

SONY®

COMPACT PLAYER

J-10

J-10SDI

J-30

J-30SDI

Digital BETACAM™ (J-30/30SDI)

MPEG IMX (J-30/30SDI)

BETACAM SX **BETACAM SP** **BETACAM**

OPERATION MANUAL English

1st Edition

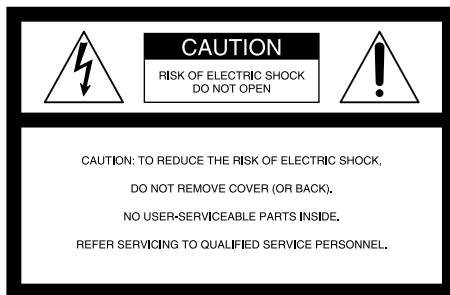
WARNING

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

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

WARNING

THIS APPARATUS MUST BE EARTHED.




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.

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: THIS WARNING IS APPLICABLE FOR USA ONLY.

If used in USA, use the UL LISTED power cord specified below.

DO NOT USE ANY OTHER POWER CORD.

Plug Cap	Parallel blade with ground pin (NEMA 5-15P Configuration)
Cord	Type SJT, three 16 or 18 AWG wires
Length	Minimum 1.5m
Rating	Minimum 10A, 125V

Using this unit at a voltage other than 120V 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.

WARNING: THIS WARNING IS APPLICABLE FOR OTHER COUNTRIES.

1. Use the approved Power Cord (3-core mains lead) / Appliance Connector / Plug with earthing-contacts that conforms to the safety regulations of each country if applicable.
2. Use the Power Cord (3-core mains lead) / Appliance Connector / Plug conforming to the proper ratings (Voltage, Ampere).

If you have questions on the use of the above Power Cord / Appliance Connector / Plug, please consult a qualified service personnel.

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

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.

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

CAUTION

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.

For the customers in the USA

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.

For the customers in Europe

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).

AVERTISSEMENT

Afin d'éviter tout risque d'incendie ou d'électrocution, ne pas exposer cet appareil à la pluie ou à l'humidité.

Afin d'écartier tout risque d'électrocution, garder le coffret fermé. Ne confier l'entretien de l'appareil qu'à un personnel qualifié.

AVERTISSEMENT

CET APPAREIL DOIT ETRE MIS A LA TERRE.

AVERTISSEMENT:

1. Utiliser le cordon d'alimentation approuvé (conducteur à trois noyaux)/connecteur pour appareils approuvé / fiche avec contacts de mise à la terre approuvée, qui est conforme aux règles de sécurité de chaque pays, si applicable.
2. Utiliser un cordon d'alimentation (conducteur à trois noyaux)/connecteur pour appareils/fiche avec contacts de mise à la terre conforme aux valeurs nominales correctes (tension, ampérage).

Pour toute question concernant l'emploi du cordon d'alimentation/connecteur pour appareils/fiche ci-dessus, consulter un agent de service compétent.

ATTENTION

Il y a un risque d'explosion si la pile est mal insérée. Remplacer la pile uniquement par une pile de même type ou de type équivalent recommandé par le fabricant. Jeter les piles usées conformément aux instructions du fabricant.

ATTENTION

Eviter d'exposer l'appareil à un égouttement ou à des éclaboussures et ne placer aucun objet rempli de liquide, comme un vase, sur l'appareil.

Ne pas installer l'appareil dans un endroit confiné, par exemple une bibliothèque ou un placard encastré.

ATTENTION

Cet appareil n'est pas déconnecté de la source d'alimentation secteur tant qu'il est raccordé à la prise murale, même si l'appareil lui-même a été mis hors tension.

Pour les clients européens

Ce produit portant la marque CE est conforme à la fois à la Directive sur la compatibilité électromagnétique (EMC) (89/336/CEE) et à la Directive sur les basses tensions (73/23/CEE) émises par la Commission de la Communauté européenne.

La conformité à ces directives implique la conformité aux normes européennes suivantes:

- EN60065: Sécurité des produits
- EN55103-1: Interférences électromagnétiques (émission)
- EN55103-2: Sensibilité électromagnétique (immunité)

Ce produit est prévu pour être utilisé dans les environnements électromagnétiques suivants:

E1 (résidentiel), E2 (commercial et industrie légère), E3 (urbain extérieur) et E4 (environnement EMC contrôlé ex. studio de télévision).

WARNING

Um Feuergefahr und die Gefahr eines elektrischen Schlages zu vermeiden, darf das Gerät weder Regen noch Feuchtigkeit ausgesetzt werden.

Um einen elektrischen Schlag zu vermeiden, darf das Gehäuse nicht geöffnet werden. Überlassen Sie Wartungsarbeiten stets nur einem Fachmann.

WARNING

DIESES GERÄT MUSS GEERDET WERDEN.

WARNING:

1. Es ist ein (dreiadriges) Netzkabel/Netzstecker mit Erdungskontakt zu verwenden, der den Sicherheitsbestimmungen vor Ort entspricht.
2. Es ist ein (dreiadriges) Netzkabel/Netzstecker mit ausreichenden Anschlußwerten (Spannung/Strom) zu verwenden.

Bei Fragen zum Gebrauch des obigen Netzkabels/Netzsteckers wenden Sie sich bitte an den technischen Kundendienst.

VORSICHT

Es besteht Explosionsgefahr, wenn die Batterie inkorrekt eingelegt wird.

Es darf nur eine identische oder eine vom Hersteller empfohlene Batterie des gleichen Typs eingesetzt werden. Entladene Batterien sind nach den Anweisungen des Herstellers zu entsorgen.

ACHTUNG

Das Gerät ist nicht tropf- und spritzwassersicher, daher dürfen keine mit Flüssigkeiten gefüllten Gegenstände, z. B. Vasen, darauf abgestellt werden.

Das Gerät nicht an Orten aufstellen, z. B. in Bücherregalen oder Einbauschränken, wo keine ausreichende Belüftung gewährleistet ist.

ACHTUNG

Solange das Netzkabel an eine Netzsteckdose angeschlossen ist, bleibt das Gerät auch im ausgeschalteten Zustand mit dem Stromnetz verbunden.

Für Kunden in Europa

Dieses Produkt besitzt die CE-Kennzeichnung und erfüllt die EMV-Direktive (89/336/EMG) der EG-Kommission als auch die Direktive Niederspannung (73/23/EMG).

Angewandte Normen:

- EN60065: Produktsicherheit
- EN55103-1: Elektromagnetische Verträglichkeit (Störaussendung)
- EN55103-2: Elektromagnetische Verträglichkeit (Störfestigkeit)

für die folgenden elektromagnetischen Umgebungen:

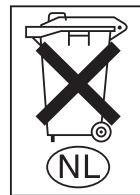
E1 (Wohnbereich), E2 (kommerzieller und in beschränktem Maße industrieller Bereich), E3 (Stadtgebiet im Freien) und E4 (kontrollierter EMV-Bereich, z.B. Fernsehstudio).

Für Kunden in Deutschland

Entsorgungshinweis: Bitte werfen Sie nur entladene Batterien in die Sammelboxen beim Handel oder den Kommunen.

Entladen sind Batterien in der Regel dann, wenn das Gerät abschaltet und signalisiert „Batterie leer“ oder nach längerer Gebrauchsdauer der Batterien „nicht mehr einwandfrei funktioniert“. Um sicherzugehen, kleben Sie die Batteriepole z.B. mit einem Klebestreifen ab oder geben Sie die Batterien einzeln in einen Plastikbeutel.

Voor de klanten in Nederland



Gooi de batterij niet weg, maar lever hem in als KCA

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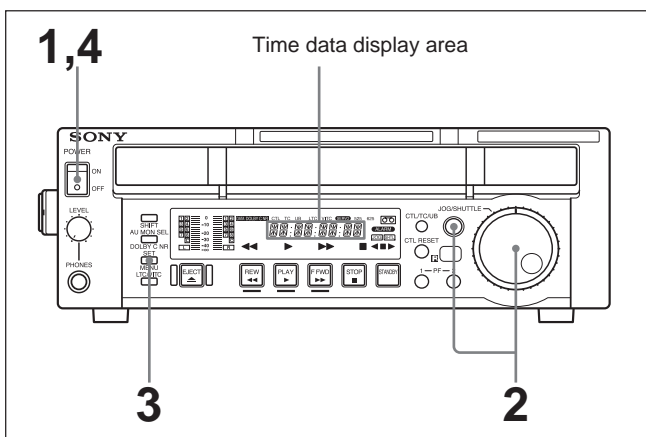
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Overview

1-1 Before Using

When using this unit for the first time, set the number of scan lines to the NTSC (525 scan lines, field frequency 60 Hz) system setting or to the PAL (625 scan lines, field frequency 50 Hz) system setting according to the operating environment in which the unit will be used. Otherwise, it will be impossible to use this unit.

To set this unit for the NTSC (525/60) or PAL (625/50) system

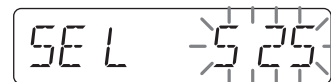


- 1 Turn the POWER switch on.

When you turn on this unit for the first time, indication, “SEL -----” appears in the time data display area.



- 2 Holding down the JOG/SHUTTLE button, turn the JOG/SHUTTLE dial to display “525” or “625” next to “SEL”.



- 3 Press the SET/MENU button.

Indication “PUSH SET” appears in the time data display area.



- 4 Turn the POWER switch off, and then on again.

The indication in the time data display area changes as shown in the figure below.



You can see “POWER OFF/ON” by scrolling the indication.

This unit is set for the 525/60 or 625/50 system and indicator 525 or 625 lights above the time data display area to show the selected system.

1-2 Features

The J-10/10SDI/30/30SDI (also referred to simply as the unit(s) in this manual) are compact players based on the 1/2-inch tape format.

They play tapes recorded in conventional Betacam/Betacam SP format.

Notes

- Since the unit does not have a dynamic tracking function, the tape may not replay correctly if the recording pattern on the tape are disturbed.
- If you use a mobile radio machine with 5 W or larger output within 50 cm (19 3/4 inches) of this unit, the playback image may be disturbed.

The following are some of the features of these units.

Compatible format for playback

The unit can play tapes in the following formats:

- Digital Betacam format (J-30/30SDI only)
- MPEG IMX format (J-30/30SDI only)
- Betacam SX format
- Betacam/Betacam SP format

Head configuration

In addition to digital playback heads for the Digital Betacam (J-30/30SDI only), MPEG IMX (J-30/30SDI only) and Betacam SX, the unit also has analog playback heads for the analog Betacam SP.

Digital signal processing

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

The unit is compatible with the Digital Betacam (J-30/30SDI only), the Betacam SX for the MPEG2 4:2:2 P@ML interframe format, and the MPEG IMX (J-30/30SDI only) for the MPEG2 4:2:2 P@ML intraframe format.

High image quality, high audio quality, high reliability

Complying with the data rates for the Digital Betacam (J-30/30SDI only), MPEG IMX (J-30/30SDI only) and Betacam SX, this unit achieves playback with both high image and high audio quality.

Playback compatibility with Betacam/Betacam SP

The unit plays tapes recorded in the Betacam/Betacam SP format. This makes for efficient use of existing material in the Betacam/Betacam SP format.

Feeder function

This unit can be used not only as a Player but also as a Feeder. Connected to a PC, the unit controls images and feeds images to the PC via a remote connector (RS-422A) on the control panel.

Compact design

Since the unit is as compact as a standard desktop personal computer in size, it is ideal for personal use on your desktop. In addition, front loading of both S and L cassettes is standard.

Menu-based setup

Initial settings for the unit's operation, interfaces with connected equipment, and so on, can be made by means of menu operations on the front panel of the unit.

A wide range of status indicators

A large-sized fluorescent display is provided to show numerical values including audio level, time code, user bits, error messages, and setup menu information in addition to the current settings and operating status of this unit.

Minimal maintenance

The unit is designed to need minimal maintenance, and requires no daily maintenance or checks. A drum and other components have reduced maintenance costs.

Vertical installation

This unit can be installed vertically using the supplied vertical installation stands. The unit can be installed either vertically or horizontally, saving space on your desktop.

Various output signals

The following interfaces installed on standard allow connection to various external devices.

- Analog composite video output
- Analog component video output (J-10/30 only)
- S-video output
- **i**¹⁾ (DV) output
- SDI SMPTE 259M (Component digital video/audio 8 channels) output (J-10SDI/30SDI only)
- Analog audio output
- Time code output (J-10SDI/30SDI only)

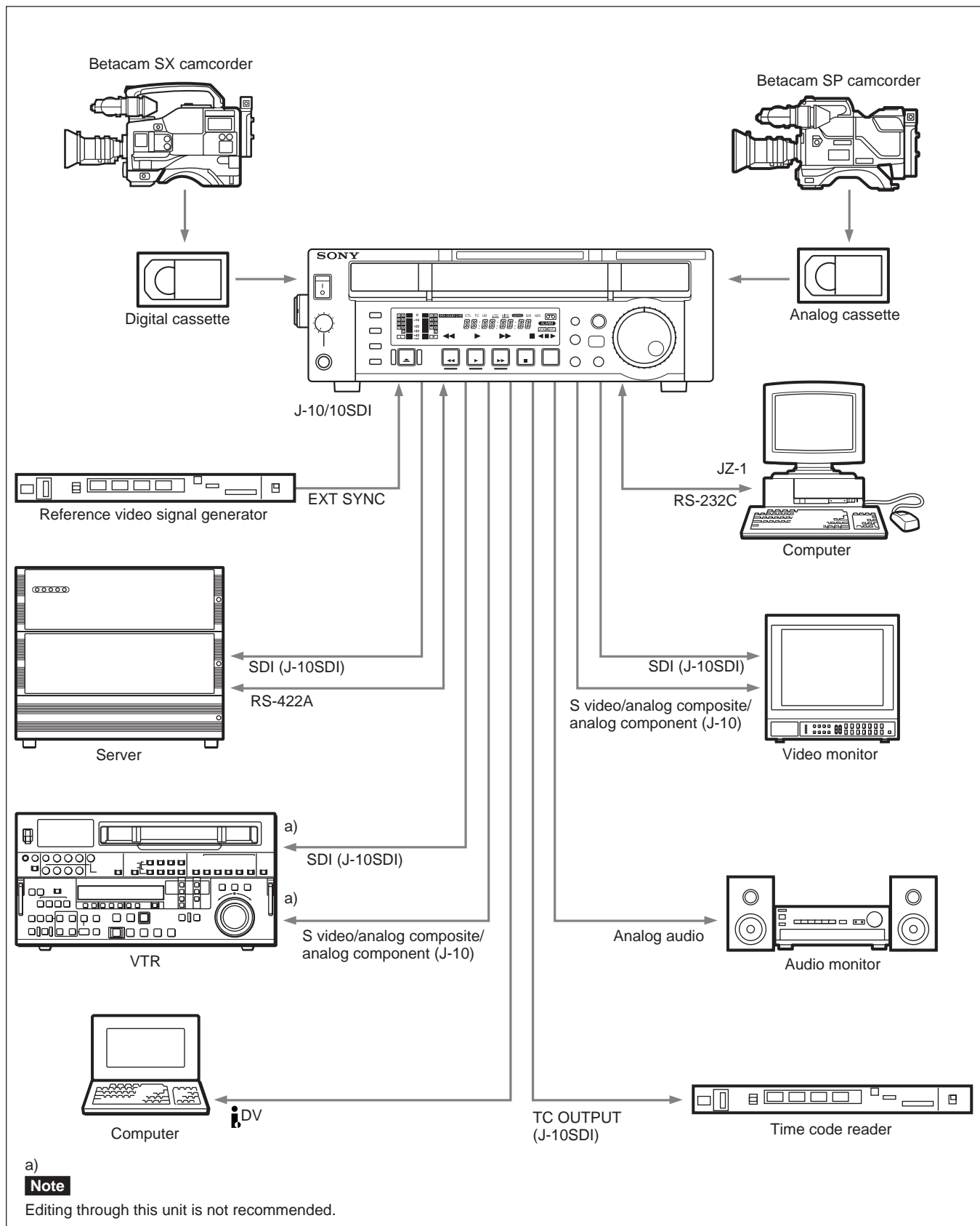
i (DV) output

This unit can output digital video/audio signals in DV format compatible with **i**.LINK¹⁾ from the DV output connector.

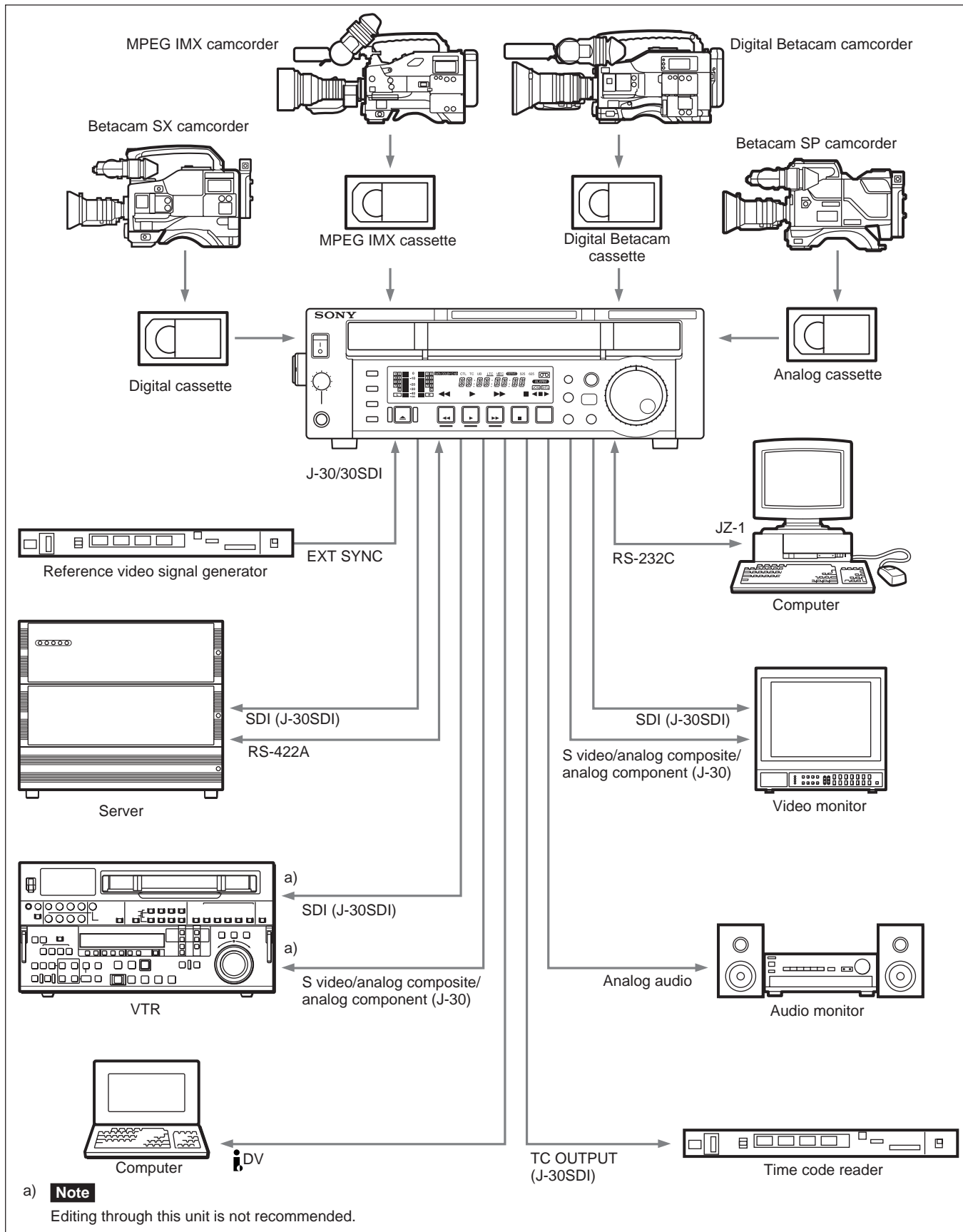
1) **i** is a trademark of Sony Corporation and indicates that this product is in agreement with IEEE 1394-1995 specifications and their revisions.

1-3 Sample System Configuration

Example for the J-10/10SDI

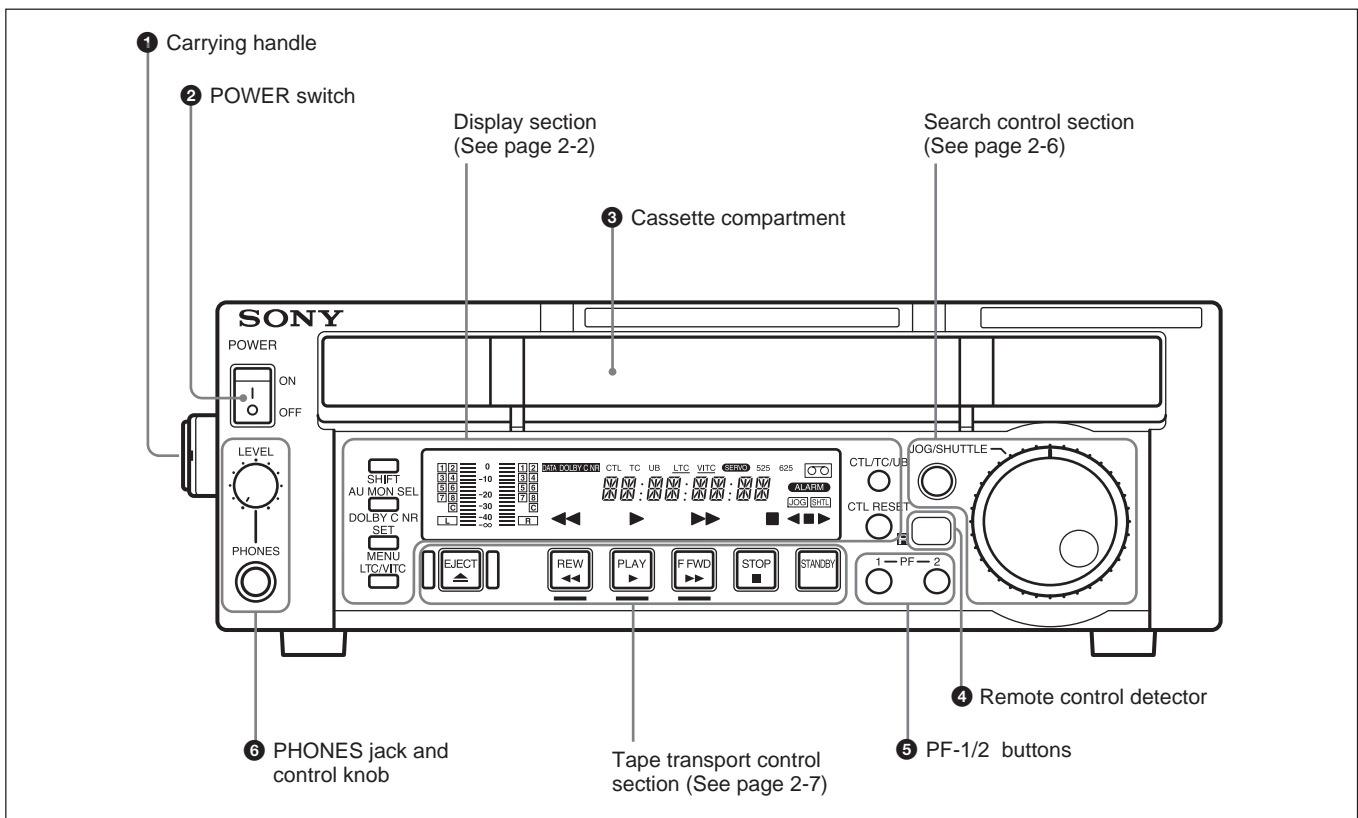


Example for the J-30/30SDI



Location and Function of Parts

2-1 Control Panel



1 Carrying handle

Use this handle to carry the unit or to stand the unit vertically.

2 POWER switch

Press the side of the POWER switch marked "ON" to turn the unit on. The fluorescent display and indicators in the display section light.

Press the side of the POWER switch marked "OFF" to turn the unit off.

2-1 Control Panel

3 Cassette compartment

Insert an S or L cassette.

4 Remote control detector

Receives the infrared signal from the supplied Remote Commander.

For details on the Remote Commander, see section 4-3 “Using the Remote Commander” on page 4-6.

5 PF (programmable function)-1/2 buttons

When using the Betacam SX or MPEG IMX format and setting this unit into noiseless mode, use these buttons to perform frame step playback (see page 4-3). To the PF-2 button, you can assign functions that are set in basic menu item 022, PF2 KEYSELECT. Function “tape remain time” is assigned to the PF-2

button as the factory default settings. While you are pressing the button, the remaining tape time are displayed in the display section.

For details on function assignment, see the section “Menu bank operations (basic menu items B01 to B12)” on page 7-5.

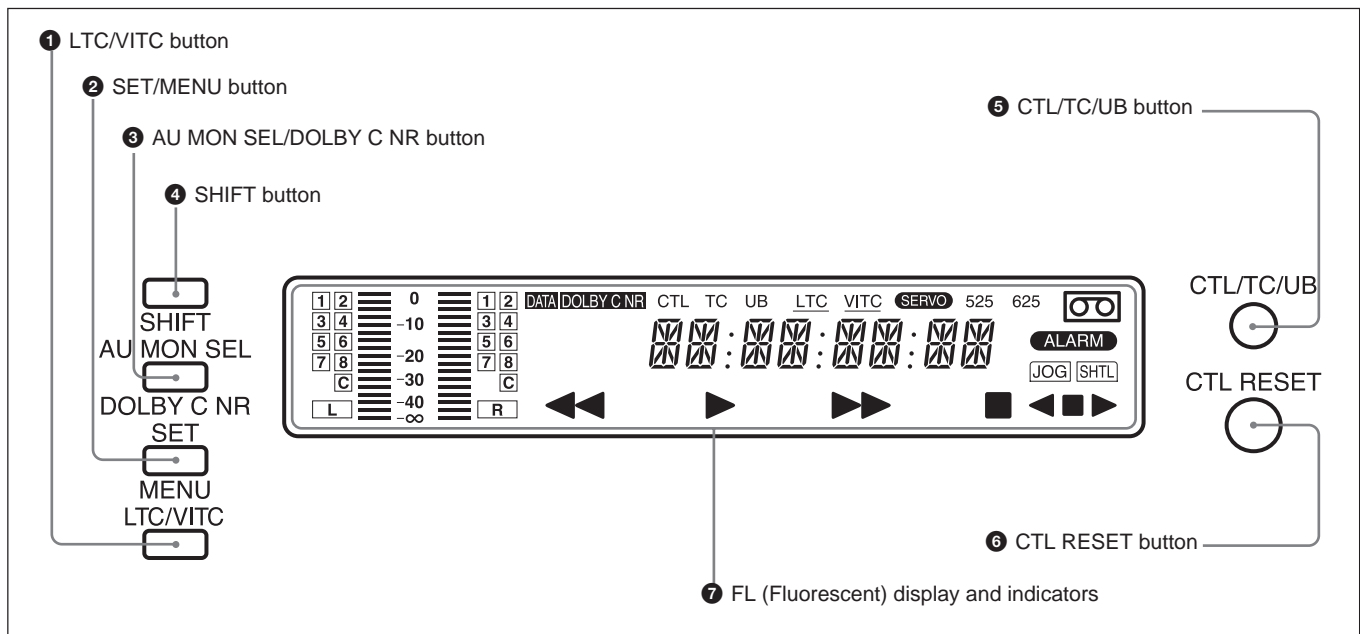
6 PHONES (headphones) jack and control knob

Connect stereo headphones with an impedance of 8 ohms to monitor the sound during playback. The control knob adjusts the volume.

It is possible to make a setting so that the output volume from the AUDIO MONITOR connectors is controlled simultaneously.

Set AUDIO MONITOR OUTPUT LEVEL, extended menu item 114, to VAR to enable the above feature.

2-1-1 Display Section



1 LTC/VITC button

This selects the time code displayed in the FL display in the following sequence: LTC¹⁾, VITC²⁾. The underline for the LTC or VITC time code setting indicators lights corresponding to the selection.

Note

In this unit, VITC may not be displayed correctly except during normal playback.

1) LTC: abbreviation of Longitudinal Time code. This time code is recorded on a longitudinal track on the tape. Reading is unreliable at low speeds, and not possible at all during still playback.

2) VITC: abbreviation of Vertical Interval Time code. This time code is inserted in the vertical blanking interval and recorded on the video tracks.

② SET/MENU button

Use this button for setup menu operations and settings. Press the SET/MENU button while holding down the SHIFT button to display the contents of the setup menu items on the FL display. When the setting is finished, press only the SET/MENU button to fix the settings and return to the normal display.

For details of setup menu settings and operations, see Chapter 7.

③ AU MON SEL (audio monitor output select)/ DOLBY C NR¹⁾ (noise reduction) button

Press this button to function the AU MON SEL button. Each press of this button switches the audio channel as listed below. The selected channels are displayed in the display section.

For the Betacam/Betacam SP format

Output mode ^{a)}	STEREO		MONO	
	L	R	L	R
Press once	CH-1	CH-2	CH-1	CH-1
Press twice	CH-1,2	CH-1,2	CH-2	CH-2
Press 3 times	Each press of this button switches the mode as in the above sequence.		CH-1,2	CH-1,2
Press 4 times			Each press of this button switches the mode as in the above sequence.	

a) Set in basic menu item 026 of the setup menu

For the Betacam SX format

Output mode ^{a)}	STEREO		MONO	
	L	R	L	R
Press once	CH-1	CH-2	CH-1	CH-1
Press twice	CH-3	CH-4	CH-2	CH-2
Press 3 times	CH-1,2	CH-1,2	CH-3	CH-3
Press 4 times	CH-3,4	CH-3,4	CH-4	CH-4
Press 5 times	Each press of this button switches the mode as in the above sequence.		CH-1,2	CH-1,2
Press 6 times			CH-3,4	CH-3,4
Press 7 times			Each press of this button switches the mode as in the above sequence.	

a) Set in basic menu item 026 of the setup menu

For the MPEG IMX format (J-30/30SDI)

Output mode ^{a)}	STEREO		MONO	
	L	R	L	R
Press once	CH-1	CH-2	CH-1	CH-1
Press twice	CH-3	CH-4	CH-2	CH-2
Press 3 times	CH-5	CH-6	CH-3	CH-3
Press 4 times	CH-7	CH-8	CH-4	CH-4
Press 5 times	CH-1,2	CH-1,2	CH-5	CH-5
Press 6 times	CH-3,4	CH-3,4	CH-6	CH-6
Press 7 times	CH-5,6	CH-5,6	CH-7	CH-7
Press 8 times	CH-7,8	CH-7,8	CH-8	CH-8
Press 9 times	Each press of this button switches the mode as in the above sequence.		CH-1,2	CH-1,2
Press 10 times			CH-3,4	CH-3,4
Press 11 times			CH-5,6	CH-5,6
Press 12 times			CH-7,8	CH-7,8
Press 13 times			Each press of this button switches the mode as in the above sequence.	


a) Set in basic menu item 026 of the setup menu

For the Digital Betacam format (J-30/30SDI)

Output mode ^{a)}	STEREO		MONO	
	L	R	L	R
Press once	CH-1	CH-2	CH-1	CH-1
Press twice	CH-3	CH-4	CH-2	CH-2
Press 3 times	CH-1,2	CH-1,2	CH-3	CH-3
Press 4 times	CH-3,4	CH-3,4	CH-4	CH-4
Press 5 times	CUE	CUE	CUE	CUE
Press 6 times	Each press of this button switches the mode as in the above sequence.		CH-1,2	CH-1,2
Press 7 times			CH-3,4	CH-3,4
Press 8 times			Each press of this button switches the mode as in the above sequence.	

a) Set in basic menu item 026 of the setup menu

The latest setting for each format is saved in the memory regardless of whether the power has been turned on/off. Therefore, when you play any cassette next time, it will be played back in the format last saved. If there is no cassette in the unit, you can change the audio channel in the format used the last time you ejected the cassette.

1) DOLBY C NR: Dolby C noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

2-1 Control Panel

Press this button while holding down the SHIFT button to function the DOLBY C NR button. The DOLBY C NR indicator lights in the display section. When you are using an oxide tape, it switches the Dolby NR C-type system for analog audio on or off. When you are using a metal tape, the Dolby C NR system is automatically switched on, regardless of the setting of this switch.

ON: Enables the Dolby C NR system for playback of an analog Betacam oxide tape.

OFF: Disables the Dolby C NR system for playback of an analog Betacam oxide tape.

The factory default setting is OFF.

4 SHIFT button

Hold down this button and press the AU MON SEL/DOLBY C NR button to enable the DOLBY C NR function. To enable the menu function, press the SET/MENU button while holding down the SHIFT button. Press the F FWD or REW button while holding down the SHIFT button to do the forward or reverse cue-up of the shot marks ¹⁾. These marks are located before and after of the current tape position. In addition, press the PLAY button while holding down the SHIFT button to superimpose the shot data ²⁾ (when using the Betacam/Betacam SP/Betacam SX format) or UMID (when using the Digital Betacam/ MPEG IMX format) over the playback image. To clear the shot data or UMID, again press the PLAY button while holding down the SHIFT button.

For details on UMID, see Chapter 5.

5 CTL/TC/UB (display switching) button

This selects the time data displayed in the fluorescent display in the following sequence: CTL, TC, UB. As the display changes, the corresponding indicators over the fluorescent display also light/go off.

Time data display selection and display contents

Display selection	Value displayed	Indicator status
CTL	Tape running time (hours, minutes, seconds, frames) computed from the CTL (control) signal recorded on the tape during playback.	CTL indicator lights.
TC	Playback time code read by the internal time code reader. ^{a)}	The TC indicator lights.
UB	User bit value inserted in the playback time code. ^{a)}	The UB indicator lights.

a) The LTC/VITC button switches between LTC and VITC.

6 CTL RESET button

Press this button to reset a CTL value displayed in the FL display area.

7 FL (Fluorescent) display and indicators

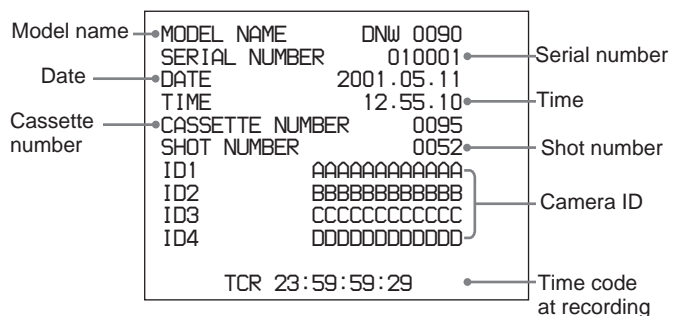
These comprise a time data display, an audio monitor display and of indicators. (See the figure on next page.)

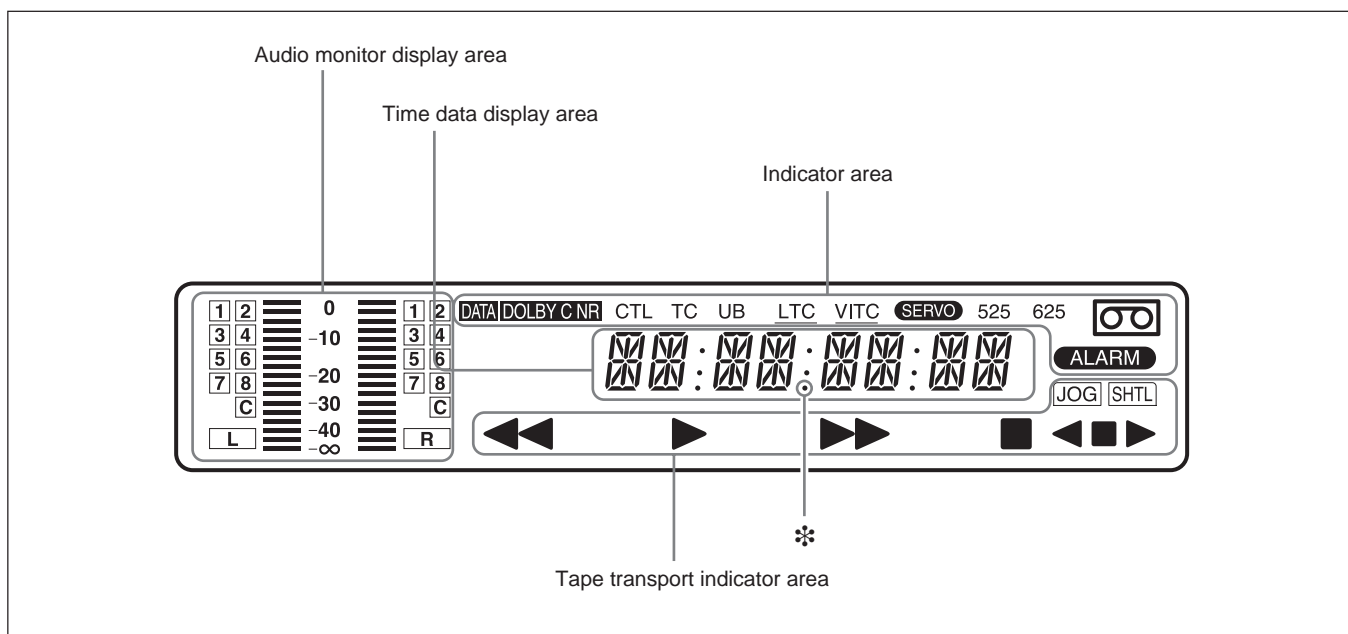
1) Shot marks

If you use a camcorder which allows you to use shot marks, you can insert REC START marks or shot marks in the user bits area in advance for easy editing. This is called inserting shot marks.

2) Shot data

The information recorded continuously during the process of shooting is called shot data. The contents of the display vary corresponding to the change of shooting conditions (e.g. changing camcorders, shooting on different dates, etc.). If there are any parts that contain no shot data by changing a shooting camcorder, the unit displays blank data.





Audio monitor display area

- **L/R audio level meter**
Indicates the audio levels of the 2 optionally selected channels making up L/R (Left/Right).
- **L/R audio channel display**
Indicates the optionally selected channel numbers.


Time data display area

Normally this displays a CTL count, time code value, or user bit value according to the selection of the CTL/TC/UB button or LTC/VITC button. When a cassette recorded in the DF mode is played back, the dot by the * mark in the illustration above lights. At this time, the two dots (:) located above the dot disappear. It is also used to display error messages and the setup menus.

For details of the display of the CTL count, time code value, or user bit value, see the explanation given in “5 CTL/TC/UB button” on page 2-4.

Indicator area

This includes the following indicators.

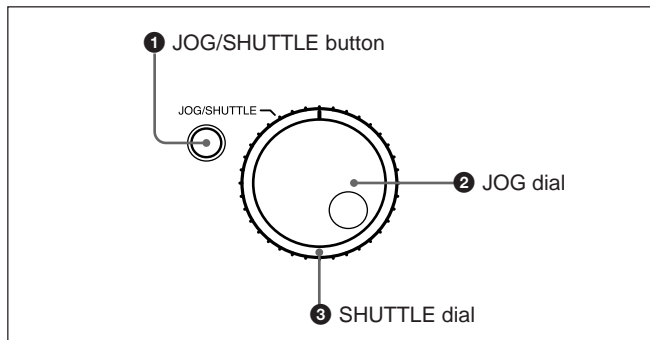
- **DOLBY C NR (Dolby C noise reduction) indicator:** This lights when the Dolby noise reduction circuit is functioning..
- **CTL (control) indicator:** This lights when a tape running time (hours, minutes, seconds, frames) computed from the CTL signal is displayed in the time data display area.
- **TC (time code) indicator:** This lights when a time code is displayed in the time data display area.
- **UB (user bits) indicator:** This lights when a user bit value is displayed in the time data display area.
- **LTC, VITC indicators:** Regardless of the display in the time data display area, these indicators light when the corresponding time code values are being read. When LTC has been selected using the LTC/VITC button, the LTC indicator is displayed and underlined. On the other hand, when VITC is selected, the VITC indicator is displayed and underlined.
- **SERVO indicator:** This lights when the servo lock is functioning.
- **ALARM indicator:** This lights when a hardware error is detected on the unit, and goes off when the error is resolved. When this indicator is lit, an error message appears in the time data display area.
- **Cassette-in indicator** : This lights when a cassette is loaded in the unit.
- **DATA indicator:** This lights when a tape, containing audio data such as Dolby-E and AC-3 on its DIGITAL AUDIO track, is played back.
- **525, 625 (scan lines for the television standard) indicators:** Either of these indicators lights to show the system for which this unit is set in basic menu item 013 (NTSC: 525 scan lines, field frequency 60 Hz; PAL: 625 scan lines, field frequency 50 Hz).

2-1 Control Panel

Tape transport indicator area

- Tape transport indicator
When you press each button in the tape transport control section, the corresponding indicators light.
 - ◀◀: REW (rewind) indicator
 - ▶: PLAY indicator
When AUTO TRACKING (the automatic tape loading function) is in operation, this indicator flashes.
 - ▶▶: F FWD (fast forward) indicator
 - : STOP indicator
- JOG/SHTL (jog/shuttle) indicator
The “JOG” indicator lights when playback is carried out in jog mode, and the “SHTL” indicator lights when playback is carried out in shuttle mode.
- JOG/SHTL (jog/shuttle) transport indicator
 - ◀: Jog/shuttle reverse indicator (green)
 - ▶: Jog/shuttle forward indicator (green)
 - : Jog/shuttle still indicator (red)

2-1-2 Search Control Section



1 JOG/SHUTTLE button

Use this button to toggle between jog mode and shuttle mode when using the JOG dial or SHUTTLE dial. Press this button once for playback in jog mode, or press this button twice for playback in shuttle mode during playback or F FWD/REW. The corresponding “JOG” indicator or “SHTL” indicator lights in the display section.

2 JOG dial

Turn this to carry out playback in the modes shown in the table in the right column. Turn the dial clockwise for forward playback and counterclockwise for reverse playback.

3 SHUTTLE dial

Turn this to carry out playback in the modes shown in the following table. Turn the dial clockwise for forward playback and counterclockwise for reverse playback.

After pressing the JOG/SHUTTLE button, turn the JOG dial for playback in jog mode and the SHUTTLE dial for playback in shuttle mode.

Playback modes using the JOG/SHUTTLE dial

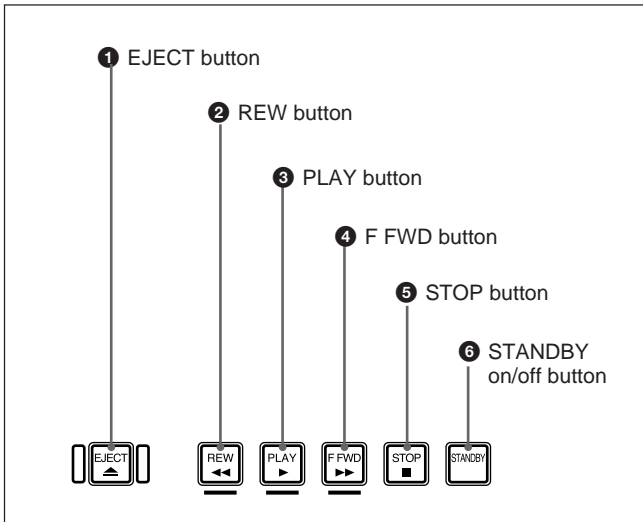
Playback mode	Operations and functions
Jog	Press the JOG/SHUTTLE button once to light “JOG,” then turn the JOG dial, or simply turn the JOG dial without lighting “JOG.” Playback is carried out at a speed corresponding to the rotating speed of the JOG dial. The playback speed range is from -1 to $+1$ times normal speed. The JOG dial has no detents.
Shuttle	Press the JOG/SHUTTLE button twice to light “SHTL,” then turn the SHUTTLE dial, or simply turn the SHUTTLE dial without lighting “SHTL.” Playback is carried out at a speed corresponding to the angular position of the SHUTTLE dial. The playback speed range is as follows. <ul style="list-style-type: none"> When using a Digital Betacam tape (J-30/30SDI): -21 to $+21$ times normal speed When using an MPEG IMX tape (J-30/30SDI): $-32/-38$ to $+32/+38$ times normal speed (NTSC/PAL) When using a Betacam SX tape: -35 to $+35$ times normal speed When using an analog Betacam tape: $-18/-20$ to $+18/+20$ times normal speed (NTSC/PAL) The SHUTTLE dial has detents at the center position, and at that point a still picture is displayed.

Notes

- Normally, you turn the SHUTTLE dial after setting the jog/shuttle mode by pressing the JOG/SHUTTLE button. However, you can also set the jog/shuttle mode simply by turning the dial. (This feature is available when SELECTION FOR JOG/SHUTTLE DIAL ENABLE, extended menu item 101 of the setup menu, is set to DIAL.) In this case, you must reset the SHUTTLE dial to the center position after turning it, otherwise the dial may be moved by vibration and the tape may start running in the shuttle mode during playback.

- If the unit carries out reverse playback in the shuttle mode at -0.5 times or less normal speed for 20 consecutive minutes, the reel motor heat protection circuit automatically functions and the unit enters still mode.

2-1-3 Tape Transport Control Section



1 EJECT button

Press this button to eject the cassette.

2 REW (rewind) button

To rewind the tape, press this button. The REW indicator in the display section lights. When you are using a tape containing shot marks, press this button while holding down the SHIFT button to cue-up a shot mark position in the reverse direction.

3 PLAY button

To start playback, press this button. The PLAY indicator in the display section lights.

When you are using a Betacam/Betacam SP/Betacam SX tape containing shot data, press this button while holding the SHIFT button to display shot data (*see page 2-4*).

When you are using a Digital Betacam/MPEG IMX tape containing UMID, press this button while holding the SHIFT button to display UMID (*see page 5-2*).

To clear the shot data or UMID, again press this button while holding down the SHIFT button.

4 F FWD (fast forward) button

To start fast forwarding the tape, press this button. The F FWD indicator in the display section lights. When you are using a tape containing shot marks, press this button while holding down the SHIFT button to cue-up a shot mark position in the forward direction.

5 STOP button

To stop playback, press this button. The STOP indicator in the display section lights.

If REFERENCE SYSTEM ALARM, extended menu item 105 of the setup menu, has been set to ON, this button flashes when the external reference video signal is not supplied.

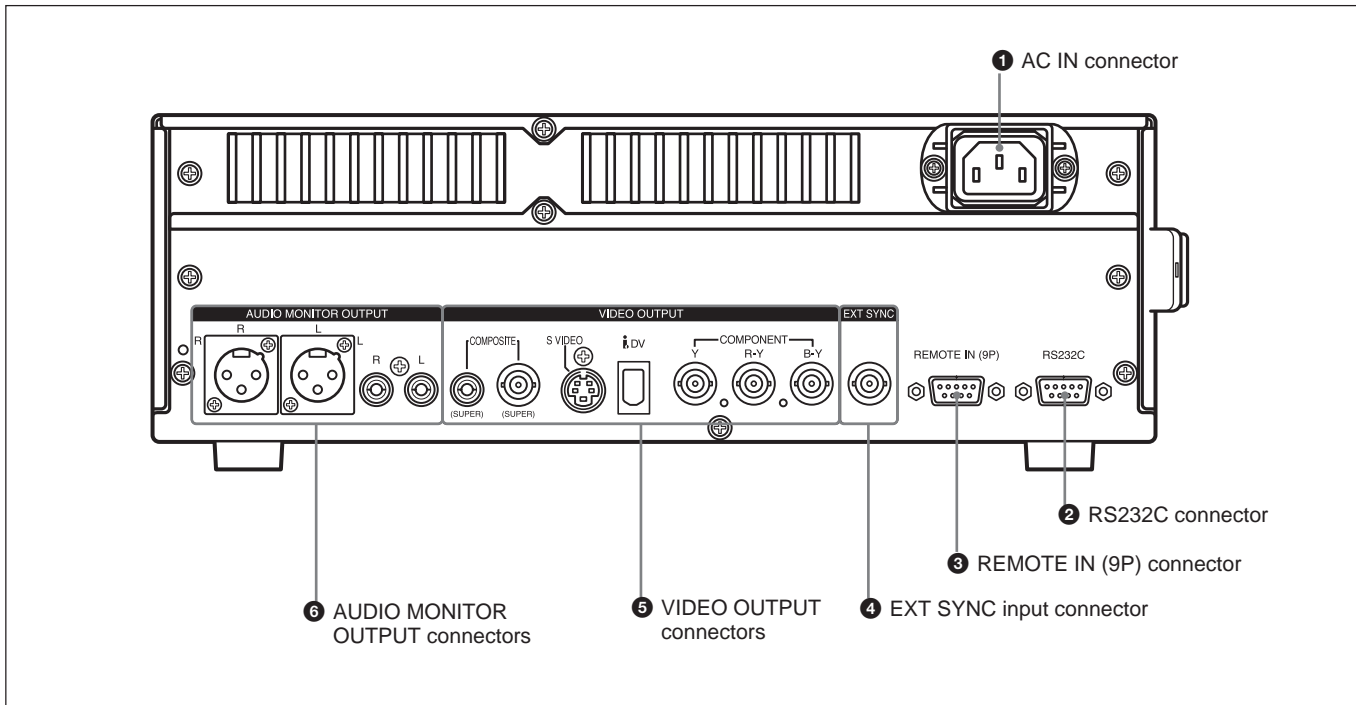
6 STANDBY on/off button

When a cassette is inserted in the unit and the unit is in the Stop mode, you can toggle the VTR standby mode on and off by pressing this button.

In standby mode, the drum rotates and the tape sticks to the drum. As a result, playback starts immediately. If the unit is set to 8 minutes elapse (this value can be varied using STILL TIMER extended menu item 501 of the setup menu) in standby mode, it automatically switches out of standby mode to protect the tape.

2-2 Connector Panel

2-2-1 Connector Panel of the J-10/30



1 AC IN connector

Connects to an AC outlet using the power cord (not supplied).

2 RS232C (RS-232C serial interface) connector (D-sub 9-pin)

Used to send or receive RS-232C remote control signals and VTR status signals to/from an external device such as a computer with the JZ-1 installed.

3 REMOTE IN (9P) connector (RS-422A serial interface, 9-pin)

Controls the unit remotely from an external device equipped with the Sony 9-pin remote control function.

4 EXT SYNC (external synchronization) input connector

Inputs the reference video signal. However, on this unit, use this for frame synchronization only, not for color subcarrier synchronization.

5 VIDEO OUTPUT connectors

COMPOSITE (analog composite video) (SUPER) output connector (phono jack): Outputs an analog composite video signal. When basic menu item 005, DISPLAY INFORMATION SELECT, of the setup menu is set as anything other than OFF, the output from this connector outputs superimposed character information such as time code, menu settings, or alarm messages.

COMPOSITE (analog composite video) (SUPER) output connector (BNC): Outputs an analog composite video signal. When basic menu item 005, DISPLAY INFORMATION SELECT, of the setup menu is set as anything other than OFF, the output from this connector outputs superimposed character information such as time code, menu settings, or alarm messages.

S VIDEO output connector (Mini-DIN 4-pin): Outputs an S VIDEO signal.

i DV (i.LINK DV) output connector (IEEE1394, 6-pin):

Outputs video/audio signals in DV format (IEEE1394, 6-pin).

When basic menu item 030, i.LINK CHARACTER, of the setup menu is set to ON and basic menu item 005, DISPLAY INFORMATION SELECT is set as anything other than OFF, the output from this connector outputs superimposed character information such as time code, menu settings, or alarm messages.

Notes

- Through the **i** DV connector, only one DV device can be connected to this unit. If you intend to connect multiple DV devices, refer to the manuals of them.
- The i.LINK (DV) output of this unit is used to provide materials to a computer on which non-linear editing software is installed. You can use a Sony VTR equipped with an i.LINK (DV) connector (DVCAM series of VTRs for example) with this unit, though, the auto dubbing function and editing function will not be available.
- 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.

COMPONENT (Y/R–Y/B–Y) output connectors

(BNC): Output analog component video signals (Y/R–Y/B–Y).

6 AUDIO MONITOR OUTPUT connectors

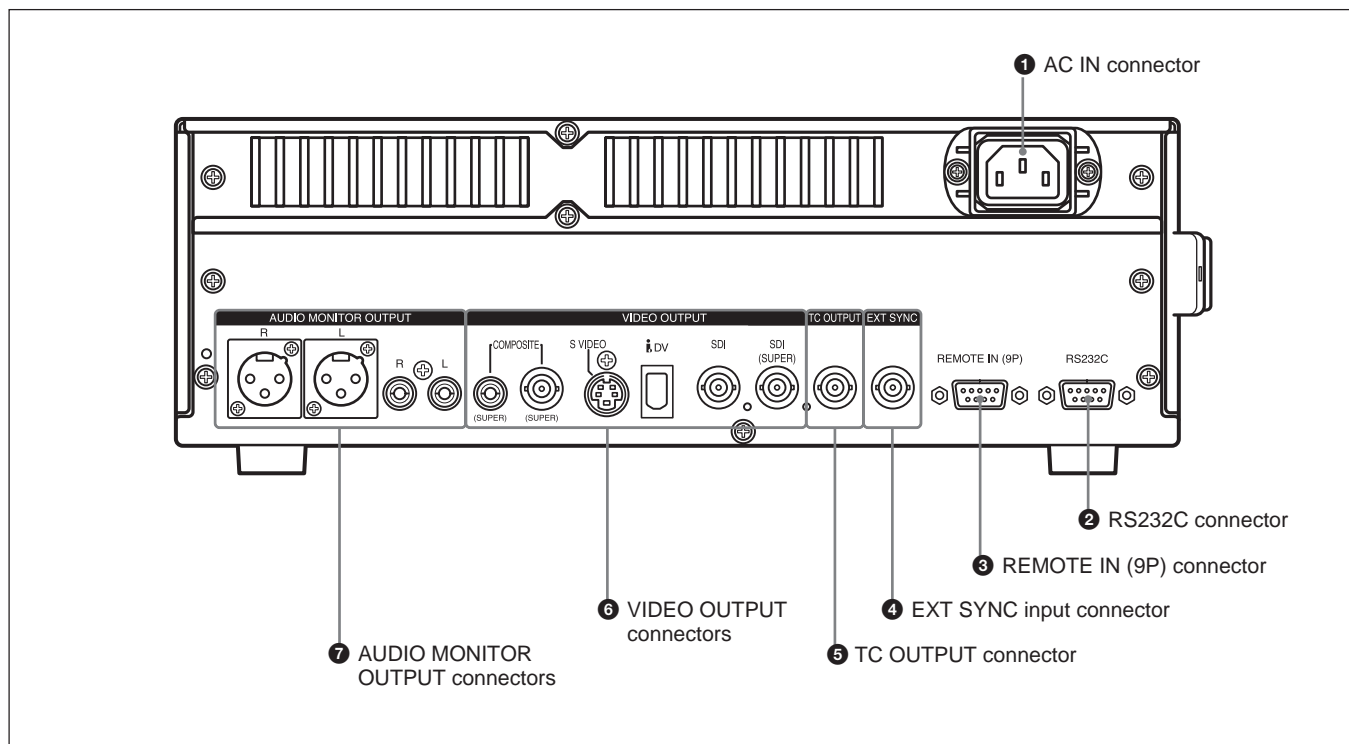
Audio monitor (L/R) output connectors (XLR

3-pin, male): Output two (L and R) audio monitor signals according to the setting of the AU MON SEL/BOLBY C NR button on the control panel.

Audio monitor (L/R) output connectors (Phono jack): Output two (L and R) audio monitor signals according to the setting of the AU MON SEL/DOLBY C NR button on the control panel.

2-2 Connector Panel

2-2-2 Connector Panel of the J-10SDI/30SDI



❶ AC IN connector

Connects to an AC outlet using the power cord (not supplied).

❷ RS232C (RS-232C serial interface) connector (D-sub 9-pin)

Used to send or receive RS-232C remote control signals and VTR status signals to/from an external device such as a computer with the JZ-1 installed.

❸ REMOTE IN (9P) connector (RS-422A serial interface, 9-pin)

Controls the unit remotely from an external device equipped with the Sony 9-pin remote control function.

❹ EXT SYNC (external synchronization) input connector

Inputs the reference video signal. However, on this unit, use this for frame synchronization only, not for color subcarrier synchronization.

❺ TC OUTPUT (time code output) connector (BNC)

Outputs the playback time code.

❻ VIDEO OUTPUT connectors

COMPOSITE (analog composite video) (SUPER) output connector (phono jack): Outputs an analog composite video signal. When the basic menu item 005, DISPLAY INFORMATION SELECT, of the setup menu is set as anything other than OFF, the output from this connector outputs superimposed character information such as time code, menu settings, or alarm messages.

COMPOSITE (analog composite video) (SUPER) output connector (BNC): Outputs an analog composite video signal. When the basic menu item 005, DISPLAY INFORMATION SELECT, of the setup menu is set as anything other than OFF, the output from this connector outputs superimposed character information such as time code, menu settings, or alarm messages.

S VIDEO output connector (Mini-DIN 4-pin): Outputs an S VIDEO signal.

i.LINK DV (i.LINK DV) output connector (IEEE1394, 6-pin):

Outputs video/audio signals in DV format. When basic menu item 030, i.LINK CHARACTER, of the setup menu is set to ON and basic menu item 005, DISPLAY INFORMATION SELECT is set as anything other than OFF, the output from this connector outputs superimposed character information such as time code, menu settings, or alarm messages.

Notes

- Through the **i.LINK DV** connector, only one DV device can be connected to this unit. If you intend to connect multiple DV devices, refer to the manuals of them.
- The i.LINK (DV) output of this unit is used to provide materials to a computer on which non-linear editing software is installed. You can use a Sony VTR equipped with an i.LINK (DV) connector (DVCAM series of VTRs for example) with this unit, though, the auto dubbing function and editing function will not be available.
- 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.

SDI (serial digital interface) output connector:

Outputs a video/audio signal in D1 format without superimposed character information.

SDI (serial digital interface) (SUPER) output

connector: Outputs a video/audio signal in D1 format. When basic menu item 005, DISPLAY INFORMATION SELECT, of the setup menu is set as anything other than OFF, the connector outputs the superimposed character information such as time code, menu settings, or alarm messages.

7 AUDIO MONITOR OUTPUT connectors

Audio monitor (L/R) output connectors (XLR

3-pin, male): Output two (L and R) audio monitor signals according to the setting of the AU MON SEL/DOLBY C NR button on the control panel.

Audio monitor (L/R) output connectors (Phono

jack): Output two (L and R) audio monitor signals according to the setting of the AU MON SEL/DOLBY C NR button on the control panel.

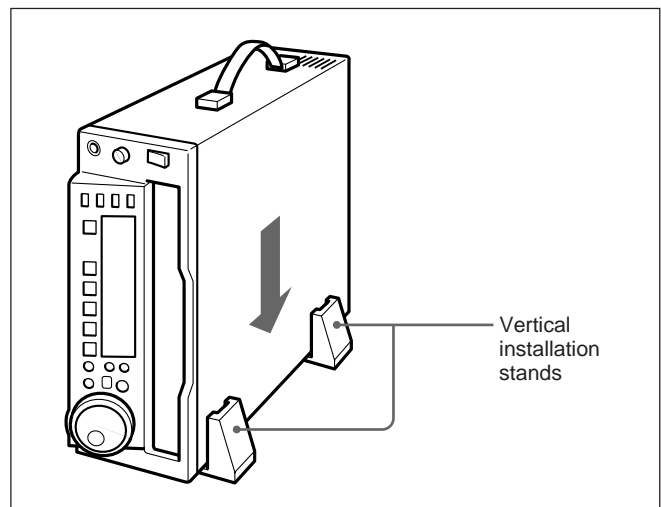
Preparations

3-1 Installation

You can install this unit horizontally as well as vertically. However, it is necessary to use the supplied vertical installation stands to prepare the unit for vertical installation as shown in the figure.

Notes

- When you install this unit vertically, be sure that the handle faces up.
- Regardless of whether you install the unit horizontally or vertically, make sure there is a space of 5 cm (2 inches) or more around the unit.



3-2 Cassettes

Cassette types

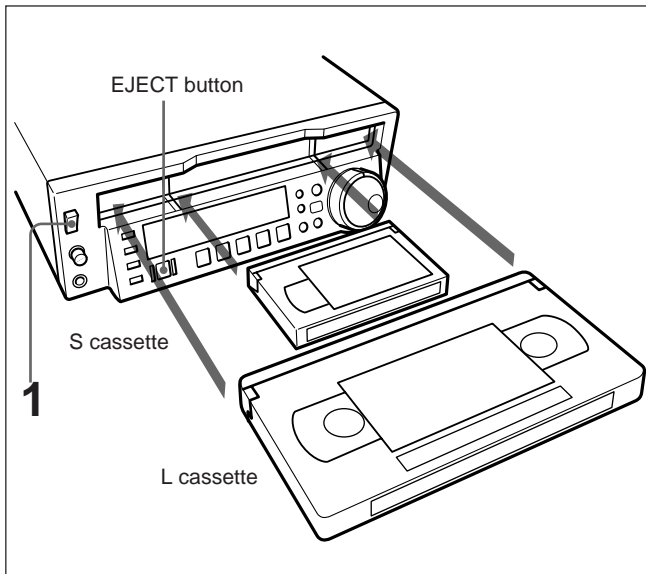
This unit uses the following 1/2-inch tape width cassettes:

- Digital Betacam cassette (J-30/30SDI only)
- MPEG IMX cassette (J-30/30SDI only)
- Betacam SX cassette
- Betacam SP cassette
- Betacam cassette
- UVW cassette

Inserting and ejecting cassettes

Insert or eject a cassette while the unit is powered on.

Inserting a cassette



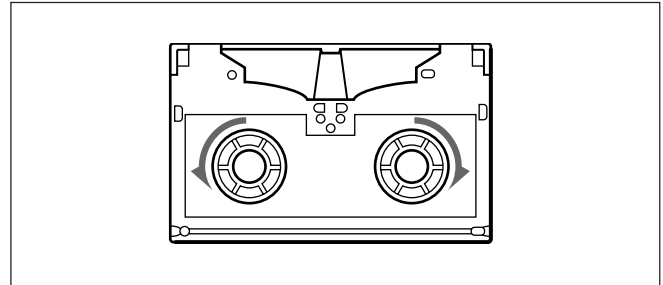
- 1 Turn the POWER switch on.
- 2 Check the following points before inserting the cassette with the orientation shown in the figure.
 - Check that there is no slack in the tape.
 - Check that the message “E10-0000” is not shown in the time data display area.

The cassette is drawn into the unit.

If the message “E10-0000” appears in the time data display area, there is moisture condensation in the unit. For steps to take when “E10-0000” is displayed, see section 8-3 “Moisture Condensation” on page 8-2.

Removing slack from the tape

Press one of the reels in with a finger, and turn gently in the direction shown by the arrows until there is no slack in the tape.



Ejecting a cassette

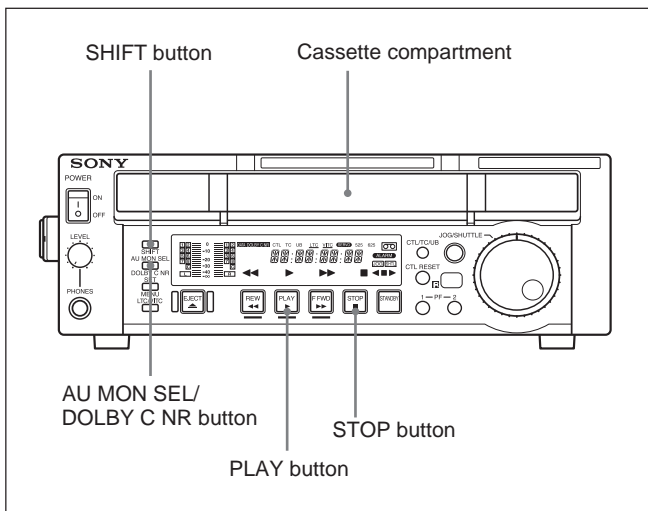
Press the EJECT button.
The cassette is ejected.

If the tape slacks inside the unit, pressing the EJECT button may not eject the cassette. For information about how to remove the cassette in such a case, refer to the Maintenance Manual.

Playback

4-1 Playback Procedures

4-1-1 Normal Playback



Insert a cassette beforehand.

For details of how to insert a cassette, see the section "Inserting and ejecting cassettes" on page 3-2.

To start playback

Press the PLAY button.

To stop playback

Press the STOP button.

If you play back to the end of the tape

The tape is automatically rewound, and stops. (When AUTO REWIND, extended menu item 125, is set to ENA)

Notes

- If you playback a Betacam/Betacam SP cassette immediately after playing back a Betacam SX cassette or Digital Betacam cassette, it may take several seconds for playback to start.
- This unit uses an auto-tracking function (when using the Digital Betacam or MPEG IMX format). The factory setting for the auto-tracking is on (AUTO TRACKING ON). You can turn auto-tracking off. For details on how to change the setting, contact your nearest Sony dealer. While this unit is pulling the tape in, the PLAY button indicator ► flashes.

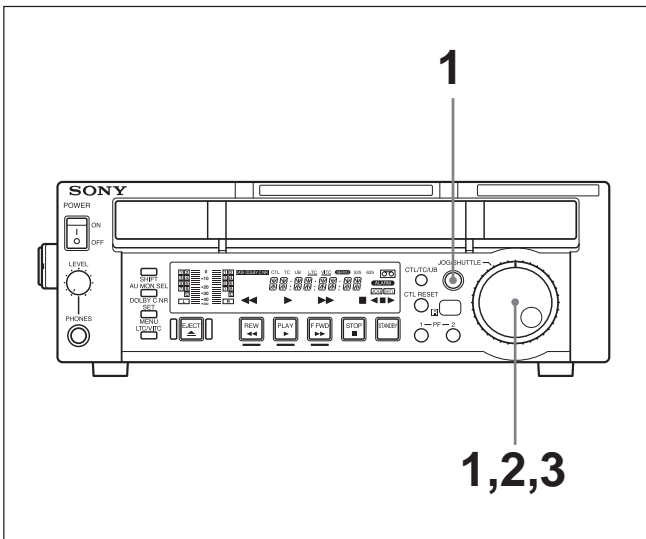
When using the Dolby C NR system

When using an analog Betacam cassette, you can use Dolby C NR for audio playback.

To activate the Dolby NR system, press the AU MON SEL/DOLBY C NR button while holding down the SHIFT button on the control panel.

4-1 Playback Procedures

4-1-2 Playback in Jog Mode



In jog mode, the JOG dial controls the playback speed based on the speed at which the dial is turned. The playback speed range is ± 1 times normal speed. Use the following procedure to carry out playback in jog mode.

- 1 Turn the JOG dial directly or press the JOG/SHUTTLE button to light the JOG indicator.

Pressing the JOG/SHUTTLE button toggles between jog mode and shuttle mode.

- 2 Turn the JOG dial in the desired direction, at a speed corresponding to the desired playback speed.

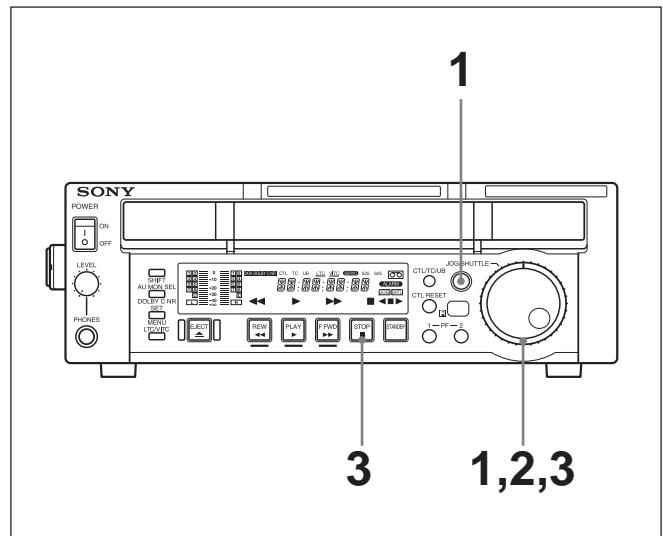
Playback in jog mode starts.

- 3 To stop playback in jog mode, stop turning the JOG dial.

It is possible to make pressing the JOG/SHUTTLE button to switching between JOG and SHUTTLE mode.

Select “KEY” in SELECTION FOR JOG/SHUTTLE DIAL ENABLE, extended menu item 101, to enable the above feature. (This is the default setting.)

4-1-3 Playback in Shuttle Mode



In shuttle mode, the SHUTTLE dial controls the playback speed based on the angular position of the dial.

- When using a Digital Betacam tape: ± 21 times
- When using an MPEG IMX tape: ± 32 times/ ± 38 times (NTSC/PAL)
- When using a Betacam SX tape: ± 35 times
- When using an analog Betacam tape: $\pm 18/\pm 20$ times (NTSC/PAL)

+ indicates forward direction speed, – indicates reverse direction speed.

The SHUTTLE dial has detents at the center position, move the SHUTTLE dial to the center indent to display a still picture.

Use the following procedure to carry out playback in shuttle mode.

- 1 Turn the SHUTTLE dial directly or press the JOG/SHUTTLE button twice to light the SHTL indicator.

If the SHUTTLE dial points to a position other than the center, playback in shuttle mode starts at a speed corresponding to the angular position of the dial.

Pressing the JOG/SHUTTLE button toggles between jog mode and shuttle mode.

- 2** Turn the SHUTTLE dial to the angle corresponding to the desired playback speed.

Playback in shuttle mode starts.

- 3** Return the SHUTTLE dial to the center indent position or press the STOP button to cancel shuttle mode playback.

It is possible to make pressing the JOG/SHUTTLE button to switching between JOG and SHUTTLE mode.

Select “KEY” in SELECTION FOR JOG/SHUTTLE DIAL ENABLE, extended menu item 101, to enable the above feature. (This is the default setting.)

To return to normal-speed playback

Press the PLAY button.

To alternate between normal-speed playback and shuttle mode playback

Set the SHUTTLE dial to the position corresponding to the desired shuttle playback speed first. Press the PLAY button, and then press the JOG/SHUTTLE button twice.

For intermittent shuttle mode playback, press the STOP button first and then press the JOG/SHUTTLE button twice.

Normally, you turn the SHUTTLE dial after setting the jog/shuttle mode by pressing the JOG/SHUTTLE button. You can also set the jog/shuttle mode, however, by directly turning the dial. (This is available when SELECTION FOR JOG/SHUTTLE DIAL ENABLE, extended menu item 101, is set to DIAL.) In this case, you must reset the SHUTTLE dial to the center position after turning it, otherwise the dial is moved by vibration and the tape may start running in the shuttle mode during playback.

4-1-4 Noiseless Playback Function and Frame Step Playback Function

When you are using the Betacam SX or MPEG IMX format, you can put this unit into noiseless mode for noiseless jog and shuttle playback at up to ± 0.5 times normal speed. During noiseless playback, audio is muted for the MPEG IMX format. For the Betacam SX format, discontinuous audio in frame units is heard. In noiseless mode, you can use the PF-1/2 buttons to step through frames. The step for the MPEG IMX format is 1 frame. The step for the Betacam SX format is 2 frames.

To select noiseless mode

In the setup menu, set basic menu item 025, NOISELESS to Enable. (The factory default setting is Disable.) JOG or SHTL flashes in the display section.

To perform noiseless playback

Put the unit into noiseless mode, press the JOG or SHUTTLE button, and rotate the JOG/SHUTTLE dial. This allows you to perform noiseless playback at up to ± 0.5 times normal speed.

In noiseless mode, the emphasis is on slow-speeds. Therefore the SHUTTLE dial speed settings change from the Normal (0), ± 0.03 , ± 0.12 , ± 0.5 , ± 1 , ± 2 , ± 10 , ± 35 (Betacam SX format) (15 steps) to 0, ± 0.03 , ± 0.06 , ± 0.12 , ± 0.25 , ± 0.5 , ± 1 , ± 10 (15 steps). For the MPEG IMX format, extended menu item 922 of the setup menu IMX NOISELESS PB allows you to set the playback picture to FRAME, FIELD 1, or FIELD 2 (the factory default setting is FRAME).

4-1 Playback Procedures

To perform frame step playback

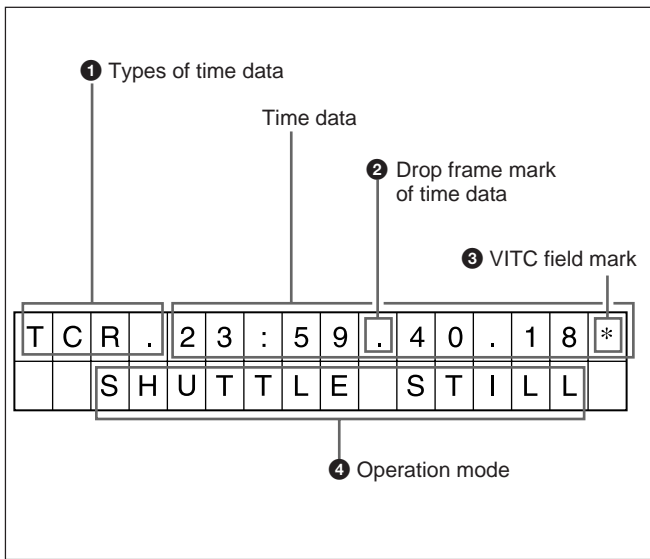
Put the unit into noiseless mode and press the PF-1 or PF-2 button.

When you are using the Betacam SX format, each press of the PF-1 button steps 2 frames back, and each press of the PF-2 button steps 2 frames forward. When you are using the MPEG IMX format, the buttons step 1 frame in the same directions.

Notes

- To perform frame step playback, always press the PLAY button once before pressing the PF-1 or PF-2 button. When you switch between FWD and REV, the picture may not be updated until you press the PF-1 or PF-2 button twice.
- During frame step playback, the picture and the LTC may be up to 5 frames out of sync. We recommend that you use VITC.
- Block noise may remain visible during frame step playback. If this occurs, step in the reverse direction, or press the PLAY button again.

4-2 Superimposed Character Information



When basic menu item 005 of the setup menu **DISPLAY INFORMATION SELECT** is set as anything other than OFF, the video signal output from the COMPOSITE (SUPER) output connector, SDI (SUPER) output connector (for J-10SDI/30SDI only) or iDV connector contains superimposed character information (overlaid display), including time code, menu settings, or alarm messages.

For details on the settings for superimposed display, see **DISPLAY INFORMATION SELECT**, basic menu item 005 on page 7-7, **SDI OUT CHARACTER**, basic menu item 027 on page 7-9, and **i.LINK CHARACTER**, basic menu item 030 on page 7-9.

Adjusting the character display

The basic menu adjusts the position, size and type of the superimposed characters.

For details of the basic menu, see section 7-3 “Basic Menu” on page 7-7.

Note

As the factory default setting, basic menu item 005, **DISPLAY INFORMATION SELECT** is set to OFF. Changing the setting of basic menu item 005, **DISPLAY INFORMATION SELECT** allows different time data to be displayed in the bottom line of the display.

For details, see section 7-3 “Basic Menu” on page 7-7.

Displayed items

1 Types of time data

Display	Meaning
CTL	CTL counter data
TCR	LTC reader time code
UBR	LTC reader user bit
TCR.	VITC reader time code
UBR.	VITC reader user bit

Note

If the time data or user bit cannot be read correctly, they will be displayed with an asterisk. For example, “T*R”, “U*R”, “T*R.” or “U*R.”.

2 Drop frame mark of time data

- “.”: Drop frame mode
- “:”: Non-drop frame mode

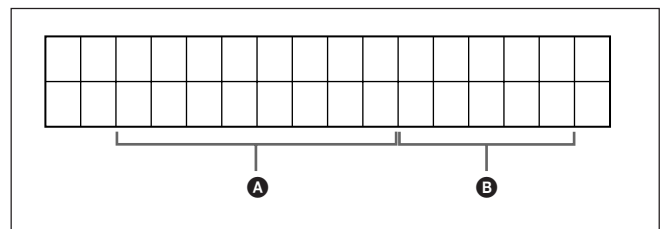
3 VITC field mark

- “ ” blank: When displaying Field 1 and 3
- “* ”: When displaying Field 2 and 4

4 Operation mode

The field is divided into two blocks, A and B.

- **Block A:** displays the operation mode.
- **Block B:** displays the servo lock status or tape speed.



Display		Operation mode
Block A	Block B	
TAPE UNTHREAD		Cassette is not loaded.
STANDBY OFF		Standby off mode
STOP		Stop mode
F.FWD		Fast forward mode
REW		Rewind mode
PLAY		Playback mode (servo unlocked)
PLAY	LOCK	Playback mode (servo locked)
JOG	STILL	A still picture in jog mode
JOG	FWD	Jog mode in forward direction
JOG	REV	Jog mode in reverse direction
SHUTTLE	STILL	A still picture in shuttle mode
SHUTTLE	(Speed)	Shuttle mode

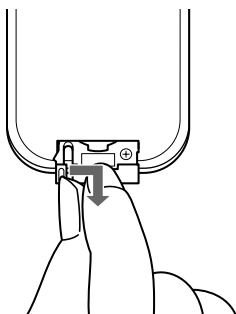
4-3 Using the Remote Commander

Pull off the transparent film covering the battery parts.

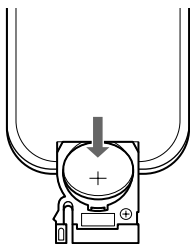
4-3-1 How to Change the Lithium Battery

- 1 Pull out the lithium battery case.

Pull the battery case toward you while releasing the lock by plucking it with your fingernail.



- 2 Set lithium battery in the case so that the + symbol on the battery is facing you.



- 3 Push the lithium battery case back into its original position.

Notes on the Remote Commander

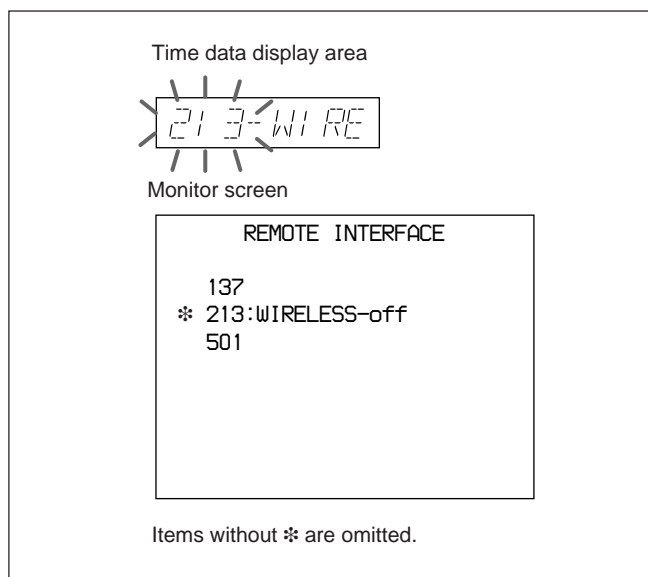
- If there is an obstacle between the Remote Commander and the remote control detector, the Remote Commander sometimes does not work properly. Point the Remote Commander at the remote control detector on the front side of the unit.
- The effective remote control area is limited. It becomes easier to control the unit the closer you get and if you point the Remote Commander directly at the front of the unit.
- Change the battery when the Remote Commander does not work properly.

4-3-2 Setting Menu

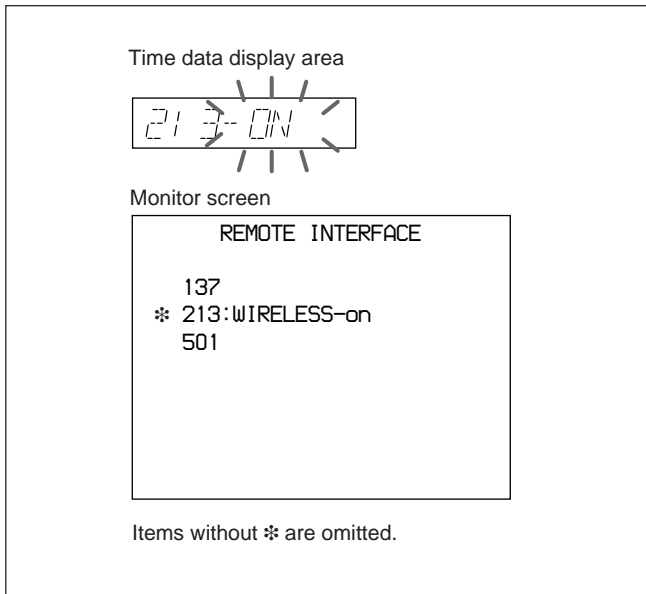
When a Remote Commander is used, WIRELESS REMOTE CONTROL, extended menu item 213, must be set to ON. (It is set to OFF at the factory.) (The following operation is an example of how WIRELESS REMOTE CONTROL is switched from OFF to ON.)

- 1 Select WIRELESS REMOTE CONTROL, extended menu item 213, to display it.

The illustration shows the information displayed in the time data display area and on the monitor connected to the COMPOSITE (SUPER) output connector, SDI (SUPER) output connector (for J-10SDI/30SDI only) or iDV connector.



- 2** Turn the JOG/SHUTTLE dial to change the setting from “OFF” to “ON” while holding down the JOG/SHUTTLE button, and then release the JOG/SHUTTLE button.



(ON flashes while the JOG/SHUTTLE button is being pressed.)

- 3** Press the SET/MENU button.

Time data display area and monitor go back to the original views.

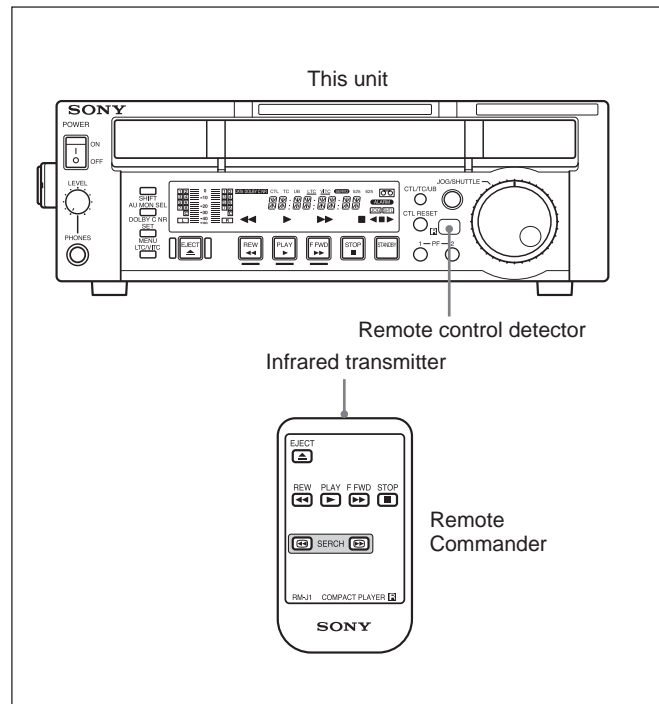
4-3-3 Operating the Remote Commander

Press the function keys while pointing the infrared transmitter of the Remote Commander at the remote control detector.

Each key functions same as the corresponding key on the control panel attached to the unit.

Note

For the SEARCH key, is 10 times forward speed, is 10 times reverse speed.



Note

When two or more units of J-10/10SDI/30/30SDI or J-H1/H3 (J-H series of compact players) are placed close to each other, the Remote Commander may affect more than one unit. In this case, select OFF in WIRELESS REMOTE CONTROL, extended menu item 213, of the other units you do not want to operate.

4-4 Operation via Computer (With the JZ-1 Software)

The following operations will be available when using the unit connected to a computer with the optional JZ-1 software installed.

- Controlling basic operations such as play, fast forward, rewind, stop, jog playback, and shuttle playback via the computer
- Capturing images using shot mark data

For details on installation and software operation, refer to the Readme file and the online help supplied with the JZ-1 software.

4-4-1 Capturing Images Using Shot Mark Data

If shot mark data has been recorded, you can automatically read image and related data based on the shot mark data. (You will need to install a video capture card in your computer.)

An image that has been read will be displayed as a thumbnail image. Double-clicking the thumbnail image quickly finds the beginning of the segment. Based on the thumbnail image position (cue point), you can set an IN point and OUT point.

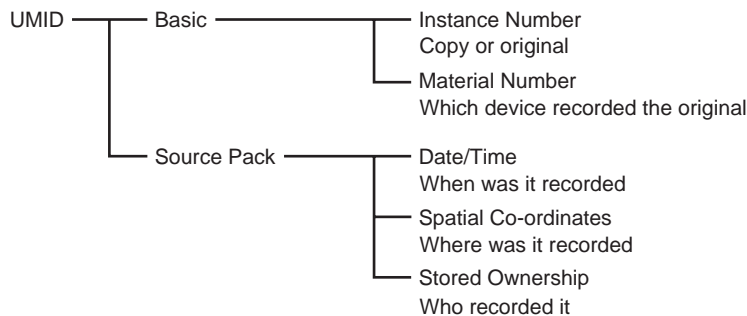
UMID Functions

5-1 Overview of UMID Functions

The UMID (Unique Material Identifier) is a type of meta-data in video and audio materials. It has been internationally standardized in SMPTE Standard 330M. This unit supports generation of UMIDs recorded in the Digital Betacam or MPEG IMX format.

The UMID is made up of a section called the “Basic” section and a section called the “Source Pack” section. The Basic section contains information such as the device that recorded the material and whether the material is the original or a copy. The Source Pack section contains information about when/where/who recorded the material.

A UMID with a Basic section only is called a Basic UMID. A UMID with both Basic and Source Pack sections is called an Extended UMID. The following figure shows a general overview of the information contained in a UMID.



5-2 UMID Output and Display

This section explains how to output and display UMIDs.

5-2-1 UMID Output Settings

You can choose to output UMIDs or not from the SDI or SDI (SUPER) output connector, and select either Basic UMID or Extended UMID when you choose to output UMIDs. Make these settings using extended menu item 651, UMID OUTPUT.

See page 7-11 for more information about extended menu item 651.

5-2-2 UMID Display

During playback, UMID data appears on the video monitor by superimposition.

To display the UMID

Press the PLAY button while holding down the SHIFT button.

To exit from UMID display

Press again the PLAY button while holding down the SHIFT button.

UMID display on the video monitor

During playback in the Digital Betacam format (J-30SDI) or in the MPEG IMX format (J-30/30SDI), the video monitor connected to the COMPOSITE (SUPER) output connector, SDI (SUPER) output connector (for J-30SDI only) or iDV connector displays all UMID items at once as shown in the following figure.

UMID	INFORMATION	
INSTANCE	①	②
MATERIAL	③	
	④	
	⑤	
DATE/TIME		⑥
⑦		⑧
ALTITUDE	⑨	⑩⑪⑫
LONGITUDE		⑬
LATITUDE		⑭
ORGANIZATION		⑮
USER	⑯	COUNTRY ⑰

- ① Instance Number Generation Method
- ② Instance Number
- ③ Material Number Generation Method
- ④, ⑤ Material Number
- ⑥ Year/Month/Date
- ⑦ Hour:Minute:Second
- ⑧ Time Zone
- ⑨ GPS Altitude
- ⑩ Number of Satellites
- ⑪ Auxiliary Device
(“ ”: not equipped, “+”: equipped)
- ⑫ PDOP (Position Dilution Of Precision value)
- ⑬ Longitude (E: east/W: west)
- ⑭ Latitude (S: south/N: north)
- ⑮ Organization Code
- ⑯ User Code
- ⑰ Country Code

Essence Marks

6-1 Overview of Essence Mark Functions

An essence mark uses a term value dictionary item as defined in the SMPTE RP210A Metadata Dictionary to express and transfer points such as recording start points and edit point candidates in up to 32 bytes of data.

The basic format of the SMPTE RP210A Metadata Dictionary is defined in SMPTE 336M Data Encoding Protocol using Key-Length-Value (KLV coding specifications).

6-2 Essence Mark Output

When playing back a tape, essence marks recorder on the tape can be output to SDI signals. Information such as shot marks recorded on the tape can also be converted into essence marks and output.

Selecting whether to output essence marks

You can select whether or not to output essence marks when you play back a tape. Make this selection using extended menu item 657, ESSENCE MARK TAPE OUTPUT.

See page 7-11 for more information about extended menu item 657.

Outputting shot marks converted into essence marks

You can select whether or not to convert shot marks recorded on a tape into essence marks for output when you play back the tape. Make this selection using extended menu item 658, SHOT MARK ESSENCE MARK CONVERT.

When extended menu item 658 is set to ON, you can specify the VANC¹⁾ line into which to insert essence marks in extended menu item 660, ESSENCE MARK VANC LINE.

See page 7-11 for more information about extended menu items 658 and 660.

1) VANC: Vertical ancillary (data).

Setup Menu

7-1 Menu System Configuration

The principal setup operations required before operating this unit can be carried out using setup menus.

The menu system of this unit is comprised of a basic menu and an extended menu.

- Basic menu

This menu is used to make the following settings:

- the digital hours meter
- the character information superimposed on the output to the monitor
- settings for switching between the 525 (NTSC) and 625 (PAL) systems
- settings for the menu banks for retaining menu settings

- Extended menu

This menu is used to make the following wide range of settings on this unit:

- the control panel functions
- tape protection
- video and audio control
- digital data processing

This unit allows up to two menu settings to be stored in menu banks 1 and 2.

The stored menu settings can be called up to use as required.

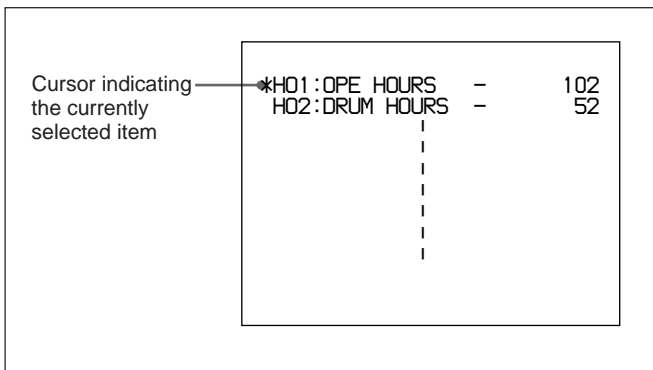
For more information, see “Menu bank operation (basic menu items B01 to B12)” on page 7-5.

7-2 Menu Operations

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

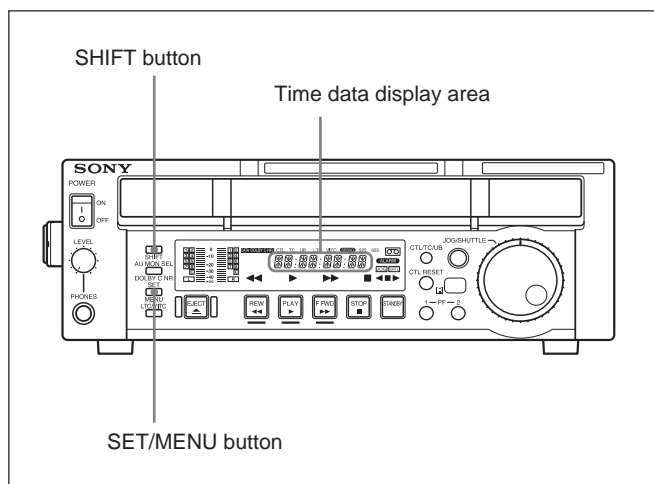
For information about how to use basic menu item 013, see “Switching between 525/625 line systems (basic menu item 013)” on page 7-4, and for information about how to operate items B01 to B12, see “Menu bank operations (basic menu items B01 to B12)” on page 7-5.

For information about how to use the extended menu, see the section “Extended menu operations” on page 7-6.



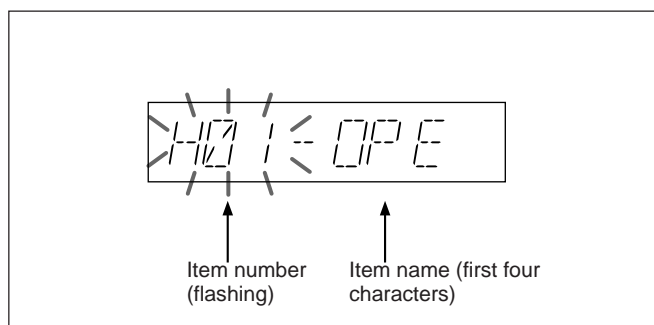
If the SET/MENU button is pressed while holding down the SHIFT button to display the menu settings in the time data display area, a full-screen version also appears on a monitor connected to the COMPOSITE (SUPER) output connector, SDI (SUPER) output connector (J-10SDI/30SDI only), or iDV connector as shown in the above figure.

Displaying the menus



Press the SET/MENU button while holding down the SHIFT button.

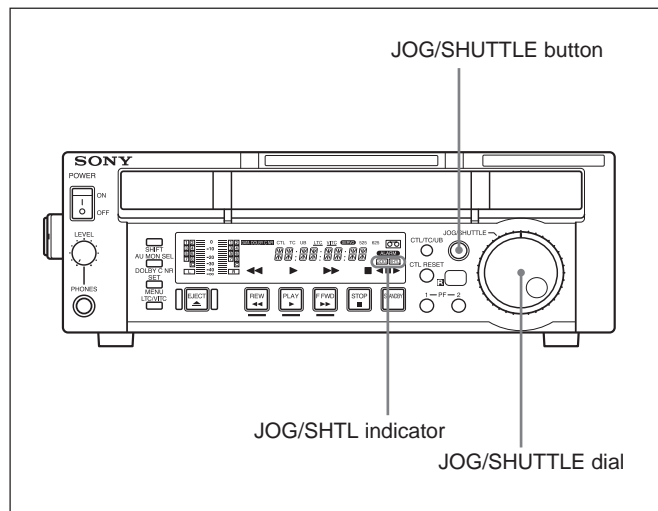
The setting of the currently selected menu item appears in the time data display area.



Displaying the menus on the monitor

Menu setting can be done on the monitor while superimposing is set to ON.

Changing the currently displayed menu item



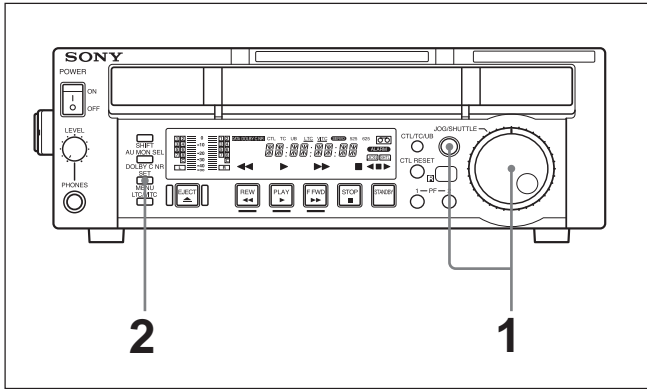
Turn the JOG/SHUTTLE dial.

Turning the JOG/SHUTTLE dial to the right increments the item number and turning it to the left decrements the item number.

The item number changes at a rate depending on the JOG/SHUTTLE dial position (when the SHTL indicator is lit) or on the JOG/SHUTTLE dial rotation rate (when the JOG indicator is lit).

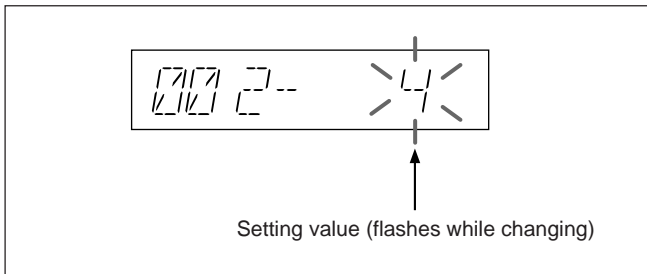
Changing a menu item setting value

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



- 1 Holding down the JOG/SHUTTLE button, turn the JOG/SHUTTLE dial.

The setting value changes at a rate based on the SHUTTLE dial position or on the JOG dial rotation rate.



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

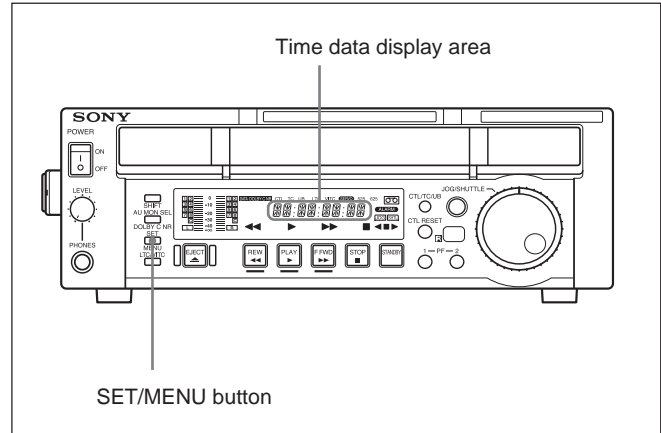
This saves the new setting value, and the menu display disappears from the time data display area.

To cancel the change

Press the SET/MENU button while holding down the SHIFT button before pressing the SET/MENU button only.

The menu display disappears from the time data display area without saving the new setting value.

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



- 1 Set RESET SETUP, basic menu item B20, to ON.

“PUSH SET” appears in the time data display area, and “Push SET button” appears on the monitor screen.

- 2 Press the SET/MENU button.

The current active menu settings (see “Menu bank operations (basic menu items B01 to B12)”) are reset to their factory default settings.

- 3 Press the SET/MENU button again.

The settings are saved and the menu display disappears from the time data display area.

7-2 Menu Operations

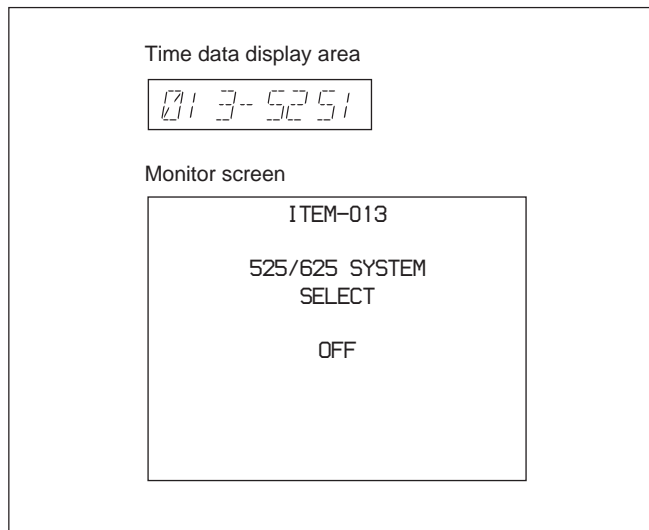
Switching between 525/625 line systems (basic menu item 013)

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

(The following is the procedure example of switching from a 525 (NTSC) system to a 625 (PAL) system.)

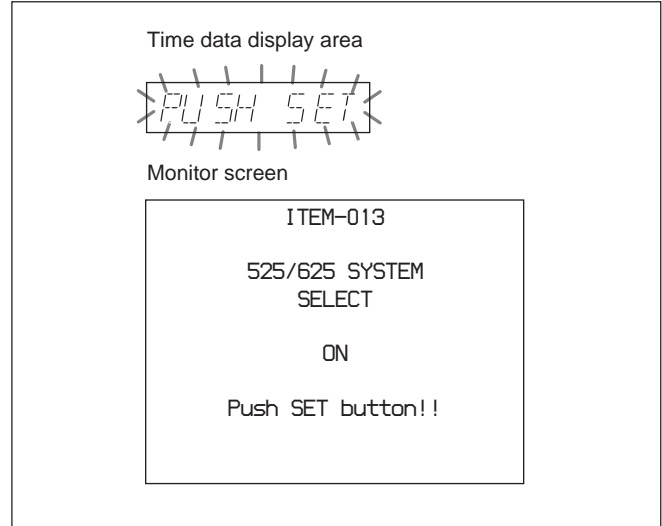
1 Select basic menu item 013 and display it.

The time data display area and the monitor screen connected the COMPOSITE (SUPER) output connector, SDI (SUPER) output connector (for J-10SDI/30SDI only) or iDV connector show the following displays.



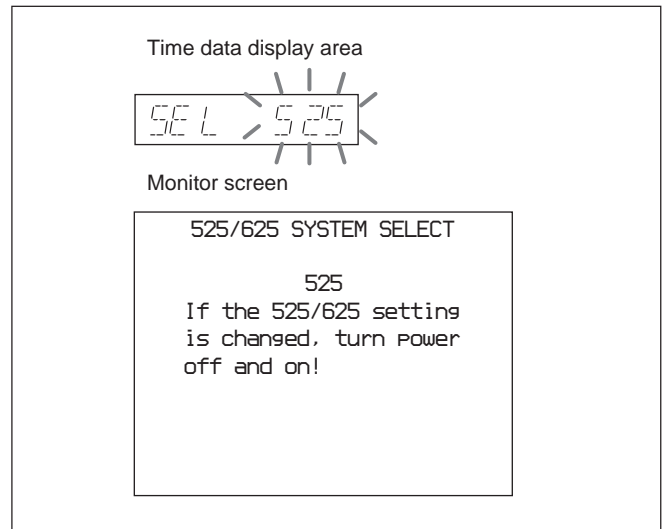
2 Holding down the JOG/SHUTTLE button, turn the JOG/SHUTTLE dial to change the setting from OFF to ON.

The displays change as follows.



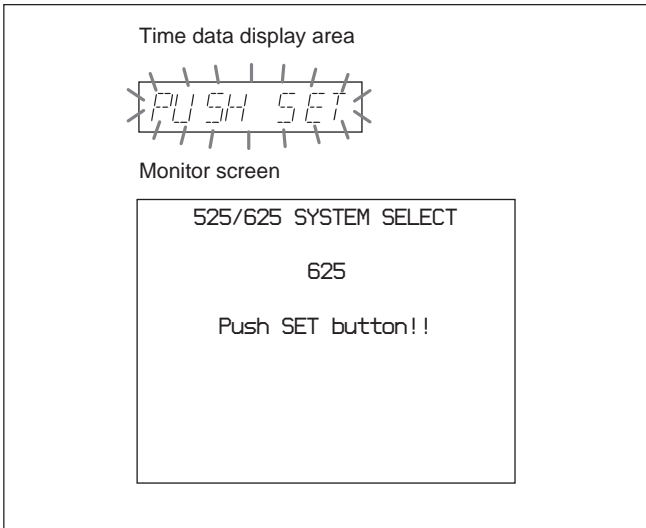
3 Press the SET/MENU button.

The displays change as follows.



- 4** Holding down the JOG/SHUTTLE button, turn the JOG/SHUTTLE dial to change the setting from 525 to 625.

The displays change as follows.

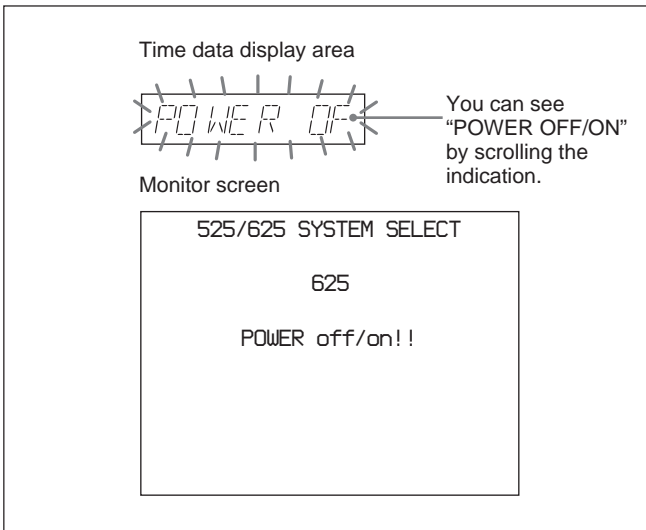


To cancel the 525/625 setting operation

Holding down the SHIFT button, press the SET/MENU button the required number of times to exit from the menu.

- 5** Press the SET/MENU button.

The displays change as follows.



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

This switches from the 525 (NTSC) to the 625 (PAL) system; the 525 indicator goes off, and the 625 indicator lights.

The menu settings disappear from the time data display area, and returns to the normal indications.

Menu bank operations (basic menu items B01 to B12)

This unit allows two different complete sets of menu settings to be saved in what are termed "menu banks," numbered 1 and 2. Saved sets of menu settings are recalled for use as required.

To jump to menu item B01 or H01

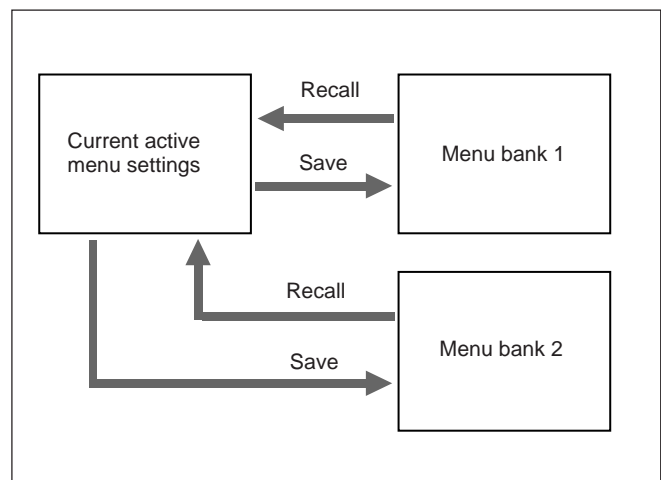
The unit recalls any required menu items when you turn the JOG/SHUTTLE dial after pressing the SET/MENU button while holding down the SHIFT button. Press the SET/MENU button while holding down the SHIFT button, then press the CTL/TC/UB button. Every time you press the CTL/TC/UB button, menu item H01 or B01 is recalled alternately.

Saving the current active menu settings

Set menu item SAVE BANK 1, basic menu item B11, or SAVE BANK 2, basic menu item B12, to ON, depending on which of the menu banks you wish to use to save the setting, then press the SET/MENU button.

Recalling settings from a menu bank

Set menu item RECALL BANK 1, basic menu item B01, or RECALL BANK 2, basic menu item B02, to ON, depending on which of the menu banks you wish to recall settings from, then press the SET/MENU button.



7-2 Menu Operations

Extended menu operations

You can operate the extended menu in the same way as you operate the basic menu.

For details of basic menu operations, see page 7-2.






Note

To access the extended menu, it is required to set MENU GRADE, basic menu item 099, to ENHAN.

7-3 Basic Menu

The basic menu contains the following items.
In the “Settings” column of the table, the factory

default settings are indicated by an enclosing box.

Item number	Item name	Settings
002 ^{a)}	CHARACTER H-POSITION	Adjust the horizontal screen position of the character information output from the COMPOSITE (SUPER) output connector, SDI (SUPER) output connector (J-10SDI/30SDI), or  DV connector for superimposed display on the monitor. 00 ... 10 ... 08 : The value 00 is for the far left of the screen and 08 for the far right. Increasing the value moves the position of the characters to the right.
003 ^{a), b)}	CHARACTER V-POSITION	Adjust the vertical screen position of the first line of the character information output from the COMPOSITE (SUPER) output connector, SDI (SUPER) output connector (J-10SDI/30SDI), or  DV connector for superimposed display on the monitor. 00 ... 11 ... 14 (525 mode)/00 ... 14 ... 17 (625 mode) : The hexadecimal value 00 is for the top of the screen and increasing the value lowers the position of the characters.
005	DISPLAY INFORMATION SELECT	Determines the kind of character information to be output from the COMPOSITE (SUPER) output connector, SDI (SUPER) output connector (J-10SDI/30SDI), or  DV connector for superimposed display on the monitor. OFF : Displays no character information. T&STA : Time data display information and the unit's status. T&UB : Time data display information and the user bits. T&CTL : Time data display information and CTL. T&T : Time data display information and time code (LTC or VITC). TIME : Time data display information only If there is an overlap between the setting of this item and the setting of the control panel, it is automatically avoided. For example, if CTL is selected on the control panel and this menu item setting is T&CTL, CTL and LTC will be output.
007	TAPE TIMER DISPLAY	Determines whether to display the CTL counter in 12-hour mode or 24-hour mode. + -12H : 12-hour mode 24H : 24-hour mode
009 ^{a)}	CHARACTER TYPE	Determines the type of characters such as time code output from the COMPOSITE (SUPER) output connector, SDI (SUPER) output connector (J-10SDI/30SDI), or  DV connector for superimposed display on the monitor. WHITE : White letters on a black background. BLACK : Black letters on a white background. W/OUT : White letters with black outlines. B/OUT : Black letters with white outlines.
011 ^{a)}	CHARACTER V-SIZE	Determines the vertical size of characters such as time code output from the COMPOSITE (SUPER) output connector, SDI (SUPER) output connector (J-10SDI/30SDI), or  DV connector for superimposed display on the monitor. x1 : Standard size x2 : 2 times standard size

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

b) When displaying time code values, there is a slight time delay. Therefore, when creating a tape for off-line editing, the information inserted in the upper half of the screen may be delayed by one frame.

7-3 Basic Menu

Item number	Item name	Settings
012	CONDITION DISPLAY ON VIDEO MONITOR (The channel status can be displayed only when the CHARACTER V-SIZE is set to ×1.)	Determines whether or not to display the channel status in addition to the characters being superimposed. disable : Disables display enable : Enables display Displayed channel status The channel statuses are displayed under the timer or status display line. (When an analog tape is inserted, only the playback level of the video is displayed.) e.g. V — A — The letters that follow “V” indicate the status of the video channels of the rotation head. The letters that follow “A” indicate the status of the audio channels of the rotation head. Character patterns —: Good condition *: Acceptable condition ■: Bad condition
013	525/625 SYSTEM SELECT	Specify whether to enable switching between the 525 (NTSC) and 625 (PAL) systems. OFF : Do not enable system switching. ON : Enable system switching. You can choose and set 525 (NTSC) or 625 (PAL) as this unit’s initial operation mode. If the unit is set as 525 (NTSC) mode beforehand, setting this item to ON and switching the system to 625 (PAL) mode enables the unit to operate in 625/50 mode. On the other hand, if the unit is set as 625 (PAL) mode beforehand, setting this item to ON and switching the system to 525 (NTSC) mode enables the unit to operate in 525/60 mode. <i>For information on how to switch the system or other details, see “Switching between 525/625 line systems (basic menu item 013)” on page 7-4.</i>
020	DROP-FRAME MODE SELECT (When operating in 525 mode)	Determines the drop-frame mode of the CTL counter. DF : Drop-frame mode NDF : Non-drop-frame mode
022	PF2 KEY SELECT	Determines the function assigned to PF2 button. REM : Displays the remaining tape time by minute. RUN : Displays the total number of times that the tape has been running until then.
024	MENU CHARACTER TYPE	Selects the type of characters to superimpose on the video signal (overlaid display) output from the COMPOSITE (SUPER) output connector, SDI (SUPER) output connector (J-10SDI/30SDI), or iDV connector. WHITE : White letters on a black background BLACK : Black letters on a white background W/OUT : White letters with black outlines B/OUT : Black letters with white outlines
025	NOISELESS PB MODE	Select whether or not to use the noiseless playback function (when using Betacam SX or MPEG IMX format). Disable : Do not use the noiseless playback function. Enable : Use the noiseless playback function.
026	AUDIO MONITOR MODE	Select a mode of AUDIO MONITOR. MONO : Monaural + mix STEREO : Stereo + mix

Item number	Item name	Settings
027	SDI OUT CHARACTER (J-10SDI/30SDI only)	Select whether or not to superimpose the type of characters over the video signal (overlap display) output from the SDI (SUPER) connectors. OFF : Does not superimpose. ON : Superimposes.
030	i.LINK CHARACTER	Selects whether or not to superimpose characters on the video signal (overlap display) output from the i.DV connector. OFF : Does not superimpose. ON : Superimposes.

Item number	Item name	Settings
099	MENU GRADE	Determines the menus that can be changed. BASIC : Basic menu ENHAN : Basic menu + Extended menu
B01	RECALL BANK 1	Set to ON to recall menu settings from menu bank 1.
B02	RECALL BANK 2	Set to ON to recall menu settings from menu bank 2.
B11	SAVE BANK 1	Set to ON to save current menu settings to menu bank 1.
B12	SAVE BANK 2	Set to ON to save current menu settings to menu bank 2.
B20	RESET SETUP	Set to ON to reset current menu settings to factory default values.

7-4 Extended Menu

The extended menu contains the following items.
In the “Settings” column of the table, the factory default settings are indicated by an enclosing box.

Item number	Item name	Settings
101	SELECTION FOR JOG/SHUTTLE DIAL ENABLE	Select how the unit enters the jog/shuttle mode. DIAL : Turning the JOG/SHUTTLE dial enters the jog/shuttle mode. KEY : Press the JOG/SHUTTLE button to enter jog/shuttle mode.
102	MAXIMUM TAPE SPEED	Set the tape speed for fast-forward, rewind and jog/shuttle mode operations. MAX : Fast forward, rewind and jog/shuttle mode operations are carried out at maximum speed. MX/24 : Fast forward and rewind operations are carried out at maximum speed, and jog/shuttle mode operations are carried out at up to 24 times normal speed. ×24 : Fast forward, rewind and jog/shuttle mode operations are carried out at up to 24 times normal speed. Maximum speed for fast forward and rewind <ul style="list-style-type: none"> • Analog cassettes: 24 times normal playback speed • Digital cassettes: 50 times normal playback speed Maximum speed for jog/shuttle mode <ul style="list-style-type: none"> • Analog cassettes: 18 (525)/20 (625) times normal playback speed (NTSC/PAL) • Digital cassettes: Betacam SX 35 times normal playback speed MPEG IMX 32 (525)/38 (625) times normal playback speed (J-30/30SDI only) Digital Betacam 21 times normal playback speed (J-30/30SDI only)
104	AUDIO MUTING TIME	Select the length of time for which audio muting occurs when the unit switches to playback either from stopped or from still playback in the jog/shuttle mode. LOCK : Mute the audio output signal until the servo lock functions. OFF : Set the audio muting time to zero (i.e. no muting). 0.1S ... 1.0S : Set the audio muting time from 0.1 seconds to 1.0 second, in 0.1-second increments.
105	REFERENCE SYSTEM ALARM	Select whether or not to display a warning when the video/audio reference signal is not supplied. OFF : No warning. ON : Flash the STOP indicator as a warning.
114	AUDIO MONITOR OUTPUT LEVEL	Choose whether or not to permit changes in the audio monitor output level from the control panel (which can simultaneously be monitored via the headphone jack) using the volume control knob on the control panel. FIXED : Output level changes not permitted. VAR : Output level changes permitted.
125	AUTO REWIND	Determine whether or not to rewind the tape automatically when playback reaches the end of a tape. DIS : Do not rewind automatically. ENA : Rewind automatically.
130	TIMER DISPLAY DIMMER CONTROL	Set the brightness of the time data/menu display. 0 to [3] : The brightness can be set within this range. 3 is the brightest and 0 is the darkest.
137	TRACKING CONTROL VIA JOG/SHUTTLE DIAL	Select the tracking control in the JOG/SHUTTLE dial. OFF : Disables tracking control. ON : Enables tracking control by turning the JOG/SHUTTLE dial in the PLAY mode. (When this item is set to ON, the JOG and SHTL indicators in the display section flash.)
213	WIRELESS REMOTE CONTROL	Selects control mode with the infrared Remote Commander. OFF : Do not operate. ON : Operate.

Item number	Item name	Settings
501	STILL TIMER	Sets the time interval from the tape stop mode to the tape protection mode. In order to protect the video heads and the tape, this unit enters the tape protection mode automatically after a certain amount of time has elapsed since the unit entered the tape stop mode (STOP mode or a still picture in jog/shuttle mode). 0.5S ... [8M] ... 30M : Set the value in the range 0.5 seconds to 30 minutes.
651	UMID OUTPUT (J-30SDI only)	When using the Digital Betacam or MPEG IMX format, select whether or not to output the UMID data recorded on the tape from the SDI output connector and the type of the UMID data if it is output. [OFF] : Do not output the UMID data. BASIC : Output as the Basic UMID data (32 byte). EXTENDED : Output as the Extended UMID data (64 byte). Notes <ul style="list-style-type: none"> • Even if EXTENDED is selected, Basic UMID is output if Basic UMID is recorded on the tape being played back. • When menu item 901, VIDEO OUTPUT DATA is set to 8Bit, nothing of UMID is output.
657	ESSENCE MARK TAPE OUTPUT (J-30SDI only)	When using the Digital Betacam or MPEG IMX format, select whether or not to output essence marks recorded on the tape from the SDI output connector. ON : Output essence marks recorded on the tape. [OFF] : Do not output essence marks recorded on the tape. Note When menu item 901, VIDEO OUTPUT DATA is set to 8Bit, nothing of essence marks is output.
658	SHOT MARK ESSENCE MARK CONVERT (J-10SDI/30SDI only)	When using the Digital Betacam, MPEG IMX or Betacam SX format, select whether or not to convert shot marks recorded in the LTC track into essence marks and output them from the SDI output connector. ON : Convert shot marks into essence marks and output. [OFF] : Do not convert shot marks into essence marks. Depending on the type of the detected shot marks, the output essence marks are “_RecStart”, “_ShotMark1”, or “_ShotMark2”. Notes <ul style="list-style-type: none"> • Of the shot marks, post marks are not converted to essence marks. • Shot mark detection timing depends on playback conditions. • When menu item 901, VIDEO OUTPUT DATA is set to 8 bit, nothing of essence marks is output.
660	ESSENCE MARK VANC LINE (J-10SDI/30SDI only)	When menu item 658 is set to ON, specify the line into which to insert shot marks converted into essence marks. 12H, 13H, 15H, 16H, [17H] 18H, 19H (525-line mode) 09H, 10H, 12H, 13H, 14H, 15H, 16H, [17H] , 18H (625-line mode)
710	INTERNAL VIDEO SIGNAL GENERATOR	Select the test signal to be output from the VTR's internal test signal generator. [OFF] : No test signal is generated. (The VTR operates normally.) CB75 : 75% color bar signal
713 ^{a)}	VIDEO SETUP REFERENCE LEVEL (When operating in 525 mode)	Set the setup amount to be added to the composite output signal. Default value: [0.0%] 7.5%
715 ^{a)}	VIDEO GAIN CONTROL	Adjust the video output level. The only Y signal adjustment is permitted. Default value: [20H]
716 ^{a)}	CHROMA GAIN CONTROL	Adjust the chroma output level. Default value: [20H]
717 ^{a)}	CHROMA PHASE CONTROL	Adjust the chroma phase. The only composite output signal adjustment is permitted. Default value: [80H]
718 ^{a)}	SETUP LEVEL (525 mode)/ BLACK LEVEL (625 mode)	Adjust the setup level (black level). Default value: [0H]

a) Menu items 713 and 715 to 718 can be used only for video processing of the analog video signal. They cannot be used for video processing of the digital video signal (SDI/DV output).

7-4 Extended Menu

Item number	Item name	Settings
719	SYSTEM PHASE SYNC	Adjust the SYNC phase of the output signal. Default value: 3FH
721	Y/C DELAY	Adjust the Y/C delay for playback from an analog Betacam cassette. Default value: 800H
802	DIGITAL AUDIO MUTE IN SHUTTLE MODE	Set the digital audio muting conditions during shuttle playback. OFF : Not muted. CUEUP : Muted during cue-up or preroll operations. FULL : Muted in shuttle mode. SLOW : Muted in ± 0.2 times or slower.
808	INTERNAL AUDIO SIGNAL GENERATOR	Select the operation of the internal audio test signal generator. OFF : No operation. 1KHZ : At 1 kHz, -20 dB FS sine wave is output on all audio output channels.
831 ^{a)}	i.LINK AUDIO OUTPUT SELECT	Selects audio channels output from the i.LINK DV connector. CH1/2 : Outputs audio signals (16 bits/48K) recorded in CH-1/2. CH3/4 : Outputs audio signals (16 bits/48K) recorded in CH-3/4. CH1/2/3/4 : Outputs audio signals (12 bits/32K) recorded in CH-1/2/3/4. CH5/6 : Outputs audio signals (16 bits/48K) in CH-5/6 (J-30/30SDI). CH7/8 : Outputs audio signals (16 bits/48K) in CH-7/8 (J-30/30SDI). CH5/6/7/8 : Outputs audio signals (12 bits/32K) in CH-5/6/7/8 (J-30/30SDI).
901 ^{b)}	VIDEO OUTPUT DATA (J-10SDI/30SDI only)	Set the bit length of the signal output from the SDI output connector. 10bit : When connecting to a 10-bit system 8bit : When connecting to a 8-bit system
922	IMX NOISELESS PB SELECT (J-30/30SDI only)	Select the noiseless playback picture output when using the MPEG IMX format. FRAME : Frame picture FIELD1 : Field 1 picture FIELD2 : Field 2 picture

- a) Audio signals are muted if you select the channel unavailable for the format you are using.
- b) Select the bit length used in the system to which this unit is connected.

Maintenance and Inspection

8-1 Removing a Cassette When Tape Slack Occurs

If tape slack occurs in the unit, it is necessary to remove the top and bottom plates. This job should always be entrusted to a technician who has undergone service training.

See the maintenance manual for details.

8-2 Head Cleaning

To clean the video heads and audio heads, always use the special-purpose Sony BCT-HD12CL cleaning cassette.

Follow the instructions with the cleaning cassette carefully, as inappropriate use of the cleaning cassette can damage the heads.

To carry out head cleaning

Insert the cleaning cassette.

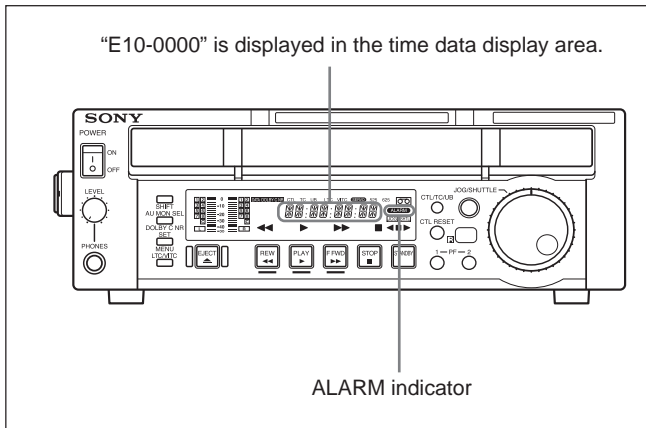
Head cleaning starts.

After an automatic head cleaning operation which lasts for about 3 seconds, the cleaning cassette is automatically ejected.

8-3 Moisture Condensation

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

If moisture condenses on the head-drum while the unit is in use, the ALARM indicator flashes and “E10-0000” is displayed in the time data display area.



If this happens, the drum and capstan motors stop and the cassette is automatically ejected. Then, the drum starts to rotate again to dry its surface. In this state, the unit is not operable. When the moisture has evaporated, the ALARM indicator goes off and the “E10-0000” message disappears.

If the ALARM indicator lights and “E10-0000” appears immediately after powering the unit on

Leave the unit powered on and wait until the ALARM indicator goes off and the error message disappears. Do not insert a cassette while the indicator is lit. Use the unit when the indicator goes off and the error message disappears.

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

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

8-4 Error Messages

CODE	MESSAGE	ERRORS
01	REEL TROUBLE	Detected "tape slack" during threading or unthreading.
02	REEL TROUBLE	Detected "tape slack" or "tape break" during search, fast-forward, or rewind.
03	REEL TROUBLE	Detected "tape slack," "tape break," or "reel rock in the S-side or T-side" during playback.
04	REEL TROUBLE	Detected abnormal tape speed during fast-forward or rewind.
05	REEL TROUBLE	Detected abnormal operation on the S-side or T-side reel during cassette compartment operation.
06	TAPE TENSION	Detected excessive tape tension during playback.
07	CAPSTAN TROUBLE	Detected abnormal operation of capstan motor.
08	DRUM TROUBLE	Detected abnormal operation of drum motor.
09	TH/UNTH MOTOR	Detected abnormal operation during threading or unthreading.
0A	THREADING	Detected incorrect ending of process for tape top when threading.
10	HUMID	Detected moisture condensation.
11	TAPE T/E SENSOR	Detected tape top and tape end simultaneously.
12	TAPE TOP SENSOR	Detected abnormal condition in tape top sensor.
13	TAPE END SENSOR	Detected abnormal condition in tape end sensor.
20	CASS COMP MOTOR	Detected abnormal condition during cassette compartment operation.
92	INTERNAL I/F ERROR	Detected abnormal condition in communication between SYS CPU and other CPU/MPUs.
96	SY NV-RAM ERROR	Detected abnormal operation in a system control device, NV-RAM.
97	SV NV-RAM ERROR	Detected abnormal operation in a servo system device, NV-RAM.
98	RF NV-RAM ERROR	Detected abnormal operation in an RF system device, NV-RAM.

8-5 Digital Hours Meter

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

Display modes of the digital hours meter

The digital hours meter has the following nine modes.

H01:OPERATION mode

Displays the total number of hours the unit has been powered on in units of 1 hour.

H02: DRUM RUNNING mode

Displays the total number of hours the drum has run with tape threaded in units of 1 hour.

H03:TAPE RUNNING mode

Displays the total number of hours the unit has been in fast forward, rewind, playback, or search (except for stop and still) mode in units of 1 hour.

H04:THREADING mode

Displays the total number of times the tape has been threaded/unthreaded.

H06:REEL SHIFT mode

Displays the total number of times that the reel has been shifted according to the size of the cassette (L cassette or S cassette) in use.

H12:DRUM RUNNING mode (resettable)

Same as H02 except that the count is resettable. By resetting the cumulative drum running time after changing the rotating head drum, this count can be used as a guide in determining when to replace the drum.

H13:TAPE RUNNING mode (resettable)

Same as H03 except that the count is resettable. This count can be used as a guide in determining when to replace such components as fixed heads and pinch rollers.

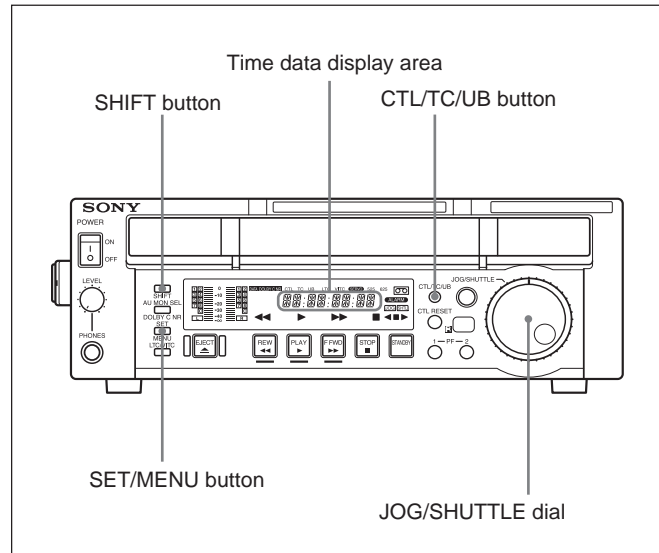
H14:THREADING mode (resettable)

Same as H04 except that the count is resettable. This can be used as a guide in determining when to replace, for example, the threading motor.

H16:REEL SHIFT mode (resettable)

Same as H06 except that the count is resettable.

Displaying the digital hours meter



To display the digital hours meter

Press the SET/MENU button while holding down the SHIFT button, then turn the JOG/SHUTTLE dial to display the required item in the time data display area.

To jump to H01

Press the SET/MENU button while holding down the SHIFT button, then press the CTL/TC/UB button. Every time you press the CTL/TC/UB button, menu item H01 or B01 is recalled alternately.

To exit from the digital hours meter

Press the SET/MENU button.

Appendix

Specifications

General

Power requirements	100 to 240 VAC, 50/60 Hz
Power consumption	55 W
Rated current	0.55 A
Peak inrush current	(1) Power ON, current probe method: 40 A (240 V), 10 A (100 V) (2) Hot switching inrush current, measured in accordance with European standard EN55103-1: 15 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)
Humidity	25% to 80%
Mass	J-10/10SDI: 8.1 kg (17 lb 13 oz) J-30/30SDI: 8.2 kg (18 lb 1 oz)
Dimensions (w/h/d)	307 × 100 × 397 mm (12 1/8 × 4 × 15 3/4 inches)

Tape transport system

Tape speed	Digital Betacam (J-30/30SDI) 96.7 mm/s
MPEG IMX (J-30/30SDI)	NTSC: 64.5 mm/s PAL: 53.8 mm/s
Betacam SX	59.6mm/s

Analog Betacam

NTSC: 118.6 mm/s
PAL: 101.5 mm/s

Playback time

Digital Betacam (J-30/30SDI)	124 minutes (BCT-D124L cassette)
MPEG IMX (J-30/30SDI)	NTSC: 184 minutes (BCT-184MXL cassette) PAL: 220 minutes (BCT-184MXL cassette)
Betacam SX	194 minutes (BCT-194SXLA cassette)

Analog Betacam

NTSC: 90 minutes (BCT-90MLA cassette)
PAL: 108 minutes (BCT-90MLA cassette)

Fast forward/rewind time

Approx. 5 minutes with
BCT-194SXLA cassette

Search speed

Shuttle mode	Betacam playback: Still to ±18 times (NTSC)/±20 times (PAL) normal speed playback Betacam SX playback: Still to ±35 times normal speed playback MPEG IMX playback (J-30/ 30SDI): Still to ±32 times (NTSC)/ ±38 times (PAL) normal speed playback Digital Betacam playback (J-30/ 30SDI): Still to ±21 times normal speed playback
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Specifications

Jog mode	Still to ± 1 times normal playback speed	R-Y/B-Y: 0.5 to 2.0 MHz +0.5 dB/ -4.5 dB
Servo lock time (from standby)	1.5 second or less	S/N 56 dB or more
Load/unload time	7 seconds or less	K factor (2T pulse) 1% or less
Cassette types	Digital Betacam cassette (J-30/ 30SDI) MPEG IMX cassette (J-30/30SDI) Betacam SX cassette Betacam SP cassette Betacam cassette UVW cassette	

Digital video system

Digital video signal system

Sampling frequency	Y: 13.5 MHz R-Y/B-Y: 6.75 MHz
Quantization	Digital Betacam (J-30/30SDI): 10 bits/sample MPEG IMX (J-30/30SDI): 8 bits/sample Betacam SX: 8 bits/sample
Compression	Coefficient recording system/ MPEG2 4:2:2 P@ML
Channel coding	S-I-NRZI PR-IV
Error correction	Reed-Solomon code

Analog composite output

Bandwidth	Y: 0.5 to 4.0 MHz +0.5 dB/ -3.0 dB (NTSC) Y: 0.5 to 4.5 MHz +0.5 dB/ -3.0 dB (PAL)
S/N	53 dB or more
Differential gain	2% or less
Differential phase	2° or less
K factor (2T pulse)	1% or less
Y/C delay	25ns or less

Analog component output

Bandwidth	MPEG IMX/Digital Betacam format (J-30) Y: 0.5 to 5.75 MHz +0.5 dB/-5.5 dB R-Y/B-Y: 0.5 to 2.0 MHz +0.5 dB/ -4.5 dB Betacam SX format (J-10/30) Y: 0.5 to 4.5 MHz +0.5 dB/-4.5 dB (NTSC) Y: 0.5 to 5.5 MHz +0.5 dB/-4.5 dB (PAL)
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Digital audio system

Digital audio signal format

Betacam SX, Digital Betacam (J-30/30SDI):	CH-1 - CH-4
MPEG IMX (J-30/30SDI):	CH-1 - CH-8
Sampling frequency	48 kHz (synchronized with video)
Quantization	16 bits/ sample or 20 bits/sample
Wow and flutter	Below measurable level
Headroom	20 dB (or 18 dB, 16 dB selectable)
Emphasis	T1= 50 μ s, T2=15 μ s

Analog output

A/D, D/A quantization	16 bits/sample or 20 bits/sample
Frequency response	20 Hz to 20 kHz +1 dB/ -1.5 dB (0 dB, 1 kHz)
Dynamic range	85 dB or more (at 1 kHz, emphasis on)
Distortion	0.1% or less (at 1 kHz, emphasis on, reference level (+4 dBm))
Crosstalk	-75 dB or less (at 1 kHz, between any two channels)

Input/output connectors of J-10/30

Output connectors

COMPOSITE (SUPER)	BNC (1), Phono jack (1), including character superimposition 1.0 Vp-p, 75 Ω , Sync negative
COMPONENT	BNC (3), Y: 1.0 Vp-p, R-Y/B-Y: 0.7 Vp-p, 75 Ω
S VIDEO	Mini-Din 4 pin (1), Y: 1.0 Vp-p, C: 0.286 Vp-p burst, 75 Ω
ⓂDV PHONES	IEEE1394 (1), 6-pin JM-60 stereo phone jack - ∞ to -12 dBu at 8 Ω load, unbalanced
AUDIO MONITOR OUTPUT (L/R)	Phono jack (2), unbalanced XLR 3-pin, male (2) +4 dBm at 600 Ω load, low impedance, balanced

Remote connectors

RS232C	D-sub 9-pin, male, Sony 9-pin Remote Interface
REMOTE IN (9P)	D-sub 9-pin, female, Sony 9-pin Remote Interface

Input connector

EXT SYNC	BNC (1), Frame lock
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Input/output connectors of J-10SDI/30SDI

Output connectors

COMPOSITE (SUPER)	BNC (1), Phono jack (1), including character superimposition 1.0 Vp-p, 75 Ω , Sync negative
SDI	BNC (1), SMPTE 259M, 270 Mb/s, 0.8 Vp-p, 75 Ω
SDI (SUPER)	BNC (1), SMPTE 259M, 270 Mb/s, 0.8 Vp-p, 75 Ω , including character superimposition
S VIDEO	Mini-Din 4 pin (1), Y: 1.0 Vp-p, C: 0.286 Vp-p burst, 75 Ω
iDV	IEEE1394 (1), 6-pin
TC OUTPUT	BNC (1), 1.0 Vp-p, 75 Ω
PHONES	JM-60 stereo phone jack - ∞ to -12 dBu at 8 Ω load, unbalanced
AUDIO MONITOR OUTPUT (L/R)	Phono jack (2), unbalanced XLR 3-pin, male (2) +4 dBm at 600 Ω load, low impedance, balanced

Remote connectors

RS232C	D-sub 9-pin, male, Sony 9-pin Remote Interface
REMOTE IN (9P)	D-sub 9-pin, female, Sony 9-pin Remote Interface

Input connector

EXT SYNC	BNC (1), Frame lock
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Accessories supplied

Operation Manual (CD-ROM) (1)
Operation Manual (1)
Vertical installation stands (2)
RM-J1 Remote Commander (with CR2025 Lithium Battery) (1)

Optional accessories

AC power cord:

- For customers in the U.S.A. and Canada
Part No. 1-557-377-11
Plug holder 3-613-640-01
 - For customers in the United Kingdom
Part No. 1-782-165-11
Plug holder 3-613-640-01
 - For customers in European countries other than the United Kingdom
Part No. 1-551-631-22
Plug holder 3-613-640-01
- RCC-5G 9-pin Remote Control Cable
VMC-IL6635A i.LINK cable (6P-6P, 3.5 m (11 feet))
VMC-IL4635A i.LINK cable (6P-4P, 3.5 m (11 feet))
BCT-HD12CL Cleaning Cassette Tape

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30/30SDI (SY)
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