

SONY®

Professional Disc Drive Unit

PDW-D1

XDCAM™
Professional Disc System


Professional Disc

MPEG IMX

DVCAM™



OPERATION MANUAL English

1st Edition (Revised 2)

Important Safety Instructions

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



- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or

moisture, does not operate normally, or has been dropped.

WARNING

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

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

THIS APPARATUS MUST BE EARTHED.

IMPORTANT

The name plate is located on the bottom. (When the unit is oriented vertically.)

CAUTION

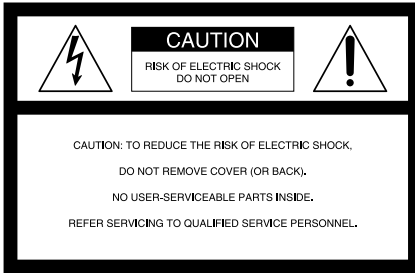
The apparatus shall not be exposed to dripping or splashing. No objects filled with liquids, such as vases, shall be placed on the apparatus.

CAUTION

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

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

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



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



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

WARNING: THIS WARNING IS APPLICABLE FOR USA ONLY.

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

DO NOT USE ANY OTHER POWER CORD.

Plug Cap	Parallel blade with ground pin (NEMA 5-15P Configuration)
Cord	Type SJT, three 16 or 18 AWG wires
Length	Minimum 1.5 m (4 ft. 11 in.), Less than 2.5 m (8 ft. 3 in.)
Rating	Minimum 10 A, 125 V

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

WARNING: THIS WARNING IS APPLICABLE FOR OTHER COUNTRIES.

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

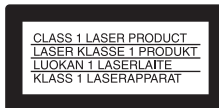
If you have questions on the use of the above Power Cord/Appliance Connector/Plug, please consult a qualified service personnel.

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

- Do not block the ventilation slots at the front and rear panels, and vents of fans.
- Leave a space around the unit for ventilation.
- Leave more than 10 cm 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 0.5 cm of space on the front and rear sides.

Leaving 5 cm or more of space above the unit is recommended for service operation.



The PDW-D1 is classified as a CLASS 1 LASER PRODUCT.

Laser diode properties

Wavelength: 403 to 410 nm
Emission duration: Continuous
Laser output power: 65 mW (max. of pulse peak), 35 mW (max. of CW)

Tekniska data för laserdiod

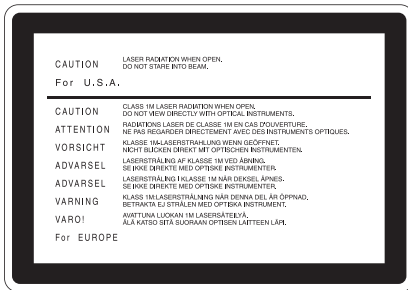
Våglängd: 403 till 410 nm
Emissionslängd: Kontinuerlig
Laserutefekt: 65 mW (max. för pulstopp), 35 mW (max. för kontinuerlig våg)

Spesifikasjoner laserdiod

Bølgelengde: 403 til 410 nm
Strålingens varighet: Kontinuerlig
Laserens effekt: 65 mW (maks stråletoppunkt), 35 mW (maks ved kontinuerlig stråling)

Laserdiodin ominaisuuudet

Aallon pituus: 403 - 410 nm
Välityksen kesto: Jatkuva
Laserlähdon teho: 65 mW (sykehuipun maks.), 35 mW (jatkuvan aallon maks.)



This label is located on the top panel of the drive unit.

Denna etikett finns på ovansidan av driftenheten.

Denne mærkat sidder på drevenhedens øverste panel.

Tämä kyltti sijaitsee ajurilaitteen yläpinnalla.

Dette merket er plassert på oversiden av driverenheten.

CAUTION

The use of optical instruments with this product will increase eye hazard.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

VAROITUS!

LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN I YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

VARNING

OM APPARATEN ANVÄNDS PÅ ANNAT SÄTT ÄN I DENNA BRUKSANVISNING SPECIFICERATS, KAN ANVÄNDAREN UTSÄTTAS FÖR OSYNLIG LASERSTRÅLNING, SOM ÖVERSKRIDER GRÄNSEN FÖR LASERKLASS 1.

For the customers in the USA

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

correct the interference by one or more of the following measures;

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

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

All interface cables used to connect peripherals must be shielded in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

If you have any questions about this product, you may call;

Sony Customer Information Service Center 1-800-222-7669 or <http://www.sony.com>

Declaration of Conformity

Trade Name : SONY
Model : PDW-D1
Responsible Party : Sony Electronics Inc.
Address : 16450 W. Bernardo Dr, San Diego, CA 92127 U.S.A.
Telephone Number : 858-942-2230

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

For the customers in the USA and Canada

RECYCLING LITHIUM-ION BATTERIES

Lithium-Ion batteries are recyclable.

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



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

Caution: Do not handle damaged or leaking lithium-ion batteries.

For the customers in Europe

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

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

- EN60065: Product Safety
- EN55103-1: Electromagnetic Interference (Emission)
- EN55103-2: Electromagnetic Susceptibility (Immunity)

This product is intended for use in the following Electromagnetic Environment(s):

E1 (residential), E2 (commercial and light industrial), E3 (urban outdoors) and E4 (controlled EMC environment, ex. TV studio).

Voor de Klanten in Nederland

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



For the Customers in Taiwan only



廢電池請回收

Table of Contents

Before Using the Unit	9
Setting the Line Mode	9

Chapter 1 Overview

1-1 Features	10
1-2 Example of Use	12
1-3 System Requirements	13
1-4 MPEG-4 Visual Patent Portfolio License	14

Chapter 2 Names and Functions of Parts

2-1 Front Panel	15
2-2 Rear Panel	17

Chapter 3 Preparations

3-1 Software Installation	18
3-1-1 Windows Installation	18
3-1-2 Macintosh Installation	19
3-2 Connections and Settings	20
3-2-1 Connecting to a Nonlinear Editing System (AV/C Connection)	20
3-2-2 Connecting to a Computer (FAM connection)	21
3-3 Power Preparations	23
3-3-1 Using AC Power	23
3-3-2 Using a Battery Pack	23
3-4 Setting the Date and Time	24
3-5 Handling Discs	25
3-5-1 Discs Used for Recording and Playback	25
3-5-2 Notes on Handling	25
3-5-3 Write-Protecting Discs	25
3-5-4 Loading and Unloading a Disc	26
3-5-5 Formatting a Disc	26
3-5-6 To Eject Discs With the Unit Powered Off	26
3-5-7 Handling of Discs When Recording Does Not End Normal-	

ly (Salvage Function)	27
3-5-8 Condensation	27
3-6 Preparations for Recording and Playback	28
3-6-1 Preparations for Recording	28
3-6-2 Preparations for Playback	28

Chapter 4 Handling Files

4-1 Overview	30
4-1-1 Directory Structure	30
4-1-2 File Operation Restrictions	31
4-1-3 Assigning User-Defined Clip Titles	34
4-1-4 Assigning User-Defined Clip and Clip List Names	35
4-2 Preparations for File Access	36
4-3 File Access Operations (Windows)	37

Chapter 5 Using the Utility Software

5-1 Starting and Exiting	38
5-1-1 Starting	38
5-1-2 Exiting	39
5-2 Names and Functions of Parts.....	40
5-3 Details of Functions	42
5-3-1 Device Information Menu	42
5-3-2 Setup Menu	43
5-3-3 Disc Operation Menu	51

Appendix

Specifications.....	52
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Before Using the Unit

Setting the Line Mode

This unit is shipped with the line mode still unset. Therefore you need to set the line mode before using the unit. (The unit cannot be used unless the line mode is set.) Once it is set, the line mode is retained even when the unit is powered off.

Setting procedure

Use the following procedure to set the line mode.

- 1 Power the unit on (*see page 16*).
- 2 Start the utility software (*see page 38*).

In the Line mode box of the Basic information screen, “----” appears.

For details of installation of the utility software, see “Utility software” (page 18).

For details of the utility software, see Chapter 5, “Using the Utility Software” (page 38).

- 3 In the tree display, select “Setup” - “AV settings.”

Menu item “525/625 SYSTEM SELECT” appears in the operating screen.

- 4 Using the $\blacktriangle/\blacktriangledown$ buttons or the up and down arrow keys on the keyboard, select “525” or “625.”

Setting	Line mode
525	525: NTSC
625	625: PAL

- 5 Click the Set button.
“Turn off/on POWER!” appears.
- 6 On a Macintosh computer, click the “Change Connection” button to switch to “AVc/Log out.”
- 7 Exit the utility software (*see page 39*).
- 8 Power the unit off, and then power it on again.

The selected line mode becomes available for use.

You can change the setting made with this procedure by using setup menu item “AV settings” - “525/625 SYSTEM SELECT.” See 5-3-2 “Setup Menu” (page 43) for more information about how to make setup menu settings.

Note

The line mode is not set, or is cleared, in the following situation. Reset the line mode.

- The unit is powered off before performing step 6 in the previous procedure.



1-1 Features

The PDW-D1 is a compact and lightweight disc drive which, connected to a nonlinear editor, allows recording/playback of video/audio data. Connected to a computer, it can also be used to write and read video/audio data files and general-purpose data files. In conjunction with a laptop computer it is ideal for field use, or for building a budget video production system together with a nonlinear editor.

The features of the PDW-D1 include the following.

DVCAM format recording/playback

By accessing this unit from a computer with the AV/C (Audio/Video Control) protocol, you can record or play back a DVCAM¹⁾ format data stream.


1) DVCAM is a trademark of Sony Corporation.

DVCAM output from MPEG IMX recorded disc

By playing back a disc recorded in MPEG IMX¹⁾ format from a computer with the AV/C protocol, a signal converted to the DVCAM format can be output.

1) MPEG IMX is a trademark of Sony Corporation.


Recording video and audio data as files

You can record video and audio data in MPEG IMX format or DVCAM format as files, through the  S400 (i.LINK) connector.

Proxy AV data

The proxy AV data is a low-resolution, MPEG-4 based version of the full-resolution MPEG IMX/DVCAM stream. When a full-resolution MPEG IMX/DVCAM file is transferred, a proxy AV stream file that is time code synchronized with the full-resolution stream, is also created automatically on the disc. This proxy AV data, which is smaller in size, is easier to work with and can be transferred at upto 30 times faster than real time.

IT-friendly system through i.LINK interface

In the Professional Disc, clips are recorded as video and audio data files. This file-based recording system also allows material to be viewed directly on a computer linked to the PDW-D1 via an i.LINK (file access mode, called FAM below) connection-in the same way that a computer reads data files on an external drive. The interfaces include the  S400 (i.LINK) connector, supporting AV/C (Audio/Video Control) and i.LINK (FAM) protocols.



Flexible metadata handling

XDCAM¹⁾ can record various types of metadata together with video and audio data, such as the date and time of shooting, the cameraman, the recording method, and comments about the material. This metadata can be used in applications such as the following.

- The supplied PDZ-1 Proxy Browsing Software can be used to add titles, comments, and other text data to discs and clips.
- Computer-readable text files can be recorded on the Professional Disc, to allow systematic content management.
- The ability to search metadata for the required audio and video scenes brings greater efficiency to various stages of the video production process (editing, archiving, etc.).

1) XDCAM is a trademark of Sony Corporation.

Compact size, lightweight and batterypowered operation

The PDW-D1 is designed small and light enough to carry out to the field and it is operable with battery to work in the field.

Vertical or horizontal orientation

The unit is adaptable to different situations. It can be oriented vertically for use with a desktop computer, to occupy the minimum of space, and in the field can be used horizontally, for stability.

Menu operation from a computer using the utility software

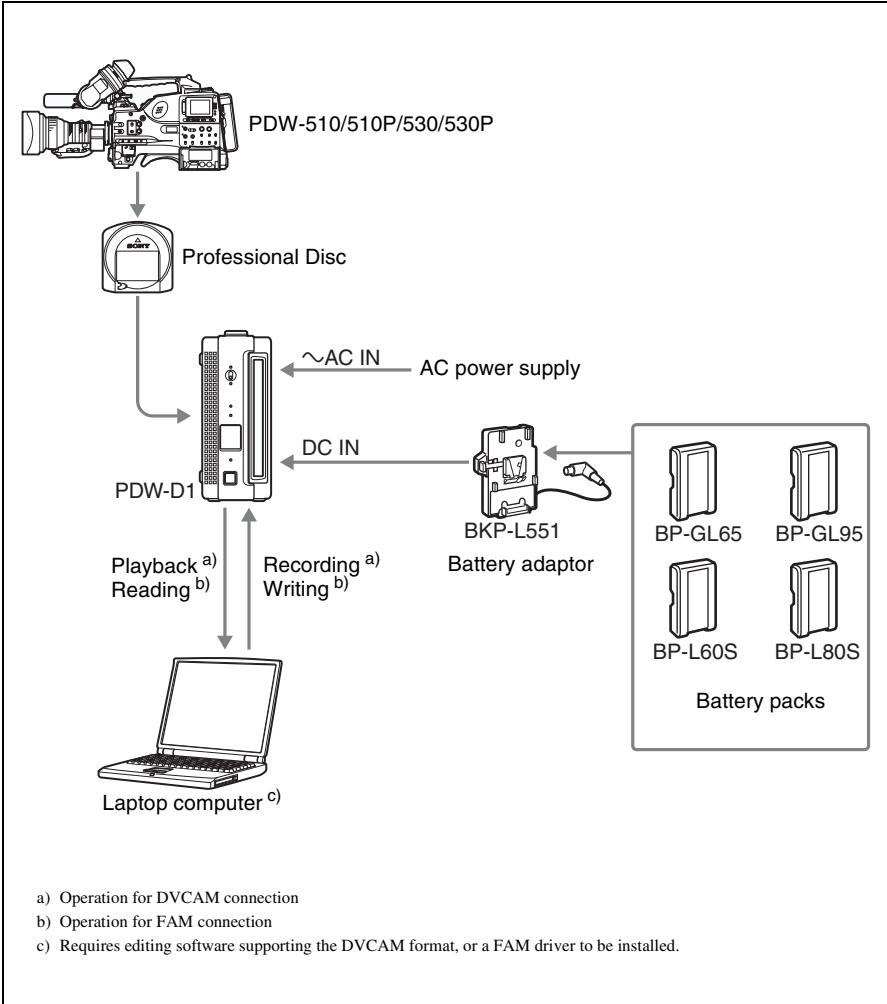
By installing the supplied utility software in a computer connected to this unit, you can

make settings or upgrade the unit by means of menu operations on the computer.



1-2 Example of Use

The following figure illustrates a system in which material recorded with a PDW-510/510P/530/530P camcorder is edited with a computer connected to this unit. In general, illustrations in this manual show the unit in the vertical orientation.



1-3 System Requirements

Operating the supplied utility software and PDZ-1 Proxy Browsing Software (Windows only) requires a computer system at least meeting the following requirements.

For details of the PDZ-1 Proxy Browsing Software, see page 37.

Windows

Item	Requirement
Processor	Intel Pentium III processor 1 GHz or higher
Memory	512 MB or more
Free hard disk space	<ul style="list-style-type: none"> At time of installation: 2 MB or more ^{a)} 20 MB or more ^{b)} For proxy AV data: approx. 1.4 GB per 90 minutes ^{c)}
Monitor	<ul style="list-style-type: none"> Resolution: 1024 × 768 pixels or better Color: 16-bit or better
Operating system	Microsoft Windows 2000 Service Pack 4 or later, or Windows XP Professional Service Pack 1 or later
Web browser	Internet Explorer 6.0 Service Pack 1 or later
Other	<ul style="list-style-type: none"> Equipped with i.LINK connector (IEEE1394 compliant) DirectX version 8.1b or later installed

a) For the utility software

b) For the PDZ-1 Proxy Browsing Software

c) For the Work folder for storing material when using the PDZ-1 Proxy Browsing Software

Macintosh

Item	Requirement
Processor	PowerPC G4, PowerPC G5, or Intel Core Duo processor 867 MHz or higher
Memory	512 MB or more
Free hard disk space	At time of installation: 20 MB or more
Monitor	Resolution: 1024 × 768 pixels or better
Operating system	Mac OS X v10.4.7 or later
Other	<ul style="list-style-type: none"> AGP Quartz Extreme or PCI Express graphics card QuickTime 7.1.3 or later Equipped with FireWire port (IEEE1394 compliant)



1-4 MPEG-4 Visual Patent Portfolio License

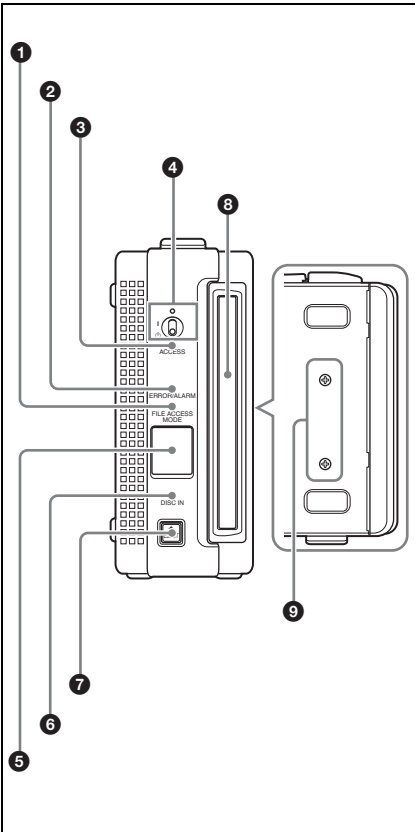
This product is licensed under the MPEG-4 Visual Patent Portfolio License. For the personal and non-commercial use of a consumer for (i) encoding video in compliance with the MPEG-4 Visual Standard (“MPEG-4 Video”) and/or (ii) decoding MPEG-4 Video that was encoded by a consumer engaged in a personal and non-commercial activity and/or was obtained from a video provider licensed by MPEG LA to provide MPEG-4 Video.

No license is granted or shall be implied for any other use.

Additional information including that relating to promotional, internal and commercial uses and licensing may be obtained from MPEG LA, LLC.

See <http://www.mpegla.com>

2-1 Front Panel



1 FILE ACCESS MODE indicator
Lights when a file access mode connection (FAM connection) is established.

During an AV/C (Audio/Video Control) connection, it is off.

2 ERROR/ALARM indicator
If an error occurs in the unit, this indicator lights or flashes as shown in the following table.

Indicator	Meaning
Lit continuously	<p>One of the following alarms has been generated.</p> <ul style="list-style-type: none"> The battery pack is exhausted. Condensation has occurred. An attempt was made to write or record when there is insufficient remaining disc capacity.
Flashing four times a second	<ul style="list-style-type: none"> An error occurred (principally a hardware fault). One of the following alarms has been generated: <ul style="list-style-type: none"> There was a synchronization error on the decoder input signal during recording. An error occurred during writing to memory.
Flashing once a second	An alarm not listed above occurred.



Note

The indicator may flash or light only for five seconds depending on the alarm.

You can check alarms generated by this unit, using the alarm log of the utility software (see page 43).

If the indicator is flashing four times a second, and it is not possible to check the alarm log, a malfunction may have occurred. In this case, contact your Sony service representative.

When the error is eliminated, the indicator goes off.

3 ACCESS indicator

Lights when the disc is being accessed by a computer. If the I/⏻ (on/standby) switch is set to the ⏻ position while this indicator is lit, access to the disc is completed before the unit switches to the standby state.

Note

While the ACCESS indicator is lit, do not turn off the AC power switch, disconnect the power cord, or remove the battery. This could lead to a loss of data from the disc.

4 I/⏻ (on/standby) switch and indicator

When the AC power switch on the rear panel is in the I position, or a battery is loaded, this switches the PDW-D1 between the operating (I) and standby (⏻) states. When the switch is moved to the I position, the indicator lights. When the switch is moved to the ⏻ position, the indicator goes off.

When operating the PDW-D1 from an AC power supply, normally leave the AC power switch in the I position, and switch the PDW-D1 between the operating and standby states using the I/⏻ (on/standby) switch.

Note

When the DISC IN indicator is lit or flashing, and the FILE ACCESS MODE indicator is lit, setting this switch to ⏻ position has no effect on the power supply. Eject a disc before carrying out the operation.

5 Manual eject mechanism

When there is no power supply to the unit, to eject the disc, remove the cover and rubber cap over this part, then turn the screw counterclockwise with a Phillips screwdriver.

For details, see 3-5-6 "To Eject Discs With the Unit Powered Off" (page 26).

6 DISC IN indicator

Lights when a disc is loaded. It flashes while the disc is being inserted, and while it is being ejected.

7 EJECT button

Ejects a disc (see page 26).

8 Disc slot

With the label surface on the right, insert the disc (see page 26).

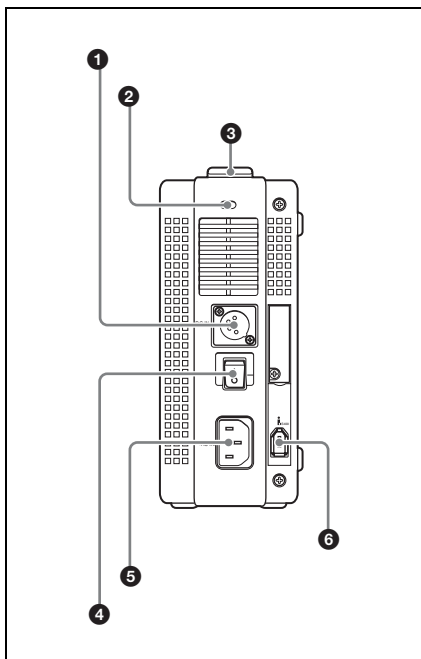
9 Battery adaptor attachment section

To use a battery pack, remove the Phillips screws, and fit the optional BKP-L551 battery adaptor.

For details, see "To attach a battery pack" (page 23).



2-2 Rear Panel



❶ DC power inlet connector

When the optional BKP-L551 battery adaptor is fitted, connect the DC power cord of the battery adaptor to this connector.

For details, see “To attach a battery pack” (page 23).

❷ Security slot

You can fit a commercially available security cable into this slot.

For information about how to use your security cable, refer to the instructions provided with the security cable.

❸ Carrying handle

Use this to carry the unit.

❹ AC power switch

Press **I** to power on; press **⏻** to power off.

❺ AC power inlet connector

Connect to AC power with a power cord (not supplied, *see page 53*).

❻ S400 (i.LINK) connector (6-pin, complying with IEEE1394)

AV/C (Audio/Video Control) connection (*see page 20*): Inputs and outputs a DVCAM format digital video/audio signal.

FAM (file access mode) connection (*see page 21*): Transfers files to and from computers.

Notes

- If video or audio signals from a computer connected with the S400 (i.LINK) connector are not output, disconnect the i.LINK cable and connect it again, pushing it straight in.
- When connecting the PDW-D1 to a computer with a 6-pin i.LINK connector, connect to the 6-pin i.LINK connector of the computer first.

3-1 Software Installation

3-1-1 Windows Installation

FAM driver

When a computer is connected to this unit in file access mode (FAM connection), you can handle video and audio data as files (*see Chapter 4, “Handling Files” (page 30)*). Before making an FAM connection, it is first necessary to install an FAM driver on the computer.

To install the PDZ-1 Proxy Browsing Software

Insert the supplied CD-ROM (PDZ-1 Proxy Browsing Software) in the computer’s CD-ROM drive, and run the Setup.exe file on the CD-ROM.

Follow the instructions that appear on the screen, and after the PDZ-1 Proxy Browsing Software is installed, the FAM driver is installed.

For details, refer to the ReadMe file contained on the CD-ROM disc.

To install the FAM driver only

Insert the supplied CD-ROM (PDZ-1 Proxy Browsing Software) in the computer’s CD-ROM drive, and in the FAM Driver folder on the CD-ROM, run the Setup.exe file.

Utility software

You can check the status of this unit, and change settings, by installing the utility software on a computer connected to this unit, and carrying out the operations on the computer (*see Chapter 5, “Using the Utility Software” (page 38)*).

To install the utility software, insert the supplied CD-ROM (PDW-D1 PC Utility) in the computer’s CD-ROM drive, and copy all of the following files from the PC_Utility folder of the Win folder on the CD-ROM to an appropriate folder on the computer:

- PC_Utility.exe
- D1_API.dll
- FAM_API.dll
- PC_Utility.chm

For the operating environment required for the utility software, see page 13.

Notes

- The utility software operates using the FAM (file access mode) protocol, and therefore requires the FAM driver to be installed in the computer (*see previous item*).
- Pins 1, 3, and 4 of switch S1401 on the rear panel of the unit must be set to OFF (the factory default setting is OFF) to enable utility software settings. If any of these pins are in the ON position, return them to the OFF position.



3-1-2 Macintosh Installation

Utility software and FAM driver

To install the utility software, insert the supplied CD-ROM (PDW-D1 PC Utility) in the computer's CD-ROM drive, and then run the PC Utility program, which is located in the PC_Utility folder of the Mac folder on the CD-ROM.

A standard installation installs the FAM driver at the same time as the utility software.

If a FAM driver is already installed on your computer, select the custom installation and clear the check mark from "FAM Driver" before installing.

For the operating environment required for the utility software, see page 13.

Notes

- The utility software operates using the FAM (file access mode) protocol, and therefore requires the FAM driver to be installed in the computer.
- Pins 1, 3, and 4 of switch S1401 on the rear panel of the unit must be set to OFF (the factory default setting is OFF) to enable utility software settings. If any of these pins are in the ON position, return them to the OFF position.

3-2 Connections and Settings

3-2-1 Connecting to a Nonlinear Editing System (AV/C Connection)

By connecting this unit to a nonlinear editing system with an AV/C (Audio/Video Control) connection, you can transfer video and audio signals (AV/C data).

Notes

- The iS400 (i.LINK) connector of this unit outputs video/audio signals in DVCAM format. Data recorded in MPEG IMX format is output after being converted into DVCAM format.
- The nonlinear editing system to be used being connected to this unit requires editing software (not supplied) supporting DVCAM format.

Windows computer preparations

Use the utility software (*see page 38*) to make the following settings before transferring video/audio signals (AV/C data) from this unit to a nonlinear editing system.

Audio mode selection

Use setup menu item “DV OUT AUDIO MODE” to select either of the following.

2ch: 48 kHz/16 bits/2 channels (Factory default setting)

4ch: 32 kHz/12 bits/4 channels

Audio output channel selection

Select the audio output channels with setup menu item “DV AUDIO OUTPUT SELECT.”

For information about how to make setup menu item settings, see 5-3-2 “Setup Menu” on page 43.

Macintosh computer preparations

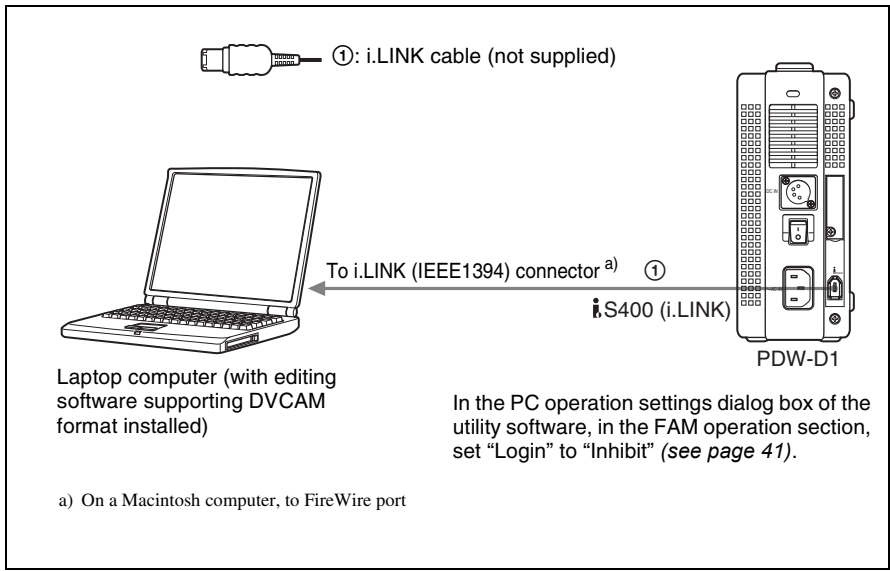
A FAM connection is initiated whenever you connect an i.LINK cable with the FAM driver installed. To use an AV/C connection, click the “Change Connection” button in the utility software to switch to “AVc/Log out.”



Note

Pins 1, 3, and 4 of switch S1401 on the rear panel of the unit must be set to OFF (the factory default setting is OFF) to enable utility software settings. If any of these pins are in the ON position, return them to the OFF position.

Example connection



For the method of transferring video/audio signals (AV/C data) to a nonlinear editing system, refer to the manual provided with the editing software to be used.

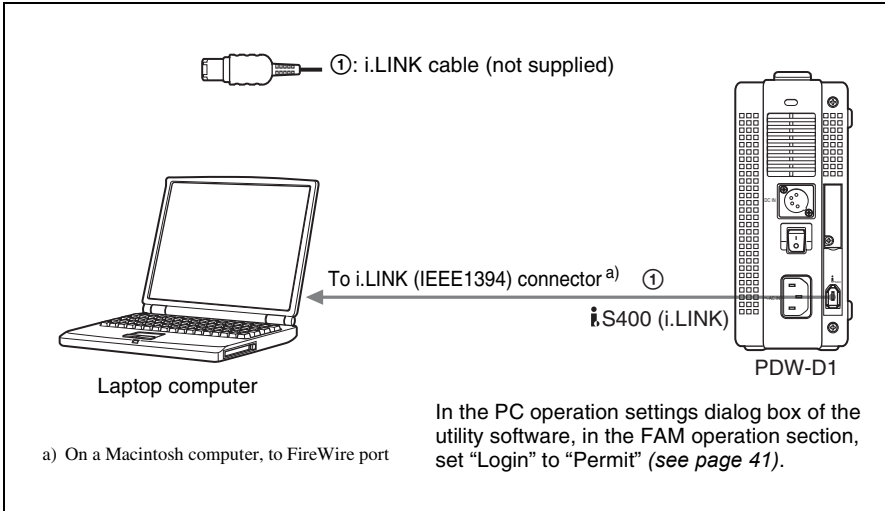
3-2-2 Connecting to a Computer (FAM connection)

By connecting this unit to a computer with an FAM (file access mode) connection, you can use the utility software (see page 38), and the PDZ-1 Proxy Browsing Software (Windows only).

Note

The FAM driver (see page 18) must be installed in advance.

Example connection



Note

Pins 1, 3, and 4 of switch S1401 on the rear panel of the unit must be set to OFF (the factory default setting is OFF) to enable utility software settings. If any of these pins are in the ON position, return them to the OFF position.

3-3 Power Preparations

This unit can be powered by a battery pack or AC power.

3-3-1 Using AC Power

Connect a power cord (not supplied, *see page 53*) to the AC power inlet connector (*page 17*) on the rear panel of the unit.

3-3-2 Using a Battery Pack

Usable battery packs

The battery packs usable with this unit are as follows.

BP-L60S, BP-L80S, BP-GL65, BP-GL95

To use a battery pack, the optional BKP-L551 battery adaptor is required.

Note

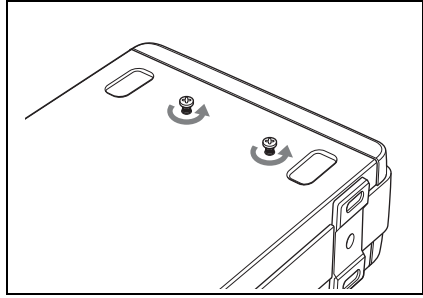
If the AC power supply and battery pack DC power supply are both present simultaneously, the unit operates from AC power.

To attach a battery pack

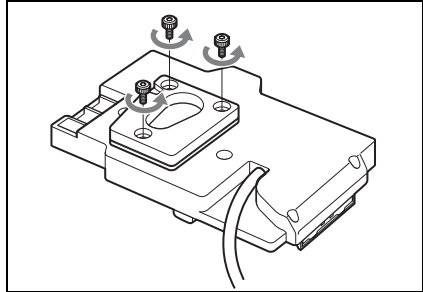
Refer also to the Installation Manual for the BKP-L551 battery adaptor.

Proceed as follows.

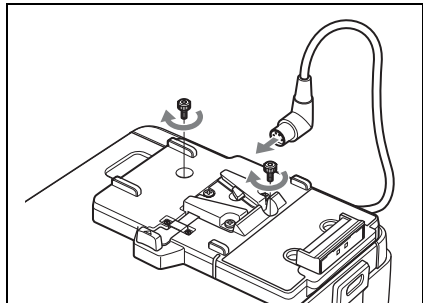
- 1 Using a Phillips screwdriver, remove the screws from the battery adaptor attachment section on the side panel of this unit.



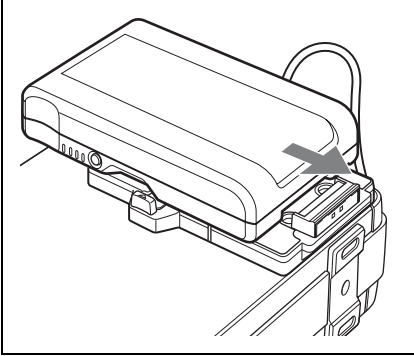
- 2 Take out the hexagonal wrench from the back of the battery adaptor.
- 3 Using the hexagonal wrench, remove the attachment and battery spacer which are fixed to the back of the battery adaptor.



- 4 Using the hexagonal wrench, screw the battery adaptor to this unit, and connect the DC power cord to the DC power inlet connector on the rear panel of this unit.

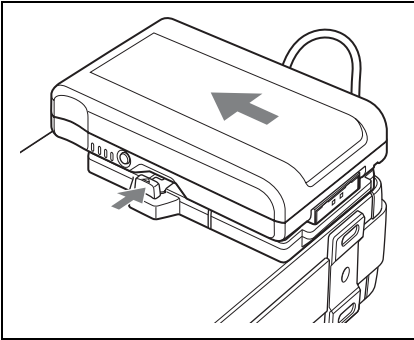


- 5 Replace the hexagonal wrench on the battery adaptor.
- 6 Align the slots on the back of the battery pack with the projections on the battery adaptor, and pull the battery pack downward.



To remove the battery pack

Keep the lever on the battery adaptor depressed and slide the battery pack up, and remove.



To remove the battery adaptor

Disconnect the DC power cord, then remove the battery adaptor using the hexagonal wrench.

Attach the screws to battery adaptor attachment section of this unit.

3-4 Setting the Date and Time

When using this unit for the first time, use the utility software to set the date and time.

For details, see "Date and time setting" (page 50).



3-5 Handling Discs

3-5-1 Discs Used for Recording and Playback

This unit uses the following disc for recording and playback:
PFD23 Professional Disc (capacity 23.3 GB)

Note

It is not possible to use the following discs for recording or playback:

- Blu-ray Disc
- Professional Disc for Data

3-5-2 Notes on Handling

Handling

The Professional Disc is housed in a cartridge, and is designed to allow handling free of risk from dust or fingerprints. However, if the cartridge is subjected to a severe shock, for example by dropping it, this can result in damage or scratching of the disc. If the disc is scratched, it may be impossible to record video/audio, or to play back the content recorded on the disc. The discs should be handled and stored carefully.

- Do not touch the surface of the disc itself within the cartridge.
- Deliberately opening the shutter may cause damage.
- Do not disassemble the cartridge.
- The supplied adhesive labels are recommended for indexing discs. Apply the label in the correct position.

Storage

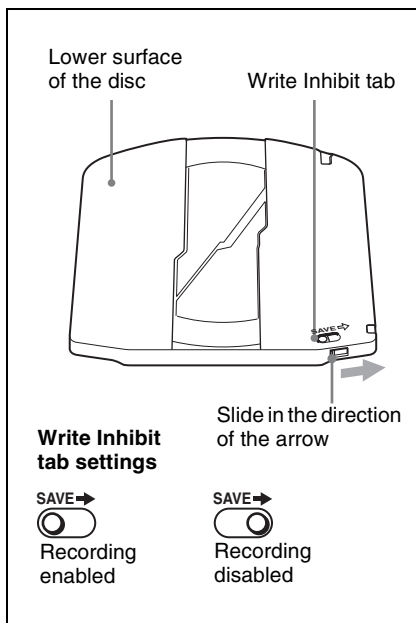
- Do not store discs where they may be subjected to direct sunlight, or in other places where the temperature or humidity is high.
- Do not leave cartridges where dust may be able to gain ingress.
- Store cartridges in their cases.

Care of the discs


- Remove dust and dirt on the outside of a cartridge using a soft dry cloth.
- If condensation forms, allow ample time to dry before use.

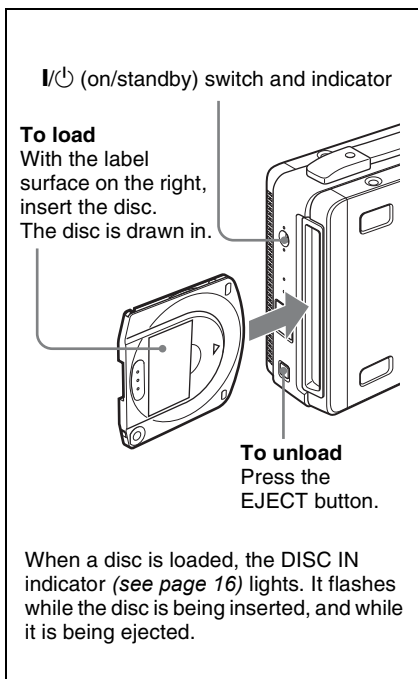
3-5-3 Write-Protecting Discs

To protect the content recorded on the disc from accidental erasure, move the write-protect tab on the lower surface of the disc in the direction of the arrow, as shown in the following figure.



3-5-4 Loading and Unloading a Disc

When the  (on/standby) indicator is lit green, you can load and unload a disc as shown in the following figure.



3-5-5 Formatting a Disc

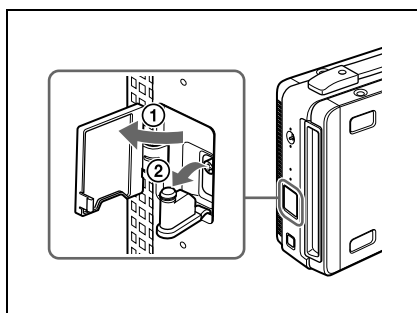
An unused disc requires no formatting operation. The disc is automatically formatted when loaded into this unit. To format a disc that has already been recorded, for example, use the disc operation menu of the utility software.

For details, see page 51.

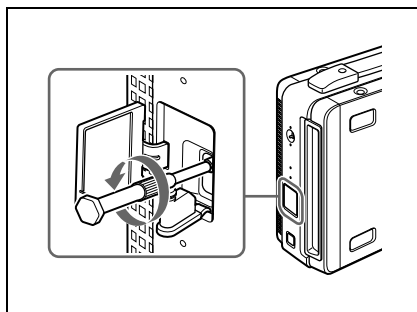
3-5-6 To Eject Discs With the Unit Powered Off

When battery power is low and at other times, it may not be possible to eject discs by pressing the EJECT button. In these situations, you can use the following as an emergency procedure to eject a disc manually.

- 1 Power the unit off.
- 2 Open the cover of the front panel manual eject mechanism (①), and remove the rubber cap (②).



- 3 Carefully check the positions of the screws, then turn the screws counterclockwise, using a Phillips screwdriver, until the disc is ejected.



After removing the disc, you do not need to return the screw to its original position. Normal operation will

resume when the unit is powered on again.

- 4 Replace the rubber cap, and close the cover.

3-5-7 Handling of Discs When Recording Does Not End Normally (Salvage Function)

Recording processing does not end normally if, for example, the unit is powered off during recording, or if battery pack power is exhausted during recording. Because the file system is not updated, video and audio data recorded in real time is not recognized as files and clip contents recorded up to that point are lost.

However, this unit has a salvage function which can hold losses to the minimum by reconstructing clips on such discs.

Note that no recorded clip contents are lost when the **I/⏻** (on/standby) switch on the front panel is set to standby, because the unit does not enter standby mode until after the end of recording processing.

Notes

- Do not power the unit off or remove the battery pack until recording processing has finished and the ACCESS indicator has gone out.
- This function salvages as much recorded material as possible after an unforeseen accident, but 100% restoration cannot be guaranteed.
- Even when this function is used, it is not possible to recover data from immediately before the interruption of recording. The amount of data lost is as follows.
 - Quick salvage: From 2 to 4 seconds of data before the interruption of recording.

- Full salvage: From 4 to 6 seconds of data before the interruption of recording.

Quick salvage

When the unit is powered on again after a recording interruption due to power off, with the disc still loaded in the unit, clips are automatically reconstructed on the basis of backup data stored in nonvolatile memory and markers recorded on the disc. Processing time is about 5 seconds.

Full salvage

When a disc that was manually ejected from a device subjected to a recording interruption due to power off is loaded into this unit, clips are automatically reconstructed on the basis of markers recorded on the disc. Nonvolatile memory cannot be used, so processing takes longer than for a quick salvage (about 30 seconds, although it depends on the state of the disc).

3-5-8 Condensation

When this unit is moved from a cold place to a warmer place, or operated in high humidity, condensation may form on the optical pickup. If the unit is operated in this state, it may make correct recording and playback impossible.

Note the following points, to avoid problems with condensation.

- If moving the unit in conditions where condensation is possible, make sure the disc is inserted in advance.
- When the **I/⏻** (on/standby) switch is in the **I** position, if the ERROR/ALARM indicator lights, and “HUMID!” appears in the utility software alarm log, do not insert a disc until the indicator has gone off.

3-6 Preparations for Recording and Playback

See 3-2-1 “Connecting to a Nonlinear Editing System (AV/C Connection)” (page 20) for information about connections.

3-6-1 Preparations for Recording

Switch settings

Before beginning recording, make the following switch settings.

I/⏻ (on/standby) switch (page 16): I position

Settings

In the PC operation settings dialog box of the utility software (see page 41), set the following items.

Login: “Inhibit” (Disables FAM connection. Windows only)

In the setup menu of the utility software (see page 43), set the following items as required.

PREROLL TIME: Set the preroll time. (0 to 30 seconds)

TC MODE: Select the time code recording mode. (INT-REGEN/EXT-REGEN)

DF MODE: Select the run mode of the internal time code generator in 525-line mode. (DF/NDF)

VITC: Specify whether or not to record the VITC generated by the internal time code generator. (OFF/ON)

DV AUDIO OUTPUT SELECT: Select the audio signals to assign audio output channels.

- CH1/CH2 (TR-1/TR-2, TR-3/TR-4, TR-5/TR-6, TR-7/TR-8)
- CH3/CH4 (TR-1/TR-2, TR-3/TR-4, TR-5/TR-6, TR-7/TR-8)

DV OUT AUDIO MODE: Select the audio mode for audio output. (4ch (32 kHz/12 bit)/ 2ch (48 kHz/16 bit))

525/625 SYSTEM SELECT: Select the line mode. (525/625)

STORED OWNERSHIP: Set UMID ownership information (country code, organization code and user code)

Inserting a disc

Insert a disc into this unit (see page 26).

Note

If the ERROR/ALARM indicator flashes once a second when you attempt to record, check the problem in the following table.

Cause	Action
A disc recorded in MPEG IMX format has been inserted.	Replace with a disc not recorded in MPEG IMX format, or reformat the disc (see page 51).

You can check the details of alarms, using the alarm log of the utility software (see page 43).

For details of recording operations, refer to the manual provided with the editing software to be used.

3-6-2 Preparations for Playback

Switch settings

Before beginning playback, make the following switch settings.

I/⏻ (on/standby) switch (page 16): I position



Settings

In the PC operation settings dialog box of the utility software (*see page 41*), set the following items.

Login: “Inhibit” (Disables FAM connection.)

In the setup menu of the utility software (*see page 43*), set the following items as required.

PREROLL TIME: Set the preroll time. (0 to 30 seconds)

DV AUDIO OUTPUT SELECT: Select the audio signals to assign audio output channels.

- CH1/CH2 (TR-1/TR-2, TR-3/TR-4, TR-5/TR-6, TR-7/TR-8)
- CH3/CH4 (TR-1/TR-2, TR-3/TR-4, TR-5/TR-6, TR-7/TR-8)

DV OUT AUDIO MODE: Select the audio mode for audio output. (4ch (32 kHz/12 bit)/ 2ch (48 kHz/16 bit))

525/625 SYSTEM SELECT: Select the line mode. (525/625)

STORED OWNERSHIP: Set UMID ownership information (country code, organization code and user code)

Notes

- When playing back a disc recorded in MPEG IMX format, data is output after being converted into DVCAM format.
- This unit does not support clip list playback and saving the playback position.

Inserting a disc

Insert a disc into this unit (*see page 26*).

For details of playback operations, refer to the manual provided with the editing software to be used.

4-1 Overview

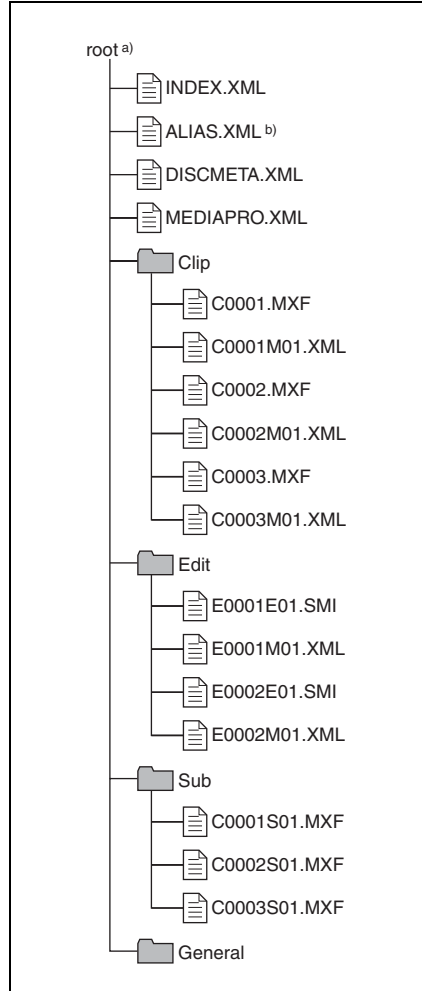
When a computer is connected to this unit in file access mode (FAM connection), you can handle video and audio data as files. The recording conditions during an AV/C connection are fixed at DVCAM format, four audio channels (16-bit), but with an FAM connection, you can write files in DVCAM/MPEG IMX 50/40/30 format, with eight audio channels (16-bit) or four channels (24-bit). (You can write files in the same format on a single disc.)

4-1-1 Directory Structure

The following figure shows the directory structure of discs visible to a remote computer.

Note

This structure is not the same as the actual structure recorded on the disc.



a) Root directory

b) Only when Naming Form is set to “free” in the File Name Setting section of the Clip title setting screen of the utility software.

4-1-2 File Operation Restrictions

This section explains which operations are possible on files stored in each directory.

Root directory

File name	Content	Operations				
		Read	Overwrite	Rename	Create	Delete
INDEX.XML	Contains data for management of the audio/video material on the disc.	Yes	No	No	No	No
ALIAS.XML ^{a)}	Contains conversion tables for assigning user-defined names to clips and clip lists.	Yes	No	No	No	No
DISCMETA.XML	Contains metadata to indicate the disc properties.	Yes	Yes ^{b)}	No	No	No
MEDIAPRO.XML	Contains a list of audio/video material on the disc, basic properties, related information, and information about access methods.	Yes	No	No	No	No
Other files	Files other than the above	—	No	—	No	—

a) Only when Naming Form is set to “free” in the File Name Setting section of the Clip title setting screen of the utility software.

b) Only files which can be overwritten by XDCAM

Notes

- Directories cannot be created in the root directory.
- The directories in the root directory (Clip, Edit, Sub, and General) cannot be deleted or renamed.



Clip directory

File name	Content	Operations				
		Read	Overwrite	Rename	Create	Delete
C*.MXF ^{a)}	Clip file created by recording (MXF file) *: 0001 to 4999	Yes	No	No ^{b)}	Yes ^{c)}	Yes ^{d)}
C*M01.XML ^{a)}	Metadata file generated automatically when C*.MXF file is created. *: 0001 to 4999	Yes	Yes ^{e)}	No ^{f)}	No ^{g)}	No ^{h)}
Other files	Files other than the above	—	No	—	No	—

- a) With firmware version 1.5 and higher, the unit can handle files with user-defined names in the “C*” part.
- b) Possible with firmware version 1.5 and higher.
- c) Only files which are 2 seconds or longer in length, in a format matching the line mode format (525/625) and recording format (IMX50/IMX40/IMX30/DVCAM and number of audio channels) of the recorded sections of the disc, and which can be overwritten by XDCAM.
- d) Only when the Write Inhibit tab on the disc is set to enable recording. With firmware version 1.4x and lower, only the most recently recorded clip may be deleted. With firmware version 1.5 and higher, any clip may be selected and deleted.
- e) Only files which can be overwritten by XDCAM
- f) With firmware version 1.5 and higher, when the “C*” part of a C*.MXF file name is changed, a C*M01.XML with the same name in the “C*” part is also changed automatically.
- g) When a C*.MXF file is created, a C*M01.XML file with the same name in the “C*” part is created automatically.
- h) When a C*.MXF file is deleted, the C*M01.XML file with the same name in the “C*” part is also deleted automatically.

Notes

- Directories cannot be created in the Clip directory.
- When the following operations, supported by version 1.5 and higher XDCAM devices, are carried out on a disc, then it becomes impossible for version 1.4x and lower XDCAM devices to record new clips or delete existing clips on that disc. (The only possible operations are playback and disc formatting.)
 - Writing of clips with user-defined names
 - Locking of clips
 - Deletion of clips (except the last recorded clip)
- If you attempt to write a C*.MXF file which does not meet the conditions specified as remark c) on this table via a FAM connection, a Windows error message appears to the effect that the file or directory is corrupt and cannot be read.

Edit directory

File name	Content	Operations				
		Read	Overwrite	Rename	Create	Delete
E*E01.SMI ^{a)}	Clip list file *: 0001 to 0099	Yes	Yes ^{b)}	No ^{c)}	Yes ^{d)}	Yes ^{e)}
E*M01.XML ^{a)}	Metadata file generated automatically when E*E01.MXF file is created. *: 0001 to 0099	Yes	Yes ^{b)}	No ^{f)}	No ^{g)}	No ^{h)}
Other files	Files other than the above	—	No	—	No	—

- a) With firmware version 1.5 and higher, the unit can handle files with user-defined names in the “E*E01” part.
- b) Only files which can be overwritten by XDCAM
- c) Possible with firmware version 1.5 and higher.
- d) Only files which can be overwritten by XDCAM
- e) Only when the Write Inhibit tab on the disc is set to enable recording
- f) With firmware version 1.5 and higher, when the “E*E01” part of an E*E01.SMI file name is changed, an E*M01.XML file with the same

- name in the “E*” part is generated automatically.
- g) When an E*E01.SMI file is created, an E*M01.XML file with the same name in the “E*” part is created automatically.
- h) When an E*E01.SMI file is deleted, the E*M01.XML file with the same name in the “E*” part is also deleted automatically.

Note

Directories cannot be created in the Edit directory.

Sub directory

File name	Content	Operations				
		Read	Overwrite	Rename	Create	Delete
C*S01.MXF ^{a)}	Proxy AV data (MXF file) generated automatically when a C*.MXF file is created. *: 0001 to 4999	Yes	No	No ^{b)}	No ^{c)}	No ^{d)}
Other files	Files other than the above	—	No	—	No	—

- a) With firmware version 1.5 and higher, the unit can handle files with user-defined names in the “C*” part.
- b) With firmware version 1.5 and higher, when the “C*” part of a C*.MXF file name is changed, a C*S01.MXF file with the same

- name in the “C*” part is generated automatically.
- c) When a C*.MXF file is created, a C*S01.XML file with the same name in the “C*” part is created automatically.



- d) When a C*.MXF file is deleted, the C*S01.XML file with the same name in the “C*” part is also deleted automatically.

Note

Directories cannot be created in the Sub directory.

General directory

File name	Content	Operations				
		Read	Overwrite	Rename	Create	Delete
Any file		Yes	Yes	Yes ^{a)}	Yes	Yes ^{b)}

- a) UTF-8 file names can be up to 63 bytes in length. (Depending on the character type, file names (including extension) may be limited to 21 characters.)
- b) Only when the Write Inhibit tab on the disc is set to enable recording

The following directory operations are possible in the General directory.

- Directory creation (up to 64 levels, including the General directory)
- Deletion and renaming of directories

Notes

- The maximum number of files which can be created on a disc, including directories, is 5000.
- File names and directory names can use letters, numbers, and symbols from the Unicode 2.0 (UTF-8) character set.¹⁾

However, the following control characters and symbols cannot be used.

- Control characters: U+0000 to U+001F, U+007F
- Symbols: ", *, /, :, <, >, ', ?, \, |

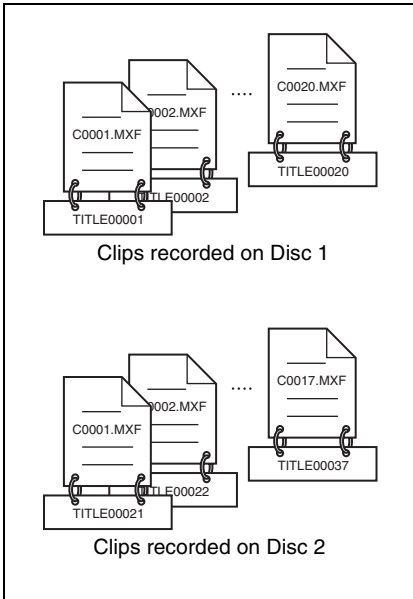
- 1) This is supported from firmware version 1.4. However, the following character codes cannot be used by FAM connections.
- U+010000, U+020000, U+030000,
 U+040000, U+050000, U+060000,
 U+070000, U+080000, U+090000,
 U+0A0000, U+0B0000, U+0C0000,
 U+0D0000, U+0E0000, U+0F0000,
 U+100000

4-1-3 Assigning User-Defined Clip Titles

By default, clips on each disc are assigned names in the range C0001.MXF to C4999.MXF. For this reason, several discs can contain clips with the same names. The automatic title generation function allows you to assign titles to all of the clips on several discs, which facilitates clip management. For example, if the titles TITLE00001 to TITLE00020 are assigned to clips C0001.MXF to C0020.MXF on disc 1, then the titles TITLE00021 to TITLE00037 are assigned to clips C0001.MXF to C0017.MXF on disc 2.¹⁾

See “Clip title settings” (page 48) for information about how to make clip title settings.

- 1) This is supported from firmware version 1.4 and utility software version 1.10.



4-1-4 Assigning User-Defined Clip and Clip List Names

The following standard format names are assigned automatically to clips and clip lists that are created or recorded by XDCAM devices.

Clips: C0001.MXF to C4999.MXF

Clip lists: E0001E01.SMI to E0099E01.SMI

This unit can handle clips and clip lists with user-defined names as well as names in the standard format.¹⁾

1) This is supported from firmware version 1.5 and utility software version 1.50.

Limitations

- Letters, numbers and symbols from the Unicode 2.0 character set can be used. However, the following control characters and symbols cannot be used.
 - Control characters: U+0000 to U+001F, U+007F

- Symbols: ", *, /, :, <, >, ?, \, |
- Depending on the character type, the length of user-defined names (the "C*" or "E*E01" part) may be limited to 14 characters. (The limit for ASCII characters is 56 characters.)
- All file name extensions are converted automatically to uppercase.
- Titles are used as user-defined clip names on this unit. Therefore, the available characters are limited to those supported by the title function.
- Files generated along with clips and clip lists use the same names (the "C*" or "E*" part of the following file names).
 - Clips: Metadata files (C*M01.XML), proxy AV data files (C*S01.MXF)
 - Clip lists: Metadata files (E*M01.XML)
- The following names cannot be assigned.
 - Clips: C0000.MXF
 - Clip lists: E0000E01.SMI, E0100E01.SMI to E9999E01.SMI, E0000.SMI, E0100.SMI to E9999.SMI
- The following names should be avoided.
 - Clips: C5000.MXF to C9999.MXF
 - Clip lists: E0001.SMI to E0099.SMI

See "File Name Setting" (page 48) for information about how to make file name settings.



4-2 Preparations for File Access

See 3-2-2 “Connecting to a Computer (FAM connection)” (page 21) for information about connections.

Switch settings

Before beginning file operations, make the following switch settings.

I/⏻ (on/standby) switch (page 16): I
position

Settings

In the PC operation settings dialog box of the utility software (see page 41), set the following items.

Login: “Permit” (Enables FAM connection. Windows only)

In the setup menu of the utility software (see page 43), set the following items as required.

525/625 SYSTEM SELECT: Select the line mode. (525/625)

To record continuous timecode ¹⁾

Set the following item in the utility software setup menu (see page 43).

TC MODE: “INT-REGEN”

When a computer or other device writes a clip file to this unit via a FAM connection, the timecode of the clip is regenerated so as to be continuous with the last frame of the last clip already recorded on the disc.

1) This is supported from firmware version 1.4.

For information about how to make setup menu item settings, see 5-3-2 “Setup Menu” on page 43.

File writing formats

It is not necessary to set the video recording format (IMX50/IMX40/IMX30/DVCAM) and the audio recording format (16bit × 8ch/24bit × 4ch) before writing files. The file formats which can be written to the disc depend on whether clips are already recorded on the disc.²⁾

- **When you insert a disc with no recorded clips**

Files in all of the above formats can be written.

- **When you insert a disc with recorded clips**

Files in the same video and audio formats as the clips on the disc can be written. To display the formats, select “Basic information” from the “Device information” menu of the utility software (see page 42). The video and audio formats appear under “Disc information.”

2) This is supported from firmware version 1.4 and utility software version 1.10.

Inserting a disc

Insert a disc into this unit (see page 26).

4-3 File Access Operations (Windows)

Accessing files with nonlinear editing software

For details of the file access operations, refer to the manual provided with the editing software to be used.

Accessing files with Explorer

Start Windows Explorer and check that a drive letter has been assigned to this unit. (The drive letter will differ depending on the number of other peripherals connected to the remote computer.)

You can perform file operations on the disc loaded in this unit in the same way that you operate on local drives and files on network computers.

Note

All file operations are not possible for some types of files.

For details, see 4-1-2 “File Operation Restrictions” (page 31).

To eject discs from a remote computer

Right click the icon representing this unit in Explorer, and select Eject from the menu which appears.

Using PDZ-1 Proxy Browsing Software

When a computer with the PDZ-1 Proxy Browsing Software installed is connected to this unit, you can transfer the proxy AV data and metadata files recorded on a disc to

the computer. On the computer side, PDZ-1 enables you to browse the proxy AV data, add or modify metadata (titles, comments, essence marks, etc.), or create a clip list. The modified metadata and the created clip list can then be written back to the disc loaded in this unit.

Switching from file operations to recording/playback operations

In the PC operation settings dialog box of the utility software, in the FAM operation section, change “Login” to “Inhibit.” This changes the connection between this unit and the computer to an AV/C connection. (If you change the setting during disc access or while a file is being transferred, the new setting takes effect when the operation is completed.)

The utility software allows you to carry out the following functions on this unit.

- Displaying device information
- Changing settings
- Disc operations

For details of installation of the utility software, see page 18.

Notes

- When the utility software is running, it is not possible to start other application software ¹⁾ using FAM (file access mode).
Finish work with the utility software, and close the utility software.
- When the utility software is running, this unit is connected to the computer with an FAM connection.
To switch to an AV/C connection, finish work with the utility software, and close the utility software.
- During disc access (when the ACCESS indicator is lit), it is not possible to start the utility software.
Start the program once disc access is completed.

1) Proxy Browsing Software (Windows only)
XDCAM Transfer PDZK-P1 (Macintosh only)

5-1 Starting and Exiting

5-1-1 Starting

First make sure that this unit is connected to the computer.

For connection details, see 3-2-2 “Connecting to a Computer (FAM connection)” (page 21).

On a Windows computer

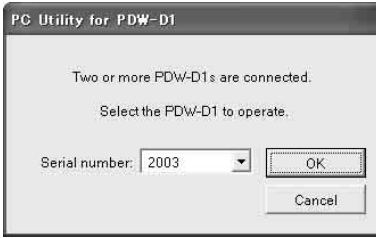
To start the utility software, with the computer connected to this unit, carry out any of the following.

- Open the folder in which the utility software is installed, then double-click on PC_Utility.exe.
- Click the Start button, then select Run, and enter the path and name of the PC Utility executable file (PC_Utility.exe), then click the OK button.

This displays the home window of the utility software.

When two or more PDW-D1 units are connected by FAM (File Access Mode) ¹⁾

A message like the one shown below appears.



Select the serial number ²⁾ of the PDW-D1 that you want to operate from the list box, and then click the OK button. (Only one PDW-D1 can be operated by this software at any one time.)

The software quits without starting if you click the Cancel button.

- 1) You can connect two PDW-D1 units for purposes such as copying material between the units. *For more information, refer to the online help of the PDZ-1 Proxy Browsing Software.*
- 2) The serial number can be found on the name plate, which is located on the base panel of the PDW-D1 main unit.

On a Macintosh computer

Open the folder in which the utility software is installed, and then double click PC Utility.

This displays the home window of the utility software.

Notes

- English is selected as the factory default setting for the language used. You can change this as required (Windows only, *see page 41*).
- A message like the one shown below appears if initialization fails, preventing the software from starting. Check to be sure that this unit is correctly connected to the computer, and then repeat the previous operation.



5-1-2 Exiting

On a Windows computer

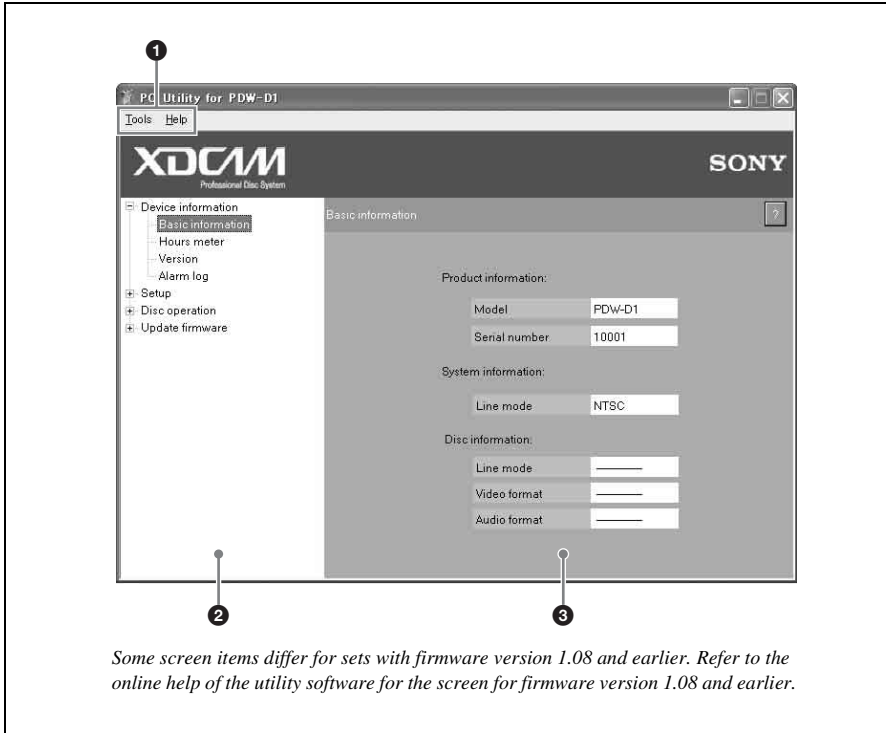
Click the × (close) button in the top right corner of the window.

On a Macintosh computer

Click the × (close) button in the top left corner of the window.

5-2 Names and Functions of Parts

The figure below shows the menu screen of the Windows version.



1 Menu bar (Windows only)

This shows the menus of the utility software.

Click a menu name to display the commands for executing functions.

• Settings menu

PC operation settings: Opens a dialog box to select the language for screen indications and operations, and to enable or disable the FAM connection (*see page 41*).

• Help menu

PC Utility manual: Shows the manual (Help information) for the utility software.

PC Utility version information: Opens a dialog box showing the version information for the utility software.

2 Tree display

The menus for this unit appear in a tree configuration.

Click the + sign to the left of a menu name to display the submenus in the level below;

the + sign changes to a – sign. (Click the – sign to close the submenu display.)
Click a menu item to display the operating screen for the menu item in the operating section.

• **Device information menu**

Basic information: Shows product information, system information, and disc information (*see page 42*).

Hours Meter: Shows the cumulative number of operating hours of this unit (*see page 43*).

Version: Shows the firmware version information (*see page 43*).

Alarm log: Shows the alarms generated by this unit (*see page 43*).

• **Setup menu**

AV settings: Shows a window for setting the operation of this unit, time code, audio control, recording format, and line mode (*see page 43*).

Owner setting: Shows a window for setting UMID owner information (*see page 47*).

Clip title settings: Shows a window for assigning titles to clips ¹⁾ and for enabling or disabling use of user-defined clip and clip list file names ²⁾ (*see page 48*).

Battery mode setting: Shows a window for setting the alarm of remaining capacity of the battery pack in this unit (*see page 49*).

Save/recall setup: Shows a window for saving or recalling the AV, owner, and battery mode settings (*see page 50*).

Date/time setting: Shows a window for setting the date, time, and time zone (*see page 50*).

• **Disc operation menu**

Format: Shows a window for formatting a disc (*see page 51*).

Delete clip: Shows a window for deleting a clip or clips recorded on the disc (*see page 51*).

- 1) This is supported from firmware version 1.4 and utility software version 1.10.
- 2) This is supported from firmware version 1.5 and utility software version 1.50.

③ **Operating section**

Shows the operating window for the function selected in the tree display.

Click the ? button to show help information on the display (Windows only).

PC operation settings dialog box (Windows only)

In the menu bar, select Settings > PC operation settings, to open the PC operation settings dialog box.

In this dialog box, set the following items.

- Language used for the user interface of the utility software
- Enable/disable FAM connection

To set the language used

1 From the Language list, select the desired language, and click the Set button.

2 Exit the utility software, and restart it (*see page 38*).

The language you selected in step **1** is now reflected in the utility software displays.

To enable or disable the FAM connection

1 In the FAM operation section, select either of the following for login, and click the Set button.

- Permit: Enable the FAM connection. (Select for an FAM connection.)
- Inhibit: Disable the FAM connection. (Select for an AV/C connection.)

2 Exit the utility software.

The new setting takes effect when exiting the utility software.

Notes

- If no FAM driver (*see page 18*) is installed in the connected computer, setting to “Permit” does not allow an FAM connection to be established. (The connection is always an AV/C connection.)
- If you change the setting during disc access or while a file is being transferred, the new setting takes effect when the operation is completed.

5-3 Details of Functions

5-3-1 Device Information Menu

Basic information

This displays the following information about this unit.

Product information

Item name	Display contents
Model	PDW-D1
Serial number	Serial number set when unit is shipped

System information

Item name	Display contents
Line mode	Scan lines in video format (set in “AV Settings”–“525/625 SYSTEM SELECT”)

Disc information¹⁾

Item name	Display contents
Line mode	Video format scan lines of clips recorded on the disc
Video format	Video format of clips recorded on the disc
Audio format	Audio format of clips recorded on the disc

1) This appears from firmware version 1.4 and utility software version 1.10.

Hours Meter

Information about the operational history of the unit can be displayed. Use the information as a guide in scheduling periodic maintenance.

For periodic maintenance, consult your Sony dealer.

Item name	Display contents
Operation Hours	The total number of hours the unit has been powered on (unit: hours)
Operation Hours (r)	Same as Operation Hours (resettable ^{a)})
Laser Parameter (r)	The cumulative light output time for the optical head (resettable ^{a)})
Seek Running Hours (r)	The cumulative seek operation time for the optical head (unit: hours, resettable ^{a)})
Spindle Running Hours (r)	The cumulative spindle rotation time (unit: hours, resettable ^{a)})
Loading Counter (r)	The total number of times disc has been loaded (resettable ^{a)})

a) This can be used as a guide in determining when to replace parts.

To refresh the display

Click the Refresh button.

Version information

The firmware version information includes the following items.

Item name	Display contents
Package	The package version when the firmware was downloaded as a package

Item name	Display contents
SY	System control software version
PIER	"PIER" version of FPGA
CAVE	"CAVE" version of FPGA
Drive	Optical disc drive system control software version
PROX_A	Proxy audio DSP software version
PROX_V	Proxy video DSP software version
MENU	Menu version

Alarm log

This shows a maximum of 50 alarms generated since the unit was last powered on.

Select an item in the list to display details of that alarm (date and time of generation, and location on disc (time code)).

When the limit of 50 items on the list is exceeded, older alarms are deleted.

Powering off the unit deletes all items from the list.

Refer to the utility software help for information about list of alarms.

5-3-2 Setup Menu

AV settings

Set the following items relating to this unit.

In the Settings column of the table, underlined values indicate the factory default settings.

OPERATIONAL FUNCTION

Item name	Settings
PREROLL TIME	0 SEC to 5 SEC to 30 SEC: Set the preroll time to between 0 and 30 seconds in steps of 1 second. A preroll time of at least 5 seconds is recommended when using this unit for editing.

TIME CODE

Item name	Settings
TC MODE	<p>Select the time code recording mode.</p> <p>INT-REGEN: Record the output of the internal time code generator, initialized to time code following continuously upon the time code of the last frame of the last clip on the disc. When a clip file is written via a FAM connection ^{a)}, the time code of the written clip follows continuously upon the time code of the last frame of the last clip on the disc.</p> <p>EXT-REGEN: Record the output of the internal time code generator, synchronized to an external time code generator. When a clip file is written via a FAM connection ^{a)}, the time code of the written clip is recorded without change.</p>
DF MODE	<p>In 525-line mode, select the run mode of the internal time code generator.</p> <p>ON (DF): Drop-frame mode</p> <p>OFF (NDF): Non-drop frame mode</p>



TIME CODE

Item name	Settings
VITC	Specify whether or not to record the VITC generated by the internal time code generator. ON: Record internally generated VITC. OFF: Do not record internally generated VITC.
VITC OUTPUT	Select whether to output VITC or the time when a clip was recorded into VITC during playback. VITC: Output VITC. TIME: Output the time when a clip was recorded.


a) This is supported from firmware version 1.4.

VIDEO CONTROL

Item name	Settings
WIDE MODE ^{a)}	Specify whether to record with the addition of wide picture information.
Sub-item	
1 INPUT	Specify whether to save wide picture information to the disc during recording. AUTO: Automatically record wide picture information when it is detected in the selected input video signal. ON: Always record wide picture information. OFF: Do not record wide picture information.

a) This is supported from firmware version 1.4 and utility software version 1.10.

AUDIO CONTROL

Item name	Settings
DV AUDIO OUTPUT SELECT	Select the audio signals to assign to i.LINK(AV/C) audio output channels.
Sub-item	
1 CH1/CH2	tr1/2: Tracks 1 and 2 assigned to audio output channels 1 and 2. tr3/4: Tracks 3 and 4 assigned to audio output channels 1 and 2. tr5/6: Tracks 5 and 6 assigned to audio output channels 1 and 2. tr7/8: Tracks 7 and 8 assigned to audio output channels 1 and 2.
2 CH3/CH4	tr1/2: Tracks 1 and 2 assigned to audio output channels 3 and 4. tr3/4: Tracks 3 and 4 assigned to audio output channels 3 and 4. tr5/6: Tracks 5 and 6 assigned to audio output channels 3 and 4. tr7/8: Tracks 7 and 8 assigned to audio output channels 3 and 4.
DV OUT AUDIO MODE	Select the audio mode for  S400 (i.LINK) connector (output). 2ch: 16 bit/48 kHz/2ch 4ch: 12 bit/32 kHz/4ch



Line mode setting

Item name	Settings
525/625 SYSTEM SELECT	Switch between 525-line and 625-line modes. 525: 525-line mode (NTSC) 625: 625-line mode (PAL)

Indication that a setting is at the factory default value



When a setting is at the factory default value, a colon (':') appears between the item name and the setting value.

When the setting has been changed, this changes to a dot ('.').



Example: PREROLL TIME : 5 SEC (setting is factory default)
PREROLL TIME . 8 SEC (setting has been changed)



AV setting operations

To move from one menu item to another:

Use the / buttons, or the up and down arrow keys on the keyboard.

To move from one menu level to another:

Use the / buttons, or the left and right arrow keys on the keyboard.

To change the setting value: With the cursor on the setting value, use the / buttons, or the up and down arrow keys on the keyboard. (Factory default settings are shown with an asterisk (*).)



To return a setting to its factory default value: In the setting value selection screen, click the Reset button.

To return all settings to their factory default values: In the menu item selection screen, click the Reset button.

To save the changed settings: Click the Set button.

To discard the changed settings: Click the Cancel button, or press the Esc key on the keyboard.

To change the line mode setting on a Windows computer

- 1 Refer to “AV setting operations” (*previous item*), and change the line mode setting.
- 2 Click the Set button.
If a disc is present, it is automatically ejected.
- 3 In the confirmation message box, click the OK button.
- 4 Exit the utility software (*see page 39*).
- 5 Do one of the following on the  or  icon displayed in the remote computer's taskbar.
 - Double click.
 - Right click, and select one of the following commands from the menu which appears.
 - **Windows 2000:** Unplug or eject hardware
 - **Windows XP:** Safely Remove Hardware
 - **Windows 2000:** The Unplug or Eject Hardware dialog appears.
 - **Windows XP:** The Safely Remove Hardware dialog appears.
- 6 Select “Sony XDCAMPDW-D1 IEEE 1394 SBP2 Device” and click Stop.
The Stop a Hardware device dialog appears.
- 7 Select “Sony XDCAMPDW-D1 IEEE 1394 SBP2 Device” and click OK.
 - **Windows 2000:** A confirmation message appears.

- **Windows XP:** “Sony XDCAM PDW-D1 IEEE 1394 SBP2 Device” is deleted from the Hardware devices list.

8 Power the unit off, and then power it on again.

The line mode selected in step 1 becomes available for use.

To change the line mode setting on a Macintosh computer

- 1 Refer to “AV setting operations” (page 46), and change the line mode setting.
- 2 Click the Set button.

If a disc is present, it is automatically ejected.
- 3 In the confirmation message box, click the OK button.
- 4 Click the “Change Connection” button to switch to “AVc/Log out.”
- 5 Exit the utility software (see page 39).
- 6 Power the unit off, and then power it on again.

The line mode selected in step 1 becomes available for use.

Owner setting

When using an extended UMID, set the following owner information.

Item name	Settings
Country code	An abbreviated alphanumeric string (up to four bytes alphanumeric strings) according to the values defined in ISO 3166-1.

Item name	Settings
Organization code	A code registered with the SMPTE registration office (up to four bytes alphanumeric strings)
User code	A code for user identification (up to four bytes alphanumeric strings)

Country code

You can find your own country code on the following web page.

Refer to ISO 3166-1:

<http://www.iso.ch/iso/en/prods-services/iso3166ma/02iso-3166-code-lists/list-en1.html>

Organization code

- Organization codes must be acquired by applying to the SMPTE registration office.
- When no organization code has been acquired, it is forbidden to enter an arbitrary string. As a rule, the code “00” must be entered. Freelance operators who do not belong to an origination should enter “.”.
- There are no problems in recording or playing back audio-video signals, if an organization code is not set.

User code

- The user code is registered with each organization locally. It is usually not centrally registered.
- This user code is determined by the organization. The methods used depend on the organization.
- User code cannot be entered when no organization code has been entered.

Owner information setting operations

To enter owner information: Using the keyboard, enter alphanumeric characters in the edit box for each item.

If an entry is less than four bytes, the remainder is filled with space characters (20h).

To enter the country code by selecting from a list: On the right of the edit box, click the ... button, to open a country selection dialog box. Select a country by name from the list in this dialog box, and click the 3-character or 2-character button.

To save the changed settings: Click the Set button.

To discard the changed settings: In the tree display, select a different setting item.

Clip title settings

Clip Title Setting ¹⁾

Set the following items to assign automatically generated titles to recorded clips.

In the Settings column of the table, underlined values indicate the factory default settings.

Item name	Settings
PREFIX	Enter a title prefix (up to 10 characters). The allowable characters are alphanumeric characters, symbols (! # \$ % & ' () + , - . ; = @ [] ^ _ { } ~), and the space character. <u>TITLE</u>
NUMERIC	Enter a starting number (00001 to 99999, 5-digit serial number) for the numeric part of the title. <u>00001</u>

1) This is supported from firmware version 1.4 and utility software version 1.10.

Note

“PREFIX” settings are saved in menu banks, but “NUMERIC” settings are not saved (*see page 50*).

Clip title setting operations

To enter a prefix: Use the keyboard to enter a prefix (up to 10 characters) in the edit box.

To enter a number: Use the keyboard to enter a number (00001 to 99999) in the edit box.

To enable automatic title generation: In the Set section, select “Enable.”

To confirm the title: Click the Set button.

File Name Setting ²⁾

Specify whether to allow use of clip and clip list files with user-defined names.

In the Settings column of the table, underlined values indicate the factory default settings.

Item name	Settings
Naming Form	Specify the clip and clip list naming format. (Specify whether to allow use of files with user-defined names.) <u>free</u> : Free format (Allow use of files with user-defined names) <u>C****</u> : Standard format (Do not allow use of files with user-defined names)


Item name	Settings
Auto Naming	<p>When “free” is selected under the Naming Form section, specify whether to use the standard format name or the same name as the title for clips recorded on this unit.</p> <p>title: Use the title set in the Clip Title Setting section for clip names.</p> <p>C****: Use the standard format for clip names.</p>

2) This is supported from firmware version 1.5 and utility software version 1.50.

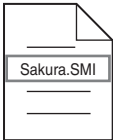
File name setting operations

To use clips and clip lists with user-defined names over FAM

connection: Select “free” in the Naming Form section, and click the Set button.



Able to use clips with user-defined names over FAM connection

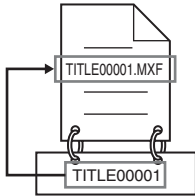


Able to use clip lists with user-defined names over FAM connection

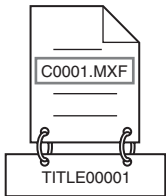
To assign clip names on this unit: Set a title in the Clip Title Setting section beforehand (see “Clip title setting operations” (page 48)), and set the

following items, and then click the Set button.

- Set in the Clip Title Setting section: Enable
- Naming Form: free
- Auto Naming: title



Under the above settings, the titles assigned to clips are used as their clip names (file names).



Under other settings, clips have standard-format clip names (file names).

Note

When the first letter of the title setting with the Clip Title Setting section is a space or period (.), the clip name is the title string minus the first letter.

Battery mode settings

Set the following items relating to the battery pack loaded in this unit.

In the Settings/display contents column of the table, underlined values indicate the factory default settings.



Item name		Settings/display contents
SETUP BATTERY END		Set the voltage warning level just before the battery ends and the voltage level at which the battery ends.
Sub-item		
1	BEFORE END	11.0 V to 13.8 V to 14.5 V: Used when a battery pack is used. Set the voltage warning level just before the battery ends (in 0.1V steps).
2	END	11.0 to 13.3 V to 14.5 V: Used when a battery pack is used. Set the voltage level at which the battery ends and the unit stops operation, just before the battery ends (in 0.1V steps).

The unit is shipped with the settings for BP-GL95 or BP-GL65 battery packs.

For the BP-L60 series and BP-IL75, the following settings are recommended:

- BEFORE END: 11.4V
- END: 11.2V

For details of the settings, see "AV setting operations" (page 46).

Saving and recalling setup

You can save the current setting values of the setup menu (AV, owner, and battery mode settings) in any of menu banks 1 to 3 (memory regions for setting values), and can recall them as required.

Procedure for saving and recalling setup

To save the current setting values: Select one of menu banks 1 to 3 from the drop-down list, and click the Save button.

To recall saved values: Select one of menu banks 1 to 3 from the drop-down list, and click the Recall button.

Date and time setting

Set the following items for the internal clock in this unit.

Item name	Settings
Date	Set the four-digit year (2000 to 2099), month, and day.
Time	Set the hours, minutes, and seconds.
Time zone	Select the timezone offset from UTC.

Setting the date and time

To change the date and time: In the edit boxes, click the value you want to change (year, month, day, hour, minute, second), then adjust the value with the spin buttons to the right of the edit box.

To change the time zone: Select the desired time zone from the drop-down list.

To save the changed settings: Click the Set button.

To discard the changed settings: In the tree display, select a different setting item.

To synchronize with the computer's date and time setting: Click the Synchronize button to set the date and time of this unit's internal clock to the same date and time as the computer.

5-3-3 Disc Operation Menu

Formatting

Use this command to format new and recorded.

Note

When a recorded disc is formatted, all the data on the disc is erased. (Locked clips are also erased.)

To format a disc

- 1 Insert a disc into this unit (*see page 26*).

The disc information shows the remaining capacity of the disc, and the Format button becomes active.

- 2 Click the Format button.

A confirmation dialog box appears.

- 3 In the dialog box, click the Format button.

When formatting is completed, the following items are updated.

- Disc information
 - Available space (RT): Length of remaining time according to the recording format set in the Setup menu (unit: minutes)
 - Available space (NRT): Number of remaining bytes for the General folder
- Number of rewritings

Deleting clips

Use this command to delete clips recorded on the disc.

Notes

- Once a clip is deleted, it cannot be recovered.

- Clips cannot be deleted when the Write Inhibit tab of the disc is set to the recording disabled position.
- Locked clips are not deleted.

To delete a clip

- 1 Insert a disc into this unit (*see page 26*).
- 2 Select either of the following deletion modes.
 - Last clip: Delete the last clip recorded.
 - All clips: Delete all clips. (Files in the General directory are not deleted.)
- 3 Click the Delete button.

A confirmation dialog box appears.
- 4 In the dialog box, click the Delete button.

Appendix

Specifications

General

Power requirements

100 V to 240 V AC, 50/60 Hz
DC (with battery)

Power consumption

22 W

Peak inrush current

- (1) Power ON, current probe method: 58 A (240 V), 16 A (100 V)
- (2) Hot switching inrush current, measured in accordance with European standard EN55103-1: 13 A (230 V)

Operating temperature

0°C to 40°C (32°F to 104°F)

Storage temperature

-20°C to +60°C (-4°F to +140°F)

Operating relative humidity

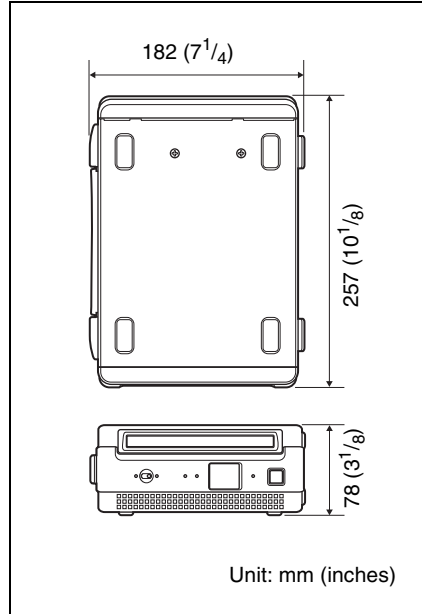
20% to 90%
Less than 90%

Mass

3 kg (6 lb 9 oz)

External dimensions (w/h/d)

78 × 182 × 257 mm
(3¹/₈ × 7¹/₄ × 10¹/₈ inches)



System

Recording format

Video

AV/C

DVCAM (25 Mbps)

file access mode

MPEG IMX (50/40/
30 Mbps), DVCAM
(25 Mbps)

Proxy video

MPEG-4 ¹⁾

Audio

AV/C

DVCAM: 16 bits/48 kHz
(4 channels)

file access mode
MPEG IMX: 16 bits/48
kHz (8 channels) or 24
bits/48 kHz (4 channels)
DVCAM: 16 bits/48 kHz
(4 channels)

Proxy audio
A-law (8/4 channels, 8 bits,
8 kHz)

1) The MPEG-4 Codec is a product of Ingenient
Technologies, Inc.

Playback format

Video
MPEG IMX (50/40/30
Mbps), DVCAM
(25 Mbps)

Proxy video
MPEG-4

Audio
MPEG IMX: 16 bits/48
kHz (8 channels) or 24
bits/48 kHz (4 channels)
DVCAM: 16 bits/48 kHz
(4 channels)

Proxy audio
A-law (8/4 channels, 8 bits,
8 kHz)

Recording/Playback time

MPEG IMX
50 Mbps: 45 min.
40 Mbps: 55 min.
30 Mbps: 68 min.
DVCAM 85 min.

Output/input connectors

i S400 (i.LINK)
6-pin, complying with IEEE 1394,
supporting file access mode

Accessories supplied

Operation manual
Japanese/English version (1)
CD-ROM manual (1)

Utility Software (1)
PDZ-1 Proxy Browsing Software
(Windows version) (1)

Accessories not supplied

AC power cord

- For the customers in the U.S.A and
Canada
Part No. 1-551-812-4x (125 V, 10 A,
about 2.4 m)
- For the customers in the United Kingdom
Part No. 1-777-823-1x (250 V, 10 A,
about 2.0 m)
- For the customers in European countries
other than the United Kingdom
Part No. 1-551-631-6x (250 V, 10 A,
about 2.0 m)

Related products

Battery packs

BP-L60S, BP-L80S, BP-GL65,
BP-GL95

Battery adaptor

BKP-L551

Design and specifications are subject to
change without notice.

Notes

- Always make a test recording, and verify that it was recorded successfully. SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, COMPENSATION OR REIMBURSEMENT ON ACCOUNT OF FAILURE OF THIS UNIT OR ITS RECORDING MEDIA, EXTERNAL STORAGE SYSTEMS OR ANY OTHER MEDIA OR STORAGE SYSTEMS TO RECORD CONTENT OF ANY TYPE.
- Always verify that the unit is operating properly before use. SONY WILL NOT BE LIABLE FOR DAMAGES OF ANY KIND INCLUDING, BUT NOT LIMITED TO, COMPENSATION OR REIMBURSEMENT ON ACCOUNT OF THE LOSS OF PRESENT OR PROSPECTIVE PROFITS DUE TO FAILURE OF THIS UNIT, EITHER DURING THE WARRANTY PERIOD OR AFTER EXPIRATION OF THE WARRANTY, OR FOR ANY OTHER REASON WHATSOEVER.

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