

Film-Tech

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If you are not a qualified technician, please make no adjustments to anything you may read about in these Adobe manual downloads

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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.

VORSICHT

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

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

DIESES GERÄT MUSS GEERDET WERDEN.

For customers in the USA

WARNING

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

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

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



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

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

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:

- EN60950: 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).

Pour les clients européens

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

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

- EN60950: Sécurité des produits
- EN55103-1: Interférences électromagnétiques (émission)
- EN55103-2: Sensibilité électromagnétique (immunité)

Ce produit est prévu pour être utilisé dans les environnements électromagnétiques suivants: E1 (résidentiel), E2 (commercial et industrie légère), E3 (urbain extérieur) et E4 (environnement EMC contrôlé ex. studio de télévision).

Für Kunden in Europa

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

Die Erfüllung dieser Direktiven bedeutet Konformität für die folgenden Europäischen Normen:

- EN60950: Produktsicherheit
- EN55103-1: Elektromagnetische Interferenz (Emission)
- EN55103-2: Elektromagnetische Empfindlichkeit (Immunität)

Dieses Produkt ist für den Einsatz unter folgenden elektromagnetischen Bedingungen ausgelegt: E1 (Wohnbereich), E2 (kommerzieller und in beschränktem Maße industrieller Bereich), E3 (Stadtbereich im Freien) und E4 (kontrollierter EMV-Bereich, z.B. Fernsehstudio)

**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	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 electrical shock, refer servicing to qualified service personnel.

**WARNING: THIS WARNING IS APPLICABLE FOR
OTHER COUNTRIES.**

1. Use the approved Power Cord/Plug with earthing-contacts that conforms to the safety regulations of each country if applicable.
2. Use the Power Cord/Plug conforming to the following ratings, which meets power supply voltage of each country.
 - Rating: 10 A or more

**AVERTISSEMENT: CET AVERTISSEMENT EST
VALABLE POUR LES AUTRES
PAYS.**

1. Utilisez le cordon et la fiche d'alimentation avec prise de terre, approuvés et conformes à la réglementation relative à la sécurité, adoptée par chaque pays.
2. Utilisez le cordon et la fiche d'alimentation correspondant aux caractéristiques suivantes, en fonction de la tension d'alimentation secteur de chaque pays.
 - Ampérage: 10 A ou plus

**WARNUNG: Die folgenden Warnungsangaben
gelten für das Modell für andere
Länder.**

1. Das Netzkabel/der Netzstecker muss einen Erdungskontakt besitzen und den Sicherheitsbestimmungen Ihres Landes genügen.
2. Das Netzkabel muß je nach der Netzspannung Ihres Landes für folgende Spannungen und Ströme ausgelegt sein.
 - Stromstärke 10 A oder mehr

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Overview

Overview of SDDS Player System

The SDDS (Sony Dynamic Digital Sound)¹⁾ Player System is a system that reads digital audio data recorded on 35 mm movie film in the SDDS format, and feeds high quality digital sound to a theater sound system.

A movie film should be played back without any breaks. The digital audio signals recorded on the P side and S side of the 35 mm film are corrected by the error correction circuit. Furthermore, if a problem where the audio signal cannot be corrected by the error correction circuit occurs, a film in the SDDS format can be corrected by reading the backup data recorded on the other side of the film and played back immediately. This allows the system to continue playback without any breaks.

The SDDS system has a wide range of functions and capabilities designed to meet the rigorous standards of film sound post-production and of the exhibition cinema. The system is also designed to be configured in a number of variations for maximum flexibility in installation.

Principal Features

This system is comprised of the DFP-R3000 Digital Film Sound Reader and the DFP-D2500 Film Sound Decoder.

The principal features of this system are as follows.

Playback of 8 channels of digital audio signals recorded in the SDDS format

The system can read 8 channels of digital audio signals recorded in the SDDS format on the P (picture) and S (sound) sides of the film. It features digital processing, for little or no signal degradation during playback.

P side	C (center) L (left) LC (left center) SL (surround left)
S side	R (right) RC (right center) SR (surround right) SW (sub-woofer)

Fully digital audio signal path

The DFP-D2500 is a digital cinema processor that Utilizes Digital Signal Processing (DSP) techniques to perform essential SDDS track decoding and room equalization. The unit performs all audio signal processes in the digital domain. Analog input signals are first converted to 20 bit PCM data, then processed. Therefore, adjustments that have been historically performed in the analog domain (i.e., volume adjustment, room equalization, etc.), can now be adjusted digitally. This ensures more stable room equalization and audio volume adjustment in the theater.

High quality A/D and D/A converters

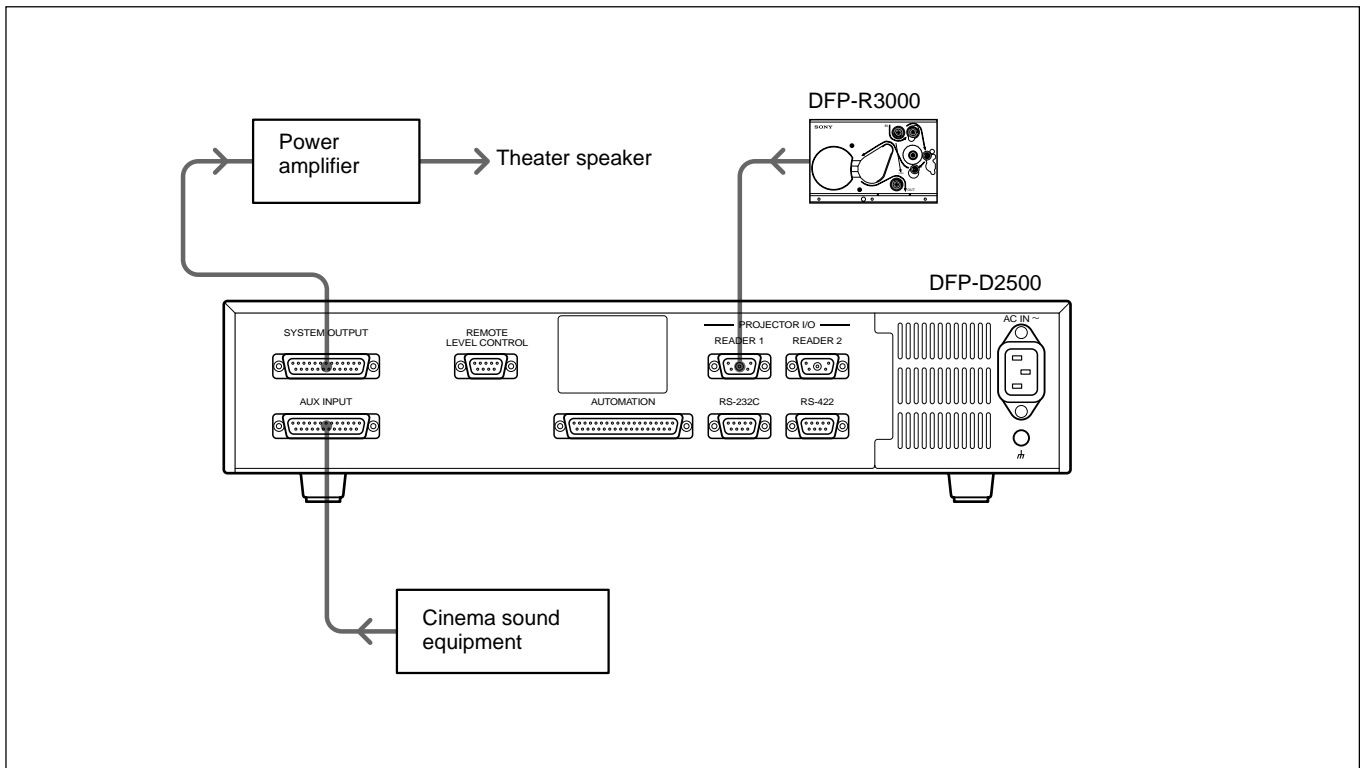
High quality 20-bit A/D and 20-bit D/A converters are used to ensure the optimum resolution of the input and output signals. These converters are operated at a sampling frequency (Fs) of 44.1 kHz (44,100 samples per second).

Bypass function

The DFP-D2500 can output the auxiliary input signals with or without processing by equalizers or for level control. This allows the unit to connect to various types of devices.

1) SDDS is a registered trademark of Sony Corporation.

System Configuration

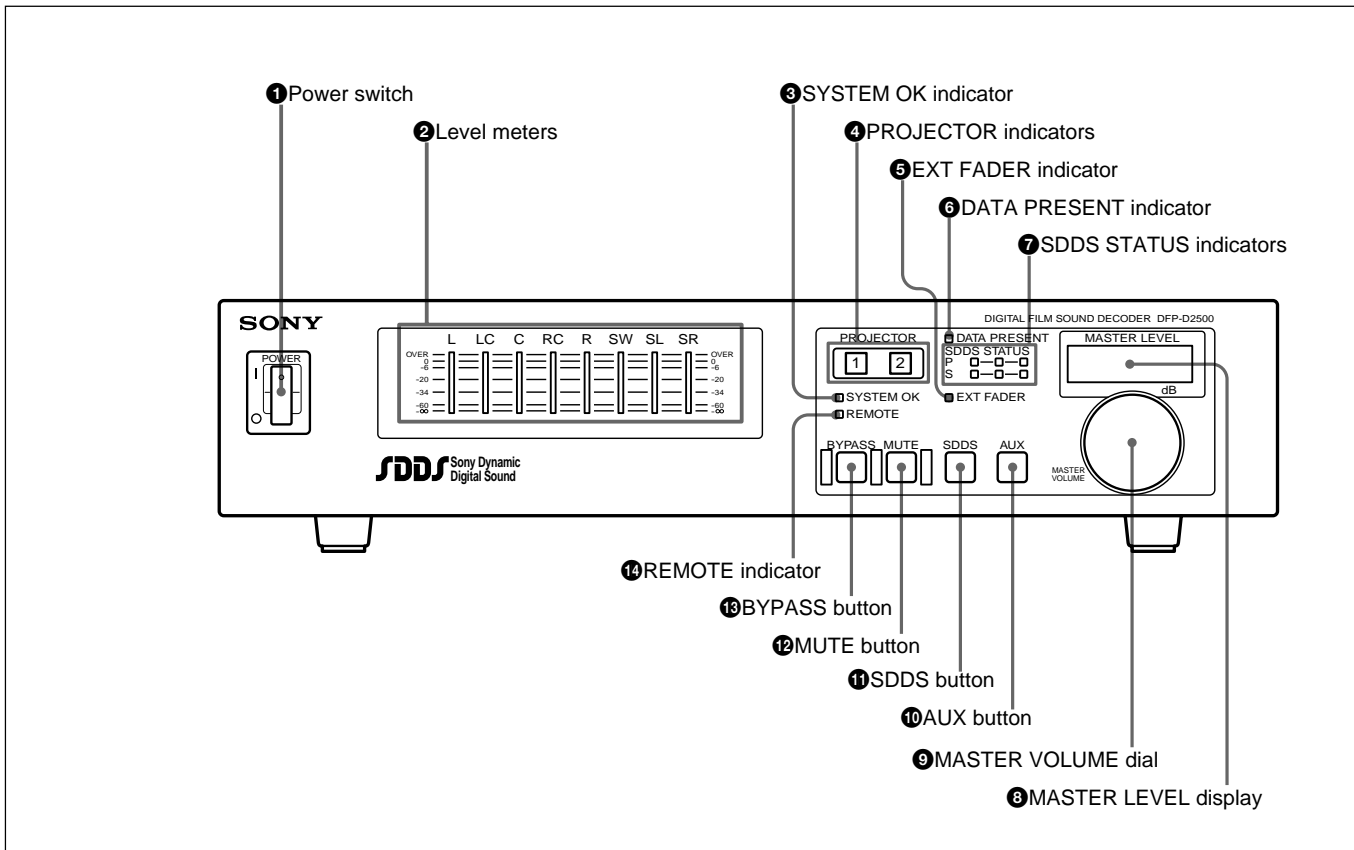


Note

For details about installation and connection of this system, contact your Sony service or sales representative.

Location and Function of Parts

DFP-D2500 Front Panel



1 Power switch

2 Level meters

Show the level of each channel.

3 SYSTEM OK indicator

- Lights when the SDDS player system is operating normally, and goes out when the SDDS player system error occurs.
- Goes out to indicate a system warning, for example that the fan has stopped rotating or that there is no backup battery.

4 PROJECTOR indicators

During playback with a changeover system, shows which of the projectors is currently in use.

5 EXT FADER indicator

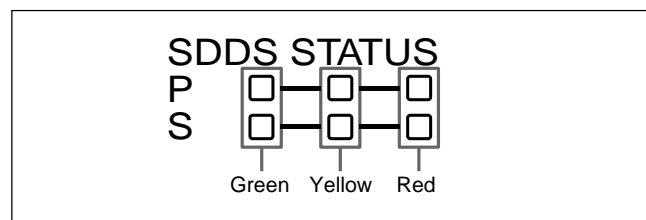
Lights when the remote fader connected to the REMOTE LEVEL CONTROL connector activates. When this indicator is lit, the MASTER VOLUME control becomes disabled.

6 DATA PRESENT indicator

Lights when the unit is reading SDDS digital audio signals and can play back.

7 SDDS STATUS indicators

Indicates the playback condition of digital audio signals in the SDDS format.



P green/yellow/red indicators: Each indicator indicates a playback condition of the digital signals recorded on the P (picture) side of the film.

S green/yellow/red indicators: Each indicator indicates a playback condition of the digital signals recorded on the S (sound) side of the film.

When a green indicator is lit, the signals are being played back correctly. When a red indicator goes on frequently, it indicates that the film quality may have degraded or the machines may be in need for maintenance.

Even when one red indicator is lit, the unit can continue playback without any trouble unless the DATA PRESENT **6** indicator is lit.

8 MASTER LEVEL display

Shows the master level.

9 MASTER VOLUME dial

The master volume dial is a rotary encoder which is used to control the master volume level of all channel outputs from the Sony DFP-D2500. This volume control allows the user to set the master volume level between +10dB and -∞.

10 AUX button

Press this button twice to select analog audio auxiliary signals input to the AUX INPUT connector. When you press this button first time, the button indicator blinks. When you press the button again, the button lights. This is a safety feature to ensure the proper selection. Thus, even when you press the button accidentally, the input signal will not be changed unless you press the button again.

11 SDDS button

Press this button twice to select digital audio signals recorded in the SDDS format as a input. When you press this button first time, the button indicator blinks. When you press the button again, the button lights. This is a safety feature to ensure the proper selection. Thus, even when you press the button accidentally, the input signal will not be changed unless you press the button again.

12 MUTE button

Press this button, turning it on, to mute system output.

13 BYPASS button

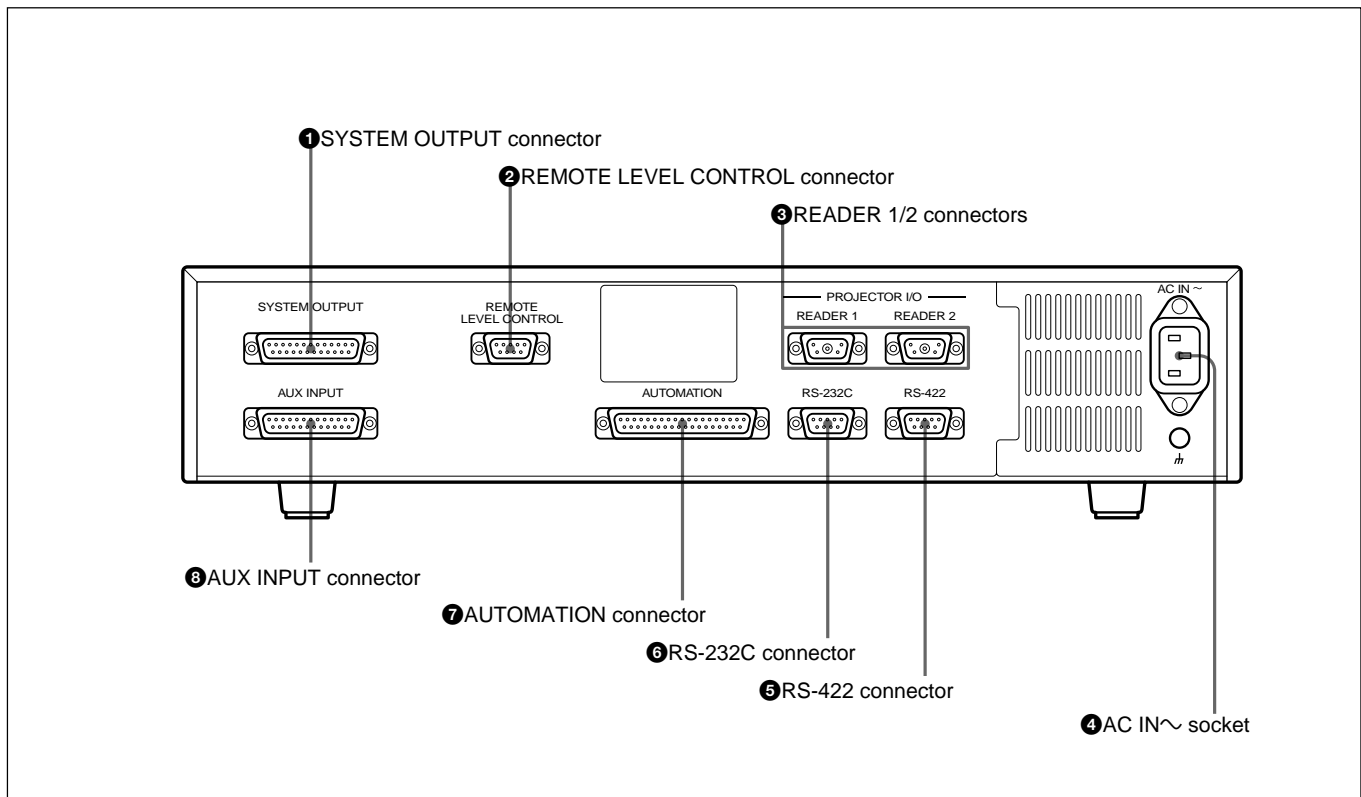
Press this button to output the audio signals input to the AUX INPUT connector without any processing. However, when the power of the unit is turned off and while the system is starting up, the unit is in this bypass mode where auxiliary input signals are output without any processing.

14 REMOTE indicator

Lights when the system is being controlled remotely. *For details, contact your sony service or sales representative.*

Location and Function of Parts

DFP-D2500 Connector Panel



1 SYSTEM OUTPUT connector

Balanced 8-channel analog audio output connector. This connection is used to connect to the amplifier system of the theater "B-Chain".

2 REMOTE LEVEL CONTROL connector

Connect external remote fader(100 k Ω Type B Curve).

3 READER 1/2 connectors

Connect to the DFP-R3000 for input of digital audio signals read from the film. Use the READER 1 connector in a system with one projector, and use both the READER 1 and READER 2 connectors in a changeover playback system.

4 AC IN ~ socket

Connect the power cord.

5 RS-422 connector

Connect the central control equipment of the theater. *For details, contact your Sony service or sales representative.*

6 RS-232C connector

Connect an IBM PC/AT or compatible computer. *For details, contact your Sony service or sales representative.*

7 AUTOMATION connector

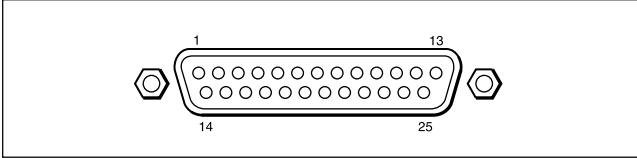
This is a connector for automatic system control. *For details, contact your Sony service or sales representative.*

8 AUX INPUT connector

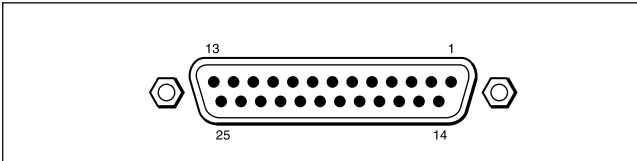
Balanced 8-channel analog audio input connector. This connector can be used to interface playback systems from other manufacturers to the DFP-D2500.

DFP-D2500 Connector Pin Assignment

① SYSTEM OUTPUT connector

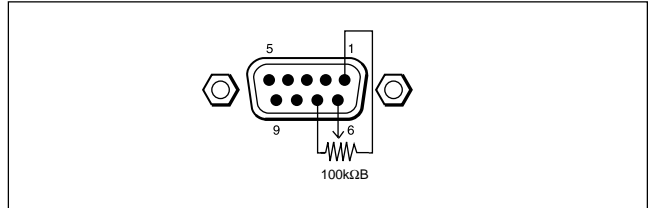


⑧ AUX INPUT connector



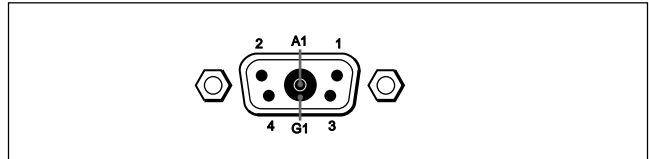
Pin No.	Signal
1	LEFT GND
2	LEFT HOT
3	LEFT CENTER COLD
4	CENTER GND
5	CENTER HOT
6	RIGHT CENTER COLD
7	RIGHT GND
8	RIGHT HOT
9	SURROUND LEFT GND
10	SURROUND LEFT COLD
11	SURROUND RIGHT COLD
12	SUB WOOFER COLD
13	SUB WOOFER GND
14	LEFT COLD
15	LEFT CENTER GND
16	LEFT CENTER HOT
17	CENTER COLD
18	RIGHT CENTER GND
19	RIGHT CENTER HOT
20	RIGHT COLD
21	NC
22	SURROUND RIGHT GND
23	SURROUND LEFT HOT
24	SURROUND RIGHT HOT
25	SUB WOOFER HOT

② REMOTE LEVEL CONTROL connector



Pin No.	I/O	Signal
1	–	GND
2	I	MAN FADE
3	–	
4	–	
5	I	EXT FADER EN
6	I	AUTO FADE
7	O	DC
8	O	REMTLY
9	–	GND

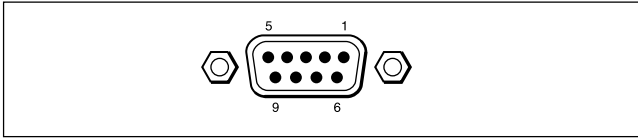
③ READER 1/2 connector



Pin No.	Signal
1	DC 24V
2	NC
3	GND(DC24V)
4	CABLE SHIELD
A1	DATA
G1	DATA GND

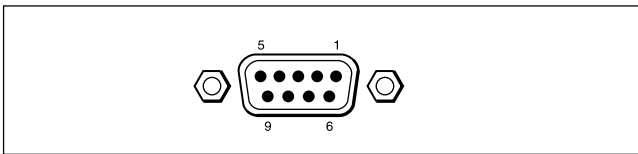
Location and Function of Parts

⑤ RS-422 connector



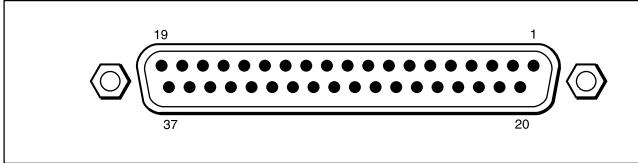
Pin No.	I/O	Signal
1	–	GND
2	O	RTS(+)
3	O	RTS(–)
4	O	TXD(+)
5	O	TXD(–)
6	I	CTS(+)
7	I	CTS(–)
8	I	RXD(+)
9	I	RXD(–)

⑥ RS-232C connector



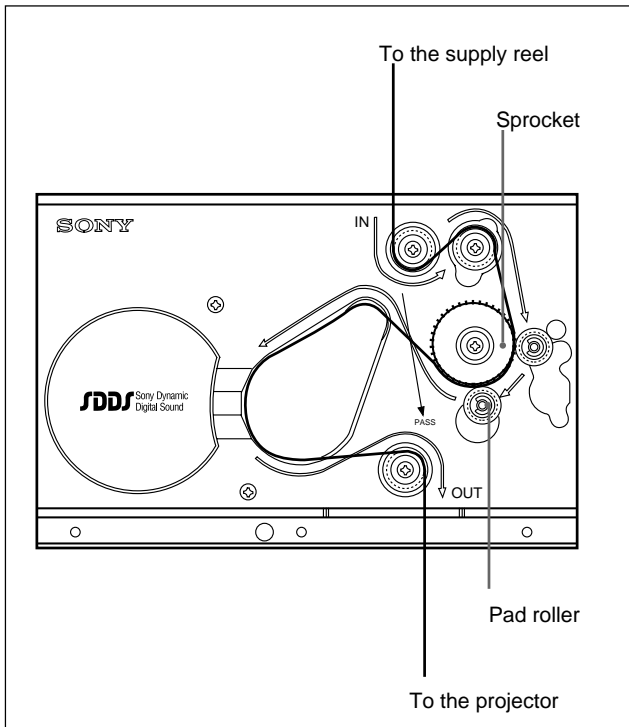
Pin No.	I/O	Signal
1	–	NC
2	I	RXD
3	O	TXD
4	O	DTR
5	–	GND
6	–	NC
7	O	RTS
8	I	CTS
9	–	NC

7 AUTOMATION connector



Pin No.	I/O	Function	Signal
1	–	Chassis Ground	GND
2	I	Projector 1 Motor Start	Input: LOW = MOTOR 1 RUNNING
3	I	Master Mute Command	Input pulse: Low = MUTE or UNMUTE
4	I/O	Preset 1 Select (SDDS)	Input pulse: Low = SELECT
5	I/O	Preset 2 Select (AUX)	Input pulse: Low = SELECT
6	–	Reserved	No connections
7	–	Reserved	No connections
8	–	Reserved	No connections
9	–	Reserved	No connections
10	–	Reserved	No connections
11	–	Reserved	No connections
12	O	MOTOR 1 Start Tally	Output tally: Low = MOTOR 1 RUNNING
13	O	MOTOR 2 Start Tally	Output tally: Low = MOTOR 2 RUNNING
14	–	Logic Common	GND
15	–	Logic Common	GND
16	–	Tally Common	GND
17	–	Tally Common	GND
18	I	Optical Change Over Command	Input: Low = PEC 2, High = PEC 1
19	O	Optical Change Over Tally	Output tally: Low = PEC 2 selected
20	O	Projector 1 Tally	Output tally: Low = SDDS Reader 1 selected
21	O	Projector 2 Tally	Output tally: Low = SDDS Reader 2 selected
22	O	Master Mute Tally	Output tally: Low = Master muted
23	I	Pink Noise Command	Input: Low = ON
24	–	Reserved	No connections
25	–	Reserved	No connections
26	–	Reserved	No connections
27	–	Reserved	No connections
28	–	Reserved	No connections
29	–	Reserved	No connections
30	O	+5V	Power
31	O	+5V	Power
32	O	SDDS Data OK (any preset active)	Output pulse: Low = SDDS OK
33	I	Projector 2 Motor Start	Input: Low = MOTOR 2 RUNNING
34	–	Reserved	No connections
35	–	Reserved	No connections
36	O	SDDS Data not OK	Output pulse: Low = SDDS NG
37	I	EXT FADER Command	Input pulse: Low = Ex fader ON/OFF

Loading Film



Film loading path in the DFP-R3000

Loading film other than SDDS

- 1** Pull out a suitable length of film from the supply reel, and feed it along the path indicated by PASS on the front panel.
- 2** Pass the film through the projector and take it up on the takeup reel, just as you would with ordinary movie film.
- 3** Return the pad roller to the original position.

Handling SDDS film

- Avoid marking the SDDS data tracks using either adhesive labels or ink. If it is essential, keep any marks within a frame.
- The splice length should also be not more than a frame.

- 1** Release the pad roller.
- 2** Pull out a suitable length of film from the supply reel, and feed it along the path indicated by the black line on the front panel.

Note

When other audio playback equipment is equipped between the DFP-R3000 and projector, be sure to feed the film with bypassing the other equipment.

- 3** Pass the film through the projector and take it up on the takeup reel, just as you would with ordinary movie film.
- 4** Return the pad roller to the original position.

Specifications

SDDS Digital Audio Signals

Number of channels	8
Channel assignments	L: Left LC: Left center C: Center RC: Right center R: Right SW: Sub-woofer SL: Surround left SR: Surround right
Sampling frequency	44.1 kHz
Frequency response	20 Hz to 20 kHz ± 1.0 dB
Dynamic range	More than 90 dB
Distortion	Less than 0.07 %
Crosstalk	Less than -80 dB
Output level	-10 dBu balanced (factory setting)

General

DFP-R3000 Digital Film Sound Reader

Power requirements	DC +24 V (400 mA)
Power consumption	9.6 W
Operating temperature	5 °C to 40 °C (41 °F to 104 °F)
Operating humidity	10 % to 90 % (relative humidity)
Storage temperature	-20 °C to $+60$ °C (-4 °F to $+140$ °F)
Mass	3.5 kg (7.7 lb)
Dimensions (w/h/d; excluding projections)	240 mm \times 156 mm \times 176 mm (9 $\frac{1}{2}$ \times 6 $\frac{1}{7}$ \times 7 inches)
Film width	35 mm

DFP-D2500 Digital Film Sound Decoder

Power requirements	100 to 240 V AC, 50/60 Hz
Power consumption	1.0 A
Peak inrush current	(1) Power ON, current probe method: 80 A (240 V), 30 A (100 V) (2) Hot switching inrush current, measured in accordance with European standard EN55103-1: 70 A (230 V)
Appel de courant de crête	(1) Mise sous tension (ON), méthode de sondage du courant: 80 A (240 V), 30 A (100 V) (2) Mesuré conformément à la norme européenne EN55103-1: 70 A (230 V)
Spitzenstrom	(1) Einschaltstrom, Stromsonde: 80 A (240 V), 30 A (100 V) (2) Gemessen in EN55103-1: 70 A (230 V)
Operating temperature	5 °C to 40 °C (41 °F to 104 °F)
Operating humidity	10 % to 90 % (relative humidity)
Storage temperature	-20 °C to $+60$ °C (-4 °F to $+140$ °F)
Mass	Approx. 8 kg (17 lb 10 oz)
Dimensions (w/h/d; including projections)	482 mm \times 103 mm \times 361 mm (19 \times 3 $\frac{1}{2}$ \times 14 $\frac{1}{4}$ inches)
EIA rack mount space	Height EIA 19-inch rack size 2 units (88 mm, 3 $\frac{1}{2}$ inch, not including feet)
Lock-in time	1 second max.
Lock range	Rated speed ± 5 %
Sync drift	20 msec max.
Sync drift rate	10 Hz/sec max.

Specifications

I/O Characteristics

PROJECTOR I/O

READER 1/2 connectors

5W1 connector (2)

INPUT

AUX INPUT connector

L, LC, C, RC, R, SW, SL, SR

D-sub 25-pin, female (2)

Impedance

10k Ω min.

Reference level

-8.2 dBu

OUTPUT

SYSTEM OUTPUT connector

L, LC, C, RC, R, SW, SL, SR

D-sub 25-pin, male (1)

Load impedance

600 Ω max.

Reference level

-10 dBu

CONTROL I/O

REMOTE LEVEL CONTROL connector

D-sub 9-pin, female (1)

Input voltage

0 to +10 V

AUTOMATION connector

D-sub 37-pin, female (1)

RS-232C connector

D-sub 9-pin, female (1)

Transmission rate

19.2 kbps

RS-422 connector D-sub 9-pin, female (1)

Transmission rate

9.6 kbps

Accessories and Related Equipment

Accessories supplied

DFP-R3000

Operation guide (1)

Reader cable (1)

Reader mount kit (1 set)

DFP-D2500

Operation5 manual (1)

Design and specifications are subject to change without notice.

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Sony Corporation

Communication System Solutions Network Company

DFP-D2500/DFP-R3000

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