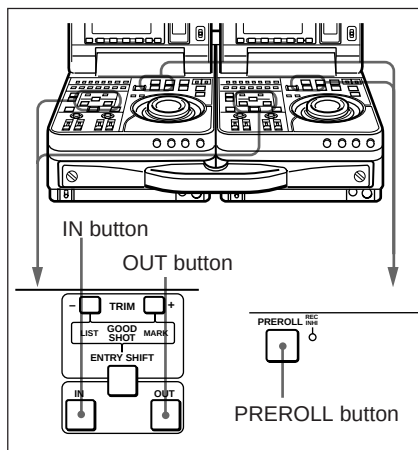
The factory default preroll time is 5 seconds.

For details, see page 6-2.

Use the following procedures to cue up an edit point or preroll the tape.

To cue up an edit point

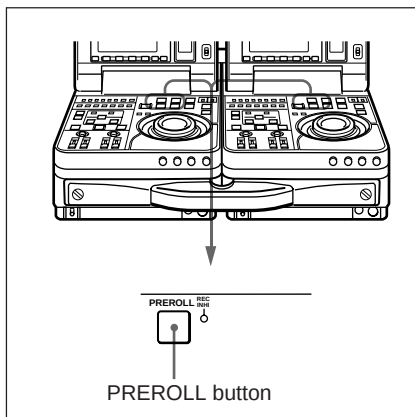
Press and hold the recorder side or player side IN or OUT button, and press the recorder or player PREROLL button while holding the IN or OUT button.



The tape runs to the IN point or OUT point and stops.

To preroll the tape

Press the recorder side or player side PREROLL button.



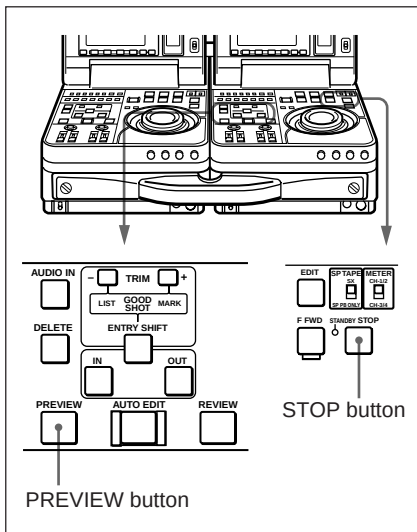
The tape runs to the preroll point, located in advance of the edit start point by the specified amount of time, and then stops.

3-3-4 Previewing Edit Results

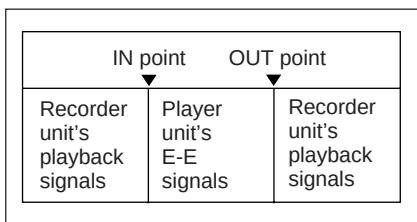
When you finish setting the edit points, the PREVIEW button flashes to indicate that you can conduct a preview.

To conduct a preview, press the recorder side PREVIEW button, turning it on.

3-3 Setting Edit Points



During the preview, you can see the video in the recorder side LCD monitor and listen to the audio through the recorder side speaker. The figure below shows the video and audio signals which can be monitored.



After the preview, modify, delete, or reset edit points as required.

For more information about modifying edit points, see section 3-3-5 “Modifying Edit Points” (page 3-8).

To stop a preview

Press the STOP button on the recorder unit.

The tape stops when the button was pressed.

3-3-5 Modifying Edit Points

Once you set edit points, you can delete them or modify them as required in units of one frame. When edit points have been set incorrectly, for example when an OUT point is located before an IN point or when the durations of editing segments on the player and recorder unit do not match, the DELETE buttons flash to alert you that a preview or edit cannot be conducted. Correct the edit points as required.

To turn a flashing DELETE button off without deleting an edit point

Press the DELETE button.

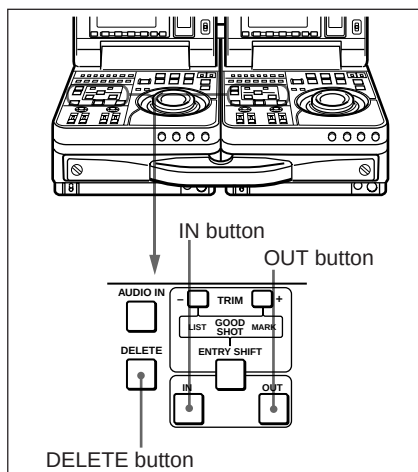
Displacing the recorder/player IN points at the same time

You can automatically displace the IN points on the recorder and player by the same offset from the synchronizing point.

- 1 Press the IN button and ENTRY/SHIFT button simultaneously, to set the synchronizing point for the recorder and player.
- 2 Hold down the recorder IN button, and rotate the jog or shuttle dial, to cue up to the edit start point.
- 3 Holding down the IN button, press the ENTRY/SHIFT button.

To delete an edit point

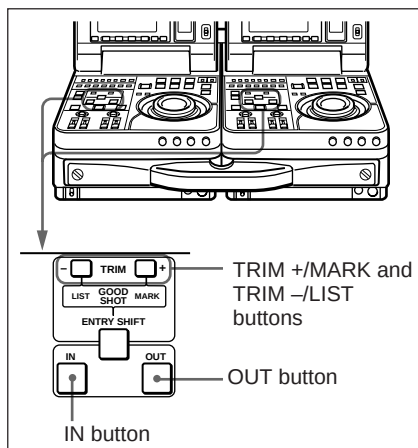
Proceed as follows.



Press the flashing DELETE button together with the IN button or the OUT button.

The DELETE button stops flashing, and the edit point is deleted.

To modify edit points slightly



- 1 While pressing the recorder side or player side IN or OUT button, depending on the edit point that you want to modify, press the TRIM +/MARK or TRIM -/LIST button on the same side of the control panel.

The edit point time data is displayed.

Each time you press the TRIM+/MARK button, you advance one frame, and each time you press the TRIM-/LIST button you return one frame.

- 2 After making the modifications, press the IN or OUT button that you pressed in step 1.

3-3-6 Setting Edit Points Using the Recorder Unit Only

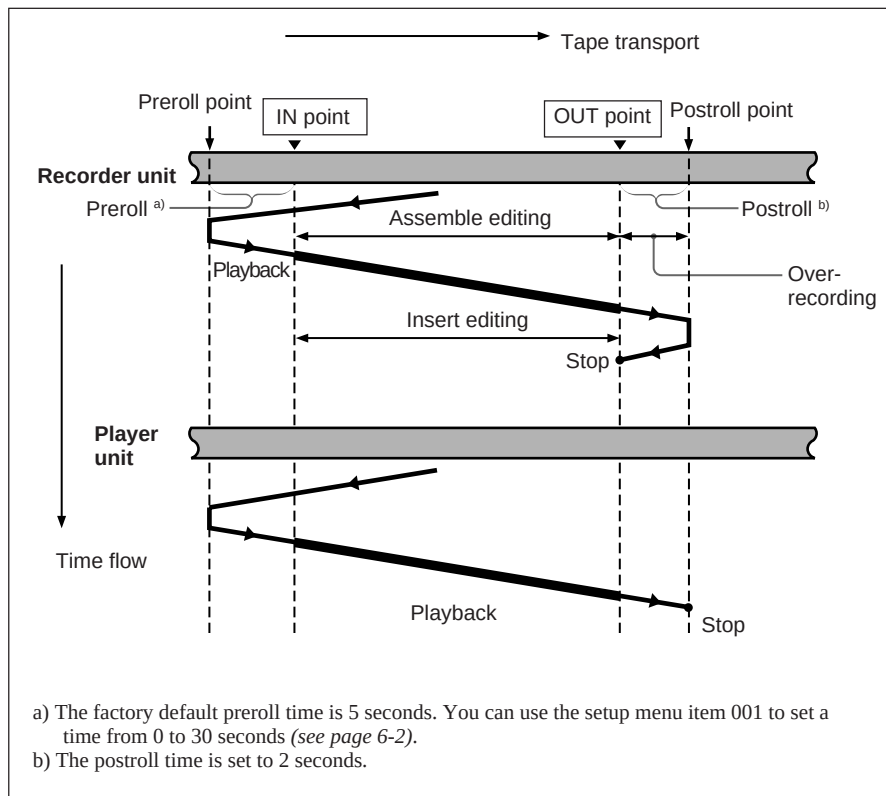
If you press the PLAYER/DMC button to light the PLAYER/DMC indicator on the control panel, you can operate the player unit or an external VTR with the recorder side buttons, and set edit points.

In this case, it is recommended that you set setup menu item 006 “LOCAL FUNCTION ENABLE” to ST&EJ on the player unit beforehand (see page 6-3).

3-4 Executing an Edit

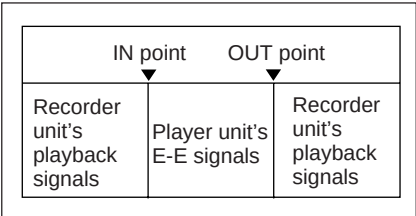
3-4-1 Outline of Editing Operations

The figure below shows how the recorder and player units operate during edit.



Monitoring signals during an edit

Just as during a preview, you can see the video in the recorder side LCD monitor and listen to the audio through the recorder side speaker. The figure below shows the video and audio signals which can be monitored.

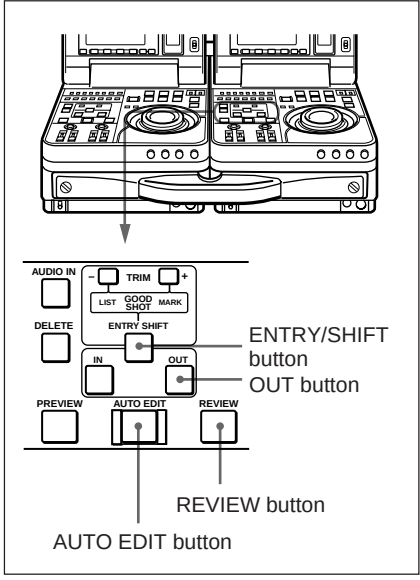


Note

To perform insert editing, CTL must be recorded in advance on the recorder side tape. You cannot perform editing on the sections of the tape where CTL have not been recorded. If a section with no CTL is encountered, the E-E picture for that section is replaced by noise on the monitor.

3-4-2 Starting an Edit

To start an edit, press the AUTO EDIT button.



The AUTO EDIT button is lit during an edit. It goes out when the edit finishes.

To stop an edit

Press the ENTRY/SHIFT button together with the OUT button. The edit ends, and the point where you pressed the buttons becomes the OUT point.

To abort an edit

Press the STOP button on the recorder unit.

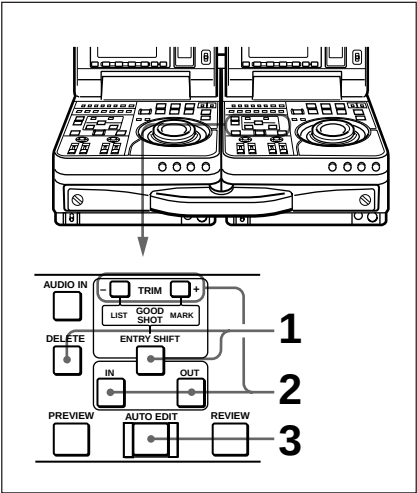
To review the edit results

Press the REVIEW button. When the review ends, the tape returns to the OUT point and stops.

3-4 Executing an Edit

3-4-3 Redoing an Edit

Edit point data is retained even after you execute an edit, until you set new edit points.
You can redo an edit after modifying the edit point data.



1 Press the recorder side DELETE button together with the ENTRY/SHIFT button.

2 Modify the edit points.

See “To Modify edit points slightly” (page 3-9) for the procedure.

3 Press the AUTO EDIT button.

The edit is executed.

3-4-4 Displaying the Results of Editing

This unit can save the editing results of the most recent 20 events in memory. You can recall the saved information, and amend it later. (For example, using preread editing, you can use this for redoing A/B roll editing or amending the base tape.) The information which can be saved is the recorder IN/OUT points, player IN/OUT points, the edit preset, and DMC editing start speed, and the saved data is preserved even when the unit is powered off.

Displaying the event information

Press the TRIM-/LIST button.
This displays a list as shown below.
To end the display, press the TRIM-/LIST button once more.

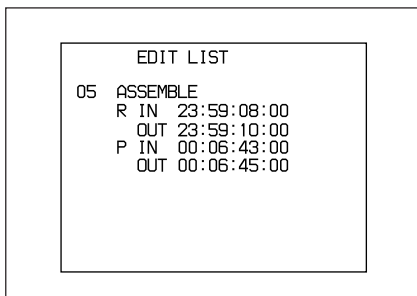
Event number		
	R: recorder IN point	Edit preset
EDIT LIST		
01	R 23:59:00:00	ASM
	P 00:06:35:00	
02	R 23:59:02:00	V1234T
	P 00:06:37:00	
03	R 23:59:04:00	V12
	P 00:06:39:00	
04	R 23:59:06:00	ASM
	P 00:06:41:00	
05	R 23:59:08:00	ASM
	P 00:06:43:00	

P: player IN point

ASM: assemble editing
V: video insert editing
1 to 4: audio insert editing
T: Timecode insert editing

Displaying more detailed information

Rotate the jog or shuttle dial to align the asterisk with the event number for which you want to see more detail, then press the search button. While you hold down the search button, you can view more detailed information for the selected event.



Deleting the event information

When the event information list is displayed, press the DELETE button and TRIM –/LIST button simultaneously.
 This deletes all event information.

Changing the settings

You can change the settings of the edit points and the edit preset.

- 1** Display the event information list.
- 2** Rotate the jog or shuttle dial to align the asterisk with the event which you want to recall, then press the SET button.

This displays the edit points and edit preset information, and allows you to change the settings.

3-5 DMC Editing

Using the Betacam SX format on the player unit allows you to perform variable-speed editing by controlling the playback speed of the player unit from the recorder unit. This type of editing is called DMC (dynamic motion control) editing.

Playback speed can be controlled between ± 1 times normal speed.

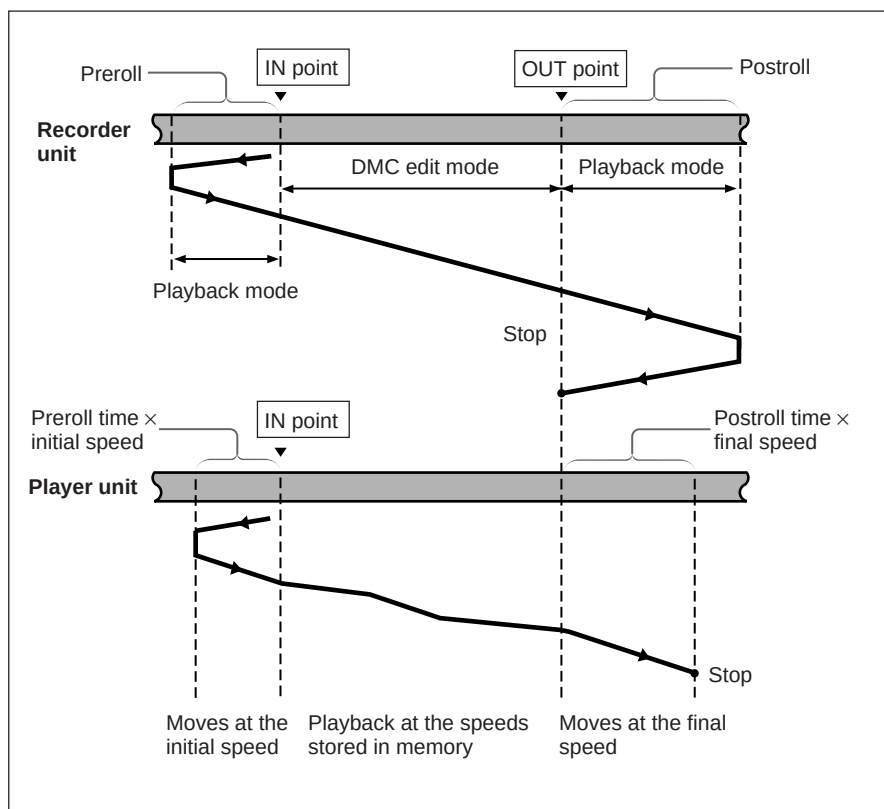
3-5-1 Overview of DMC Editing

Requirements for DMC editing

DMC editing is possible in either assemble or insert edit mode, but is not possible when executing audio split edit.

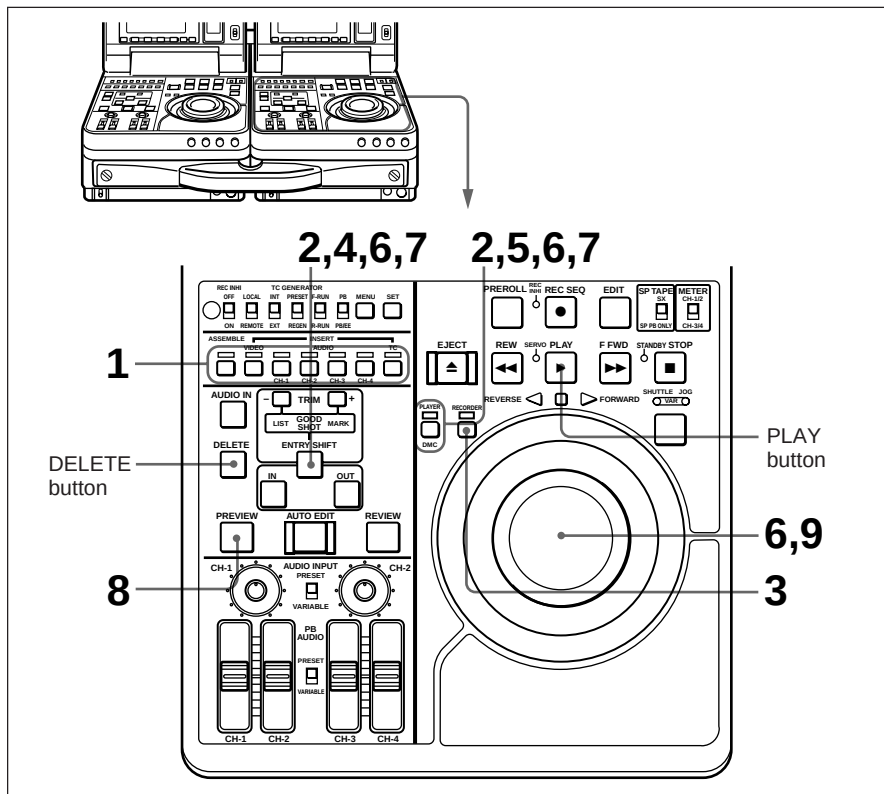
Tape movement during DMC editing

During DMC editing, the tape moves as shown in the diagram below.



3-5-2 Setting Edit Points and Playback Speeds

Perform the following procedure.



1 Press the **ASSEMBLE** or **INSERT** button to select edit mode.

2 Press the **PLAYER/DMC** button together with the **ENTRY/SHIFT** button.
The **PLAYER/DMC** indicator flashes and the unit enters **DMC** edit mode.
When the playback speed is stored in memory, the indicator flashes one time per second. When not, it flashes four times per second.

To exit DMC edit mode
Press the **PLAYER/DMC** or **RECORDER** button together with the **DELETE** button.

3 If the **PLAYER** indicator is lit, press the **RECORDER** button.

4 To set edit points, press the **ENTRY/SHIFT** button together with the **IN** or **OUT** button.

(Continued)

3-5 DMC Editing

- 5 Press the **PLAYER/DMC** button and set the **IN** point for the player unit.

Note

You cannot set an **OUT** point for the player unit.

- 6 Set the initial playback speed by rotating the shuttle dial while holding down the **PLAYER/DMC** button together with the **ENTRY/SHIFT** button.
If you wish to set the initial speed to normal speed, press the **PLAY** button.

The set speed is shown in the submenu screen.

- 7 Once the initial speed has been set, release the **PLAYER/DMC** button and **ENTRY/SHIFT** button.

- 8 Press the **PREVIEW** button.

The tape is prerolled. The recorder side tape runs at normal speed and the player side tape runs at its initial speed.

- 9 When the search button starts to flash, indicating that the tape has reached the **IN** point, rotate the shuttle dial to the position corresponding to the desired playback speed.

The variations in playback speed are stored into memory while the search button is flashing.

When the tape passes the **OUT** point, the search button goes out.

If the **JOG/SHUTTLE** indicator goes out before the tape passes the **OUT** point

The unit cannot store any more variations in playback speed. The capacity of the playback speed memory is 120 seconds.

3-5-3 Executing DMC editing

Press the **AUTO EDIT** button.
DMC edit is executed at the playback speed(s) stored in memory.
Once the DMC edit has been completed, the playback speed(s) in memory are cleared.

To confirm the results of the edit

Press the **REVIEW** button.

Note

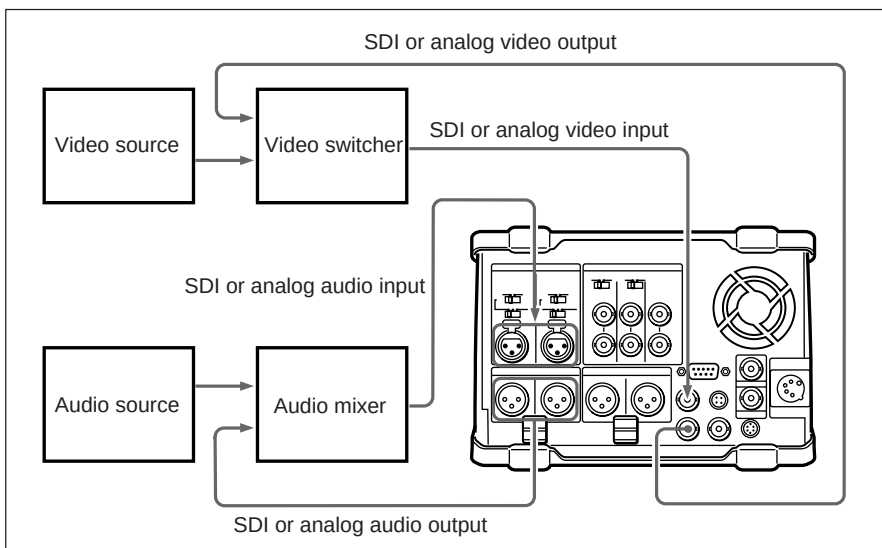
When using the RM-450 or PVE-500 to perform DMC editing, setting the initial speed to -1 may cause deviation of the editing points by about 10 frames.

3-6 Preread Editing

Video and audio signals (channels 1 to 4), already recorded onto the tape, can be used as an edit source for insert editing. This type of editing is called “preread editing”, as this unit uses the preread heads to read the signals in advance.

Signals read in advance can be sent to mixers for mixing and can be returned to the original channels or other audio channels (1 to 4).

For preread editing, set the “PREREAD” item on video settings page 1/2 of the submenu to “ON”.



Notes

- In preread editing, if an input video signal is used as the reference signal for the output video signal, oscillation may occur because of loop-closing. To avoid this, set the “OUT REF” item on video settings page 1/2 of the submenu to “REF” and set the item 309 in the setup menu to “AUTO1” to select the external reference signal for preread editing.

- When preread mode is selected, this unit will not shift into E-E mode in any operation mode, to avoid oscillation caused by the loop connection. When preread mode is turned off, however, the E-E signal is output and oscillation may occur if connection between the input and output of the same channel is not removed after preread editing. To prevent the oscillation, select PB mode for the video and digital audio channels in all the modes before the preread editing, as follows:

3-6 Preread Editing

- 1** Set the monitor output switch to “PB”.
- 2** On video settings page 1/2 of the submenu, set “PREREAD” to “ON”.
- 3** Make the necessary connections for the preread editing.
- 4** Execute the preread editing after selecting the desired insert editing.

For details of executing insert editing, see 3-1-2 “Insert Editing” (page 3-2).

- 5** After preread editing, break the connections used for the preread editing.
 - 6** On video settings page 1/2 of the submenu, set “PREREAD” to “OFF”.
 - 7** Make sure that no loop connection remains.
- When using an external switcher, set setup menu item 727 (page 6-32) to EXT.
 - Some switchers cannot be used due to their delay time. For details, consult Sony service personnel.

3-7 Special Editing

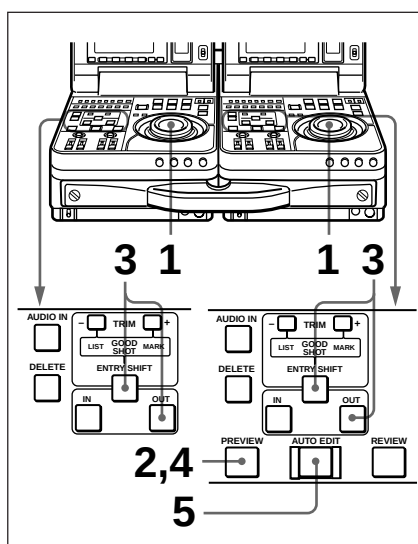
This section explains the following kinds of editing.

- Quick editing
- Continuous editing
- Manual editing

3-7-1 Quick Editing

After selecting the edit mode, you can work more efficiently by using quick editing, which allows you to set edit points and preview at the same time.

Proceed as follows.



- 1 Stop the tapes at the points where you want to set the recorder side and player side IN points.

- 2 Press the recorder side PREVIEW button.

A preview starts. The points selected in step **1** are set as the IN points, and the IN buttons of the recorder and player units light.

- 3 At the point where you want to set the OUT point, press the recorder side or player side OUT button together with the ENTRY/SHIFT button.

The OUT point is set, and the OUT button that you pressed lights.

- 4 Conduct another preview and modify the edit points as required.

- 5 Press the AUTO EDIT button.

The edit starts.

When the edit finishes, the recorder unit stops at the OUT point and player unit stops 2 seconds after the OUT point.

To edit even more quickly

- 1 Stop the tapes at the points where you want to set the recorder side and player side IN points.

(Continued)

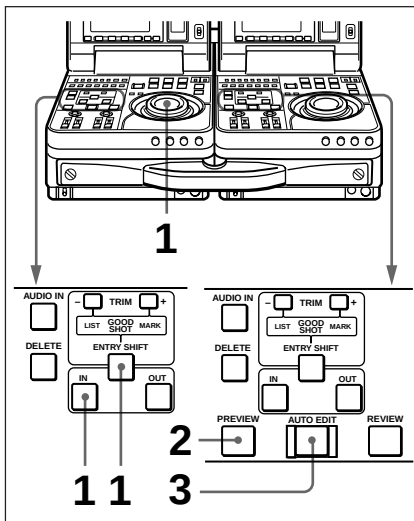
3-7 Special Editing

- 2 Press the AUTO EDIT button.

The edit starts.

- 3 While monitoring the picture, when you reach the point you want to set as the OUT point, press the player side or recorder side OUT button together with the ENTRY/SHIFT button.

The point where the edit started is set as the IN point, and the point where the pressed the OUT and ENTRY/SHIFT buttons is set as the OUT point.



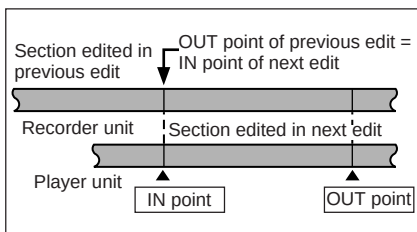
- 1 Set the player side IN point.
- 2 Press the recorder side PREVIEW button to conduct a preview.
- 3 Press the AUTO EDIT button.

The edit starts.

When the edit ends, the recorder unit stops at the OUT point and player unit stops 2 seconds after the OUT point.

3-7-2 Continuous Editing

When you execute multiple edits in succession, you can edit from the second time on by setting the IN and OUT points of the player side only. After execution of an edit, the recorder returns automatically to the OUT point. Therefore, the recorder side OUT point of the current edit becomes the IN point of the next edit.



Use the following procedure.

To stop an edit

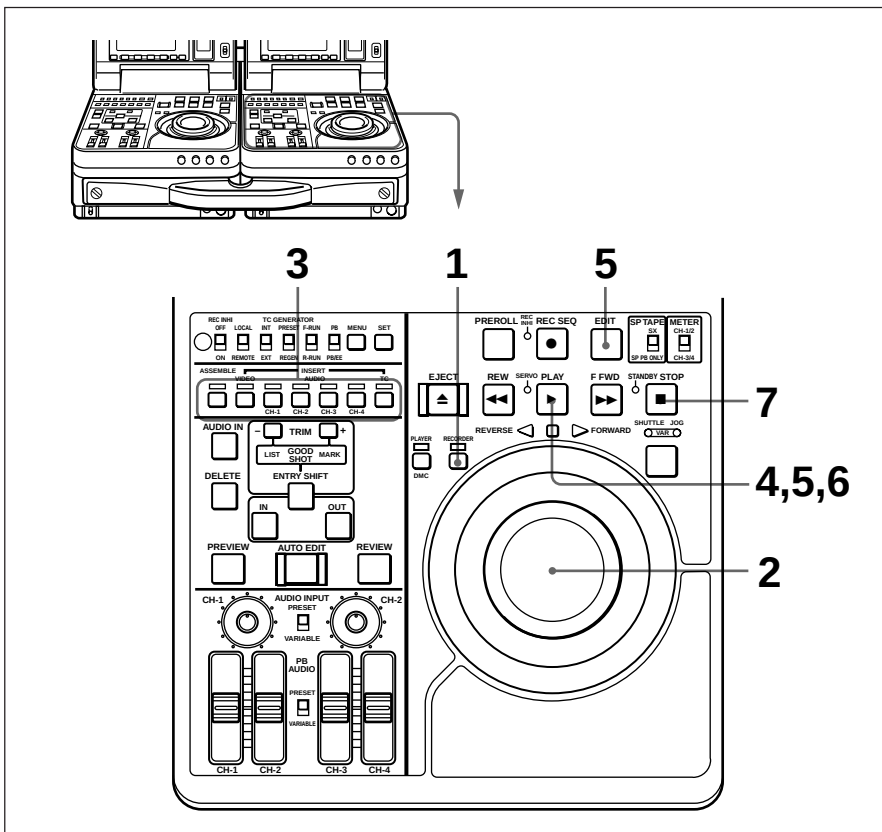
Press the ENTRY/SHIFT button together with the OUT button. The edit ends, and the point where you pressed the buttons becomes the OUT point.

To abort an edit

Press the STOP button on the recorder unit.

3-7-3 Manual Editing

Perform manual editing using the recorder unit.



3-7 Special Editing

- 1** Press the RECORDER button, lighting the indicator.
- 2** Use the jog or shuttle dial to find the point where the edit will start (the recorder IN point), and stop the tape slightly in advance of this point.

Note

There will be some screen breakup at this point if the edit starts with the recorder unit in stop mode.

- 3** Select the edit mode.
- 4** Press the PLAY button.

Recorder unit playback starts.

Note

About 2 seconds are required for the picture to stabilize. You should begin playback at a point on the tape more than 2 seconds in advance of the section you will use in the edit.

- 5** Press the EDIT button together with the PLAY button at the point where you want to start the edit (the recorder IN point).

The edit starts.

- 6** Press the PLAY button at the point where you want to end the edit (the recorder OUT point).

The edit ends but player unit's playback continues.

- 7** Press the STOP button to stop recorder unit's playback.

4-1 Recording

This section describes recording of external input signals.

Note

When two DNW-A25WS/A25WSP units are combined, set both REMOTE/LOCAL switches to LOCAL.

4-1-1 Preparations for Recording

Perform the following procedure.

- 1 Connect the source signals.
- 2 Select video and audio signals which you want to record.
Video: SDI or composite signal
(see “10 Source video signal display” on page 2-21)
Audio: SDI or analog audio signals for each channel *(see pages 2-24 and 2-25).*
- 3 Make settings for reference video signals *(see page 2-11).*
- 4 Make settings for timecode *(see page 2-13).*

When using Betacam SP cassettes

Set the SP TAPE switch to SX.

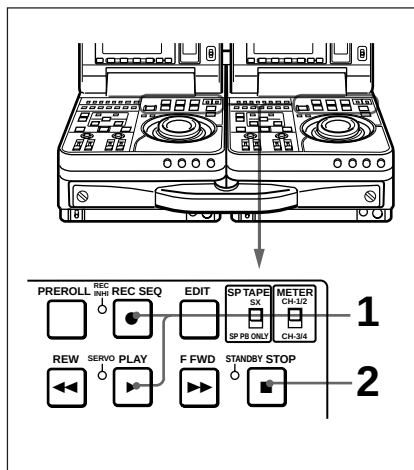
To adjust analog audio input level

For recording analog audio signals, you can adjust input level.

Set the AUDIO INPUT PRESET/VARIABLE switch on the control panel to VARIABLE. Turn the AUDIO INPUT CH-1/CH-2 knobs, monitoring the input levels indicated by audio level meter.

4-1-2 Recording Operation

Confirm that the cassette type display in the submenu screen is “SX” and that the REC INHI indicator on the control panel is not lit. Then, follow the procedure below.



- 1 Press the REC/SEQ and PLAY buttons at the same time.

Recording starts and the POWER indicator turns to red.

(Continued)

4-1 Recording

- 2 Press the STOP button to stop recording.

If recording continues to the end of the tape, the tape automatically rewinds to the beginning and stops.

4-2 Sequential Recording

When you combine two DNW-A25WS/A25WSP units, you can perform sequential recording from one unit to another.

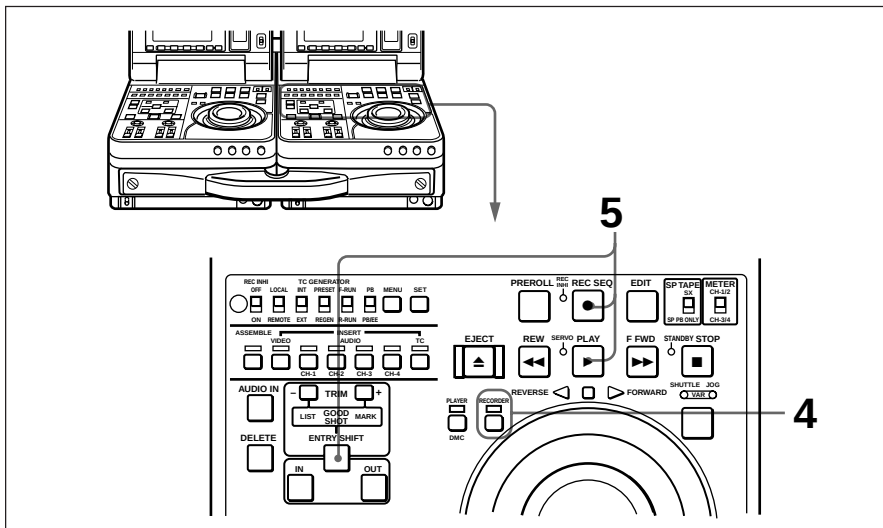
When you perform overwrite recording using only two cassettes, the last two hours recording can be obtained at any time.

When you renew the cassette about every 1 hour, endless recording is possible.

Use the following procedure. You can do control panel operations on the recorder and player units during sequential recording.

Note

Set the recorder side REMOTE/LOCAL switch to LOCAL and the player side REMOTE/LOCAL switch to REMOTE beforehand.



Rewind the tape to the top beforehand.

- 1 Insert the cassettes into the recorder and player units.

- 2 Connect the recorder and player, units as for editing (*see page 2-6*).
- 3 Set setup menu item 014 to a setting other than OFF (*see page 6-5*).
- 4 Press the recorder side RECORDER button to light the RECORDER indicator on the recorder unit.
- 5 Simultaneously press the recorder side ENTRY/SHIFT button, REC/SEQ button, and PLAY button.

The recorder side begins recording.

The STANDBY indicator of the player unit goes out. The POWER indicator turns to orange.

The player unit starts recording automatically when the remaining time of the recorder side tape reaches 2 minutes.

The setting of Setup menu item 014 affects what happens when a tape ends.

When AUTOMATIC OVERWRITE is selected

Endless recording on the same cassette continues, overwriting on the previous contents.

When MANUAL CASSETTE REPLACE is selected

When the tape end is reached, the tape is rewound and the EJECT button begins to flash.

To continue recording, insert a new cassette into the recorder unit. The recorder unit will start recording automatically when the remaining time of the player side tape reaches 2 minutes.

To stop sequential recording

Sequential recording stops in the following cases.

- When a tape transport button (PLAY, STOP, F FWD, REW) or a search button is pressed during recording.
- If the cassette is not exchanged when the EJECT button flashes though setup menu item 014 is set to REPL.

4-3 Playback

This section describes playback of tapes.

Note

When two DNW-A25WS/A25WSP units are combined, set both REMOTE/LOCAL switches to LOCAL.

For playback using the jog/shuttle dials, see 3-2 “Finding Edit Points –Search” (page 3-3).

- 5 Select the playback format on the player unit.

To play back cassettes recorded in Betacam SP format

Set the
SP TAPE switch to SP PB ONLY.

To play back Betacam SP cassettes recorded in Betacam SX format

Set the SP TAPE switch to SX.

4-3-1 Preparations for Playback

Perform the following procedure.

- 1 Connect video/audio signal output connectors to external equipment if necessary.
- 2 Select output audio signals (*see page 2-26*).
- 3 Press the CTL/TC/U-BIT button to select the time data.

When using CTL

Press the RESET button to set the value to “0:00:00:00”.

When using timecode or user bits

Select the type of timecode (VITC/LTC/AUTO) using the submenu (*see page 2-21*).

- 4 Set the METER switch to CH-1/2 or CH-3/4 to select the channels indicated by audio level meter.

To output the timecode synchronized with the output video signal

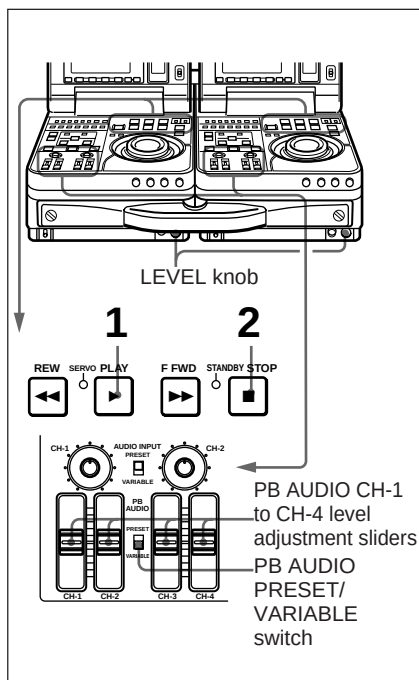
The playback timecode or the timecode read by the timecode reader can be output from the TC OUT connector.

Select REGEN in setup menu item 606 (*see page 6-23*), set the INT/EXT switch on the control panel to INT, and the PRESET/REGEN switch to REGEN.

4-3-2 Playback Operation

Confirm the recording format of the cassette (SX, SP or OX) indicated on the submenu screen.

Then, perform the following procedure.



- 1 Press the PLAY button.

Playback starts.

To adjust speaker/headphones audio level

Rotate the LEVEL knob on the front control section.

To adjust audio playback level

Set the PB AUDIO PRESET/VARIABLE switch to VARIABLE, and adjust using the PB AUDIO CH-1 to CH-4 level adjustment sliders.

- 2 Press the STOP button to stop playback.

If playback continues to the end of the tape, the tape automatically rewinds to the beginning and stops.

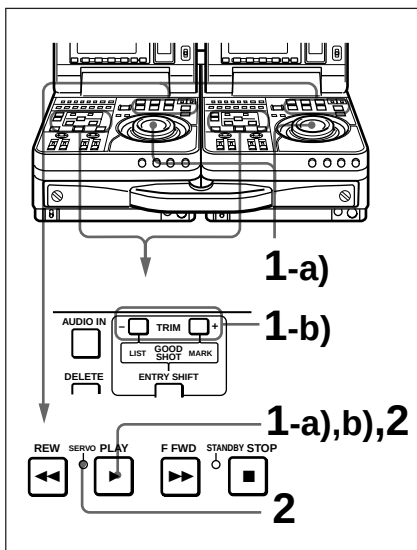
4-3 Playback

4-3-3 Capstan Override Playback

When playing back the same program on two units, the capstan override function is convenient for frame synchronization of playback pictures.

- 2 Release the PLAY button when the adjustment is completed.

The VTR returns to normal speed playback and the SERVO indicator lights.



- 1 Adjust the playback speed using either method a) or b).
 - a) Holding down the PLAY button, rotate the shuttle dial. The adjustment range is $\pm 15\%$ in steps of 1%.
 - b) Holding down the PLAY button, press one of the TRIM +/MARK or TRIM -/LIST buttons. The adjustment range is $\pm 8\%$.

5-1 Overview of Shot Mark/Shot Data Function

This unit can record shot marks or use shot marks recorded with Betacam SX camcorders (shot marker function). The shot mark function enables quick access to the marked points, for efficient editing.

When shot data is recorded on the tape, you can display the data and make use of it for sorting shot marks.

5-1-1 Shot Mark Function Features

The shot mark function has the following features.

(1) Listing shot mark types and timecodes

There are four types of shot marks: REC Start (R), Shot Mark 1 (S1), Shot Mark 2 (S2) and Post Mark (mark added with this unit).

The unit memorizes the mark type and the timecode (LTC) for the mark position for up to 200 marks read from a tape. Once the marks have been memorized, they remain in memory even when the unit is powered off. You can display the list of shot marks on the LCD monitor. You can also use the Shot Mark Operation menu to create shot mark lists by reading in only the specified shot mark types, and delete all or a part of data in a list when it is no longer needed.

For more information about shot marks, refer to the Operation Manual of your Betacam SX camcorder.

(2) Writing and deleting shot marks

You can use the Shot Mark Operation menu to specify whether REC Start marks are recorded. You can write additional shot marks at any position on the tape and delete individual marks that are no longer needed.

(3) Creating virtual shot marks

You can add virtual shot marks to the shot mark list during playback or search. (They are not recorded on the tape.)

(4) Inserting memo marks

You can place a memo mark (#) on shot marks that you want to remember.

(5) Sorting shot marks

Each time that marks are read in, they are sorted and displayed in a list. When shot data is recorded, you can sort the marks to display which cassette they were read from. You can also sort shot marks by timecode. If two marks with the identical timecode are read, one of the marks is deleted.

(6) Cueing up shot marks

You can cue up a shot mark by selecting it from the shot mark list. You can also cue up a shot mark located close to the current position (index function).

5-1 Shot Mark Operations

5-1-2 Shot Mark Operation Menu

To display the Shot Mark Operation menu, press the MENU button while pressing the TRIM+/MARK button.

SHOT MARK
G01:SEARCH TYPE - all
G02:LISTING TYPE
G03:RS.MARK MODE
G04:MARK IN REC shot1
END

The menu shown in the figure appears.

The Shot Mark Operation menu is composed of four items, G01 to G04. The settings for each item are shown below.

Number	Name	Settings
G01	SEARCH TYPE SELECT	Select the type of shot marks to index. rec start mark shot mark 1 shot mark 2 post mark all
G02	LISTING TYPE SELECT	Select whether to include marks types in the mark list. rec start mark: Include REC Start marks(ON/OFF) shot mark 1: Include Shot Mark 1 (ON/OFF) shot mark 2: Include Shot Mark 2 (ON/OFF) post mark: Include Post Mark (ON/OFF).
G03	REC START MARK MODE	Select whether to record REC Start marks, for each operating mode. crash rec: Write REC Start marks in crash REC mode (ON/OFF) assemble: Write REC Start marks in assemble mode (ON/OFF) insert: Write REC Start marks in insert mode (ON/OFF)
G04	MARK SELECT IN REC/ASSEMBLE	Select the type of marks written during recording and in assemble mode. shot mark 1 shot mark 2 post mark

To change the settings

The procedures for selecting and changing menu items are the same as the procedures for the Setup menu. To change items G02 and G03, press the STOP button and select the item

whose ON/OFF setting you want to change. Then rotate the jog or shuttle dial while pressing the Search button to change the ON/OFF setting.

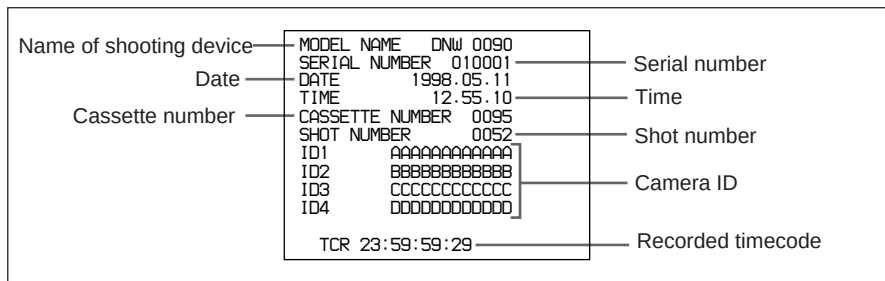
For more information about using the Setup menu, see section 6-2-2 “Basic Menu Operations” (page 6-6).

5-1-3 Reading Shot Data

Shot data is recorded continuously on the tape during shooting.

To display shot data, press the **PLAY** button together with the **ENTRY/SHIFT** button.

The tape is played back, and the display shown below appears.



The contents of the display change as the shooting conditions change (for example, the date and time or shooting device change). Sections where no data is recorded because you changed the shooting device are blank.

To turn off the display

Press the ENTRY/SHIFT button again together with the PLAY.

5-2 Shot Mark Operations

Use local mode for shot mark operations. (Remote control shot mark operations are not possible.)

5-2-1 Reading Shot Marks

To read shot marks, insert a cassette on which shot marks have been recorded into the recorder or player and press the TRIM-/LIST button while holding the F FWD or REW button.

The FWD or REW button flashes while the shot marks are being read. The search stops when it reaches the tape end.

Note

The maximum number of shot marks that can be read is 200. Reading stops when 200 marks have been read. At the same time, the message “SHOT LIST FULL” appears in the submenu screen and the WARNING indicator flashes.

The same message and warning are given if 200 marks have already been read in at the time when reading starts. To cancel the alarm, press one of the tape transport buttons.

To stop reading shot marks

Press the STOP button.

To read shot marks from multiple cassettes

You can read shot marks from multiple cassettes by exchanging the cassettes. The unit adds marks from the new cassettes to the end of the shot mark list, until the limit of 200 marks is reached. For example, if 190 marks have already been read, up to 10 marks can be read from the next cassette.

A dividing line (broken line) is displayed between the data of the first cassette and the data of the next cassette.

To read only selected mark types

If you need only a specific mark type, use item G02 on the Shot Mark Operation menu to select that type.

5-2-2 Writing Shot Marks

To write REC Start marks

You can write REC Start marks during crash REC, assemble, and insert mode. Under item G03 of the Shot Mark Operation menu, change the setting of the mode you want to use to ON.

Note

For insert mode, press the TC button to turn the indicator on.



To write shot marks

To write shot marks in recording and assemble mode

Under Shot Mark Operation menu item G04, select the type of mark you want to write. To write a mark, press the TRIM+/MARK button while holding the ENTRY/SHIFT button at the point where you want to write the mark. The message “RECORD SHOT MARK” appears on the LCD monitor and in the lower part of the submenu screen while the mark is being written.

To write marks in playback, stop, and search modes

You can only write Post Marks in these modes.

To write a mark, press the TRIM+/MARK button and keep it pressed for 2 seconds or longer. This puts the unit into shot mark write and delete mode (the ENTRY/SHIFT button flashes). At the position where you want to write the mark, press the TRIM+/MARK button while holding the ENTRY/SHIFT button. The message “RECORD SHOT MARK” appears on the LCD monitor and in the lower part of the submenu screen, and the REC button lights while the mark is being written.

Note

LTC user bits are used to record shot marks.

If LTC user bits are used for recording other data, this data may be affected by the shot marks.

5-2-3 Creating a Virtual Shot Mark

During playback or search, press and hold the ENTRY/SHIFT button, and press the TRIM+/MARK button while holding the ENTRY/SHIFT button.

A virtual shot mark is entered, and the message “V-MARK xxx” appears on the LCD monitor and in the lower part of the submenu screen (xxx is the mark number).

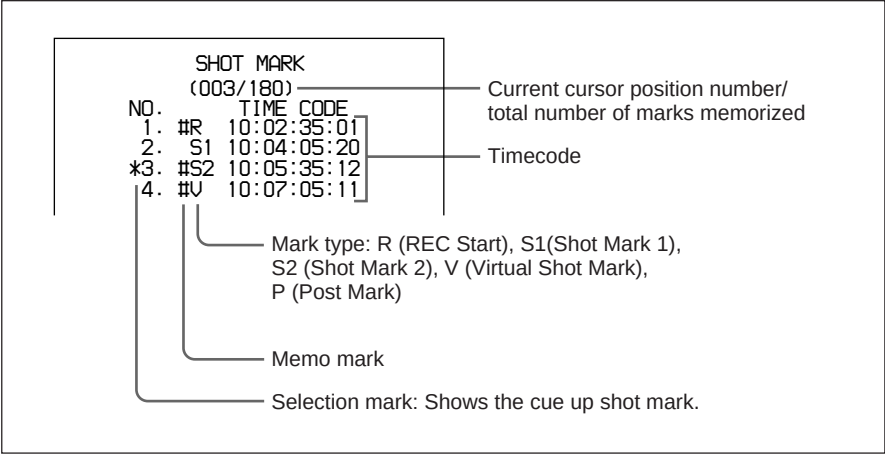
5-2-4 Displaying Shot Mark List

To display the shot mark list, press and hold the ENTRY/SHIFT button, and press the TRIM-/LIST button while holding the ENTRY/SHIFT button.

Press the buttons again to cancel the display.

The figure on next page shows the contents of the shot marker list.

5-1 Shot Mark Operations



To select a mark

Rotate the jog or shuttle dial to move the selection mark (*) to the left of the number of the mark you want to select.

Hold down the HOLD button and rotate the dial to move the selection mark by 10 items at a time.

To attach a memo mark (#)

Select the mark to which you want to attach the memo mark, then press the SET button.

Detaching the memo mark

Select the mark from which you want to detach the memo mark, then press the SET button.

To make the shot mark list of selected shot marks

1 Display the shot mark list and press and hold the STOP button, and press the SET button while holding the STOP button.

The mark selection display appears.

2 Rotate the jog or shuttle dial to select a mark.

3 Rotate the jog dial while holding down the search button to select ON or OFF for the selected mark. Select ON to list it and select OFF to skip it.

Returning to the shot mark list display

Press the STOP button together with the SET button.

To display shot marks and shot data at the same time

At one of the broken lines in the shot mark list, rotate the jog or shuttle dial to move the selector mark (*).

If shot data was recorded for the first mark in the group below the broken line, the following data is displayed.

You can sort the marks in the list by the information in shot data. For details, see section 5-2-6 “Sorting Shot Marks” (page 5-8).

		Serial number (6 digits)		Shooting device model name (4 characters)	
		SHOT MARK (---/180)		Shooting device model number (4 digits)	
		TIME CODE		Cassette number (4 digits)	
Shot data	NO.	*012345	DNW	0123	4567
First mark in group		011	S1	10:04:05:11	
		012	R	10:05:35:24	
		013	U	10:07:05:02	

		014	R	10:08:35:04	
		015	S2	10:09:05:11	
		016	R	10:10:35:24	
		017	R	10:10:36:00	

To delete shot marks from the list

Proceed as follows to select and delete shot marks that are no longer needed.

- 1 In the shot mark list, select the mark to delete.
- 2 Press the TRIM +/MARK button.

While you press the button, an “X” is displayed in the list after the number of the selected mark. The “X” mark indicates deletion, and disappears when you release the button.

If you only want to delete one mark, proceed to step 4.

- 3 While keeping the button pressed, rotate the jog or shuttle dial to select a range of marks to delete.

- 4 While keeping the button pressed, press the DELETE button.

The marks with “X” marks are deleted.

Deleting all data in a list

Press and hold the DELETE button, and press the TRIM –/LIST button while holding the DELETE button.

Using a shot mark position for an edit point

Rotate the jog or shuttle dial, to select the mark at the position you want to specify as the edit point. Press the TRIM +/MARK button and IN button simultaneously to specify the position of the selected mark as the IN point. Press the TRIM +/MARK button and OUT button simultaneously to specify the position of the selected mark as the OUT point.

5-1 Shot Mark Operations

5-2-5 Deleting Shot Marks

You can select shot marks from the list and delete them from the tape.

To delete shot marks, press the TRIM +/-MARK button and keep it pressed 2 seconds or longer to put the unit into shot mark write and delete mode (the ENTRY/SHIFT button flashes).

Display the shot mark list and select the marks you want to delete, then press the TRIM +/-MARK button while holding the DELETE button. While the mark is being deleted, the message “ERASE SHOT MARK” appears on the LCD monitor and in the lower part of the submenu screen, and the REC button lights.

Notes

- This operation deletes the shot marks that were recorded on the tape. Once they are deleted, shot marks cannot be recovered.
- If you change cassettes or turn off the unit after reading shot marks, you cannot delete the shot marks.

5-2-6 Sorting Shot Marks

Proceed as follows to classify shot marks by cassette and sort them in timecode order.

- 1** With the shot mark list displayed, press the STOP button together with the SET button.

The mark selection screen appears.

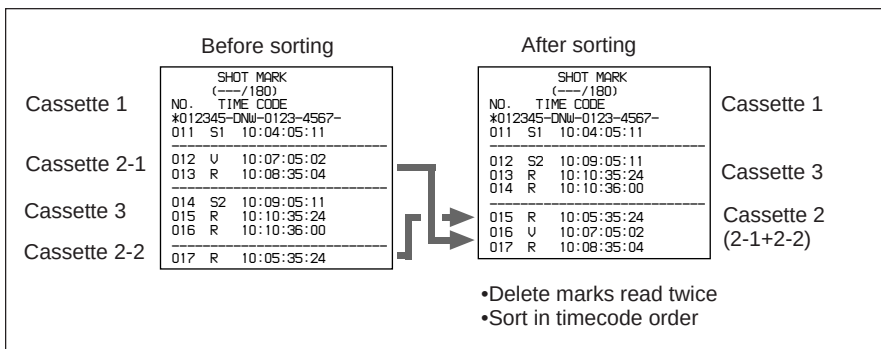
- 2** Rotate the jog or shuttle dial to select “SORTING LIST”.

- 3** While pressing the search button, rotate the jog or shuttle dial to change the setting to ON.

Sorting of the list starts.

When sorting finishes, the setting returns to OFF.

The following example shows the results of sorting, using a list that contains marks that you have read twice from the same cassette.



5-2-7 Cueing up a Mark

Select the mark displayed in the list and press the PREROLL button.

To cue up a mark located close to the current tape position

Press the TRIM +/-MARK button together with the F FWD or REW button. The F FWD or REW button flashes during the operation.

Note

It is impossible to cue up a virtual shot mark.

6-1 Menu System Configuration

The menu system of this unit comprises the basic menu and extended menu.

- Basic menu

This menu is used to make settings relating, for example, to the following.

- the hours meter
- the preroll time
- the character information superimposed on the output to the monitor
- switching between the 525/60 (NTSC) system and 625/50 (PAL) system
- the menu banks for retaining menu settings

For detailed information about menu operation relating to the hours meter, see “Digital Hours Meter” (page A-3).

- Extended menu

This menu is used to make a wide range of settings relating to the functions of this unit, for example, the control panel functions, video and audio control, and digital data processing.

6-2 Basic Menu

6-2-1 Items in the Basic Menu

The basic menu contains the following items (*see next page*).

In the “Settings” column of the table, the factory default settings are indicated by an enclosing box.

6-2 Basic Menu

Item number	Item name	Settings
001	PREROLL TIME	0S... [5S] ...30S: Set the preroll time to between 0 and 30 seconds in steps of 1 second. A preroll time of at least 5 seconds is recommended when using this unit for editing.
002 a)	CHARACTER H-POSITION	Adjust the horizontal position (a hexadecimal value) of the character information which is output from the VIDEO OUTPUT 2 (SUPER) connector and the character information which is displayed on the LCD monitor. 00... [27] ...46 (525 mode, 71 steps)/00... [20] ...43 (625 mode, 68 steps): The hexadecimal value 00 is for the far left of the screen. Increasing the value moves the position of the characters to the right.
003 a),b)	CHARACTER V-POSITION	Adjust the vertical position (a hexadecimal value) of the character information which is output from the VIDEO OUTPUT 2 (SUPER) connector and the character information which is displayed on the LCD monitor. 00... [57] ...6C (525 mode, 109 steps)/00... [5D] ...75 (625 mode, 118 steps): The hexadecimal value 00 is for the top of the screen. Increasing the value lowers the position of the characters.
004	SYNCHRONIZE	When editing using this unit as a controller and an external VTR connected to this unit via a 9-pin remote control cable, this item determines whether or not to operate the two units in phase synchronization. [ON] : Operate in phase synchronization. OFF: Do not operate in phase synchronization.

- a) When setting items 002, 003, 009, and 011, watch the monitor screen, and adjust to the required state.
- b) When displaying time code values, there is a slight time delay. Therefore, when creating a tape for off-line editing, the information inserted in the upper half of the screen may be delayed by one frame.

Item number	Item name	Settings
005	DISPLAY INFORMATION SELECT	Determines the kind of character information which is output from the VIDEO OUTPUT 2(SUPER) connector when the SUPER in the submenu is set to ALL/CAPSTALL. T&STA: Time data display information and the unit's status. T&UB: Time data display information and the user bits. T&CTL: Time data display information and CTL. T&T: Time data display information and time code (LTC or VITC) only. TIME: Time data display information CHAR: User-specified text data If there is an overlap between the setting of this item and the setting of the CTL/LTC/U-BIT button, it is automatically avoided. For example, if CTL is selected by the CTL/TC/U-BIT button and this menu item setting is T&CTL, then CTL and LTC are output.
006	LOCAL FUNCTION ENABLE	Determines which tape transport control buttons on the control panel are enabled when this unit is controlled from external equipment. DIS: All buttons and switches are disabled. ST&EJ: Only the STOP button and EJECT button are enabled. ENA: All buttons and switches except the RECORDER button and PLAYER/DMC button are enabled.
007	TAPE TIMER DISPLAY	Determines whether to display the CTL count in 12-hour mode or 24-hour mode. + -12H: 12-hour mode 24H: 24-hour mode
008	MONITORING SELECTION FOR VTR-TO-VTR EDIT	For editing with two DNW-A25WS/A25WSP units, determines whether the recorder unit is forced into E-E mode when the recorder unit's PLAYER/DMC button is pressed to view the player unit's playback signals on the LCD monitor on the recorder unit. MANU: Do not force the recorder unit into E-E mode. AUTO: Force the recorder unit into E-E mode.

6-2 Basic Menu

Item number	Item name	Settings
009 ^{a)}	CHARACTER TYPE	Select the character type for the character information which is output from the VIDEO OUTPUT 2 (SUPER) connector and the character information which is displayed on the LCD monitor. WHITE: White letters on a black background. BLACK: Black letters on a white background. W/OUT: White outline letters. B/OUT: Black outline letters.
011 ^{a)}	CHARACTER V-SIZE	Select the vertical size of the character information which is output from the VIDEO OUTPUT 2 (SUPER) connector and the character information which is displayed on the LCD monitor. × 1: Standard size × 2: 2 times standard size
013	525/625 SYSTEM SELECT	Specify whether to enable switching between the 525 (NTSC) and 625 (PAL) systems. OFF: Do not enable system switching. ON: Enable system switching. Setting this item to ON and switching the system enables the unit to operate in the system switched to. Notes • All items in the setup menu are set to the current values for the system switched to (different from the values for the original system). • For Betacam/Betacam SP cassettes, only simple viewing is possible. <i>For details about switching procedure, see "Switching between 525/625 line systems (menu item 013)" on page 6-8.</i>

- a) When setting items 002, 003, 009, and 011, watch the monitor screen, and adjust to the required state.

Item number	Item name	Settings
014	SEQUENTIAL RECORD MODE	Select the mode for sequential recording when using two units. ☐ OFF: No sequential recording. REPL: Do sequential recording one time. Exchange the cassettes when one sequential recording finishes. OVER: Do sequential recording, overlaying previously recorded contents. (Do not exchange cassettes.)
017	CHARACTER PRESET	Select whether to create user-specified text data. ☐ OFF: Do not create user-specified text data. ON: Open the Text Data Creation Screen and create the data (see page A-15).

Item number	Item name	Settings
B01	RECALL BANK 1	Set to ON to recall menu settings from menu bank 1.
B02	RECALL BANK 2	Set to ON to recall menu settings from menu bank 2.
B03	RECALL BANK 3	Set to ON to recall menu settings from menu bank 3.
B04	RECALL BANK 4	Set to ON to recall menu settings from menu bank 4.
B11	SAVE BANK 1	Set to ON to save current menu settings to menu bank 1.
B12	SAVE BANK 2	Set to ON to save current menu settings to menu bank 2.
B13	SAVE BANK 3	Set to ON to save current menu settings to menu bank 3.
B14	SAVE BANK 4	Set to ON to save current menu settings to menu bank 4.
B20	RESET SETUP	Set to ON to reset current active settings to factory default values.

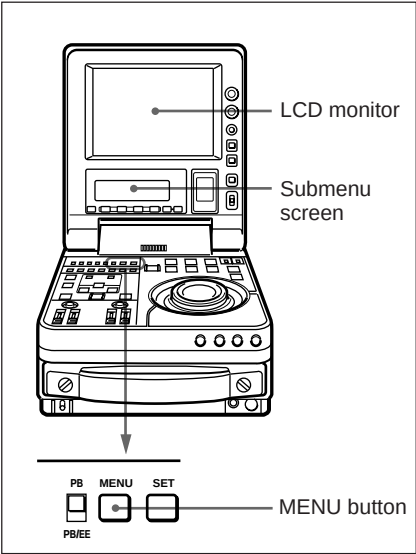
6-2 Basic Menu

6-2-2 Basic Menu Operations

This section describes the basic menu displays and how to change the settings.

For information about how to use item 013, see the section “Switching between 525/625 line systems (menu item 013)” (page 6-8), and for information about how to use items B01 to B14, see the section “Menu bank operations (menu items B01 to B14)” (page 6-9).

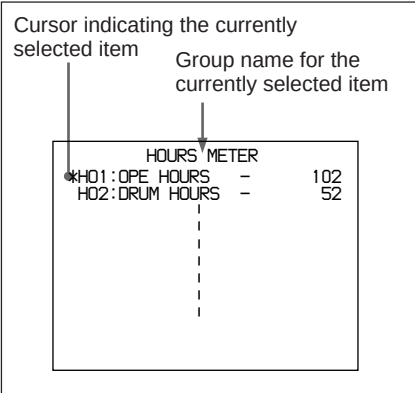
Displaying the menus



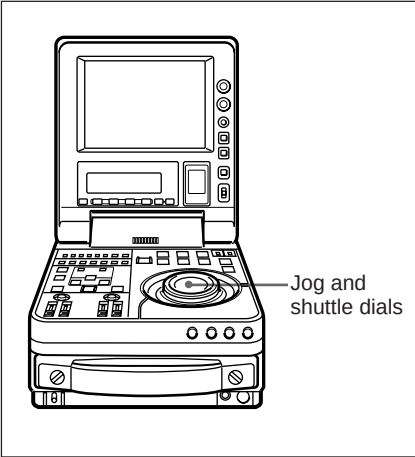
Press the MENU button.
The setting of the currently selected menu item appears in the LCD monitor and submenu screen.

Output from the VIDEO OUTPUT 2(SUPER) connector

When the SUPER in the submenu is set to ALL or CPSTALL (see page 2-32), the same menu screen also appears on a monitor connected to the VIDEO OUTPUT 2(SUPER) connector as shown in the LCD monitor.



Changing the currently displayed menu item



Turn the jog or shuttle dial depending on the current search mode (indicated by JOG/SHUTTLE indicators).

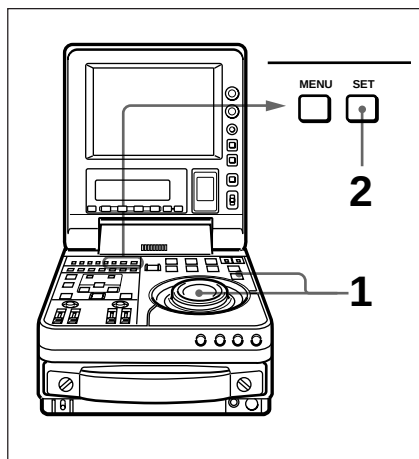
Turning the jog or shuttle dial in the clockwise direction increments the item number, and turning it in the counterclockwise direction decrements the item number.

If you turn the shuttle dial, the item number changes at a rate depending on the shuttle dial angle. If you turn the jog dial, the item number changes on the jog dial rotation speed.

By holding down the HOLD button and rotating the dial, you can display item numbers in the previous or next series.

Changing a menu item setting value

To change the setting value of the currently displayed menu item use the following procedure.



- 1 Holding down the search button, turn the jog or shuttle dial.

The setting value changes at a rate depending on the shuttle dial angle or on the jog dial rotation speed.

- 2 When the desired setting value is displayed, press the SET button.

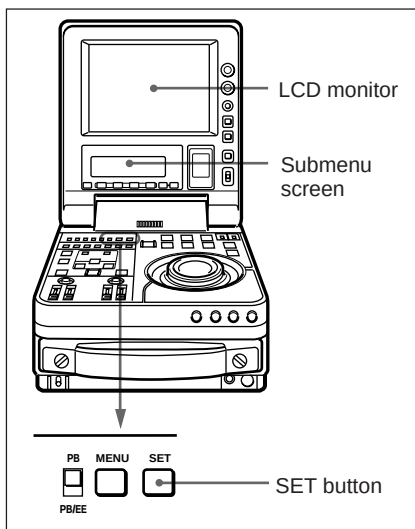
This saves the new setting value, and the menu display disappears.

To abandon making a change

Press the MENU button before pressing the SET button.

The menu display disappears from the LCD monitor and submenu screen, without the new setting value being saved.

Resetting the menu settings to their factory default values (menu item B20)



6-2 Basic Menu

- 1 Set menu item B20 RESET SETUP to ON.

“PUSH SET BTN” appears in the submenu screen, and “Push SET button !!” appears on the LCD monitor.

- 2 Press the SET button.

The current active menu settings are reset to their factory default settings.

- 3 Press the SET button again.

The settings are saved and the menu display disappears.

Switching between 525/625 line systems (menu item 013)

Using the following procedure, you can set basic menu item 013, 525/625 SYSTEM SELECT, to “ON”, and then switch between 525 (NTSC) and 625 (PAL).

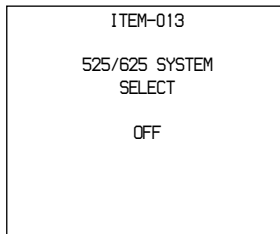
(The following procedure shows by way of example how to switch from a 525 (NTSC) system to a 625 (PAL) system.)

Note

After switching, playback of Betacam/Betacam SP cassettes is also performed in the selected mode. However in 625 mode, only simple viewing is allowed and the capstan lock mode is fixed to 2FD.

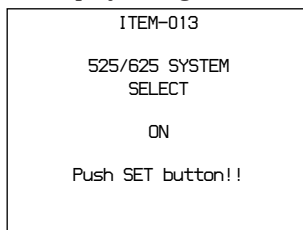
- 1 Select menu item 013.

The LCD monitor shows the following display.



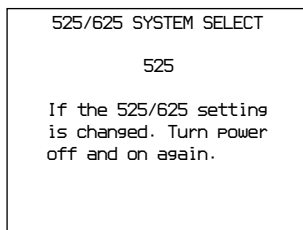
- 2 Holding down the search button, turn the jog or shuttle dial to change the setting from “OFF” to “ON”.

The display changes as follows.



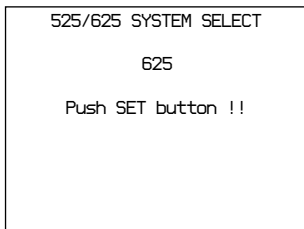
- 3 Press the SET button.

The display changes as follows.



- 4** Holding down the search button, turn the jog or shuttle dial to change the setting from “525” to “625”.

The displays change as follows.



To abandon the 525/625 setting operation

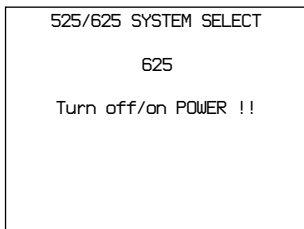
Press the MENU button a required number of times to exit from the menu.

Note

Once you execute step **5**, it is not possible to abort the operation.

- 5** Press the SET button.

The displays change as follows.



- 6** Turn the POWER switch off momentarily, then on again.

This switches from a 525(NTSC) to 625(PAL) system; the 525 indicator goes out, and the 625 indicator lights in the submenu screen.

Menu bank operations (menu items B01 to B14)

This unit allows four different complete sets of menu settings to be saved in both 525 and 625 modes in what are termed “menu banks” numbered 1 to 4. Saved sets of menu settings can be recalled for use as required.

To access to menu item B01 quickly

You can recall any required menu item by turning the jog or shuttle dial after pressing the MENU button. If you press the MENU button first, then the CTL/TC/U-BIT button, you can jump directly to menu item B01 or H01. The recalled menu item toggles between B01 and H01 every time you press the CTL/TC/U-BIT button.

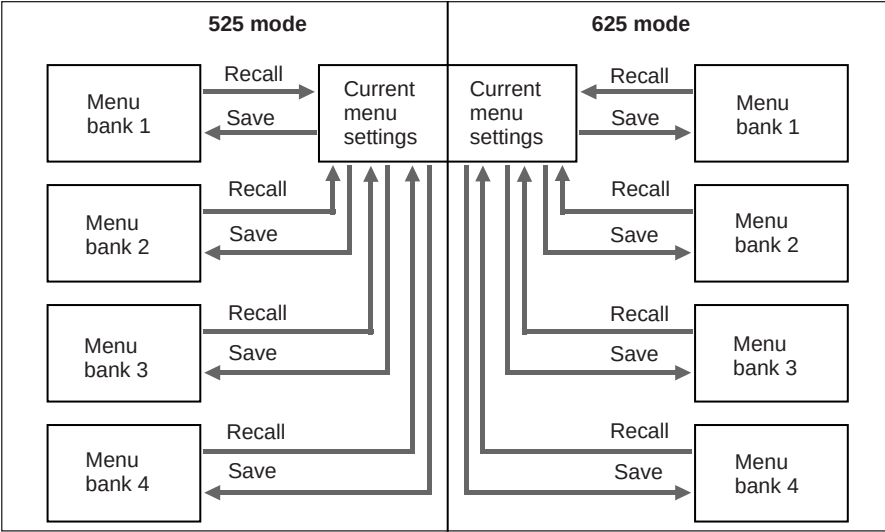
Saving the current active menu settings

Set one of menu items B11 SAVE BANK 1 to B14 SAVE BANK 4 to ON, depending on which of the menu banks you wish to save in, then press the SET button.

Recalling settings from a menu bank

Set one of menu items B01 RECALL BANK 1 to B04 RECALL BANK 4 to ON, depending on which of the menu banks you wish to recall from, then press the SET button.

6-2 Basic Menu



6-3 Extended Menu

6-3-1 Items in the Extended Menu

The extended menu contains the following items.

In the “Settings” column of the table, the factory default settings are indicated by an enclosing box.

Menu items in the 100s, relating to the control panels

Item number	Item name	Settings
101	SELECTION FOR SEARCH DIAL ENABLE	Select how the unit enters the search mode. DIAL : Turning the jog or shuttle dial switches to search mode at all times except during recording/editing. KEY: The search button must be pressed to switch to search mode.
104	AUDIO MUTING TIME	Select the length of time for which audio muting occurs when the unit switches to playback either from stopped or from still playback in the search mode (for Betacam or Betacam SP playback only). OFF : Set the audio muting time to zero (i.e. no muting). 0.1S... 1.0S: Set the audio muting time from 0.1 seconds to 1.0 second, in 0.1-second increments.
105	REFERENCE SYSTEM ALARM	Select whether or not to display a warning when the video/audio reference signal selected by the OUT REF in the submenu, is not supplied or is out of phase with the input video signal. OFF : No warning. ON: Flash the STOP button as a warning.
106	CAPSTAN LOCK	Select the capstan servo lock mode. SW : The capstan servo lock mode is determined by the CAPSTAN in the submenu. 2F: The capstan servo locks every two fields regardless of the setting of the CAPSTAN in the submenu. 4F: The capstan servo locks every four fields regardless of the setting of the CAPSTAN in the submenu. 8F (For 625 mode only): The capstan servo locks every eight fields regardless of the setting of the CAPSTAN in the submenu.

6-3 Extended Menu

Menu items in the 100s, relating to the control panels (continued)

Item number	Item name		Settings
107	REC INHIBIT LAMP FLASHING		Select whether or not to flash the REC INHI indicator when recording is prevented though the REC INHI switch on the control panel is set to OFF. OFF: Light the REC INHI indicator. ON: Flash the REC INHI indicator.
108	AUTO EE SELECT		When a cassette recorded in Betacam SX format is inserted and the monitor output switch on the control panel is set to PB/EE, select the operation modes in which input video and audio signals are automatically handled in E-E mode. S/F/R: In STOP/EJECT/F FWD/REW modes STOP: In STOP/EJECT modes
109	FORCED EE WHEN TAPE UNTHREAD		During tape threading and unthreading, and when no cassette is inserted, select whether the monitor output switch on the control panel controls the output signal PB/EE setting. ON : No control by the monitor output switch (the signal is always an E-E signal). OFF: Control by the monitor output switch.
118	KEY INHIBIT SWITCH EFFECTIVE AREA		Select which switches and buttons can be operated when the KEY INH in the submenu is set to ON. The following sub-items control different sets of switches and buttons independently.
	Sub-item		
	118-1	REMOTE SELECT	Select whether the REMOTE/LOCAL switch on the control panel is enabled. DIS : Disabled. ENA: Enabled.
	118-2	CONTROL PANEL	Select which switches and buttons operations on the control panel are enabled. DIS : All switches and buttons are disabled. EDIT: All switches and buttons for editing operations are disabled. ST&EJ: All switches and buttons except STOP and EJECT buttons are disabled. ENA: All switches and buttons are enabled.

Menu items in the 100s, relating to the control panels (continued)

Item number	Item name	Settings
119	VARIABLE SPEED LIMIT IN KEY PANEL CONTROL	Select the playback speed range when carrying out playback in variable mode from the control panel of this unit. ☐ OFF: -1 to +1 times normal speed. ON: 0 to +1 times normal speed.
120	CTL LOCK IN VAR/ SHTL	Select whether the tape transport should be phase-locked to the CTL during playback in variable or shuttle mode. OFF: Not phase-locked. ☐ ON: Phase-locked at the following speeds: -1, -0.5, +0.5 and 1.0 times normal.
122	AUTO EE WITH ANALOG TAPE	Select whether or not the setting of item 108 also applies to a cassette recorded in Betacam/Betacam SP format. Item 108 selects the VTR modes in which input video and audio signals are automatically handled in E-E mode, when a cassette recorded in Betacam SX format is inserted and the monitor output switch on the control panel is set to PB/EE. ☐ DIS: When a cassette recorded in Betacam/Betacam SP format is inserted, always use PB mode. ENA: When a cassette recorded in Betacam/Betacam SP format is inserted, follow the setting of item 108.
127	CASSETTE SELECT WARNING	Select whether or not to flash the WARNING indicator during playback of a Betacam SP tape when the tape's recording mode does not agree with the playback mode set on the unit (SP TAPE switch position). OFF: Do not flash. ☐ ON: Flash.

6-3 Extended Menu

Menu items in the 200s, relating to the remote control interface

Item number	Item name	Settings
201	PARA RUN	Select whether or not to use synchronized operation for two or more VTRs. [DIS] : No synchronized operation. ENA: Use synchronized operation. Note To use synchronized operation for two or more VTRs, set item 201 to "ENA" on all of the VTRs.
202	CF FLAG (only valid in 625 mode)	Select the mode for locking color framing sent to a remote control unit. [8F] : Eight-field locking mode 4F/8F: Four- or eight-field locking mode

Menu items in the 300s, relating to editing operations

Item number	Item name	Settings
301	VAR SPEED RANGE FOR SYNCHRONIZATION	Select the playback speed range when carrying out playback in variable mode from a remote control unit connected to the REMOTE (9P) connector. -1~+1: -1 to +1 times normal speed. [~+1.5] : -1 to +1.5 times normal speed.
302	CAPSTAN RE-LOCKING DIRECTION	In 525 mode When the CAPSTAN in the submenu is set to 4F, select whether the capstan servo should lock by accelerating or decelerating. [DECEL] : Lock by decelerating. ACCEL : Lock by accelerating. In 625 mode When the CAPSTAN in the submenu is set to 4F or 8F, select whether the capstan servo should lock by accelerating or decelerating. DECEL: Lock by decelerating. [ACCEL] : Lock by accelerating.
305	SYNC GRADE	When editing in phase-synchronized mode with item 004 set to ON, select the target phase synchronization accuracy. [ACCUR] : ± 0 frame accuracy. ROUGH: ± 1 frame accuracy.

Menu items in the 300s, relating to editing operations (continued)

Item number	Item name	Settings
306	DMC INITIAL SPEED	In DMC editing, select the initial tape speed which is set automatically. MANU: the speed determined by rotation angle of the shuttle dial PLAY: normal playback speed STILL: still playback speed ± 0.03 to ± 1: the speed selected in this range (± 0.03, ± 0.1, ± 0.2, ± 0.5, and ± 1 times normal speed can be selected.)
307	AUTO-DELETION FOR INCONSISTENT DATA	Select what happens when an erroneous edit point is set. MANU: A warning is given by flashing the DELETE button on the control panel. The operator must manually delete the unnecessary edit point . NEG&E: When inconsistent edit points are set, such as when an OUT point is before an IN (or audio IN) point, or when too many edit points are specified, the previously set edit point is deleted. NEG: When inconsistent edit points are set, such as when an OUT point is before an IN (or audio IN) point, the previously set edit point is deleted. When too many edit points are specified, the DELETE button on the control panel flashes to give a warning. Note Pressing the button corresponding to an edit point to be deleted and the DELETE button simultaneously deletes the edit point. If an erroneous edit point is set (the DELETE button is flashing), editing is not executed.
308	SELECTION OF STD/ NON-STD FOR COMPOSITE VIDEO IN	Select the STD or NON-STD mode in accordance with a composite video input. AUTO: Detect automatically whether the input video luminance and chrominance signals are interleaved or not. If they are interleaved, select the STD mode. If they are not interleaved, select the NON-STD mode. STD: The STD mode is always used (forced STD mode). N-STD: Use this setting when color framing of the input video signal is unstable (forced NON-STD mode).

6-3 Extended Menu

Menu items in the 300s, relating to editing operations (continued)

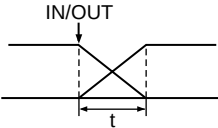
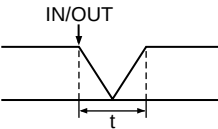
Item number	Item name	Settings
309	SERVO/AV REFERENCE SEL	Select the servo reference signal. AUTO1: During recording, an analog composite or digital input video signal is used as the servo reference signal. During playback, the signal selected by the OUT REF in the submenu is used as the servo reference signal. If the signal selected by the OUT REF in the submenu is not connected, an internal reference signal is used. AUTO2: When the OUT REF is set to REF, and any of the ASSEMBLE, VIDEO, and AUDIO CH-1 to CH-4 indicators is lit, the reference signal for video/audio signal processing is locked to the input video signal. EXT: The servo reference signal is forced to be "EXT" (an external reference video input signal is used). <i>For details, see 2-4 "Setting Reference Video Signals" (page 2-11).</i>
310	REC INHIBIT	Select the conditions under which recording is inhibited when the REC INHI switch on the control panel is set to ON. ALL: All tape recording is inhibited. CRASH: Crash recording is inhibited. Select this setting when you wish to carry out assemble editing. Note When the REC INHI switch is set to ON, the REC INHI indicator on the control panel lights. If an operation inhibited by this item is attempted, the REC INHI indicator flashes.

Items 311 to 314 (settings for digital audio editing): If you use an editor (BVE-600, etc) or a remote controller which cannot control digital audio edit preset, select how to activate edit preset of each digital audio channel on the unit using the analog audio edit preset function of the editor or remote controller.

Item number	Item name	Settings
311	ANALOG AUDIO EDIT PRESET REPLACE FOR CH 1	Select how to activate the CH-1 edit preset of the unit. NODEF : Not defined CH 1 : Use the edit preset for analog audio channel 1. CH 2 : Use the edit preset for analog audio channel 2. CH 1+CH 2: Use the edit preset for analog audio channel 1 or channel 2.
312	ANALOG AUDIO EDIT PRESET REPLACE FOR CH 2	Select how to activate the CH-2 edit preset of the unit. NODEF: Not defined CH 1: Use the edit preset for analog audio channel 1. CH 2 : Use the edit preset for analog audio channel 2. CH 1+CH 2: Use the edit preset for analog audio channel 1 or channel 2.
313	ANALOG AUDIO EDIT PRESET REPLACE FOR CH 3	Select how to activate the CH-3 edit preset of the unit. NODEF : Not defined CH 1: Use the edit preset for analog audio channel 1. CH 2 : Use the edit preset for analog audio channel 2. CH 1+CH 2: Use the edit preset for analog audio channel 1 or channel 2.
314	ANALOG AUDIO EDIT PRESET REPLACE FOR CH 4	Select how to activate the CH-4 edit preset of the unit. NODEF : Not defined CH 1: Use the edit preset for analog audio channel 1. CH 2 : Use the edit preset for analog audio channel 2. CH 1+CH 2: Use the edit preset for analog audio channel 1 or channel 2.

6-3 Extended Menu

Menu items in the 300s, relating to editing operations (continued)

Item number	Item name	Settings
317	AUDIO EDIT MODE	Specifies the type of editing for digital audio signals. CUT: Cut editing (discontinuity in audio signal may result at the editing point, causing noise.) CROSS : Cross-fade  FI/FO: Fade out and fade in  The “t” in the figures is the time set by item 803 “DIGITAL AUDIO FADE TIME”.
318	EDIT RETRY	When editing with two DNW-A25WS/A25WSP units, set for the recorder unit. Selects the operation if the recorder unit was not synchronized in time. OFF: Editing is not carried out, and the unit stops. ON : The editing is automatically retried (up to twice).
319	PREREAD SELECT	Select the signals used for preread editing. A/V : Both audio and video signals AUDIO: Audio signal only VIDEO: Video signal only.
320	DIGITAL AUDIO PB PROCESS ON EDIT POINT	Select the treatment of audio at edit points. CUT: Carry out a cut (possibly resulting in audio discontinuities at the edit point). FADE : Fade out and fade in.

Menu items in the 300s, relating to editing operations (continued)

Item number	Item name	Settings
326	AUTOMATIC IN ENTRY AFTER AUTO EDIT	Select whether or not to set the OUT point timecode for the IN point of the next auto-edit automatically when an auto-edit is completed. [OFF]: Do not set the IN point timecode automatically. R: Set the recoder IN point timecode automatically. R & P: Set the recoder and player IN points timecode automatically. Note For audio split editing, only the video IN point is set automatically.
328	POST ROLL POINT	After carrying out auto editing, select whether to display the image of the OUT point, or the last recorded image. [HEAD]: the image of the OUT point (postroll to the OUT point) TAIL: the last recorded image (postroll to two frames before the OUT point)
337	REVIEW AFTER OPEN EDIT	Select whether or not to enable review operation after pressing the STOP button to interrupt an editing operation which you started without setting an OUT point (open end editing). [DIS]: The IN point is not cleared and review operation is impossible. ENA: When the STOP button is pressed after recording starts, the IN point is cleared and review operation is possible. Edit point data is stored in the edit list.

6-3 Extended Menu

Menu items in the 400s, relating to preroll

Item number	Item name	Settings
401	FUNCTION MODE AFTER CUE-UP	Select the state that the unit goes into after a cuing-up operation. [STOP] : Stops (the “STOP mode”). STILL: Still playback (in search mode). Note When controlling this unit from an editor with the standard constants set, select “STOP”.
402	TIME REFERENCE FOR PREROLL	When prerolling a tape section at which timecode signals are discontinuous, select which to use, the timecode or CTL signals recorded preceding the section, for timecode advance and preroll. [CTL] : Using CTL signals. TC: Using timecode signals.
403	AUTOMATIC PREROLL REFERENCE ENTRY	Select whether or not the edit IN point is automatically set by pressing the PREROLL button when the IN point is not set before starting preroll. [DIS] : IN point is not set automatically. ENA: IN point is set automatically.

Menu items in the 500s, relating to tape protection

Item number	Item name	Settings
501	STILL TIMER	Select the time delay from the tape transport stopping (either the “STOP” mode” or the still playback mode in search mode) until the unit automatically switches to the tape protection mode, in order to protect the rotary heads and the tape. 0.5S... [8M] ...30M: Set the value in the range 0.5 seconds to 30 minutes.
502	TAPE PROTECTION MODE FROM SEARCH	Select the operation of the protection mode to protect the rotary heads and tape when in the still playback mode in search (jog/shuttle/variable) mode. [STEP] : Step forward at $\frac{1}{30}$ normal speed every 2 seconds. STDBY: Switch to “Standby OFF mode” (the unit not on standby).

Menu items in the 600s, relating to the time code generator

Item number	Item name	Settings
601	VITC POSITION SEL-1	In 525 mode Select a line to insert the VITC in. 12H... 16H...20H: Select any line from 12 to 20.
	Note You can insert the VITC signal in two places. To insert it in two places, set both items 601 and 602.	In 625 mode Select a line to insert the VITC in. 9H... 19H ...22H: Select any line from 9 to 22.
602	VITC POSITION SEL-2	In 525 mode Select a line to insert the VITC in. 12H... 18H...20H: Select any line from 12 to 20.
	Note You can insert the VITC signal in two places. To insert it in two places, set both items 601 and 602.	In 625 mode Select a line to insert the VITC in. 9H... 21H...22H: Select any line from 9 to 22.

6-3 Extended Menu



Menu items in the 600s, relating to the time code generator (continued)

Item number	Item name	Settings
603	ID CODE PRESET	Select whether or not to set the ID code. ☐ OFF : Do not set the ID code. ON: Set the ID code. To set the ID code: ❶ Set this item to ON. The menu item display area in the submenu screen flashes. ❷ Select jog mode and turn the jog dial to select the column, then hold down the search button while turning the jog dial to change the digit value. ❸ When the ID code setting is complete, press the SET button. This saves the ID code setting, and the setting of this item returns to "OFF".
604	ID CODE SW	Select whether or not to record the ID code set using item 603 in the user bits. ☐ OFF : Record the normal data in the user bits. ON: Record the ID code in the user bits.
605	TCG REGEN MODE	Select the signal to be regenerated when the time code generator is in the regeneration mode (i.e., when the PRESET/REGEN switch in the timecode section is set to REGEN, or the unit is in automatic edit mode). ☐ TC&UB : Both the timecode and user bits are regenerated. TC: Only the timecode is regenerated. UB: Only the user bits are regenerated.

Menu items in the 600s, relating to the time code generator (continued)

Item number	Item name	Settings
606	TC OUTPUT SIGNAL IN REGEN MODE	Select the signal output from the TIME CODE OUT connector during normal (×1) speed playback in the following two cases: - For tape playback when the INT/EXT switch in the timecode section is set to INT and the PRESET/REGEN switch is set to REGEN. - For preroll or postroll playback during automatic editing with the tape. TAPE: During tape playback, the playback timecode signal is output without regeneration (in this case the output video and the time code values output from the TC OUT connector do not agree). REGEN: The playback time code is output after regeneration.
607	U-BIT BINARY GROUP FLAG	Select the user bits to be used in the time code generated by the time code generator. 000: Character set not specified. 001: 8-bit characters compliant with ISO 646 and ISO 2022. 010: Undefined. 011: Undefined. 100: Undefined. 101: SMPTE 262M page/line multiplex system. 110: Undefined. 111: Undefined.
608	PHASE CORRECTION	Select whether or not to carry out phase correction control on the LTC generated by the timecode generator. OFF: No control. ON: Carry out control.

6-3 Extended Menu

Menu items in the 600s, relating to the time code generator (continued)

Item number	Item name	Settings
609	TCG CF FLAG	Select whether or not the color framing flag is set in the blank bit of the timecode. <u>OFF</u>: Color framing flag is not set. ON: Color framing flag is set. AUTO: Color framing flag is set or not depending upon the color framing phase relationship between the recorded video signal and the timecode. When AUTO is selected, color framing is controlled as follows according to the operating mode of the timecode generator. • In INT PRESET mode (the INT/EXT switch is set to INT, the PRESET/REGEN switch is set to PRESET, and in modes other than the automatic editing mode): the timecode is generated with color framing locked to the video signal, and the color framing flag is set. • In INT REGEN mode (the INT/EXT switch is set to INT, the PRESET/REGEN switch is set to REGEN, and in the automatic editing mode), and also in EXT mode (the INT/EXT switch is set to EXT): the timecode is generated with color framing locked to the video signal, and the color framing flag is not set.
610	REGEN CONTROL MODE	When editing with two DNW-A25WS/A25WSP units, if you use the control panel for editing operation, select whether or not the timecode is automatically regenerated. <u>AS&IN</u>: In editing with this unit as the recorder, regardless of the setting of the INT/EXT and PRESET/REGEN switches, in assemble and insert editing , the timecode generator regenerates according to the timecode on the tape. ASSEM: In editing with this unit as the recorder, regardless of the setting of the INT/EXT and PRESET/REGEN switches, in assemble editing only, the timecode generator regenerates according to the timecode on the tape. MANU: Regardless of whether this unit is the recorder or player, the timecode generator operates in accordance with the setting of the INT/EXT and PRESET/REGEN switches. FULL: Regardless of whether local or remote, when any of the ASSEMBLE, VIDEO, AUDIO CH-1 to CH-4, and TC buttons is lit, the timecode generator regenerates according to the timecode played back from the tape.



Menu items in the 600s, relating to the time code generator (continued)

Item number	Item name	Settings
614	FIRST EDIT TC	In First Edit mode, select whether or not to set the timecode value for the start when creating the base tape for editing (<i>see page 2-18</i>). When this is set to ON, set the start timecode value (see item 603 “Setting the ID code”). ☐ OFF: Do not set. ON: Set.
615	FIRST EDIT HEADER	Set the number of seconds before the timecode value set by item 614 at which the recording starts. 10S - 20S - 30S: Set value in this range, in increments of 1 second.



6-3 Extended Menu

Menu items in the 700s, relating to video control

Item number	Item name		Settings
701	SELECTION OF VIDEO/SYNC DELAY		An E-E video signal is output delayed with respect to the video input signal by the time for video circuit processing. With this item, select whether or not to delay the sync signal attached to the output video signal by an amount corresponding to the delay. SYNC: Delay the sync signal by the corresponding amount before attaching it. VIDEO: Attach a sync signal with the same timing as the input signal.
703	BLANK LINE SELECT		Switch blanking on or off for individual lines in the vertical blanking interval. The Y/C signal and odd/even fields are blanked simultaneously. Note For playback of an analog Betacam cassette (Betacam SP, etc.) regardless of the setting of this item, the chrominance signal is blanked up to line 15.
	Sub-Item		
	0	ALL LINE	--: Specify the blanking for each line separately. BLANK: Regardless of the setting of other sub-items, blank all lines which can be specified in this menu item. THROU: Regardless of the setting of other sub-items, switch off blanking for all lines which can be specified in this menu item.
In 525 mode	12...19	LINE 12... LINE 19	Specify blanking for lines 12 to 19. BLANK: Carry out blanking. THROU: Switch off blanking.
	20	LINE 20	Specify blanking for line 20. BLANK: Carry out blanking. HALF: Carry out half-blanking. THROU: Switch off blanking.
In 625 mode	9...22	LINE9... LINE 22	Specify blanking for lines 9 to 22. BLANK: Carry out blanking. THROU: Switch off blanking.
	23	LINE 23	Specify blanking for line 23. HALF: Carry out half-blanking. THROU: Switch off blanking.

Menu items in the 700s, relating to video control (continued)

Item number	Item name		Settings
704	DECODE Y/C SEP MODE		Select the method of processing the input video signal in the vertical blanking interval, independently for each line.
	Sub-item		
In 525 mode	12...20	LINE12... LINE 20	Make the selection for lines 12 to 20. BPF: Carry out Y/C separation. [B&W] : Treat all as luminance signal.
	21...22	LINE 21... LINE 22	Make the selection for lines 21 and 22. BPF: Carry out Y/C separation. B&W: Treat all as luminance signal. [COMB] : Process with an appropriate Y/C separation.
In 625 mode	9...22	LINE 9... LINE 22	Make the selection for lines 9 to 22. BPF: Carry out Y/C separation. [B&W] : Treat all as luminance signal.
705	EDGE SUBCARRIER REDUCER MODE		During recording and playback of a composite signal, in the playback circuit the edge subcarrier reducer (ESR) is automatically switched on or off according to the VTR operation. When recording a "Non-Standard" signal, for example, if the color edge is not as good as with a proper signal, the ESR can be forced on. This item makes this selection. [AUTO] : ESR is switched on and off automatically. ON: ESR operation is forced on.
706	VERTICAL BLANKING V SHIFT		During noiseless variable playback, when the playback signal is an odd field and the reference signal is an even field, the playback signal is shifted by 1H (1 line) to suppress the vertical movement of the playback picture ("Y-add" function). This item selects whether or not to apply a 1H shift to the vertical blanking interval. [ON] : Carry out vertical blanking shift. OFF: Do not carry out vertical blanking shift. Note If the 1H shift is applied during the vertical blanking interval, the signal recorded in line 21 may intermittently appear at noiseless playback.

6-3 Extended Menu

Menu items in the 700s, relating to video control (continued)

Item number	Item name	Settings
707	FORCED VERTICAL INTERPOLATION OFF	The “Y-add” function is normally switched on automatically during noiseless variable playback. This item selects whether or not to force the “Y-add” function off. AUTO: Automatically switches the “Y-add” function on. OFF: Force the “Y-add” function off.
712	VIDEO PROCESS ON CAP LOCK 2FIELD	When the CAPSTAN in the submenu or setup menu item 106 is set to 2FLD for 2-field playback, select whether or not to carry out a “picture shift”. OFF: No picture shift. ON: Carry out picture shift. Note To eliminate the adverse effect of the residual chrominance subcarrier component in the Y signal that is the result of the Y/C separation, this unit automatically applies a shift to the playback image in the H direction, so that even in 2-field playback a satisfactory image can be obtained.

Menu items in the 700s, relating to video control (continued)

Item number	Item name	Settings
713	VIDEO SETUP REFERENCE LEVEL (525 system)	Set the video setup amounts to be removed from a recording signal and Betacam playback signal, and to be added to a composite output signal. There are independent settings for a recording signal (referred to below as an input signal), a Betacam signal, and a composite output signal (referred to below as an output signal). Notes - Setup removal is carried out only with respect to a Batacam format CAV input signal (menu setting) and NTSC composite input signal. It is not carried out with respect to other input signals. - The setup amounts specified in this menu item have no connection with the SETUP/BLACK LEVEL knob on the front control panel.
	Sub-Item	
	0 MASTER LEV	When the input signal, Betacam playback signal, and output signal settings are "MSTER" (master), the setup amount specified for this sub-item is removed from the input signal and Betacam playback signal, and is added to the output signal. 0.0% ... <u>7.5%</u> ...10.0%: Setting in this range, in 0.5% increments.
	1 INPUT LEV	<u>MSTER</u>: Set the input signal to the master setting. 0.0% ... 7.5% ...10.0%: Set the setup amount be removed from the input signal in this range, in 0.5% increments.
	2 INPUT VBLK CONT	REMOV: Remove the setup amount in the vertical blanking interval of the input signal. <u>THROU</u>: Do not remove the setup amount in the vertical blanking interval of the input signal.
	3 BETACAM PB LEV	<u>MSTER</u>: Set the Betacam playback signal to the master setting. 0.0%...7.5%...10.0%: Set the setup amount to be removed from the Betacam playback signal in this range, in 0.5% increments.
	4 OUTPUT LEV	<u>MSTER</u>: Set the output signal to the master setting. 0.0%...7.5%...10.0%: Set the setup amount to be added to the output signal in this range, in 0.5% increments.

6-3 Extended Menu

Menu items in the 700s, relating to video control (continued)

Item number	Item name	Settings
714	VIDEO ADJUST RANGE	Select the variable range of the VIDEO and CHROMA knobs when the PROCESS CONTROL in the submenu is set to PANEL. -3~+3 : -3 dB to +3 dB WIDE: - ∞ to +3 dB

Items 715 to 721: Settings for controlling the video processing system according to the menu settings.

Item number	Item name	Settings
715	VIDEO GAIN CONTROL	Adjust the video output level. Default value: 800
716	CHROMA GAIN CONTROL	Adjust the chroma output level. Default value: 800
717	CHROMA PHASE CONTROL	Adjust the chroma phase. Default value: 80
718	SETUP LEVEL	Adjust the setup level (black level). Default value: 110
719	SYSTEM PHASE SYNC	Adjust the system sync phase. Default value: 80
720	SYSTEM PHASE SC	Adjust the system sub-carrier phase. Default value: 0
721	Y/C DELAY	For playback from an analog Betacam cassette, adjust the Y/C delay. Default value: 800

Note

When you make settings for items 715 to 721, set the PROCESS CONTROL in the submenu to SETUP. When set to SETUP, all controls on the front control panel and settings in the submenu are disabled.

Menu items in the 700s, relating to video control (continued)

Item number	Item name		Settings
723	INPUT VIDEO BLANK		Switch blanking on or off for individual lines in the vertical blanking interval of an input video signal. The Y/C signal and odd/even fields are blanked simultaneously.
	Sub-Item		A signal with blanking carried out according to this setting is recorded.
	0	ALL LINE	[- - -] : Specify the blanking for each line separately. BLANK: Regardless of the setting of other sub-items, blank all lines which can be specified in this menu item. THROU : Regardless of the setting of other sub-items, switch off blanking for all lines which can be specified in this menu item.
In 525 mode	12...20	LINE 12... LINE 20	Specify blanking for lines 12 to 20. [BLANK] : Carry out blanking. THROU: Switch off blanking.
In 625 mode	9	LINE 9	Specify blanking for line 9. BLANK: Carry out blanking. [THROU] : Switch off blanking.
	10...21	LINE 10... LINE 21	Specify blanking for lines 10 to 21. BLANK: Carry out blanking. [THROU] : Switch off blanking.
	22	LINE 22	Specify blanking for line 22. BLANK: Carry out blanking. [THROU] : Switch off blanking.

6-3 Extended Menu

Menu items in the 700s, relating to video control (continued)

Item number	Item name	Settings
726	H BLANKING WIDTH	Select the horizontal blanking width of a video output signal. NAROW: Digital blanking (narrow) Selecting NAROW is recommended for longer H-period of video when editing is performed between digital devices. WIDE: Analog blanking (wide, complied with SMPTE 170A) Selecting WIDE is recommended for broadcast transmission or editing in which an analog device (i.e. BVW-series VTR) is used as recorder.
727	VIDEO EDIT PREVIEW SWITCHER	Set the output phase for the video playback signal when any of the ASSEMBLE, VIDEO, AUDIO CH-1 to CH-4, and TC indicators is lit. INT: The video playback signal output phase is the same as the output phase in the E-E mode. Use this setting when editing with a single VTR, or when previewing while watching the VTR output signal. EXT: The video playback signal output phase is the same as the phase of an input video signal or external reference signal. Note Whichever setting is used, the correct editing results will be obtained. When, however, you are using an external switcher to switch the video output signal from this unit for the purposes of preview, select EXT. This will prevent any image shifts at editing IN and OUT points.
728	OUTPUT SCH PHASE SETTING	Adjusts the SCH phase. Default value: 800
730	PICTURE SHIFT	Shifts the picture played back in Betacam SX mode. OFF: Do not shift. 1/4H: By 1/4 of the display area in the horizontal direction 3/4H: By 3/4 of the display area in the horizontal direction 1/4V: By 1/4 of the display area in the vertical direction 3/4V: By 3/4 of the display area in the vertical direction

Menu items in the 800s, relating to audio control

Item number	Item name	Settings
802	DIGITAL AUDIO MUTE IN SHUTTLE MODE	Set the digital audio muting conditions during shuttle playback. [OFF]: Not muted. CUEUP: Muted during cue-up or preroll operations. FULL: Muted in shuttle mode.
803	DIGITAL AUDIO FADE TIME	Specifies the time for cross-fade or fade in/out processing of digital audio signals. 5MS, [10MS], 15MS, 20MS, 25 MS ^{a)}, 50 MS ^{b)}, 85 MS, 115 MS ^{c)} Note Cross-fade, fade in, or fade out processing is applied to the recordings after the IN or OUT point. Setting this item allows rewrite of the recordings after the OUT point. Even when the minimum value (5ms) is selected, one-field recordings are rewritten. To avoid rewrite, select CUT in menu item 317. However, the audio signals discontinue at edit points. (There is no effect on the recordings of the video signal.)
805	AUDIO MONITOR OUTPUT MIXING	Select the audio mixing method used for digital audio signals and Betacam playback analog audio signals supplied to the MONITOR OUTPUT connector. ADD: Simple addition. [RMS]: Root-mean-square. AVE: Simple average.
807	AUDIO OUTPUT PHASE	Select the output timing of a digital audio playback signal (SDI only). The reference position corresponds to a setting of 80H; when the setting is less than 80H, the output timing is advanced, and when it is higher than 80H, the output timing is delayed. (80H, 128 samples=approx. 2.7 ms, 1 sample=approx. 20 µs) 0...[80]...FF: Setting in this range

a) The cross-fade time is 24 ms.

b) The actual value is 49 ms.

c) The actual value is 114 ms.

6-3 Extended Menu

Menu items in the 800s, relating to audio control (continued)

Item number	Item name	Settings
810	AUDIO EDIT PREVIEW SWITCHER	Set the output phase for the audio playback signal when any of the ASSEMBLE, VIDEO, AUDIO CH-1 to CH-4, and TC indicators is lit. INT : The audio playback signal output phase is the same as the output phase in the E-E mode. Use this setting when editing with a single VTR, or when previewing while watching the VTR output signal. EXT: The audio playback signal output phase is the same as the phase of an input video signal or external reference video signal. Note Whichever setting is used, the correct editing results will be obtained. When, however, you are using an external switcher to switch the audio output signal from this unit for the purposes of preview, selecting EXT will prevent any muting or discontinuities in the audio at editing IN and OUT points.

Menu items in the 900s, relating to digital processing

Item number	Item name	Settings
911	NO COMPRESSION LINE	Specify the "NO COMPRESSION" line (1 line in 1 field) for video input . OFF: No specification. 12H...21H (in 525 mode): Specify one of lines 12 to 21. 9H...22H (in 625 mode): Specify one of lines 9 to 22. Notes • The data in the specified line will be recorded and played back without video data rate compression. • Data values 0x00 and 0xFF will be converted to 0x01 and 0xFE for playback. • For the line specified in this item, it is not possible to carry out video adjustment, chroma adjustment, or other output adjustments. • When item 726 is set to WIDE, a number of words at the beginning and end of each line will be subject to horizontal blanking, and will not be played back. • For playback of a composite signal in jog or variable mode, according to the setting of item 705, the data will be subject to ESR (edge subcarrier reducer) processing.
912	SEQUENTIAL RECORD INPUT SIGNAL	Selects the signal input method for sequential recording on the recorder and player units. PARA: The video and audio signals you will record are input to the recorder and player units separately. CSCD: The video and audio signals you will record are input to the player unit, and input to the recorder as SDI output signals from the player unit.

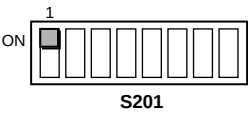
6-3 Extended Menu

6-3-2 Extended Menu Operations

To access the extended menu, consult qualified Sony service personnel.

How to access the extended menu

Set switch 1 of the S201 on the internal SY-259 board to ON.



In the extended menu, you can carry out the same operations as in the basic menu except setting of sub-items.

For details of basic menu operation, see section 6-2-2 “Basic Menu Operations” (page 6-6).

To set sub-items

- 1** Confirm the JOG indicator lights.
If not, set the unit to jog mode (see page 3-3).
- 2** After selecting the menu item, holding down the STOP button, turn the jog dial to select the desired sub-item.
- 3** Holding down the search button, turn the jog dial to change the value for the selected sub-item.

Removing a Cassette When Tape Slack Occurs

If tape slack occurs in the unit, it is necessary to open the control panel manually and perform the procedure described in the Maintenance Manual (Part 1).

Consult a technician who has undergone service training when tape stack occurs.

Head Cleaning

To clean the rotary and stationary heads, always use the special-purpose Sony BCT-5CLN cleaning cassette. Follow the instructions with the cleaning cassette carefully, as inappropriate use of the cleaning cassette may damage the heads.

To carry out head cleaning, use the following procedure.

- 1** Insert the cleaning cassette.
- 2** Press the EJECT button while holding down PLAY button.

Head cleaning starts.

After a head cleaning operation which lasts for about 5 seconds, the cleaning cassette is automatically ejected.

Note

When carrying out head cleaning without using the automatic cleaning/ejecting function described above, be sure to eject the cleaning cassette immediately after the cleaning completes. If you leave the cassette in the unit, the heads will be worn down.

Moisture Condensation

When the unit is suddenly moved from a cold to a warm location, or used in a very humid place, moisture from the air can condense on the head-drum. This is called moisture condensation. If the tape is run in this state, it can adhere to the drum. To prevent such a condition from occurring, the unit is provided with a moisture detecting function.

If moisture condenses on the head-drum while the unit is in use, “ERROR-10” is displayed in the submenu screen.

If this happens, the drum and capstan motors stop. Then, the drum starts to rotate again to dry its surface. In this state, the unit is not operable. When the moisture has evaporated, the error message disappears and the WARNING indicator goes out.

If “ERROR-10” appears and the WARNING indicator lights immediately after powering the unit on

Leave the unit powered on and wait until the indicator goes out.

While the indicator is lit, you cannot insert a cassette.

When the indicator goes out and the error message disappears, you can use the unit.

If you move the unit from a cold to a warm location

Leave the unit powered off for about 10 minutes, in order to give the unit time to detect moisture condensation.

If you move the tape from a cold to a warm location

There may be moisture condensation on the tape. Wait until the tape warms.



Digital Hours Meter

The hours meter can display seven items of information, in corresponding display modes, about the operational history of the unit. Use it as a guide in scheduling periodic maintenance.

Display modes of the hours meter

H01: OPERATION mode

Displays the total number of hours the unit has been powered on in units of 1 hour.

H02: DRUM RUNNING mode

Displays the total number of hours the drum has run with tape threaded in units of 1 hour.

H03: TAPE RUNNING mode

Displays the total number of hours the unit has been in fast forward, rewind, playback, search, recording or editing (except for stop and still) mode in units of 1 hour.

H04: THREADING mode

Display the total number of times tape has been threaded in the unit.

H12: DRUM RUNNING mode (resettable)

Same as H02 except that the count is resettable.

This can be used as a guide in determining when to replace the drum.

H13: TAPE RUNNING mode (resettable)

Same as H03 except that the count is resettable.

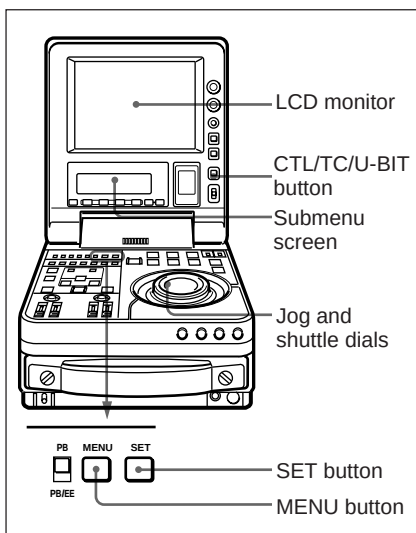
This can be used as a guide in determining when to replace such components as stationary heads and pinch roller.

H14: THREADING mode (resettable)

Same as H04 except that the count is resettable.

This can be used as a guide in determining when to replace, for example, the threading motor.

Displaying the hours meter



To display the hours meter

Press the MENU button, then turn the jog or shuttle dial to display the required item in the LCD monitor and submenu screen.

To access menu item H01 quickly

Press the MENU button, then the CTL/TC/U-BIT button.

Every time you press the CTL/TC/U-BIT button, menu item H01 or B01 is recalled alternately.

To exit from the hours meter

Press the MENU button or SET button.

Specifications

General

Recording format
Betacam SX

Power requirements
12 V DC

Power consumption
65 W

Operating temperature
0°C to 40°C
(32°F to 104°F)

Storage temperature
−20°C to +60°C
(−4°F to 140°F)

Humidity 25 to 80%

Mass (total of recorder and player)
7 kg (15 lb 6 oz)

Dimensions
211 × 149 × 443 mm
(8 ³/₈ × 16 ⁵/₈ × 17 ¹/₂
inches) (w/h/d, without
projections)

Tape transport system

Tape speed
Betacam SX: 59.6 mm/s
Analog Betacam:
118.6 mm/s (525
system),
101.5 mm/s (625
system)

Digital record/playback time
60 minutes with
BCT-60 SX

Analog Betacam playback time
30 minutes with
BCT-30MA

Rewind time
Approx. 3 minutes with
BCT-60SX

Search speed

Shuttle mode: Still to
approx. ±24 times
normal playback speed
(Betacam SX), still to
approx. ±10 times
normal playback speed
(Betacam/Betacam SP)

Jog mode: Still to ±1 times
normal playback speed

Variable mode: Still to
±1 times normal
playback speed

Servo lock time

0.5 seconds or less (from
standby on, 2FD Lock)

Load/unload time

Approx. 6 seconds

Recommended cassettes

Betacam SX cassette (S):
BCT-12SX/22SX/
32SX/60SX

Betacam SP cassette (S):
for both recording and
playback

Betacam cassette (S): only
for playback

Video system

Digital video signal system

Sampling frequency

Y: 13.5 MHz
R-Y/B-Y: 6.75 MHz

Quantization

8 bits/sample

Compression

MPEG2 4:2:2 Profile @
Main Level

Specifications

Analog composite recording/ playback

- Bandwidth (Y)
 - 0 to 4.5 MHz+0.5 dB/
-3.0 dB (525 mode),
 - 0 to 5.5 MHz +0.5 dB/
-3.0dB (625 mode)
- S/N 53 dB or more
- Differential gain
 - 2% or less
- Differential phase
 - 2° or less
- Y/C delay 15 ns or less
- K factor (2T pulse)
 - 1.5% or less
- Output SCH phase
 - Based upon RS-170A/ITU-
R BT.624-3

Audio system

Digital audio signal system

- Sampling frequency
 - 48 kHz (synchronized with
video)
- Quantization
 - 16 bits/sample
- Wow and flutter
 - Below measurable level
- Headroom
 - 20 dB (or 18 dB, selectable)
- Emphasis T1=50 μs, T2=15 μs (on/off
selectable in recording
mode)

Analog output

- A/D, D/A quantization
 - 16 bits/sample
- Frequency response
 - 20 Hz to 20 kHz +0.5 dB/
-1.0 dB (0 dB at 1 kHz)

- Dynamic range
 - 88 dB or more (at 1 kHz,
emphasis on, 30 kHz
LPF ON)
- Distortion
 - 0.05% or less (at 1 kHz,
emphasis on, reference
level (+4 dBm), 30 kHz
LPF ON)
- Crosstalk -80 dB or less (at 1 kHz,
between any two
channels, 1 kHz BPF
ON)

Others

- Channel coding
 - S-I-NRZI PR-IV
- Error correction
 - Reed-Solomon code
- LCD monitor
 - Display method: Active
matrix transmission
 - Size: 6.4 inches
 - Picture elements: 640 × 480
× 3 pixels
 - Luminance/brightness:
Adjustable by knob

Analog Betacam playback (DNW-A25WS)

Video

		Metal tape	Oxide tape
Bandwidth	Y	30 Hz to 4.5 MHz +0.5 dB/−4.0 dB	30 Hz to 4.1 MHz +0.5 dB/−6.0 dB
	R−Y/B−Y	30 Hz to 1.5 MHz +0.5 dB/−3.0 dB	30 Hz to 1.5 MHz +0.5 dB/−3.0 dB
S/N	Y	51 dB or more	48 dB or more
	R−Y/B−Y	48 dB or more	45 dB or more
K factor (2T pulse)		2% or less	3% or less
LF non-linearity	Y	3% or less	
	R−Y/B−Y	4% or less	
Y/C delay		20 ns or less	

Audio (LNG)

	Metal tape	Oxide tape
Frequency response ^{a)}	50 Hz to 15 kHz +1.5 dB/−3.0 dB	50 Hz to 15 kHz ±3.0 dB
S/N ^{b)}	72 dB or more (Dolby NR on, weighted IEC-179A ave.)	50 dB or more (Dolby NR off, weighted DIN Audio rms)
Distortion ^{c)}	1.5% or less	2% or less

- a) at 10 dB below reference level (+4 dBm)
- b) at 3% distortion level
- c) THD at 1kHz reference level (+4 dBm)

Specifications

Analog Betacam playback (DNW-A25WSP)

Video

		Metal tape	Oxide tape
Bandwidth	Y	25 Hz to 5.5 MHz +0.5 dB/−4.0 dB	25 Hz to 4.0 MHz +0.5 dB/−6.0 dB
	R−Y/B−Y	25 Hz to 2.0 MHz +0.5 dB/−3.0 dB	25 Hz to 1.5 MHz +0.5 dB/−3.0 dB
S/N	Y	51 dB or more	46 dB or more
	R−Y/B−Y	48 dB or more	45 dB or more
K factor (2T pulse)		2% or less	3% or less
LF non-linearity	Y	3% or less	
	R−Y/B−Y	4% or less	
Y/C delay		20 ns or less	

Audio (LNG)

	Metal tape	Oxide tape
Frequency response ^{a)}	50 Hz to 15 kHz +1.5 dB/−3.0 dB	50 Hz to 15 kHz ±3.0 dB
S/N ^{b)}	62 dB or more	58 dB or more
Distortion ^{c)}	1.5% or less	2% or less

- a) at 20 dB below peak level (3% dist. Level)
- b) at 3% distortion level, CCIR 468-3 weighted
- c) THD at 1kHz reference level (+4 dBm)

Processor adjustment range

Video level	± 3 dB/ $-\infty$ to $+3$ dB selectable
Chroma level	± 3 dB/ $-\infty$ to $+3$ dB selectable
Setup level (525 mode)	± 30 IRE
Black level (625 mode)	± 210 mV
Y/C delay	± 100 ns (in Betacam/ Betacam SP playback)
Chroma phase	$\pm 30^\circ$
System phase	Sync: ± 15 μ s (SC step) SC: ± 200 ns

Input connectors

SDI IN	BNC (1) Serial digital (270 Mbits/s) SMPTE 259M/ITU-R BT.656-3
REF. VIDEO IN	BNC (2 in loop through connection with $75\ \Omega$ termination) Black burst 40 IREp-p (525 system) or 0.3 Vp-p (625 system), $75\ \Omega$, sync negative
VIDEO INPUT	BNC (2 in loop through connection with $75\ \Omega$ termination) 1.0 Vp-p, $75\ \Omega$, sync negative

AUDIO INPUT CH-1/2	XLR 3-pin, female (2) $-60/0/+4$ dBu, high impedance, balanced
TC IN	BNC (1) 0.5 to 18 Vp-p, $10\text{k}\Omega$
DC IN	XLR 4-pin

Output connectors

SDI OUT 1/2	BNC (2) Serial digital (270 Mbits/s) SMPTE 259M/ITU-R BT.656-3
VIDEO OUTPUT 1/2(SUPER)	BNC (2) (Character superimpose is possible on the 2 (SUPER) output.) 1.0 Vp-p, $75\ \Omega$, sync negative
AUDIO OUTPUT CH-1/3, CH-2/4	XLR 3-pin, male (2) $+4$ dBm at $600\ \Omega$ load, low impedance, balanced
MONITOR OUTPUT L/R	XLR 3-pin, male (2) $+4$ dBm at $600\ \Omega$ load, low impedance, balanced
TC OUT	BNC (1) 1.0 Vp-p, $75\ \Omega$
HEADPHONES	JM-60 stereo phone jack $-\infty$ to -20 dBu at $8\ \Omega$ load, unbalanced

Specifications

Remote connectors

REMOTE
D-sub 9-pin, female
AUX

Accessories supplied

Shoulder belt (1)
Operation Manual (1)
Installation Manual (1)

Optional accessories

AC-DN2B AC Adaptor
AC-550/550CE AC Adaptor
BP-L60A/L90A Battery Pack
BC-L120/L120CE/M50 Battery
Charger (for BP-L60A/L90A)
BVR-3 Remote Control Unit (limited
function)
BCT-5CLN Cleaning Cassette Tape
LC-DN220 Carrying Case (hard case
for two DNW-A25WS/A25WSPs)
LC-DN220SFT Carrying Case (soft
case for two DNW-A25WS/
A25WSPs)
BKNW-225 (docking kit for two
DNW-A25WS/A25WSPs)

Design and specifications are subject
to change without notice.

Note on liquid crystal display panel

The liquid crystal display fitted to this unit is manufactured with high precision technology, giving a functioning pixel ratio of at least 99.99%. Thus a very small proportion of pixels (at most 0.01%) may be “stuck”, constantly on or constantly off. In addition, over a long period of use, because of the physical characteristics of the liquid crystal display, such “stuck” pixels may appear spontaneously.

These problems have been kept to the absolute minimum, but are an unavoidable characteristic of liquid crystal technology.

Information Displayed on the LCD Monitor

The LCD monitor displays setup menus, error messages, time data, and information about the unit's operating status.

For more information about the setup menus, see chapter 6 "Setup Menu".

To adjust the screen

Use the BRIGHT and CONTRAST knobs to adjust the brightness and contrast of the screen.

To make the back light brighter, set the BACKLGT in the submenu to HIGH (see page 2-33).

To display superimposed text information

To display superimposed time data and text information about the operating status of the unit, set the SUPER in the submenu to ALL (see page 2-32).

When SUPER is set to ALL or CPSTALL, the text information is also superimposed on the output of VIDEO OUTPUT connector 2 (SUPER).

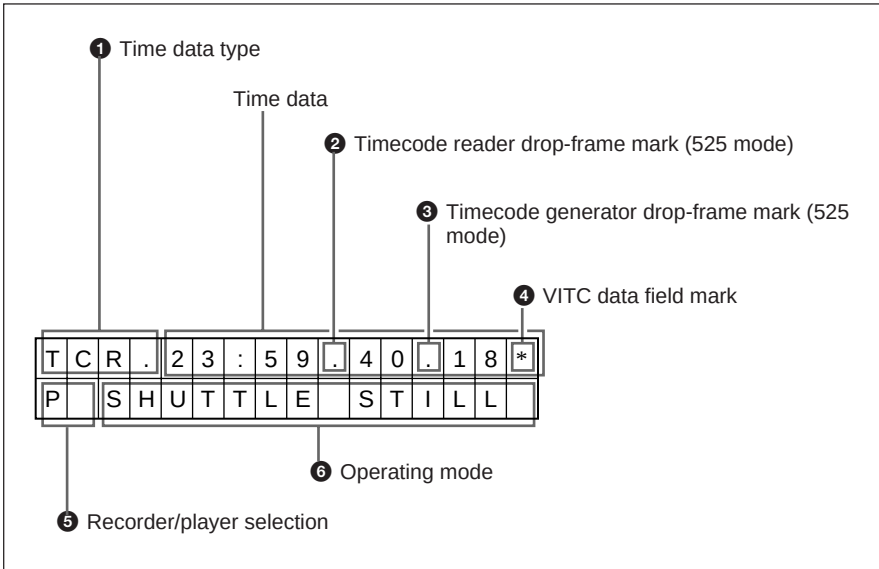
To adjust the displayed text

You can adjust the position, size, and type of superimposed information using setup menu items 002, 003, 009, and 011.

For details, see pages 6-2 and 6-4.

The figure on next page shows the time data and operation status that can be superimposed.

Information Displayed on the LCD Monitor



Note

The example above shows the factory default configuration. You can use setup menu item 005 to display a different type of time data in the second line as well.

For details, see page 6-3.

1 Time data type

Display	Meaning
CTL	CTL counter data
TCR	LTC reader timecode data
UBR	LTC reader user bits data
TCR.	VITC reader timecode data
UBR.	VITC reader user bits data
TCG	Timecode generator timecode data
UBG	Timecode generator user bits data
IN	IN point time data
OUT	OUT point time data
AI	AUDIO IN point time data
DUR	The duration between any two of the three edit points (IN, OUT, AUDIO IN)

Note

Asterisks are displayed in this block when timecode or user bits could not be read correctly, for example as T*R, U*R.

2 Timecode reader drop-frame mark (525 mode)

[.] (period): Indicates drop-frame mode.

[:] (colon): Indicates non-drop frame mode.

3 Timecode generator drop-frame mark (525 mode)

[.] (period): Indicates drop-frame mode (factory default).

[:] (colon): Indicates non-drop frame mode.

4 VITC data field mark

[] (blank): Display of fields 1 and 3

[*] (asterisk): Display of fields 2 and 4

5 Recorder/player selection

The indication changes depending on the status of the RECORDER/PLAYER indicators.

No display: When the RECORDER and PLAYER indicators are both not lit.

P: The PLAYER indicator is lit.

R: The RECORDER indicator is lit.

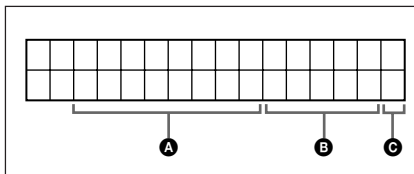
6 Operating mode

The display is divided into blocks A, B, and C, shown in the figure below.

Block A: Operating mode

Block B: Servo lock status or tape speed

Block C: The ■ mark, indicating an auto editing segment



The contents displayed in each block are listed on next page.

Information Displayed on the LCD Monitor

Display		Operating Mode
Block A	Block B	
TAPE UNTHREAD		No cassette loaded
STANDBY OFF		Standby off mode
T. RELEASE		Tension release mode
STOP		Stop mode
F. FWD		Fast forward mode
REW		Rewind mode
PREROLL		Preroll mode
PLAY		Playback mode (servo unlock)
PLAY	LOCK	Playback mode (servo lock)
PLAY	% difference with respect to normal speed	Capstan override mode
REC		Recording mode (servo unlock)
REC	LOCK	Recording mode (servo lock)
SEQ REC		Sequential recording mode (servo unlock)
SEQ REC	LOCK	Sequential recording mode (servo lock)
EDIT		Editing mode (servo unlock)
EDIT	LOCK	Editing mode (servo lock)
JOG	STILL	Jog mode still picture
JOG	FWD	Forward jog
JOG	REV	Reverse jog
SHUTTLE	(speed)	Shuttle mode
VAR	(speed)	Variable mode
PREVIEW		Preview mode
AUTO EDIT		Auto edit mode
REVIEW		Review mode
D-PREV	(speed) ^{a)}	DMC edit preview mode
D-EDIT	(speed) ^{a)}	DMC edit mode
DMC-SPD	(speed)	DMC initial speed setting

a) Initial speed or speed stored in memory

To create new text data

Use Setup Menu items 005 and 017 (pages 6-3 and 6-5).

- 1 Set Setup menu item 005 to CHARACTER.

For more information about menu operations, see Chapter 6 “Setup Menu”.

- 2 Set Setup menu item 017 to ON.

- 3 Press the SET button.

The Text Data Creation Screen appears, and the F FWD and REW buttons light.

Character selection section

Data entry section

[

-

!"#\$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNO
PQRSTUVWXYZ[*]^_Babcdefghijklmnopqrstuvwxyz{|}
#Del#Date#Time

FF/REW : select pos.
DIAL : select chara.

- 4 Enter the data in the data entry section.

To specify the data entry

position: Move the cursor to the right by pressing the F FWD button or to the left by pressing the REW button.

To select a character to enter:

Rotate the jog dial to move the cursor to the desired character, then press the search button.

Operation	Cursor movement
Rotate clockwise	Moves to the right. When the last character is reached, moves to the first character.
Rotate counterclockwise	Moves to the left. When the first character is reached, moves to the last character.
Rotate clockwise while pressing the SHIFT button	Moves one line up. When the cursor is in the top line, moves to the bottom line.
Rotate counterclockwise while pressing the SHIFT button	Moves one line down. When the cursor is in the bottom line, moves to the top line.

To delete a character from the data entry section: Select #Del in the character selection section.

To enter the date: Select #Date in the character selection section.

To enter the time: Select #Time in the character selection section.

Combining Two VTRs

This section describes how to combine two DNW-A25WS/A25WSP units using the BKNW-225, and how to separate the combined units.

For details of the BKNW-225, refer to the BKNW-225 Operation Guide.

Caution

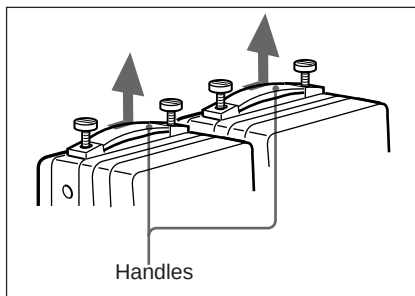
Use only the supplied screws.
If you use any screws other than the supplied screws, there is a danger of electric shock.

Notes

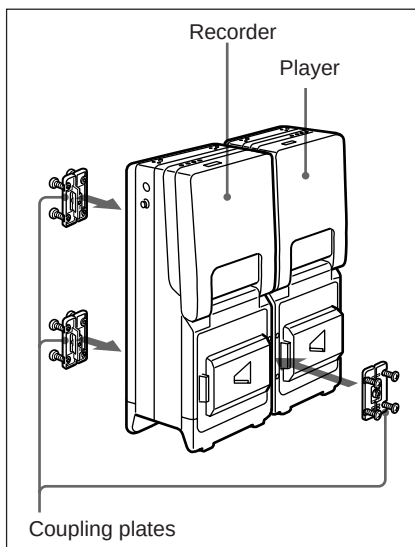
- Make sure the screws are firmly fastened.
Otherwise, there is a danger of dropping the units while carrying it, which may result in injury.
- When combining two DNW-A25WS/A25WSP units, be sure to replace the handles supplied with them by the handle supplied with the BKNW-225. Using the handles supplied with the DNW-A25WS/A25WSP units may result in dropping the units, and possible injury.

To combine two DNW-A25WS/A25WSP units, proceed as follows.

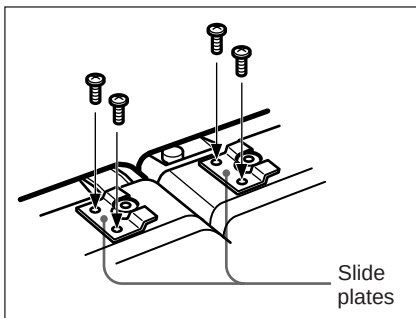
- 1** Remove the handles from both of the DNW-A25WS/A25WSP units.



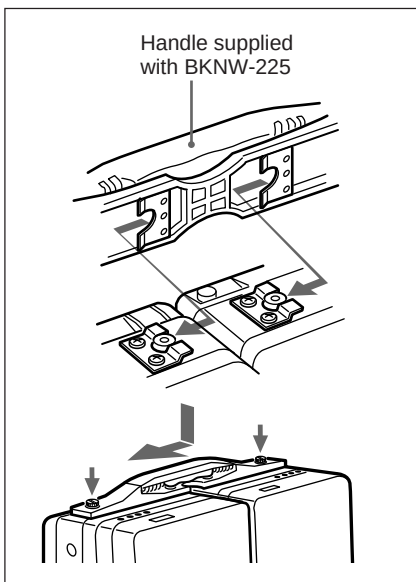
- 2** Place both units in horizontal position as shown below, and attach the three coupling plates using four screws for each plate.



- 3** Attach the two slide plates (for securing the handle) with two screws for each plate.



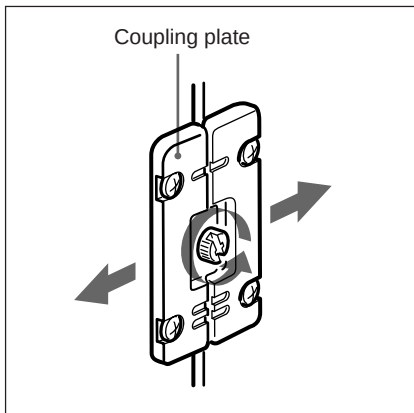
- 4** Attach the handle supplied with the BKNW-225, sliding the bottom flanges into the slots on the slide plates, making sure the coin screws on the handle align with the holes on the units.



- 5** Tighten the coin screws.

To separate the DNW-A25WS/A25WSP

Place both units in horizontal position and remove the handle. Then, loosen the coin screw at the center of each coupling plate until the left and right members of the plate can be separated.

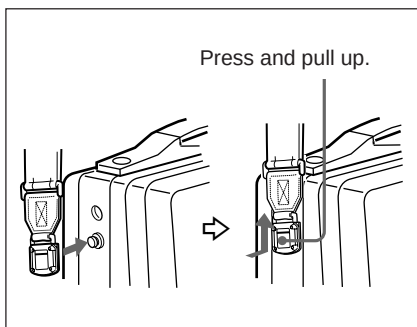


Using the Shoulder Belt

The following figures show how to fit the supplied shoulder belt.

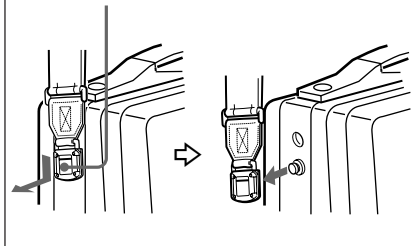
Note

If you fit the shoulder belt incorrectly, the unit may fall down and cause body injury. Follow the procedures described below to fit or remove the shoulder belt.



To remove the shoulder belt

While pressing down the indication **PRESS**, move the clip downwards to release it.

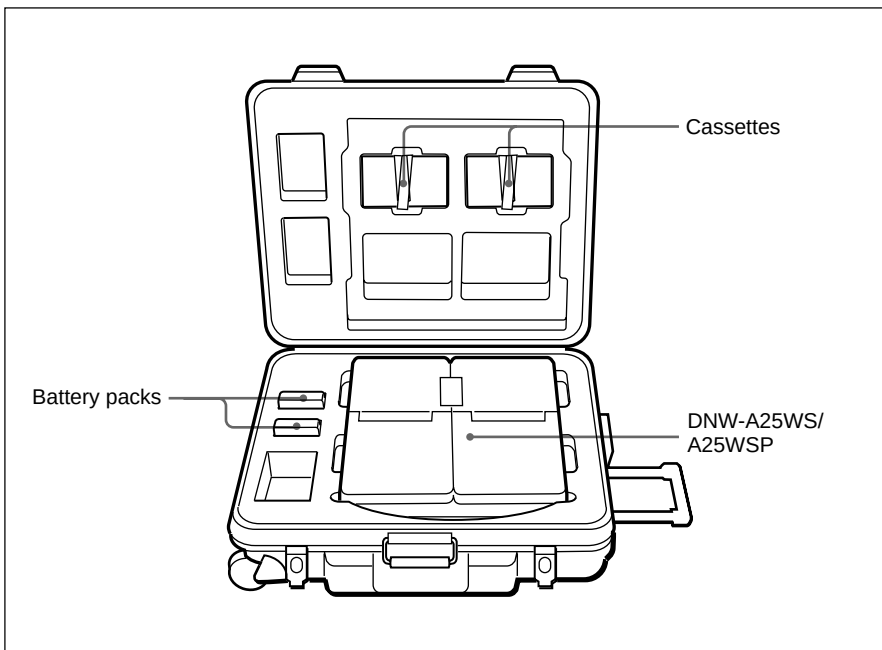


Using the Carrying Case

The following figure shows how to pack the LC-DN220 Carrying Case (not supplied) for two DNW-A25WS/A25WSP units and accessories. For one DNW-A25WS/A25WSP unit, use packing material.

Note

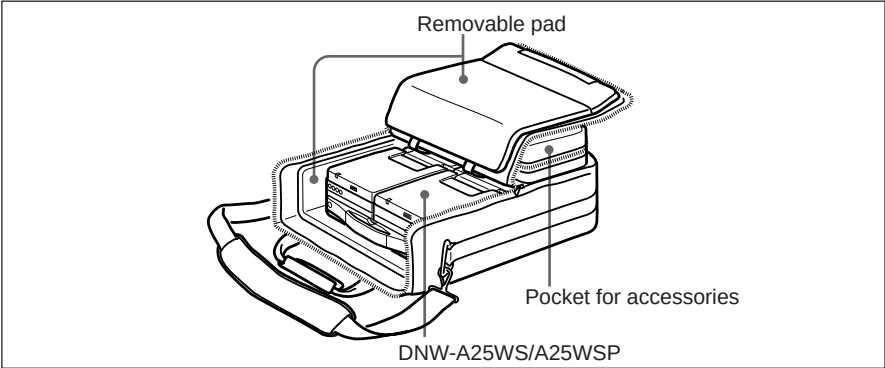
If you pack the carrying case incorrectly, the unit or accessories may fall down and cause body injury. Follow the procedures described below to pack the carrying case.



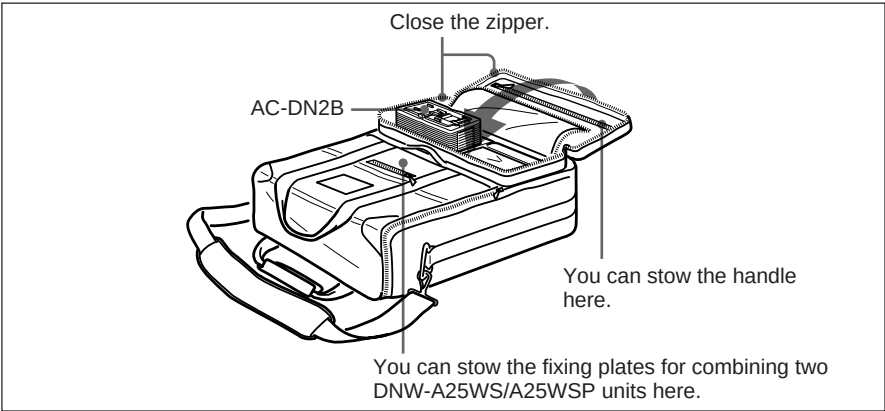
Using the Soft Carrying Case

LC-DN220SFT Carrying Case (soft case) is designed for two DNW-A25WS/A25WSP units.

Packing the case

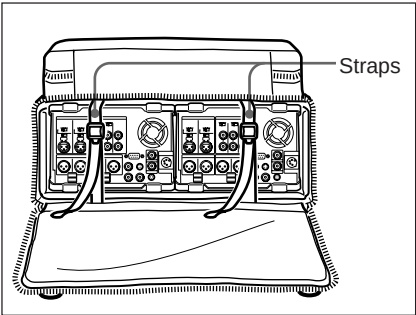


When the AC-DN2B is attached

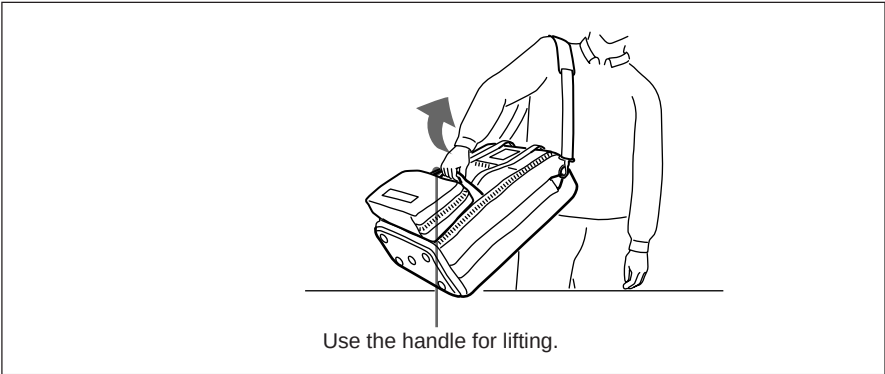


Note

Always keep the straps fastened to prevent the units from falling out.



Placing the case on a flat surface



Assemble editing

Editing in which new video/audio is added in sequence to the end of existing recorded video/audio.

Bridge connection

A connection which allows a signal input to an input terminal to pass through the unit and exit from an output terminal as input to external equipment.

B-Y signal

One of the color difference signals, the B (blue) signal minus Y (luminance) signal.

Capstan

A drive mechanism that moves the tape at a specified speed. Its rotation is normally synchronized with a reference sync signal.

Chrominance signal

A signal which carries information about hue and saturation. Also called "C signal".

Condensation

Moisture which condensed on tape transport mechanisms. If there is condensation on the head drum, tape sticks to drum and the VTR may malfunction.

CONFI playback

This refers to playback of the audio and video signals immediately after recording, using the confidence heads, the signal being output to all intents and purposes simultaneously with recording. This is used to check recording.

Component video signal

A signal that consists of a luminance signal (Y) and two chrominance signals (Y-R, Y-B).

Composite video signal

A signal that consists of video, sync and color burst signals.

CTL

Control signal in the form of regular pulses recorded along a longitudinal track on the videotape. By counting these pulses, it is possible to determine the number of frames, and hence the tape's running time. Used mainly to adjust the tracking position of video heads, and to achieve timecode continuity in continuous recording.

Digital VTR

On a digital VTR, video and audio signals are recorded on magnetic tape and, unlike on an analog VTR, can be played back without any quality deterioration.

Drop frame mode

Time code runs at 30 frames/sec. The NTSC system, however, runs at about 29.97 frame/sec. Drop frame mode adjusts this difference. The timecode and video are synchronized by dropping the first two frames of the timecode every minute, except at the ten-minute marks.

Drum

See "Head drum".

E-E mode

Abbreviation of "Electric to Electric" mode. In this mode, video and audio signals input to the VTR are output after passing through internal electric circuits, but not through magnetic conversion circuits such as heads and tapes. This can be used to check input signals and for adjusting input signal levels.

Emphasis

The signal is emphasized at high frequencies. During playback, it is de-emphasized. This suppresses noise without affecting the original signal.

External lock

Synchronizing one equipment (slave unit) to another (master unit). The signal and tape run of the VTRs used for editing, player and recorder, are usually synchronized.

Head drum

A metal cylinder to which a video head is attached. This drum is rotated at high speeds in synchronization with the sync signal during recording and playback.

Insert editing

Editing in which new video/audio is added into the middle of existing recorded video/audio.

IRE

A unit for representing a video level laid down by the IRE (Institute of Radio Engineers). The IRE is now the IEEE (Institute of Electric and Electronic Engineers).

Non-drop frame mode

The number of frames of the timecode and video run is not adjusted. When you use the timecode in non-drop frame mode, the real playback time will be about 86 seconds shorter per day than the timecode. If you edit frame by frame or if you determine the length of a shot by counting the timecode, use drop frame mode.

Loading

Also called “threading”. To pull the tape out of the cassette case, thread it along the specified tape path, and wrap it on the drum in order to prepare it for recording or playback. The VTR automatically loads the cassette tape when you insert the cassette into the cassette compartment. There are two loading modes: standby-on mode and standby-off mode.

LTC

Abbreviation of “Longitudinal Time Code”. This timecode is recorded on a longitudinal track on the tape. Reading is unreliable at low speeds, and not possible at all during still playback. *See also* “VITC”.

Luminance signal

A signal that determined the brightness of the picture. Also called “Y signal”.

Preroll

Running of a video tape to a prior to an edit-start point to enable the tape to reach a steady speed and to be synchronized with other video tapes.

Quantization

The level resolution when an analog signal is sampled before converted into a digital signal. 8-bit quantizing has 256 levels and 10-bit quantizing has 1024 levels. Generally, 8-bit quantizing is used for video signals and 16-bit quantizing is used for audio signals. The fewer the quantizing steps, the more distortion is in the analog signal when the digital signal is reconverted into analog signal.

Reference video signal

A video signal which contains a sync signal or sync and burst signals, used as a reference for synchronization of video equipment.

R-Y signal

One of the color difference signals, the R (red) signal minus Y (luminance) signal.

Sampling frequency

The unit of time used when converting an analog signal with a continuously varying level to digital form by sampling the level at a fixed interval. In general, a higher sampling frequency makes it possible to digitize analog signals of a higher frequency.

SCH

Abbreviation of Sub Carrier to Horizontal. The phase of the subcarrier with respect to the phase of the horizontal synchronization signal. In editing of monochrome video, phase continuity is maintained by editing in units of frames (two fields), so that the continuity of the horizontal synchronization signal phase is maintained. Editing of color video must be done in units of two frames (four fields) to maintain subcarrier continuity. The SCH of a field can be checked to find out which of the four fields it represents. This allows edited video signals to be joined while maintaining subcarrier continuity.

Search

Viewing the picture or timecode by running the tape in fast forward or rewind mode, in order to search for a particular scene.

Servo

A mechanism that controls the number and phase of rotations of the head drum or capstan. Servo mechanism allows playback of the video signal without guard band noise. The reference signal of the servo control is normally a vertical sync signal.

Servo lock

This refers to the synchronization of the phase of the drum rotation and the reference signal for the tape transport position, so that the video heads can trace the same pattern on the tape for playback and recording.

SMPTE

Abbreviation of Society of Motion Picture and Television Engineers, a professional association established in the USA.

S/N

Signal-to-Noise ratio. The relation of the strength of the desired signal to the accompanying electronic interference, the noise. If S/N is high, sounds are reproduced with less noise and pictures are reproduced clearly without snow.

Standby-off mode

One of the stop modes. In this mode, head drum rotation is stopped and the tape tension is slackened. It is not possible to switch instantaneously from this mode to recording or playback mode. This mode is not harmful to the tape or heads.

Standby-on mode

One of the stop modes. In this mode, the head drum continues rotating and the tape remains wound onto the drum. This mode enables instantaneous switching to recording or playback mode. To prevent damage to the tape or heads, the device automatically switches from standby-on mode to standby-off mode after a certain period of time.

Subcarrier

Color information contained in a composite video signal. Its amplitude is for color saturation and its phase to color burst is for hue.

Superimpose

To put one picture (or characters) onto another so that both can be seen at the same time.

Sync

A reference signal consisting of vertical and horizontal sync signals used for synchronizing the scanning patterns of the video camera and the monitor.

Tape tension

The tension applied to a tape. For the tape to run properly while being wound on the drum, it must be pulled lightly in the opposite direction to the direction of transport. Improper adjustment of tape tension can cause deviations along the temporal signal axis. In analog VTRs, these deviations are evident as skew and distortion in the upper part of the screen.

Time code

The timecode is a tape position information signal that includes time and frame data that are recorded onto the tape so as to facilitate searching of editing points and recorded scenes when viewing or editing. SMPTE timecode is applied to NTSC system, and EBU timecode is applied to PAL/SECAM systems. There are two kinds of signal recorded on tape. One is longitudinal timecode (LTC) recorded along the tape (the same way as audio and CTL signals). The other is vertical interval timecode (VITC). This code is inserted in the vertical blanking period and its recorded on the tape with video signals.

Time data

This refers either to time data that is generated by a timecode generator or time data that is played back from a tape and read by a timecode reader.

Unloading

When the EJECT button is pressed, the VTR automatically winds the tape back into the cassette case. Also called “Unthreading”.

User bits

These are also referred to as “users’ bits”. The user bits are a 32-bit segment of the timecode recording area. The user can select what to record in this segment and how to use the recorded data. For example, it can be used to record data information in addition to the timecode data or ID numbers for tape reels or programs. LTC user bits is used to record good shot marks.

V (vertical)-blanking

The portion of the video signal that occurs between the end of one field and the beginning of the next. During this time, the electron beams in monitors are turned off so that they can return from the bottom of the screen to the top without showing tracks of movement on the screen. When the position of v-blanking is not adjusted correctly, a horizontal black bar appears on the screen.

Video gain

Amount of amplification for video signals, expressed in decibels (dB).

VITC

Abbreviation of “Vertical Interval Time Code”. This timecode is inserted in the vertical blanking interval and recorded on the video tracks. It can be read at low speeds and during still playback, but not during high-speed playback.
See also “LTC”.

A

AC adaptor
 AC-550/550CE 2-4
 AC-DN2B 2-4
 AC power 2-4
 Accessories A-10
 AGC (submenu) 2-23
 Aspect ratio switching 1-6,
 2-31
 ASSEMBLE button/indicator
 (recorder) 1-14
 Assemble editing 3-1
 AUD SG (submenu) 2-30
 Audio
 IN point 3-6
 input level adjustment
 (analog) 4-1
 input/output connectors
 1-20 to 1-22
 line output (LINE OUT)
 2-26
 mix signals (MIX SWAP
 CH 1 to 4) 2-25
 monitor 1-6, 1-7, 1-19,
 3-11
 playback level adjustment
 4-5
 setting (submenu) 2-24
 signal generator (SG) 2-30
 signal selection 2-24, 2-25,
 4-1, 4-4
 split editing 3-6
 test signal generator 2-30
 Audio control
 section 1-16
 setup menu items 6-33
 AUDIO IN button 1-16
 AUDIO INPUT CH-1/CH-2
 connectors 1-20
 AUDIO INPUT CH-1/CH-2
 level switches 1-20
 AUDIO INPUT IN-1/IN-2/
 IN-3/IN-4 (submenu) 2-24
 AUDIO INPUT PRESET/
 VARIABLE switch 1-17
 Audio level meter 1-6
 selecting channel indicated
 4-4
 Audio monitor speaker 1-7
 AUDIO OUTPUT CH-1/3,
 CH-2/4 connectors 1-21
 AUTO EDIT button 1-15
 AUX connector 1-23

B

BACKLGT (submenu) 2-33
 Battery 2-1
 BP-L60A/L90A 2-1
 BP-90A 2-1, 2-2
 connector 1-24
 end setting (BAT-END)
 2-33
 near-end display (BAT-NE)
 2-33
 power remaining display
 2-20
 Basic menu
 contents 6-1
 operations 6-6
 BAT-END (submenu) 2-33
 BAT-NE (submenu) 2-33
 Betacam/Betacam SP 1-1
 Betacam SX 1-1
 Black level (625/50 mode)
 1-19, 2-30
 BREAKER button 1-24
 BRIGHT/CONTRAST knob
 1-5

C

Capstan override 4-6
 Capstan servo 1-11, 2-31,
 6-11
 CAPSTAN (submenu) 2-33
 Carrying case A-19
 Cassette
 handling 2-7
 loading/ejecting 2-7
 type indication 2-20
 Cassette compartment 1-12
 Channel condition 2-20
 CHROMA knob 1-18
 Chroma phase 1-19, 2-30
 CHROMA PHASE knob 1-19
 Chroma output level 1-18,
 2-30
 Combining two VTRs A-16
 CONFI (submenu) 2-29
 Connection 2-6
 Connector panel 1-20
 Continuous editing 3-19
 Control panel 1-7
 setup menu items 6-11

CTL
 displaying 1-6, 2-20
 resetting 1-5
 CTL/TC/U-BIT button 1-6
 Cue-up 3-6

D

DC IN connector 1-23
 DC OUT connector 1-23
 DELETE button 1-16
 DF/NDF (525 mode)
 (submenu) 2-33
 Digital hours meter A-3
 Digital processing 1-1
 setup menu items 6-35
 Display panel 1-5
 DMC editing 3-14
 DOLBY(submenu) 2-26
 DOWN button 1-6

E

Editing
 aborting 3-11
 assemble editing 3-1
 checking the result (review)
 3-12
 Displaying the results
 3-12
 DMC 3-13
 event information 3-12
 insert editing 3-2
 mode selecting 3-1
 monitoring 3-11
 preread 3-17
 preview 3-7
 redoing 3-12
 section 1-14
 setup menu items 6-14
 starting 3-11
 Editing point
 checking 3-6
 cueing up 3-6
 deleting 3-9
 duration display 3-6
 modifying 3-8
 search 3-3
 setting 3-5
 shot mark position 5-7
 time data display 3-6

(Continued)

Index

EDIT button (recorder) 1-9
E-E mode 1-9
EJECT button 1-11
EMPH (submenu) 2-26
Emphasis (EMPH) 2-26
ENTRY/SHIFT button 1-15
Erasure prevention 2-10
Extended menu
 contents 6-11
 operations 6-36
External synchronization
 reference video signal
 generator 2-11
 timecode generator 2-16

F

F FWD button 1-10
First Edit Function 2-18
525/625
 display 2-20
 setup menu items 6-4
 switching 6-8
Front control section 1-18
F-RUN/R-RUN switch 1-13

G

Good shot (GS) mark 1-2, 5-1

H

Head cleaning A-1
Headphones
 audio level adjustment
 jack 1-19, 4-5
HEADPHONES jack 1-19
HOLD button 1-5

I

IN/OUT buttons 1-15
IN/OUT points 3-5
INSERT buttons/indicators
 1-14

Insert editing 3-2
 base tape function 2-18
INT/EXT switch 1-13

J

Jog
 dial 1-11
 mode 3-3
JOG indicator 1-10

K

KEY INH (submenu) 2-33

L

LCD monitor 1-5
 display A-11
LEVEL knob 1-19
LIMITER (submenu) 2-24
LINE OUT (submenu) 2-26

M

Manual editing 3-21
Menu bank
 operations 6-9
 setup menu items 6-5
MENU button 1-13
METER switch 1-6
MIX/SWAP CH 1 to 4
 (submenu) 2-25
Moisture condensation A-2
MONITOR (submenu) 2-25
MONITOR L/R (submenu)
 2-26
MONITOR OUTPUT L/R
 connectors 1-21
Monitor output switch 1-13

O

OUT REF (submenu) 2-29

P

PAGE button 1-7
PB AUDIO CH-1 to CH-4
 level adjustment sliders
 1-17
PB AUDIO PRESET/
 VARIABLE switch 1-17
Phantom powering system
 1-20
PLAY button 1-11
Playback
 capstan override 4-6
 format 1-9
 operation 4-5
 preparations 4-4
PLAYER/DMC buttons/
 indicators 1-11
POWER indicator/switch
 1-19
Power source 2-1
 AC power 2-4
 battery 2-1
PREREAD (submenu) 2-29
Preread editing 3-17
Preroll 3-7
 setup menu items 6-20
 time 3-7
PREROLL button 1-8
PRESET/REGEN switch
 1-13
Preview 3-7
PREVIEW button 1-15
PROCESS CONTROL
 (submenu) 2-30

Q

Quick editing 3-19

R

REC INHI indicator 1-8
REC INHI switch 1-12
REC/SEQ button 1-9
Rec start (RS) mark 1-2, 5-1
RECORDER button/indicator
 1-11

Recording
 format 1-9
 operation 4-1
 preparations 4-1
 REF. VIDEO IN connectors
 and 75 Ω termination switch
 1-21
 Reference video signal 2-11
 generator 2-11
 external synchronization
 (OUT REF) 2-29
 REMOTE connector 1-22
 Remote control
 connector 1-22
 setup menu items 6-14
 REMOTE/LOCAL switch
 1-12
 RESET button 1-5
 Review 3-12
 REVIEW button 1-15
 REW button 1-11

S

SC PH (submenu) 2-30
 SDI IN connector 1-23
 SDI OUT connector 1-23
 Search 3-3
 switching between modes
 3-3
 switching to normal
 playback 3-4
 Separating the combined VTRs
 A-17
 Sequential recording 4-2
 SERVO indicator 1-11
 Servo lock 1-11, 2-33, 6-11
 reference video signal 2-11
 SET button 1-13
 SET UP/BLACK LEVEL knob
 1-19
 Setup level (525/60 mode)
 1-19, 2-30
 Setup menu 6-1
 basic menu 6-1
 configuration 6-1
 displaying 6-6
 extended menu 6-11
 item change 6-6
 menu bank 6-9
 resetting to the factory
 default 6-7
 saving 6-9
 section 1-12
 setting value change 6-7
 switching between 525 and
 625 6-8
 Setup menu items
 audio control 6-33
 control panel 6-11
 digital hours meter A-3
 digital processing 6-35
 editing 6-14
 preroll 6-20
 remote interface 6-14
 tape protection 6-20
 timecode generator 6-21
 video control 6-26
 SG (submenu) 2-30
 Shot Data 1-2
 display 5-3, 5-6
 Shot mark 5-1
 operation menu 5-2
 operations 5-4
 overview 5-1
 Shoulder belt A-18
 Shuttle
 dial 1-11
 mode 3-3
 SHUTTLE indicator 1-10
 Soft carrying case A-20
 SP TAPE switch 1-9
 Speaker 1-7
 audio level adjustment
 1-19, 4-5
 Specifications A-5
 Source video signal
 selection/display 2-21, 4-1
 STANDBY indicator 1-10
 STOP button 1-10
 Submenu 2-19
 audio settings pages 2-24
 audio settings subpages
 2-26
 brightness setting 2-33
 display 2-19
 general settings pages 2-32
 home page 2-19
 item selection 2-22
 operation buttons F1 to F4
 1-7
 page switching 2-22
 screen 1-6
 setting change 2-22
 video settings pages 2-29
 Subcarrier phase (SC PH)
 2-30
 SUPER (submenu) 2-32

Superimpose 2-32, A-11
 setup menu items 6-3, 6-4
 SYNC PH (submenu) 2-30
 Sync phase (SYNC PH) 2-30
 System configuration 1-3

T

Tape
 slack 2-8, A-1
 transport section 1-8
 Tape protection 1-10
 TC IN connector 1-22
 TC OUT connector 1-23
 Text information
 adjustment A-11
 creating A-15
 displaying A-11
 Timecode
 display 1-6, 2-19
 input/output connectors
 1-22, 1-23
 output 4-4
 playback timecode 2-17,
 4-4
 recording 2-14
 resetting 1-5
 section 1-12
 selection 2-21
 setting 2-13
 setting an initial value 2-14
 setting to current time 2-15
 Timecode generator
 external synchronization
 2-16
 holding the progress 1-5
 setup menu item 6-21
 Time data
 display 2-20, 3-6
 selection 1-6, 4-4
 Top panel 1-24
 TRIM/GOOD SHOT button
 1-15

(Continued)

U

- UP and DOWN buttons 1-6
- User bit
 - displaying 1-6, 2-19
 - resetting 1-5
 - setting 2-15

V

- Variable mode 3-3
- VFDBRIT (submenu) 2-33
- Video
 - input level (composite signal) 2-20, 2-29
 - input/output connectors 1-21
 - monitoring 1-5, 1-9, 3-11
 - output level 1-18, 2-30
 - setting (submenu) 2-29
 - signal generator (SG) 2-30
 - source signal selection 2-21
 - test signal generator (VID SG) 2-31
- Video control
 - operation section 1-18
 - PROCESS CONTROL (submenu) 2-30
 - setup menu item 6-26
 - VID SG (submenu) 2-31
- VIDEO IN (submenu) 2-29
- VIDEO INPUT connectors and 75 Ω termination switch 1-21
- VIDEO knob 1-18
- VIDEO OUTPUT connectors 1-21
 - 2 (SUPER) connector A-9
- VIN TRIG (submenu) 2-29
- VITC
 - VITC/LTC (submenu) 2-20
 - VITC/LTC/AUTO (submenu) 2-21
 - VITC ON/OFF (submenu) 2-21

W

- WARNING indicator 1-5
- WIDE (submenu) 2-31
- WIDE/AU.MON switch 1-6
- WID/MON (submenu) 2-34

Y

- Y/C DELAY (submenu) 2-30

Z

- ZEBRA (submenu) 2-29
- Zebra pattern (ZEBRA) 2-29

The material contained in this manual consists of information that is the property of Sony Corporation and is intended solely for use by the purchasers of the equipment described in this manual.

Sony Corporation expressly prohibits the duplication of any portion of this manual or the use thereof for any purpose other than the operation or maintenance of the equipment described in this manual without the express written permission of Sony Corporation.

DNW-A25WS/A25WSP
(SY)
3-206-841-01(1)

Sony Corporation
B & P Company
<http://www.sony.net/>

Printed in Japan
2002.02.13
©2002