

Video Disk Recorder

Operating Instructions

Before operating the unit, please read this manual thoroughly and retain it for future reference.



DSR-DR1000A/DR1000AP

Owner's Record

The model and serial numbers are located at the bottom. Record these numbers in the spaces provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. _____ Serial No. _____

Important Safety Instructions

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

WARNING

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

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

THIS APPARATUS MUST BE EARTHED.


CAUTION

The apparatus shall not be exposed to dripping or splashing and no objects filled with liquid, such as vases, shall be placed on the apparatus.

The unit is not disconnected from the AC power source (mains) as long as it is connected to the wall outlet, even if the unit itself has been turned off.


Do not install the appliance in a confined space, such as a book case or built-in cabinet.

This apparatus is provided with a main switch on the rear panel. Install this apparatus so that user can access the main switch easily.



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: THIS WARNING IS APPLICABLE FOR USA ONLY.

Using this unit at a voltage other than 120 V may require the use of a different line cord or attachment plug, or both. To reduce the risk of fire or electric shock, refer servicing to qualified service personnel.

For customers in the USA (DSR-DR1000A only)

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

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.

Caution

Television programs, films, video tapes and other materials may be copyrighted. Unauthorized recording of such material may be contrary to the provisions of the copyright laws.

For customers in Europe (DSR-DR1000AP only)

This product with the CE marking complies with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European standards:

- EN60065: Product Safety
- 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).

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.



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Features

The DSR-DR1000A/DR1000AP is a digital video disk recorder using the DVCAM™ digital recording format. It is the first professional DVCAM studio recorder to feature a hard disk as its recording media.

The DSR-DR1000A/DR1000AP supports the jog, shuttle, and variable playback modes found on conventional VTRs, together with jog sound. In addition, it supports many convenient functions possible only on a hard disk recorder, such as simultaneous recording and playback, random access, and interval recording.

This unit is equipped with an i.LINK* interface supporting the AV/C and SBP2 protocols, which allows it to transfer data at high speeds. It is also equipped with an Ethernet connector, allowing it to be connected to a LAN for transferring recorded data as files.

This unit can be used as a recorder in combination with video cameras and players, and incorporated in a conventional editing system as a professional feeder. Because it adds a variety of convenient hard disk functions to the functionality of a conventional VTR, it can significantly increase editing efficiency.

* i.LINK and  are trademarks and indicate that this product is in agreement with IEEE1394-1995 specifications and their revisions.

The following are the principal features of the unit.

DVCAM Format

DVCAM is a professional digital recording format developed by Sony from the consumer DV component digital format.

High picture quality and high stability

Video signals are separated into color difference signals and luminance signals, which are encoded and compressed

to one-fifth size before being recorded to ensure stable and superb picture quality.

High-quality PCM digital audio

PCM recording makes for a wide dynamic range and a high signal-to-noise ratio, thereby enhancing sound quality.

There are two recording modes: 2-channel mode (48-kHz sampling and 16-bit quantization), which offers sound quality equivalent to the DAT (Digital Audio Tape) format, or 4-channel mode (32-kHz sampling and 12-bit quantization).

Supporting Variety of Input/Output Interfaces

Digital interfaces

The following optional digital interfaces can be used with the unit.

SDI (serial digital interface)/AES/EBU: It can input and output D1 (component) format digital video and audio signals and also AES/EBU-format digital audio signals.

i.LINK: DV format digital video and audio signals can be input and output. This unit supports the SBP2 protocol. Connecting an SBP2 compliant PC allows video and audio data to be transferred at high speeds.

Analog interfaces

The unit can also use the following analog interfaces.

- **Analog video:** These interfaces include a component interface, composite interface, and S-video interface. The same BNC type input and output connectors are used to input and output signals in different formats selected with front panel buttons for input and menu items for output.
- **Analog audio:** The unit has two audio channels. When in 4-channel mode, you can input two channels of audio

either as channels 1 and 2 or as channels 3 and 4. The two audio channels can be output also either as channels 1 and 2 or as channels 3 and 4.

Compact Size

The compact size of the unit makes the unit suitable for use on a desk top or in an outside broadcast van. The unit can be used as feeder machine for non-linear editing.

Facilities for High-Efficiency Editing

200% variable playback

This unit is the first DVCAM format player or recorder to provide noiseless, variable speed playback over the range from -2 to $+2$ times normal speed.

Digital jog sound function

When searching at speeds in the range ± 2 times normal speed, the digital jog sound function is enabled. The audio signal is saved in temporary memory, and replayed according to the search speed. This allows searching on the sound track.

Video process control

For analog video output and SDI-format video output, you can adjust the video output level, chroma signal output level, setup level (for DSR-DR1000A), black level (for DSR-DR1000AP), and chroma phase using the setup menu.

Search dial

This unit is equipped with a responsive search dial for jog and shuttle playback.

Internal and external time codes

An internal time code generator and reader enables time code compliant with SMPTE (for DSR-DR1000A)/EBU (DSR-DR1000AP) format to be recorded and played back. This allows editing to single frame precision.

Outputting or inputting time code (LTC) to or from an external device is also possible using the TIME CODE IN/OUT connectors.

The unit is also compatible with VITC.

Remote control

This unit has two RS-422A connectors for communications with external editors with RS-422A interfaces. Remote control is also possible via the supplied RM-LG2 remote control unit and over the i.LINK interface.

DMC (Dynamic Motion Control)

Under the control of external control devices, this unit can play back editing segments over the range -2 to $+2$ times normal speed.

Superimposition function

Time code values, operation mode indications, error messages, and other text data can be superimposed on analog composite video signals output from the SUPER connector. The SUPER connector is a special connector for output of text information. It can be used independently when you are outputting composite video, component video, S-Video and other video signals.

Special Hard Disk Functions

Extended recording times

The unit is equipped with a mass storage hard disk, which allows a maximum of 12 hours of 25 Mbps DVCAM stream signals to be recorded.

Rich variety of recording modes

- **Normal recording:** Input signals are recorded to the hard disk. A single clip* is created by recording start and stop operations.
- **Continuous (endless) recording:** This mode allows continuous recording of new material to the hard disk, overwriting old material when the disk becomes full. This mode is suitable for meteorological and biological observations, which require long continuous recording times.
- **Interval recording:** This mode allows recording at specified intervals. You can set the length of the recording interval and the length of the standby time until the next recording interval. The recording interval can be set to 0.5, 1, 1.5, or 2 seconds, and the standby interval to 30 seconds or 1, 5, or 10 minutes. This is effective in situations such as biological observations when long interval recording times are required.
- **Pre-alarm (external trigger) recording:** In this mode, recording is triggered by an alarm signal input from an external device. For example, when an alarm signal is received, the unit begins recording. Moreover the recording includes data for the 30 seconds prior to reception of the alarm signal (this data is continuously saved in advance on the hard disk).

* Material recorded by this unit is handled in units called "clips", which contain the data from the start point to the end point of one recording operation. Note that there is a limit of 500 on the number of clips that can be saved, regardless of the available hard disk space.

Simultaneous recording and playback

While recording input signals to the hard disk, this unit is capable of simultaneous normal speed or slow-motion* playback of any materials already recorded on the hard disk.** During recording, cue points can be set at any point from the control panel or from the supplied RM-LG2 Remote Control Unit, and the unit can go back to play the material from the cue points. This makes it possible for this unit alone to provide slow-motion playback of highlight scenes and other kinds of replay required in broadcasts of sporting and live events.

* Slow-motion playback during recording is possible over the range (normal speed).

**Playback of the clip currently being recorded is not possible during continuous recording.

Program playback (clip segment playback)

You can extract scenes (up to 100 scenes) anywhere in the materials on the hard disk to create playlists. This unit follows the playlist to play the materials automatically, allowing you to play sequences with this unit alone. You can check and modify the lists on the monitor.

Multi-simultaneous playback (9-pin (PARA) function)

Via the two RS-422A connectors, multiple DSR-DR1000A/DR1000AP units can be connected in a cascade connection, for simultaneous playback without delay. This is convenient in situations such as output to multiple monitors. To perform multi-simultaneous playback, you need to set the REMOTE I/F menu item (*see page 69*) to 9PIN(PARA).

Other Features

Support for two i.LINK protocols

This unit supports the AV/C protocol, used for input and output of digital video and audio signals in the DV format, and the SBP2 protocol, used for high-speed transfer of video and audio data. By connecting SBP2 compatible nonlinear devices or servers, you can transfer data at fast speed.

Ethernet modular jack

You can connect this unit to a LAN to transfer material. In addition to transferring clips, you can also extract and transfer individual scenes.

Menu system for functionality and operation settings

The unit provides a menu system to make its various functions easier to use and set up its operation conditions.

Self-diagnostic/alarm function

This function automatically detects setup and connection errors, operation faults, and other problems. It also displays a description of the problem, its cause, and the recommended response on the video monitor screen or time counter display.

Internal test signal generator

The unit has built-in video and audio test signal generators. The video test signal generator can produce either a color bar signal or a black burst signal. The audio test signal generator can generate either a silent signal or a 1-kHz sine wave signal. Menu items are provided for selecting the test signals to be generated.

Reference signal connection

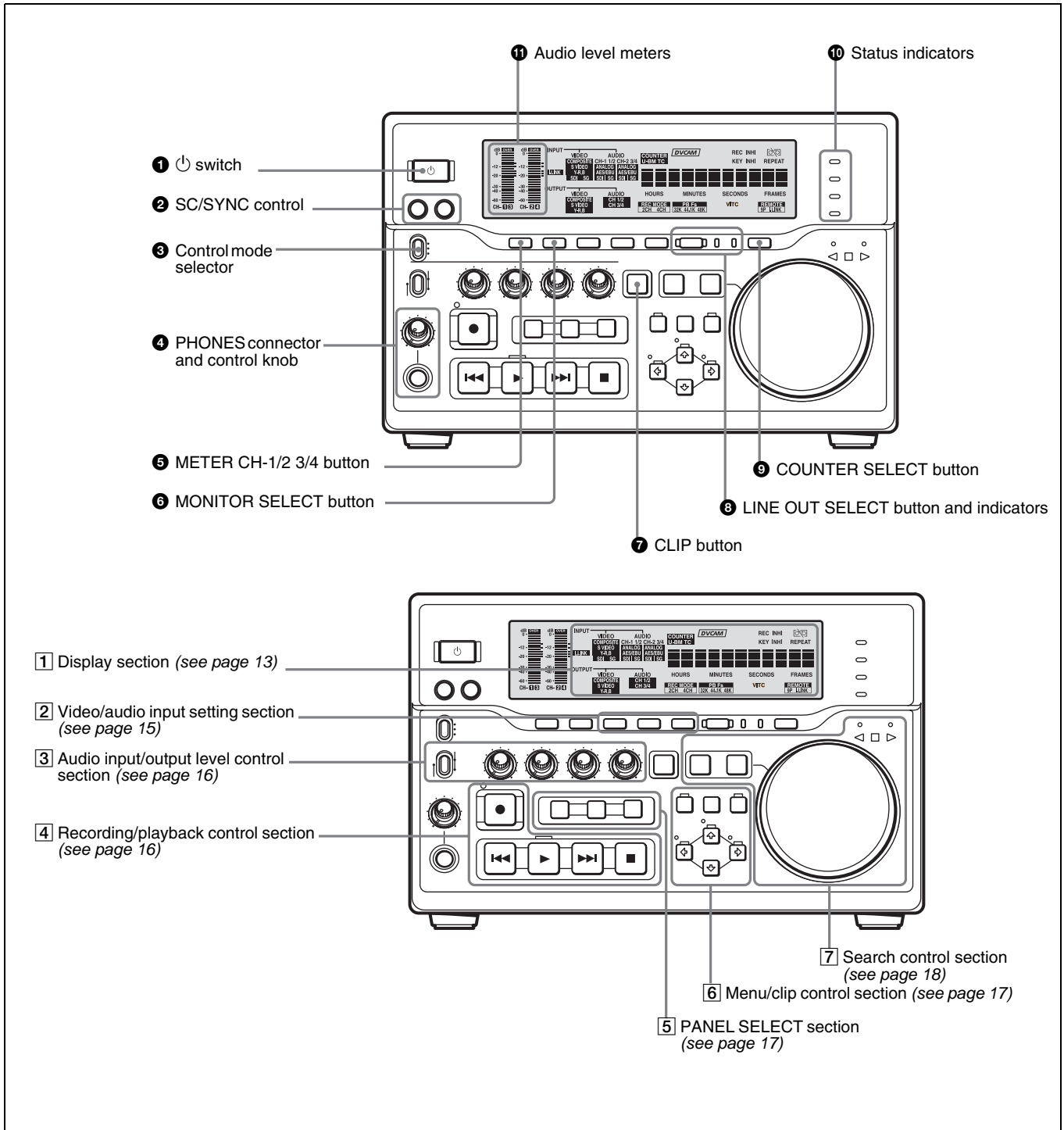
The reference video input connector of the unit is provided with a loop-through connector which can be used to connect the input reference video signal to other equipment. When there is no loop-through connection, the reference video input connector is automatically provided with a 75-ohm termination.

Compatible with wide-screen aspect ratio (16:9)

The unit can record and play back aspect ratio information. When video accompanied by wide-screen aspect ratio information is recorded or played back, the unit can output the video signal also containing the aspect ratio information.

Location and Function of Parts

Front Panel



1 (power) switch

Press to power on the unit when the POWER switch on the rear panel is turned on (see page 19). This causes the audio

level meters and the display section to light. To power off the unit, press the switch again.

2 SC (subcarrier phase)/SYNC (synchronization phase) control

Turn the SC control to accurately adjust the subcarrier phase of the composite video output signal of the unit with respect to the reference video signal.

3 Control mode selector

Selects whether the unit is operated from its front panel or from external equipment.

KEY INHI (key inhibit): All controls in the recording/playback control section and the search control section are disabled. In this state, the unit cannot be operated from its front panel or from a remote control unit connected to the CONTROL connector.

LOCAL: The unit is operated from its front panel or from an RM-LG2 Remote Control Unit (supplied) connected to the CONTROL connector.

REMOTE: The unit is operated from external equipment connected to the REMOTE IN (R)/OUT (P) connectors or \mathbb{I} S400(i.LINK) connector on the rear panel. Select which of the connectors to use with the REMOTE I/F menu item (*see page 69*).

Note

When you edit using the \mathbb{I} S400(i.LINK) connector, with video and audio signal input set to i.LINK (*see page 15*) and remote control set to 9PIN (*see page 69*), the locations where edit points are actually set may not be the same as the specified locations.

When you set video and audio signal input to i.LINK, set remote control to i.LINK as well.

4 PHONES connector (stereo phone jack) and control knob

Connect stereo headphones to the connector for audio monitoring during recording or playback. The control knob controls the volume of the headphones. It also controls the level of the audio signal output from the MONITOR connector on the rear panel.

The settings made with the METER CH-1/2 3/4 button and MONITOR SELECT button select the audio channels for audio output via this connector. The same channel selection as for the audio level meters applies to this connector.

5 METER CH-1/2 3/4 button

Pressing this button toggles the audio level meter mode between CH-1/2 (channels 1 and 2) and CH-3/4 (channels 3 and 4).

The settings made with this button and the MONITOR SELECT button select the channels for level indications and audio output.

For more details, see “6 MONITOR SELECT button.”

6 MONITOR SELECT button

Use this button and the METER CH-1/2 3/4 button to select the audio channels:

- for level indications on the audio level meters
- for audio output via the PHONES connector on the front panel
- for audio output via the MONITOR connector on the rear panel

Depending on the setting made with the METER CH-1/2 3/4 button, the channels for output to the above meters and connectors are selected as follows.

When CH-1/2 mode is selected with the METER CH-1/2 3/4 button:

Audio level meters	PHONES connector	MONITOR connector
CH-1 (channel 1) only. Only the left meter lights.	Channel 1 only (monaural)	Channel 1 only
CH-2 (channel 2) only. Only the right meter lights.	Channel 2 only (monaural)	Channel 2 only
CH-1 and CH-2 (channels 1 and 2). Both the left and right meters light.	Channels 1 and 2 (stereo)	Channels 1 and 2 (mixed)

When CH-3/4 mode is selected with the METER CH-1/2 3/4 button:

Audio level meters	PHONES connector	MONITOR connector
CH-3 (channel 3) only. Only the left meter lights.	Channel 3 only (monaural)	Channel 3 only
CH-4 (channel 4) only. Only the right meter lights.	Channel 4 only (monaural)	Channel 4 only
CH-3 and CH-4 (channels 3 and 4). Both the left and right meters light.	Channels 3 and 4 (stereo)	Channels 3 and 4 (mixed)

7 CLIP button

This button is used for setting up and modifying clip lists, and for clip segment playback operations.

See Chapter 4 for details about clip operations.

8 LINE OUT SELECT button and indicators

When you are recording and playing back at the same time, use this button to select output of playback or recording signals. Each press of the button selects the other signals. Recording signals are output when the R indicator is lit. Playback signals are output when the P indicator is lit.

When the R indicator is lit: Recording signals are output.

When the P indicator is lit: Playback signals are output.

When both indicators are lit: Output signals are recording signals or playback signals, as selected by the R button and the P button in the PANEL SELECT

section (see page 17). Output signals can also be switched from an external device connected to the REMOTE OUT(P) connector.

See “To select output signals during simultaneous recording and playback” on page 35 for more information about selecting the output during simultaneous recording and playback.

9 COUNTER SELECT button

Selects the type of time data to be shown in the time counter display. Each press of this button cycles through the following three indicator display options:

- COUNTER (CNT: count value of the time counter)
- TC (time code)
- U-BIT (user bits)

Note

If the Control mode selector is set to REMOTE, the COUNTER SELECT button does not operate. In this case, make the time data selection via the external equipment connected to the REMOTE IN (R)/OUT (P) connectors on the rear panel.

10 Status indicators

This indicate the current status of the unit.

CONTINUOUS REC: When this indicator is lit, the unit will return to the first recording start position and continue recording, overwriting old data, whenever the available recording space is exhausted.

NETWORK: When the unit is connected to a LAN, this indicator lights during data communications or on standby for communication.

NEW CONTENTS: When the unit is connected to a LAN, this indicator lights when new material is received. The indicator goes out when the newly received data is saved.

ACCESS: This indicator light when the hard disk is accessed.

Note

Do not power the unit off when the NETWORK indicator or ACCESS indicator are lit. Doing so may result in the loss of recorded or received data.

11 Audio level meters

These two meters indicate the recording audio levels during recording or EE mode* and the playback audio levels during playback. When the audio level indicated on a meter exceeds 0 dB, the OVER indicator for the meter lights.

The short bars to the right of level indication bars indicate that those levels are reference audio recording levels.

The settings made with the METER CH-1/2 3/4 button and MONITOR SELECT button select the audio channels for level indications on these meters as follows.

When CH-1/2 mode is selected with the METER CH-1/2 3/4 button:

Every time the MONITOR SELECT button is pressed, the audio channel selection for level indications on the two meters cycles through the following options.

- CH-1 (channel 1) only
Only the CH-1 indicator lights.
- CH-2 (channel 2) only
Only the CH-2 indicator lights.
- CH-1 and CH-2 (channels 1 and 2)
Both the CH-1 and CH-2 indicators light.

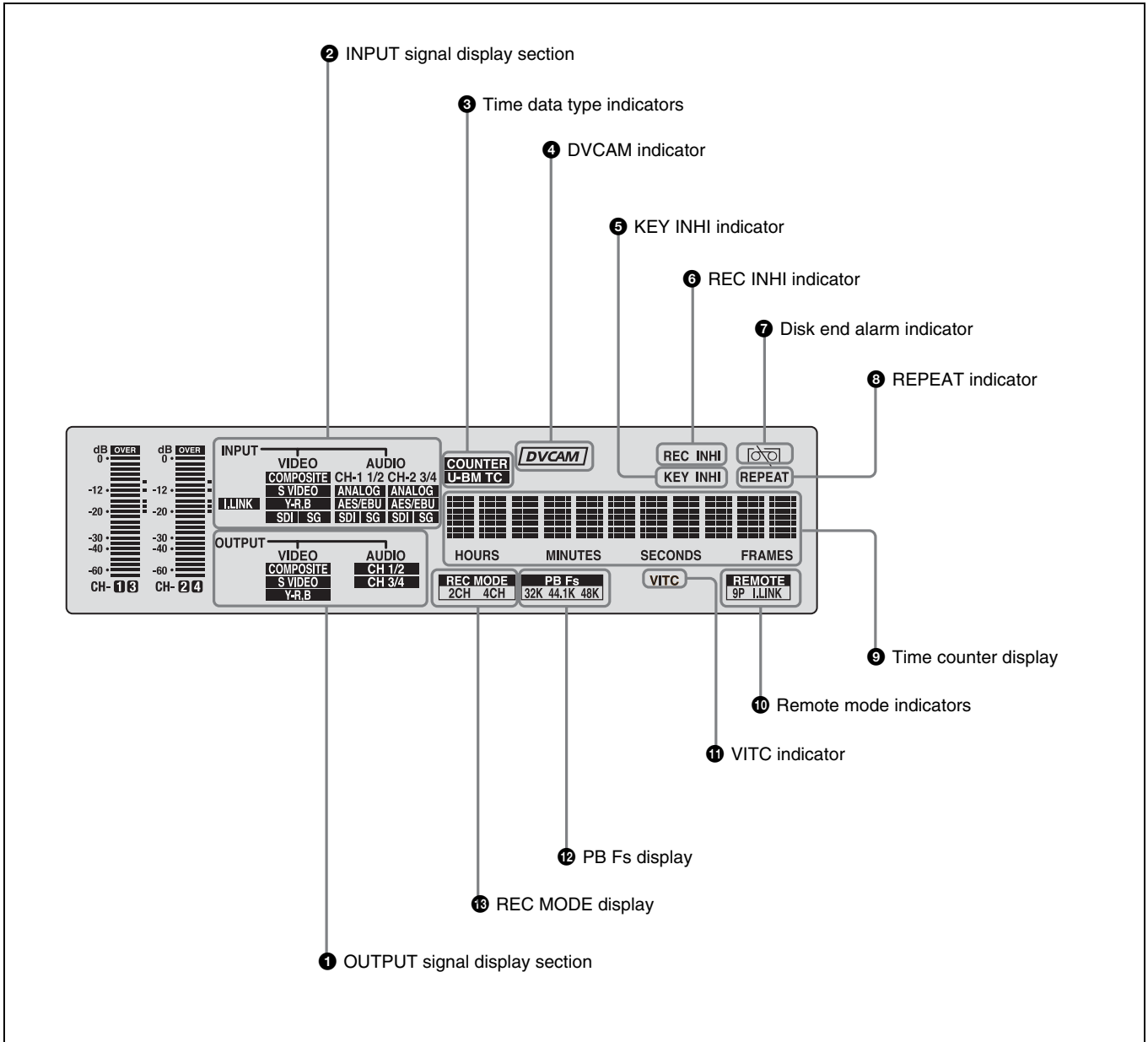
When CH-3/4 mode is selected with the METER CH-1/2 3/4 button:

Every time the MONITOR SELECT button is pressed, the audio channel selection for level indications on the two meters cycles through the following options.

- CH-3 (channel 3) only
Only the CH-3 indicator lights.
- CH-4 (channel 4) only
Only the CH-4 indicator lights.
- CH-3 and CH-4 (channels 3 and 4)
Both the CH-3 and CH-4 indicators light.

* E-E mode: Abbreviation of “Electric-to-Electric mode.” In this mode, video and audio signals input to the VCR 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.

1 Display section



1 OUTPUT signal display section

Indicates the output video and audio signal format selected with the INTERFACE SELECT menu items (see page 69).

This selection determines the signals output from the Y/CPST, R-Y/S-C, and B-Y/S-Y, SUPER connectors as follows.

VIDEO indicators: The indicator (COMPOSITE, S VIDEO, or Y-R,B) corresponding to the selected output analog video signal format lights.

Indicators	Meanings
COMPOSITE	Composite video signal
S VIDEO	S-video (separated Y and C) signals
Y-R,B	Y, R-Y and B-Y component video signals

• **When COMPOSITE/S VIDEO is selected:**

Connectors	Output signals
Y/CPST	Composite signal
R-Y/S-C	S-C
B-Y/S-Y	S-Y
SUPER	Composite signal

• **When Y-R,B is selected:**

Connectors	Output signals
Y/CPST	Y signal
R-Y/S-C	R-Y signal
B-Y/S-Y	B-Y signal
SUPER	Composite signal

AUDIO indicators: Comprise the CH 1/2 indicator and CH 3/4 indicator to indicate the channel selection for analog audio output from the AUDIO OUT 1/3 and AUDIO OUT 2/4 connectors.

Indicators	Functions
CH 1/2	Lights when channels 1 and 2 are selected for analog audio output from the AUDIO OUT 1/3 and AUDIO OUT 2/4 connectors.
CH 3/4	Lights when channels 3 and 4 are selected for analog audio output from the AUDIO OUT 1/3 and AUDIO OUT 2/4 connectors.

You can change the channel selection with the AUDIO OUTPUT menu item (*see page 69*).

2 INPUT signal display section

Indicates the input video and audio signal formats selected with the INPUT SELECT buttons (i.LINK, VIDEO, CH1 1/2, and CH2 3/4 buttons).

i.LINK indicator: Lights when the digital video and audio signals in i.LINK-compatible DV format are selected.

VIDEO indicators: The indicator (COMPOSITE, S VIDEO, Y-R,B, SDI, or SG) corresponding to the selected input video signal format lights.

Indicators	Meanings
COMPOSITE	Composite video signal
S VIDEO	S-video (separated Y and C) signals
Y-R,B	Y, R-Y and B-Y component video signals
SDI	SDI video signal
SG	Video test signal (factory default setting)

AUDIO indicators: Comprise the CH-1 1/2 indicator and CH-2 3/4 indicator, under each of which there are four more indicators (ANALOG, AES/EBU, SDI, and SG). They indicate the selected input audio signal formats.

Indicators	Functions
CH-1 1/2 (ANALOG, AES/EBU, SDI, SG)	The indicator corresponding to the signal format selected for audio input to channel 1 (when in 2-channel mode) or to channels 1 and 2 (when in 4-channel mode) lights. ANALOG: Analog audio signal AES/EBU: Digital audio signal in AES/EBU format SDI: SDI audio signal SG: Audio test signal (factory default setting)
CH-2 3/4 (ANALOG, AES/EBU, SDI, SG)	The indicator corresponding to the signal format selected for audio input to channel 2 (when in 2-channel mode) or to channels 3 and 4 (when in 4-channel mode) lights. ANALOG: Analog audio signal AES/EBU: Digital audio signal in AES/EBU format SDI: SDI audio signal SG: Audio test signal (factory default setting)

Note

The indicators blink if no signals are connected to the selected video/audio input connectors.

3 Time data type indicators

One of the three indicators (COUNTER, U-BIT, or TC) lights to indicate the type of time data currently shown in the time counter display.

COUNTER: Count value of the time counter

U-BIT: User bit data

TC: SMPTE time code (for DSR-DR1000A) or EBU time code (for DSR-DR1000AP)

4 DVCAM indicator

This stays lit.

5 KEY INHI (key inhibit) indicator

Lights when the control mode selection switch is set to KEY INHI.

6 REC INHI (recording inhibit) indicator

Lights when the REC INHIBIT menu item (*see page 62*) is set to ON.

7 Disk end alarm indicator

Starts flashing when the remaining capacity of the disk is for about 2 minutes.

8 REPEAT (repeat playback) indicator

Lights when the REPEAT MODE menu item (*see page 61*) is set to ON to enable the repeat playback function.

9 Time counter display

Indicates the count value of the time counter, time code, VITC, or user bit data depending on the settings of the

COUNTER SELECT button and the TC SELECT menu item (see page 65).

Also used to display error messages, edit data, setup menu data, etc.

10 Remote mode indicators

REMOTE: Lights when the Control mode selector is set to REMOTE to remote control the unit from either an editing control unit connected to the REMOTE IN (R)/OUT (P) connectors or equipment connected to the S400(i.LINK) connector.

9P: Lights when the REMOTE I/F menu item (see page 69) is set to 9PIN.

i.LINK: Lights when the REMOTE I/F menu item (see page 69) is set to i.LINK.

11 VITC indicator

Lights when VITC is being read or recorded regardless of the data shown in the time counter display.

12 PB Fs (playback audio sampling frequency) display

During playback, this indicates the playback audio mode in which the disk being played back was recorded.

48K indicator: Lights during playback of material recorded in 2-channel mode (48 kHz).

32K indicator: Lights during playback of material recorded in 4-channel mode (32 kHz).

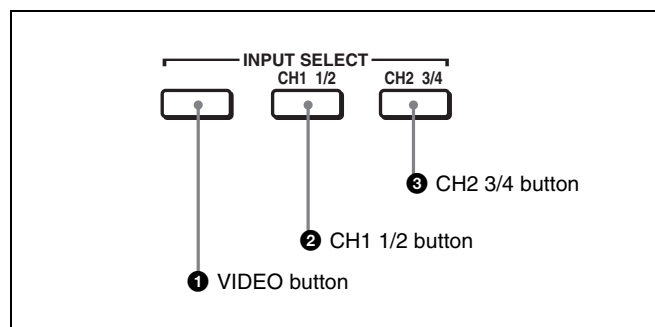
13 REC MODE (audio recording mode) display

This indicates the audio recording mode currently selected with the REC MODE menu item (see page 68).

2CH indicator: Lights in 2-channel mode (48 kHz).

4CH indicator: Lights in 4-channel mode (32 kHz).

2 Video/audio input setting section



1 VIDEO button

Each press of this button cycles through the following input video signal selection options.

- Composite video signal input to the VIDEO IN connector
- S-video (separated Y and C) signals input to the VIDEO IN connectors
- Y, R-Y and B-Y component video signals input to the VIDEO IN connectors
- SDI video signal input to the SDI IN connector

- Video test signal (selected with the INT VIDEO SG menu item (see page 66) generated by the internal signal generator
 - Digital video/audio signal (DV format, complied with i.LINK) connected to the S400(i.LINK) connector
- The selection made with this button is indicated by the i.LINK/VIDEO indicators in the INPUT signal display section (see page 14).

Note

When the video input is set to the i.LINK, pressing either the CH1 1/2 button or CH2 3/4 button changes the setting to COMPOSITE. Reset the video input.

2 CH1 1/2 (audio channel 1 or 1/2) button

Each press of this button cycles through the following input audio signal selection options for audio channel 1 (when in 2-channel mode) or for audio channels 1 and 2 (when in 4-channel mode).

- Analog audio signal input to the AUDIO IN 1/3 connector
- Digital audio signal in AES/EBU format input to the AUDIO (AES/EBU) IN 1/2 connector
- SDI audio signal input to the SDI IN connector
- Audio test signal (selected with the INT AUDIO SG menu item (see page 69) generated by the internal signal generator

The selection made with this button is indicated by the AUDIO CH-1 1/2 indicators in the INPUT signal display section (see page 14).

When analog audio is selected, the signal input to the AUDIO IN 1/3 connector is recorded either on channel 1 (when in 2-channel mode) or on channels 1 and 3 (when in 4-channel mode). That is, in 4-channel mode, the same analog audio signal is recorded on channels 1 and 3. Using the REC/PB LEVEL control knobs with the VARIABLE switch set to REC, it is possible to adjust the audio levels on the two channels separately.

You can switch the audio recording mode with the REC MODE menu item (see page 68). The selection is indicated by the REC MODE display on the front panel.

3 CH2 3/4 (audio channel 2 or 3/4) button

Each press of this button cycles through the following input audio signal selection options for audio channel 2 (when in 2-channel mode) or for audio channels 3 and 4 (when in 4-channel mode).

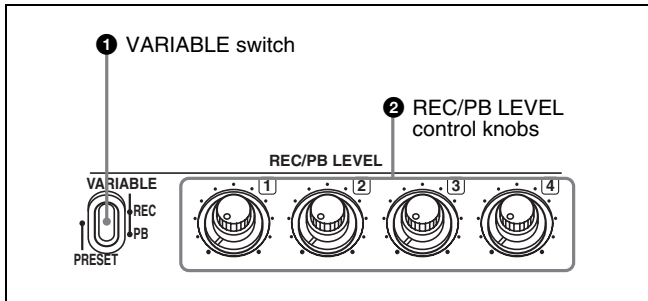
- Analog audio signal input to the AUDIO IN 2/4 connector
- Digital audio signal in AES/EBU format input to the AUDIO (AES/EBU) IN 3/4 connector
- SDI audio signal input to the SDI IN connector
- Audio test signal (selected with the INT AUDIO SG menu item (see page 69) generated by the internal signal generator

The selection made with this button is indicated by the AUDIO CH-2 3/4 indicators in the INPUT signal display section (see page 14).

When analog audio is selected, the signal input to the AUDIO IN 2/4 connector is recorded either on channel 2 (when in 2-channel mode) or on channels 2 and 4 (when in 4-channel mode). That is, in 4-channel mode, the same analog audio signal is recorded on channels 2 and 4. Using the REC/PB LEVEL control knobs with the VARIABLE switch set to REC, it is possible to adjust the audio levels on the two channels separately.

You can switch the audio recording mode with the REC MODE menu item (see page 68). The selection is indicated by the REC MODE display on the front panel.

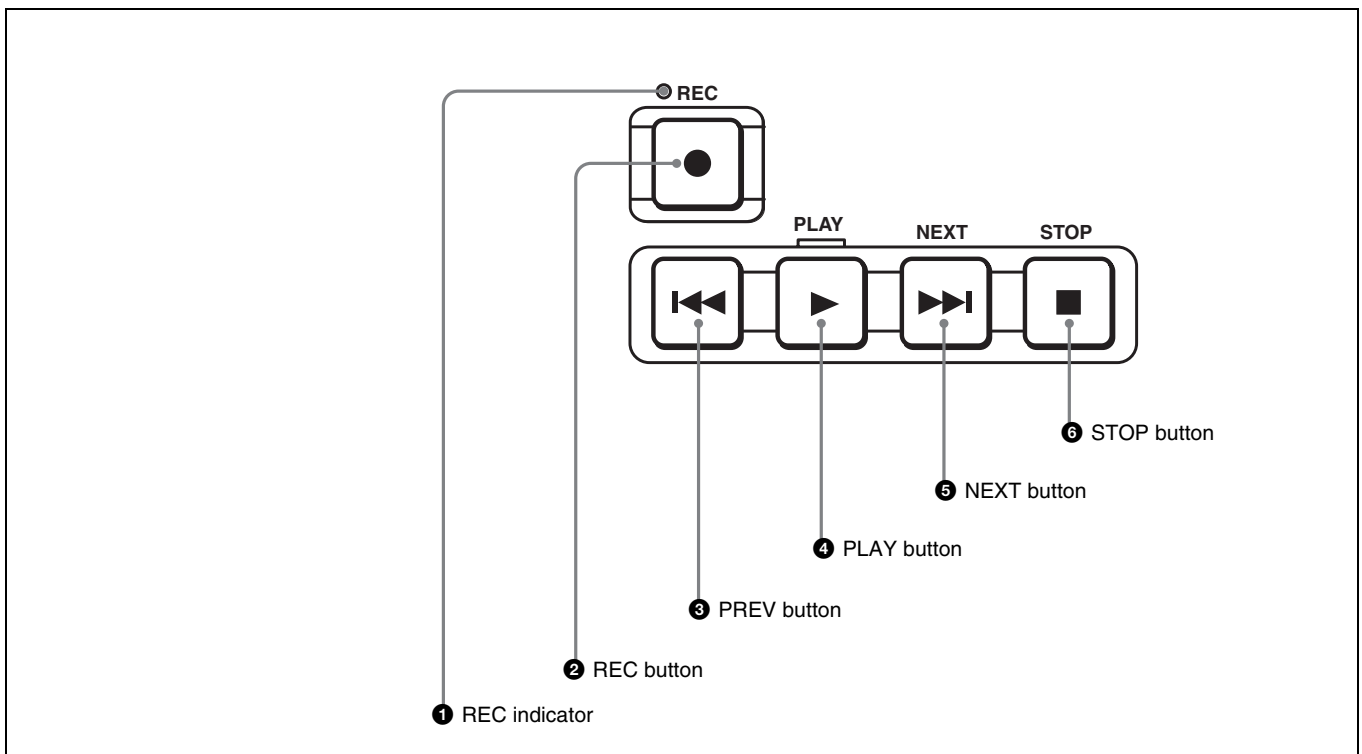
3 Audio input/output level control section



1 VARIABLE switch

Use to switch the way in which the REC/PB LEVEL control knobs function.

4 Recording/playback control section



Note

If you set the VARIABLE switch to REC, set the audio input levels, and then set the switch to PB, the audio input levels return to the preset levels. In the same way if you set VARIABLE switch to PB, set the audio output levels, and then set the switch to REC, the audio output levels return to the preset levels.

2 REC/PB LEVEL control knobs

These knobs are used to control audio levels function differently depending on the setting of the VARIABLE switch as follows.

VARIABLE switch setting	Functions of control knobs
PRESET	Control knobs are not effective. The analog audio input/output levels are set to the reference level set with the LEVEL SELECT menu item (see page 68). The digital audio input/output levels are not adjusted.
REC	Control the analog/digital audio input levels on channels 1 to 4 during recording. The audio output levels return to the preset levels.
PB	Control the analog/digital audio output levels on channels 1 to 4 during playback. The audio input levels return to the preset levels.

1 REC (record) indicator

Lights during recording.

2 REC (record) button

When you press this button while holding down the PLAY button, it lights and recording begins.

Note

When the control mode selector is set to REMOTE (the REMOTE indicator is lit), no recording/playback control buttons other than the STOP button will work. This can be changed with the LOCAL ENABLE menu item (see page 62).

3 PREV (previous) button

When pressed once, moves to the start point of the clip containing the current position. When pressed a second time, moves to the start point of the previous clip. Pressing the PREV button with the PLAY button held down allows you to view fast reverse playback. However, to do this, you need to set the F. FWD/REW menu item under the AUTO EE SELECT menu item (see page 61) to PB. If cue points are set (see page 33), the PREV button is used to cue up a cue point (see page 41).

4 PLAY button

When you press this button, it lights and playback begins. If you press this button during recording, the recording operation is stopped and this unit enters playback mode.

5 NEXT button

When pressed once, moves to the start point of the next clip. However, when this button is pressed while in the last clip, it moves to the end point of that clip. Pressing the NEXT button with the PLAY button held down allows you to view fast forward playback. However, to do this, you need to set the F. FWD/REW menu item under the AUTO EE SELECT menu item (see page 61) to PB. If cue points are set (see page 33), the NEXT button is used to cue up a cue point (see page 41).

6 STOP button

Press this button to stop the recording or playback operation.

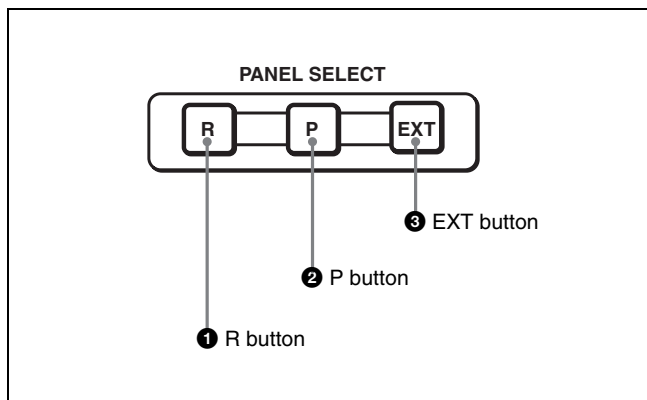
5 PANEL SELECT section

Note

The buttons of the PANEL SELECT section cannot be turned on or off during simultaneous recording and playback.

1 MENU button

Press this button to display the menu on the monitor screen



1 R (recorder) button

Press this button, turning it on, to put the control panel of the unit into a state in which the only operations possible are recording operations. The buttons which function in this state are the REC button, PLAY button (only when pressed at the same time as the REC button), and the STOP button.

2 P (player) button

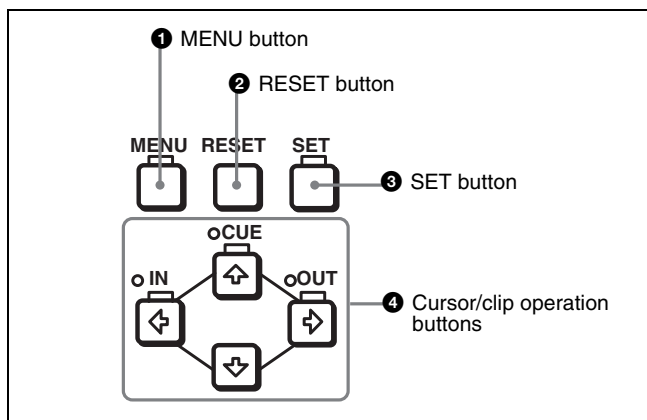
Press this button, turning it on, to put the control panel of the unit into a state in which the only operations possible are playback operations. The REC button and PLAY button do not function, even if pressed at the same time.

3 EXT (external) button

When you have connected multiple DSR-DR1000A/DR1000AP units in a cascade sequence and want to control the other units from a one unit, press the EXT button of the controlling unit, turning it on.

You can connect multiple DSR-DR1000A/DR1000AP units for multi-simultaneous playback. For details, see "Connecting Multiple Units for Simultaneous Playback (Multi-Simultaneous Playback)" on page 39.

6 Menu/clip control section



and the time counter display. Press it again to exit the menu display.

On how to use the menu, see Chapter 6 “Menu Setting”

2 RESET button

Press this button to:

- reset menu settings,
- reset the time data shown in the time counter display to zero
- send a negative response to the prompts issued by the unit, or
- delete clips.

3 SET button

Press this button to:

- save new settings, such as selected menu items and time code settings, to memory.
- send a positive response to the prompts issued by the unit, or
- create a clip list.

4 Cursor/clip operations buttons

Press these buttons to select a menu item, to change timecode initial values and user bits data, and to set clip in and out points, and to set cue points.

⇐ (IN): Moves to the left or sets an in point.

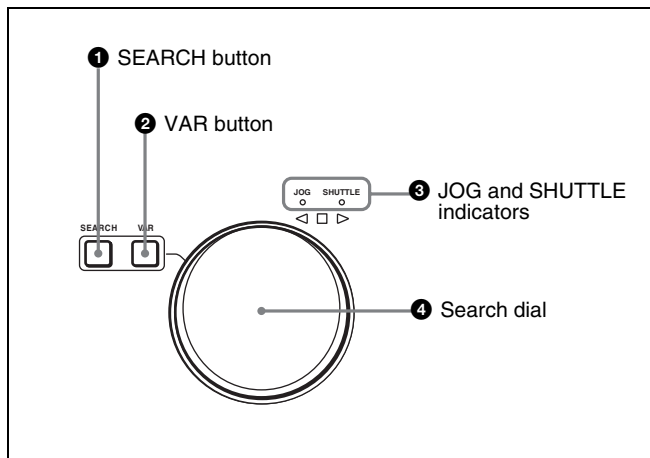
↑ (CUE): Moves up or sets a cue point.

⇒ (OUT): Moves right or sets an out point.

↓: Moves down.

For details on modifying the time code value, see “To set the initial time code value and user bit data” on page 27.

7 Search control section



1 SEARCH button

Press this button, turning it on, to use the search dial for search playback in jog or shuttle mode.

See the description of the search dial 4 for more information about the jog and shuttle modes.

2 VAR (variable) button

Press this button, turning it on, to use the search dial for search playback in variable mode.

See the description of the search dial 4 for more information about the variable mode.

3 JOG and SHUTTLE indicators

One of the indicators lights to show the current or most recent search playback mode.

JOG indicator: Jog mode

SHUTTLE indicator: Shuttle or variable mode.

4 Search dial

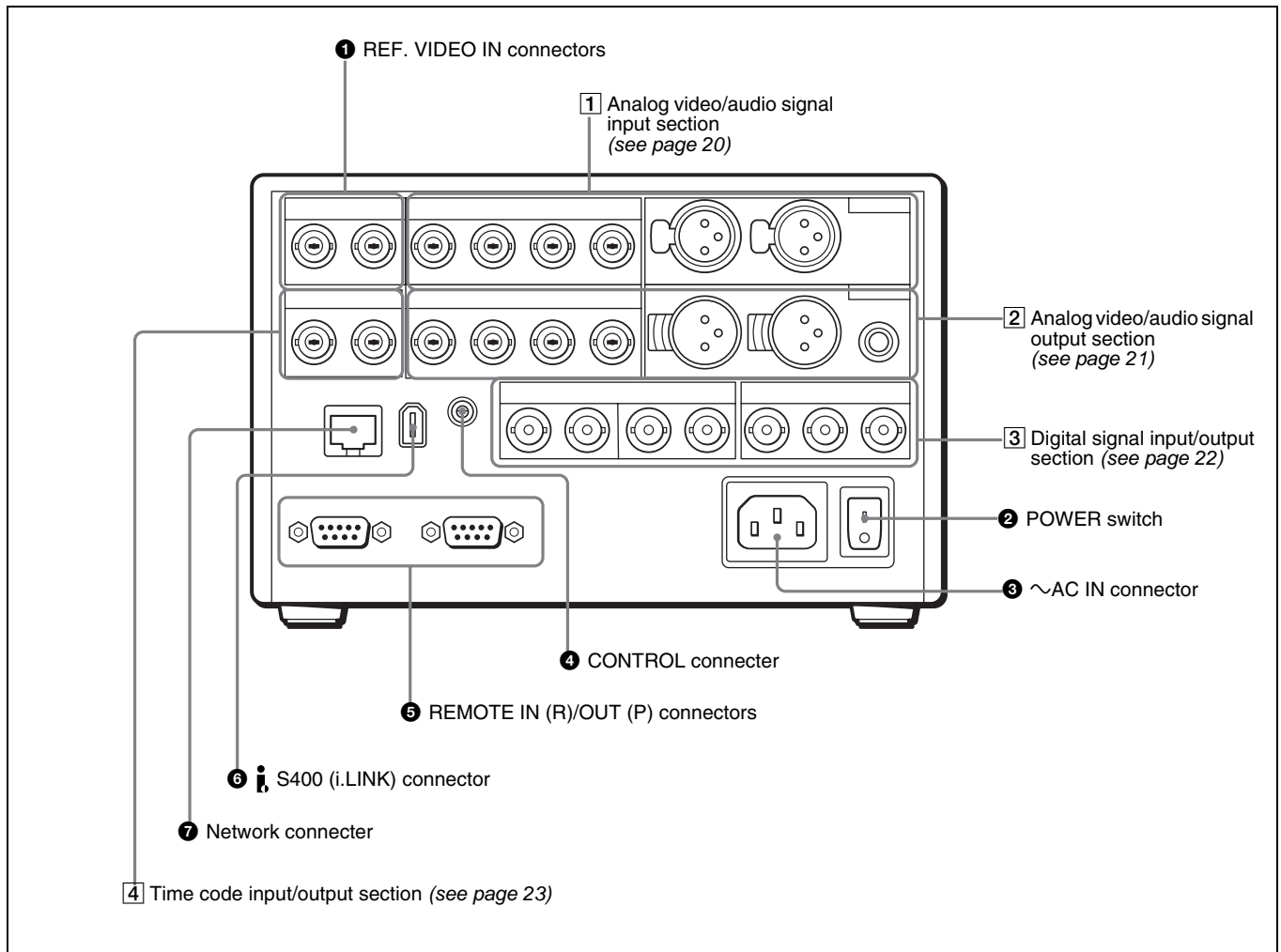
Rotate to perform search playback in jog shuttle, or variable mode.

The ▷ indicator lights when you rotate to the right to indicate forward direction playback. The ◁ indicator lights when you rotate to the left to indicate reverse direction playback. The □ indicator lights when playback is stopped. The □ lights when unit is powered on.

Each press of the search dial toggles between shuttle and jog mode, or between variable mode and jog mode.

Search playback mode	Operation/function
Shuttle	Press the SEARCH button or the search dial to select shuttle mode (the SHUTTLE indicator lights). Playback is carried out at a speed determined by the rotation angle of the search dial. <i>The maximum shuttle playback speed can be changed with the MAX SRCH SPEED menu item (see page 62).</i>
Jog	Press the SEARCH button or the search dial to select jog mode (the JOG indicator lights). Playback is carried out at a speed determined by the rotation speed of the search dial. The playback speed range is ±1 times normal speed. The search dial does not click in this mode.
Variable	Press the VAR button, lighting it (the SHUTTLE indicator also lights). You can control fine-grained (in 61 steps) playback over the range (2 times normal speed). The search dial clicks in the positions for still playback, ±1 times normal speed, and ±2 times normal speed.

Rear Panel



1 REF. (reference) VIDEO IN connectors (BNC type)

Input a reference video signal. The two connectors are loop-through connectors. You can connect the reference video signal input to the left connector to other equipment via the right connector (marked Ψ). When no connection is made to the right connector, the left connector is terminated with an impedance of 75 Ω automatically.

2 POWER (main power) switch

Switch to the **I** side to turn the power on. Switch to the **O** side to turn the power off. Normally you should leave this switch in the on position and power the unit on and off with the power switch on the front panel.

Note

When you power the unit off with the switch on the front panel, data is saved before the power is cut off. If you need to turn the main power off, always power the unit off with the switch on the front panel before setting this switch to off.

3 ~ AC IN connector

Use the supplied power cord to connect this to an AC outlet.

4 CONTROL connector (mini-jack)

Connect the supplied RM-LG2 Remote Control Unit.

5 REMOTE IN (R)/OUT (P) connectors (D-sub 9-pin)

You can connect remote control units to these connectors using an optional 9-pin remote cable. You can also use this connectors to make cascade connections between several DSR-DR1000A/DR1000AP units.

Use the IN(R) connector to connect an editor. When connecting remote control devices, connect the device that controls recording operations to the IN(R) connector and the device that controls playback operations to the OUT(P) connector.

Before doing this, you need to set the REMOTE I/F menu item (see page 69) to select how the connectors are used.

6 **i** S400 (i.LINK) connector (6-pin IEEE-1394)

Connect a DV cable to make connections to DV devices, computers, and so on.

Notes

- If the unit is connected to a device equipped with a 6-pin DV jack, when you intend to disconnect or reconnect the DV cable, turn off the device and pull out the plug of its power cord from the AC outlet beforehand. If you connect or disconnect the DV cable while the device is connected to the AC outlet, high-voltage current (8 to 40 V) is output from the DV jack of the device to this unit, which may cause a malfunction.
- When connecting a device that has a 6-pin DV jack to this unit, first connect the plug of the cable to the 6-pin DV jack of the device.

- When searching at speeds in the range $+1/2$ to $+1/30$ or $-1/30$ to $-1/2$ times normal speed, the audio signal output from this connector and monitored on external equipment may sound differently from the audio signal played back on this unit.

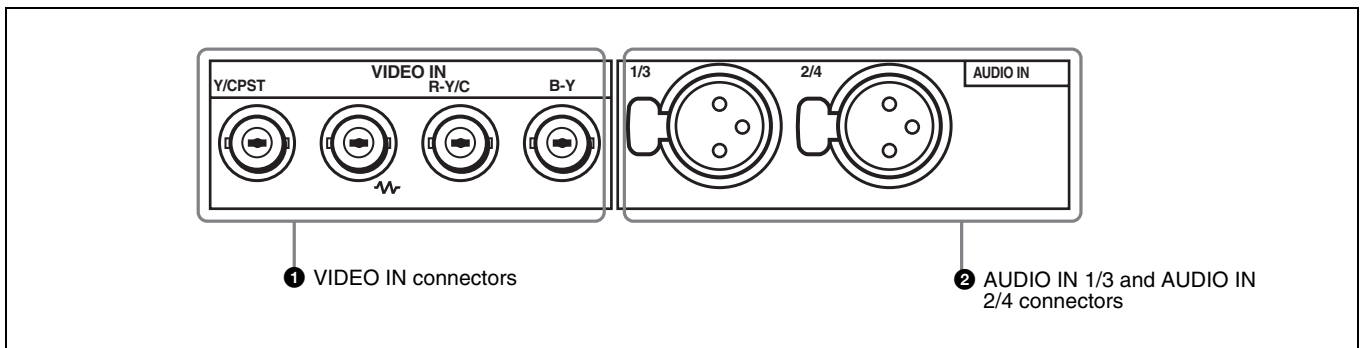
7 **㊦** (network) connector (RJ-45 type)

This is a 10BASE-T/100BASE-TX connector for network (Ethernet) connection.

CAUTION

For safety, do not connect the connector for peripheral device wiring that might have excessive voltage to this port. Follow the instructions in this manual when making connections.

1 Analog video/audio signal input section



1 VIDEO IN connectors (BNC type)

There are the following VIDEO IN connectors for inputting analog video signals:

- Y/CPST (loop-through connectors)
- R-Y/C
- B-Y

The signals you can connect to these connectors depend on the selection made with the VIDEO button in the video/audio input selection section. The selection is indicated by the VIDEO indicators in the INPUT signal display section. The analog video signals that can be input to these connectors are as follows.

When COMPOSITE is selected:

Connectors	Input signals
Y/CPST	Composite signal
R-Y/C	— (not usable)
B-Y	— (not usable)

The two Y/CPST connectors are loop-through connectors. When using the signal input to the left Y/CPST connector as a reference video signal, for example, you can bridge-connect the signal to other equipment via the right Y/CPST connector (marked **⚡**). When no connection is made to the right Y/

CPST connector, the left Y/CPST connector is terminated with an impedance of 75 Ω automatically.

When S VIDEO is selected:

Connectors	Input signals
Y/CPST	Y signal
R-Y/C	C signal (3.58 MHz for DSR-DR1000A/ 4.43 MHz for DSR-DR1000AP)
B-Y	— (not usable)

When Y-R,B is selected:

Connectors	Input signals
Y/CPST	Y signal
R-Y/C	R-Y signal
B-Y	B-Y signal

2 AUDIO IN 1/3 and AUDIO IN 2/4 connectors (XLR-3 pin, female)

Use these connectors to input analog audio signals from an external video cassette player or other audio equipment. The signals input to these connectors are recorded on the audio channels determined by the current audio recording mode, as follows.

When in 2 CH (48 kHz) mode:

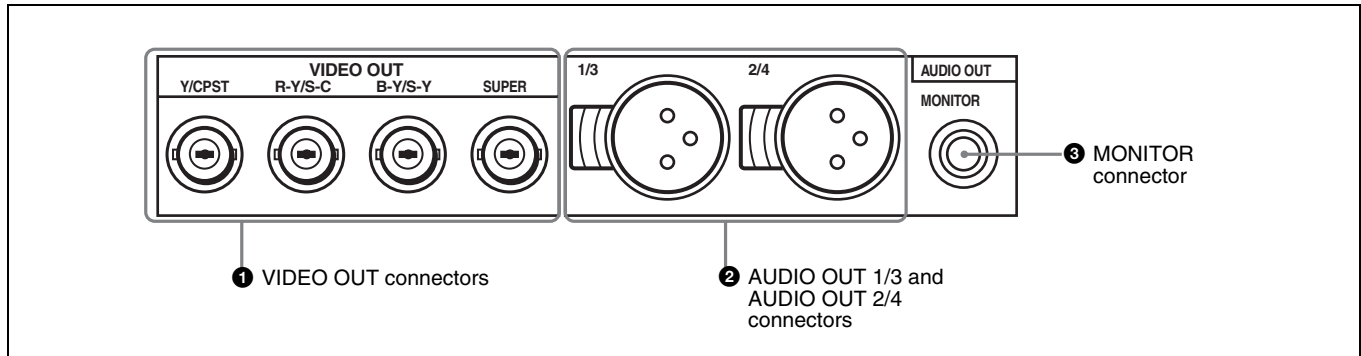
Input connectors	Audio channels on which input signals are recorded
AUDIO IN 1/3	Audio channel 1
AUDIO IN 2/4	Audio channel 2

Input connectors	Audio channels on which input signals are recorded
AUDIO IN 1/3	Audio channels 1 and 3
AUDIO IN 2/4	Audio channels 2 and 4

You can switch the audio recording mode with the REC MODE menu item (see page 68). The selection is indicated by the REC MODE display on the front panel.

When in 4 CH (32 kHz) mode:

2 Analog video/audio signal output section



1 VIDEO OUT connectors (BNC type)

There are the following VIDEO OUT connectors for outputting analog video signals:

- Y/CPST
- R-Y/S-C
- B-Y/S-Y
- SUPER

The signals output from these connectors depend on the setting of the VIDEO OUTPUT menu item (see page 69). The setting is indicated by the VIDEO indicators in the OUTPUT signal display section on the front panel. The analog video signals that can be output from these connectors are as follows.

* When the CHARA. DISPLAY menu item (see page 63) is set to ON (factory default setting), the SUPER connector outputs a composite video signal with superimposed text information.

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

These connectors output analog audio signals. The output audio channels are determined by the playback audio mode and the setting (1/2 CH or 3/4 CH) of the AUDIO OUTPUT menu item (see page 69) as follows.

When COMPOSITE/S VIDEO is selected:

Connectors	Output signals
Y/CPST	Composite signal
R-Y/S-C	S-C
B-Y/S-Y	S-Y
SUPER*	Composite signal

* When the CHARA. DISPLAY menu item (see page 63) is set to ON (factory default setting), the SUPER connector outputs a composite video signal with superimposed text information.

When Y-R, B is selected:

Connectors	Output signals
Y/CPST	Y signal
R-Y/S-C	R-Y signal
B-Y/S-Y	B-Y signal
SUPER*	Composite signal

When in 2 CH (48 kHz or 44.1 kHz) mode:

Output connectors	Output audio channels
AUDIO OUT 1/3	Audio channel 1 (when 1/2 CH is selected) or silent (when 3/4 CH is selected)
AUDIO OUT 2/4	Audio channel 2 (when 1/2 CH is selected) or silent (when 3/4 CH is selected)

When in 4 CH (32 kHz) mode:

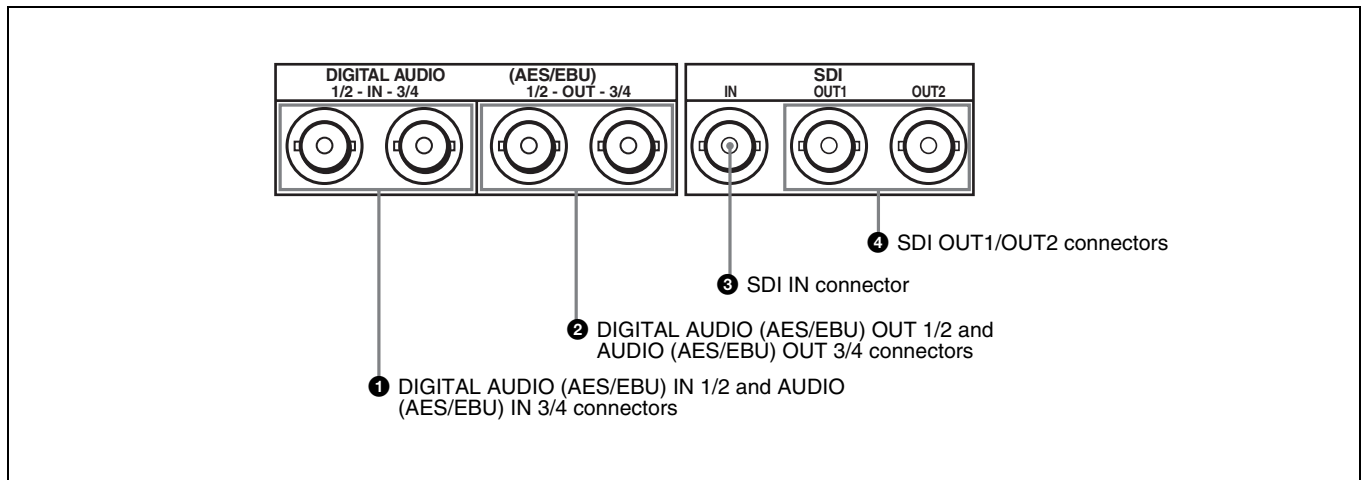
Output connectors	Output audio channels
AUDIO OUT 1/3	Audio channel 1 (when 1/2 CH is selected) or audio channel 3 (when 3/4 CH is selected)

Output connectors	Output audio channels
AUDIO OUT 2/4	Audio channel 2 (when 1/2 CH is selected) or audio channel 4 (when 3/4 CH is selected)

The current playback audio mode is indicated by the PB Fs display on the front panel.

③ MONITOR connector (RCA phono jack)

This connector outputs audio signals for monitoring. The audio signals to be output from this connector can be selected with the MONITOR SELECT button and METER CH-1/2 3/4 button on the front panel (*see page 11*).

③ Digital signal input/output section**① DIGITAL AUDIO (AES/EBU) IN 1/2 and AUDIO (AES/EBU) IN 3/4 connectors (BNC type)**

Input digital audio signals in AES/EBU format to these connectors.

The left connector (1/2) is for audio channels 1 and 2, and the right connector (3/4) is for audio channels 3 and 4.

② DIGITAL AUDIO (AES/EBU) OUT 1/2 and AUDIO (AES/EBU) OUT 3/4 connectors (BNC type)

These connectors output digital audio signals in AES/EBU format.

The left connector (1/2) is for audio channels 1 and 2, and the right connector (3/4) is for audio channels 3 and 4.

③ SDI IN (Serial Digital Interface input) connector (BNC type)

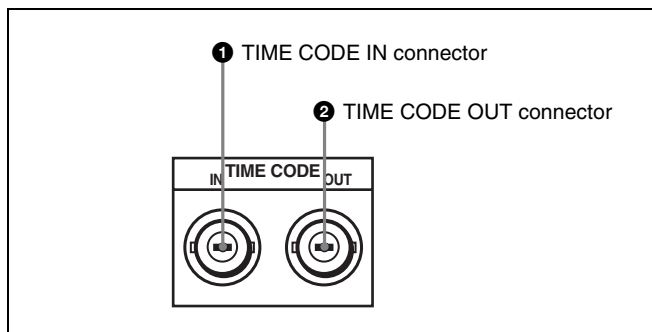
This connector inputs digital video and audio signals in SDI format. Use the VIDEO button in the video/audio

input setting section (*see page 15*) to select the required input signal formats. The current input signal selections are indicated in the INPUT signal display section (*see page 14*).

④ SDI OUT1/OUT2 (Serial Digital Interface output 1/output 2) connectors (BNC type)

These connectors output digital video and audio signals in SDI format.

4 Time code input/output section



1 TIME CODE IN (time code input) connector (BNC type)

Input externally generated SMPTE time code (for DSR-DR1000A) or EBU time code (for DSR-DR1000AP) to this connector.

2 TIME CODE OUT (time code output) connector (BNC type)

This connector outputs a time code according to the operating state of the unit, as follows:

During playback: the playback time code

During recording: the time code generated by the internal time code generator or the time code input to the TIME CODE IN connector. When the EE OUT PHASE menu item (*see page 66*) is set to MUTE, no time code is output.

Setting the Date and Time

When you start this unit for the first time, you should set the data and time. To set the date and time, use the DATE/TIME PRESET menu.

See page 72 for more information about basic menu operations.

```
DATE/TIME PRESET

DATE 2002/07/10
TIME 18:29:10

INC/DEC : (↑)(↓)KEY
SHIFT  : (←)(→)KEY
CLEAR  : RESET KEY
DATA SAVE : SET KEY
TO MENU : MENU KEY
```

To select the digit to set

Press the ⇐(IN) or ⇒(OUT) button until the digit you want to change starts flashing. (In the date display, the digit in the second place from the left does not flash). To move from the date display to the time display, press the ⇒(OUT) button while the rightmost digit is flashing (the leftmost digit of the time display begins to flash), or press the ⇐(IN) button while the third place from the left (the + position) is flashing (the rightmost digit of the time display begins to flash). To move from the time display to the date display, press the ⇒(OUT) button while the rightmost digit is flashing (the third place of the date display begins to flash), or press the ⇐(IN) button while the leftmost digit is flashing (the rightmost digit of the date display begins to flash).

To change a numeric value

Press the ↑(CUE) button to increase a value. Press the ↓ button to decrease a value.

To return a value to the factory default setting (2002/01/01 00: 00: 00) press the RESET button.

To confirm a value

Press the SET button.

To exit the date and time setting menu without changing any values, press the MENU button.

To display the material's recording date and time on the monitor

This unit records time code and the recording date and time together with video data. To the material's recording date and time on the monitor, set the DISPLAY INFO menu item (see page 63) to REC DATE&TIME.

Setting the Time Data

This unit is provided with the following functions related to time data.

- Display and reset CNT value
- Set, display, record, and play back SMPTE/EBU time code and user bit data
- Set, display, record, and play back VITC

The unit can output the time code read from the disk as an analog (LTC) signal, and receive an external analog time code (LTC) signal.

Note

The unit outputs no signal from the TIME CODE OUT connector unless it is in normal-speed playback mode.

The following explains how to use these functions.

Displaying Time Data and Operation Mode Indications

Time data and operation mode indications can be displayed on the monitor screen.
Time data can also be displayed in the time counter display on this unit.

To view time data and operation mode indications on the monitor screen

Set the CHARA. DISPLAY menu item (*see page 63*) to ON (factory default setting).

The time data and the indication of the current operation mode are superimposed on the video signal that is being output from the SUPER connector, and can be viewed on the monitor screen.

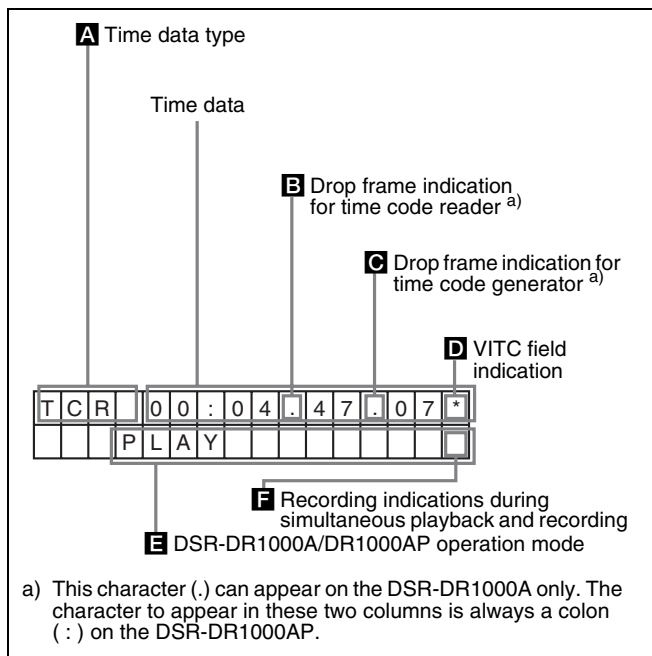
Use the DISPLAY CONTROL menu items (*see page 63*) to select the information displayed and the character type and position of the indications.

When you set the SUB STATUS menu item (*see page 64*) to other than OFF, you can also display supplementary status information on the monitor screen such as the operating mode of the internal time code generator.

For details of supplementary status information, see "Displaying Supplementary Status Information" on page 76.

Monitor screen contents

The contents of the monitor screen are shown below.



A Time data type

The following time data type indications are displayed.

Indication	Description
CNT	Count value of the time counter
TCR	Time code data from time code reader (factory default setting)
UBR	User bit data from time code reader
TCR.	Time code data from VITC reader ^{a)}
UBR.	User bit data from VITC reader ^{a)}
TCG	Time code data from time code generator
UBG	User bit data from time code generator
T*R ^{b)}	Time code data from time code reader. The asterisk indicates an interpolation by the time code reader to make up for the time code data not correctly read from the disk.
U*R ^{b)}	User bit data from the time code reader. The asterisk indicates that last data is retained by the time code reader, as the new data has not been read correctly from the disk.

a) You can switch between TC and VITC using the TC SELECT menu item (*see page 65*).

b) "*" is displayed when data cannot be read in correctly.

B Drop frame indication for time code reader (on DSR-DR1000A only)

.	Drop frame mode (factory default setting)
:	Non-drop frame mode

C Drop frame indication for time code generator (for DSR-DR1000A only)

.	Drop frame mode (factory default setting)
:	Non-drop frame mode

D VITC field indication

(blank)	Display fields 1 and 3.
*	Display fields 2 and 4.

E DSR-DR1000A/DR1000AP operation mode

Display	Operation mode
STOP	Stop mode
F. FWD	Fast forward mode
REW	Rewind mode
PREROLL	Preroll mode
PLAY	Playback mode (servo unlocked)
PLAY-PAUSE	Temporary stop of playback
PLAY LOCK	Playback mode (servo locked)
REC	Record mode (servo unlocked)

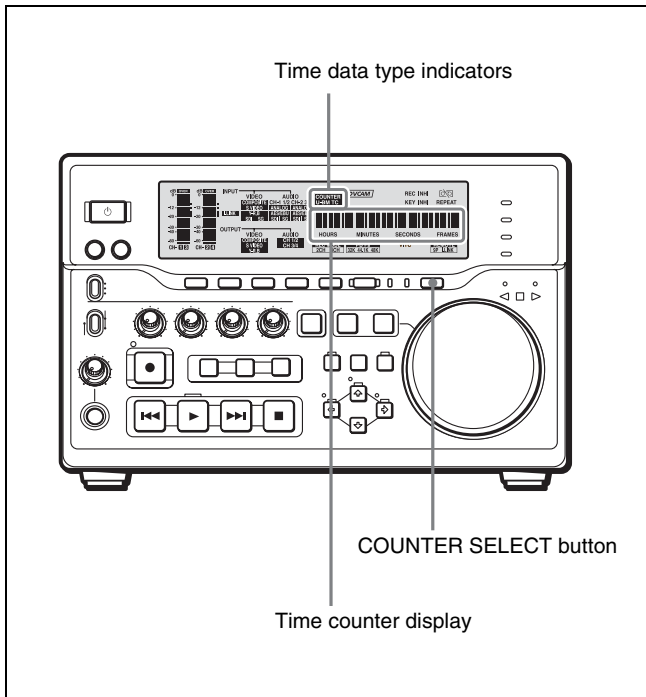
Display	Operation mode
REC-PAUSE	Temporary stop of recording
REC LOCK	Record mode (servo locked)
JOG STILL	Still picture in jog mode
JOG FWD	Jog mode in forward direction
JOG REV	Jog mode in reverse direction
SHUTTLE (Speed)	Shuttle mode
VAR (Speed)	Variable mode
PLAY (Deviation from normal speed (%))	Tape speed override (TSO) mode

F Recording indications during simultaneous playback and recording*

(blank)	Indicates that recording is not being done.
<input type="checkbox"/> (white rectangle)	Indicates that recording is being done.

* Displayed only during simultaneous recording and playback mode (when the R button or P button in the PANEL SELECT section is lit, or when the REMOTE I/F menu item (see page 69) is set to 9PIN(DUAL).

To display the desired time data in the time counter display



Press the COUNTER SELECT button on the front panel. Each press of this button cycles through three options: CNT value, time code, and user bit data. The time data type indicator for each option lights as it is selected.

Time data type indicator	Time data shown in the time counter display
COUNTER	CNT (count value of the time counter)
TC	Time code (when recording, the time code is generated by the internal time code generator; when playing back, the time code is read from the disk.)
U-BIT	User bit data (when recording, the user bit data is according to the most recent settings; when playing back, the user bit data is read from the disk.)

Note

When the REMOTE indicator in the front panel display section is lit, the COUNTER SELECT button does not operate during recording or playback. In such cases, use the external equipment connected to the REMOTE IN (R)/OUT (P) connector on the rear panel to select the time data.

To reset the CNT value

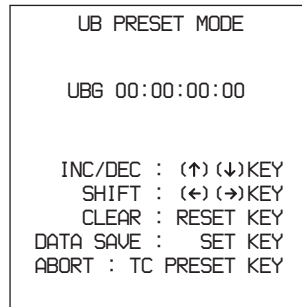
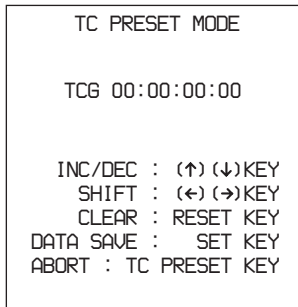
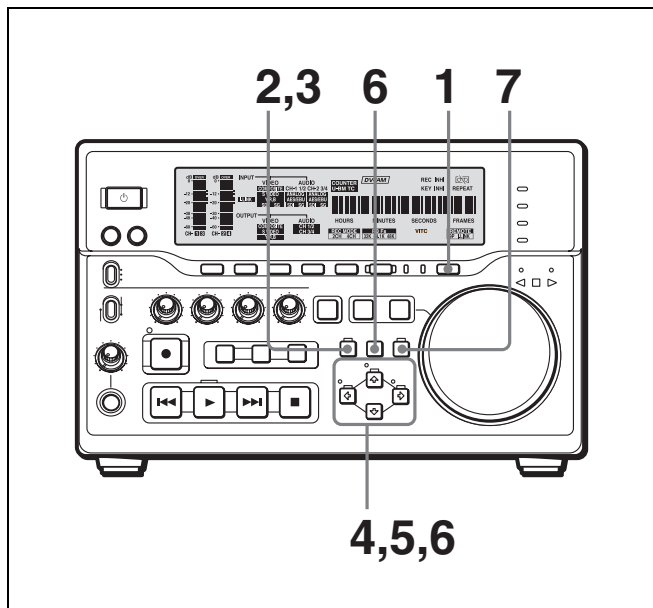
Press the RESET button in the menu control section. This resets the CNT value to 0:00:00:00.

Using the Internal Time Code Generator

You can set the initial time code value before recording the time code generated by the internal time code generator onto a disk. In addition, you can use the user bits to record such data as the date, time, scene number, or other useful information.

When an external time code generator is connected to the TIME CODE IN connector, the internal time code generator can be locked to (synchronized with) an external time code.

To set the initial time code value and user bit data



Initial time code value setting screen

User bit setting screen

1 Press the COUNTER SELECT button to light the time data type indicator “TC” or “U-BIT.”

TC: To set the initial time code value
U-BIT: To set user bit data
 The current time code value or user bit data is shown in the time counter display.

2 Set the TIME CODE menu items (see page 65) as shown below.

Menu item	Setting
TC MODE	“INT PRESET”
RUN MODE	“FREE RUN” or “REC RUN”
DF MODE (for DSR-DR1000A only)	Normally “ON (DF)”

3 Display the TC PRESET menu.

The current setting is shown on the monitor screen and in the time counter display on the front panel. The leftmost digit keeps flashing.

One of the following menu screens is displayed on the monitor depending on the setting made in step 1.

4 Use the ⇐ (IN) and ⇒ (OUT) buttons to move the flashing digit to the value to be changed.

5 Use the ↑ (CUE) and ↓ buttons to change the value of the flashing digit.

Enter hexadecimal values (0 to 9, A to F) when setting user bit data.

6 Repeat steps 4 and 5 until you have set the desired values for all digits.

To set a value of 00:00:00:00, simply press the RESET button.

7 Press the SET button.

The message “NOW SAVING...” appears on the monitor screen, “Saving...” appears in the time counter display, and the new settings are stored in memory.

After this saving operation is completed, the monitor screen and the time counter display return to their usual status.

Note

The set data may be lost if you power off the unit while the above saving operation is in progress. Wait until the saving operation is completed before powering off.

Advancement of internal time code generator

The internal time code generator can advance in either of two modes, which can be set with the RUN MODE menu item (*see page 65*).

FREE RUN: Advancement starts when the data saving operation is completed.

REC RUN: Advancement starts when recording starts and stops when recording stops.

To set the current time as the initial time code value

In step **2** above, set the RUN MODE menu item to FREE RUN, then set the current time (format: HH:MM:SS:FF = hours: minutes:seconds:frame number) in step **3** and subsequent steps.

Synchronizing Internal and External Time Codes

The internal time code generator can be synchronized with an external time code (LTC) input to this unit.

To synchronize the internal time code to external time code

Input an external time code (LTC) signal to the TIME CODE IN connector, then set the TC MODE menu item (*see page 65*) to EXT REGEN.

The internal time code generator locks onto the external time code and starts advancing. Once the internal time code generator has been synchronized in this way, you can disconnect the external time code input and this unit will maintain the synchronized time code.

Note

When the selected input mode is “i.LINK” (the i.LINK indicator is lit in the INPUT signal display section), setting the TC MODE menu item to EXT REGEN causes the internal time code generator to automatically synchronize with the external time code input to the unit via the i.LINK interface.

When the TC SELECT menu item is set to VITC, the internal time code generator synchronizes to the time code (VITC) of video input signals.

Once an external time code signal has been input, the internal time code advancement mode and frame count mode are automatically set as follows:

Advancement mode: FREE RUN

Frame count mode: Same as external time code (drop frame or non-drop frame)

To confirm external synchronization

Press the STOP button to put the unit into stop mode, then press the REC button.

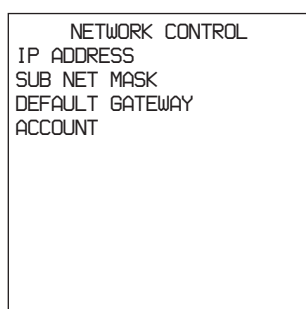
Look at the time counter display and check that the time code value displayed there matches the external time code value.

Making Basic Network Settings

To use this unit in a LAN environment (*see page 48*), you need to set this unit's IP address, subnet mask, and default gateway, and to set up an account with a user name and password. Use the NETWORK CONTROL menu to make these basic network settings.

For the IP address, subnet mask, and default gateway values to use, contact the administrator of your LAN.

For more information about basic menu operations, see page 72.



Note

When you have finished making all the settings, power this unit off and reboot it. The settings made in the NETWORK CONTROL menu will be enabled when the unit reboots.

To Set the IP Address

Select IP ADDRESS in the NETWORK CONTROL screen and press the \Rightarrow (OUT) button. The default value 127.000.000.01 appears, with the leftmost digit 1 flashing. Change the value by using the menu and clip operation buttons.

To select the digit to change

Press the \Leftarrow (IN) or \Rightarrow (OUT) button until the digit that you want to change starts flashing.

To change a numeric value

Press the \Uparrow (CUE) button to increase a value and the \Downarrow button to decrease a value.

To return to the value 000.000.000 press the RESET button.

To confirm the IP address

Press the SET button.

To exit without changing the IP address press the MENU button.

To Set the Subnet Mask

Select SUB NET MASK in the NETWORK CONTROL screen and press the \Rightarrow (OUT) button.

The default value 255.255.255.000 appears, with the leftmost digit 2 flashing. Change the value by using the menu and clip operation buttons in the same way as with the IP address.

To Set the Default Gateway

Select DEFAULT GATEWAY in the NETWORK CONTROL screen and press the \Rightarrow (OUT) button.

The default value 000.000.000.000 appears, with the leftmost digit 0 flashing. Change the value by using the menu and clip operation buttons in the same way as with the IP address.

To Set Up a User Account

Select ACCOUNT in the NETWORK CONTROL screen and press the \Rightarrow (OUT) button. A screen for the user name and password appears.

Enter a user name and password (up to 8 characters each).

To enter the user name

Select USERNAME and press the \Rightarrow (OUT) button.

A user name screen appears and the cursor begins to flash.

To enter characters

Rotate the search dial until the desired character appears. Characters appear in the following order when the search dial is rotated in the clockwise direction.

A to Z, [,], ^, -, ` , a to z, {, |, }, ~, !, ", #, \$, %, &, ', (,), *, +, -, ., /, 0 to 9, :, ;, <, =, >, ?, @

Characters appear in the reverse order when the search dial is rotated in the counterclockwise direction.

To delete a character that you have entered, press the RESET button.

To move the cursor

Press the \Leftarrow (IN) or \Rightarrow (OUT) button.

To confirm the user name

Press the SET button.

To exit without setting a user name, press the MENU button.

To enter a password

Select PASSWORD and press the \Rightarrow (OUT) button.

A password screen appears with the cursor flashing. Use the menu and clip operation buttons to enter a password and confirm it, in the same way as the user name.

Recording

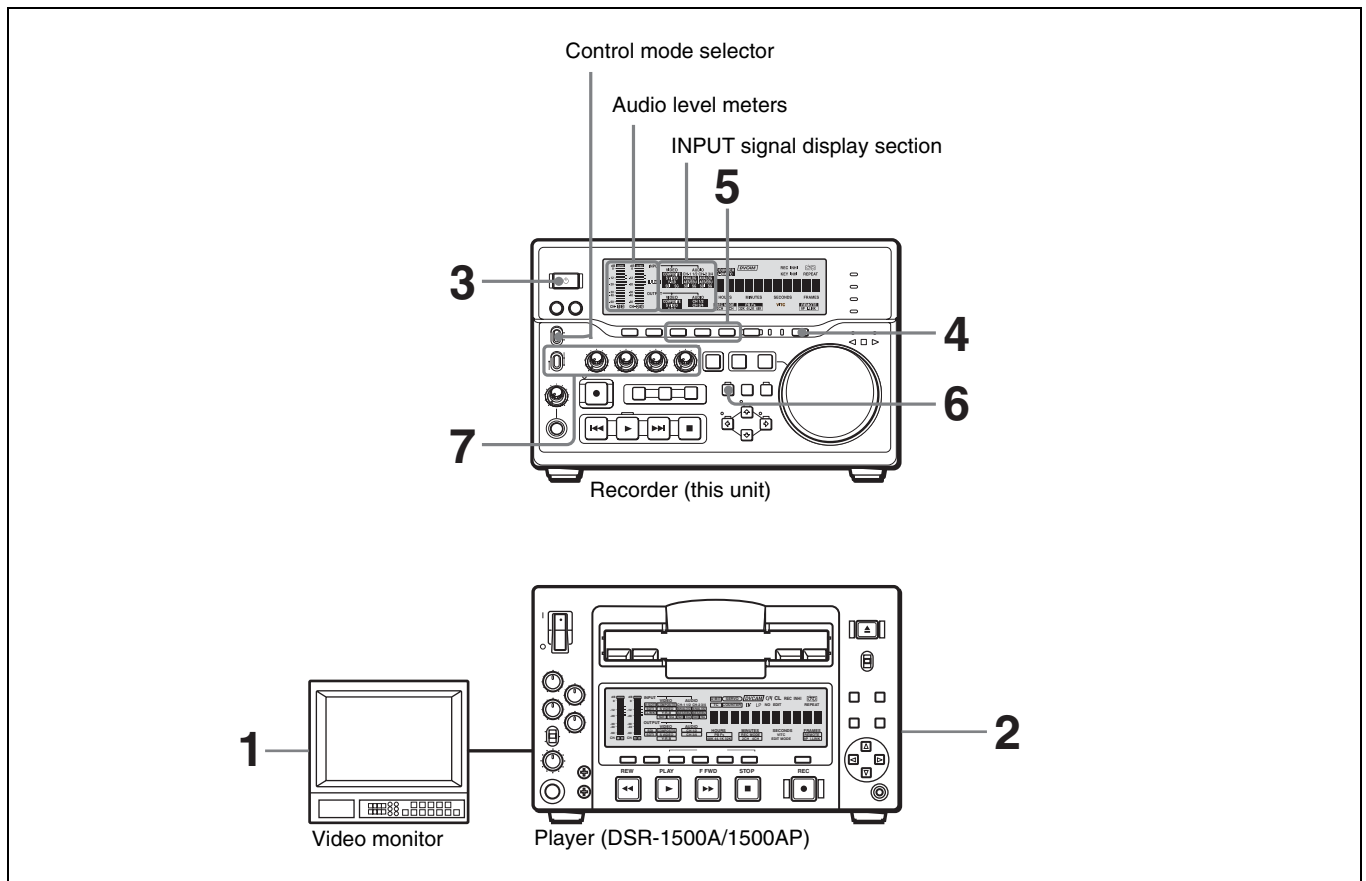
This section describes the necessary settings and operations to perform recording on this unit. The same settings and operations apply whether you are using the unit as part of an editing system, for dubbing, or as a stand-alone recorder.

For the necessary connections for recording and the settings not covered in this section, see Chapter 7 "Connections and Settings."

Settings for Recording

Use the following procedure to make normal recording settings on this unit connected with a player. To perform normal recording, you need to set the REC MODE menu item (*see page 68*) to NORMAL REC.

In addition to normal recording, this unit is capable of continuous recording (*see page 34*), interval recording (*see page 34*), and pre-alarm recording (*see page 34*).



When controlling this unit from an editing control unit connected to the REMOTE IN (R)connector, see "Control mode selector" on page 11 and the description of the REMOTE I/F menu item on page 69.

- 1 Power on the video monitor, then set its input switches according to the signals input from the player.
- 2 Set up the player to play back a tape.

For details, refer to the operating instructions for the player.

- 3 Power on this unit by pressing the ⏻ switch on the front panel.
- 4 When the REMOTE indicator is off (the external editing control unit is not used), use the COUNTER SELECT button to select the type of time data to be used.

Each press of this button cycles through three options: COUNTER (CNT value), TC (time code), and U-BIT (user bit data). The time data type indicator for each option lights as it is selected.

Selected time data	Time data type indicator
Count value of the time counter	COUNTER
Time code	TC
User bit data	U-BIT

When the REMOTE indicator is lit, selection of the time data type is carried out at the editing control unit.

- 5 Select the formats of video and audio input signal to be recorded.
Use the INPUT SELECT buttons in the video/audio input setting section to select the desired signal formats. Each selection is shown by a lit indicator in the INPUT signal display section.

Video input signal (input connector)	Corresponding INPUT SELECT button	Lit indicator in the INPUT signal display section
Composite signal (VIDEO IN: Y/CPST)	VIDEO	COMPOSITE in VIDEO group
Separated Y/C signal (VIDEO IN: Y/CPST and R-Y/S-C)	VIDEO	S VIDEO in VIDEO group
Component signal (VIDEO IN: Y/CPST, R-Y/S-C, and B-Y/S-Y)	VIDEO	Y-R,B in VIDEO group

Video input signal (input connector)	Corresponding INPUT SELECT button	Lit indicator in the INPUT signal display section
SDI signal (SDI IN)	VIDEO	SDI in VIDEO group
i.LINK-compatible digital video signal in DV format (i.S400(i.LINK))	VIDEO	i.LINK
Internal test video signal	VIDEO	SG in VIDEO group

Audio input signal (input connector)	Corresponding INPUT SELECT button	Lit indicator in the INPUT signal display section
Analog signal (AUDIO IN 1/3 and AUDIO IN 2/4)	CH1 1/2 and CH2 3/4	ANALOG in AUDIO group
AES/EBU signal (AUDIO (AES/EBU) IN)	CH1 1/2 and CH2 3/4	AES/EBU in AUDIO group
SDI signal (SDI IN)	CH1 1/2 and CH2 3/4	SDI in AUDIO group
i.LINK-compatible digital audio signal in DV format (i.S400(i.LINK))	automatic setting depending on video input signals	i.LINK
Internal test audio signal	CH1 1/2 and CH2 3/4	SG in AUDIO group

Caution

Once you have started recording, you cannot change the input signal selection.

- 6 Select the audio mode.

Select either two-channel mode (2 CHANNEL) or four-channel mode (4 CHANNEL) with the REC MODE menu item (see page 68). The corresponding indicator lights in the REC MODE display.

Audio mode	Lit indicator in the REC MODE display
2-channel mode	2CH
4-channel mode	4CH

Cautions

- Two audio recording modes, with either two channels at 48 kHz or four channels at 32 kHz, can be used on this unit. It is not possible to select any other mode (for example with four channels at 48 kHz).
- If there is a point where the audio mode is switched, it is not possible to carry out insert editing over a section including that point.

- When, in 4-channel mode, analog audio is selected for all four channels (channels 1/2 and 3/4), the same analog audio signals are recorded on channels 1 and 3 and on channels 2 and 4, respectively.

7 When manually adjusting audio input levels, with the VARIABLE switch on the front panel set to REC, use the REC/PB LEVEL control knob for each channel to adjust the audio input level. Watching the audio level meter in E-E mode, adjust the level so that the meter does not indicate higher values than 0 dB when the audio signal is at its maximum. When the level exceeds 0 dB, the OVER indicator lights.

When recording at reference level

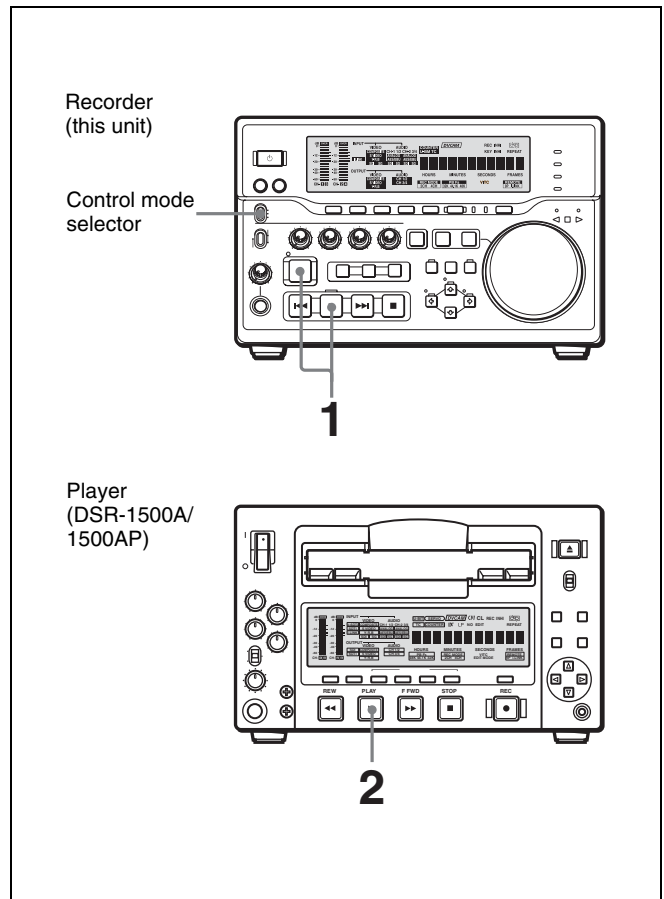
When the VARIABLE switch on the front panel is set to PRESET, recording is carried out at the preset reference level.

Reference level setting

The factory-preset reference level for analog audio input is -20 dB (DSR-DR1000A) or -18 dB (DSR-DR1000AP). This setting can be changed using the LEVEL SELECT menu item (see page 68).

Recording Procedure

This section describes the procedure to perform normal recording on this unit, showing an example session in which playback signals coming from a player VCR will be recorded on the tape loaded in the unit.



Note

When controlling this unit from an editing control unit connected to the REMOTE IN (R) connector of this unit, set the Control mode selector to REMOTE, turning the REMOTE indicator on. When not, set the switch to LOCAL, turning the indicator off.

If the REC INHI indicator lights:

The REC INHIBIT menu item (see page 62) is set to ON (recording inhibited). Set it to OFF.

1 Hold down the REC button and press the PLAY button on the recorder.

This unit starts recording.

2 Press the PLAY button on the player.

The player starts the playback operation.

Caution

Once you have started recording, you cannot change the audio mode or recording format.

To perform the following operations

Operation	Do this:
Stop recording.	Press the STOP button.

Operation	Do this:
Inhibit the SUPER connector from outputting text information (time data, operation mode indications, etc.) to the video monitor.	Set the CHARA. DISPLAY menu item (see page 63) to OFF.

For more information on this operation, see "Cueing Up a Desired Cue Point" on page 41.

To delete a cue point

Cue up the cue point that you want to delete, hold down the \uparrow (CUE) button, and press the RESET button. To delete all cue points, select DELETE ALL CUE from the Disk menu and press the \Rightarrow (OUT) button. When the message "DELETE ALL CUE?" appears, press the SET button.



For more information about the Disk menu, see "Deleting Clips" on page 42.

To Set Cue Points

Setting cue points at highlight scenes makes it easy to cue those scenes up later. Cue points can be set in recording, playback or simultaneous recording and playback.

To set a cue point while recording, hold down the \uparrow (CUE) button and press the SET button at the desired scene. The message "CUE SET" appears on the monitor screen when a cue point is set ("Cue Set" in the time counter).

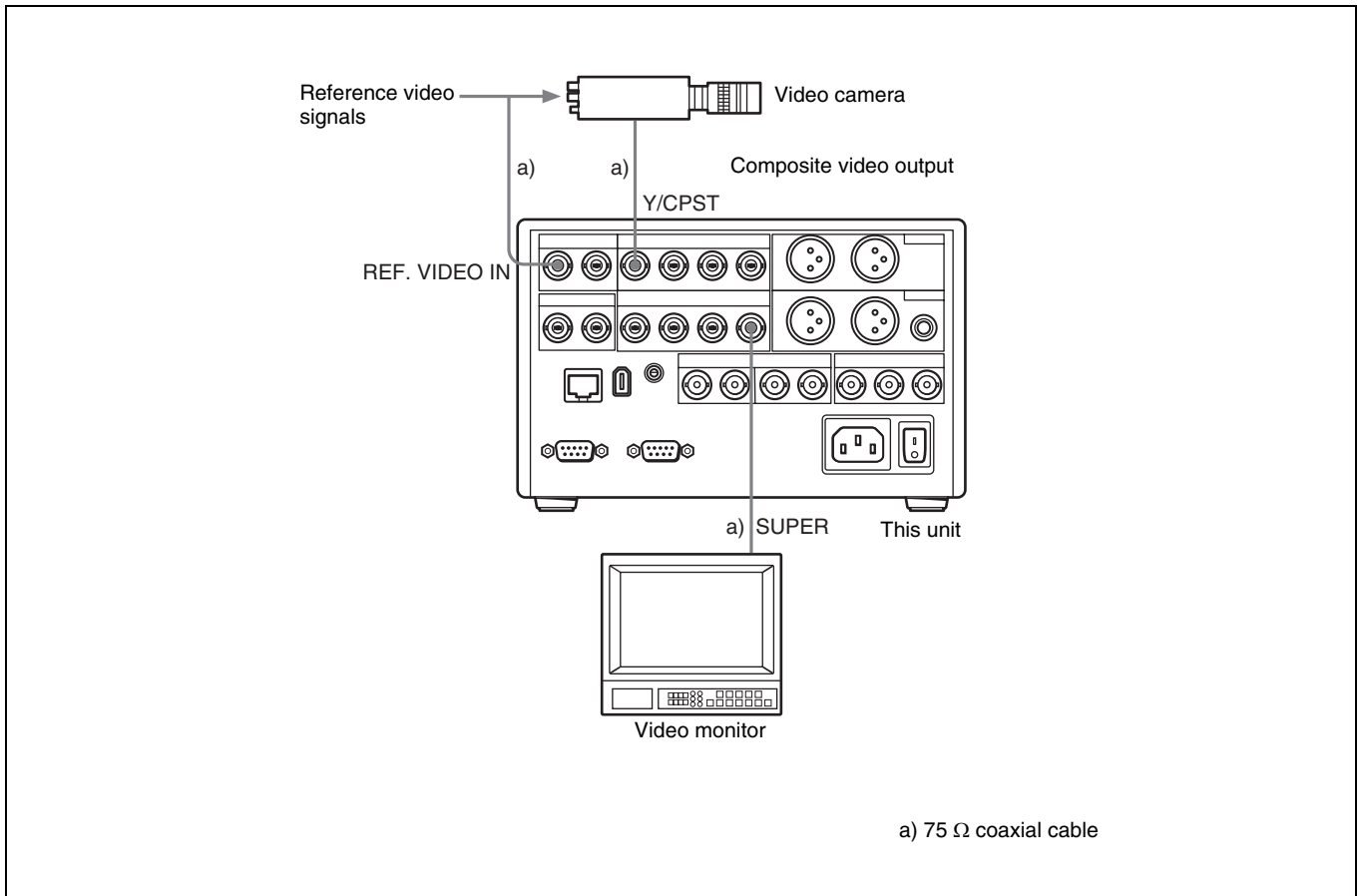
When using a supplied RM-LG2, you can set a cue point by pressing the CUE button on the RM-LG2.

To cue up a cue point

Hold down the \uparrow (CUE) button and press the NEXT/PREV button to cue up a cue point.

Long-time Recording With Video Camera

The figure below shows connections between this unit and a video camera.



Recording Continuously by Overwriting Old Content (Continuous Recording)

Continuous recording allows you to continue recording for extended periods by overwriting older recorded content. To perform continuous recording, you need to set the REC MODE menu item (*see page 62*) to CONT. REC. The CONTINUOUS REC indicator lights when this unit is in continuous recording mode.

Notes

- Existing clips on the disk are not overwritten in continuous recording. If you wish to use the entire disk for continuous recording, delete all clips on the disk before starting to record.
- In simultaneous recording and playback during continuous recording, only clips which have been saved to disk before the start of continuous recording can be played back. (The clip currently being recorded cannot be played back.)

Recording at Set Intervals (Interval Recording)

Interval recording allows you to record at set intervals separated by standby intervals of a specified length. To perform continuous recording, you need to set the REC MODE menu item (*see page 68*) to INTERVAL REC. You also need to set the recording and standby intervals with the INTERVAL REC menu items. Standby intervals can be set to 30 seconds, 1 minute, 5 minutes, or 10 minutes. Recording intervals can be set to 0.5 seconds, 1 second, 1.5 seconds, and 2 seconds.

Starting Recording at an Alarm Input (Pre-Alarm Recording)

You can start recording at a position 30 seconds before an alarm (trigger signal) is detected. (Data for the recording is saved in advance.) Recording continues until disk space is exhausted, and then the unit automatically enters stop mode. To perform continuous recording, you need to set the REC MODE menu item (*see page 68*) to PRE ALARM REC. The trigger signal is input to the CONTROL connector.

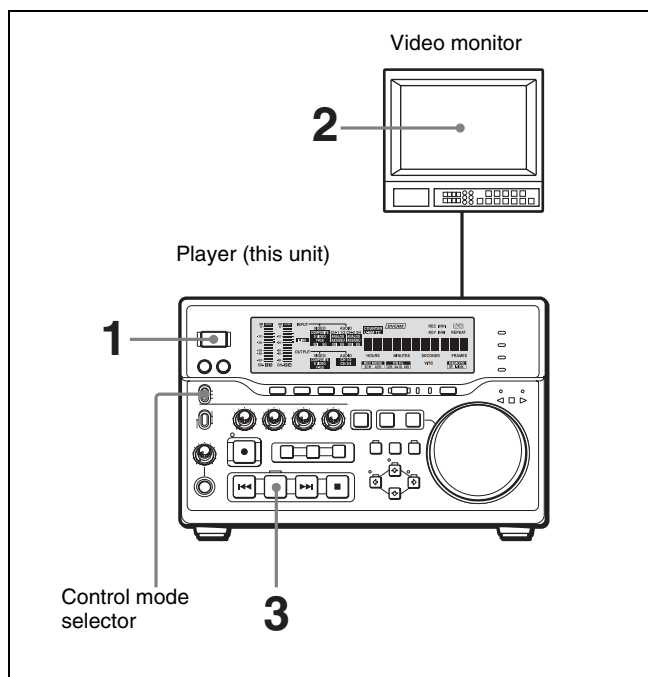
For trigger signal specifications, contact a Sony service representative.


Playback

This section describes the settings and operations necessary to perform playback on this unit. The same settings and operations apply whether you are using the unit as part of an editing system, for dubbing, or as a stand-alone player VCR.

For the necessary connections for playback and the settings not covered in this section, see Chapter 7 "Connections and Settings" (page 78).

Playback Procedure



- 1 Power on this unit by pressing the  switch on front panel.

The STOP button lights. A few seconds later, if the STOP menu item under the AUTO EE SELECT menu item (*see page 61*) is set to PB, a still image will appear on the monitor screen.

Note

When controlling this unit from an editing control unit connected to the REMOTE IN (R) connector of this unit, set the control mode selector of this unit to REMOTE IN (R), turning the REMOTE indicator on. When not, set the switch to LOCAL, turning the indicator off.

- 2 Power on the video monitor and set its switches as shown below.

Switch	Setting
75 Ω termination switch	ON (or attach a 75 Ω terminator.)
Input switch	Set according to the type of input signal from this unit.

3 Press the PLAY button.

This starts the playback operation. When all data is played back, the unit stops playback.

To perform the following operations

Operation	Do this:
Stop playback.	Press the STOP button.
Adjust the audio playback level.	<p>For digital or analog audio output Set the VARIABLE switch on the front panel to PB and use the REC/PB LEVEL control knob for each channel.</p> <p>For outputs from the PHONES connector and MONITOR connector Use the PHONES control knob on the front panel (outputs from the PHONES connector on the front panel and the MONITOR connector on the rear panel are adjusted).</p>
Do search playback in shuttle/jog/variable mode.	See "Searching with the search dial" on page 40.
Fast forward.	See "Searching with the NEXT and PREV buttons" on page 40.
Set a cue point	Press the SET button with the $\hat{\uparrow}$ (CUE) button held down at a desired position.
Jump to a cue point.	See "Cueing Up a Desired Cue Point" on page 41.
Jump to the start or end point of a clip.	See "To Search in Clip Units (Clip Jump)" on page 43.
Inhibit the SUPER connector from outputting text information (time data, operation mode indications, etc.) to the video monitor.	Set the CHARA. DISPLAY menu item (see page 63) to OFF.

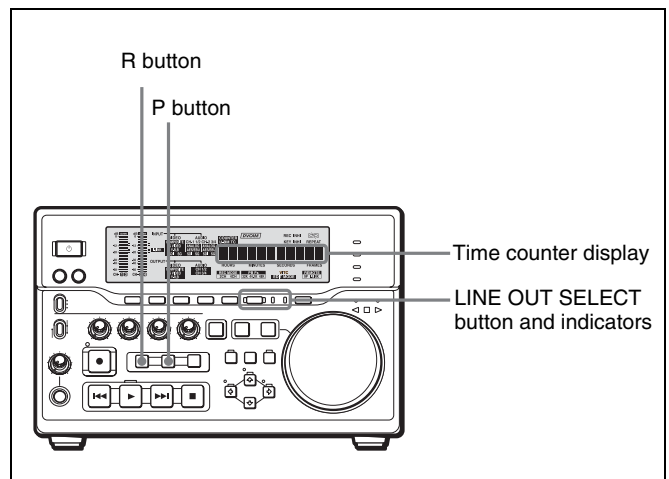
a) When the SEARCH ENABLE menu item (see page 62) is set to ENABLE.

Recording and Playing Back Simultaneously

This unit allows you to playback while recording, and to start and stop recording during playback. You can also execute recording during search playback (see page 40) and program playback (see page 44).

Note

Program playback may not be seamless during simultaneous recording and playback.



To play back during recording

This unit is recording if the indicator to the upper left of the REC button is lit.

Press the P button in the PANEL SELECT section, turning it on, and follow the steps in "Playback Procedure" (page 34).

To start and stop recording during playback

Press the R button in the PANEL SELECT section, lighting it, and follow the steps in "Recording Procedure" (page 32) to start recording. Press the STOP button to stop recording.

To set a cue point during simultaneous recording and playback

Press the SET button with the $\hat{\uparrow}$ (CUE) button held down at a desired position.

When the R button is lit: A cue point is set at the current recording position.

When the P button is lit: A cue point is set at the current playback position.

To select output signals during simultaneous recording and playback

With each press of the LINE OUT SELECT button, the indicator light as follows.

R lights > P lights > R and P both light > R lights > P lights > ...

Line output signals change as follows, according to the lit indicators.

R lit: Signals being recorded

P lit: Signals being played back

R and P lit at same time: Output signals are selected by the R and P buttons in the PANEL SELECT section. Recording signals are output when the R button is lit, and playback signals are output when the P button is lit.

If the REMOTE I/F menu item (*see page 69*) is set to 9PIN(DUAL), output signals can also be switched from the device connected to the REMOTE OUT(P) connector.

To switch the time data display

Time data shown in the time counter display and output from the SUPER connector can be either the data contained in recording signals or the data in playback signals. You can select recording or playback data with the R and P buttons in the PANEL SELECT section.

To select recording signal time data: Press the R button.

To select playback signal time data: Press the P button.

R is displayed before the data in the time counter display when recording data is being output, and P is displayed before the data when playback data is being output. However, when the line output is playback data (the P indicator in the LINE OUT SELECT section is lit) and recording data is being displayed in the time counter display (the R button is lit), R* is displayed before the data in the time counter display. P* is displayed before the data in the time counter display when line output is recording data (the R indicator in the LINE OUT SELECT section is lit) and playback data is being displayed in the time counter display (the P button is lit).

To exit simultaneous recording and playback mode

With the R or P button lit in the PANEL SELECT section, press the STOP button to stop recording or playback. Press the R and P buttons so that both buttons go out.

Note

You cannot exit simultaneous recording and playback mode while performing simultaneous recording and playback. Press the STOP button to stop recording or playback. You can then exit the mode by pressing the buttons in the PANEL SELECT section so that the buttons go out.

Setting Points A and B for Repeat Playback

You can conduct repeat playback of certain sections. You can set the repeat playback start point (point A) and end point (point B) by using the current position or inputting time code values.

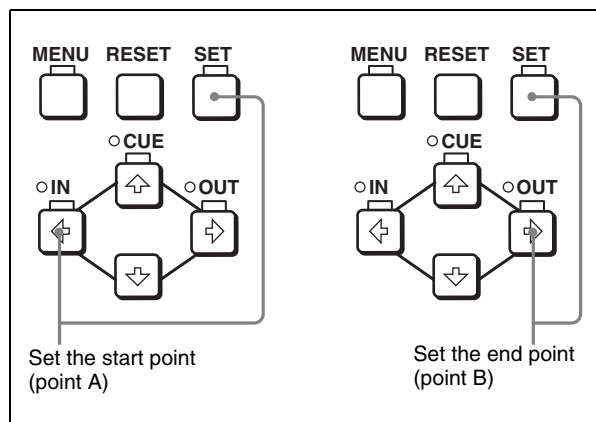
To repeat seamless playback after setting points A and B, press the PLAY button when the REMOTE indicator is off.

Note

When performing repeat playback using points A and B as the playback start and end points, make sure that the REPEAT TOP and REPEAT END menu items (*see page 61*) are set to A POINT and B POINT, respectively.

Setting the current position as start point (point A) or end point (point B)

- 1 Under the REPEAT FUNCTION menu item (*see page 61*), set REPEAT MODE to ON.
- 2 While holding down the SET button in the menu/clip control section, press the ← button or the → button.



The time code of the current playback position is set as point A or point B.

At the same time, “A set” or “B set” appears for 0.5 seconds in the time counter display.

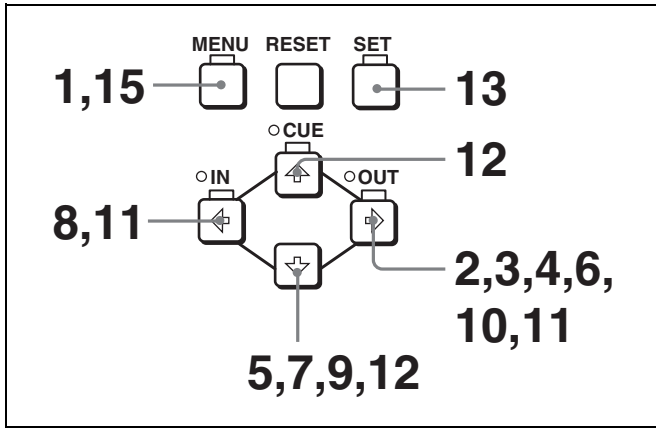
Once set, the point A or point B time code value is held in the non-volatile memory of the unit until changed. It is not lost when the unit is powered off.

Notes

- When setting point A and B, you can only use time code values. Even when COUNTER is selected with the COUNTER SELECT button, you cannot use a CNT value to set point A or B.
- During simultaneous recording and playback, playback side time code values are registered, even if R (recording side) is selected in the PANEL SELECT section. Therefore, before setting the A and B points, you should select P (playback side) in the PANEL SELECT section.

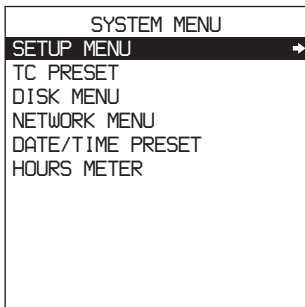
Inputting time code values for points A and B

Using the following procedure, you can modify the time code value for point A or B.



1 Press the MENU button.

The following menu display appears.

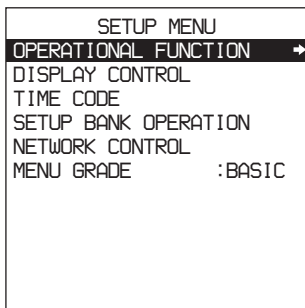


Monitor screen



2 With “SETUP MENU” selected, press the ⇨ (OUT) button.

The display changes as follows.

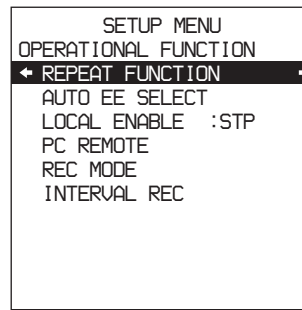


Monitor screen



3 With “OPERATIONAL FUNCTION” selected, press the ⇨ (OUT) button.

The display changes as follows.

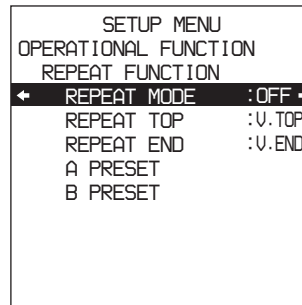


Monitor screen



4 With “REPEAT FUNCTION” selected, press the ⇨ (OUT) button.

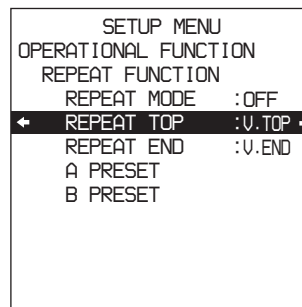
The contents of the REPEAT FUNCTION menu item are displayed.



Monitor screen



5 Press the ↓ button to select “REPEAT TOP.”

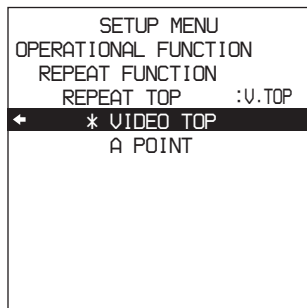


Monitor screen

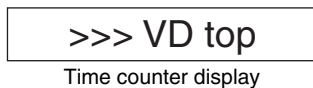


6 Press the ⇨ (OUT) button.

The display changes as follows.

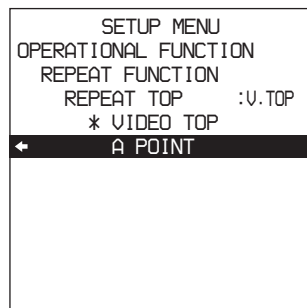


Monitor screen



Time counter display

- 7 Press the \downarrow button to select “A POINT.”



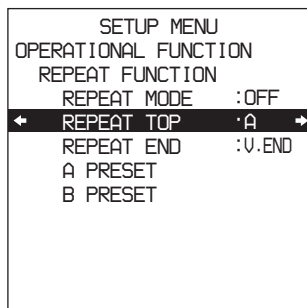
Monitor screen



Time counter display

- 8 Press the \leftarrow (IN) button.

The display changes as follows.

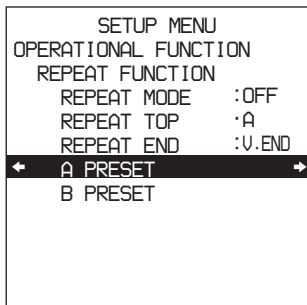


Monitor screen



Time counter display

- 9 Press the \downarrow button to select “A PRESET.”



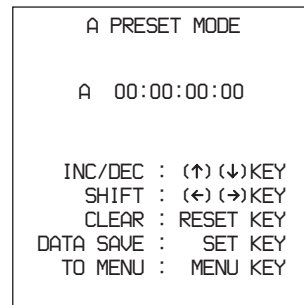
Monitor screen



Time counter display

- 10 Press the \Rightarrow (OUT) button.

The A PRESET MODE screen appears. The time code value of the current point A is displayed below the screen title.



Monitor screen

- 11 Use the \leftarrow (IN) or \Rightarrow (OUT) button to select the digit in the time code value display that you want to change.

Each press of the button causes the digit to the left or right to begin flashing. Holding the button down moves the flashing digit continuously.

If you want to clear the time code value, press the RESET button. The value is cleared to 00:00:00:00, and the leftmost digit begins flashing.

- 12 Press the \uparrow (CUE) or \downarrow button to increment or decrement the value of the flashing digit.

Each press of the button increments or decrements the value. Holding the button down increments or decrements the value continuously. To change other digits, return to step 11.

- 13 Press the SET button to confirm the defined value.

The message “NOW SAVING...” is displayed on the monitor screen and “Saving...” is shown in the time counter display while the new setting is being saved in memory.

Note

The new setting may be lost if you power off the unit during the saving operation. Wait until the saving operation is completed before powering the unit off.

If you want to discard the changed value

Press the MENU button instead of pressing the SET button to return to the menu display, then press the MENU button again to end the menu operation without saving the changed value into memory.

After the saving operation is completed, the monitor screen and time counter display return to the REPEAT FUNCTION setting display as shown in step 9.

14 To set point B, refer to steps **5** to **13**. (Select “REPEAT END” in step **5**, “B POINT” in step **7**, and “B PRESET” in step **9**.)

15 Press the MENU button to close the menu.

Repeat Playback —Automatic Cyclical Playback

Proceed as follows to perform automatic cyclical playback of recording (repeat playback) between selected start and end points.

1 Set the desired repeat start and end points with the REPEAT FUNCTION menu item (*see page 61*).

You can set points A and B as start and end points by following the procedure described in “Setting Points A and B for Repeat Playback” on page 36.

2 Set the REPEAT MODE menu item (*see page 61*) to ON.

The REPEAT indicator lights.

3 Press the SET button to save the new setting and close the menu.

4 Press the PLAY button.

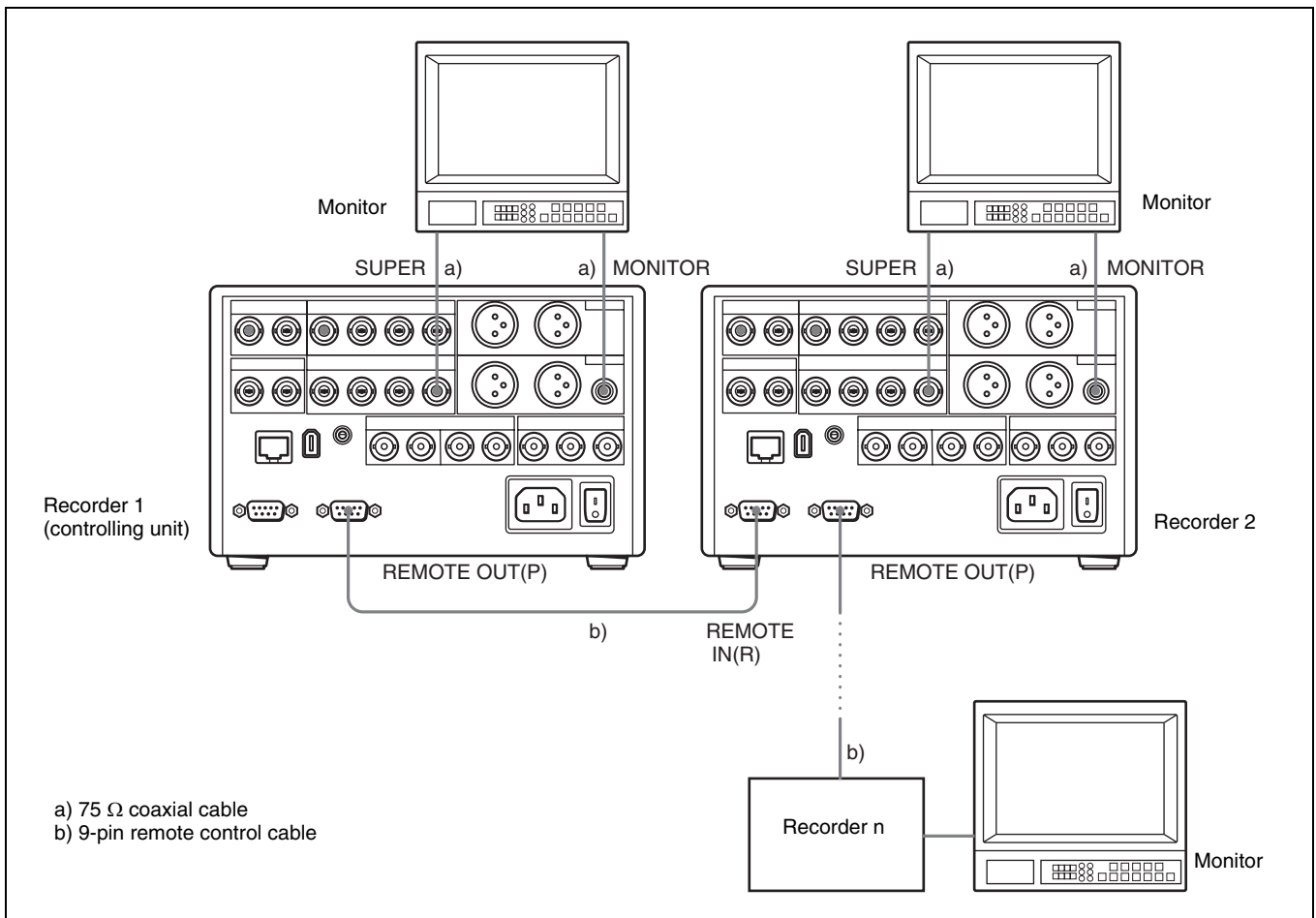
The unit repeats playback between the repeat start and end points set in step **1**.

Connecting Multiple Units for Simultaneous Playback (Multi-Simultaneous Playback)

You can connect multiple DSR-DR1000A/DR1000AP units in a cascade connection for simultaneous playback of various different scenes. The figure below shows how to make cascade connection using the REMOTE IN(R) connector and the REMOTE OUT(P) connector. In this

case, the REMOTE I/F menu item (*see page 69*) must be set to 9PIN(PARA).

To control all of the cascaded units from a single unit, press the EXT button on the controlling unit, turning it on. Set the control mode selectors on other units to REMOTE.



High-Speed and Low-Speed Search —Quickly and Accurately Determining Editing Points

Use the search function to easily locate the desired scene and to quickly and accurately determine edit points.

Searching with the NEXT and PREV buttons

The PREV and NEXT buttons can be used alone to jump to the start and end points of clips (see page 43).

To cue up a cue point

Press the PREV/NEXT button with the \uparrow (CUE) button held down.

For more information on this operation, see “Cueing Up a Desired Cue Point” on page 41.

To search while viewing the video at fast speed (PLAY + PREV/NEXT)

To search in the reverse direction, press the PREV button with the PLAY button held down. (The both buttons light.)
To search in the forward direction, press the NEXT button with the PLAY button held down. (The both buttons light.)

Searching with the search dial

You can use the search dial of this unit to perform the following kinds of search playback.

Shuttle: Press the SEARCH button or search dial to select shuttle mode (the SHUTTLE indicator lights).
Playback is carried out at a speed determined by the rotation angle of the search dial.

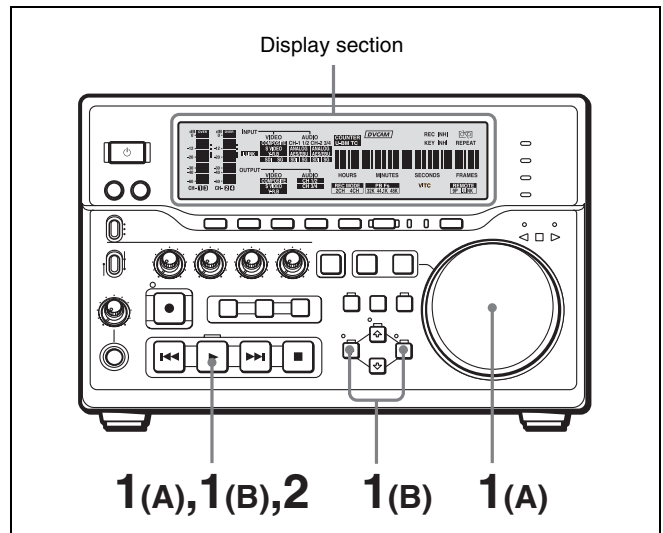
The maximum shuttle playback speed can be changed with the MAX SRCH SPEED menu item (see page 62).

Jog: Press the SEARCH button or search dial to select jog mode (the JOG indicator lights). Playback is carried out at a speed determined by the rotation speed of the search dial. The playback speed range is (1 times normal speed).

Variable: Press the VAR button, lighting it (the SHUTTLE indicator also lights). You can control fine-grained (in 61 steps) playback over the range (2 times normal speed).

Playback using the tape speed override (TSO) function

You can use the tape speed override function to adjust the playback speed temporarily. This function is convenient for playback phase synchronization with another VCR playing back the same program.



- (A) Hold down the PLAY button, and turn the search dial in the desired direction to adjust the playback speed.
The range of speed adjustment is $\pm 15\%$ in steps of 1%.

(B) Hold down the PLAY button, and press the \uparrow (CUE) or \downarrow buttons to adjust the playback speed.
The playback speed can be adjusted to $\pm 8\%$ only.
- When the adjustment is completed, release the PLAY button.
The playback speed returns to normal speed.

Search operations via external equipment

You can control the unit in the following operation modes from an editing control unit connected to the REMOTE IN (R) connector on the rear panel, the supplied remote control unit connected to the CONTROL connector, or control equipment connected to the \downarrow S400(i.LINK) connector.

To search while playing at fast speeds

Shuttle: Use this mode to view color video playback at speeds ranging from 0 to 60 times normal speed in both directions.

Jog: Use this mode for low-speed search and frame-by-frame search. You can specify how speed changes in response to rotations of the search dial by using the JOG RESPONSE menu item (see page 62).

Variable: Use this mode to monitor noise-free video and audio signals at speeds ranging from 0 to 2 times normal speed in both directions.

Still: Use this mode to view a still picture of any field.

Jog audio: Use this mode to monitor the audio at speeds ranging from 0 to 1 times normal speed in both directions.

Note

When controlling this unit from external equipment, set the REMOTE I/F menu item (*see page 69*) and the Control mode selector so that the remote mode indicators in the display section are on or off as follows.

- **When using an editing control unit connected to the REMOTE IN (R) connector:**

Switch/menu item	Setting
Control mode selector	REMOTE (REMOTE indicator lights.)
REMOTE I/F menu item	9PIN (9P indicator lights.)

- **When using an RM-LG2 connected to the CONTROL connector:**

Switch/menu item	Setting
Control mode selector	LOCAL
REMOTE I/F menu item	—

- **When using equipment connected to the S400(i.LINK) connector:**

Switch/menu item	Setting
Control mode selector	REMOTE (REMOTE indicator lights.)
REMOTE I/F menu item	i.LINK (i.LINK indicator lights.)

For description on how to carry out search operations via external equipment, see the operating instructions for the equipment.

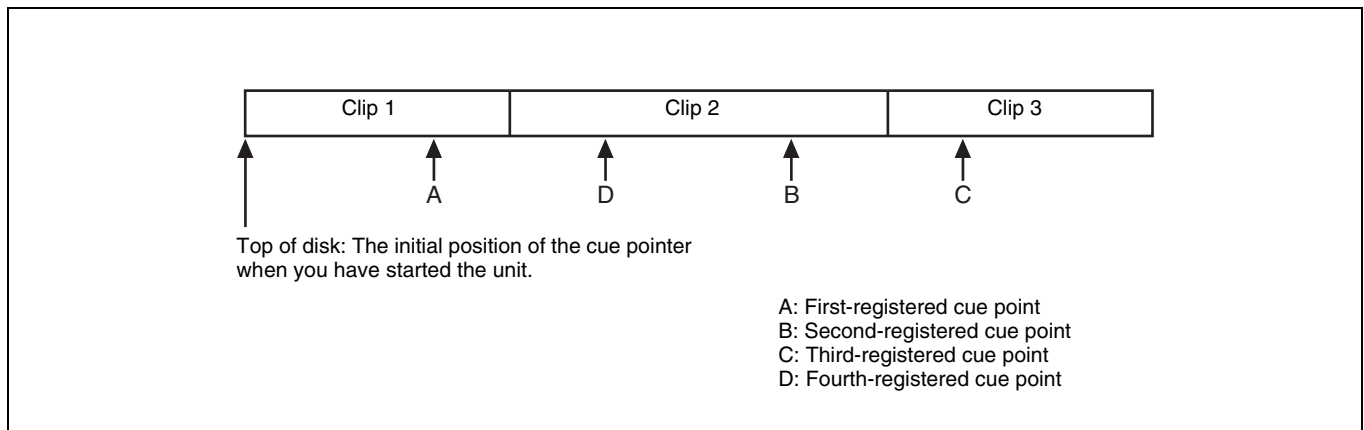
Cueing Up a Desired Cue Point

When you have started this unit, the cue pointer is automatically positioned at the top of the disk (or the start point of the first-recorded clip).

When you press the NEXT button with the $\hat{\uparrow}$ (CUE) button held down, the cue pointer jumps to the first-registered cue point. A second press of the NEXT button

with the $\hat{\uparrow}$ (CUE) button held down makes the cue pointer jump to the second-registered cue point, a third press makes the cue pointer to the third-registered cue point, and so on.

When you press the PREV button with the $\hat{\uparrow}$ (CUE) button held down, the cue pointer jumps to the previous cue point.

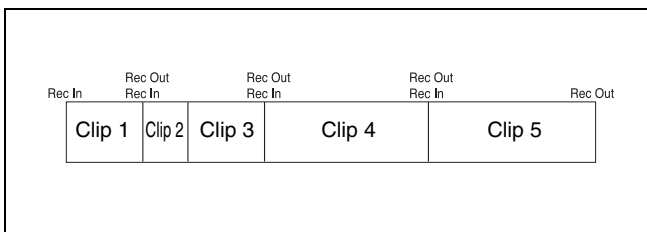


If cue points are registered as shown in the above figure, pressing the NEXT button repeatedly with the $\hat{\uparrow}$ (CUE) button held down makes the cue pointer jump in the order ARBRCD.

To jump back from point D to point B for example, press the PREV button twice with the $\hat{\uparrow}$ (CUE) button held down.

Clips

Data recorded on the hard disk of this unit is managed in units of clips. The section from the recording start point (Rec In) to the recording end point (Rec Out) is defined as a single clip and automatically assigned a clip name.



This unit can also fast forward in clip units (clip jump). This allows you to quickly jump to a position close to the target frame by jumping to the start or end point of one clip after another.

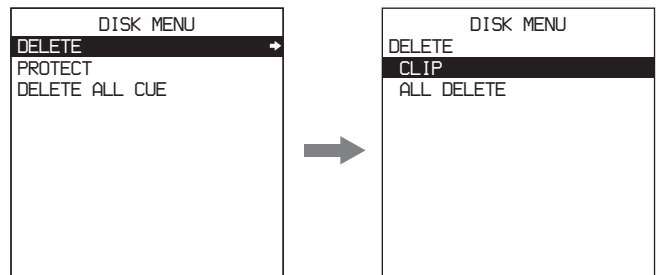
You can also define scenes by setting In and Out points and rearrange them to play in any order.

Deleting Clips

You can use the Disk menu to delete selected clips or delete all clips.

In the menu selection level, select the Disk menu and press the \Rightarrow (OUT) button. The Disk menu screen appears.

See page 72 for more information about basic menu operations.



To display the delete operation menu, select DELETE in the Disk menu and press the \Rightarrow (OUT) button. In the delete operation menu, select CLIP or ALL DELETE and press the SET button to delete individual clips or all clips.

When CLIP is selected

Display the clip to delete by playback or search, and press the SET button.

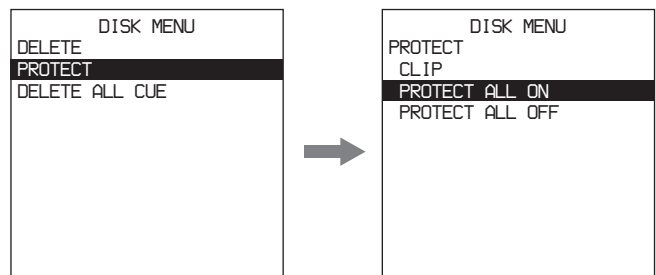
A message (DELETE?) appears asking you to confirm the deletion. Press the SET button again to delete, or press the MENU button to return to the menu without deleting.

When ALL DELETE is selected

A message (ALL DELETE?) appears asking you to confirm the deletion. Press the SET button again to delete, or press the MENU to return to the menu without deleting.

Protecting Clips

You can use the Disk menu to protect clips, so that they are not deleted accidentally.



To display the protect operation menu, select PROTECT in the Disk menu and press the ⇒ (OUT) button. In the protect operation menu, select PROTECT ALL ON or CLIP and press the SET button. All clips or individual clips are protected.

When PROTECT ALL ON is selected

A message (ALL PROTECT?) appears asking you to confirm the protection. Press the SET button again to protect all clips, or press the MENU button to return to the menu without protecting.

When CLIP is selected

Display the clip to protect using the PREV and NEXT buttons, and press the SET button. The OFF display shown on the screen before the clip's timecode changes to ON, to indicate that the clip is protected. At this point, you can unprotect the clip by pressing the RESET button. When you have protected all of the clips that you want to protect, press the MENU button to return to the protect operation menu and press the SET button.

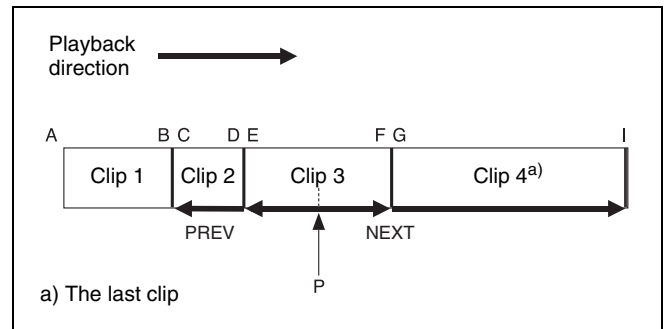
To Search in Clip Units (Clip Jump)

Press the PREV button or the NEXT button on the front panel.

PREV button: The first press moves to the start point of the clip containing the current position. The second press moves to the start point of the previous clip.

NEXT button: The first press moves to the start point of the next clip. The second press moves to the end point of the next clip.

Example



When you press the PREV button or the NEXT button at the current position (point P), the unit behaves as follows.

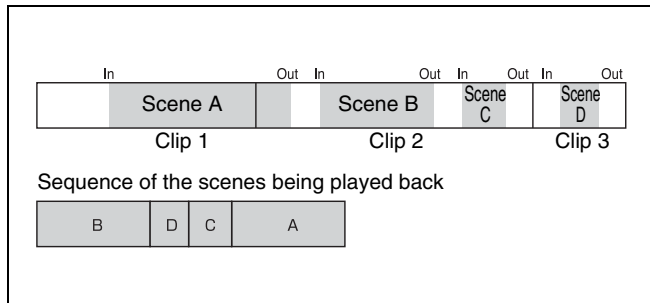
PREV pressed one time: Jump to point E.

PREV pressed two times: Jump to point C.

NEXT pressed one time: Jump to point G.

NEXT pressed two times: Jump to point I.

Playing Back Scenes Extracted From Clips (Program Playback)



The following example explains how to extract scenes A to D and play them back in the order B, D, C, A.

- 1** In clip 2, cue up the point that you want to use as the In point of scene B.
- 2** With the SET button held down, press the ⇐ (IN) button.
“IN set” appears in the time counter, and the LED to the side of the ⇐ (IN) button lights. The In point timecode appears in the operation mode display area below the time code display on the monitor screen.
- 3** Cue up the point that you want to use as the Out point of scene B.
- 4** With the SET button held down, press the ⇒ (OUT) button.
“OUT set” vappears in the time counter, and the LED to the side of the ⇒ (OUT) button lights. The Out point timecode appears in the operation mode display area below the time code display on the monitor screen.
- 5** With the CLIP button held down, press the SET button.
“CLIP set” appears in the time counter and scene B is registered.
When the In/Out points are registered, the In and Out points timecodes disappears and the operation mode is displayed below the time code display on the monitor screen.

Note

An exclamation point (!) appears after “CLIP set” and the message “SUB CLIP IS INVALID” appears on

the monitor screen if there is a problem in the segment definition, for example when the Out point is defined in advance of the In point. Reset the Out point.

- 6** Proceed in the same way to define scenes D, C, and A.
- 7** With the CLIP button held down, press the PLAY button.

The scenes are played in the order B, D, C, A.

Numbers are assigned to extracted scenes in the order that you create the segments and displayed in playlists.

Working with Playlists

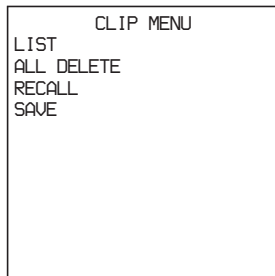
Scenes that you define within clips by setting In and Out points are assigned numbers in the order of creation and displayed in playlists.

In playlists, you can reset In and Out points, sort scenes in different orders, and add new scenes. You can save up to 7 edited playlists (cliplist1 to cliplist7). You can also delete the contents of playlists.

Use the Clip menu to operate on playlists.

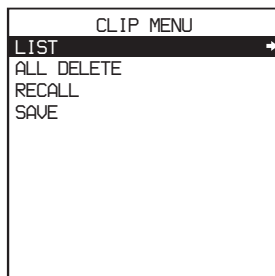
To display the Clip menu

Press the MENU button with the CLIP button held down.



Displaying Playlists

To display the current playlist, select LIST in the Clip menu and then press the ⇨ (OUT) button.



A playlist shows the numbers that were assigned to scenes automatically when they were extracted, as well as the time code of the In points.

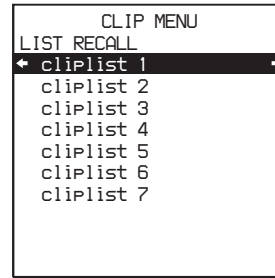
To recall a saved playlist

Note

Recalling a saved playlist deletes the current playlist if it is unsaved. Save the current playlist (*see page 46*) and then recall a saved playlist.

- 1 Select RECALL and press the ⇨ (OUT) button.

The RECALL screen appears.



- 2 Select one of cliplist1 to cliplist7 and press the ⇨ (OUT) button.

The confirmation message “RECALL?” appears.

- 3 Press the SET button.

The selected list appears.

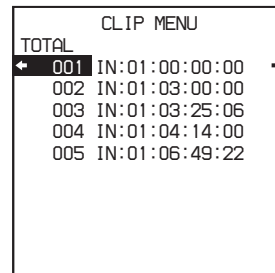
To hide a playlist

Press the ⇨ (IN) button.

Editing Playlists

- 1 Select LIST in the Clip menu and then press the ⇨ (OUT) button.

- 2 Select the scene that you want to change, and press the ⇨ (OUT) button.



The playlist editing screen appears, showing time code for the In point, Out point, and duration of the selected scene. You can do the following in the playlist editing screen.

- Reset the In and Out points of the selected scene (MODIFY).
- Add another scene in front of the selected segment (ADD).
- Change the playback order of the selected scene (MOVE).
- Delete the selected scene (DELETE).

Note

The saved playlists cliplist1 to cliplist7 cannot be edited. Only unsaved playlists can be edited.

To reset In and Out points

- 1 Select MODIFY and press the ⇨ (OUT) button.
The screen returns to the normal monitor screen.
- 2 Playback or search to find the position that you want to set as a new In point. Then press the SET button with the ⇐ (IN) button held down.
- 3 At the position that you want to set as a new Out point, press the SET button with the ⇨ (OUT) button held down.
- 4 When all the settings are completed, press the SET button with the CLIP button held down.
You are returned to the playlist screen. The In/Out points and duration of the target scene are changed.

To cancel the changes

Press the MENU button.

To add a new scene

- 1 Select ADD and press the ⇨ (OUT) button.
You are returned to the normal monitor screen.
- 2 Playback or search to find the position that you want to set as the In point. Then press the SET button with the ⇐ (IN) button held down.
- 3 At the position that you want to set as the Out point, press the SET button with the ⇨ (OUT) button held down.
You are returned to the playlist editing screen. A new scene appears with the specified In point, Out point and duration.
- 4 Hold down the CLIP button, press the SET button.
You are returned to the playlist screen. The new scene appears in the line above the target scene, and the scene numbers are reassigned.

To cancel the addition

Press the MENU button.

To change the playback order of the scenes

- 1 Select MOVE and press the ⇨ (OUT) button.
A playlist that does not contain the target scene appears.

- 2 Use the ↑ (CUE) button or the ↓ button to highlight the line to which you want to move the scene.
- 3 Press the SET button.

You are returned to the playlist screen. The target scene is moved to the line above the specified scene, and the scene numbers are reassigned.

To cancel the move

Press the RESET button.

To delete scenes

- 1 Select DELETE and press the ⇨ (OUT) button.
The confirmation message “DELETE OK ?” appears.
- 2 Press the SET button.
You are returned to the playlist screen. The target scene is deleted and the scene numbers are reassigned.

To cancel the deletion.

Press the RESET button.

Saving the Current Playlist Data

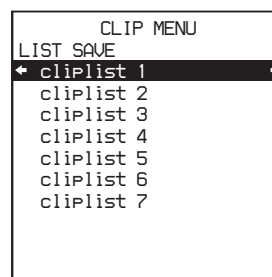
- 1 Press the ⇐ (IN) button repeatedly to display the Clip menu screen.
- 2 Press the SET button.
The message “NOW SAVING” appears on the monitor screen and the Clip menu closes.

Saving Playlists

In addition to the current playlist, you can save up to 7 playlists. The current playlist is lost when the system is powered off, but saved playlists can be used repeatedly. Proceed as follows to save a playlist.

- 1 Select SAVE in the Clip menu and press the ⇨ (OUT) button.

The SAVE screen appears.



- 2 Select one of cliplist1 to cliplist7 and press the ⇨ (OUT) button.

The confirmation message “SAVE OK?” appears.

- 3 Press the SET button.

The current list is saved as the list with the selected number.

To cancel the save

Press the MENU button.

To Delete a Playlist

- 1 Select ALL DELETE in the Clip menu and press the ⇨ (OUT) button.

The confirmation message “ALL DELETE OK ?” appears.

- 2 Press the SET button.

The current playlist is deleted.

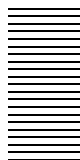
To cancel the deletion.

Press the MENU button.

Exiting the Clip Menu

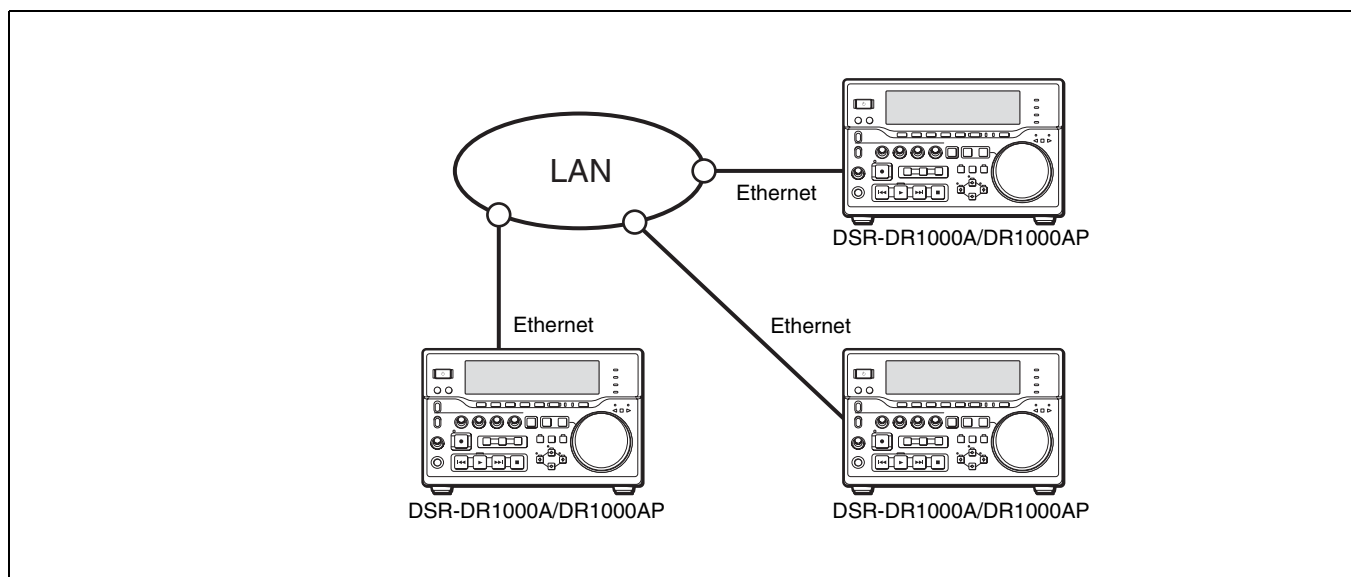
If you want to save the current playlist data, press the SET button on the Clip menu screen.

If you need not save the current playlist data, press the MENU button with the CLIP button held down on the Clip menu screen.



Connecting This Unit to a LAN

Connecting this unit to an Ethernet LAN allows you to exchange data with computers and other recorders.



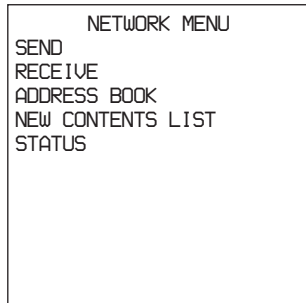
Note

Before connecting this unit to a LAN, you need to set its IP address, subnet mask, and default gateway, and to set up a user account with a user name and password (see “*Making Basic Network Settings*” on page 29).

Network Menu

Use the Network menu to send data, save received data, check communications status and perform other network operations.

To display the Network menu, select NETWORK MENU from the menu selection screen and press the ⇨ (OUT) button.



Monitor screen



Time counter display

You can perform the following operations from the Network menu.

- Transfer clips or clip segments registered in cliplists.
- Transfer data registered in an address book
- Receive clip data
- Create and edit an address book
- Save or delete clips after receiving them
- Check communications status
- Abort or cancel communications

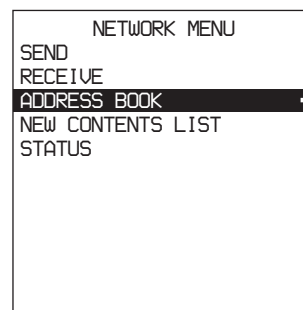
For basic menu operations, see page 72.

Creating and Editing an Address Book

Before sending and receiving data, you need to register information about the communications destination in an address book.

Address book entries contain the host name, IP address, user name, password, and login folder of a communications destination. You can register up to 50 entries.

To create or edit an address book, select the ADDRESS BOOK item from Network menu and press the ⇨ (OUT) button.



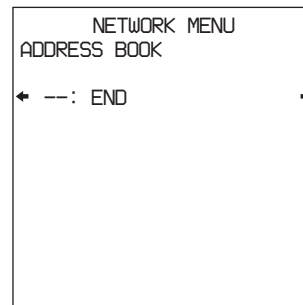
Monitor screen



Time counter display

If nothing is registered in the address book.

A screen like the one shown below appears.



Monitor screen

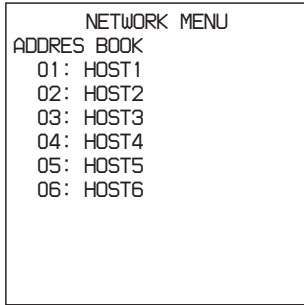


Time counter display

Select --: END and press the ⇨ (OUT) button. A registration screen for the communications destination appears (see next section).

If the address book already contains data

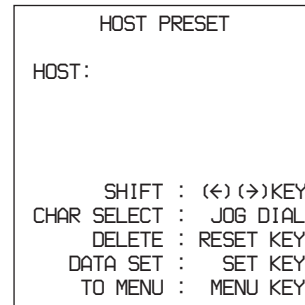
A screen like the one shown on the next page appears, containing a list of registration numbers and arbitrarily assigned host names.



Monitor screen



Time counter display



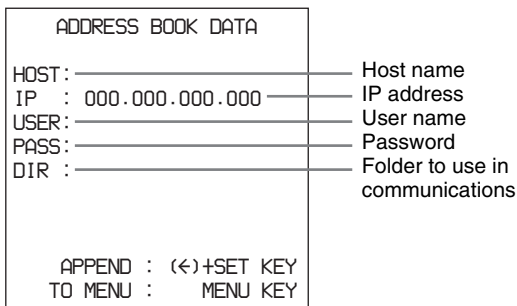
Select a destination and press the ⇨ (OUT) button to display the information for that destination. You can change the information as required (see page 51).

Registering Host information in an Address Book

The figure below shows the ADDRESS BOOK DATA screen. Enter a host name (up to 8 characters) and the host information, consisting of the IP address, user name, password, and folder to use in communications. The password and folder name do not have to be entered if they have not been specified.

Note

Host name is a general term for destination data.



Use the following procedure to register host information.

- 1 Select HOST and press the ⇨ (OUT) button.
The HOST PRESET screen appears.

- 2 Enter the host name.

To enter characters

Rotate the search dial until the desired character appears. Characters appear in the following order when you rotate the search dial in the clockwise direction.

A to Z, [,], ^, _, ` , a to z, {, |, }, ~, !, ", #, \$, %, &, ', (,), *, +, -, ., /, 0 to 9, :, ;, <, =, >, ?, @

Characters appear in the reverse order when you rotate the search dial in the counterclockwise direction.

To delete a character after entering it, press the RESET button.

To move the cursor

Press the ⇐ (IN) or ⇨ (OUT) button.

To confirm a host name

Press the SET button.

You are returned to the ADDRESS BOOK DATA screen.

- 3 Next enter the IP address (IP), user name (USER), password (PASS), and folder to use in communications (DIR).

Notes

- When you are entering an IP address, the only characters which appear as you rotate the search dial are digits.
 - Do not specify a folder name (DIR) to exchange data between two DSR-DR1000A/DR1000AP units. Communications will not be carried out correctly if a folder is specified.
- 4 When you have set all the required items, check the information on the ADDRESS BOOK DATA screen and confirm by pressing the SET button with the ⇐ (IN) button held down.

```

ADDRESS BOOK DATA
HOST: HOST1      →
IP  : 192.168.000.001
USER: USER1
PASS: *****
DIR  : /user/local/bin/

APPEND : (←)+SET KEY
TO MENU : MENU KEY

```

The host data is saved under registration number 01.

To cancel the registration without saving any data

Press the MENU button.

Editing an Address Book

You can change the information in an address book entry and save it under the same registration number or a different registration number.

In the host list (see “*If the address book already contains data*” on page 49), select the entry you want to change and press the ⇨ (OUT) button. The data for the selected entry appears.

```

ADDRESS BOOK DATA
HOST: HOST1      →
IP  : 192.168.000.001
USER: USER1
PASS: *****
DIR  : /user/local/bin/

DELETE : RESET KEY
MODIFY : SET KEY
APPEND : (←)+SET KEY
TO MENU : MENU KEY

```

To delete a host entry

Press the RESET button. The entry is deleted and the selected host name is removed from the list.

Note

A host entry cannot be deleted while that host is sending data to or receiving data from this unit, or in sending or receiving standby. Entries cannot be deleted if the address book itself is being sent or received. A warning message appears if you press the RESET button under these circumstances, and the deletion is cancelled.

To change a host entry

- 1 Select the entry that you want to change and press the ⇨ (OUT) button.

The setting screen for the selected entry appears.

- 2 Refer to the procedure in “Registering Host information in an Address Book” and change the entry as required.
- 3 To save the changes under the same registration number, press the SET button. To save the changes under another registration number, press the SET button with the ⇐ (IN) button held down.

Pressing the SET button with the ⇐ (IN) button held down adds the changes to the end of the host data list.

Note

A host entry cannot be changed while that host is sending data to or receiving data from this unit, or in sending or receiving standby. Entries cannot be changed if the address book itself is being sent or received. A warning message appears if you press the SET button in step 3 under these circumstances, and the change is cancelled.

To delete all of the entries in an address book

Press the RESET button in the screen that displays all of the entries in the host list (see “*If the address book already contains data*” on page 49).

The message “ALL DELETE OK ?” appears on the monitor, and the message “All Del OK?” appears in the time counter display. Press the SET button to delete all of the entries. Press the RESET again to cancel the deletion.

Note

A host entry cannot be deleted while that host is sending data to or receiving data from this unit, or in sending or receiving standby. Entries cannot be deleted if the address book itself is being sent or received. A warning message appears if you press the RESET button under these circumstances, and the deletion is cancelled.

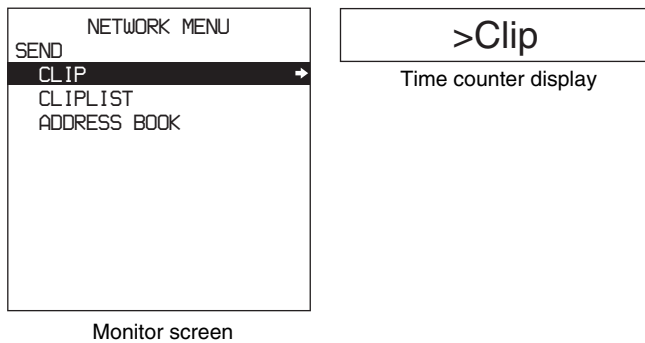
Sending Data

You can send each clip, clips registered in cliklists, and address book data to other recorders.

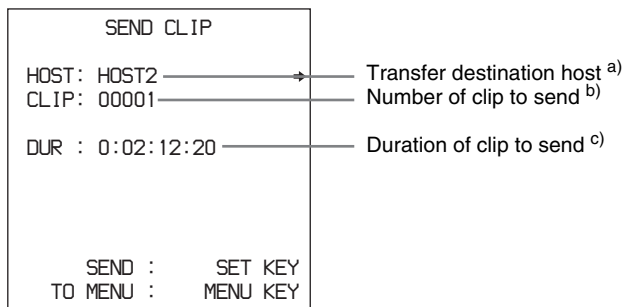
Sending Clip Data

Use the following procedure to send clip data.

- 1 Select the SEND CLIP item in the Network menu and press the \Rightarrow (OUT) button.



The SEND CLIP screen appears, showing the currently selected destination host name, the transfer target clip, and its duration.



- a) "-----" is displayed when no destination host is selected.
- b) "----" is displayed when no clip is selected.
- c) "0: 00: 00: 00" is displayed when no clip is selected.

- 2 If the destination host and clip are correct, proceed to step 8.

To change the destination host, select HOST and press the \Rightarrow (OUT) button.

A list of host registered in the address book appears.

If the destination that you want is not in the list
Register the destination in the address book (*see page 50*).

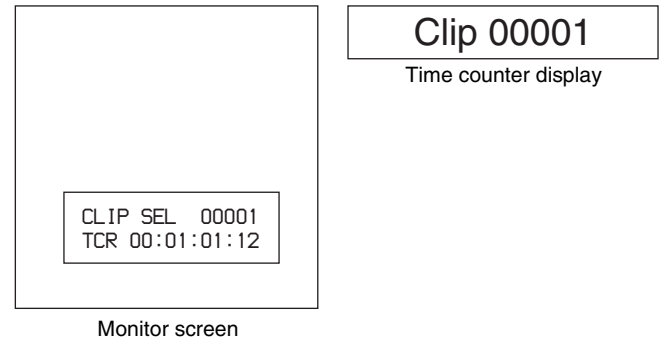
- 3 Select the destination from the list and press the \Rightarrow (OUT) button.

You are returned to the SEND CLIP screen, which displays the data for the selected destination.

- 4 Check that the destination is correct, and press the \Leftarrow (IN) button twice to return to the SEND CLIP screen.

- 5 Select CLIP and press the \Rightarrow (OUT) button.

The normal screen appears on the monitor.



- 6 Use the playback, search, and clip jump functions to find the clip that you want to send.

- 7 Press the SET button when the number of the clip that you want to send appears in the CLIP SEL section at the bottom of the monitor or in the time counter display.

You are returned to the SEND CLIP screen, which displays the number and duration of the selected clip.

Note

Clips cannot be selected while they are being recorded. If you select a clip that is being recorded, a warning message appears asking you to select another clip.

- 8 Press the SET button.

Preparations for communications start.

When the preparations finish, the message "Issuing transfer request. Will begin transfer after the end of transfer standby." appears.

Up to 29 transfer requests can be placed on standby. When the 30th request is issued, the message "Request queue full. Cannot send clip." appears and the transfer is rejected.

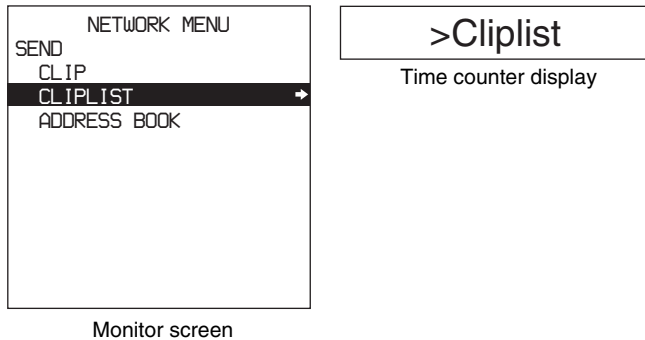
To cancel the transfer

In step 8, press the MENU button instead of the SET button.

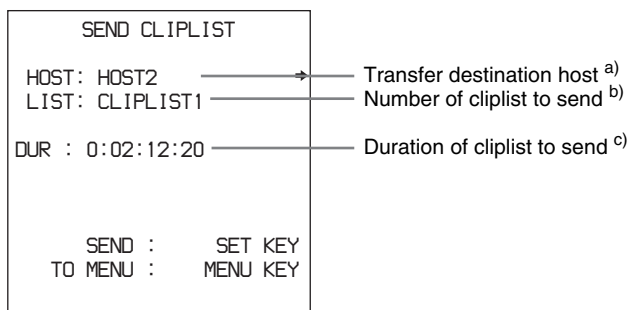
Sending Cliplist Data

The following procedure allows you to send the data of clips in cliplists that have been saved.

- 1 Select the SEND CLIPLIST item in the Network menu and press the ⇨ (OUT) button.



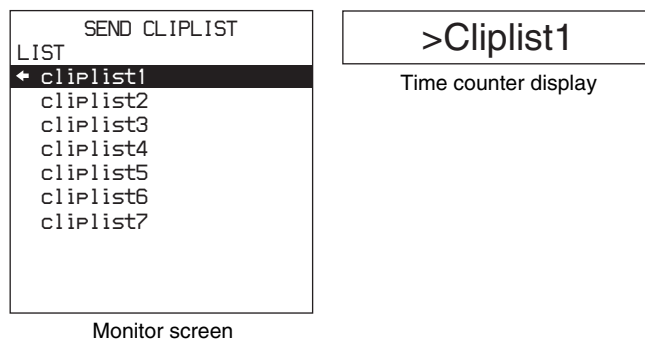
The SEND CLIPLIST screen appears, showing the name of the currently selected host, the name of the target cliplist, and its duration.



- a) "-----" is displayed when no destination host is selected.
- b) "----" is displayed when no cliplist is selected.
- c) "0: 00: 00: 00" is displayed when no cliplist is selected.

- 2 If the destination host and clip are correct, proceed to step 5.
To select the destination host, execute steps 2 to 4 of "Sending Clip Data" (page 52).

To select the clip list, select LIST in the SEND CLIPLIST screen and press the ⇨ (OUT) button.



- 3 Select the cliplist containing the data of the clips that you want to send, and press the ⇐ (IN) button.
- 4 You are returned to the SEND CLIPLIST screen, which displays the number and duration of the selected cliplist.
- 5 Press the SET button.

Preparations for communications start.

When the preparations finish, the message "Issuing transfer request. Will begin transfer after the end of transfer standby." appears.

Up to 29 transfer requests can be placed on standby. When the 30th request is issued, the message "Request queue full. Cannot send clip." appears and the transfer is rejected.

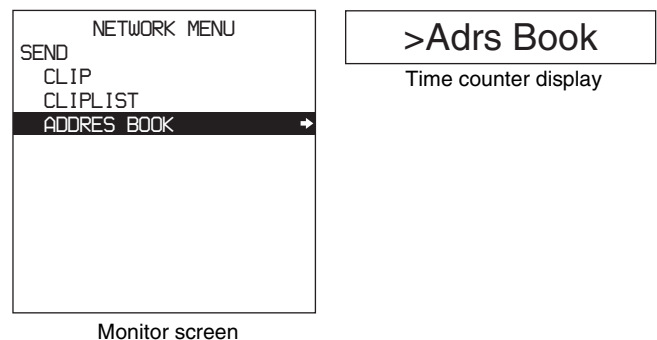
To cancel the transfer

In step 5, press the MENU button instead of the SET button.

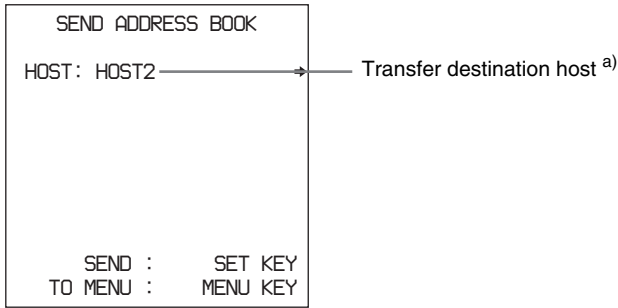
Sending Address Book Data

The following procedure allows you to share address book data between recorders on the same network by copying the contents of the address book on one recorder to another recorder.

- 1 Select the SEND ADDRESS BOOK item in the Network menu and press the ⇨ (OUT) button.



The SEND ADDRESS BOOK screen appears, showing the name of the currently selected host.



a) "-----" is displayed when no destination host is selected.

2 If the destination host is correct, press the SET button.

To select the destination host, execute steps **2** to **4** of "Sending Clip Data" (page 52) and press the SET button.

Preparations for communications start.

When the preparations finish, the message "Issuing transfer request. Will begin transfer after the end of transfer standby." appears.

Up to 29 transfer requests can be placed on standby.

When the 30th request is issued, the message "Request queue full. Cannot send clip." appears and the transfer is rejected.

To cancel the transfer

In step **2**, press the MENU button instead of the SET button.

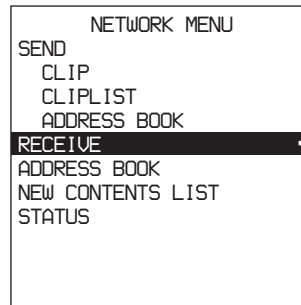
Receiving Data

You can specify the names of clips recorded by other recorders on the network and receive those clips over the network. After receiving the data, you can choose whether to save or delete it. Up to 100 data items can be received. The following procedure allows you to receive clip data that has been recorded on other recorders.

Note

Data cannot be received when there is 10 minutes or less of free disk capacity. If free disk capacity has fallen to 10 minutes or less, you should make more capacity available by deleting recorded clips before carrying out this operation.

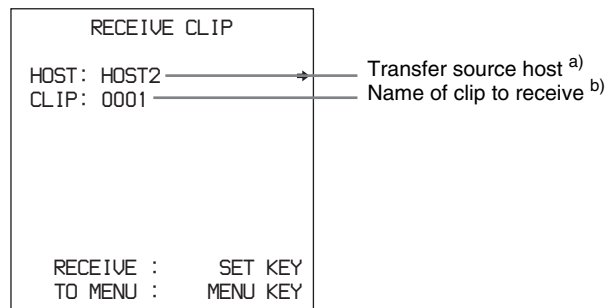
1 Select the RECEIVE item on the Network menu and press the ⇨ (OUT) button.



Monitor screen



The RECEIVE CLIP screen appears, showing the currently selected source host and the name of the target clip.



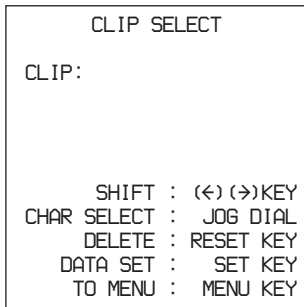
a) "-----" is displayed when no source host is selected.
b) "----" is displayed when no clip is selected.

2 If the source host and clip are correct, proceed to step 5.

To select the destination host, execute steps **2** to **4** of "Sending Clip Data" (page 52).

- 3 Select CLIP in the RECEIVE CLIP screen, and press the ⇒ (OUT) button.

The CLIP SELECT screen appears.



- 4 Refer to step 1 of “Registering Host information in an Address Book” (page 50) and enter the name of the clip you want to receive (up to 11 characters), and then press the SET button.

You return to the RECEIVE CLIP screen.

- 5 Press the SET button.

Preparations for communications start.

When the preparations finish, the message “Issuing transfer request. Will begin transfer after the end of transfer standby.” appears.

Up to 29 transfer requests can be placed on standby. When the 30th request is issued, the message “Request queue full. Cannot send clip.” appears and the transfer is rejected.

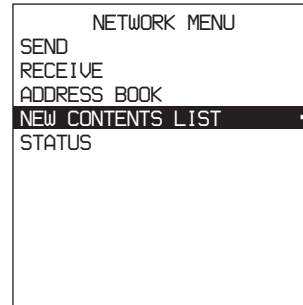
To cancel the transfer

In step 5, press the MENU button instead of the SET button.

Saving or Deleting Received Data

The NEW CONTENTS indicator on the front panel of this unit light when new data is received. Use the following procedure to check the data and to save or delete it.

- 1 Select the NEW CONTENTS LIST item in the Network menu and press the ⇒ (OUT) button.

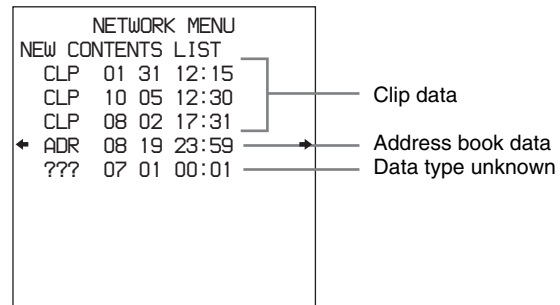


Monitor screen

New Content

Time counter display

A list of received data that has not yet been save appears. The list indicates the type of data (clip or address book) and the time when it was received.



If there is no new received data, the message NO NEW CONTENTS appears.

- 2 Select the data you want to check and press the ⇒ (OUT) button.

The NEW CONTENTS INFO screen appears..

NEW CONTENTS INFO		
IP	: 192.168.000.001	Source host IP address
DATE	: 2002 07 31	Date received
TIME	: 17:39	Time received
TYPE	: CLIP	Data type
DUR	: 0:01:00:15	Total duration of received data
STATUS	: OK	OK/NG status
DATA SAVE : SET KEY		Not shown when STATUS is NG or TYPE is UNKNOWN
DELETE : RESET KEY		
TO MENU : MENU KEY		

- a) CLIP: Clip
ADRS BOOK: Address book
UNKNOWN: Type unknown
- b) When data type is address book or unknown, --:--:-- is shown.

- 3** Press the SET button to save the selected data. Press the RESET button to delete it. Press the MENU button to return to the menu without saving or deleting any data.

When the SET is pressed

The clip data is saved under a new number. The message “Saved clip as clip number XXXX” appears. Address book data is added to the address book. When the new data has been saved, the NEW CONTENTS indicator on the front panel of the unit goes off.

Notes

- Data with NG status or an unknown data type cannot be saved.
- Clip data cannot be saved during recording.
- Address book data cannot be saved in the address book when it contains more than 50 host destinations.

When the RESET button is pressed

A confirmation message appears on the monitor screen and in the time counter display. Press the SET button if you actually want to delete the data. Press the RESET button if you want to cancel the deletion. The NEW CONTENTS indicator on the front panel of the unit goes off when data is deleted.

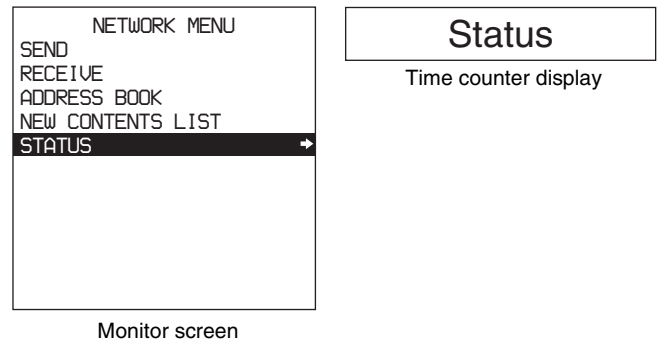
When the MENU button is pressed

You return to the receive data screen. No data is saved or deleted.

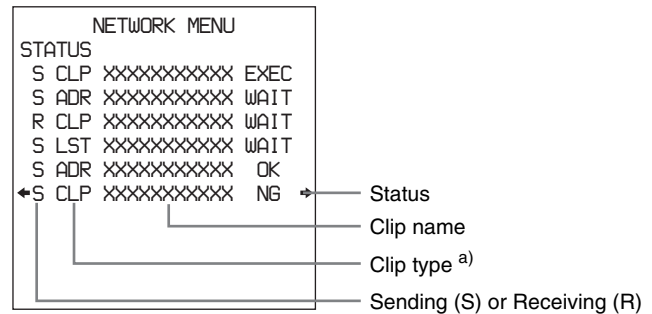
Checking Communications Status

In the Network menu, you can check the status of transfer jobs (executing or standby) and check whether the result of a data transfer was OK or not. As required, you can then abort the transfer or withdraw a connection request. Use the following procedure to display the status list.

- 1** Select the STATUS item on the Network menu and press the ⇨ (OUT) button.



The status list screen appears.



- a) CLP: Clip
LST: Cliplist
ADR: Address data

The following are displayed to indicate the status.

EXEC: Executing
WAIT: On standby
OK: OK
NG: Error

- 2** Select a data item for which you want to view detailed information and press the ⇨ (OUT) button.

The STATUS INFO screen appears (the following example shows status information for clip data).

STATUS INFO	
HOST : HOST1	Destination host name
IP : 192.168.000.001	Destination IP address
TYPE : SEND CLIP 00010	Clip type
DUR : 0:01:00:15	Clip duration ^{a)}
STATUS: Executing	Status or result
ABORT : RESET KEY	
TO MENU : MENU KEY	

a) Duration is not shown for address book data.

3 If you want to delete the selected data, press the RESET button.

Messages appear on the monitor and in the time counter display asking if you really want to delete the data (Abort OK?).

4 Press the SET button if you actually want to delete the data, and press the RESET button if you want to cancel the deletion.

If communications end in an error

If communications end in an error, the following messages appear in the Status or Result field of the monitor screen or in the time counter display.

Monitor message	Time counter display message	Description
Not Login	Not Login!	Cannot login.
Contents Full	Cont. Full!	More than 100 data items.
Disk Full	Disk Full	Disk is full.
Timeout	Timeout!	Connection timeout.
No Clip	No Clip!	Clip not found,
Send Error	Send Err!	Send error occurred.
Receive Error	Rcv Err	Receive error occurred.

Menu Organization

As shown in the following figure, the menu system consists of four levels and is divided by function into six subsystems: the Setup menu (SETUP MENU), the Time Code Preset menu (TC PRESET), the Disk menu (DISK MENU), the Network menu (NETWORK MENU), the Date and Time Preset menu (DATE/TIME PRESET), and the Digital hours meter menu (HOURS METER).

This chapter mainly describes the setup menu, showing its contents and how to operate it.

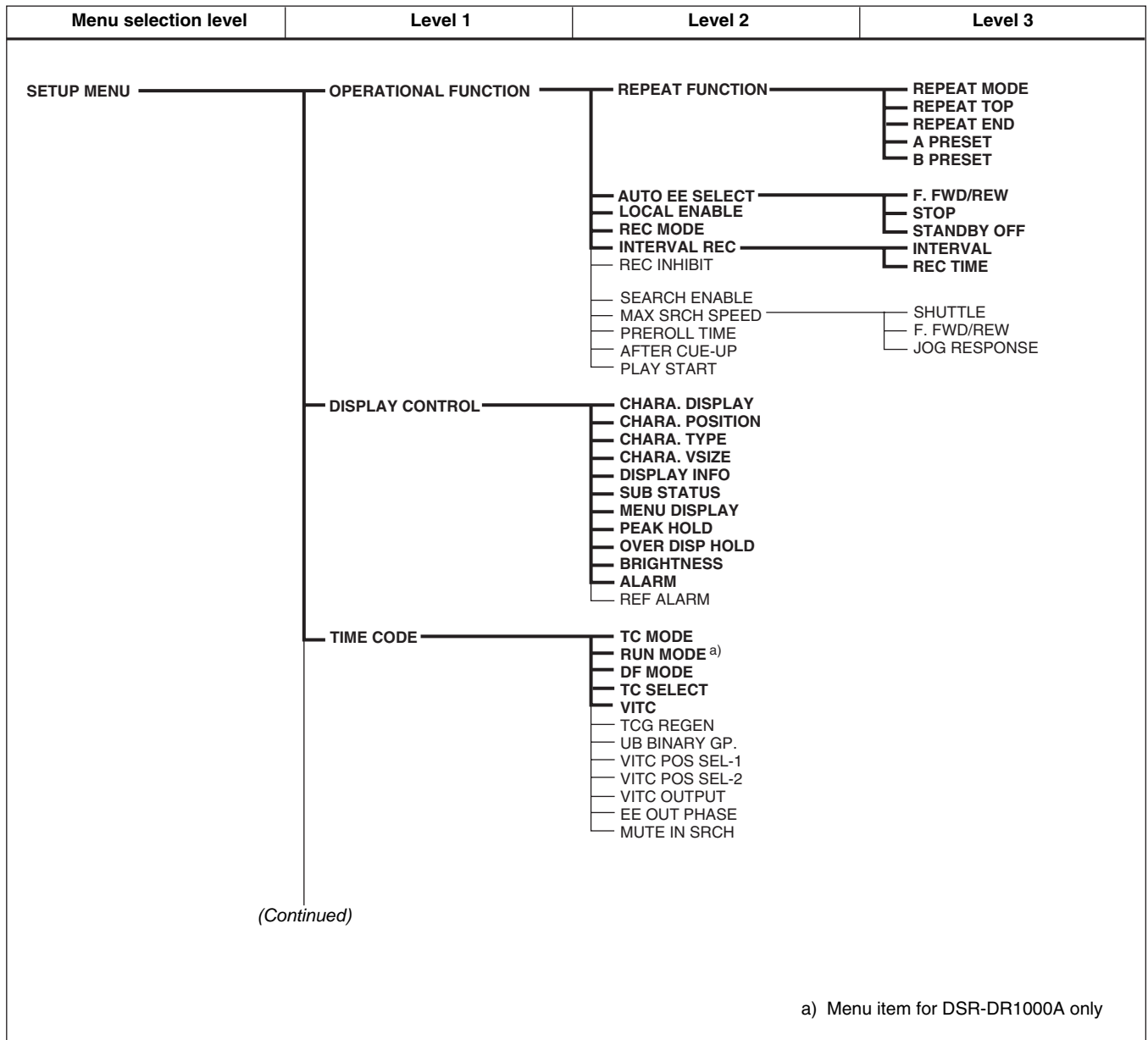
For details of the digital hours meter display, see “Regular Checks” on page 91.

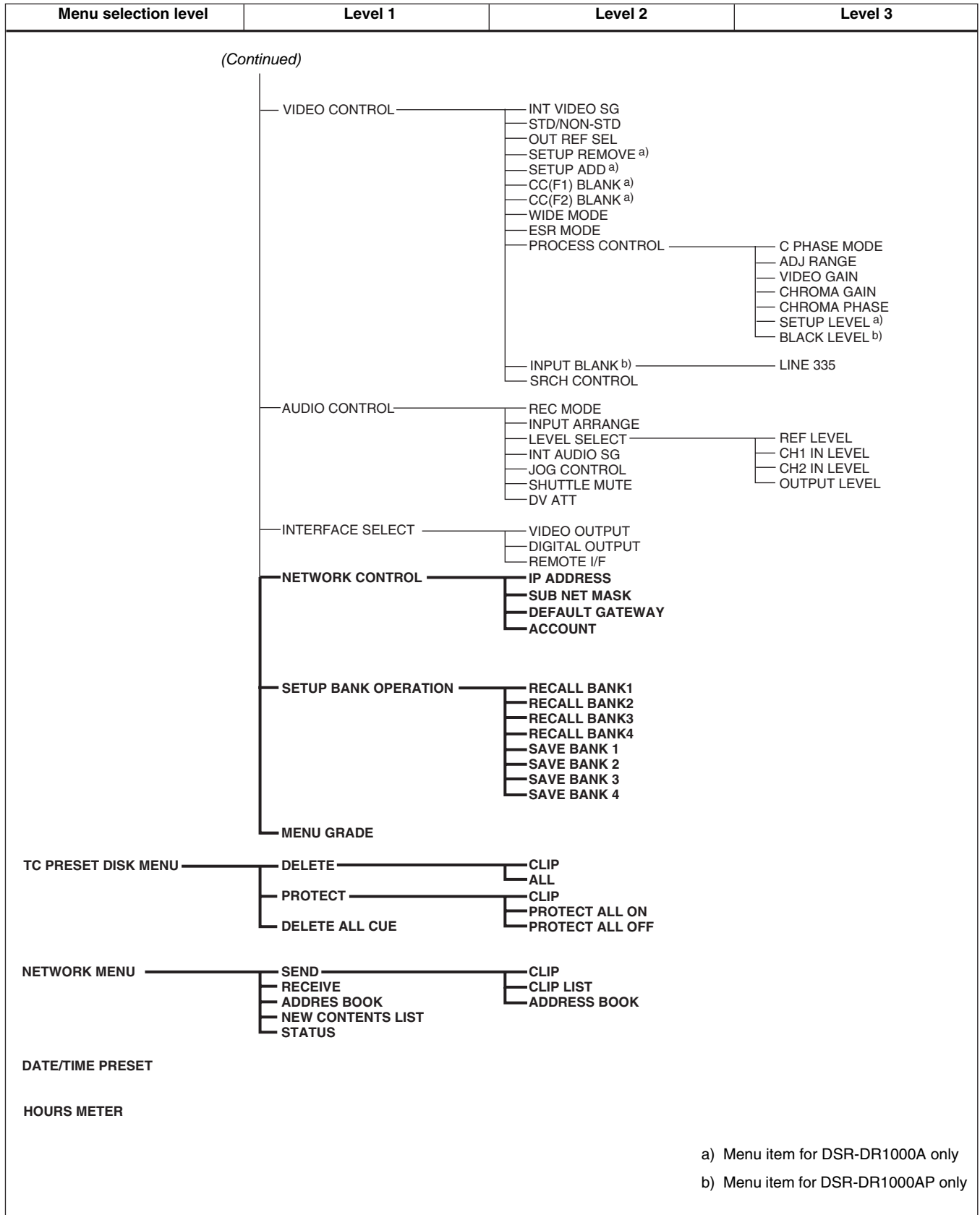
The items of the setup menu are divided into several functional groups on level 1, and except for the MENU GRADE item the settings themselves are made on level 2 or level 3.

Also, the menu items are divided into two categories according to how frequently they are accessed: the “basic” items, to which frequent access is normally required, and the “enhanced” items, which are less frequently used. In the following figure, the items shown in boldface are basic items, and the other items are enhanced items.

The menu settings are saved in non-volatile memory, which means they are not erased when you power off the unit after executing the setting operation.

Menu organization





a) Menu item for DSR-DR1000A only

b) Menu item for DSR-DR1000AP only

Menu Contents

Setup Menu

The purpose and settings of the setup menu items are described below.

Indications of menu items and settings

- In the table below entitled “Menu contents,” the indication of each menu item or setting on the monitor screen is shown first, then the indication of the same item or setting in the time counter display of this unit is shown in square brackets ([]).

Examples:

Indication on monitor screen	Indication in time counter display
OPERATIONAL FUNCTION	[Operational]
*EE	[>>> EE]

- Settings preceded by an asterisk (such as *EE) are factory default settings.
- In the time counter display, one to three “>” symbols may precede item or setting indications depending on the current menu level. Larger numbers of “>” symbols indicate lower menu levels.

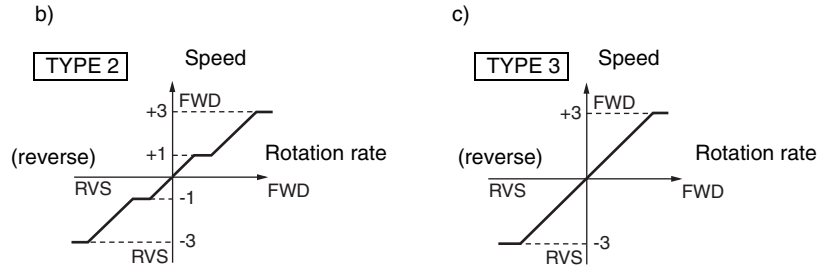
Menu contents

OPERATIONAL FUNCTION [Operational]: Operation settings	Description of settings
REPEAT FUNCTION [> REP FUNC]: Make settings for repeat playback mode.	REPEAT MODE [>> REPEAT MD]: Determine whether or not to put the unit into repeat playback mode. *OFF [>>> OFF]: Do not put the unit into repeat playback mode. ON [>>> ON]: Put the unit into repeat playback mode.
	REPEAT TOP [>> REP TOP]: Determine whether the repeat start point is the beginning of disk or point A. *VIDEO TOP [>>> Video top]: The repeat start point is the beginning of disk. A POINT [>>> A point]: The repeat start point is point A as set by the user.
	REPEAT END [>> REP END]: Determine whether the repeat end point is the end of the video recorded portion or point B. *VIDEO END [>>> VD end]: The repeat end point is the end of the video recorded portion. B POINT [>>> B point]: The repeat end point is point B as set by the user.
	A PRESET [>> A preset]: Specify a time code value to be used as the setting of point A. <i>For details, see “Setting Points A and B for Repeat Playback” on page 36.</i>
	B PRESET [>> B preset]: Specify a time code value to be used as the setting of point B. <i>For details, see “Setting Points A and B for Repeat Playback” on page 36.</i>
AUTO EE SELECT [> Auto EE]: Determine whether the unit enters EE mode or PB mode when audio and video signals from other equipment are input. When this unit is used as the recorder for cut editing, it is possible to output the input audio and video signals to the monitor. This enables editing operation to be carried out using a single monitor.	F. FWD/REW [>> F. FWD/REW]: Operations when in fast forward or rewind mode EE [>>> EE]: Output video and audio signals received from other equipment. *PB [>>> PB]: The unit enters playback mode and outputs a playback video signal. Audio signals are muted.
	STOP [>> STOP]: Operations when in stop mode EE [>>> EE]: Output video and audio signals received from other equipment. *PB [>>> PB]: The unit enters playback mode and outputs a still picture.
	STANDBY OFF [>> STBY OFF]: Operations when in standby off mode EE [>>> EE]: Output video and audio signals received from other equipment. *PB [>>> PB]: The unit enters playback mode and outputs a still picture.

OPERATIONAL FUNCTION [Operational]: Operation settings		Description of settings
LOCAL ENABLE [> Local ENA]: Select which of the recording/playback control buttons (PREV, PLAY, NEXT, STOP, and REC) operate when the control mode selector is set to "REMOTE."		ALL DISABLE [>> All DIS]: All of the recording/playback control buttons are disabled. * STOP [>> STOP]: Only the STOP button is enabled. ALL ENABLE [>> All ENA]: All of the recording/playback control buttons are enabled, and settings such as preroll time change or time data display selection are effective.
REC MODE [>REC mode]: Select the recording mode.		* NORMAL REC [>>Normal]: Normal recording. PRE ALARM REC [>>Pre Alarm]: Pre-alarm recording. CONT. REC [>>Cont. REC]: Continuous recording. INTERVAL REC [>>Interval]: Interval recording (settings required in next item, INTERVAL REC).
INTERVAL REC [>Interval REC]: Set the standby and recording intervals for interval recording.	INTERVAL [>>Int Time]: Set the standby interval for interval recording.	* 30 sec [>>>30 SEC]: 30 seconds 1 min [>>>1 MIN]: 1 minute. 5 min [>>>5 MIN]: 5 minutes. 10 min [>>>10 MIN]: 10 minutes.
	REC TIME [>>Rec Time]: Set the recording interval for interval recording.	* 0.5 sec [>>>0.5SEC]: 0.5 seconds. 1.0 sec [>>>1.0SEC]: 1.0 second. 1.5 sec [>>>1.5SEC]: 1.5 seconds. 2.0 sec [>>>2.0SEC]: 2.0 seconds.
REC INHIBIT [> REC INH]: Determine whether to prohibit recording.		* OFF [>> OFF]: Do not prohibit recording. ON [>> ON]: Prohibit recording. (The REC INHI indicator in the display section lights.)
SEARCH ENABLE [> Search ENA]: Select how the unit enters the search mode.		* DIAL DIRECT [>> DIAL]: Press the SEARCH button or, except during recording, turn the search dial. VIA SEARCH KEY [>> via KEY]: Press the SEARCH button.
MAX SRCH SPEED [> Max SRCH]: Specify the maximum search speed in search (shuttle) mode and F. FWD (fast forward)/REW (rewind) mode.	SHUTTLE [>> SHUTTLE]: Specify the maximum search speed in shuttle mode.	X60 [>>> X60]: Maximum 60 times normal speed * X32 [>>> X32]: Maximum 32 times normal speed X16 [>>> X16]: Maximum 16 times normal speed
	F. FWD/REW [>> F. FWD/REW]: Specify the maximum search speed in F. FWD/REW mode. ^{a)}	MAX [>>> MAX]: No maximum search speed is specified. * X85 [>>> X85]: Maximum 85 times normal speed X60 [>>> X60]: Maximum 60 times normal speed X32 [>>> X32]: Maximum 32 times normal speed Note When this item is set to MAX, the playback video signal is muted.
	JOG RESPONSE [>JOG dial]: Set the search speed corresponding to number of search dial rotations in jog mode.	TYPE1 [>>type 1]: Search speed varies linearly over the range -1 to +1 times normal speed. TYPE2 [>>type 2]: Search speed varies in stepwise manner over the range -3 to +3, as shown in "TYPE2" ^{b)} in figure below. (In the ±1 speed section, speed does not vary, regardless of search dial rotations.) TYPE3 [>>type 3]: Search speed varies linearly over the range -3 to +3, as shown in "TYPE3" ^{c)} in figure below.
PREROLL TIME [> Preroll]: Set the preroll time.		15 SEC [>> 15 sec] to 0 SEC [>> 0 sec]: The preroll time can be set in one-second increments to between 0 and 15 seconds. A preroll time of at least 5 seconds is recommended when using this unit for editing. When an editing control unit such as the PVE-500 has been connected, this setting is disabled and the setting on the editing control unit is in effect. Operations such as the preroll time setting and the time data switching operation are also performed on the editing control unit. Factory default setting: 5 SEC [>> 5 sec]
AFTER CUE-UP [> After CUE]: Select the operating mode following cue-up.		* STOP [>> STOP]: Stop mode STILL [>> STILL]: Output still pictures in search mode.

OPERATIONAL FUNCTION [Operational]: Operation settings	Description of settings
<p>PLAY START [> PLAY start]: Set the timing for switching from stop mode to playback mode.</p> <p>In an editing system including an editing control unit such as the PVE-500, you can adjust this setting so that the delay before switching to playback mode is the same on all the decks of the editing system. It is then no longer necessary to synchronize the decks for editing, and the preroll time can be shortened.</p>	<p>16 FRAME DELAY [>> 16 delay] to 4 FRAME DELAY [>> 4 delay]:</p> <p>The larger the numerical value, the longer the delay.</p> <p>Factory default setting: 5 FRAME DELAY [>> 5 delay] (for DSR-DR1000A) or 4 FRAME DELAY [>> 4 delay] (for DSR-DR1000AP)</p>

a) F.FWD: PLAY button and NEXT button pressed at same time
REW: PLAY button and PREV button pressed at same time



DISPLAY CONTROL [Display]: Settings related to indications on the monitor and the unit	Description of settings
<p>CHARA. DISPLAY [> Chara disp]: Determine whether or not to output text (such as time code values) from the SUPER connector.</p>	<p>OFF [>> OFF]: Do not output text. (In spite of this setting, pressing the MENU button causes menu text to be output.)</p> <p>*ON [>> ON]: Output text.</p>
<p>CHARA. POSITION [> Chara pos]: Set the position of text superimposed on output from the SUPER connector to the monitor.</p>	<p>Use the cursor/clip operation buttons in the menu control section to adjust the text position while watching the monitor screen.</p> <p>To return to level 1 of the setup menu, press the MENU button.</p>
<p>CHARA. TYPE [> Chara type]: Set the type of characters in text superimposed on output from the SUPER connector to the monitor.</p>	<p>Make the following settings while watching the monitor screen.</p> <p>*WHITE (WITH BKGD) [>> White]: White characters on black background</p> <p>BLACK (WITH BKGD) [>> Black]: Black characters on white background</p> <p>WHITE/OUTLINE [>> W/outline]: White characters with black outline</p> <p>BLACK/OUTLINE [>> B/outline]: Black characters with white outline</p>
<p>CHARA. VSIZE [> Chara size]: Determine the vertical size of characters such as time code output from the SUPER connector for superimposed display on the monitor.</p>	<p>Make the selection while watching the monitor screen.</p> <p>*X1 [>> X1]: Standard size</p> <p>X2 [>> X2]: 2 times standard size</p>
<p>DISPLAY INFO [> DISP info]: Select information superimposed on output from the SUPER connector to the monitor.</p>	<p>*TIME DATA & STATUS [>> Time&STA]: Time data and operating mode indications</p> <p>TIME DATA & UB [>> Time&UB]: Time data selected using the COUNTER SELECT button, and user bit data (When user bit data is selected using the COUNTER SELECT button, user bit data and time code are shown.)</p> <p>TIME DATA & CNT [>> Time&CNT]: Time data selected using the COUNTER SELECT button, and CNT value (When CNT is selected using the COUNTER SELECT button, CNT value and time code are shown.)</p> <p>TIME DATA & TIME [>> Time&Time]: Time data and VITC</p> <p>TIME DATA ONLY [>> Time]: Time data only</p> <p>REC DATE & TIME [>> REC Date]: The time data selected with the COUNTER SELECT button is shown in the time counter display, and the date and time of recording are shown on the monitor screen.</p>

DISPLAY CONTROL [Display]: Settings related to indications on the monitor and the unit	Description of settings
SUB STATUS [> Sub status]: Select supplementary status information superimposed on output from the SUPER connector to the monitor.	*OFF [>> OFF]: Nothing of supplementary status information TC MODE [>> TC mode]: Indications of the operating mode of internal time code generator REMAIN [>> Remain]: Remaining capacity of the tape CLIP NAME [>> Clp Name]: The name of the clip which is being played back or recorded. AUDIO MIXING [>> Aud Mix]: Indications of input audio mixing ALL [>> ALL]: All of the above-mentioned items of supplementary status information <i>For details of supplementary status information displayed on the monitor when a setting other than OFF is selected, see "Displaying Supplementary Status Information" on page 76.</i>
MENU DISPLAY [> Menu DISP]: Set the type of characters in menu text superimposed on output from the SUPER connector to the monitor.	Make the following settings while watching the monitor screen. *WHITE (WITH BKGD) [>> White]: White characters on black background BLACK (WITH BKGD) [>> Black]: Black characters on white background WHITE/OUTLINE [>> W/outline]: White characters with black outline BLACK/OUTLINE [>> B/outline]: Black characters with white outline
PEAK HOLD [> Peak hold]: Set the peak hold time for the audio level meters.	1.5 SEC [1.5 sec] to OFF [>> OFF]: Set the peak hold time in the range of OFF (no peak hold) to 1.5 seconds in 0.1 second steps. Factory default setting: OFF [>> OFF]
OVER DISP HOLD [> Hold OVER]: Determine whether or not to hold the OVER indication display on the audio level meters once the indications light.	*OFF [>> OFF]: Do not hold the OVER indication display. ON (HOLD) [>> ON]: Hold the OVER indication display. Note With ON selected, once the display is held it will remain held unless you change the setting to OFF.
BRIGHTNESS [> Brightness]: Set the brightness of front panel indicators.	Set brightness as a percentage of the maximum. 100 % [>> 100%] *75 % [>> 75%] 50 % [>> 50%]
ALARM [> ALARM]: Determine whether alarm messages are issued or not.	OFF [>> OFF]: Alarm messages are not issued. *ON [>> ON]: Alarm messages are issued.
REF ALARM [> REF ALARM]: Determine whether alarm messages related to reference video signal are issued or not.	*OFF [>> OFF]: Alarm messages are not issued. ON [>> ON]: Alarm messages are issued.

TIME CODE [Time code]: Settings related to the time code generator	Description of settings
<p>TC MODE [> TC mode]: Determine the time code to use: internal time code using a preset initial value, regenerated internal time code (locked to time code read from tape), or external time code.</p>	<p>*INT PRESET [>> PRESET]: Use internal time code with a preset initial value.</p> <p>INT REGEN [>> REGEN]: Use internal time code locked to time code read from tape.</p> <p>EXT REGEN [>> EXT-REG]: Use external time code selected as follows.</p> <ul style="list-style-type: none"> • When TC is selected External time code input to the TC IN connector • When VITC is selected The VITC time code present in the input video signal <p>EXT PRESET [>>EXT-PRS]: External time code can be preset in the internal time code generator.</p> <p>Note When the selected input mode is i.LINK (the i.LINK indicator is lit in the INPUT signal display section), setting this item to EXT REGEN causes the internal time code generator to automatically synchronize with the external time code input to the unit via the i.LINK interface.</p>
<p>RUN MODE [> RUN mode]: Select the advancement (RUN) mode of the time code generator.</p>	<p>*FREE RUN [>> FREE RUN]: Time code generator keeps running.</p> <p>REC RUN [>> REC RUN]: Time code generator only runs while recording.</p> <p>Note Set to FREE RUN when carrying out editing with an editing control unit. With the REC RUN setting, editing will not be carried out correctly.</p>
<p>(For DSR-DR1000A only)</p> <p>DF MODE [> DF mode]: Select whether the time code generator and time counter operate in drop frame mode or non-drop frame mode. Normally select drop frame mode to keep in synchronization with real time. The non-drop frame mode is useful for example when using computer graphics, and working on a frame count basis.</p>	<p>*ON (DF) [>> ON (DF)]: Drop frame mode</p> <p>OFF (NDF) [>> OFF (NDF)]: Non-drop frame mode</p>
<p>TC SELECT [> TC select]: Determine which to display in the time counter display, TC or VITC.</p>	<p>VITC [>> VITC]: Display VITC.</p> <p>*TC [>> TC]: Display TC.</p>
<p>VITC [> VITC]: Determine whether to record the internally generated time code as VITC.</p>	<p>OFF [>> OFF]: Do not record the internally generated time code as VITC. (VITC present in the input video signal is recorded unchanged.)</p> <p>*ON [>> ON]: Record the internally generated time code as VITC.</p>
<p>TCG REGEN [> TCG regen]: Select the signal to be regenerated when the time code generator is in the regeneration mode (i.e., when the TC MODE menu item is set to INT REGEN or EXT REGEN).</p>	<p>*TC & UB [>> TC & UB]: Both the time code and user bits are regenerated.</p> <p>TC [>> TC]: Only the time code is regenerated.</p> <p>UB [>> UB]: Only the user bits are regenerated.</p>
<p>UB BINARY GP. [> Binary Gp.]: Select the user bit binary group flag of the time code generator.</p> <p>Note When the TC MODE menu item is set to EXT REGEN, the user-bit binary group flag setting follows the setting on the time code input to this unit.</p>	<p>*000: NOT SPECIFIED [>> 000]: Character set not specified</p> <p>001: ISO CHARACTER [>> 001]: 8-bit characters conforming to ISO 646 and ISO 2022</p> <p>010: UNASSIGNED-1 [>> 010]: Undefined</p> <p>011: UNASSIGNED-2 [>> 011]: Undefined</p> <p>100: UNASSIGNED-3 [>> 100]: Undefined</p> <p>101: PAGE/LINE [>> 101]: Multiplex</p> <p>110: UNASSIGNED-4 [>> 110]: Undefined</p> <p>111: UNASSIGNED-5 [>> 111]: Undefined</p>

TIME CODE [Time code]: Settings related to the time code generator	Description of settings
VITC POS SEL-1 [> VITC pos-1]: Select a line to insert the VITC in. Note You can insert the VITC signal in two places. To insert it in two places, set both this item and also VITC POS SEL-2.	(For DSR-DR1000A) 20 LINE [>> 20 line] to 12 LINE [>> 12 line]: Select any line from 12 to 20. Factory default setting: 16 LINE [>> 16 line]
	(For DSR-DR1000AP) 22 LINE [>> 22 line] to 9 LINE [>> 9 line]: Select any line from 9 to 22. Factory default setting: 19 LINE [>> 19 line]
VITC POS SEL-2 [> VITC pos-2]: Select a line to insert the VITC in. Note You can insert the VITC signal in two places. To insert it in two places, set both this item and also VITC POS SEL-1.	(For DSR-DR1000A) 20 LINE [>> 20 line] to 12 LINE [>> 12 line]: Select any line from 12 to 20. Factory default setting: 18 LINE [>> 18 line]
	(For DSR-DR1000AP) 22 LINE [>> 22 line] to 9 LINE [>> 9 line]: Select any line from 9 to 22. Factory default setting: 21 LINE [>> 21 line]
VITC OUTPUT [> VITC out]: Select the time code to be output as VITC.	OFF [>> OFF]: Do not output VITC. TC [>> TC]: Output TC after converting it into VITC. *VITC [>> VITC]: Output VITC.
EE OUT PHASE [> EE out]: Determine the output phase for the LTC signal output from the TIME CODE OUT connector when recording time code and in STOP REC mode (forced EE mode).	*MUTE [>> mute]: Mute the output. THROUGH [>> through]: Output the time code input to the TIME CODE IN connector as it is. (See example configuration on page 71.) VIDEO INPUT PHASE [>> V input]: Output the time code with the same phase as the input video signal phase. (See example configuration on page 71.) VIDEO OUTPUT PHASE [>> V output]: Output the time code with the same phase as the output video signal phase. (See example configuration on page 72.)
MUTE IN SRCH [> Mute in SR]: Select whether to mute the output from the TC OUT connector in search (jog/shuttle) mode.	OFF [>> OFF]: Do not mute. *ON [>> ON]: Mute.

VIDEO CONTROL [Video]: Settings related to video control	Description of settings
INT VIDEO SG [> Video SG]: Select the test signal to be output from the internal test signal generator. When SG is selected using the VIDEO button in the video/audio input setting section, the internal test signal generator outputs the selected test signal. This signal can be recorded.	(For DSR-DR1000A) *75% COLOR BARS [>> 75% bars]: 75% color bar signal BLACK BURST [>> BB]: Black burst signal
	(For DSR-DR1000AP) *100% COLOR BARS [>> 100% bars]: 100% color bar signal 75% COLOR BARS [>> 75% bars]: 75% color bar signal BLACK BURST [>> BB]: Black burst signal
STD/NON-STD [> STD/N-STD]: Select the STD or NON-STD mode in accordance with the composite video or S-video input.	*FORCED STD [>> STD]: The STD mode is always used (forced STD mode). FORCED NON-STD [>> NON-STD]: Use this setting when the input video signal is unstable (forced NON-STD mode).
OUT REF SEL [> Out Ref]: Select the reference video signal to use.	*REF VIDEO [>> REF]: Use the signal input to a REF. VIDEO IN connector as the reference video signal. The input video signal to be edited is required to be in synchronization with the reference video signal. INPUT VIDEO [>> INPUT]: Use the input video signal selected with the VIDEO button in the video/audio input setting section.
(For DSR-DR1000A only) SETUP REMOVE [> Setup rmv]: Determine whether or not to remove black setup (7.5 IRE) from input analog video signals when converting them into digital signals.	*OFF [>> OFF]: Do not remove black setup. ON (REMOVE) [>> ON]: Remove black setup.

VIDEO CONTROL [Video]: Settings related to video control		Description of settings
(For DSR-DR1000A only) SETUP ADD [> Setup add]: Determine whether or not to add black setup to analog video output signals.		*OFF [>> OFF]: Do not add black setup. ON (ADD) [>> ON]: Add black setup.
(For DSR-DR1000A only) CC(F1) BLANK [> CC1 blank]: Select whether to mute the closed caption signal to be superimposed on the 1st field of the output video signal.		*OFF [>> OFF]: Do not mute. ON [>> ON]: Mute.
(For DSR-DR1000A only) CC(F2) BLANK [> CC2 blank]: Select whether to mute the closed caption signal to be superimposed on the 2nd field of the output video signal.		*OFF [>> OFF]: Do not mute. ON [>> ON]: Mute.
WIDE MODE [> Wide mode]: Determine whether to retain wide-screen aspect ratio information accompanying video being recorded or played back.		*AUTO [>> Auto]: When video being recorded or played back is accompanied by wide-screen aspect ratio information, retain the information. OFF [>> OFF]: Ignore wide-screen aspect ratio information. ON [>> ON]: Whenever recording or playing back video, retain wide-screen aspect ratio information.
ESR MODE [> ESR mode]: Select whether to enable the edge subcarrier reducer (ESR).		*OFF [>> OFF]: Do not enable. ON [>> ON]: Enable. When playing back a composite signal, set this to ON.
PROCESS CONTROL [> Proc ctrl]	C PHASE MODE [>> C Phas MD]: Select the phase rotation mode for chroma phase control. The effect of this setting applies to the output levels of all of the composite video, S-video, SDI and component video signals.	*U/V (COMPOSITE) [>>> Cmpst]: Select this setting when observing the composite video output level using a composite vectorscope. PB/PR (COMPONENT) [>>> Cmpnt]: Select this setting when observing the component video output level using a component vectorscope.
	ADJ RANGE [>> Adj range]: Select the variable range of the VIDEO and CHROMA gains.	*-3 to +3 (dB) [>>> -3/+3]: -3 dB to +3 dB WIDE [>>> wide]: $-\infty$ to +3 dB
	VIDEO GAIN [>> V gain]: Adjust the video output level.	000 [>>> 000] to 3FF [>>> 3FF] Factory default setting: *200H
	CHROMA GAIN [>> C gain]: Adjust the chroma output level.	000 [>>> 000] to 3FF [>>> 3FF] Factory default setting: *200H
	CHROMA PHASE [>> C phase]: Adjust the chroma phase.	00 [>>> 00] to FF [>>> FF] Factory default setting: *80H
	(For DR1000A only) SETUP LEVEL [>> Setup lev]: Adjust the black setup level.	000 [>>> 000] to 3FF [>>> 3FF] Factory default setting: *200H
	(For DR1000A only) BLACK LEVEL [>> Black lev]: Adjust the black level.	000 [>>> 000] to 3FF [>>> 3FF] Factory default setting: *200H
	(For DSR-DR1000AP only) INPUT BLANK [> Input blank]	LINE 335 [>> Line 335]: Switch blanking on or off for the 335th line of the input video signal.

VIDEO CONTROL [Video]: Settings related to video control	Description of settings
SRCH CONTROL [>SrcH ctrl]: Select the frame display style during high-speed searching.	* BLEND [>>blend]: Display frames blended with each other. * CLEAR [>>clear]: Display frames independently with no noise.

AUDIO CONTROL [Audio]: Settings related to audio control	Description of settings
REC MODE [> REC mode]: Select the audio recording mode.	* 2 CHANNEL (48kHz) [>> 2 ch]: 2-channel, 48-kHz mode 4 CHANNEL (32kHz) [>> 4 ch]: 4-channel, 32-kHz mode
INPUT ARRANGE [> Input arng]: Make settings for input audio mixing. Note When, in 4-channel mode, analog audio is selected for all four channels (channels 1/2 and 3/4), the same analog audio signals are recorded on channels 1 and 3 and on channels 2 and 4, respectively. That is, the analog signal recorded on channel 1 is also recorded on channel 3 and the analog signal recorded on channel 2 is also recorded on channel 4. You can adjust the audio level on each of the four channels separately using the REC/PB LEVEL control knobs with the VARIABLE switch set to REC.	Set the channels on which to record the input audio signals as follows. (1) Use the cursor/clip operation buttons to move the cursor and the SET button to toggle the setting on and off. (2) To save the settings, press the MENU button to return to the previous screen, then press the SET button. Example settings: <div style="text-align: center;"> </div> ① Input audio channel 1 ("in1") is recorded on audio channel 1 ("ch1") on disk. ② Input audio channels 2 and 4 ("in2" and "in4") are recorded mixed on audio channel 2 ("ch2") on disk. ③ Input audio channel 4 ("in4") is recorded on audio channel 3 ("ch3") on disk. ④ Input audio channel 3 ("in3") is recorded on audio channel 4 ("ch4") on disk.

LEVEL SELECT [> Level Sel]	REF LEVEL [>> REF Level]:	Description of settings
	Select the audio reference level (headroom) for recording.	* -20 dB [>>> -20dB] (factory default setting for DSR-DR1000A) * -18 dB [>>> -18dB] (factory default setting for DSR-DR1000AP) -16 dB [>>> -16dB] -12 dB [>>> -12dB]
	CH1 IN LEVEL [>> CH1 input]: Select the audio level setting according to the audio level of the signal input to the AUDIO IN 1/3 connector.	* +4 dB [>>> +4dB] 0 dB [>>> 0dB] -3 dB [>>> -3dB] (for DSR-DR1000AP only) -6 dB [>>> -6dB]
	CH2 IN LEVEL [>> CH2 input]: Select the audio level setting according to the audio level of the signal input to the AUDIO IN 2/4 connector.	* +4 dB [>>> +4dB] 0 dB [>>> 0dB] -3 dB [>>> -3dB] (for DSR-DR1000AP only) -6 dB [>>> -6dB]
	OUTPUT LEVEL [>> Out Level]: Select the analog audio output reference level.	* +4 dB [>>> +4dB] 0 dB [>>> 0dB] -3 dB [>>> -3dB] (for DSR-DR1000AP only) -6 dB [>>> -6dB]

AUDIO CONTROL [Audio]: Settings related to audio control	Description of settings
INT AUDIO SG [> Audio SG]: Select the operation of the internal audio test signal generator.	SILENCE [>> silence]: Silent signal *1kHz SINE [>> 1kHz]: 1-kHz, -20 dB FS (for DSR-DR1000A) or -18 dB FS (for DSR-DR1000AP) sine wave signal When you select SG (audio test signal) as the audio input in the video/audio input setting section on the front panel, the audio test signal generated by the internal audio test signal generator is input.
JOG CONTROL [> Jog ctrl]: Select whether to adjust the audio playback speed during slow playback.	OFF [>> OFF]: Do not adjust the audio playback speed. *ON [>> ON]: Adjust the audio playback speed.
SHUTTLE MUTE [> Shuttl mute]: Set the audio muting conditions during shuttle playback.	*OFF [>> OFF]: Not muted. CUEUP or PREROLL [>> CUEUP]: Muted during cue-up or preroll operations. FULL [>> FULL]: Muted in shuttle mode.
DV ATT [> DV PB ATT]: When playing back a clip recorded in consumer DV format, select whether to attenuate the audio output level.	OFF [>> OFF]: Do not attenuate. *ON [>> ON]: Attenuate.

INTERFACE SELECT [Interface]: Settings related to external interfaces	Description of settings
VIDEO OUTPUT [> Video Out]: Select the four format of analog video signals to be output from the four VIDEO OUT connectors (Y/CPST, R-Y/S-C, B-Y/S-C and SUPER). Note When this menu item is set to Y-R, B, the SUPER connector outputs the B-Y signal. In this case, changing the setting of an internal switch allows the text data for superimposition on the monitor screen to be output from the right-hand REF. VIDEO IN connector (marked VR). For more information about this, consult your Sony dealer.	*COMPOSITE [>> Composite]: Composite video signals S-VIDEO [>> S-Video]: S-video (separated Y and C) and composite video signals Y-R, B [>> Y-R, B]: Y, R-Y and B-Y component video signals
AUDIO OUTPUT [> Audio Out]: Select the channels for audio output from the AUDIO OUT 1/3 and 2/4 connectors.	*1/2 CH [>> 1/2CH]: Output channel 1 to the AUDIO OUT 1/3 connector and channel 2 to the AUDIO OUT 2/4 connector. 3/4 CH [>> 3/4CH]: Output channel 3 to the AUDIO OUT 1/3 connector and channel 4 to the AUDIO OUT 2/4 connector.
REMOTE I/F [> Remote I/F]: When remote-controlling this unit with the control mode selector set to REMOTE, select either the REMOTE IN (R)/OUT (P) connector or i S400(i.LINK) connector for connecting a remote control unit.	i.LINK [>> i.LINK]: Device connected to i S400(i.LINK) connector. *9PIN [>> 9PIN]: Device connected to REMOTE IN(R) connector. Do not use REMOTE OUT(P) connector. 9PIN(PARA) [>> 9P Para]: Make cascade connection between multiple units of this recorder using the REMOTE IN(R) and REMOTE OUT(P) connectors, controlling all recorders remotely from one recorder. 9PIN(DUAL) [>> 9P Dual]: Control recording remotely from device connected to REMOTE IN(R) connector. Control playback remotely from device connected to REMOTE OUT(P) connector.
PC REMOTE [> PC REMOTE]: Select whether or not to enable control from a computer	*DISABLE [>> DISABLE]: Disable. ENABLE [>> ENABLE]: Enable.

SETUP BANK OPERATION [Setup Bank]: Settings related to menu bank operations	Description of settings
Menu banks This unit allows four different complete sets of menu settings to be saved in what are termed "menu banks" numbered 1 to 4. Saved sets of menu settings can be recalled for use as required.	
RECALL BANK1 [> Recall 1]: Recall menu settings from menu bank 1.	(1) Select the bank you want to recall, then press the ⇨ (OUT) button. Message "RECALL OK?" appears. (2) To recall, press the SET button. To quit recalling, press the RESET button.
RECALL BANK2 [> Recall 2]: Recall menu settings from menu bank 2.	
RECALL BANK3 [> Recall 3]: Recall menu settings from menu bank 3.	
RECALL BANK4 [> Recall 4]: Recall menu settings from menu bank 4.	
SAVE BANK 1 [> Save 1]: Save current menu settings to menu bank 1.	(1) Select the bank you want to save, then press the ⇨ (OUT) button. Message "SAVE OK?" appears. (2) To save, press the SET button. To quit saving, press the RESET button.
SAVE BANK 2 [> Save 2]: Save current menu settings to menu bank 2.	
SAVE BANK 3 [> Save 3]: Save current menu settings to menu bank 3.	
SAVE BANK 4 [> Save 4]: Save current menu settings to menu bank 4.	
MENU GRADE [Menu grade]: Selection of menu items to be displayed	Description of settings
Determine whether to display basic items only or both basic and enhanced items on the monitor screen and in the time counter display when using the menu.	*BASIC [> Basic]: Display basic items only. ENHANCED [> Enhanced]: Display both basic and enhanced items.

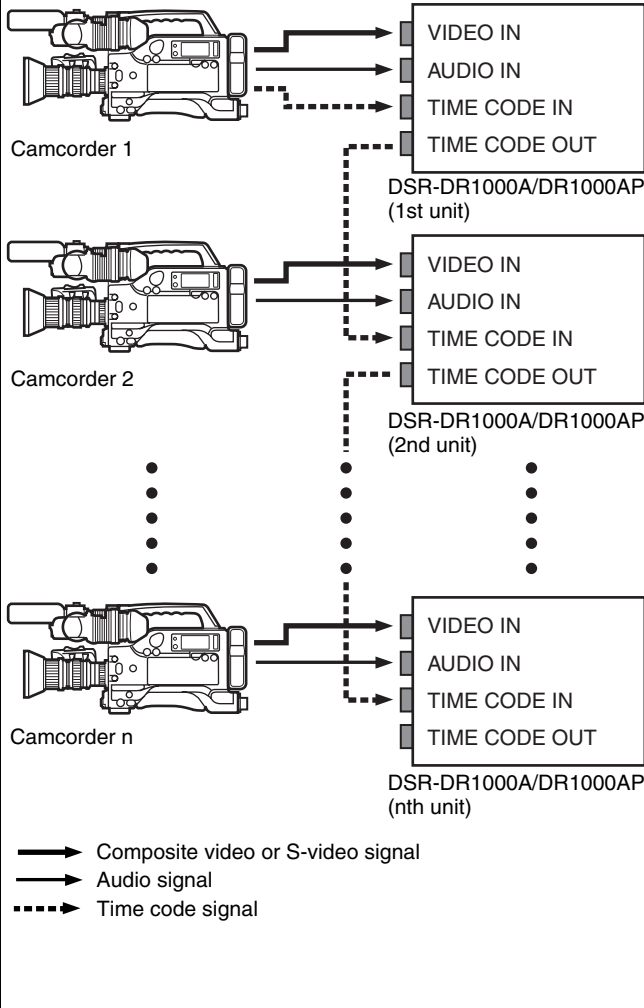
EE OUT PHASE settings for time code output

Use the following as reference information when setting the EE OUT PHASE menu item (*see page 66*).

THROUGH mode

In this mode, the LTC signal is output with the phase synchronized with the input time code signal. This mode is appropriate when recording signals from multiple devices on a number of recorders.

When the camcorder is in genlock mode, the time code precision is ± 0 frames. When the camcorder is not in genlock mode, it is ± 1 frame.

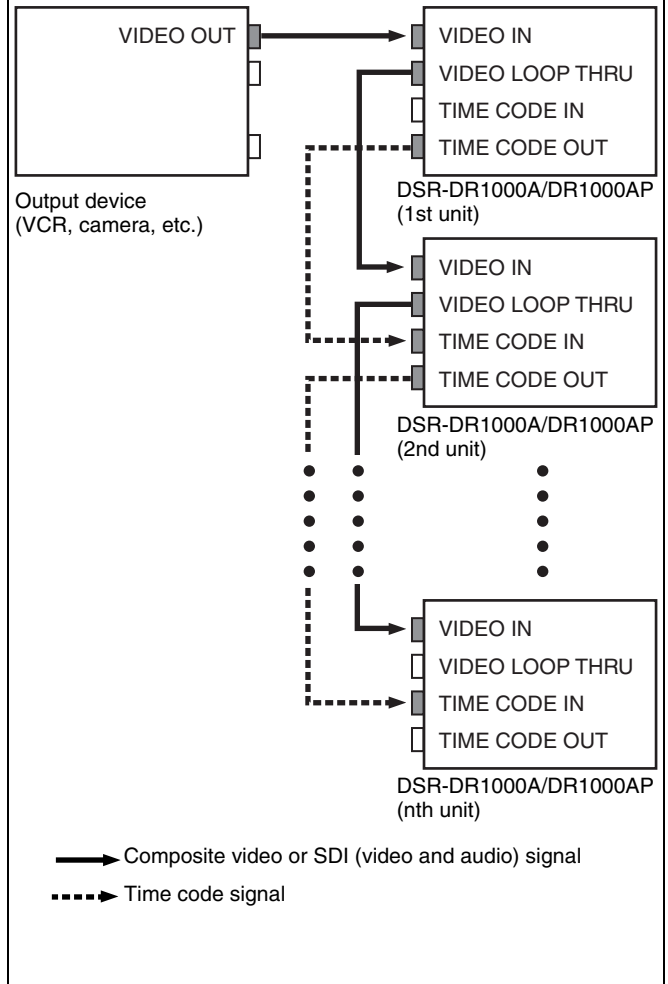


VIDEO INPUT PHASE mode

The time code output signal is synchronized with the input video signal.

This mode is appropriate when the output from a single device is recorded on a number of recorders. The connections are loop-through connections.

In this mode, the same time code is recorded on all of the recorders 1 to n.

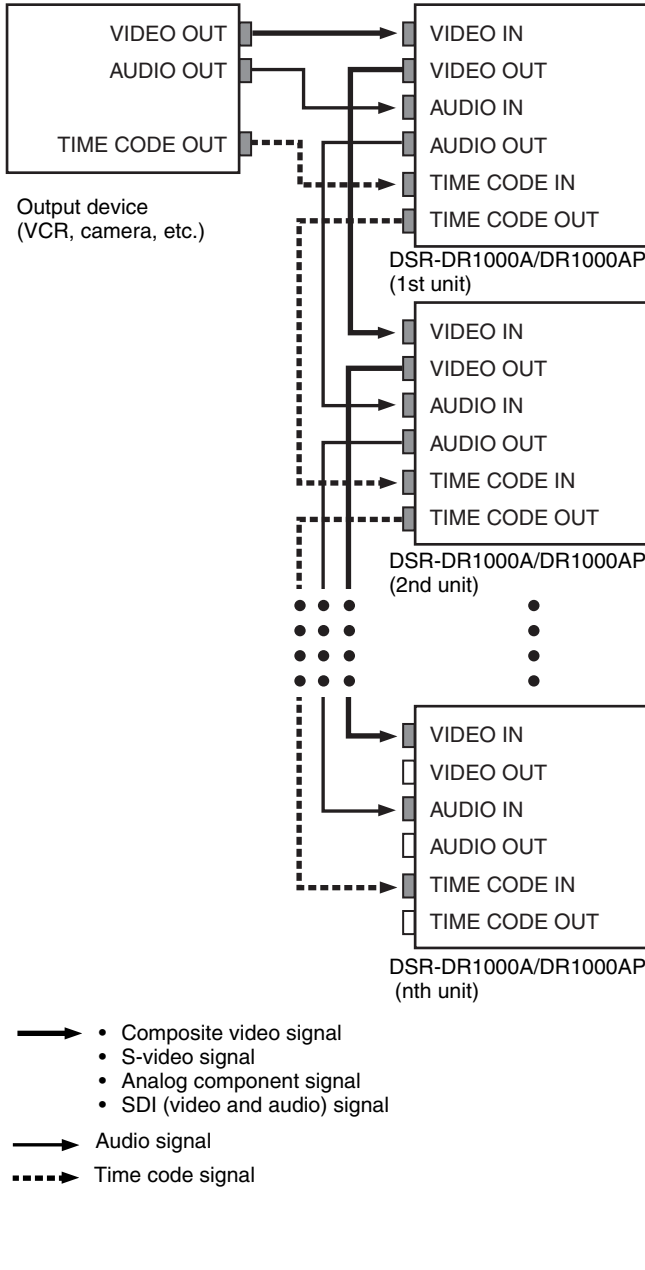


VIDEO OUTPUT PHASE mode

The time code output signal is synchronized with the output video signal.

This mode is appropriate when outputting signals from a single device to a number of recorders using separate cables for video, audio, and time code.

In this mode, the same time code is recorded on all of the recorders 1 to n.



Changing Menu Settings

This section explains how to change menu settings.

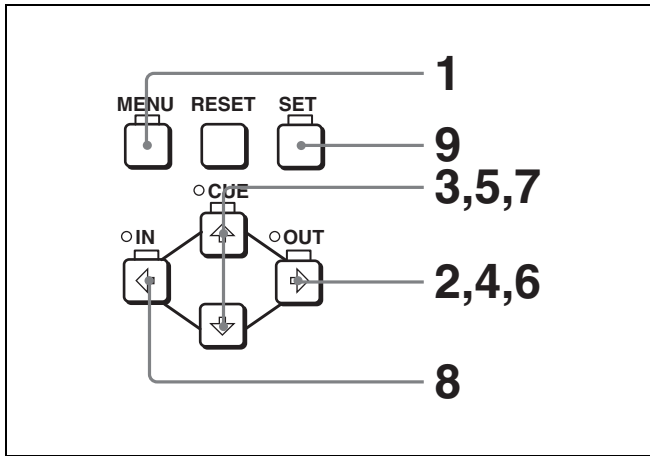
Buttons Used to Change Settings

Use the following buttons in the menu control section to change the menu settings.

Menu control buttons	Functions
MENU button	<ul style="list-style-type: none"> Opens the menu and launches menu control mode. Closes the menu and exits menu control mode.
↑ (CUE) and ↓ buttons	<p>These buttons move the highlighted cursor up and down within the current level to select an item or setting. Hold down one of these buttons to make the highlighted cursor move continuously.</p>
⇐ (IN) and ⇒ (OUT) buttons	<ul style="list-style-type: none"> Press the ⇒ (IN) button to go up one level. Press the ⇐ (OUT) button to go down one level. <p>Hold down one of these buttons to make the highlighted cursor move continuously.</p>
RESET button	<ul style="list-style-type: none"> Returns the setting to the factory default setting. Sends a negative response to prompts on the monitor screen.
SET button	<ul style="list-style-type: none"> Saves the new setting in memory. Sends a positive response to prompts on the monitor screen.

Changing the Settings of Basic Items

The factory default setting is to display only the basic items. To change the settings of basic items proceed as follows.



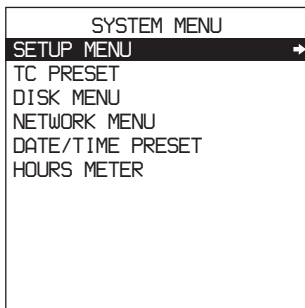
1 Press the MENU button in the menu control section.

The menu selection level display appears on the monitor.

In the figure below, “SETUP MENU” is selected (shown in reverse video).

The time counter display of this unit shows only the currently selected item. When the item name is long, it is abbreviated.

Menu selection level display



Monitor screen

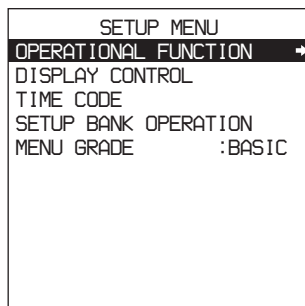
Setup menu

Time counter display

2 With “SETUP MENU” selected, press the ⇒ (OUT) button.

This displays all items on menu level 1.

Level-1 menu display



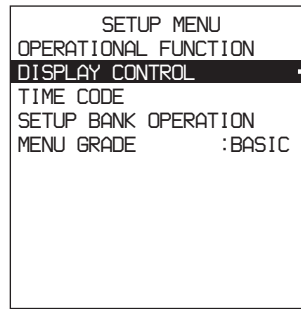
Monitor screen

Operational

Time counter display

3 Press the ⇒ (OUT) or ↓ button to select the required item.

Example: Display when “DISPLAY CONTROL” is selected



Monitor screen

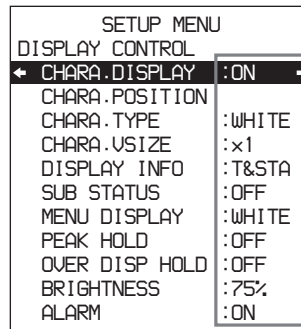
Display

Time counter display

4 Press the ⇒ (OUT) button.

This displays menu level 2 for the menu item selected in step 3.

Example: Level-2 display for “DISPLAY CONTROL”



Monitor screen

> Chara disp

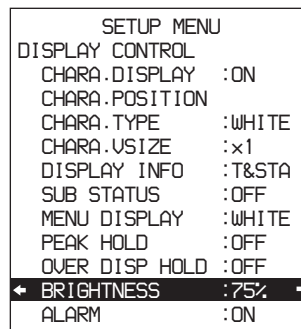
Time counter display

Current settings

5 Press the ↑ (CUE) or ↓ button to select the item whose setting you wish to change.

For menu items on level 3, press the ⇒ (OUT) button to go to level 3, then press the ↑ (CUE) or ↓ button to select the item whose setting you wish to change.

Example: Display when “BRIGHTNESS” is selected



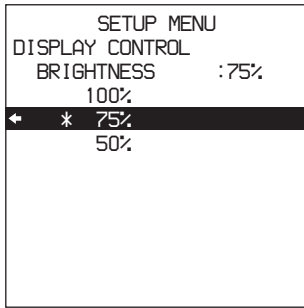
Monitor screen

> Brightness

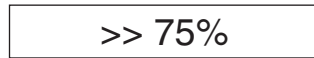
Time counter display

6 Press the ⇒ (OUT) button.

This displays all possible settings for the item selected in step 5.

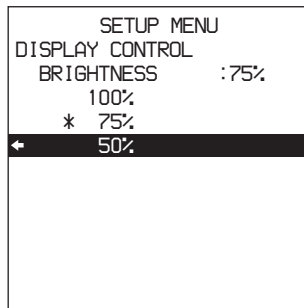


Monitor screen



Time counter display

- 7** Press the \downarrow or \uparrow (CUE) button to change the setting of the item.



Monitor screen



Time counter display

- 8** To change other settings, press the \leftarrow (IN) button to return to the previous screen, then repeat steps **5** to **7** as required.
- 9** When you have completed the settings, press the SET button.

The message "NOW SAVING..." appears on the monitor screen, and "Saving..." appears in the time counter display, while the new settings are saved in memory.

When the saving operation is completed, the monitor screen and time counter display return to their normal indications.

Notes

- If you power off the unit before saving operation is completed, settings may be lost. Wait until the saving is completed before powering off the unit.
- If, instead of pressing the SET button, you press the MENU button, the new settings are not saved. The message "ABORT !" appears on the monitor screen and "Abort !" in the time counter display for about 0.5 second, and the system exits the menus. To change more than one setting, be sure to press the SET button after making the settings.

Meanings of indications on the monitor screen

On-screen indication	Meaning
Right-pointing arrow (\Rightarrow) at the right of a menu item <i>See step 1 of the foregoing operating procedure.</i>	Pressing the \Rightarrow (OUT) button switches to the next lower menu level or to a setting selection screen.
Left-pointing arrow (\Leftarrow) at the left of a menu item <i>See step 4 of the foregoing operating procedure.</i>	Pressing the \Leftarrow (IN) button returns to the previous (higher) menu level.
Character string at the right of a menu item	Current setting of the menu item When shown with a colon (:): the current setting is the same as the factory default setting. <i>See step 4 of the foregoing operating procedure.</i> When shown with a raised dot (•): the current setting is different from the factory default setting. <i>See step 2 of the operating procedure in "Changing the Settings of Enhanced Items."</i>
An asterisk in a complete list of settings <i>See step 6 of the foregoing operating procedure.</i>	Factory default setting

Displaying Enhanced Items

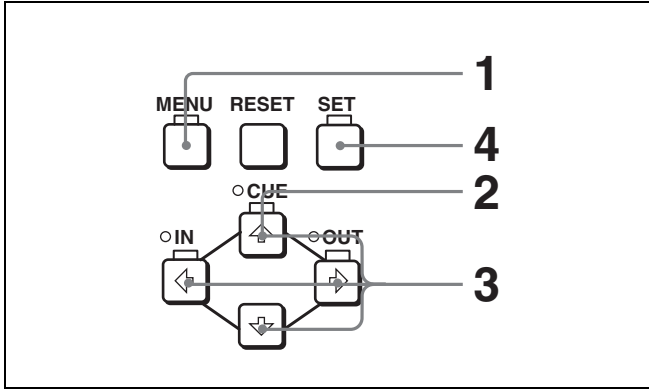
The factory default setting is not to display enhanced items.

To display enhanced items, set the MENU GRADE menu item (*see page 70*) to ENHANCED, following the procedure in the previous section "Changing the Settings of Basic Items." (In step **3**, first select "MENU GRADE," and next select "ENHANCED," then press the SET button to save the setting in memory.)

With this done, when you press the MENU button and the \Rightarrow (OUT) button to display the setup menu, all basic and enhanced items on menu level 1 appear.

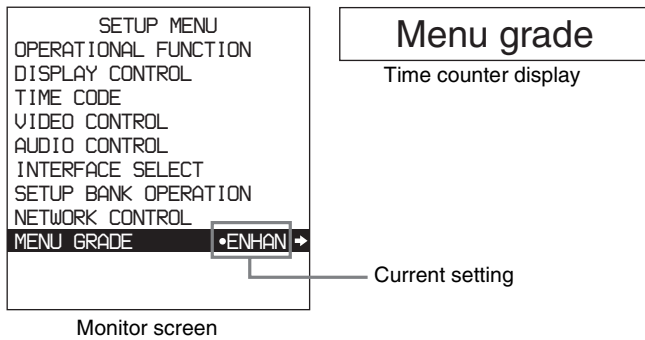
Changing the Settings of Enhanced Items

To change the settings of enhanced items, first carry out the procedure in the previous section "Displaying Enhanced Items," then proceed as follows.



- 1** Press the MENU button in the menu control section.
The menu selection level display appears on the monitor.
- 2** With “SETUP MENU” selected, press the ⇒ (OUT) button.
This displays all basic and enhanced items on menu level 1.

Level-1 menu display



- 3** Follow the same procedure as in steps **3** to **8** of the procedure in the section “Changing the Settings of Basic Items” (page 72) using the cursor/clip operation buttons to select an item and change its setting.
- 4** When you have completed the settings, press the SET button.
The message “NOW SAVING...” appears on the monitor screen, and “Saving...” appears in the time counter display, while the new settings are saved in memory.
When the saving operation is completed, the monitor screen and time counter display return to their normal indications.

Returning Menu Settings to Their Factory Default Settings

After making menu setting changes, to return settings to their factory default settings (setting initialization), use the following procedure.

To return a particular setting to its factory default setting

In the section “Changing the Settings of Basic Items” (page 72), carry out the procedure up to step **6**, then with the current setting displayed (in the example, if the factory default setting has been changed, the current setting will be 100% or 50%), proceed as follows.

- 1** Either press the RESET button or select the default setting using the ↑ (CUE) or ↓ button.
- 2** Press the SET button.
The setting returned to its factory default is saved in memory as the current setting.

To return all settings to their factory default settings

- 1** Press the MENU button in the menu control section.
The menu selection level display appears on the monitor screen.
- 2** Press the ⇒ (OUT) button to display level 1 of the setup menu.
- 3** Press the RESET button.
A message appears, to confirm whether or not you wish to return all settings to their factory default settings.

Monitor screen message	Message in the time counter display
INITIALIZE ALL ITEMS TO FACTORY PRESET VALLUES?	Init setup?

- 4** Press the SET button.
The message “NOW SAVING...” appears on the monitor screen, and “Saving...” appears in the time counter display, while the settings of all items are returned to their factory default settings. These factory default settings are saved in memory.

Note

If you power off the unit while settings are being saved, settings may not be correctly returned to their

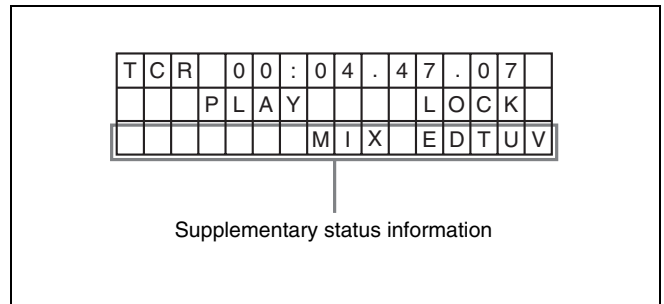
factory default settings. Wait until the saving is completed before powering off the unit.

To cancel the resetting operation

Instead of pressing the SET button, press the RESET button. The display returns to menu level 1, leaving the settings unchanged.

Displaying Supplementary Status Information

When you set the SUB STATUS menu item (*see page 64*) to other than OFF, you can view supplementary status information on the monitor screen below the operating mode display area.



The following items of supplementary status information are displayed depending on the setting of the SUB STATUS menu item.

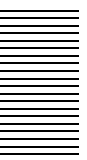
Setting of SUB STATUS menu item	Items of supplementary information displayed
TC MODE	Operating mode of the internal time code generator
REMAIN	Remaining capacity of the disk
CLIP NAME	Clip name
AUDIO MIXING	Setting for input audio mixing
ALL	All of the above items

The following tables show the on-screen indications of supplementary information and their meaning. In each table, the indications given in brackets such as [ASM] are the indications displayed when the SUB STATUS menu item is set to ALL.

For the display format when ALL is selected, see the next section.

When the SUB STATUS menu item is set to TC MODE:

On-screen indication	Meaning
INT PRST FREE [IP F]	The internal time code generator is operating in FREE RUN mode.
INT PRST REC [IP R]	The internal time code generator is operating in REC RUN mode.
INT REGEN-T&U [IRTU]	The internal time code generator is in synchronization with the playback time code (LTC) read from tape.



When the SUB STATUS menu item is set to TC MODE:

On-screen indication	Meaning
EXT LTC-T&U [ELTU]	The internal time code generator is in synchronization with the external time code (LTC) input to the unit and is generating the same time code value and user bit value as those of the external time code (regeneration).
EXT VITC-T&U [EVTU]	The internal time code generator is in synchronization with VITC present in the external video signal input to the unit and is generating the same time code value and user bit value as those of the external time code (regeneration).
EXT DVIN-T&U [EDTU]	The internal time code generator is in synchronization with the external time code input to the unit via the i.LINK (S400(i.LINK)) interface and is generating the same time code value and user bit value as those of the external time code (regeneration).
EXT DVIN. V-T&U [EDTU]	The internal time code generator is in synchronization with the external VITC input to the unit via the i.LINK (S400(i.LINK)) interface and is generating the same time code value and user bit value as those of the external time code (regeneration).

When the SUB STATUS menu item is set to REMAIN:

On-screen indication	Meaning
REMAIN 184 min	Remaining capacity of the disk in minutes. When the remaining capacity has not been calculated, "REMAIN --- min" appears.

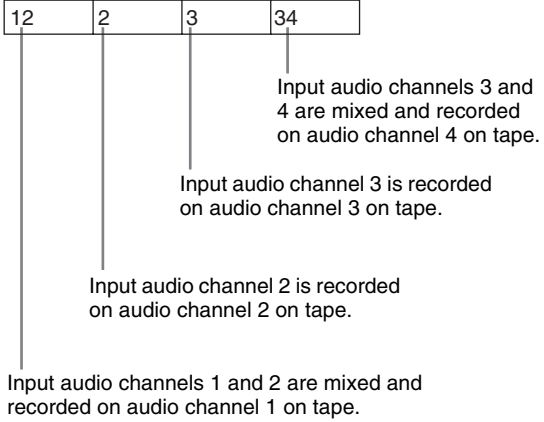
When the SUB STATUS menu item is set to CLIP NAME:

On-screen indication	Meaning
CLIP 00001	The name of the clip being recorded or played back.

When the SUB STATUS menu item is set to AUDIO MIXING:


On-screen indication	Meaning
1 2 3 4 [MIX]	Input audio channels selected for mixing 1 2 3 4: Input audio channels 1, 2, 3 and 4

Example display:



Display format of supplementary status information when the SUB STATUS menu item is set to ALL

All items of supplementary status information are displayed in the order shown below.



Setting for input audio mixing

Operating mode of the internal time code generator (The rightmost "V" appears when the VITC menu item (see page 65) is set to ON.)

Connections and Settings

Chapter

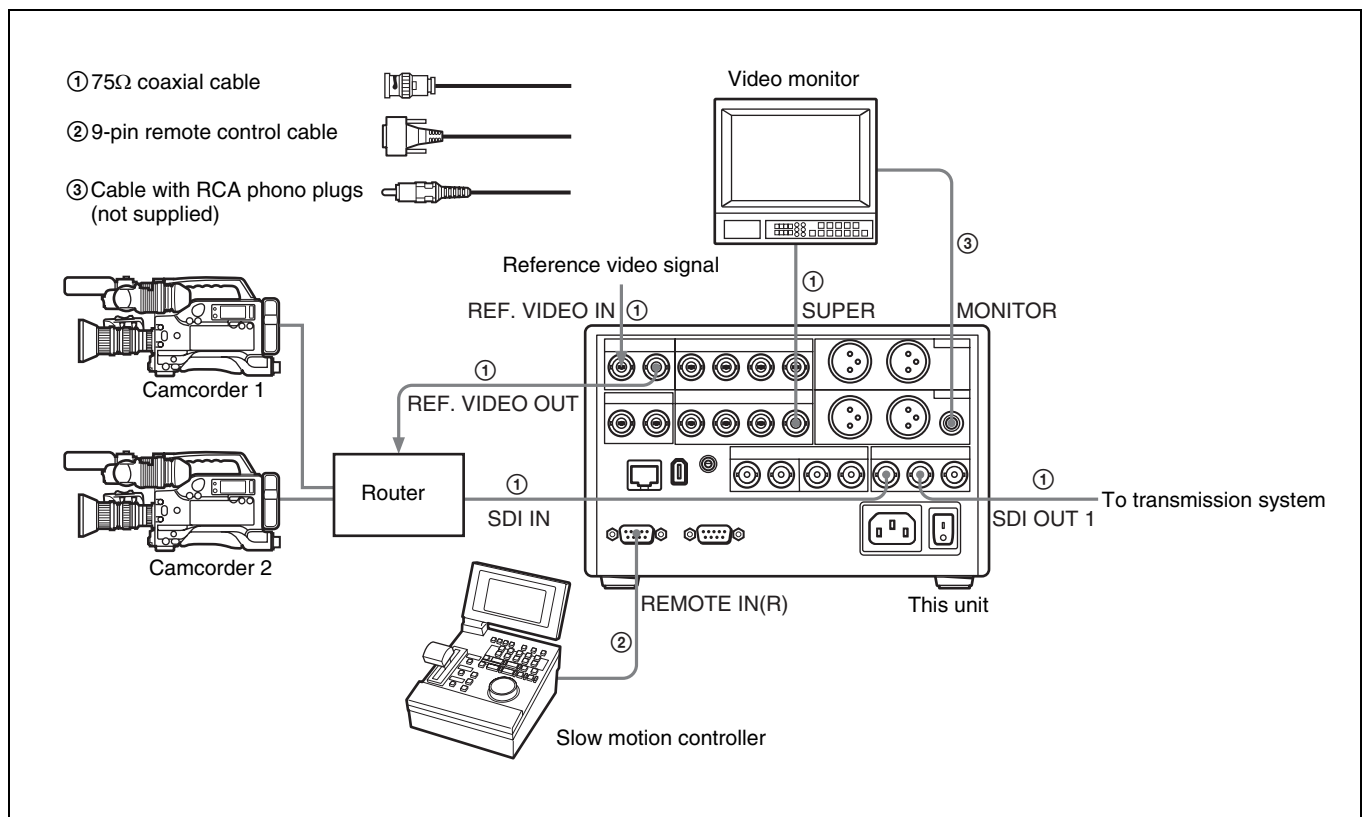
7

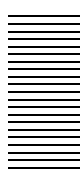
Note

Production of some of the peripherals and related devices described in this chapter has been discontinued. For advice about choosing devices, please contact your Sony dealer or a Sony sales representative.

Connections With Camera System (Event Recording)

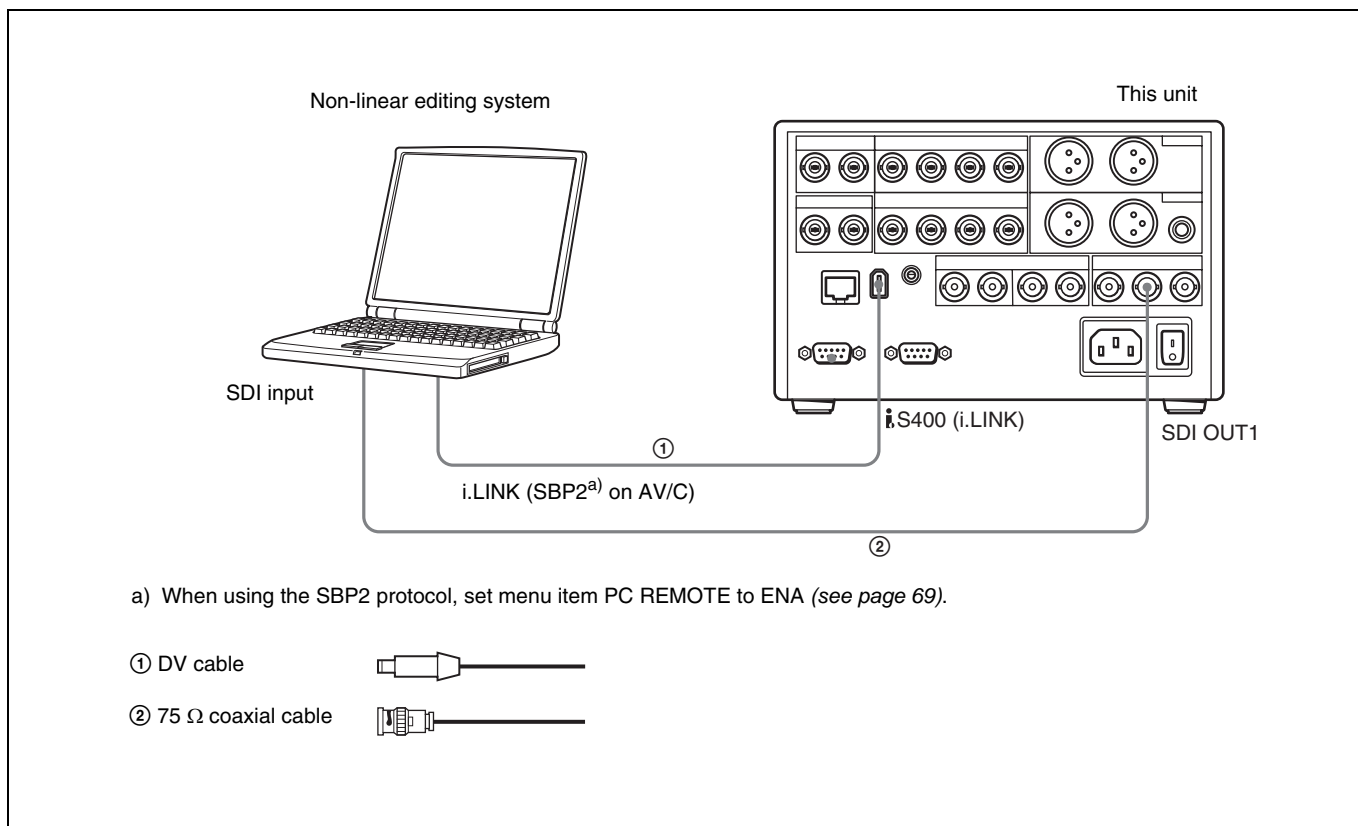
The figure below shows how to connect this unit to a multi-camera system to record sports and other events.





Connections to a Digital Non-Linear Editing System

The following figure shows a connection diagram to a non-linear editing system in which this unit serves as the feeder machine.



Settings on this unit

Switch/menu item	Setting
Control mode selector	REMOTE (REMOTE indicator lights.)
REMOTE I/F menu item (see page 69)	i.LINK

For details of video/audio input and audio mode settings, see "Settings for Recording" on page 30.

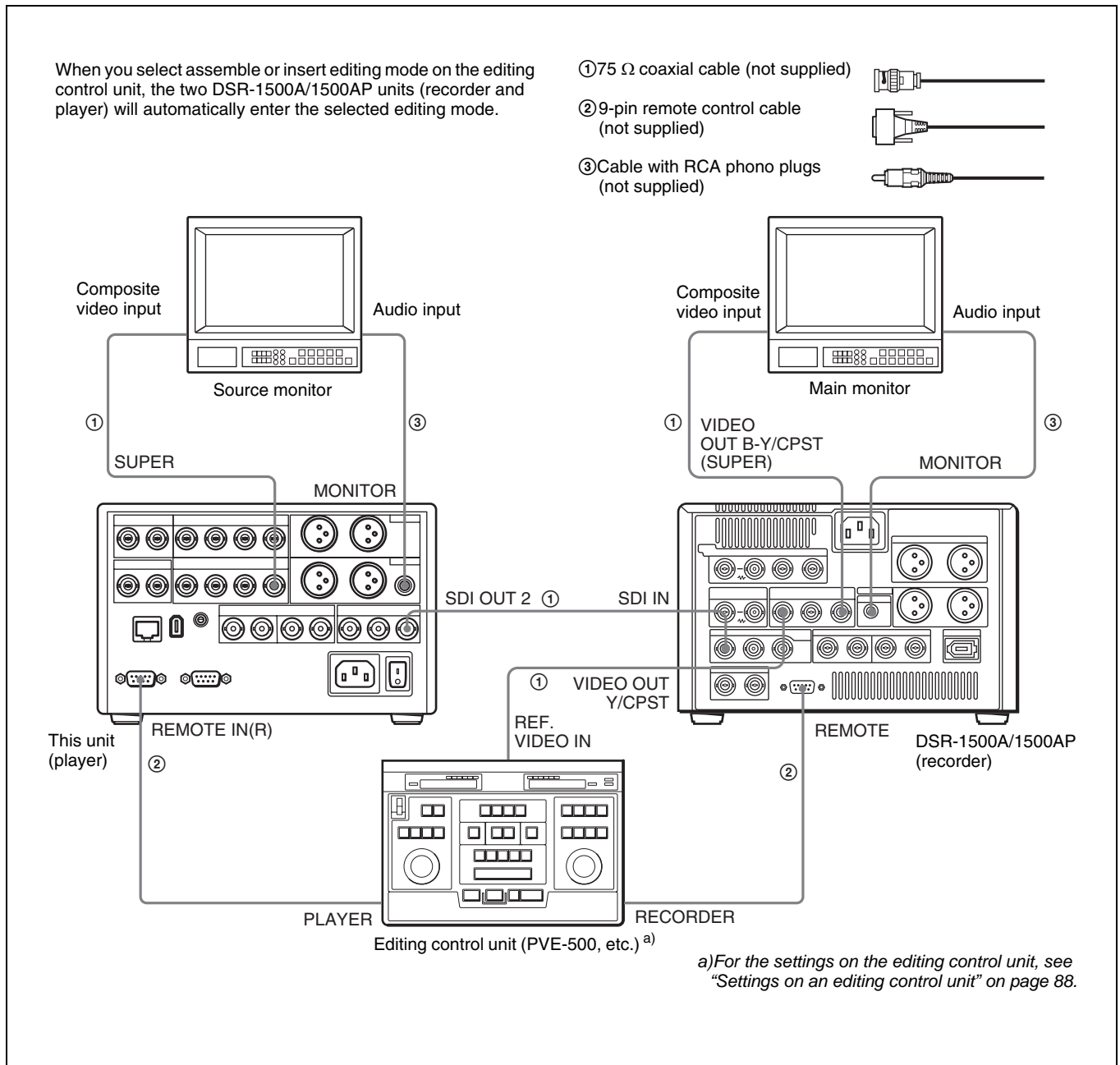
Connections for a Cut Editing System

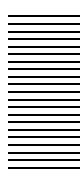
The following figure shows a cut editing system configuration that includes this unit and a DSR-1500A/1500AP unit to serve as the player and recorder.

For details of connecting devices other than this unit, refer to the instruction manual for each device.

Notes

- This application requires both of the DSR-1500A/1500AP units (recorder and player) to be fitted with the optional DSBK-1501 board.
- The DSR-1500A/1500AP units shown in the following figure are fitted with the optional DSBK-1501 and DSBK-1504/1504P boards.





Settings on the DSR-1500A/1500APs (recorder)

Switch/menu item	Setting
LOCAL/REMOTE switch	REMOTE (REMOTE indicator lights.)
DIGITAL OUTPUT menu item	SDI (SDI indicator lights.)
REMOTE I/F menu item	9PIN (9P indicator lights.)
REC FORMAT menu item	DVCAM (DVCAM indicator lights.)

Settings on this unit (player)

Switch/menu item	Setting
Control mode selector	REMOTE (REMOTE indicator lights)
REMOTE I/F menu item	9PIN (9P indicator lights)

About reference video signals

In order to provide stable video and audio signals for analog editing, it is necessary for the built-in time base corrector (TBC) to operate correctly. To ensure this, input a reference video signal synchronized with the video signal to the REF. VIDEO IN connector.

Connections for an A/B Roll Editing System

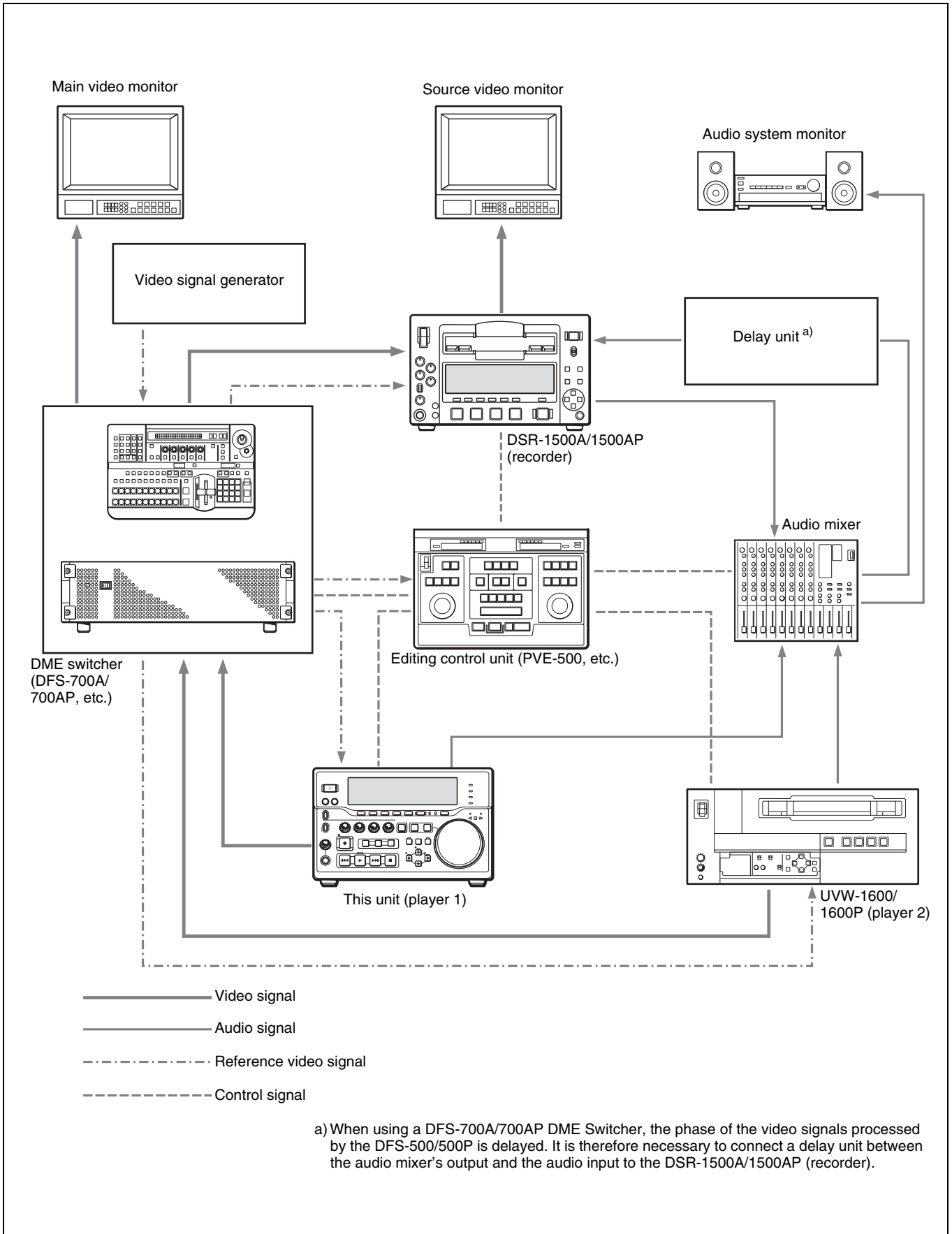
The following is an example configuration of A/B roll editing system using this unit.

In this configuration, a DSR-1500A/1500AP unit is used as the recorder and this unit as player 1, and an analog Betacam UVW-1600/1600P Videocassette Player unit is used as player 2. To create a final tape (a tape that contains a completely packaged program) in Betacam format, use a DVCAM VCR such as the DSR-1500A/1500AP as the recorder.

Notes

- This application requires the DSR-1500A/1500AP unit used as the recorder to be fitted with the optional DSBK-1504/1504P board.
- The DSR-1500A/1500AP units shown in the following figure are fitted with the optional DSBK-1501 and DSBK-1504/1504P boards.

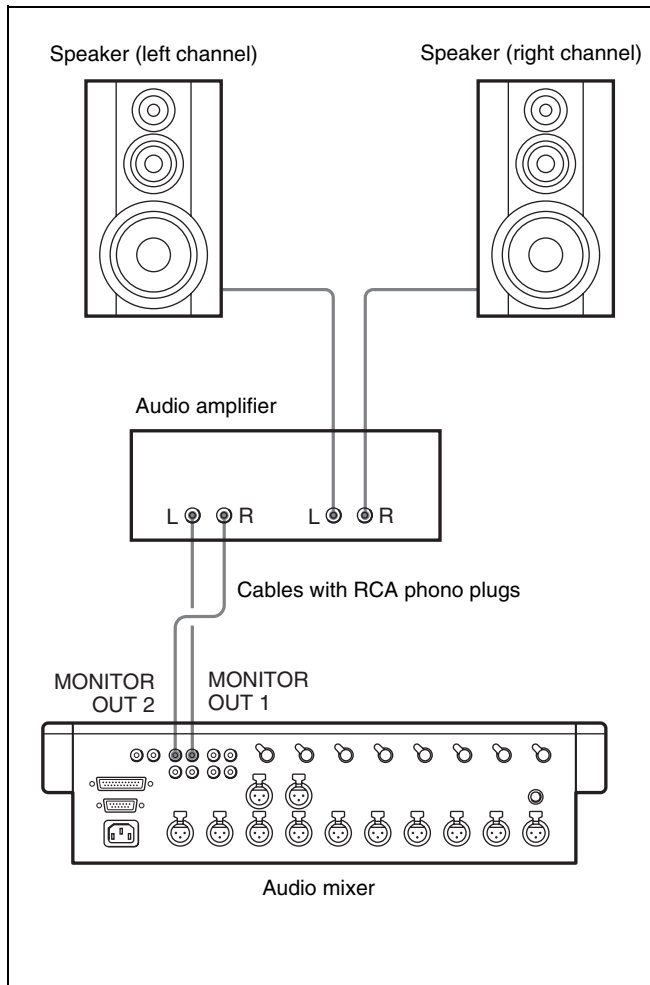
The purpose of the following figure is to indicate the flow of signals among the component devices in the system. The specific connections and settings are described beginning on *page 84*.



Audio monitor system connections

The following shows an example of audio monitor system connections.

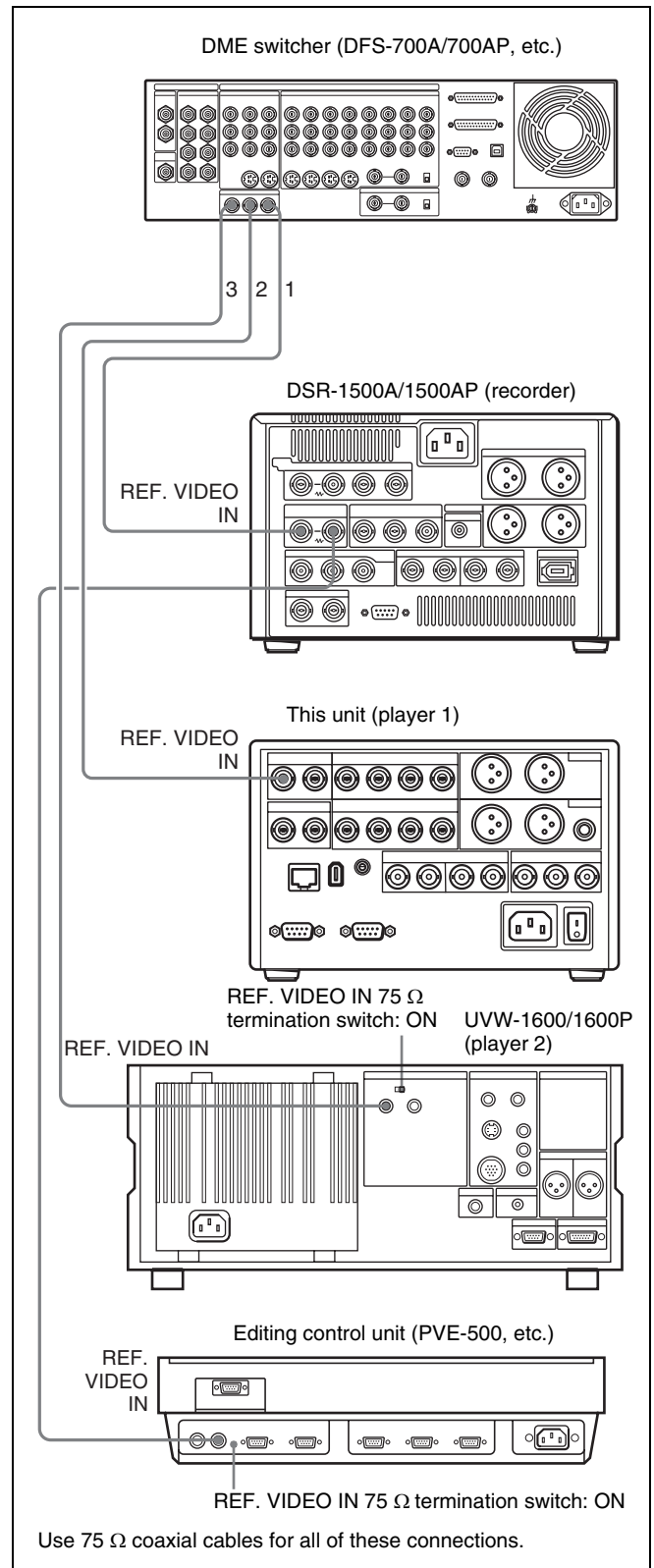
For details of these connections, refer to the instruction manual for each connected device.



Reference video signal connection

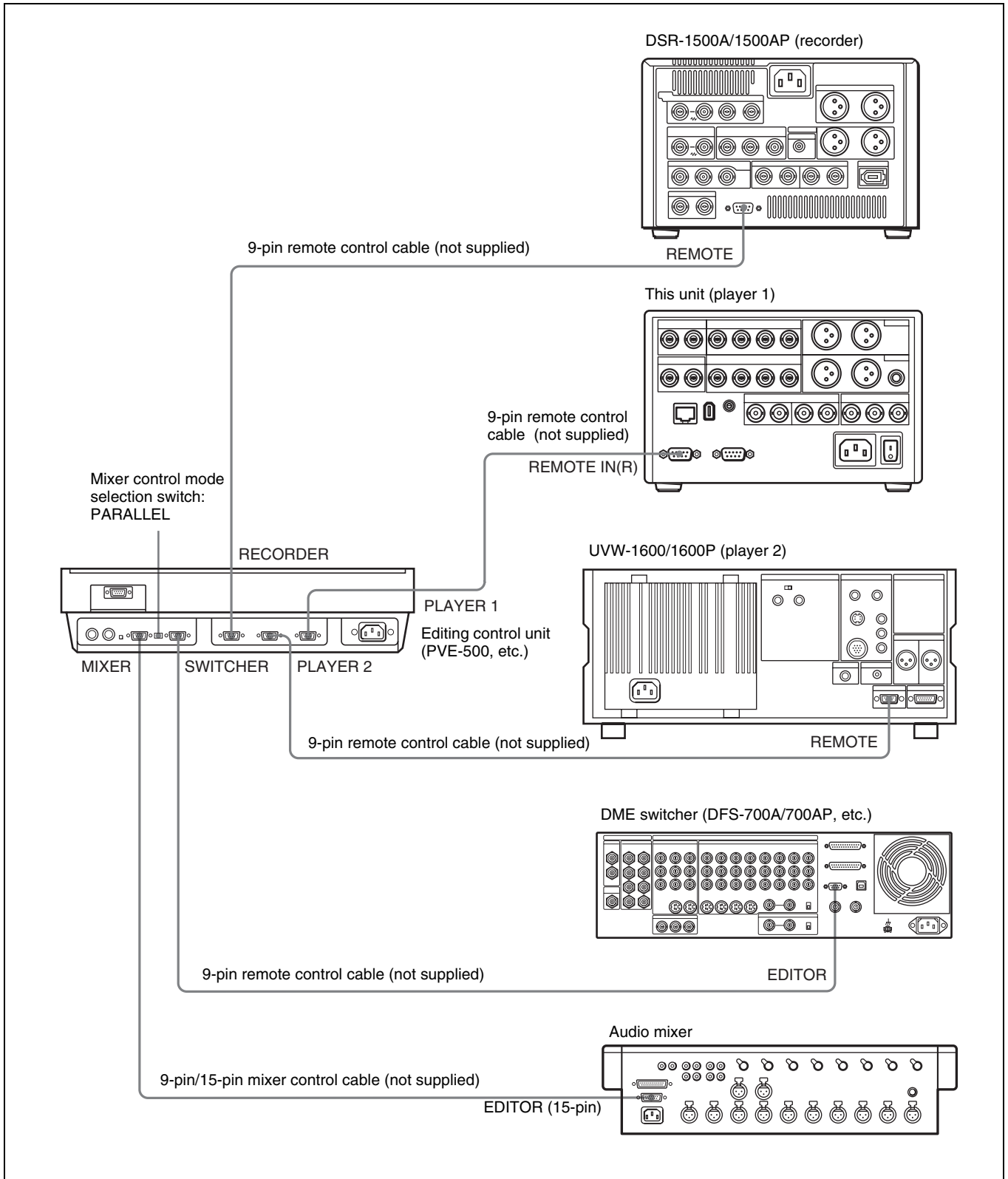
When you perform recording, be sure to input a reference video signal.

For details of reference video signals, see "About reference video signals" on page 81.



Control signal connections

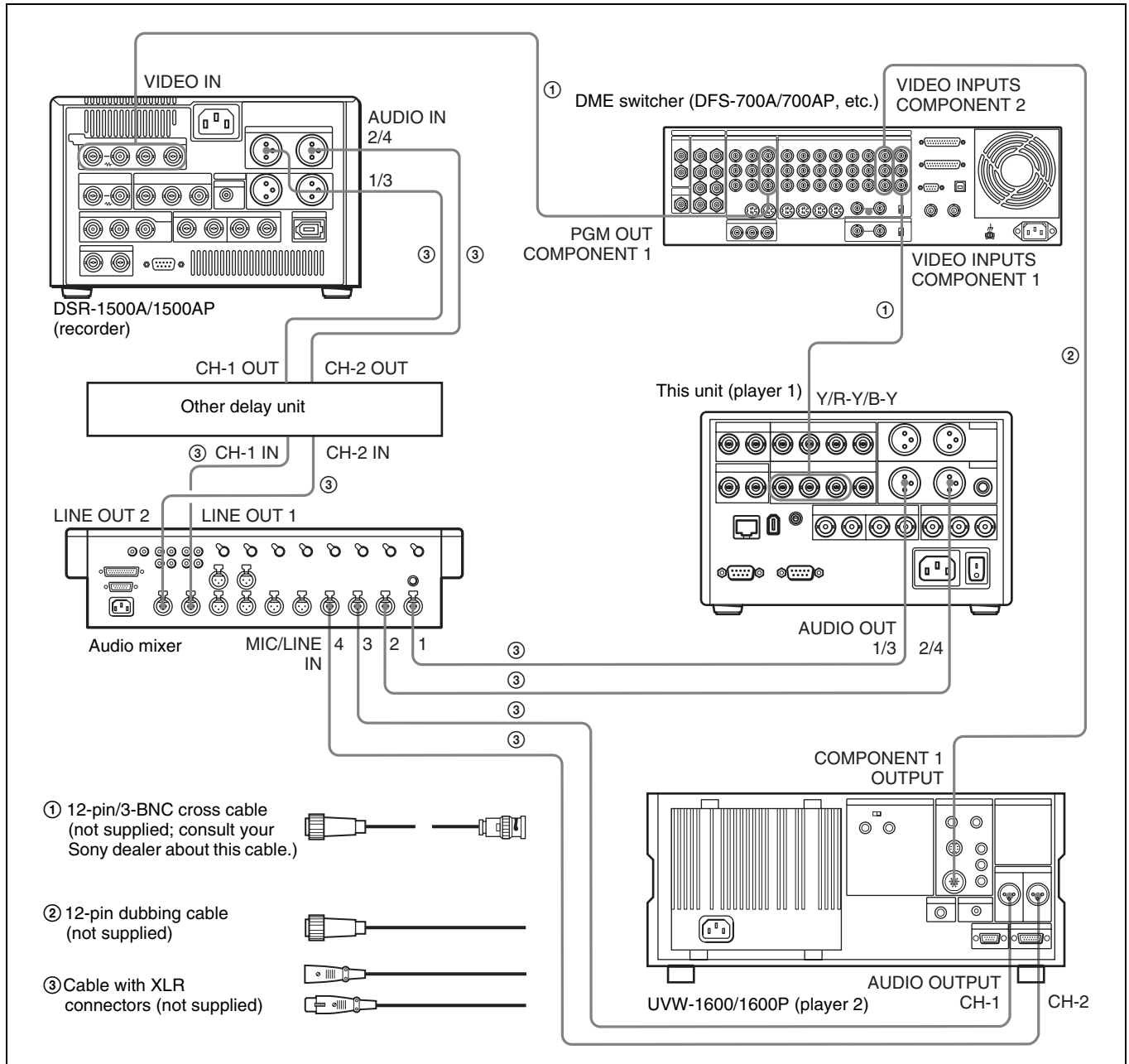
The following shows an example of control signal connections to enable the editing control unit to control all other A/B roll editing system devices.



Video/audio signal connections

The following shows an example of video/audio signal connections in an A/B roll editing system.

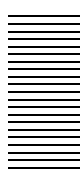
In this example, analog component signals are used as the video signals and XLR 3-pin connectors are used as audio input/output connectors.



Settings on the DSR-1500A/1500AP (recorder)

Switch/menu item	Setting
LOCAL/REMOTE switch	REMOTE
CH1 IN LEVEL and CH2 IN LEVEL menu items	Normally +4 dBm
REC FORMAT menu item	DVCAM (DVCAM indicator lights.)

For details of the video/audio input and audio mode settings, see "Settings for Recording" on page 30.

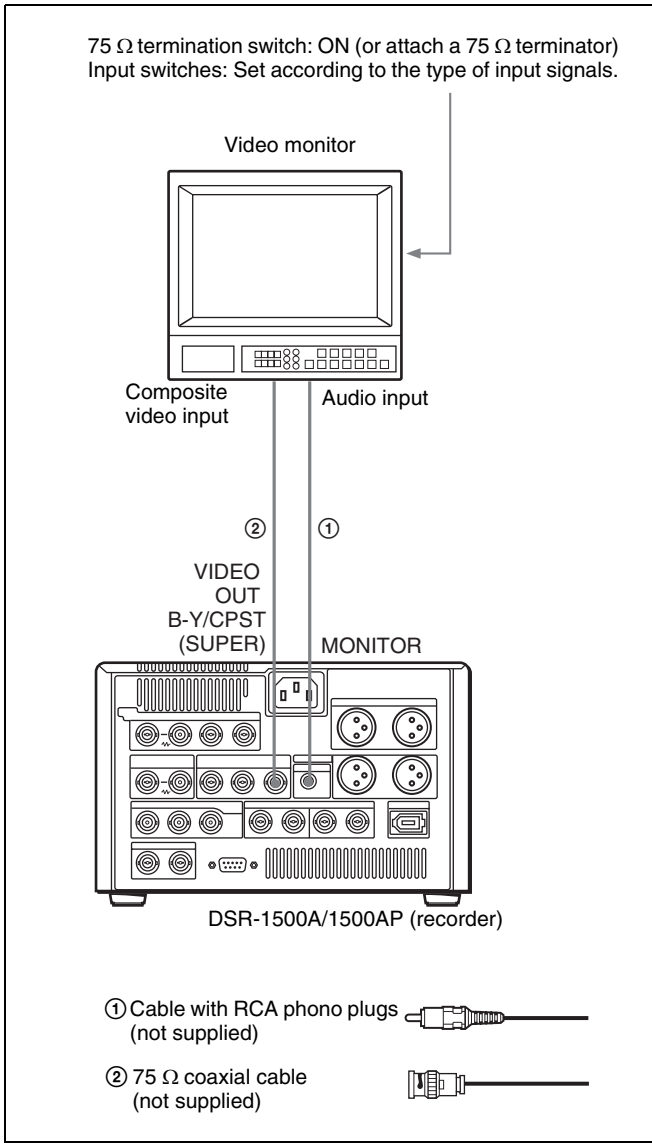


Settings on this unit (player)

Switch/menu item	Setting
Control mode selector	REMOTE
OUTPUT LEVEL menu item (see page 68)	Normally +4 dBm
VIDEO OUTPUT menu item (see page 69)	Y-R, B (Y-R,B indicator lights.)
AUDIO OUTPUT menu item (see page 69)	1/2 CH or 3/4 CH (CH 1/2 or CH 3/4 indicator lights.)

Connection of a video monitor

Set up the following connections between the video monitor and recorder to enable monitoring of video and audio signals on a video monitor. In addition to the video and audio signals, you can have time data, the operation mode of the unit, alarm messages, and other information displayed as text on the monitor screen by setting the CHARA. DISPLAY menu item (see page 63) to ON (factory default setting).



Settings on an editing control unit

When connecting an editing control unit, make the settings as follows, according to the model.

PVE-500

No settings are required.

BVE-600/900/910/2000 (NTSC model) or FXE-100/120

Set the VCR constants as follows.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
80	18	00	96	05	05	03	80	0A	08	FE	00	80	5A	FF

BVE-600/900/910/2000 (PAL model) or FXE-100P/120P

Set the VCR constants as follows.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
81	17	00	7D	05	05	02	80	0A	07	FE	00	80	4C	FF

RM-450/RM-450CE

Set the DIP switches as follows.

• Left switches

7	6	5	4	3	2	1	0
OFF	–	–	OFF	–	–	–	–

• Right switches (RM-450)

7	6	5	4	3	2	1	0
OFF	–	OFF	ON	OFF	OFF	ON	ON

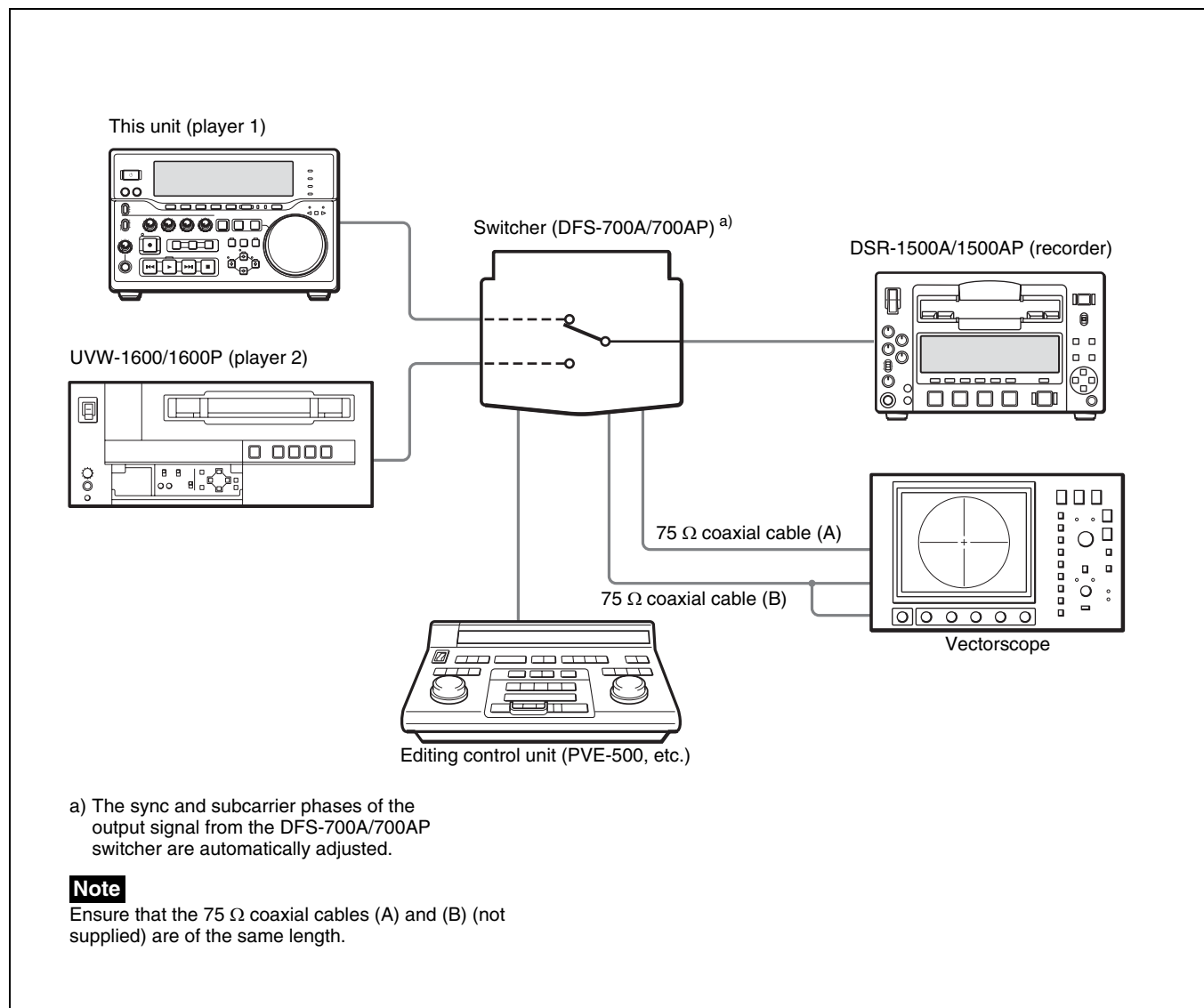
• Right switches (RM-450CE)

7	6	5	4	3	2	1	0
ON	–	OFF	ON	OFF	OFF	ON	ON

Adjusting the Sync and Subcarrier Phases

When using two or more players, as in an A/B roll editing system, it is necessary to synchronize the sync and subcarrier (for composite signals) phases of the signals to be edited. If they are not synchronized, picture instabilities or color break-up may occur at edit points.

After configuring the editing system, use a vectorscope to adjust the sync and subcarrier phases of the recorder and players. Subcarrier phase adjustment is necessary when using composite signals and Y/C signals.

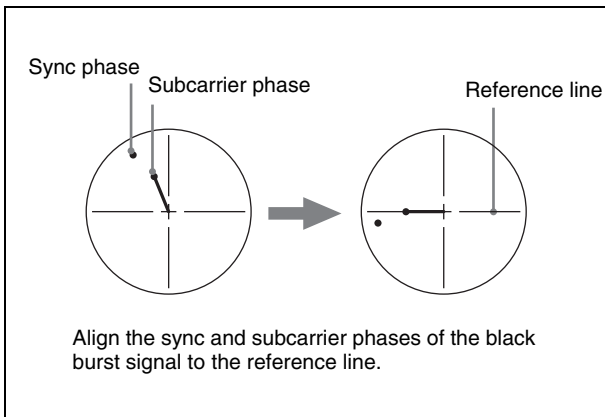


Performing a phase adjustment operation

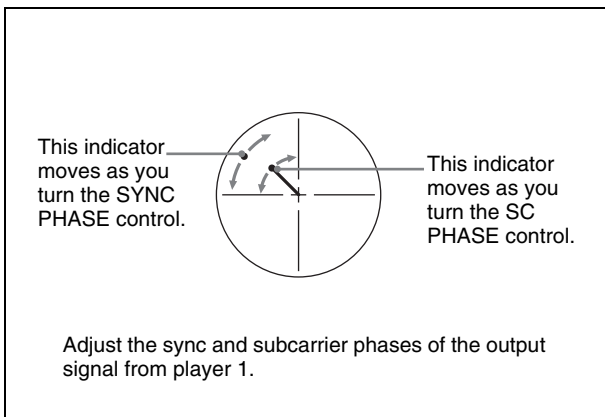
- 1 Press the SCH button on the vectorscope.
The vectorscope switches to SCH mode.
- 2 Press the B channel button on the vectorscope.
This displays the black burst signal from the switcher.
- 3 Press the EXT button on the vectorscope.

This switches the vectorscope to external synchronization mode.

- 4 Adjust the phase synchronization control on the vectorscope so that the sync and subcarrier phases are close to the reference line.



- 5** Output the player 1 signal from the PVE-500.
- 6** Press the A channel button on the vectorscope.
This displays the sync and subcarrier phases (composite signals only) of the signal from player 1.
- 7** On player 1, adjust the front panel SYNC PHASE and SC PHASE controls, using a Phillips screwdriver, so that the output from player 1 on channel A is in correct phase alignment with the black burst signal on channel B.



Note

When component signals are used the subcarrier phase indicator does not appear.

- 8** Output the player 2 signal from the PVE-500, and repeat steps **6** and **7** to adjust the sync and subcarrier phases of the output from player 2.

Maintenance and Troubleshooting

Chapter

8

Regular Checks

Use the digital hours meter as guidelines for scheduling maintenance.

Digital hours meter

The digital hours meter keeps cumulative counts of the total operating time, the head drum rotation time, the tape transport operating time, and the number of threading/unthreading operations. These counts can be displayed on the monitor screen and in the time counter display of this unit.

In general, consult your Sony dealer about necessary periodic maintenance checks.

Digital hours meter display modes

The digital hours meter has the three display modes.

- **T1 (OPERATION) mode**
The cumulative total hours during which the unit is powered on is displayed in 10-hour increments.
- **T2 (PLAYING) mode**
The cumulative total hours of disk operation for fast forward, reverse fast forward, playback, and search (except in still search mode) is displayed in 10-hour increments.
- **T3 (RECORDING) mode**
The cumulative total hours of disk operation for recording is displayed in 10-hour increments.

For the T2 mode and T3 mode, there are two types of count: a “trip” count, which is resettable, and the cumulative total from manufacture, which is unresettable.

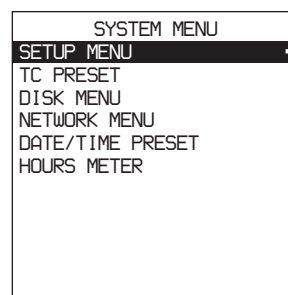
Displaying the digital hours meter

Use the following procedure.

- 1 Press the MENU button in the menu control section.

The menu selection level display appears on the monitor screen and in the time counter display.

Menu selection level display

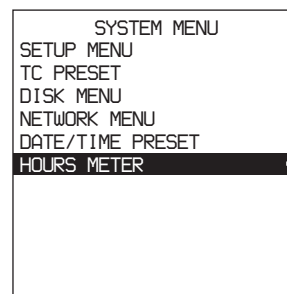


Monitor screen

Setup menu

Time counter display

- 2 Press the \downarrow button to select “HOURS METER.”



Monitor screen

Hours meter

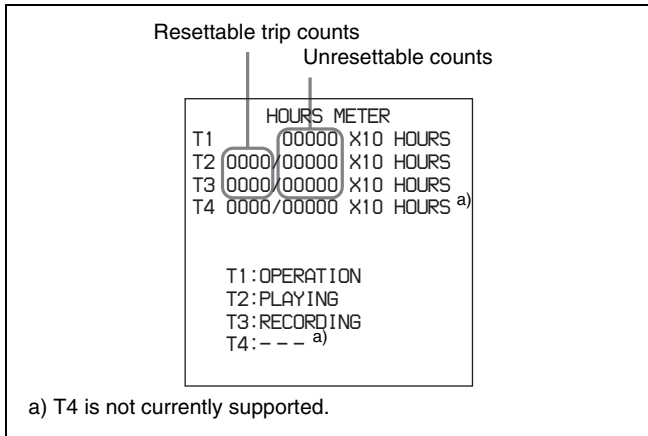
Time counter display

- 3 Press the \Rightarrow (OUT) button.

The cumulative counts by the digital hours meter are indicated on the monitor screen and in the time counter display.

Digital hours meter indications on the monitor screen

The three counts (T1, T2 and T3) are indicated on the monitor screen.



The four-digit value to the left of the slash (/) is the resettable trip count, and the right value is the cumulative total from manufacture.

Digital hours meter indications in the time counter display

One of the three indications appears in the time counter display at a time. Use the \uparrow (CUE) and \downarrow buttons in the menu control section to change the item displayed. Initially, only the trip value appears. In T2 mode and T3 mode, hold down the \Rightarrow (OUT) button to display also the cumulative total from manufacture, which will appear to the right of the trip value and the slash (/).

The following illustrates the digital hours meter indications in the time counter display in all three display modes. The right-hand indication for each display mode is the indication you can view while holding down the \Rightarrow button in the menu control section.

T1 (OPERATION) mode:

Oper. 00000

T2 (PLAYING) mode:

Play 0000 0000/00000

T3 (RECORDING) mode:

Rec 0000 0000/00000

To end the digital hours meter display

Press the MENU button.

To reset the trip values

About this operation, consult your Sony dealer.

Troubleshooting

If an alarm message appears on the monitor screen, or if the unit appears to be malfunctioning, please check the following before contacting your Sony dealer.

Recording/playback problems		
Symptom	Cause	Remedy
Recording is not possible.	Disk is full.	Delete unneeded data.
The unit's recording/playback control buttons (PLAY, NEXT, PREV, etc.) do not work.	The REMOTE indicator in the display section is lit and the LOCAL ENABLE menu item is set to STOP or ALL DISABLE.	Set the control mode selector to LOCAL to turn the REMOTE indicator off, or change the setting of the LOCAL ENABLE menu item (<i>see page 62</i>) to ALL ENABLE.
	Key operations are disabled (KEY INHI).	Set the control mode select switch to the LOCAL side.

Time data problems		
Symptom	Cause	Remedy
Cannot freely set the initial time data value.	The TC MODE menu item is set to EXT REGEN.	Change the setting of the TC MODE menu item (<i>see page 65</i>) to INT PRESET.
	CNT is selected as the time data type to be displayed (the COUNTER time data type indicator is lit).	Press the COUNTER SELECT button to make the TC or U-BIT time data type indicator light up (the CNT value cannot be set freely).
	The REMOTE indicator in the display section is lit and the LOCAL ENABLE menu item is set to STOP or ALL DISABLE.	Set the control mode selector to LOCAL to turn the REMOTE indicator off or change the setting of the LOCAL ENABLE menu item (<i>see page 62</i>) to ALL ENABLE.
During recording or playback the time data is not shown in the time counter display.	The MENU button has been pressed.	Press the button once again to exit the menu control mode, time code preset mode, or digital hours meter display mode. (In either of the menu control mode and time code preset mode, the time data is not shown in the time counter display.)
	The U-BIT time data type indicator is lit.	Press the COUNTER SELECT button to make the COUNTER or TC time data type indicator light up.

Monitor problems		
Symptom	Cause	Remedy
Data is not superimposed on the monitor screen.	The CHARA. DISPLAY menu item is set to OFF.	Set the CHARA. DISPLAY menu item (<i>see page 63</i>) to ON.
	The monitor is not connected to the SUPER connector of this unit.	Connect the monitor to the SUPER connector. (You must make this connection to display any type of text on the monitor.)
The image on the monitor screen is too bright.	The 75 Ω termination switch for video input on the monitor is in the OFF position, or a 75 Ω terminator is not fitted to its video input connector.	Set the 75 Ω termination switch to ON or connect a terminator.
The image on the monitor screen is too dark.	In a video signal loop-through connection of video monitors, 75 Ω termination switches for video input on monitors other than the loop-end monitor are in the ON position.	Set the 75 Ω termination switches to OFF on all monitors other than the loop-end monitor.
The image is too dark when recording a composite video signal.		

Audio problem		
Symptom	Cause	Remedy
The REC/PB LEVEL control knobs do not work.	The VARIABLE switch on the front panel is set to PRESET.	Set the VARIABLE switch to REC when recording, or set it to PB when playing back.

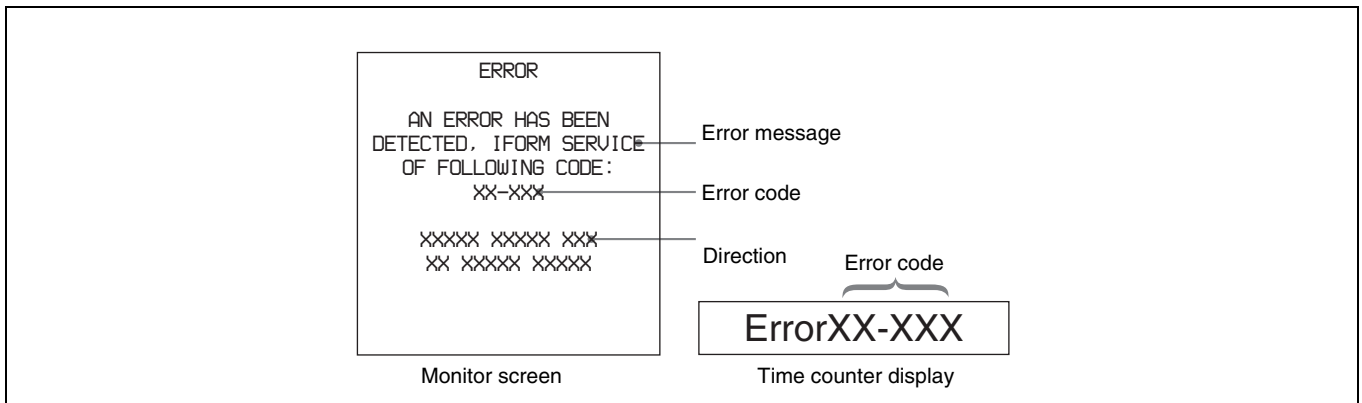
Editing restriction	
Symptom	Cause
Video cannot be edited in insert mode.	This unit does not support insert mode.

Error Messages

This unit is provided with a self-diagnostic function that detects internal abnormalities. When it detects an abnormality, it outputs an error message to the monitor screen and indicates an error code in the time counter display.

Note

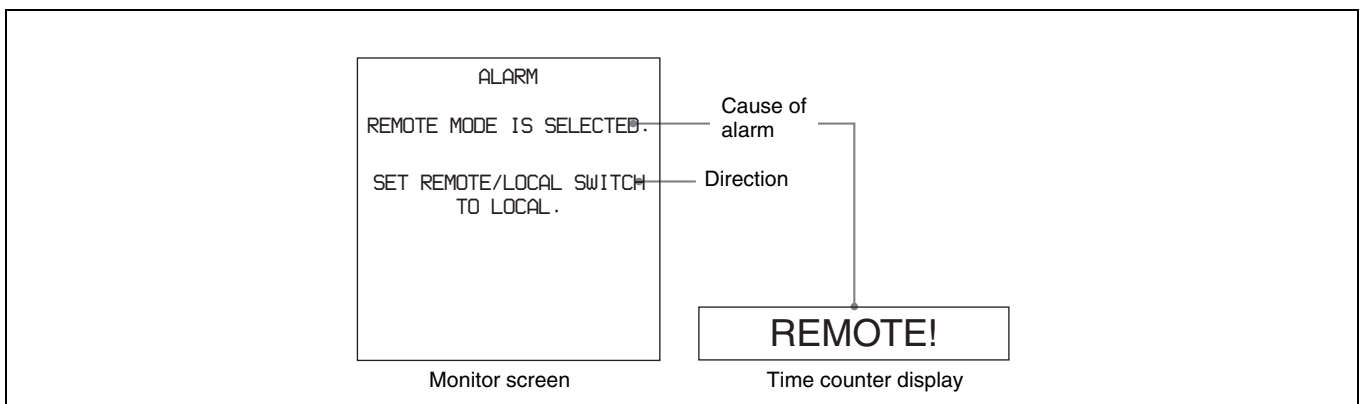
To display error messages on the monitor screen, connect the monitor to the SUPER connector, and set the CHARA. DISPLAY menu item (*see page 63*) to ON (factory default setting).



If an error message appears, follow the direction indicated on the monitor screen.

Alarm Messages

When operating this unit, the unit may sometimes output alarm messages such as the one shown below to the monitor screen and the time counter display.



If such an alarm message appears, a connection or operation error may have been made, or condensation on heads may have occurred. Follow the direction indicated on the monitor screen.

Note

To display alarm messages on the monitor screen, it is necessary for the monitor to be connected to the SUPER connector, and set the following menu items to ON.

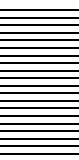
- CHARA. DISPLAY (see page 63)
- ALARM (see page 64)
- REF ALARM (see page 64)

Alarm messages and associated directions

Alarm message on monitor screen (Cause)	Direction	Alarm message in time counter display
A non-standard signal is being used for input video.	Use a standard signal.	VIN NON-STD
A non-standard ref. signal is being used for REF. VIDEO.	Use a standard signal.	REF NON-STD
Abnormal settings selected in setup menu.	Correct the setup menu settings. Contact your Sony dealer if this alarm message appears again after making corrections.	ILL. SETUP!
Audio mixing mode cannot be changed during recording.	–	REC mode!
Audio REC (recording) mode cannot be changed during recording.	–	REC mode!
Counter mode is selected.	Use the COUNTER SELECT button to light the TC or U-BIT time data type indicator in the display section.	CNT mode!
Input selection cannot be changed in REC (recording) mode.	–	REC mode!
Input signal does not conform to DVCAM/DV format.	–	Unknown Sig
Input signal is 625/50. (For DSR-DR1000A)	–	625/50 sig! (For DSR-DR1000A)
Input signal is 525/60. (For DSR-DR1000AP)	–	525/60 sig! (For DSR-DR1000AP)
Input video is not detected.	Check the VIDEO indicator in the INPUT signal display section and supply an appropriate video signal.	No INPUT!
Input video signal does not synchronize with REF. VIDEO signal.	Use a reference video signal.	ILL. REF!
Invalid subclip.	There is an invalid subclip setting, for example a Mark Out point before a Mark In point. Correct the setting.	CLIP set !
MODE CANNOT BE CHANGED DURING DUAL RECORDING.	To exit simultaneous recording and playback mode, press the R button in the PANEL SELECT section to stop recording and then press the R button again so that the button goes out.	Dual REC !
Moisture has been detected.	Keep the power on and wait until this alarm message disappears.	HUMID!
Rec inhibit mode is selected.	Set the REC INHIBIT menu item (see page 62) to OFF.	REC INHI.!
Remote mode is selected.	Set the LOCAL/REMOTE switch to LOCAL.	REMOTE!
Simultaneous recording and playback.	Stop the unit by pressing the STOP button and then switch with the buttons in the PANEL SELECT section.	Dual Rec !
TC EXTERNAL is selected.	Set the TC MODE menu item (see page 65) to INT PRESET.	TC EXT!
TCG REGEN mode is selected.	Set the TC MODE menu item (see page 65) to INT PRESET.	REGEN mode!

Alarm messages and associated directions

Alarm message on monitor screen (Cause)	Direction	Alarm message in time counter display
TCG RUN mode is set to REC RUN.	Set the RUN MODE menu item (see page 65) to FREE RUN.	REC RUN!
VIDEO END.	–	VIDEO END.
VIDEO TOP.	–	VIDEO TOP.



Appendixes

Precautions

On safety

- Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time.
- To disconnect the cord, pull it out by the plug. Never pull the cord itself.

On operation and storage locations

Avoid operation or storage in any of the following places.

- Location subject to extremes of temperature (operating temperature range 5°C to 40°C (41°F to 104°F))
- Location subject to direct sunlight for long periods, or close to heating appliances (Note that the interior of a car left in summer with the windows closed can exceed 50°C (122°F).)
- Damp or dusty places
- Location subject to severe vibrations
- Location near equipment generating strong electromagnetic emissions
- Location near transmitting stations generating strong radio waves

Operate the unit in a horizontal position

This unit is designed to be operated in a horizontal position. Do not operate it on its side, or tilted through an excessive angle (exceeding 20°).

Avoid violent impacts

Dropping the unit, or otherwise imparting a violent shock to it, is likely to cause it to malfunction.

Do not obstruct ventilation openings

To prevent the unit from overheating, do not obstruct ventilation openings, by for example wrapping the unit in a cloth while it is in operation.

On cleaning

If the casing or panel is dirty, wipe it gently with a soft dry cloth. In the event of extreme dirt, use a cloth steeped in a neutral detergent to remove the dirt, then wipe with a dry cloth. Applying alcohol, thinners, insecticides, or other volatile solvents may result in deforming the casing or damaging the finish.

On repacking and shipping

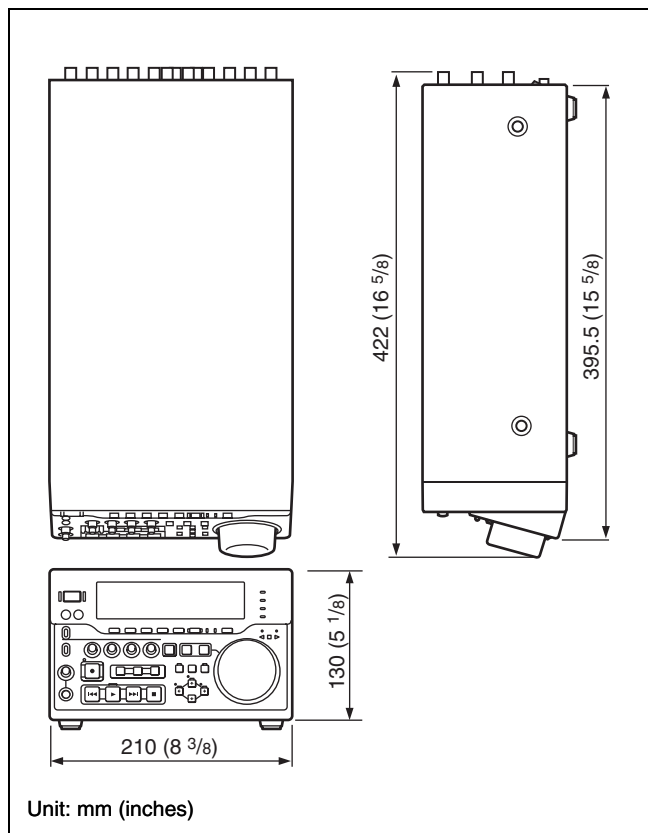
Save the original shipping carton and packing material; they will come in handy if you ever have to ship your unit. For maximum protection, repack your unit as it was originally packed at the factory, and take care not to impart violent shocks in transit.

Specifications

General

Signal system	DSR-DR1000A: NTSC DSR-DR1000AP: PAL
Recording/playback time	12 hours (720 minutes)
Search speed	When controlling via RS-422A interface: Maximum 60 times normal speed in both directions
Power requirements	100 V to 240 V AC, 50/60 Hz
Power consumption (with all options installed)	75 W
Peak inrush current	(1) Power ON, current probe method: 90 A (240 V) (2) Hot switching inrush current, measured in accordance with European standard EN55103-1: 30 A (230 V)
Operating temperature	5°C to 40°C (41°F to 104°F)
Storage temperature	-20°C to +60°C (-4°F to +140°F)
Operating relative humidity	Less than 80%
Storage relative humidity	Less than 90%
Mass	7.5 kg (16 lb 8 oz)

External dimensions (w/h/d)
210 × 130 × 422 mm
(8³/₈ × 5¹/₈ × 16⁵/₈ inches)



Video performance

Band width	Composite/S-video (DSR-DR1000A): 30 Hz to 4.2 MHz ±1.0 dB (Y) Composite/S-video (DSR-DR1000AP): 25 Hz to 4.8 MHz ±1.0 dB (Y) Component (DSR-DR1000A): 30 Hz to 5.0 MHz ±1.0 dB (Y), 30 Hz to 1.5 MHz +1.0/-5.0 dB (R-Y/ B-Y) Component (DSR-DR1000AP): 25 Hz to 5.0 MHz ±1.0 dB (Y), 25 Hz to 2.0 MHz +1.0/-2.0 dB (R-Y/ B-Y)
S/N	Composite/S-video I/O (Y): 52 dB or more Component I/O (Y): 54 dB or more
Y/C delay	30 ns or less
K-factor	2.0% or less (K2T, KPb)

Processor adjustment range

Video level*	±3 dB/-∞ to 3 dB selectable
Chrome level*	±3 dB/-∞ to 3 dB selectable
Setup/Black level*	±30 IRE (±210 mV)
Chroma phase*	±30°
System phase**	Sync: ±1 μs

SC: $\pm 180^\circ$

* Adjust with menu settings.

** Adjust with controls on the front panel.

Audio performance

Frequency response

Two-channel (48 kHz) mode:
20 Hz to 20 kHz ± 1.0 dB

Four-channel (32 kHz) mode:
20 Hz to 14.5 kHz ± 1.0 dB

Dynamic range More than 87 dB

Distortion (THD + N)

Less than 0.07% (48 kHz)

Input connectors

Digital signal inputs

SDI IN BNC type
SDI format (270 Mbps), SMPTE 259M/
CCIR656-III

AUDIO (AES/EBU) IN
BNC type ($\times 2$), complying with AES-
3id-1995

i S400(i.LINK) 6-pin, complied with IEEE 1394

Analog video inputs

REF. VIDEO IN BNC type ($\times 2$, loop-through with 75 Ω
automatic terminator)
Black burst
0.286 V (DSR-DR1000A) or 0.3 V
(DSR-DR1000AP), 75 Ω , negative
sync
Composite sync

VIDEO IN BNC type ($\times 3$ and 1 loop-through
connector with 75 Ω automatic
terminator), composite/component/S-
video switchable

Composite Y/CPST and 1 loop-through connector
with 75 Ω automatic terminator: 1.0
Vp-p, 75 Ω , sync negative

Component Y/CPST: 1.0 Vp-p, 75 Ω , negative sync
R-Y/S-C and B-Y/S-Y: 0.7 Vp-p (75%
color bars for DSR-DR1000A or 100%
color bars for DSR-DR1000AP), 75 Ω

S-video Y/CPST: 1.0 Vp-p, 75 Ω , negative sync
R-Y/S-C: 0.286 Vp-p (DSR-DR1000A)
or 0.3 Vp-p (DSR-DR1000AP), 75 Ω
(burst level)

Analog audio inputs

AUDIO IN XLR 3-pin, female ($\times 2$), +4/0/-3*/-6
dBm, high impedance, balanced

* For DSR-DR1000A only

Time code input

TIME CODE IN

BNC type, SMPTE time code (DSR-
DR1000A) or EBU time code (DSR-
DR1000AP), 0.5 Vp-p to 18 Vp-p, 3.3
k Ω , unbalanced

Network

100BASE-TX/10BASE-T

RJ-45 type

100BASE-TX: complied with IEEE
802.3u

10BASE-T: complied with IEEE 802.3

Output connectors

Digital signal outputs

SDI OUT BNC type ($\times 2$)
SDI format (270 Mbps), SMPTE 259M/
CCIR656-III

AUDIO (AES/EBU) OUT
BNC type ($\times 2$), complying with AES-
3id-1995

i S400(i.LINK) 6-pin, complied with IEEE 1394

Analog video outputs

VIDEO OUT BNC type ($\times 3$), composite/component/
S-video switchable

Composite Y/CPST, and SUPER: 1.0 Vp-p, 75 Ω ,
sync negative

Component Y/CPST: 1.0 Vp-p, 75 Ω , negative sync
R-Y/S-C and B-Y/S-Y: 0.7 Vp-p (75%
color bars for DSR-DR1000A or 100%
color bars for DSR-DR1000AP), 75 Ω

S-video B-Y/S-Y: 1.0 Vp-p, 75 Ω , negative sync
R-Y/S-C: 0.286 Vp-p (DSR-DR1000A)
or 0.3 Vp-p (DSR-DR1000AP), 75 Ω
(burst level)

Analog audio outputs

AUDIO OUT XLR 3-pin, male ($\times 2$), +4/0/-3*/-6 dBm,
600 Ω loading, low impedance,
balanced

MONITOR Phono jack, -11** dBu (DSR-
DR1000A)/-9** dBu (DSR-
DR1000AP) ± 1 dB, 47 k Ω ,
unbalanced, -20 dBFS (DSR-
DR1000A)/-18 dBFS (DSR-1000AP)

* For DSR-DR1000AP only

** With the PHONES control knob at the center position

Output for headphones

PHONES Stereo phone jack, $-\infty$ to -13 dBu (DSR-DR1000A)/ -11 dBu (DSR-DR1000AP), 8Ω , unbalanced, -20 dBFS (DSR-DR1000A)/ -18 dBFS (DSR-DR1000AP)

Time code output

TIME CODE OUT BNC type, SMPTE time code (DSR-DR1000A), EBU time code (DSR-DR1000AP), $2.2 V_{p-p} \pm 3$ dB, 600Ω , unbalanced

Remote control connectors

REMOTE IN (R)/OUT (P) D-sub 9-pin (female, $\times 2$), for connection of editing control unit, RS-422A standard

CONTROL Minijack, for connection of the supplied RM-LG2 Remote Control Unit and input of the trigger signal

i S400(i.LINK) 6-pin, complied with IEEE 1394

Accessories supplied

AC power cord (1)
 Remote control unit (1)
 Operating Instructions
 English version (1)
 CD-ROM manual (1)

Accessories not supplied

RCC-5G 9-pin remote control cable (length: 5 m (16 ft))

Design and specifications are subject to change without notice.

Glossary

A/B roll editing

An editing method that uses two or more playback VCRs to create special effects such as dissolve and wipe, and uses one record VCR to record the results of the editing. Using an editing control unit allows efficient control of the VCRs and very precise editing.

AES/EBU format

A unified format for digital audio signals. It allows a single connector to carry the signals for two channels.

B-Y signal

A chrominance signal determined by subtracting the Y (luminance) signal from the B (blue) signal. One of the component signals.

Chrominance signal

Color signal containing color information such as hue and saturation. Also called C signal.

Component signals (YRB)

A video signal consisting of a luminance signal (Y) and two chrominance signals (R-Y, B-Y).

Composite signal

A composite video signal containing video, burst and sync signals.

Drop frame mode

Time code runs at 30 frames/sec. The NTSC system, however, runs at about 29.97 frames/sec. Drop frame mode adjusts this difference. The time code and video are synchronized by dropping the first two frames of the time code every minute, except at the ten-minute marks.

EE mode

EE is an abbreviation of "Electric to Electric". Video and audio signals are supplied to the recorder's internal circuits, but not to the recording heads.

LAN (local area network)

A network system connecting computers over a local area, for

example one floor or all floors of an office building, a factory, or a school.

Linear editing

Editing while playing back video and audio signals recorded on video tape. *See also "Non-linear editing."*

Loop-through connection

A connection which allows a signal input to an input connector to pass through the unit and exit from an output connector as input to external equipment. Also called bridging connection.

Luminance signal

The signal that determines the brightness of the picture. Also called Y signal. One of the component signals.

Non-drop frame mode

The number of frames of the time code and video run is not adjusted. When you use the time code in non-drop frame mode, the real playback time will be about 86 seconds shorter per day than the time code. If you edit frame by frame or if you determine the length of a shot by counting the time code, use drop frame mode.

Non-linear editing

Editing while playing back video and audio signals recorded on hard disks. Video scenes stored on disk can be cued up quickly, for increased editing efficiency. *See also "Linear editing."*

PCM audio

This is an audio signal represented by pulse code modulation. The analog audio signal is first broken down into a sequence of pulses, and these are then represented digitally.

R-Y signal

A chrominance signal determined by subtracting the Y (luminance) signal from the R (red) signal. One of the component signals.

Reference video signal

A video signal consisting of a sync signal or sync and burst signals, used as a reference.

SBP2 (Serial bus protocol-2)

A protocol to control peripheral devices connected to a computer by IEEE1394.

Setup (for DSR-DR1000A)

The difference between the reference black level and the blanking level of a composite signal.

SMPTE

Abbreviation of Society of Motion Picture and Television Engineers, a professional association established in the USA.

S/N

Abbreviation of Signal-to-Noise (ratio). The higher the S/N value, the less noise and higher the picture quality.

Search mode

A VCR operating mode used when searching for specific scenes, by viewing the video output or time code values while playing back the tape at various speeds in forward or reverse direction.

Subcarrier

A sine wave imposed on the luminance portion of a video signal and modulated to carry color information. Its amplitude represents color saturation and its phase represents hue.

Superimpose

To put a set of characters onto a picture so that both can be seen at the same time.

S-video

A signal format in which Y (luminance) and C (chrominance) signals are separated to reduce interference between them so that noiseless images are reproduced.

Sync signal

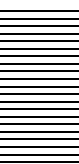
A reference signal consisting of vertical and horizontal sync signals used for synchronizing the scanning patterns of the video camera and the monitor.

Time code

Signals recorded on the media to supply information on media position such as the hour, minute, second and frame, to assist in setting edit points or searching for particular scenes.

User bits

Sections of time code information consisting of a total of 32 bits that can be used for recording information such as date, tape ID number, program ID number, etc.



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