

SONY[®]

HD DIGITAL VIDEOCASSETTE RECORDER

HDW-2000

HDW-M2000/M2000P

HDW-S2000/S2000P

HD DIGITAL VIDEOCASSETTE PLAYER

HDW-M2100/M2100P

DIGITAL VIDEOCASSETTE RECORDER

DVW-2000/2000P

DVW-M2000/M2000P

MSW-2000

MSW-A2000/A2000P

MSW-M2000/M2000P

MSW-M2000E/M2000EP

DIGITAL VIDEOCASSETTE PLAYER

MSW-M2100/M2100P

MSW-M2100E/M2100EP

HDCAM

Digital BETACAM[™]

MPEG IMX

Tele-File


MEMORY STICK

INSTALLATION MANUAL

1st Edition (Revised 11)

⚠ 警告

このマニュアルは、サービス専用です。
お客様が、このマニュアルに記載された設置や保守、点検、修理などを行うと感電や火災、人身事故につながる可能性があります。
危険をさけるため、サービストレーニングを受けた技術者のみご使用ください。

⚠ WARNING

This manual is intended for qualified service personnel only.
To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

⚠ WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.
Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegeben Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

⚠ AVERTISSEMENT

Ce manuel est destiné uniquement aux personnes compétentes en charge de l'entretien. Afin de réduire les risques de décharge électrique, d'incendie ou de blessure n'effectuer que les réparations indiquées dans le mode d'emploi à moins d'être qualifié pour en effectuer d'autres. Pour toute réparation faire appel à une personne compétente uniquement.

HDW-2000 (SY)	Serial No. 10001 and Higher
HDW-M2000 (SY)	Serial No. 10001 and Higher
HDW-M2100 (SY)	Serial No. 10001 and Higher
HDW-S2000 (SY)	Serial No. 16001 and Higher
HDW-S2000P (SY)	Serial No. 46001 and Higher
HDW-M2000P (SY)	Serial No. 40001 and Higher
HDW-M2100P (SY)	Serial No. 40001 and Higher
DVW-2000 (SY)	Serial No. 10001 and Higher
DVW-2000P (SY)	Serial No. 40001 and Higher
DVW-M2000 (SY)	Serial No. 10001 and Higher
DVW-M2000P (SY)	Serial No. 40001 and Higher
MSW-2000 (SY)	Serial No. 10001 and Higher
MSW-A2000 (SY)	Serial No. 10001 and Higher
MSW-M2000 (SY)	Serial No. 10001 and Higher
MSW-M2000E (SY)	Serial No. 10001 and Higher
MSW-M2100 (SY)	Serial No. 10001 and Higher
MSW-M2100E (SY)	Serial No. 10001 and Higher
MSW-A2000P (SY)	Serial No. 40001 and Higher
MSW-M2000P (SY)	Serial No. 40001 and Higher
MSW-M2000EP (SY)	Serial No. 40001 and Higher
MSW-M2100P (SY)	Serial No. 40001 and Higher
MSW-M2100EP (SY)	Serial No. 40001 and Higher

Attention-when the product is installed in Rack:

1. Prevention against overloading of branch circuit

When this product is installed in a rack and is supplied power from an outlet on the rack, please make sure that the rack does not overload the supply circuit.

2. Providing protective earth

When this product is installed in a rack and is supplied power from an outlet on the rack, please confirm that the outlet is provided with a suitable protective earth connection.

3. Internal air ambient temperature of the rack

When this product is installed in a rack, please make sure that the internal air ambient temperature of the rack is within the specified limit of this product.

4. Prevention against achieving hazardous condition due to uneven mechanical loading

When this product is installed in a rack, please make sure that the rack does not achieve hazardous condition due to uneven mechanical loading.

5. Install the equipment while taking the operating temperature of the equipment into consideration

For the operating temperature of the equipment, refer to the specifications of the Operation Manual.

6. When performing the installation, keep the rear of the unit 10 cm (4 inches) or more away from walls in order to obtain proper exhaust and radiation of heat.

When using a LAN cable:

For safety, do not connect to the connector for peripheral device wiring that might have excessive voltage.

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.

For the customers in the Netherlands Voor de klanten in Nederland

Hoe u de batterijen moet verwijderen, leest u in de Onderhoudshandleiding.

Gooi de batterij niet weg maar lever deze in als klein chemisch afval (KCA).



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.

ADVARSEL

Lithiumbatteri - Eksplosjonsfare.
Ved utskifting benyttes kun batteri som anbefalt av apparatfabrikanten.

Brukt batteri returneres
apparatleverandøren.

Vorsicht!

Explosionsgefahr bei unsachgemäßem Austausch der Batterie.

Ersatz nur durch denselben oder einen vom Hersteller empfohlenen ähnlichen Typ. Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

VARNING

Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en likvärdig typ som rekommenderas av apparattillverkaren.

Kassera använt batteri enligt gällande föreskrifter.

ATTENTION

Il y a danger d'explosion s'il y a remplacement incorrect de la batterie.

Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur.

Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

VAROITUS

Paristo voi räjähtää jos se on virheellisesti asennettu.

Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin.

Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

ADVARSEL!

Lithiumbatteri-Eksplosionsfare ved fejlagtig håndtering.

Udskiftning må kun ske med batteri af samme fabrikat og type.

Levér det brugte batteri tilbage til leverandøren.

Table of Contents

Manual Structure

Purpose of this manual	2
Related manuals	2

1. Installation

1-1. Installation Procedure	1-1
1-2. Supplied Accessories	1-1
1-3. Operating Conditions	1-1
1-4. Power Supply	1-2
1-4-1. Voltage and Power Requirements	1-2
1-4-2. Power Cord	1-2
1-5. Installation Space	1-3
1-6. Rack Mounting	1-4
1-7. Connection	1-8
1-7-1. Attaching the Clamp Filters (HDW Series Only)	1-8
1-7-2. Matching Connectors and Cables	1-9
1-8. Signal Inputs and Outputs	1-10
1-9. Switch Settings on Connector Panel	1-15
1-10. Switch Settings on Circuit Boards	1-16
1-10-1. APR-52 Board	1-16
1-10-2. AU-272 Board (Other than HDW-2000, DVW-2000/2000P, MSW-2000)	1-18
1-10-3. CUE-13 Board (Other than MSW-2000/A2000/A2000P)	1-19
1-10-4. SS-89 Board	1-20
1-10-5. VN-13 Board (MSW-M2000E/M2000EP/M2100E/M2100EP only)	1-21
1-11. Operation Mode Settings (For DVW-2000/M2000 Only)	1-21
1-11-1. Operation Procedure of Destination Selection Mode	1-21
1-12. Removing/Reattaching Lower Control Panel Unit	1-22
1-13. Switching Search Dial Mode	1-24
1-14. Reference System	1-25
1-14-1. Recorder	1-25
1-14-2. Player	1-25
1-15. Settings and Adjustment when External Equipment is Connected	1-26
1-15-1. Settings for Time Code (Recorder Only)	1-26
1-15-2. VTR Constant Values Settings of Editor	1-27
1-15-3. System Phase Alignment	1-28
1-15-4. Setup Menu Settings	1-28
1-15-5. Other Settings	1-28
1-16. Removing/Reattaching Plug-in Board	1-29
1-17. Taking Out the Cassette in Tape Slacking	1-30

Appendix A Setting Check Sheet

Manual Structure

Purpose of this manual

This manual is the installation manual of the following models.

HD Digital Videocassette Recorder	HDW-2000/M2000/M2000P/S2000/S2000P
HD Digital Videocassette Player	HDW-M2100/M2100P
Digital Videocassette Recorder	DVW-2000/2000P/M2000/M2000P, MSW-2000/A2000/A2000P/M2000/ M2000P/M2000E/M2000EP
Digital Videocassette Player	MSW-M2100/M2100P/M2100E/M2100EP

This manual is intended for use by trained system and service engineers, and provides the information that is required to install (environment, connection information, initial setting, etc.) and the setting check sheet.

Note

The figures in this manual are MSW-A2000 unless otherwise specified.

Related manuals

Besides this “installation manual”, the following manuals are available for this unit. If these manuals are required, please contact your local Sony Sales Office/Service Center.

- **Operation Manual (Supplied with this unit.)**

This manual is necessary for application and operation (and installation) of this unit.

- **Maintenance Manual (Available on request)**

Volume-1 : Service Instruction

Volume-2 : Parts List, Block Diagrams, and Board Layouts

Volume-3 : Schematic Diagrams

These manuals describe the maintenance and service information (service overview, adjustments, board layouts, schematic diagrams, detailed parts list, etc.) for this unit.

- **Protocol Manual of Remote (9-pin) Connector (Available on request)**

This manual explains the protocol for controlling the VTR via the RS-422A (9-pin serial remote).

- **Interface Manual of Parallel I/O (50-pin) Connector (Available on request)**

This manual explains the protocol for controlling the VTR via the parallel (50-pin).

- **“Semiconductor Pin Assignments” CD-ROM (Available on request)**

This “Semiconductor Pin Assignments” CD-ROM allows you to search for semiconductors used in this unit.

Semiconductors that cannot be searched for on this CD-ROM are listed in the maintenance manual (volume-2) for the corresponding unit. The maintenance manual (volume-2) contains a complete list of all semiconductors and their ID Nos., and thus should be used together with the CD-ROM.

Part number: 9-968-546-XX

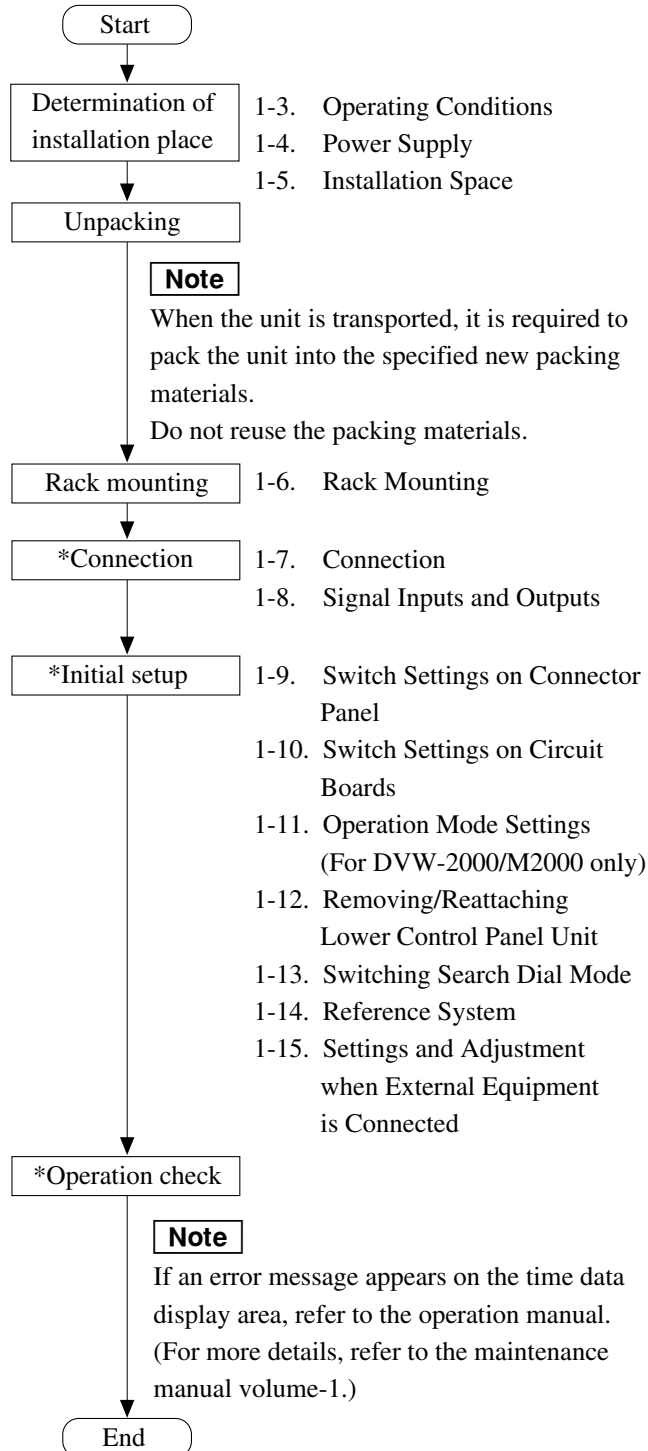
Section 1 Installation

1-1. Installation Procedure

Installation procedure of this unit is shown on the following flowchart.

Refer to each section about detail of each flow.

The operation manual is also required to do *-marked flow.



1-2. Supplied Accessories

- Screws for rack mounting (PSW 4 × 16)..... 4
- Clamp filters (HDW series only) 4 or 6
- Operation manual
 - Japanese^{*1} 1
 - English 1
- Operation manual CD-ROM (PDF) 1
- Installation manual
 - Japanese^{*1} 1
 - English 1
- Operation manual & application software CD-ROM (PDF)^{*2} 1
- BKMW-E3000 Installation manual^{*2} 1

*1: Supplied with DVW series only.

*2: Supplied with MSW-M2000E/M2000EP/M2100E/M2100EP only.

1-3. Operating Conditions

CAUTION

Good air circulation is essential to prevent internal heat build-up. Place the unit in location with sufficient air circulation. Do not block the ventilation holes of the cabinet and the front and rear panels.

Operating temperature: 5 °C to 40 °C

Operating humidity: 25 % to 80 % (non-condensing)

Storage temperature: -20 °C to 60 °C

Locations to avoid:

- Areas where the unit will be exposed to direct sunlight of any other strong lights.
- Areas near heat sources.
- Dusty areas or areas subject to vibration.
- Areas with strong magnetic field.
- Areas with much electrical noise.
- Areas with much static electricity.
- Areas that is impossible to find a specified room for installation. (Refer to “1-5. Installation Space”.)
- Areas windtight.

Tilt allowance: Within 30° (Do not slant the front and rear of the unit more than 30°.)

CAUTION

Fix the unit securely to avoid drop when the unit is operated at not-horizontal place.

1-4. Power Supply

1-4-1. Voltage and Power Requirements

This unit's power line has a switching regulator.

CAUTION

Be sure to operate the unit within the range of following power voltage.

Power voltage: AC 100 to 240 V \pm 10 %
 Power frequency: 50 Hz or 60 Hz
 Power consumption: Maximum 240 W
 (With all of the presumed optional kits.)

Rush current:

Model	Power Voltage	
	100 V IN	240 V IN
HDW-2000	20 A	40 A
Other HDWs	14 A	50 A
DVWs, MSWs	20 A	54 A

Note

AC power supply is required a capacity which is commensurate with rush current.
 If the capacity of the AC power supply is not enough, the breaker of AC power of a supply side may operate or this unit may not operate normally.

1-4-2. Power Cord

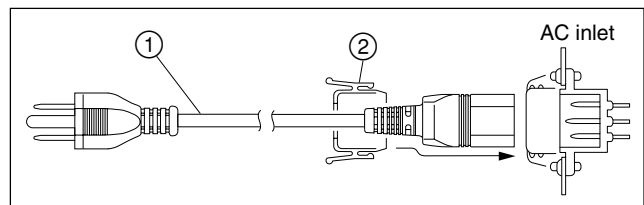
This unit does not come with a power cord.
 To get a power cord, please contact your local Sony Sales Office/Service Center.

WARNING

Use the specified power cord only when connecting the AC power. Never use a injured power cord.

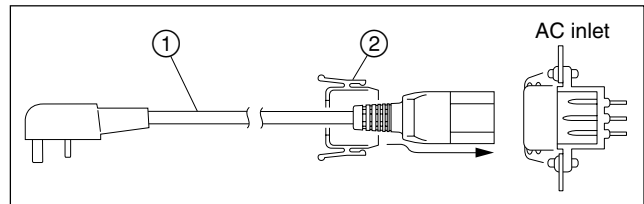
For customers in the U.S.A. and Canada:

- ① Power cord 125 V 10 A (2.4 m): Δ 1-557-377-11
- ② Plug holder (Brown): 3-613-640-01



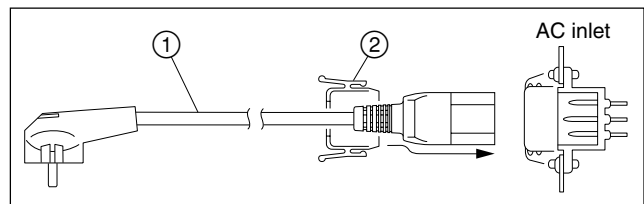
For customers in the United Kingdom:

- ① Power cord 250 V 10 A (2.0 m): Δ 1-777-823-12
- ② Plug holder (Brown): 3-613-640-01



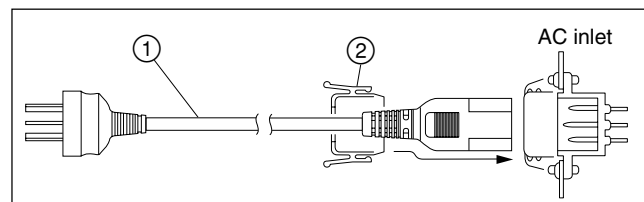
For customers in European countries except the United Kingdom:

- ① Power cord 250 V 10 A (2.0 m): Δ 1-551-631-22
- ② Plug holder (Brown): 3-613-640-01



For customers in the China:

- ① Power cord 250 V 10 A (1.8 m): Δ 1-783-481-12
- ② Plug holder (Brown): 3-613-640-01



If the unit is used in the area except above, please contact your local Sony Sales Office/Service Center.

1-5. Installation Space

When installing, the installation space must be secured in consideration of the ventilation and service operation.

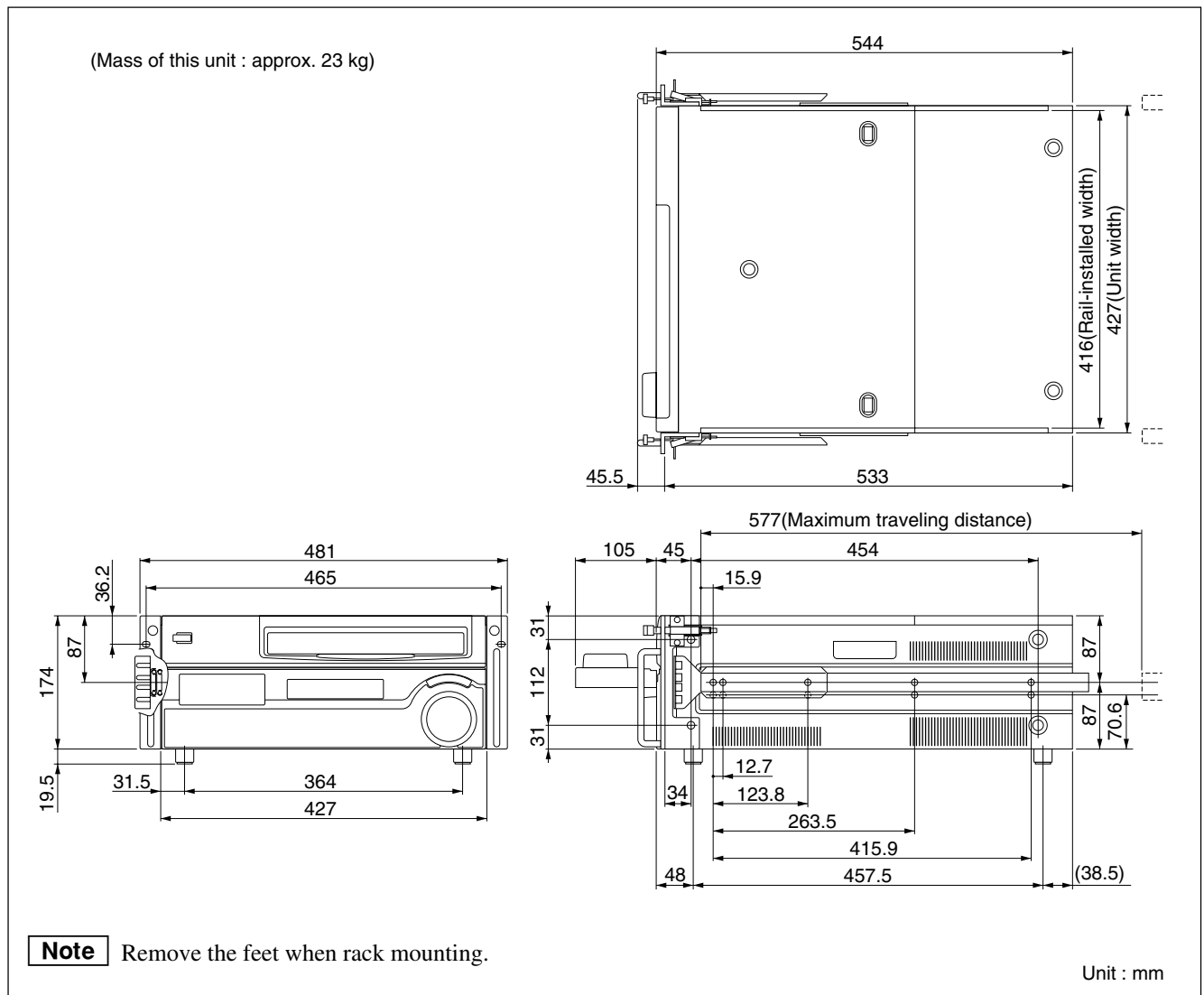
- Do not block the ventilation slots at the left side and right side panels, and vents of the fans.
- Leave a space around the unit for ventilation.
- Leave more than 40 centimeters of space in the rear of the unit to secure the operation area.

When the unit is installed on the desk or the like, leave at least four centimeters of space in the left and right sides. Leaving 40 centimeters or more of space above the unit is recommended for service operation.

Moreover, an air flow that is effective in cooling the unit is essential. If the ventilation is not enough, the unit may be damaged because of an increase of the internal temperature.

Note

This unit is air-cooled by the five fans. The operation with the upper lid is removed affects the air cooling by the fans. Complete the work in a short time as possible when operating the unit for inspection with the upper lid removed. If it takes a long time, blow to the unit by an electric fan to cool the unit.



Dimensions when Rack-Mounting

Note

This unit allows the operation with the detached lower control panel unit. For details, refer to Section 1-12.

1-6. Rack Mounting

Explains how to mount this unit into a 19-inch standard rack.

Two positions (center and low) are available to attach the inner rails of the slide rails to this unit.

Be sure to mount this unit (*) into a rack accurately following the procedure and notes mentioned below.

※: The center position only is available for the units listed below.

MSW-A2000 : Serial No. 10001 through 10180

MSW-A2000P : Serial No. 40001 through 40520

WARNING

- To prevent toppling over the rack, fix it on the horizontal and firm floor securely with bolts, etc.
- When installing the unit in an Outside Broadcasting van, be sure to fix the unit to the rack using the screws and ornamental washers supplied with the rack mount kit.

CAUTION

- Use the specified rack mount rail.
The use of other rail of low strength may drop the unit and cause the risk of injury.
- Mount the unit into a rack with a steady posture.

Notes

- When other equipment with built-in hard disk drive is already mounted in the same rack for mounting this unit, turn off the power of the equipment before mounting this unit.
- Connect long enough cables on the connector panel, considering that the unit is pulled out from the rack.
- Do not operate this unit without the upper lid and bottom plate except when servicing it.
- Adjust the temperature inside the rack within the range of the unit's operating temperature.
(Refer to Section 1-3.)

Specified Rack Mount Kit

RMM-131 (Optional accessory)

Notes

- When mounting this unit into Sony LMS (Library Management System) VTR console, it is necessary to modify the VTR console.
- When mounting this unit into Flexicart, be sure to use the specified kit below.
VTR Mounting kit: BKFC-53/3
- The RMM-130 rack mount kit also can be used for the center position.

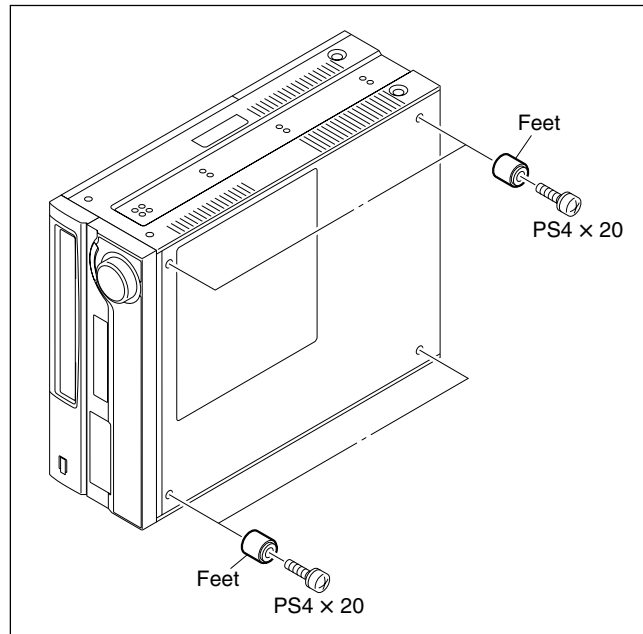
Parts Packed in RMM-131

• Slide rails	2
• Rack angles (handles) with lock mechanism ...	2
• Rail brackets	4
• Plate nuts (large)	4
• Plate nuts (small)	4
• Screws (B4 × 8)	8
• Hexagon socket head cap screws	8
• Flat washers	8
• Screws (RK5 × 14)	2
• Ornamental washers	2
• L-shaped hexagon wrench	1

Rack Mounting Procedure

• Removing the feet

1. Set the unit its side panel down.
2. Unscrew the four screws to remove the feet from the bottom plate of the unit.
3. Set the unit in a horizontal position.



Note

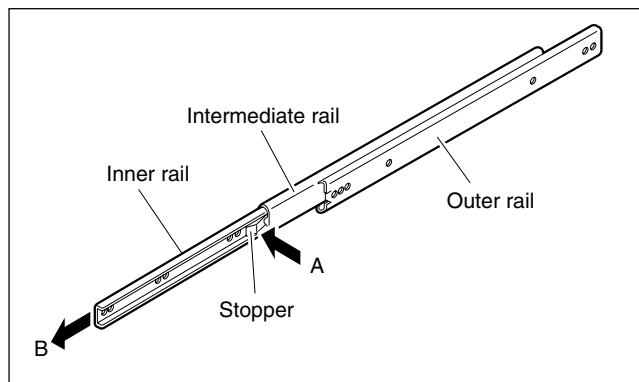
Keep these screws and the feet.

When operating the unit after demounting it from the rack, be sure to reattach the feet.

Tightening torque: $98 \times 10^{-2} \text{ N} \cdot \text{m}$ { 10 kgf · cm }

• Attaching the inner rails

- Pull out the inner rails from the two intermediate rails.
- While pressing the stopper of the inner rail in the direction of the arrow A in the figure, pull the inner rail out in the direction of the arrow B.

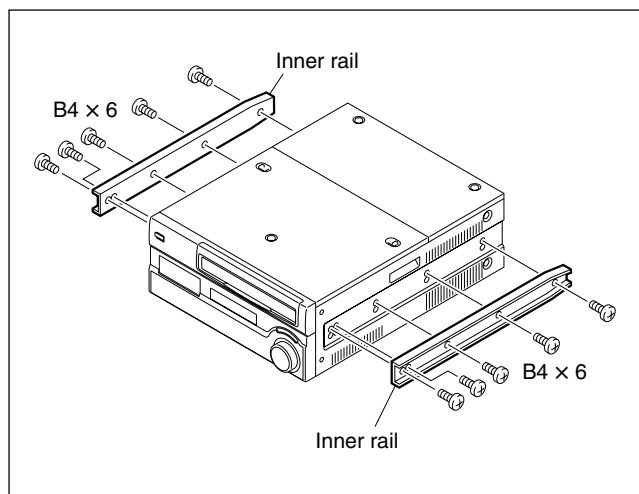


- Remove the ten screws from both sides (left and right) of the unit as shown in the figure below.
- Attach the two inner rails to both sides (left and right) of unit with the removed screws in the step 6.

Tightening torque: $120 \times 10^{-2} \text{ N} \cdot \text{m}$ { 12.2 kgf · cm }

Notes

- Be sure to use the (B4 × 6) screws when attaching the inner rail. The use other-sized screws may cause a malfunction.
- Pay attention not to fasten the screws to the screw holes other than actually used screw holes for fixing the inner rails on both sides of the unit. If unnecessary screws are fastened, rack mounting will be unenabled.

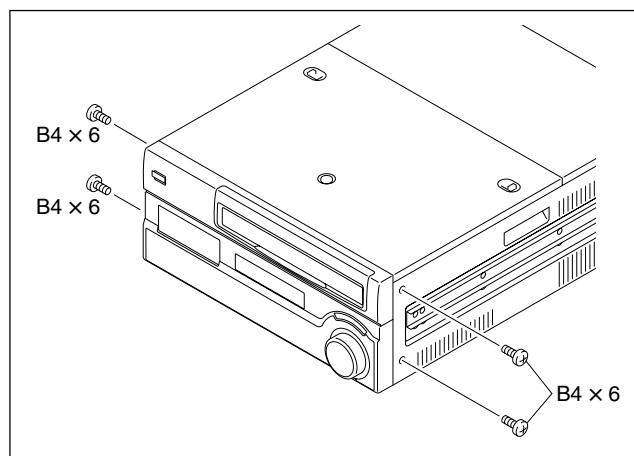


Note

When replacing a 5U size Sony VTR with this unit, attach the inner rails to the low position, so that the bottom of the unit becomes same as that of the 5U size VTR.

• Attaching the rack angles (handles)

- Remove the four screws from both sides (left and right) of the unit.



Note

Keep these screws (B4 × 6).

Be sure to use these screws when directly fixing the side panels without the rack angles.

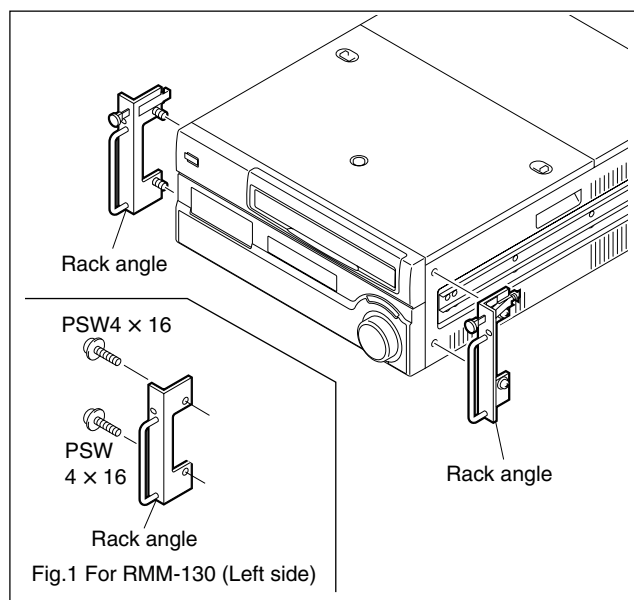
The use of longer screws such as the screws (PSW 4 × 16) for fixing the rack angles of RMM-130 will cause a malfunction of the unit.

- Attach the two rack angles to both sides (left and right) of the unit with the four screws (PSW4 × 16).

Tightening torque: $120 \times 10^{-2} \text{ N} \cdot \text{m}$ { 12.2 kgf · cm }

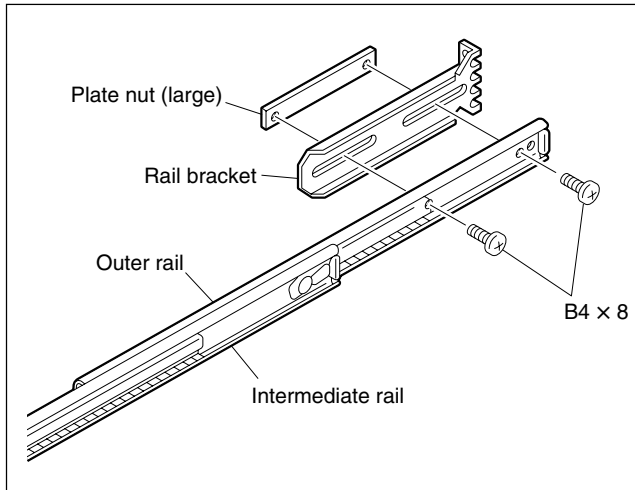
Note

- For RMM-131, screws with stop washers are used for fixing the rack angles.
- For RMM-130, use the supplied screws PSW4 × 16 as shown in Fig. 1.

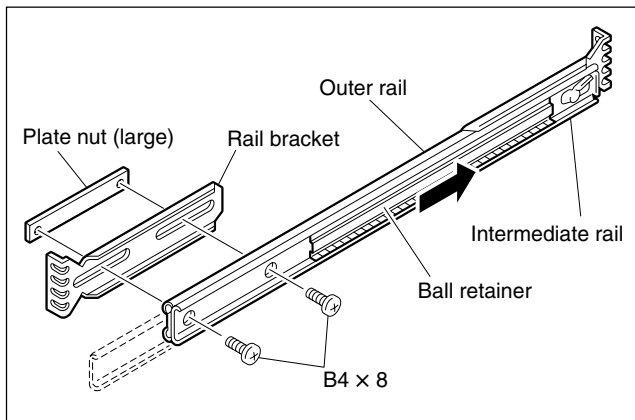


• **Loosely attaching the rail brackets**

10. Slide the intermediate rail as shown in the figure, and then loosely attach the rail bracket to the outer rail with a plate nut (large) and the two screws.

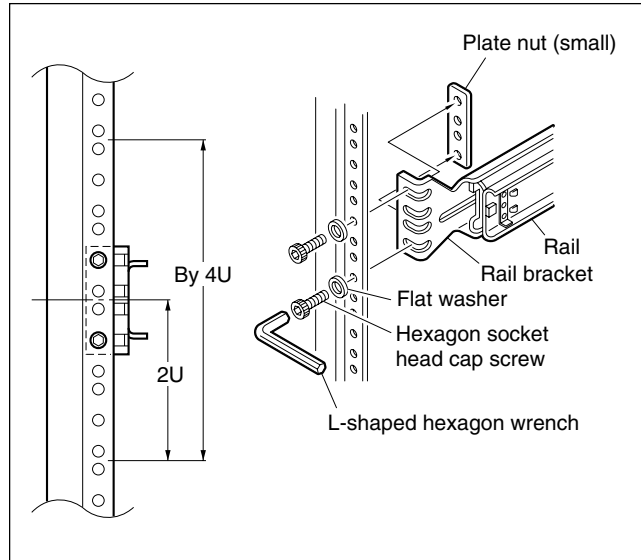


11. Slide the ball retainer in the direction of the arrow, and then loosely attach the rail bracket to the outer rail with a plate nut (large) and the two screws.



• **Attaching the outer rails**

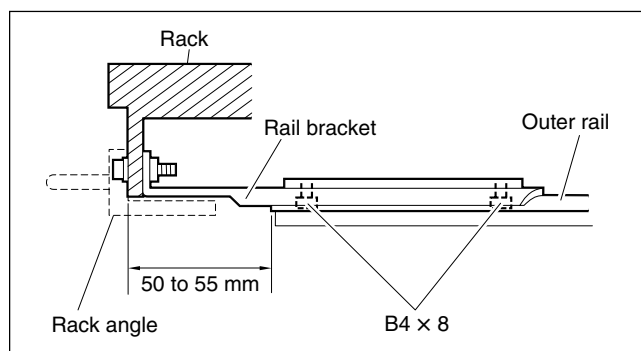
12. Loosely attach the two outer rails to the middle of the 4U space in the rack for mounting this unit, with the eight hexagon socket head cap screws, eight flat washers, and four plate nuts (small).



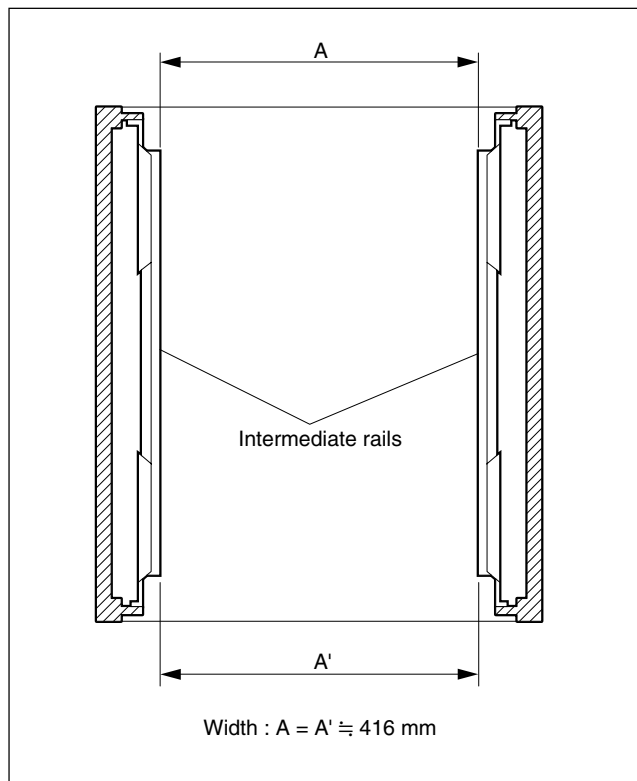
13. As shown in the following figure, adjust each front-side position of the outer rails on both sides (left and right) so that the distance from the surface of the rack to the tip of the rail becomes within the range of 50 to 55 millimeters.

14. Fully tighten the eight screws (B4 x 8) fixing the four rail brackets.

Tightening torque: $120 \times 10^{-2} \text{ N} \cdot \text{m}$ { 12.2 kgf · cm }



15. Check that the two intermediate rails attached to the rack are parallel.



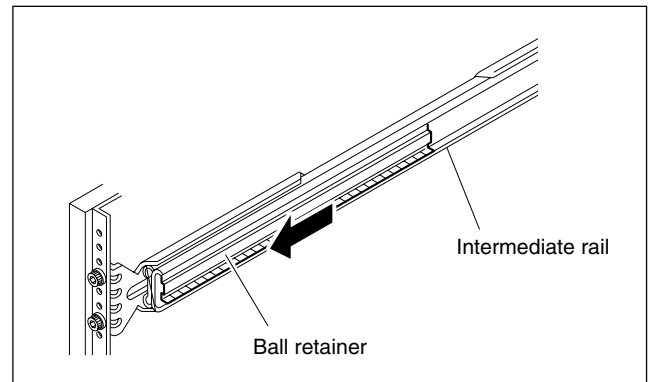
16. To fix the two outer rails to the rack, fully tighten the eight loosely fitted hexagon socket head cap screws in step 12 using the L-shaped hexagon wrench.

• Mounting in rack

CAUTION

Be sure to carry the unit by the two persons or more.

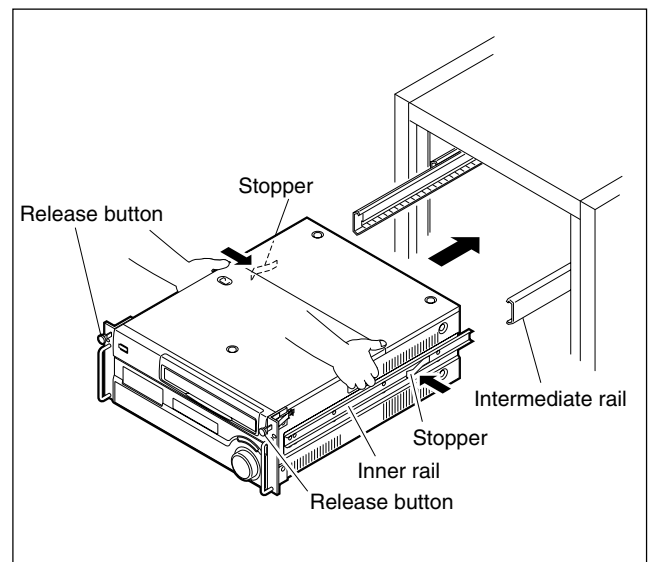
17. Slide each ball retainer of intermediate rails on both sides (left and right) in the direction of the arrow.



18. Pull equal length of each rail on both sides out.
 19. Lift the unit holding the gripes on both sides, slowly insert the inner rails into the intermediate rails.
 20. While pressing each stopper of inner rails on both sides, slowly push the unit into the rack.

CAUTION

Be careful not to catch your finger or hand in rack mount rail.



Note

Pushing the unit in the depths of the rack, the lock mechanism prevents the unit from being pulled out.

To pull the unit out of the rack, pull the unit while pressing the release buttons of the rack angles.

21. Slide the unit in and out from the rack about three times and check that the slide rails move smoothly. If they are not smoothly, demount the unit and go back to “Attaching the outer rails” (step 12).

CAUTION

When demounting the unit, carry it by the two persons or more.

Note

This unit does not have the feet at this operating. Put down the unit on the floor or other, being careful not to damage the unit.

22. Push the unit in the depths of the rack. The unit is fixed to the rack by the lock mechanism. Attempt to pull the rack angles and confirm that the unit cannot be pulled out of the rack.

WARNING

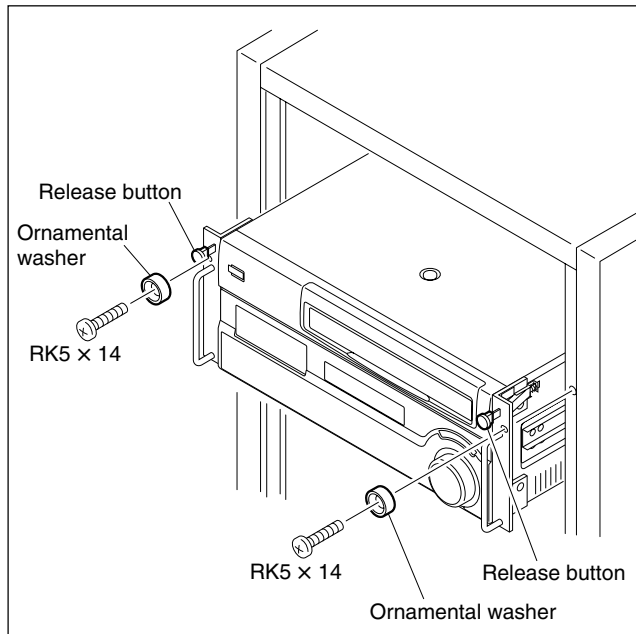
When installing the unit in an Outside Broadcasting van, be sure to fix the unit to the rack using the screws and ornamental washers supplied with the rack mount kit.

Tightening torque: $120 \times 10^{-2} \text{ N} \cdot \text{m}$ {12.2 kgf · cm}

Note

When the unit is not fixed to the rack or the clearances between the rack angle and rack are existed, it is necessary to perform the adjustment for the lock mechanism.

Refer to the RMM-131 installation guide for more detailed information.



1-7. Connection

1-7-1. Attaching the Clamp Filters (HDW Series Only)

In the case of HDW series, to make the unit compliant with the EMC regulation, be sure to attach the clamp filter on each XLR cable connected to the following connectors.

Note

In the case of DVW series and MSW series, it is not required.

Supplied Accessories

Clamp filter (1-543-798-21) 6 pieces (Recorder)
or 4 pieces (Player)

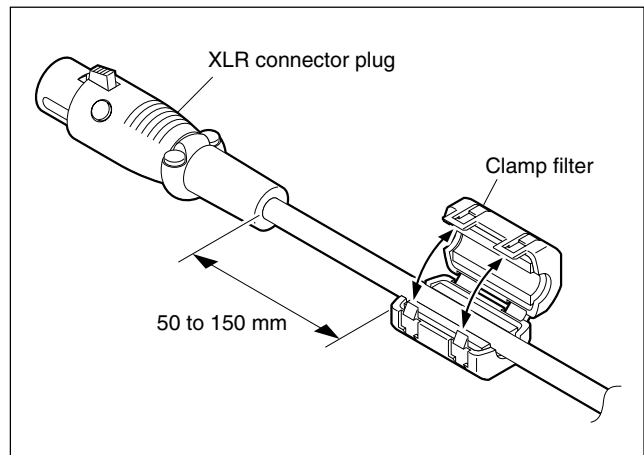
Connectors of the XLR Cables

Required Attachment of the Clamp Filters

- MONITOR OUT L
- MONITOR OUT R
- TIME CODE IN (Recorder only)
- TIME CODE OUT
- CUE IN (Recorder only)
- CUE OUT

Attaching Position

Snap on the clamp filter at the place 50 to 150 mm away from the connector plug of the XLR cable.



1-7-2. Matching Connectors and Cables

When external cables are connected to the connector of this unit, the hardware listed below (or equivalents) must be used.

Panel indication	Matching connector (cable)	Sony part No.	Remarks
AUDIO INPUT CUE IN TIME CODE IN	XLR 3P, MALE	1-508-084-00	Recorder only
AUDIO OUTPUT CUE OUT MONITOR OUT TIME CODE OUT	XLR 3P, FEMALE	1-508-083-00	
REF INPUT VIDEO INPUT VIDEO OUTPUT	BNC 75Ω, MALE	1-569-370-12	
AUDIO INPUT (AES/EBU) AUDIO OUTPUT (AES/EBU)	BNC 75Ω, MALE *1	1-569-370-12	
REMOTE 2 PARALLEL I/O (50P)	D-SUB 50P, MALE and JUNCTION SHELL 50P	1-565-516-11 1-563-379-11	
REMOTE 1-IN (9P) REMOTE 1-OUT (9P)	9P remote control cable (RCC-G series) or D-SUB 9P, MALE and JUNCTION SHEEL 9P	– or 1-560-651-00 1-561-749-00	
RS-232C	D-SUB 9P, FEMALE	1-563-815-21	
CONTROL PANEL	10P, MALE (exclusive connecting cable)	1-792-418-11/BKMW-103 (10 m, available separately)	
VIDEO CONTROL (15P)	D-SUB 15P, FEMALE and JUNCTION SHELL 15P	1-561-610-21 1-561-929-00	
VIDEO CONTROL (9P)	D-SUB 9P, MALE and JUNCTION SHELL 9P	1-561-651-00 1-561-749-00	HDW series only
(OPTION)	Specified by optional kit or D-SUB 9P, MALE and JUNCTION SHEEL 9P	– 1-560-651-00 1-561-749-00	DVW/MSW series only
HD SDI	BNC 75Ω, MALE *2	1-569-370-12	HDW series only
SDI SDTI-CP SDTI (OPTION)	BNC 75Ω, MALE *3	1-569-370-12	
Ethernet *5	Cable compliant with 1000BASE-T standard (UTP cable: Category 5e and higher) *4	MSW-M2000E/M2000EP/M2100E/M2100EP only	
PHONE	JM-60 stereo phone plug	–	Upper control panel connector

*1: Coaxial cable length : max. 600 meters (Reference value based on HDW/DVW/MSW series)

It is recommended to connect the BELDEN 8281 cable or equivalent to this connector.

*2: Coaxial cable length : max. 100 meters (Reference value based on HDW series)

It is recommended to connect the BELDEN 1694A cable or equivalent to this connector.

*3: Coaxial cable length : max. 200 meters (Reference value based on HDW/DVW/MSW series)

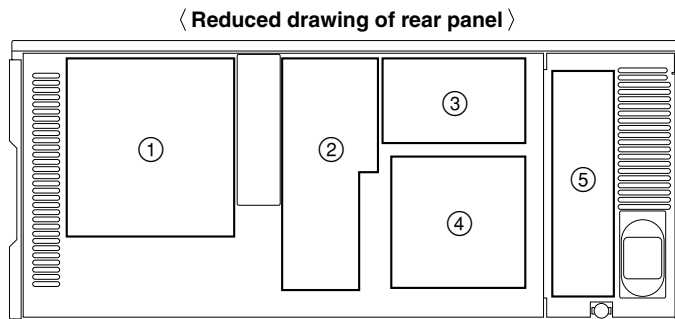
It is recommended to connect the BELDEN 8281 cable or equivalent to this connector.

*4: Coaxial cable length : max. 100 meters

A category 5 cable can only be used for 100BASE-TX communication.

*5: Ethernet is a registered trademark of Xerox corporation.

1-8. Signal Inputs and Outputs



Note

Meanings of “*” marks applied for the connector names are shown below:

- *1 : Connector for recorder
- *2 : Connector for player
- *3 : Connector for HDW
- *4 : Connector for DVW
- *5 : Connector for MSW
- *6 : Connector for MSW-M2000E/M2000EP/M2100E/M2100EP

Input connectors

① AUDIO INPUT *1	XLR 3-pin × 4 (1 set : CH1, CH2, CH3, and CH4) Analog audio LOW OFF : -60 dBu, high impedance, balanced HIGH OFF : +4 dBu (Standard), high impedance, balanced HIGH ON : +4 dBm (Standard), 600 Ω termination, balanced
① CUE IN *1, 3, 4	XLR 3-pin × 1 Analog audio LOW OFF : -60 dBu, high impedance, balanced HIGH OFF : +4 dBu (Standard), high impedance, balanced HIGH ON : +4 dBm (Standard), 600 Ω termination, balanced
① TIME CODE IN *1	XLR 3-pin × 1 Time code 0.5 to 18 V p-p, 10 kΩ, balanced
② VIDEO INPUT, REF.VIDEO *1, 4, 5 REF. INPUT, REF.VIDEO *2, 5 REF. INPUT *3	BNC × 2 in loop through connection Outside reference video signal SD : 0.3 V p-p, 75 Ω, sync negative (Black burst or composite sync) HD : 0.6 V p-p, 75 Ω, sync negative (Ternary SYNC) (HDW series only)
② VIDEO INPUT, COMPOSITE *1, 4, 5	BNC × 2 in loop through connection Analog composite video 1.0 V p-p, 75 Ω, sync negative
② VIDEO INPUT, COMPONENT *1, 4, 5	BNC × 3 (1 set : Y, R-Y, and B-Y) Analog component video Y : 1.0 V p-p, 75 Ω, sync negative R-Y/B-Y : 0.7 V p-p, 75 Ω
③ AUDIO INPUT (AES/EBU) *1	BNC × 4 (1 set : CH1/2, CH3/4, CH5/6, and CH7/8) or BNC × 2 (1 set : CH1/2, CH3/4) Digital audio AES/EBU format, complies with AES-3id-1995
⑤ SDI INPUT *1, 4, 5	BNC × 1 (active through out × 1) Serial digital interface (270 Mbit/s), complies with SMPTE 259M & ITU-R BT.656
⑤ SDTI-CP INPUT *1, 5	BNC × 1 Serial data transport interface (270 Mbit/s), complies with SMPTE 326M (SDTI-CP)
⑤ HD SDI INPUT *1, 3	BNC × 1 (input monitor × 1) Serial digital interface (1.485 Gbit/s), complies with SMPTE 292M
⑤ SDTI INPUT (OPTION) *1, 3	BNC × 1 Serial data transport interface (270 Mbit/s), complies with SMPTE 305M (SDTI)

Remote connectors

④ REMOTE 2 PARALLEL I/O (50P) ***	D-SUB 50P connector
④ REMOTE1-IN (9P)	D-SUB 9P connector (RS-422A interface), Remote control
④ REMOTE1-OUT (9P)	D-SUB 9P connector (RS-422A interface), Remote control
④ RS-232C	D-SUB 9P connector (RS-232C interface) for ISR (Interactive Status Reporting)
④ CONTROL PANEL	10P connector for an outside control panel connection only
④ VIDEO CONTROL (15P)	D-SUB 15P connector for a TBC remote controller (BVR-50) exclusive connection
④ VIDEO CONTROL (9P) *3	D-SUB 9P connector for a TBC remote controller (HKDV-900) connection
④ (OPTION) *4, 5	D-SUB 9P connector for an optional kit

*** : Refer to Optional "Interface manual" for details.

Output connectors

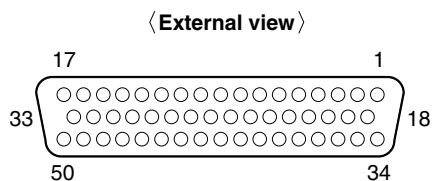
① AUDIO OUTPUT	XLR 3-pin × 4 (1 set : CH1, CH2, CH3, and CH4) Analog audio +4 dBm (Standard) (600 Ω load), low impedance, balanced
① CUE OUT (Excl. MSW-2000/A2000/A2000P)	XLR 3-pin × 4 (1 set : CH1, CH2, CH3, and CH4) Analog audio +4 dBm (Standard) (600 Ω load), low impedance, balanced
① TIME CODE OUT	XLR 3-pin × 1 Time code 2.2 V p-p, low impedance, balanced
① MONITOR OUTPUT	XLR 3-pin × 2 (1 set : L and R) Analog audio +4 dBm (Standard) (600 Ω load), low impedance, balanced
② VIDEO OUTPUT, COMPOSITE	BNC × 3 (including 1 for character superimpose) Analog composite video 1.0 V p-p, 75 Ω, sync negative
② VIDEO OUTPUT, COMPONENT	BNC × 3 (1 set : Y, R-Y, and B-Y) Analog component video Y : 1.0 V p-p, 75 Ω, sync negative R-Y/B-Y : 0.7 V p-p, 75 Ω
③ AUDIO OUTPUT (AES/EBU)	BNC × 4 (1 set : CH1/2, CH3/4, CH5/6, and CH7/8) or BNC × 2 (1 set : CH1/2, CH3/4) Digital audio AES/EBU format, complies with AES-3id-1995
⑤ HD SDI OUTPUT *3	BNC × 3 (including 1 for character superimpose) Serial digital interface (270 Mbit/s), complies with SMPTE 292
⑤ SDI OUTPUT	BNC × 3 (including 1 for character superimpose) Serial digital interface (270 Mbit/s), complies with SMPTE 259M & ITU-R BT.656
⑤ SDTI-CP OUTPUT *5	BNC × 2 Serial data transport interface (270 Mbit/s), complies with SMPTE 326M (SDTI-CP)
⑤ SDTI OUTPUT (OPTION) *3	BNC × 2 Serial data transport interface (270 Mbit/s), complies with SMPTE 305M (SDTI)
PHONE (Upper control panel)	JM-60 stereo phone jack Analog audio up to -12 dBu (8 Ω load), unbalanced

Input/Output connector

⑤ Ethernet *6	RJ-45 modular jack (with LED) 1000BASE-T (compliant with IEEE802.3ab) 100BASE-TX (compliant with IEEE802.3u) 10BASE-T (compliant with IEEE802.3i) (Automatically detected by Auto-Negotiation)
---------------	--

Other

Memory stick (Switch panel)	Memory stick × 1 Applicable memory stick (8 MB to 128 MB)
Memory card (Switch panel) (Excl. DVW-2000/2000P/M2000/M2000P and MSW-2000)	PCMCIA × 1 Recommended usable memory card : 2 MB : Part No. 1-772-003-11 4 MB : Part No. 1-772-004-11

REMOTE 2 PARALLEL I/O: 50-pin (female)

Pin No.	I/O*1	Setting change*2	Signal	Description
1	IN	○	FF	CLOSURE SW (FF)
2	OUT	×	REC SW	PANEL REC SW OUT
3	OUT	×	PLAY SW	PANEL PLAY SW OUT
4	OUT	×	STOP SW	PANEL STOP SW OUT
5	OUT	×	ENTRY SW	PANEL ENTRY SW OUT
6	OUT	×	REF SYSTEM ALARM	Non-REFERENCE
7	OUT	×	CF LOCK	COLOR FRAME LOCK STATUS
8	OUT	×	DRUM LOCK	LOCK STATUS OF DRUM SERVO
9	OUT	×	CAP LOCK	LOCK STATUS OF CAPSTAN SERVO
10	OUT	○	CUE PRESET	EDIT PRESET STATUS of the CUE Channel
11	OUT	○	TC PRESET	EDIT PRESET STATUS of the TC Channel
12	OUT	○	OXIDE/METAL	OXIDE/METAL TAPE STATUS
13	OUT	○	TAPE THICKNESS	TAPE THICKNESS STATUS
14	OUT	×	SPARE	SPARE
15	OUT	×	SPARE	SPARE
16	—	—	+12V	(Maximum output current 50 mA)
17	—	—	GND	SIGNAL GND
18	IN	○	PREROLL	CLOSURE SW (PREROLL)
19	IN	○	STBY ON	CLOSURE SW (STANDBY ON)
20	IN	○	REW	CLOSURE SW (REW)
21	IN	○	ENTRY	CLOSURE SW (ENTRY IN)
22	IN	○	STBY OFF	CLOSURE SW (STANDBY OFF)
23	IN	○	EJECT	CLOSURE SW (EJECT)
24	OUT	×	REC	REC STATUS
25	OUT	×	CH CONDITION RED	CHANNEL CONDITION RED STATUS
26	OUT	○	ASSEMBLE PRESET	ASSEMBLE PRESET STATUS
27	OUT	○	EDIT OUT	EDIT STATUS
28	OUT	○	EJECT OUT	EJECT STATUS
29	OUT	○	ANALOG/DIGITAL	ANALOG/DIGITAL STATUS
30	OUT	○	REEL HUB	REEL HUB STATUS
31	OUT	×	REM2 SETTING DATA RESET	REMOTE2 SETTING DATA RESET STATUS
32	OUT	×	ALL REC INHIBIT	ALL REC INHIBIT STATUS
33	—	—	GND	
34	IN	○	PLAY	CLOSURE SW (PLAY)
35	IN	○	STOP	CLOSURE SW (STOP)

(Continue)

(Continued)

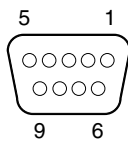
Pin No.	I/O *1	Setting change *2	Signal	Description
36	IN	○	REC	CLOSURE SW (REC)
37	OUT	×	REV LAMP	REV LAMP STATUS
38	OUT	○	DA2 PRESET	DA2 EDIT PRESET STATUS
39	OUT	○	DA1 PRESET	DA1 EDIT PRESET STATUS
40	OUT	×	FWD LAMP	FWD LAMP STATUS
41	OUT	○	DA4 PRESET	DA4 EDIT PRESET STATUS
42	OUT	○	DA3 PRESET	DA3 EDIT PRESET STATUS
43	OUT	×	STOP	STOP STATUS
44	OUT	○	VIDEO PRESET	VIDEO EDIT PRESET STATUS
45	OUT	○	INSERT PRESET	INSERT EDIT PRESET STATUS
46	OUT	×	STBY ON	STANDBY ON STATUS
47	OUT	×	PLAY	PLAY STATUS
48	OUT	×	REMOTE	REMOTE STATUS
49	OUT	×	ALARM	SYSTEM ALARM STATUS
50	OUT	○	PREROLL	PREROLL STATUS

*1: Input ; 47 kΩ pull up to +5 V (close/open)
Output ; 10 kΩ pull up to +5 V (0 V or open)

*2: The pins described as ○ mark are possible to change the setting.
Refer to the optional interface manual for changing the setting.

REMOTE1-IN: 9-pin (female)
REMOTE1-OUT: 9-pin (female)

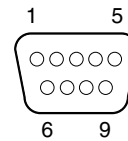
〈External view〉



Pin No.	Signal
1	GND
2	RM TX(-)
3	RM RX(+)
4	GND
5	PRIORITY
6	GND
7	RM TX(+)
8	RM RX(-)
9	GND

RS-232C: 9-pin (male)

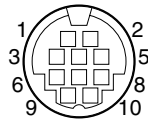
〈External view〉



Pin No.	Signal
1	DCD ; Data Carrier Detect (Input)
2	RXD ; Received Data (Input)
3	TXD ; Transmitted Data (Output)
4	DTR ; Data Terminal Ready (Output)
5	SG ; Signal Ground
6	DSR ; Data Set Ready (Input)
7	RTS ; Request to Send (Output)
8	CTS ; Clear to Send (Input)
9	NC

CONTROL PANEL: 10-pin (female)

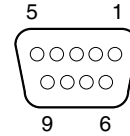
〈External view〉



Pin No.	Signal	Terminal voltage (V)
1	+21 V	+21 V
2	+21 V	+21 V
3	KEY TX (+) (Output)	RS422
4	FRONT/REAR	+5: FRONT 0: REAR
5	KEY TX (-) (Output)	RS422
6	KEY RX (+) (Input)	RS422
7	GND	—
8	KEY RX (-) (INPUT)	RS422
9	GND	—
10	GND	—

VIDEO CONTROL / (OPTION): 9-pin (female)

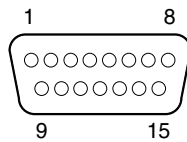
〈External view〉



Pin No.	Signal
1	GND
2	RM TX (-)
3	RM RX (+)
4	GND
5	—
6	GND
7	RM TX (+)
8	RM RX (-)
9	GND

VIDEO CONTROL: 15-pin (male)

〈External view〉



Pin No.	Signal	Terminal voltage (V)
1	SYNC CONT (Input)	-5 to +5
2	HUE CONT (Input)	-5 to +5
3	SC CONT (Input)	-5 to +5
4	VIDEO LEVEL CONT (Input)	-5 to +5
5	SETUP CONT (Input)	-5 to +5
6	CHROMA LEVEL CONT (Input)	-5 to +5
7	REG -12V (Output)	-12
8	GND	—
9 to 12	NC	—
13	Y/C DELAY CONT (Input)	-5 to +5
14	NC	—
15	REG +12V (Output)	+12

Note

This connector exclusively connects the TBC remote controller BVR-50.

1-9. Switch Settings on Connector Panel

When the unit is installed, be sure to perform the following setup.

Refer to the operation manual “Section 2 Location and Function of Parts” for setup.

- Analog audio input level/600 Ω termination switches (Recorder only)
- 75 Ω termination switch of reference video input
- 75 Ω termination switch of composite video input (DVW/MSW recorder only)

1-10. Switch Settings on Circuit Boards

1-10-1. APR-52 Board

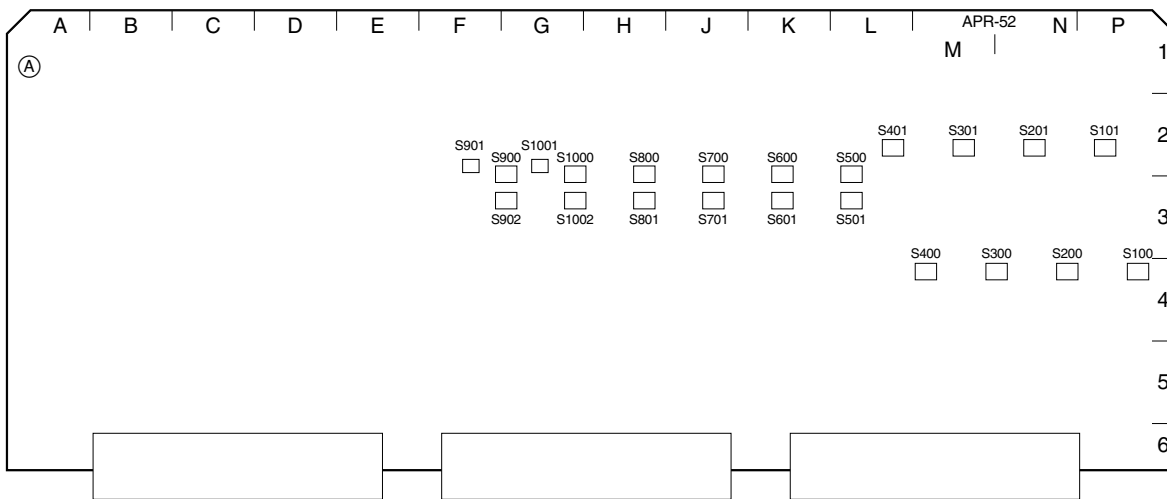
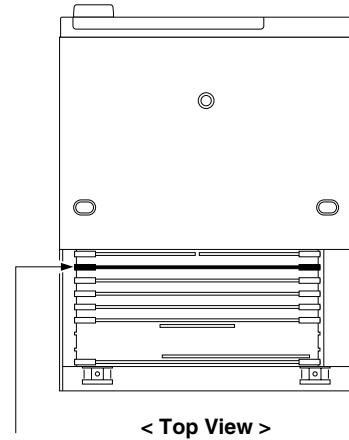
If necessary, perform the following audio-related settings using the switches on the APR-52 board.

- Audio input level *1 (Recorder only)
- Audio input headroom *2
- Audio output level *1
- Audio output headroom *2
- Monitor output level *1
- Monitor output headroom *2
- Monitor output level, fixed/variable selection

*1: Select the level for each channel from +4, 0, -3, -20 dBm. (Factory settings: +4 dBm for each channel)
 *2: Select the headroom for each channel from 20, 18, 16, 12 dB. (Factory settings: 20 dB for each channel)

Note

Refer to Section 1-16 for removing and reattaching the plug-in boards.



APR-52 Board (Side A)

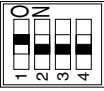


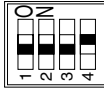
Audio input level settings (Recorder only)

Channel	Ref. No.	Switches state (■ : Knob position)			
CH1	S100				
CH2	S200				
CH3	S300				
CH4	S400	+4 dBm/600 Ω (Factory setting)	0 dBm/600 Ω	-3 dBm/600 Ω	-20 dBm/600 Ω





Audio input headroom settings

Channel	Ref. No.	Switches state (■ : Knob position)			
CH1	S101				
CH2	S201				
CH3	S301				
CH4	S401	20 dB (Factory setting)	18 dB	16 dB	12 dB

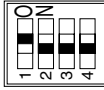
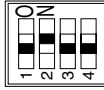
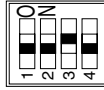
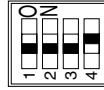
Audio output level settings

Channel	Ref. No.	Switches state (■ : Knob position)			
CH1	S501				
CH2	S601				
CH3	S701				
CH4	S801	+4 dBm/600 Ω (Factory setting)	0 dBm/600 Ω	-3 dBm/600 Ω	-20 dBm/600 Ω


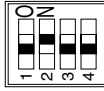
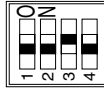

Audio output headroom settings

Channel	Ref. No.	Switches state (■ : Knob position)			
CH1	S500				
CH2	S600				
CH3	S700				
CH4	S800	20 dB (Factory setting)	18 dB	16 dB	12 dB

Monitor output level settings



Channel	Ref. No.	Switches state (■ : Knob position)			
L	S902				
R	S1002	+4 dBm/600 Ω (Factory setting)	0 dBm/600 Ω	-3 dBm/600 Ω	-20 dBm/600 Ω

Monitor output headroom settings

Channel	Ref. No.	Switches state (■ : Knob position)			
L	S900				
R	S1000	20 dB (Factory setting)	18 dB	16 dB	12 dB

Monitor output level switching (fixed or variable)

When the variable level is selected, the level is adjusted with the PHONE level control knob.

Channel	Ref. No.	Switch state (■ : Knob position)	
L	S901	Fixed	Variable
R	S1001	 (Factory setting)	

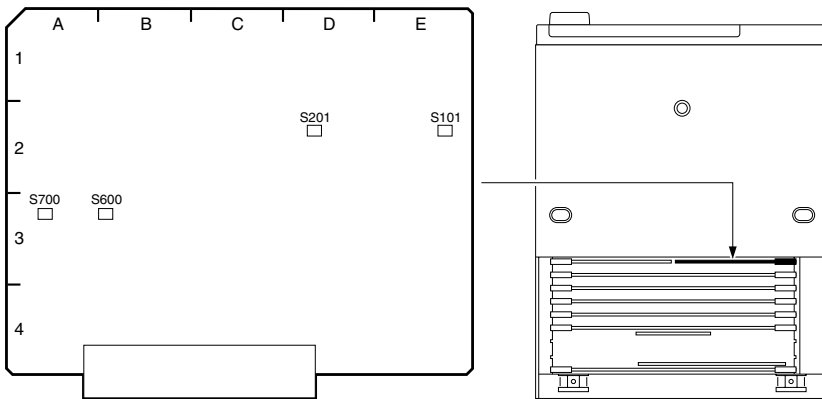
1-10-2. AU-272 Board (Other than HDW-2000, DVW-2000/2000P, MSW-2000)

If necessary, perform the following audio-related settings using the switches on the AU-272 board (Suffix -12 and higher).

- Analog audio (longitudinal audio) output gain
- Analog audio (AFM) output gain

Note

The AU-272 board is not used in HDW-2000, DVW-2000/2000P nor MSW-2000.



AU-272 Board (Suffix -12 and higher, Side A)

< Top View >

Analog Audio output gain settings (For Betacam/Betacam SP longitudinal audio)

Channel	Ref. No.	Switches state (■ : Knob position)	
CH1	S101		
CH2	S201		
		0 dB (Factory setting)	+3 dB (For increasing the gain of the longitudinal audio playback level by +3 dB)

Analog Audio output gain settings (For Betacam SP AFM)

Channel	Ref. No.	Switches state (■ : Knob position)	
CH3	S600		
CH4	S700		
		0 dB (Factory setting)	+3 dB (For increasing the gain of the AFM playback level by +3 dB)

Note

The S600 and S700 are not used in HDW-S2000/S2000P.

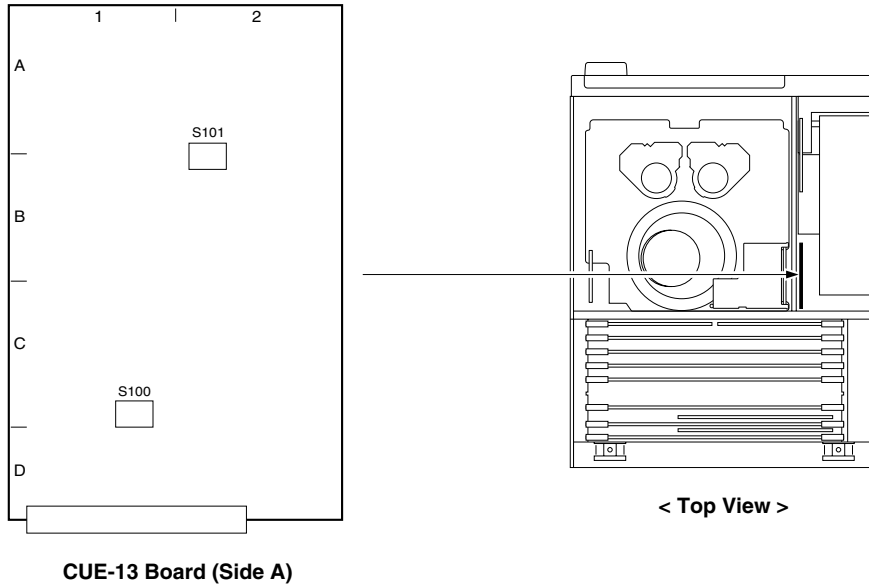
1-10-3. CUE-13 Board (Other than MSW-2000/A2000/A2000P)

If necessary, perform the following audio-related settings using the switches on the CUE-13 board.

- CUE input level (HDW/DVW recorder only)
- CUE output level

Note

The CUE-13 board is not used for MSW-2000/A2000/A2000P.



CUE input level settings (HDW/DVW recorder only)

Ref. No.	Switches state (■ : Knob position)			
S100				
	+4 dBm/600 Ω (Factory setting)	0 dBm/600 Ω	-3 dBm/600 Ω	-20 dBm/600 Ω

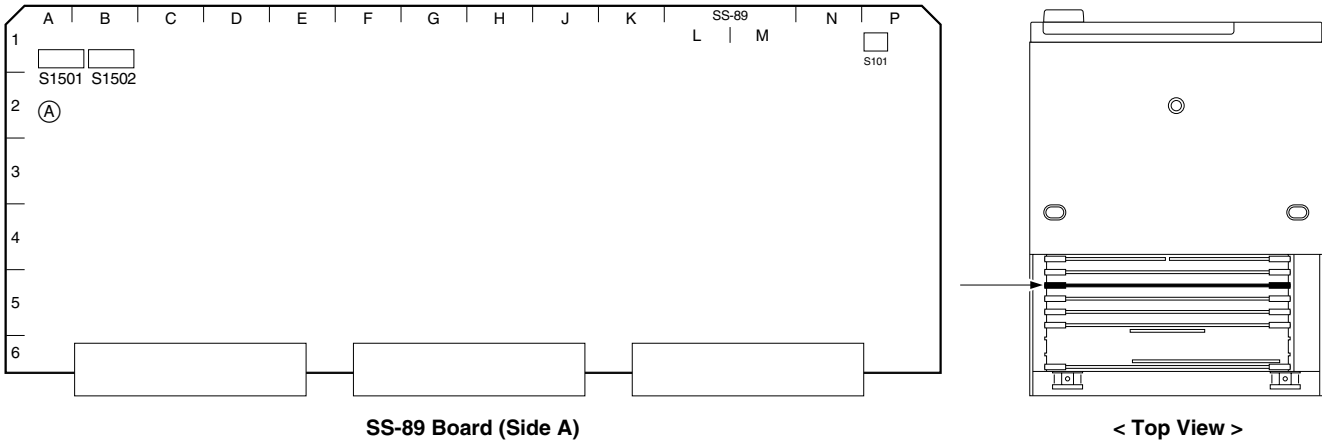
CUE output level settings

Ref. No.	Switches state (■ : Knob position)			
S101				
	+4 dBm/600 Ω (Factory setting)	0 dBm/600 Ω	-3 dBm/600 Ω	-20 dBm/600 Ω

1-10-4. SS-89 Board

Note

If necessary, perform the following settings for DVW/MSW series. They are not required for HDW series.



Operation mode settings (for MSW-2000 only)

Note

Refer to Section 1-11 for the DVW series settings.

Ref. No.	Bit	Name	Description	Factory setting
S1501	8	525/625	OFF: 525 mode ON: 625 mode	ON

Notes

- To use MSW-2000 in 525 mode, please turn this switch to OFF.
In the case of models other than MSW-2000, setting change is not required because the switch is set up by the NTSC model or PAL model.
- Although “ERROR 96” is displayed in MSW-2000 after the above settings are switched, it will disappear by turning the power off then on.

Menu display settings (for DVW/MSW series)

Ref. No.	Bit	Name	Description	Factory setting
S1502	1	EXTENDED MENU	OFF: Not display extended menu of setup menu ON: Displays extended menu of setup menu	OFF (DVW/MSW series) ON (HDW series)
	2	MAINTENANCE MODE ACCESS ENABLE	OFF: Not enter into maintenance mode from lower control panel ON: Enters into maintenance mode from lower control panel	OFF (DVW/MSW series) ON (HDW series)
	6	CUSTOMIZE MENU	OFF: Disables access to Setup menu customize mode ON: Enables access to Setup menu customize mode	OFF

Note

Refer to the operation manual for the details of ITEM-H00 through ITEM-900 and ITEM-B00 series.
Refer to Section 1 of the maintenance manual volume 1 for the details of ITEM-F series.

1-10-5. VN-13 Board (MSW-M2000E/ M2000EP/M2100E/M2100EP only)

For switch settings on the VN-13 board, refer to “1-1-5. Switch Setting and Function of LEDs on VN-13 Board” in the BKMW-E3000 Installation Manual.

1-11. Operation Mode Settings (For DVW-2000/M2000 Only)

When turning on the POWER switch for the first time or after executing “M49: RESET ALL SETUP” in the maintenance mode, the mode for selecting a destination (J or SYL) appears.

Select a destination following the operation procedure of the destination selection mode.

Once a destination is selected, this mode does not appear when the POWER switch is turned on and the unit operates with the selected destination.

Notes

- Be sure to select a destination before use.
 If no destination is selected, the unit will not perform the playback and recording operations correctly even though these operations are enabled.
- Destination: “J” is for the models for Japan, and “SYL” is for the models for the countries other than Japan.

1-11-1. Operation Procedure of Destination Selection Mode

1. When no destination has not been selected, turning on the POWER switch displays the following indication in the menu display area of the control panel.

DESTINATION SEL - NO-SET					
	SELECT			SET	
F1	F2	F3	F4	F5	F6

2. Press the F2 (SELECT) button.
 - Pressing the F2 (SELECT) button blinks “NO-SET”.
 - Pressing the F3 (-) or F4 (+) button selects the destination SYL or J.
 - Pressing the F1 (RETURN) button returns the indication to the original indication shown in step 1.

DESTINATION SEL - NO-SET					
RETURN		-	+	SET	
F1	F2	F3	F4	F5	F6

When “SYL” is selected as a destination (“SYL” blinks)

DESTINATION SEL - SYL					
RETURN		-	+	SET	
F1	F2	F3	F4	F5	F6

When “J” is selected as a destination (“J” blinks)

DESTINATION SEL - J					
RETURN		-	+	SET	
F1	F2	F3	F4	F5	F6

3. Press the F5 (SET) button.
 - Pressing the F5 (SET) button accepts the selected destination.
 - When the message “TURN OFF/ON POWER!!” appears, turn off the POWER switch.

TURN OFF/ON POWER !!					
				SET	
F1	F2	F3	F4	F5	F6

To return the destination to the “NO-SET” status:

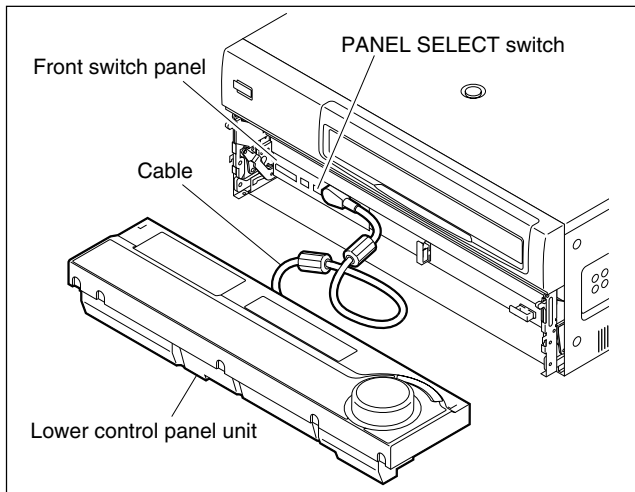
Reset all the unit settings to the factory settings using “M49: RESET ALL SETUP” of the maintenance mode. For details about the maintenance mode, refer to Section 3 in the Maintenance Manual Volume-1.

Note

All the settings, including the setup menu, are reset.

1-12. Removing/Reattaching Lower Control Panel Unit

The lower control panel unit is detachable from the main unit, therefore operation with placing the single panel unit on the table as a keyboard of a personal computer is possible. (The length of the connected cable is about 62 centimeters.)



Not only connecting the cable to a CONTROL PANEL connector in the front switch panel, but connection between the cable and the CONTROL PANEL connector in the rear connector panel provides operating the lower control panel. After connection, set a PANEL SELECT switch on the switch panel as follows:

Connector to be connected to lower control panel unit	Setting of PANEL SELECT switch
Front (on the switch panel)	FRONT (Factory setting)
Rear (on the connector panel)	REAR

Settings when connecting the two lower control units

When connecting the two lower control units to one VTR, select which operation to enable by setting from the setup extended menu ITEM-117.

Operation enabled	Setting of ITEM-117	Setting of PANEL SELECT switch
Front-side panel	SW or PARA	FRONT (Factory setting)
Rear-side panel	SW (Factory setting)	REAR
Both panels	PARA	REAR

Note

To display ITEM-117 for MSW-series, menu display setting is necessary. See Section 1-10-4. As to the setting of ITEM-117, refer to the operation manual of the VTR.

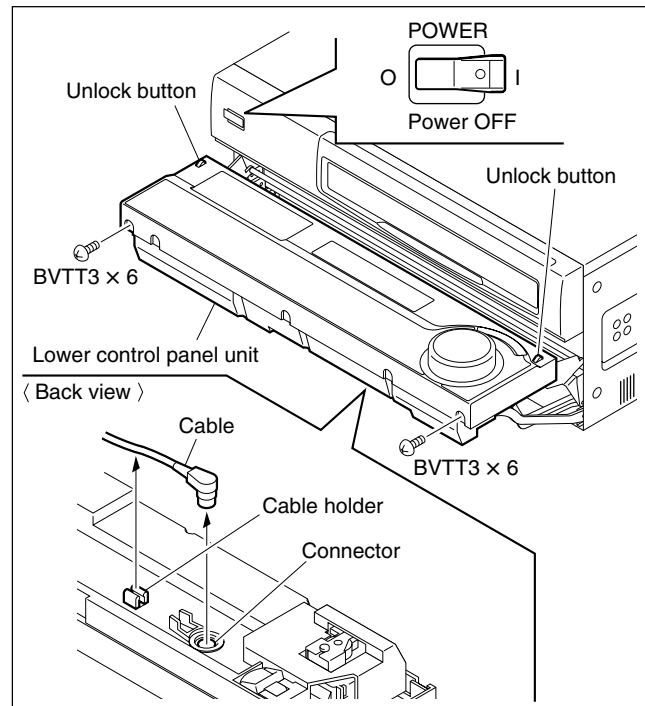
Removal/Extension of the Lower Control Panel Unit

1. Turn off the power of VTR.
2. After pressing the unlock button, open the lower control panel as shown in the figure below.
3. Disconnect the cable from the connector on the back side of the lower control panel unit and from the cord holder.

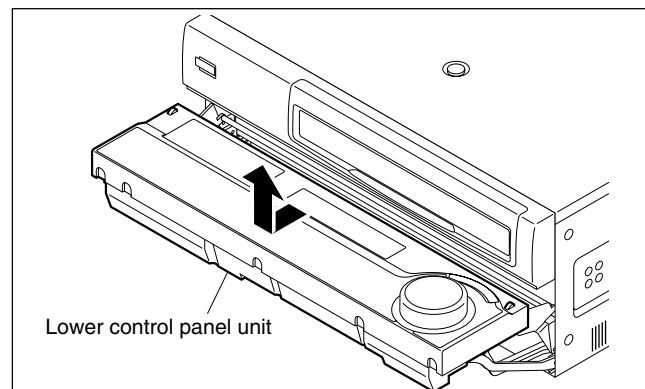
Note

Check the power of the VTR is turned off before disconnecting the cable. Disconnecting or connecting the cable in the power-on state will damage the control panel.

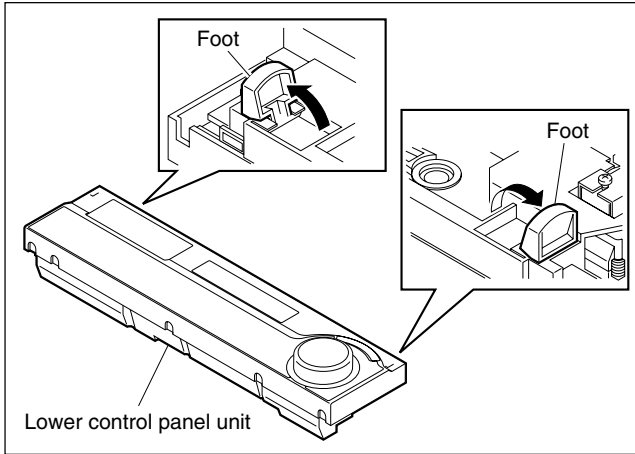
4. Remove the two screws shown in the figure.



5. Lightly draw the lower control panel unit toward you, and then lift it upward.



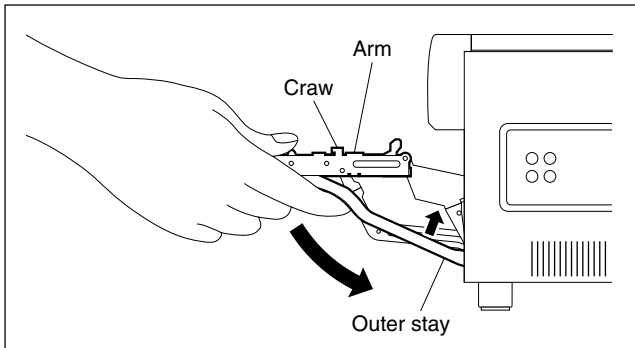
- Erect the feet on the back side of the lower control panel unit and place it.



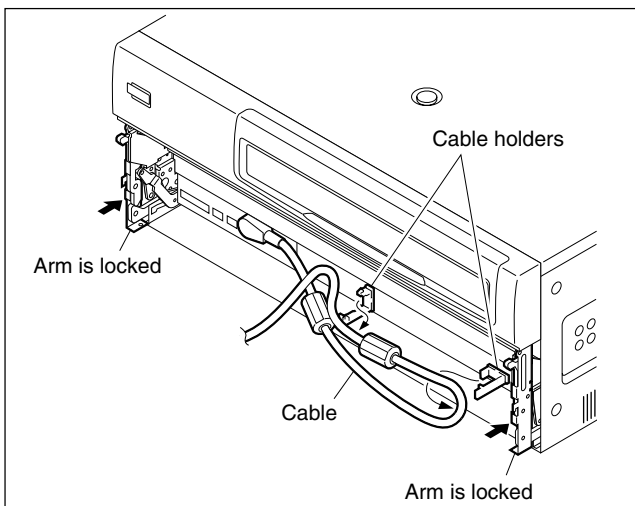
- While lifting the outer stay by the forefinger, fold the arm in the direction of the arrow shown in the figure.

Note

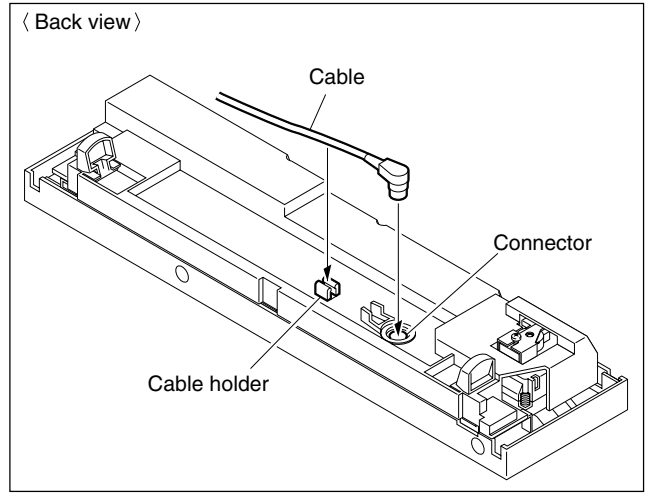
Move the forefinger off before pinching it between the arm and chassis.



- Check that each arm is locked and unmoving state. If it rattles, lightly push in the arm until it locks.
- Take the cable off the three cable holders on the switch panel.



- Connect the cable to the connector on the back side of the lower control panel unit and fix the cable in the cable holder.



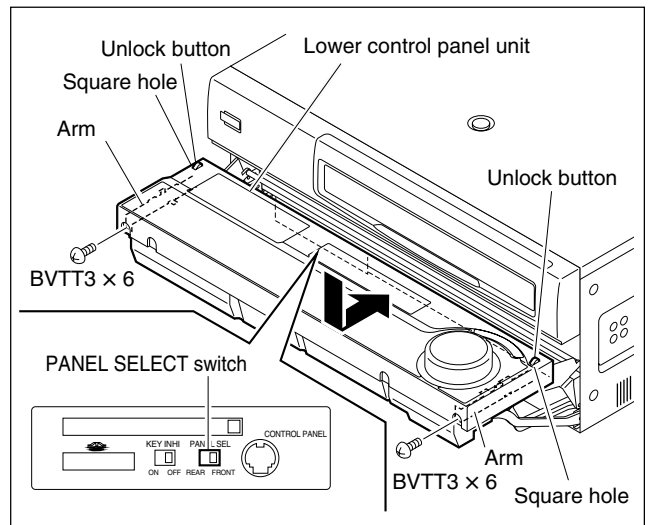
Note

In the case of connecting the lower control panel unit to the CONTROL PANEL connector in the rear side, set the PANEL SELECT switch to REAR.

Reattaching the Lower Control Panel Unit

Reattach the lower control panel unit in the reverse order of removal and extension, yet when reattaching, use care about following points.

- Set the PANEL SELECT switch to FRONT.
- When opening the arms, follow step 2.
- When reattaching the lower control panel unit to the arms, place it which square holes of the panel aligned to the unlock buttons and slide it slightly to the VTR.
- Check the screw holes are visible from your side before tightening the screws.



1-13. Switching Search Dial Mode

There are two kinds of operation to switch the mode of the search dial on the lower control panel.

• Button selecting

To enter the shuttle mode, press the SHUTTLE button.

To enter the jog mode, press the JOG button.

To enter the variable mode, press the VAR button.

• Search dial pressing

When you press the search dial, the search dial mode switches in order to shuttle, jog, variable.

It is possible to prohibit a manner of switching.

Prohibiting Search Dial Pressing

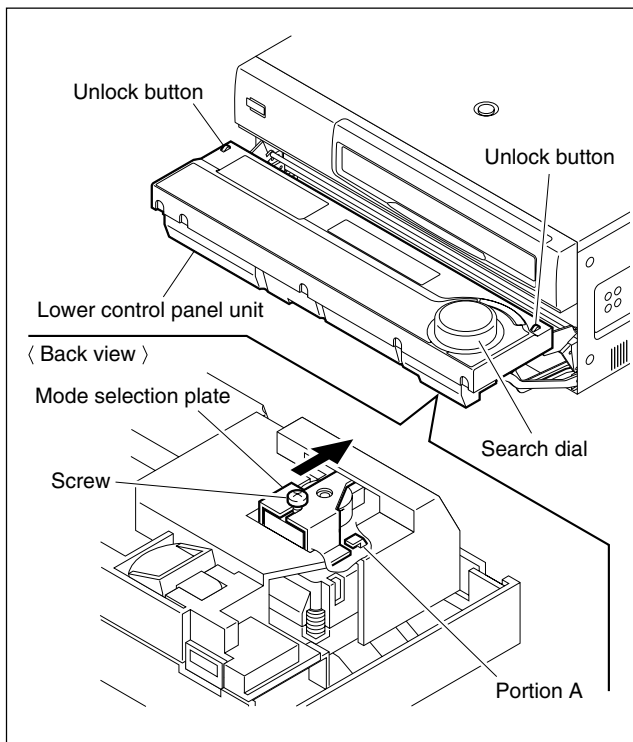
1. After pressing the unlock buttons, open the lower control panel as shown in the figure below.
2. Loosen a screw on the backside of the search dial as shown in the figure.

Note

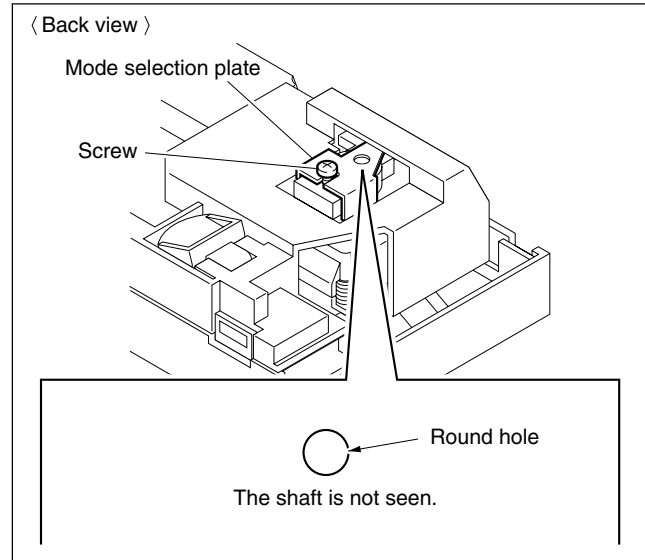
If it is difficult to loosen the screw, remove the lower control panel unit in advance.

(Refer to Section 1-12.)

3. Slide the mode selection plate in the direction indicated by the arrow until it contacts the portion A.

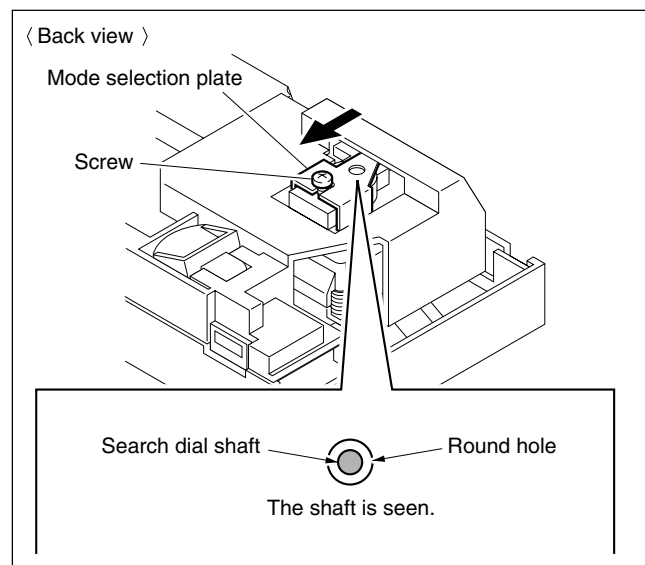


4. Check to see that the shaft of the search dial is not seen in the round hole of the mode selection plate, and then tighten the screw.



Allowing Search Dial Pressing

1. Open the lower control panel. (Operation side up)
2. Loosen a screw on the backside of the search dial as shown in the figure.
3. Fully slide the mode selection plate in the direction indicated by the arrow.
4. Check to see that the shaft of the search dial is seen in the round hole of the mode selection plate, and then tighten the screw.



1-14. Reference System

1-14-1. Recorder

For each reference signal of the recorder, either of an external reference video signal (*3) or input video signal (*4) is automatically selected according to the setting of function menu item OUT REF, the setting of setup menu ITEM-309, and the operation mode (PB/EDIT/REC) of this unit. (Refer to the table 1-14-1 below.)

In case of DVW series and MSW series, the reference signal (clock) of an analog video signal in an A/D converter regards the analog video signal itself as a reference signal under any setting.

Notes

- To select the video input, open the HOME page on the function screen and use the F1 button (VID. IN).
- To set the OUT REF, open the P4 page (MISCELLANEOUS) on the function screen and use the F2 button (OUTREF).

Audio Signal Independent Recording

Even if an input video signal is selected as the reference signal, the reference signal is automatically selected to an external reference video signal for the period in which the no input video signal is input. When no external reference video signal is input, the internal-generated reference signal is automatically selected for the period.

An audio signal can be independently recorded by this system even if no reference video signal is input from the outside.

Note

In the case of DVW series and MSW series, when the setup menu ITEM-185 (AUDIO SAMPLING RATE CONVERTER) set to “44 kHz” or “32 kHz”, an audio signal can be independently recorded.

Table 1-14-1. Reference System for Recorder

Menu ITEM-309	EXT	AUTO				
OUT REF	_____	REF				INPUT
Operation mode	_____	PB	EDIT (*1)	EDIT (*2)	REC	_____
Video input A/D (DVW/MSW series only)	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px;">External Reference Video (*3)</div> <div style="border: 1px solid black; padding: 5px;">Input Video (*4)</div> </div>					
Video output process						
Digital audio						
Servo system						

*1: When the setup menu ITEM-309 is set to “AUTO1”.

*2: When the setup menu ITEM-309 is set to “AUTO2”.

*3: REF. VIDEO input

*4: The input video signal is selected by the video input selection.

Alarm Display for Video Input Signal and Reference Signal

1. Blink of the selected input video indication area of the video input selection

This area at the HOME page on the function screen blinks when signal is not input to the connector selected by the video input selection.

2. Blink of the STOP button

The button blinks when the reference signal is not locked to an input video signal.

(This function can be canceled in the setup menu ITEM-105.)

- When the OUT REF is set to “INPUT”:

The STOP button blinks when the signal is not input to the connector selected by the video input selection.

- When the OUT REF is set to “REF”:

The STOP button blinks in the following either cases.

When no reference signal is input to REF. VIDEO connector.

When the reference video signal (REF.VIDEO input) is not synchronized with an input video signal selected by the video input selection.

1-14-2. Player

The player regards the external reference video signal as a reference signal. However, when no external reference video signal (REF./REF. VIDEO INPUT) is input, the player automatically switches to the reference signal generated inside the unit.

Alarm Display for Reference Signal

Blink of the STOP button

The STOP button blinks when the signal is not input to the REF./REF. VIDEO INPUT connector.

(This function can be canceled in the setup menu ITEM-105.)

1-15. Settings and Adjustment when External Equipment is Connected

1-15-1. Settings for Time Code (Recorder Only)

To set the TIME CODE, open the P1 page (TCG/TCR SETTING) on the function screen.

When Editing with an Editor (BVE-2000, etc.) Capable of the 1st Edit

When this unit is used by connecting to an editor, set as follows.

Button	Model	Item (Display)	Setting
F1	HDW	TCG SOURCE (TCG)	INT
	DVW/MSW	TCG INT/EXT (TCG)	
F2	HDW	TCG PRESET/REGEN (PR/RGN)	PRESET
	DVW/MSW	TCG PRESET/REGEN (TCG)	
F3	HDW	TCG RUN (RUN)	FREE
	DVW/MSW	TCG RUN (RUN)	

When Editing with Direct Machine-to-Machine (VTR to VTR)

Note

The setup menu ITEM-610: REGEN CONTROL MODE setting data must be set to “AS&IN”.

Button	Model	Item (Display)	Setting
F1	HDW	TCG SOURCE (TCG)	INT
	DVW/MSW	TCG INT/EXT (TCG)	
F2	HDW	TCG PRESET/REGEN (PR/RGN)	PRESET
	DVW/MSW	TCG PRESET/REGEN (TCG)	
F3	HDW	TCG RUN (RUN)	FREE
	DVW/MSW	TCG RUN (RUN)	

1-15-2. VTR Constant Values Settings of Editor

Set the VTR constant values according to the table 1-15-2 below when the editor which needs the setting of VTR constant values is connected. Moreover, the change of VTR constant values are required when the operation mode (HDW series : 50/59.94 Hz mode, DVW/MSW series : 525/625 mode) is switched by setup menu of this unit.

Note

When remote-controlling this unit by the editor, set the setup menu ITEM-401: FUNCTION MODE AFTER CUE-UP to “STOP”.

Table 1-15-2. VTR Constant Values Settings of Editor

Model	Operation Mode	VTR CONSTANT 1								VTR CONSTANT 2							
		Data No.								Data No.							
		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
HDW-2000, HDW-M2000, HDW-M2000P, HDW-S2000, HDW-S2000P	59.94, 29.97P	20	E2	00	96	07	07	03	8A*	0D	08	00	00	81	3D	FF	5A
	50, 25P	21	E2	00	7D	07	07	03	8A*	0D	07	00	00	83	3B	FF	4B
	24P, 23.98P	22	E3	00	78	07	07	03	8A*	0D	07	00	00	83	3B	FF	4B
HDW-M2100, HDW-M2100P	59.94, 29.97P	20	E3	00	96	07	07	03	8A*	0D	08	00	00	81	3D	FF	5A
	50, 25P	21	E3	00	7D	07	07	03	8A*	0D	07	00	00	83	3B	FF	4B
	24P, 23.98P	22	E3	00	78	07	07	03	8A*	0D	07	00	00	83	3B	FF	4B
DVW-2000, DVW-2000P	525/60	B0	14	00	96	07	07	05	8A*	0A	07	FB	00	81	4B	FF	5A
	625/50	B1	14	00	7D	07	07	05	8A*	0A	07	FB	00	83	3B	FF	4B
DVW-M2000, DVW-M2000P	525/60	B0	04	00	96	07	07	05	8A*	0A	07	FB	00	81	4B	FF	5A
	625/50	B1	04	00	7D	07	07	05	8A*	0A	07	FB	00	83	3B	FF	4B
MSW-2000	525/60	B0	62	00	96	07	07	05	8A*	0A	07	FB	00	81	4B	FF	5A
	625/50	B1	62	00	7D	07	07	05	8A*	0A	07	FB	00	83	3B	FF	4B
MSW-A2000, MSW-A2000P	525/60	B0	61	00	96	07	07	05	8A*	0A	07	FB	00	81	4B	FF	5A
	625/50	B1	61	00	7D	07	07	05	8A*	0A	07	FB	00	83	3B	FF	4B
MSW-M2000, MSW-M2000P, MSW-M2000E, MSW-M2000EP	525/60	B0	60	00	96	07	07	05	8A*	0A	07	FB	00	81	4B	FF	5A
	625/50	B1	60	00	7D	07	07	05	8A*	0A	07	FB	00	83	3B	FF	4B
MSW-M2100, MSW-M2100P, MSW-M2100E, MSW-M2100EP	525/60	B0	63	00	96	07	07	05	8A*	0A	07	FB	00	81	4B	FF	5A
	625/50	B1	63	00	7D	07	07	05	8A*	0A	07	FB	00	83	3B	FF	4B

(Standard value is expressed in hexadecimal.)

*: Set the data of No.8 of the VTR CONSTANT 1 to “0A” for the following editors.

- BVE-900 ROM versions earlier than 1.08
- BVE-600 ROM versions earlier than 1.01

1-15-3. System Phase Alignment

An external reference video signal and analog composite signal (DVW/MSW recorder only) must be input to this unit after they are adjusted so that SC-H conforms to the specifications.

When Connecting to a Digital Switcher

Fundamentally, the system phase adjustment is not necessary.

Refer to the manual of the digital switcher for details.

When Connecting to an Analog Switcher

Perform the system phase adjustment according to the manual of the analog switcher.

To adjust the system phase of this unit, open the P3 page (VIDEO OUT CONTROL2 & MISC) and use the MULTI CONTROL knob.

When adjusting (i.e. changing the settings), press the button below to blink the current setting value, and then turn the MULTI CONTROL knob.

Button	Item (Display)
F1	SYSTEM SYNC PHASE (SYNC)
F2	SYSTEM SUBCARRIER PHASE (SC)

Notes

- Be sure to adjust in PB mode for the recorder.
The system phase does not change even if the SYNC/SC is adjusted in the REC mode, but it changes when the REC mode is shifted to the PB mode.
- The playback sound may be momentarily interrupted if the SYNC/SC is adjusted during tape playback.
- For the HDW series, the system phase of HD input and output can be adjusted in function menu Page 3.
- The system phase of SD output of both HDW, DVW and MSW series can be adjusted in ITEM-719 and -720 of the extended setup menu.

1-15-4. Setup Menu Settings

Video/Sync Delay Setting “ITEM-701” (DVW/MSW recorder only)

Commonly, when integrating the menu into the editing system, set to “VIDEO”.

To prevent the picture shift during EE/PB switching in the VTR-to-VTR edit operation, this setup menu is also set to “VIDEO”.

Analog Component Signal Format Setting “ITEM-709” (59.94 Hz mode, 525/60 system only)

The input (SUB-ITEM-0) and output (SUB-ITEM-1) sides are set to “D-1” or “B-CAM” according to the operating system, respectively.

Note

For the HDW series and MSW-M2100/M2100P/M2100E/M2100EP, set only output side.

1-15-5. Other Settings

When make the following settings, please contact your local Sony Sales Office/Service Center.

Setting When Combining with Editing Control Unit PVE-500

When setting initial speed to extra slow playback at less than ± 0.03 time speed during DMC editing the unit as a player, the setup extended menu ITEM-F34 setting should be changed.

For detail of ITEM-F series, refer to the maintenance manual volume-1 (Section 1).

Setting of Audio Channel and Data Length Mode (MSW recorder only)

When changing the audio channel configuration of this unit from 16 bit \times 8 ch (factory setting) to 24 bit \times 4 ch, change the setting of the menu M371 : DATA LENGTH in the maintenance mode, refer to the maintenance manual volume-1 (Section 3).

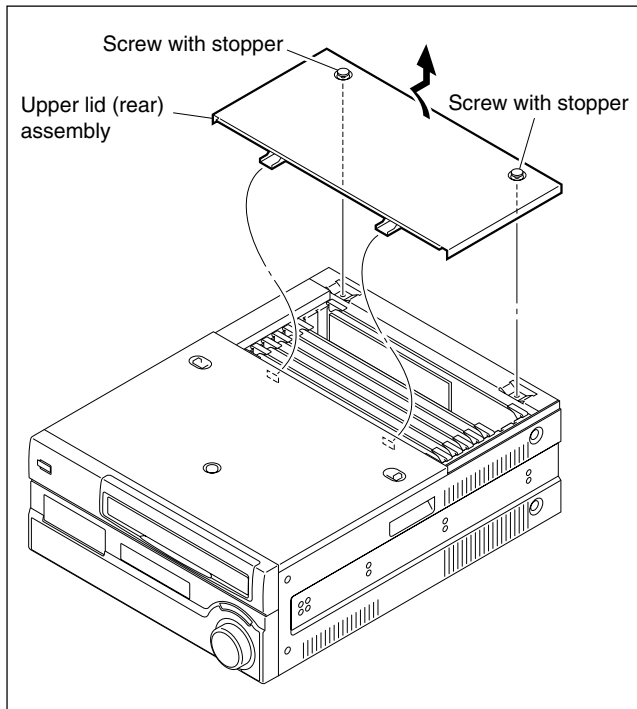
1-16. Removing/Reattaching Plug-in Board

Notes

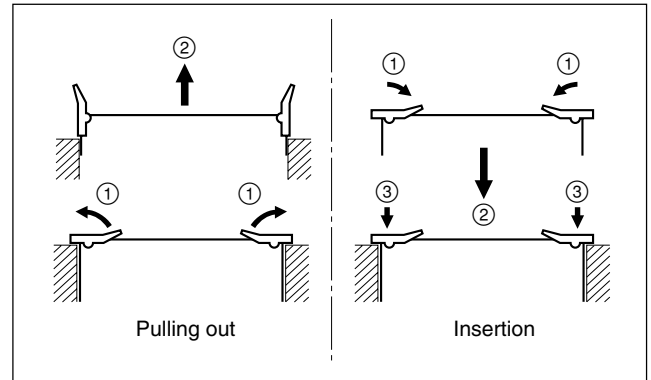
- Turn off the power and unplug the power cord before removing/reattaching the board.
- When the plug-in board is replaced, refer to the maintenance manual, volume-1.

Removing

1. Fully loosen the two fixing screws.
2. Remove the upper lid (rear) assembly by moving in the direction indicated by the arrow.



3. Open the eject levers on both ends of the board in the direction of the arrows.
4. Hold the eject levers and slowly pull the board out.



Note

The AU-272 and EQ-84 boards should be removed together due to their structural feature.

Reattaching

When reattaching the board, install in the reverse order of removal.

Notes

- After inserting the board, push in the two folded eject levers simultaneously to firmly connect the plug-in board to the connector on the motherboard.
- When reattaching the upper lid (rear) assembly, be sure to insert the protrusions in the square holes on the chassis, and then secure the lid.

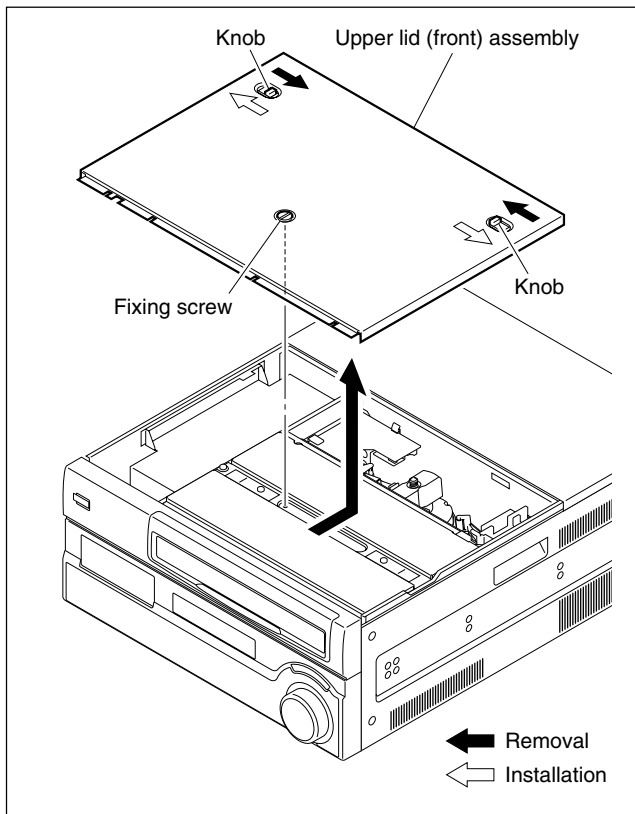
1-17. Taking Out the Cassette in Tape Slacking

When slacking the tape in this unit, follow the steps below to take out the cassette tape.

Note

Being careful not to damage the tape, take out the cassette tape with care.

1. Turn off the power.
2. Fully loosen the fixing screw.
3. Slide the knobs on upper lid (front) assembly each in the inside. (Move the knobs to the outside to fix the upper lid (front) assembly.)
4. Remove the upper lid (front) assembly.



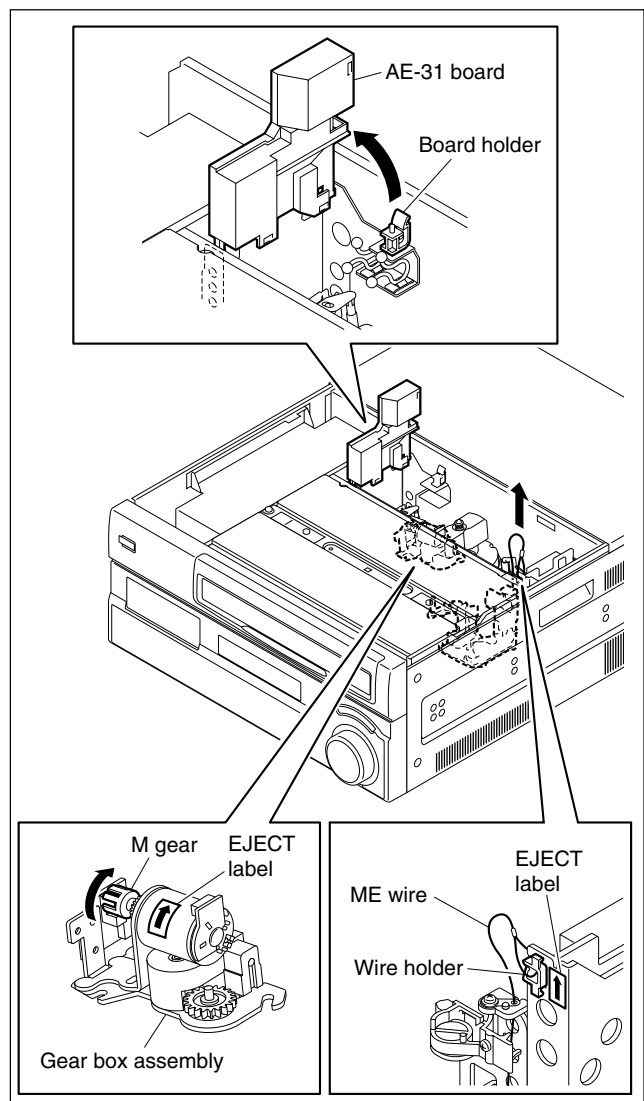
5. Release the lock of the board holder and open the AE-31 board in the arrow direction. (As for MSW-2000, skip this step because the AE-31 board is not used.)
6. Check by eye that the unit is in the state to be able to wind manually the tape.
7. Pull the ME wire for a few times with short steps to take up the tape inside the cassette.

Notes

- Be careful for the tape not to catch in parts such as a flange of a tape guide.
- Don't take the ME wire off the wire holder.
- The ME wire links with the T real table.

The T real table rotates about 1/24 turns clockwise (take-up direction) by pulling the ME wire about 6 mm.

8. Rotate the M gear of the threading motor block in direction of arrow shown in the EJECT label by about a half turn to slack off the tape.
9. Pull the ME wire for a few times with short steps in the direction of arrow shown in the EJECT label to take up the tape inside the cassette.

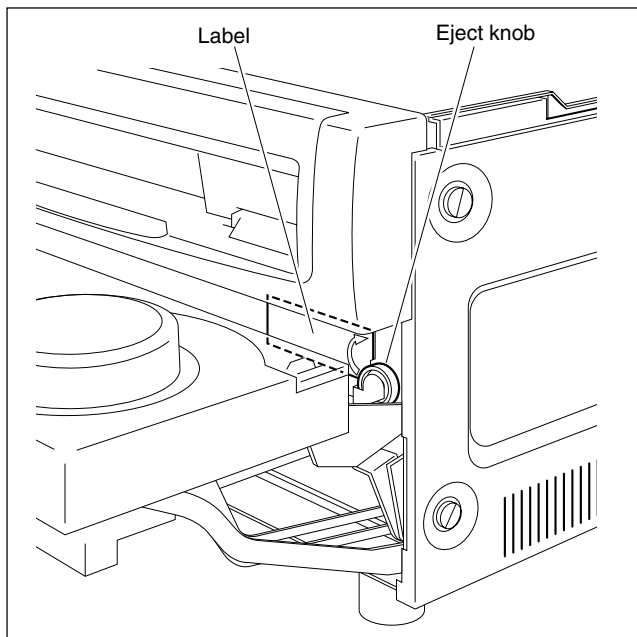


10. To wind up the tape into the cassette, repeat steps 8 and 9.

Note

On completely winding up the tape into the cassette, the M gear will be tighten.
(Unthreading end state)

11. Check that the ME wire is slacken.
12. Open the lower control panel.
13. Turn the eject knob in the arrow direction of the label until the cassette is completely ejected.



Appendix A

Setting Check Sheet

It is recommended to copy these check sheets and write down the setup conditions (switch and so on) under the application.

If the setting is changed temporarily by changing operating condition, the setting can be reset easily.

It is recommended to attach the sheets to the unit when check, maintenance and repair.

If the unit is used frequently by changing the combination of each system, making the sheets are convenient.

(Make use of the check sheets in prevention of setting error.)

Model name: _____ Serial No.: _____

- Firmware

SY ROM version: _____

SV ROM version: _____

VN ROM version: _____ (MSW-M2000E/M2000EP/M2100E/M2100EP)

- RS-232C baud rate: _____ bps

- Hours meter

Write down the value of hours meter when checking, servicing, and maintaining.

ITEM	Date	Hours meter
H01: OPERATION HOURS	/	
H02: DRUM RUNNING HOURS	/	
H03: TAPE RUNNING HOURS	/	
H04: THREADING COUNTER	/	
H12: DRUM RUNNING HOURS (Resettable)	/	
H13: TAPE RUNNING HOURS (Resettable)	/	
H14: THREADING COUNTER (Resettable)	/	

Note

The current settings of setup menu can be saved and read using a Memory Stick or a memory card.

(Not available in MSW-A2000/A2000P with SY ROM version 1.09 or earlier.)

For details, refer to the maintenance manual volume 1.

Notes

- The **R** marked setting is for recorder only.
- All the board, switch, and menu are described. Some of them are not used in your model.

Connector panel

Switch	Factory setting	Setting
R Analog audio input level 600 Ω	CH1	HIGH ON <input type="checkbox"/> LOW <input type="checkbox"/> HIGH OFF <input type="checkbox"/> HIGH ON <input type="checkbox"/>
	CH2	HIGH ON <input type="checkbox"/> LOW <input type="checkbox"/> HIGH OFF <input type="checkbox"/> HIGH ON <input type="checkbox"/>
	CH3	HIGH ON <input type="checkbox"/> LOW <input type="checkbox"/> HIGH OFF <input type="checkbox"/> HIGH ON <input type="checkbox"/>
	CH4	HIGH ON <input type="checkbox"/> LOW <input type="checkbox"/> HIGH OFF <input type="checkbox"/> HIGH ON <input type="checkbox"/>
Reference video input 75 Ω	ON <input type="checkbox"/> ON <input type="checkbox"/> OFF <input type="checkbox"/>	
R Composite video input 75 Ω	ON <input type="checkbox"/> ON <input type="checkbox"/> OFF <input type="checkbox"/>	

Upper control panel

Switch	Factory setting	Setting
REMOTE 1 (9P)	LOCAL	<input type="checkbox"/> Lighting (REMOTE) <input type="checkbox"/> Lightless (LOCAL)
REMOTE 2 (50P)	LOCAL	<input type="checkbox"/> Lighting (REMOTE) <input type="checkbox"/> Lightless (LOCAL)
NETWORK	DISABLE	<input type="checkbox"/> Lighting (ENABLE) <input type="checkbox"/> Lightless (DISABLE)

Lower control panel

Switch	Factory setting	Setting
DISPLAY FULL/FINE	FULL	<input type="checkbox"/> FULL <input type="checkbox"/> FINE
R AUDIO MIXING	CH-1	NOT MIX <input type="checkbox"/> NOT MIX <input type="checkbox"/> MIX <input type="checkbox"/> CH-1 <input type="checkbox"/> CH-2 <input type="checkbox"/> CH-3 <input type="checkbox"/> CH-4 <input type="checkbox"/> CH-5 <input type="checkbox"/> CH-6 <input type="checkbox"/> CH-7 <input type="checkbox"/> CH-8
	CH-2	NOT MIX <input type="checkbox"/> NOT MIX <input type="checkbox"/> MIX <input type="checkbox"/> CH-1 <input type="checkbox"/> CH-2 <input type="checkbox"/> CH-3 <input type="checkbox"/> CH-4 <input type="checkbox"/> CH-5 <input type="checkbox"/> CH-6 <input type="checkbox"/> CH-7 <input type="checkbox"/> CH-8
	CH-3	NOT MIX <input type="checkbox"/> NOT MIX <input type="checkbox"/> MIX <input type="checkbox"/> CH-1 <input type="checkbox"/> CH-2 <input type="checkbox"/> CH-3 <input type="checkbox"/> CH-4 <input type="checkbox"/> CH-5 <input type="checkbox"/> CH-6 <input type="checkbox"/> CH-7 <input type="checkbox"/> CH-8
	CH-4	NOT MIX <input type="checkbox"/> NOT MIX <input type="checkbox"/> MIX <input type="checkbox"/> CH-1 <input type="checkbox"/> CH-2 <input type="checkbox"/> CH-3 <input type="checkbox"/> CH-4 <input type="checkbox"/> CH-5 <input type="checkbox"/> CH-6 <input type="checkbox"/> CH-7 <input type="checkbox"/> CH-8
	CH-5	NOT MIX <input type="checkbox"/> NOT MIX <input type="checkbox"/> MIX <input type="checkbox"/> CH-1 <input type="checkbox"/> CH-2 <input type="checkbox"/> CH-3 <input type="checkbox"/> CH-4 <input type="checkbox"/> CH-5 <input type="checkbox"/> CH-6 <input type="checkbox"/> CH-7 <input type="checkbox"/> CH-8
	CH-6	NOT MIX <input type="checkbox"/> NOT MIX <input type="checkbox"/> MIX <input type="checkbox"/> CH-1 <input type="checkbox"/> CH-2 <input type="checkbox"/> CH-3 <input type="checkbox"/> CH-4 <input type="checkbox"/> CH-5 <input type="checkbox"/> CH-6 <input type="checkbox"/> CH-7 <input type="checkbox"/> CH-8
	CH-7	NOT MIX <input type="checkbox"/> NOT MIX <input type="checkbox"/> MIX <input type="checkbox"/> CH-1 <input type="checkbox"/> CH-2 <input type="checkbox"/> CH-3 <input type="checkbox"/> CH-4 <input type="checkbox"/> CH-5 <input type="checkbox"/> CH-6 <input type="checkbox"/> CH-7 <input type="checkbox"/> CH-8
	CH-8	NOT MIX <input type="checkbox"/> NOT MIX <input type="checkbox"/> MIX <input type="checkbox"/> CH-1 <input type="checkbox"/> CH-2 <input type="checkbox"/> CH-3 <input type="checkbox"/> CH-4 <input type="checkbox"/> CH-5 <input type="checkbox"/> CH-6 <input type="checkbox"/> CH-7 <input type="checkbox"/> CH-8
R AUDIO INPUT	CH-1	ANALOG <input type="checkbox"/> SDI <input type="checkbox"/> AES/EBU <input type="checkbox"/> ANALOG
	CH-2	ANALOG <input type="checkbox"/> SDI <input type="checkbox"/> AES/EBU <input type="checkbox"/> ANALOG
	CH-3	ANALOG <input type="checkbox"/> SDI <input type="checkbox"/> AES/EBU <input type="checkbox"/> ANALOG
	CH-4	ANALOG <input type="checkbox"/> SDI <input type="checkbox"/> AES/EBU <input type="checkbox"/> ANALOG
	CH-5	AES/EBU <input type="checkbox"/> SDI <input type="checkbox"/> AES/EBU
	CH-6	AES/EBU <input type="checkbox"/> SDI <input type="checkbox"/> AES/EBU
	CH-7	AES/EBU <input type="checkbox"/> SDI <input type="checkbox"/> AES/EBU
	CH-8	AES/EBU <input type="checkbox"/> SDI <input type="checkbox"/> AES/EBU
AUDIO MONITOR	L	CH-1 only <input type="checkbox"/> CH-1 <input type="checkbox"/> CH-2 <input type="checkbox"/> CH-3 <input type="checkbox"/> CH-4 <input type="checkbox"/> CH-5 <input type="checkbox"/> CH-6 <input type="checkbox"/> CH-7 <input type="checkbox"/> CH-8 <input type="checkbox"/> CUE
	R	CH-2 only <input type="checkbox"/> CH-1 <input type="checkbox"/> CH-2 <input type="checkbox"/> CH-3 <input type="checkbox"/> CH-4 <input type="checkbox"/> CH-5 <input type="checkbox"/> CH-6 <input type="checkbox"/> CH-7 <input type="checkbox"/> CH-8 <input type="checkbox"/> CUE

Switch panel

Switch	Factory setting	Setting	
PANEL SELECT	FRONT	<input type="checkbox"/> FRONT	<input type="checkbox"/> REAR
KEY INHIBIT	OFF	<input type="checkbox"/> ON	<input type="checkbox"/> OFF

Switches on the board

Note

Never change the setting of Factory use switches.

Board	Name	Channel	Switch No.	Factory setting	Setting			
APR-52	<input checked="" type="checkbox"/> Audio input level	CH1	S100	+4 dBm/600 Ω	<input type="checkbox"/> +4	<input type="checkbox"/> 0	<input type="checkbox"/> -3	<input type="checkbox"/> -20
		CH2	S200	+4 dBm/600 Ω	<input type="checkbox"/> +4	<input type="checkbox"/> 0	<input type="checkbox"/> -3	<input type="checkbox"/> -20
		CH3	S300	+4 dBm/600 Ω	<input type="checkbox"/> +4	<input type="checkbox"/> 0	<input type="checkbox"/> -3	<input type="checkbox"/> -20
		CH4	S400	+4 dBm/600 Ω	<input type="checkbox"/> +4	<input type="checkbox"/> 0	<input type="checkbox"/> -3	<input type="checkbox"/> -20
	Audio input headroom	CH1	S101	20 dB	<input type="checkbox"/> 20	<input type="checkbox"/> 18	<input type="checkbox"/> 16	<input type="checkbox"/> 12
		CH2	S201	20 dB	<input type="checkbox"/> 20	<input type="checkbox"/> 18	<input type="checkbox"/> 16	<input type="checkbox"/> 12
		CH3	S301	20 dB	<input type="checkbox"/> 20	<input type="checkbox"/> 18	<input type="checkbox"/> 16	<input type="checkbox"/> 12
		CH4	S401	20 dB	<input type="checkbox"/> 20	<input type="checkbox"/> 18	<input type="checkbox"/> 16	<input type="checkbox"/> 12
	Audio output level	CH1	S501	+4 dBm/600 Ω	<input type="checkbox"/> +4	<input type="checkbox"/> 0	<input type="checkbox"/> -3	<input type="checkbox"/> -20
		CH2	S601	+4 dBm/600 Ω	<input type="checkbox"/> +4	<input type="checkbox"/> 0	<input type="checkbox"/> -3	<input type="checkbox"/> -20
		CH3	S701	+4 dBm/600 Ω	<input type="checkbox"/> +4	<input type="checkbox"/> 0	<input type="checkbox"/> -3	<input type="checkbox"/> -20
		CH4	S801	+4 dBm/600 Ω	<input type="checkbox"/> +4	<input type="checkbox"/> 0	<input type="checkbox"/> -3	<input type="checkbox"/> -20
	Audio output headroom	CH1	S500	20 dB	<input type="checkbox"/> 20	<input type="checkbox"/> 18	<input type="checkbox"/> 16	<input type="checkbox"/> 12
		CH2	S600	20 dB	<input type="checkbox"/> 20	<input type="checkbox"/> 18	<input type="checkbox"/> 16	<input type="checkbox"/> 12
		CH3	S700	20 dB	<input type="checkbox"/> 20	<input type="checkbox"/> 18	<input type="checkbox"/> 16	<input type="checkbox"/> 12
		CH4	S800	20 dB	<input type="checkbox"/> 20	<input type="checkbox"/> 18	<input type="checkbox"/> 16	<input type="checkbox"/> 12
	Monitor output level	L	S902	+4 dBm/600 Ω	<input type="checkbox"/> +4	<input type="checkbox"/> 0	<input type="checkbox"/> -3	<input type="checkbox"/> -20
		R	S1002	+4 dBm/600 Ω	<input type="checkbox"/> +4	<input type="checkbox"/> 0	<input type="checkbox"/> -3	<input type="checkbox"/> -20
	Monitor output headroom	L	S900	20 dB	<input type="checkbox"/> 20	<input type="checkbox"/> 18	<input type="checkbox"/> 16	<input type="checkbox"/> 12
		R	S1000	20 dB	<input type="checkbox"/> 20	<input type="checkbox"/> 18	<input type="checkbox"/> 16	<input type="checkbox"/> 12
Monitor output level FIXED/VARIABLE switch	L	S901	Fixed (UNITY)	<input type="checkbox"/> Fixed	<input type="checkbox"/> Variable			
	R	S1001	Fixed (UNITY)	<input type="checkbox"/> Fixed	<input type="checkbox"/> Variable			
AE-31	HEAD TUNE switch	CH1	S100	Factory use	-			
		CH2	S200	Factory use	-			
AU-272 (Suffix -12 and higher)	Analog audio (LAU) output level	CH1	S101	0 dB	<input type="checkbox"/> 0	<input type="checkbox"/> +3		
		CH2	S201	0 dB	<input type="checkbox"/> 0	<input type="checkbox"/> +3		
	Analog audio (AFM) output gain	CH3	S600	0 dB	<input type="checkbox"/> 0	<input type="checkbox"/> +3		
		CH4	S700	0 dB	<input type="checkbox"/> 0	<input type="checkbox"/> +3		
CUE-13	<input checked="" type="checkbox"/> CUE audio input level	-	S100	+4 dBm/600 Ω	<input type="checkbox"/> +4	<input type="checkbox"/> 0	<input type="checkbox"/> -3	<input type="checkbox"/> -20
	CUE audio output level	-	S101	+4 dBm/600 Ω	<input type="checkbox"/> +4	<input type="checkbox"/> 0	<input type="checkbox"/> -3	<input type="checkbox"/> -20

(Continued)

Board	Switch No.	Name	Factory setting	Setting
DIF-109	S700	1 : CPU I/F SEL0	OFF	
		2 : CPU I/F SEL1	OFF	
		3 : Factory use	OFF	-
		4 : EVR_SEL	ON	
		5 : RX_RESET	OFF	
		6 : TX_RESET	OFF	
		7, 8 : Not use	OFF	-
DM-123	S101*	: Y-RF LPF & EQ TEST	NORMAL POSITION	-
	S301*	: C-RF LPF & EQ TEST	NORMAL POSITION	-
	S1701	1 : Y MUTING	OFF	
		2, 3 : Factory use	OFF	-
		4 : C MUTING	OFF	
		5 : COMB	OFF	
		6 - 8 : Factory use	OFF	-
	S1801	1 : Factory use	OFF	-
		2 : IMP OFF	OFF	
		3, 4 : Factory use	OFF	-
		5 : AGC OFF	OFF	
		6 : DO ADJ	OFF	
	7, 8 : Not use	OFF	-	
	DPR-155	S800	1 : Factory use	OFF (ON*)
2 - 4 : Factory use			OFF	-
DSP-109	S11	1 : Factory use	OFF	-
		2 : Factory use	ON	-
EQ-84	S200	1, 2 : Factory use	OFF	-
	S201	1, 2 : Factory use	OFF	-
	S1100	: MAINTE	OFF	
HIF-1	S50	1 - 4 : Factory use	OFF	-
	S900	1 - 4 : Factory use	OFF	-
HPR-1	S200	1 - 4 : Factory use	OFF	-
	S201	1 - 4 : Factory use	OFF	-
	S202	1 - 4 : Factory use	OFF	-
	S203	1 - 4 : Factory use	OFF	-
	S600	1 - 4 : Factory use	OFF	-
	S601	1 - 4 : Factory use	OFF	-
	S602	1 - 4 : Factory use	OFF	-
	S603	1 - 4 : Factory use	OFF	-
	S900	1 - 4 : Factory use	OFF	-

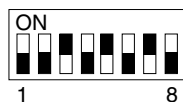
*: Board No. suffix -11 and -12 only

(Continued)

Board	Switch No.	Name	Factory setting	Setting	
SS-89	S101	1 : TRACKING ENABLE	OFF		
		2 : Factory use	OFF	—	
		3 : DT WOBBLING	OFF		
		4 : SV ERR DISABLE	OFF		
	S1501	Never change the settings of S1501 switch since each switch is set according to the characteristics of the unit.			
		1 : Factory use	OFF	—	
		2 - 6 : Model ID switch	See below.	—	
		7 : J/SY	ON	—	
		8 : 525/625	See below.		
	S1502	1 : EXTENDED MENU	OFF (DVW, MSW)/ON (HDW)		
		2 : MAINTENANCE MODE ACCESS ENABLE	OFF (DVW, MSW)/ON (HDW)		
		3 - 5 : Factory use	OFF	—	
		6 : CUSTOMIZE MENU	OFF		
		7, 8 : Factory use	OFF	—	

S1501 factory setting (■ : Knob position)

HDW-2000



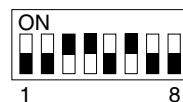
HDW-M2000



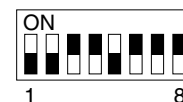
HDW-M2000P



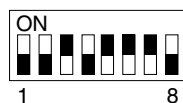
HDW-S2000



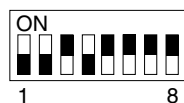
HDW-S2000P



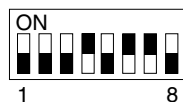
HDW-M2100



HDW-M2100P



DVW-2000



DVW-2000P



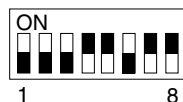
DVW-M2000



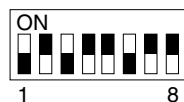
DVW-M2000P



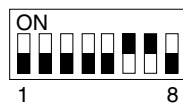
MSW-2000



TTV 2000



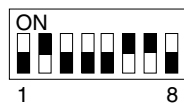
MSW-A2000



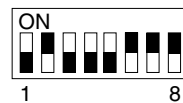
MSW-A2000P



TTV 2000A



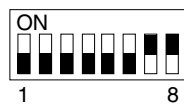
TTV 2000AP



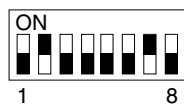
MSW-M2000/M2000E



MSW-M2000P/M2000EP



TTV 2000M



TTV 2000MP



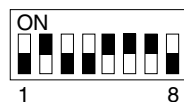
MSW-M2100/M2100E



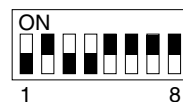
MSW-M2100P/M2100EP



TTV 2100M



TTV 2100MP



(Continued)

Board	Switch No.	Name	Factory setting	Setting
VN-13 (Suffix -13 and higher)	S101	1 - 3 : Factory use	OFF	—
		4 : Function select*	OFF	—
		5 - 8 : Factory use	OFF	—
	S102	1, 2 : Factory use	OFF	—

※: Select the function only when the EPR-1 board number suffix is -12 or -13.

Function menu Setting

Page	Button	Name	Factory setting	Setting			
HOME1	<input type="checkbox"/> R F1	VID.IN	SDI	<input type="checkbox"/> SDI	<input type="checkbox"/> SDTI	<input type="checkbox"/> COMPST	<input type="checkbox"/> Y, R/B
	<input type="checkbox"/> R F2	PB/EE	EE	<input type="checkbox"/> EE	<input type="checkbox"/> PB		
	<input type="checkbox"/> R F3	CONFI	DISABLE	<input type="checkbox"/> ENABLE	<input type="checkbox"/> DISABLE		
	F4	CTL/TC	TC	<input type="checkbox"/> TC	<input type="checkbox"/> UB	<input type="checkbox"/> CTL	
	F5	MENU	-	-			
	<input type="checkbox"/> R F6	TCGSET	-	-			
Page1 (HDW series)	<input type="checkbox"/> R F1	TCG	INT	<input type="checkbox"/> INT	<input type="checkbox"/> EXT	<input type="checkbox"/> SDI	
	<input type="checkbox"/> R F2	PR/RGN	PRESET	<input type="checkbox"/> PRESET	<input type="checkbox"/> LTC	<input type="checkbox"/> VITC	
	<input type="checkbox"/> R F3	RUN	REC	<input type="checkbox"/> REC	<input type="checkbox"/> FREE		
	F4	DF	DF	<input type="checkbox"/> DF	<input type="checkbox"/> NDF		
	F5	-					
	F6	TCR	AUTO	<input type="checkbox"/> LTC	<input type="checkbox"/> AUTO	<input type="checkbox"/> VITC	
Page1 (DVW/ MSW series)	<input type="checkbox"/> R F1	TCG	INT	<input type="checkbox"/> INT	<input type="checkbox"/> EXT	<input type="checkbox"/> RP188	<input type="checkbox"/> CP-LTC*1
	<input type="checkbox"/> R F2	TCG	PRESET	<input type="checkbox"/> PRESET	<input type="checkbox"/> REGEN		
	<input type="checkbox"/> R F3	RUN	REC	<input type="checkbox"/> REC	<input type="checkbox"/> FREE		
	F4	DF*2	DF	<input type="checkbox"/> DF	<input type="checkbox"/> NDF		
	<input type="checkbox"/> R F5	VITC	ON	<input type="checkbox"/> ON	<input type="checkbox"/> OFF		
	F6	TCR	AUTO	<input type="checkbox"/> LTC	<input type="checkbox"/> AUTO	<input type="checkbox"/> VITC	
Page2	F1	V.PROC	LOCAL	<input type="checkbox"/> LOCAL	<input type="checkbox"/> REMOTE	<input type="checkbox"/> MENU	
	F2	VIDEO	PRESET	<input type="checkbox"/> PRESET	<input type="checkbox"/> VALUE: _____		
	F3	CHROMA	PRESET	<input type="checkbox"/> PRESET	<input type="checkbox"/> VALUE: _____		
	F4*3	HUE/C PHAS	PRESET	<input type="checkbox"/> PRESET	<input type="checkbox"/> VALUE: _____		
	F5*3	SETUP/BLACK	PRESET	<input type="checkbox"/> PRESET	<input type="checkbox"/> VALUE: _____		
	F6	YC DLY	PRESET	<input type="checkbox"/> PRESET	<input type="checkbox"/> VALUE: _____		
Page3	F1	SYNC	0	VALUE: _____			
	F2	SC	0	VALUE: _____			
	<input type="checkbox"/> R F3	VIN LV	AGC	<input type="checkbox"/> AGC	<input type="checkbox"/> VALUE: _____		
	F4	EMPHSS	OFF	<input type="checkbox"/> ON	<input type="checkbox"/> OFF		
	F5	T INFO	TOTAL	<input type="checkbox"/> TOTAL	<input type="checkbox"/> REMAIN		
Page4	F1	CAPSTN	4F	<input type="checkbox"/> 2F	<input type="checkbox"/> 4F	<input type="checkbox"/> 8F	
	<input type="checkbox"/> R F2	OUTREF	INPUT	<input type="checkbox"/> INPUT	<input type="checkbox"/> REF		
	F3	DOLBY	NR OFF	<input type="checkbox"/> NR ON	<input type="checkbox"/> NR OFF		
	F4	CHARA	ON	<input type="checkbox"/> ON	<input type="checkbox"/> OFF		
	F5	RECINH	OFF	<input type="checkbox"/> ON	<input type="checkbox"/> OFF		
	<input type="checkbox"/> R F6	PREREAD	OFF	<input type="checkbox"/> ON	<input type="checkbox"/> OFF		
HOME2*4	F1	[]	NONE	[]			
	F2	[]	NONE	[]			
	F3	[]	NONE	[]			
	F4	[]	NONE	[]			
	F5	[]	NONE	[]			
	F6	[]	NONE	[]			

*1: DVW series does not have this item.

*2: For 525 mode. Does not indicated in 625 mode.

*3: The name is different between 525/59.94 Hz mode and 625/50 Hz mode.

*4: HOME2 is programmable at user side. Nothing is assigned to it at exfactory.

このマニュアルに記載されている事柄の著作権は当社にあります。

従って、当社の許可なしに無断で複写したり、説明内容(操作、保守等)と異なる目的で本マニュアルを使用することを禁止します。

The material contained in this manual consists of information that is the property of Sony Corporation. Sony Corporation expressly prohibits the duplication of any portion of this manual or the use thereof for any purpose other than the operation or maintenance of the equipment described in this manual without the express written permission of Sony Corporation.

Le matériel contenu dans ce manuel consiste en informations qui sont la propriété de Sony Corporation. Sony Corporation interdit formellement la copie de quelque partie que ce soit de ce manuel ou son emploi pour tout autre but que des opérations ou entretiens de l'équipement à moins d'une permission écrite de Sony Corporation.

Das in dieser Anleitung enthaltene Material besteht aus Informationen, die Eigentum der Sony Corporation sind. Die Sony Corporation untersagt ausdrücklich die Vervielfältigung jeglicher Teile dieser Anleitung oder den Gebrauch derselben für irgendeinen anderen Zweck als die Bedienung oder Wartung der in dieser Anleitung beschriebenen Ausrüstung ohne ausdrückliche schriftliche Erlaubnis der Sony Corporation.

HDW-2000 (SY)
HDW-M2000 (SY)
HDW-M2000P (SY)
HDW-M2100 (SY)
HDW-M2100P (SY)
HDW-S2000 (SY)
HDW-S2000P (SY)
DVW-2000 (SY)
DVW-2000P (SY)
DVW-M2000 (SY)
DVW-M2000P (SY)
MSW-2000 (SY)
MSW-M2000 (SY)
MSW-M2000P (SY)
MSW-M2000E (SY)
MSW-M2000EP (SY)
MSW-M2100 (SY)
MSW-M2100P (SY)
MSW-M2100E (SY)
MSW-M2100EP (SY)
MSW-A2000 (SY)
MSW-A2000P (SY) E
3-203-754-12

Sony Corporation
B&P Company

Printed in Japan
2004. 8 08
©2000