
SDDS
Sony Dynamic Digital Sound™
SONY

Sony, the world leader in digital audio, is committed to revolutionizing and enhancing the movie-going experience with the theatrical digital sound system, Sony Dynamic Digital Sound™ (SDDS™), distinguished by its uniquely innovative technology, yet completely compatible with today's motion picture marketplace.

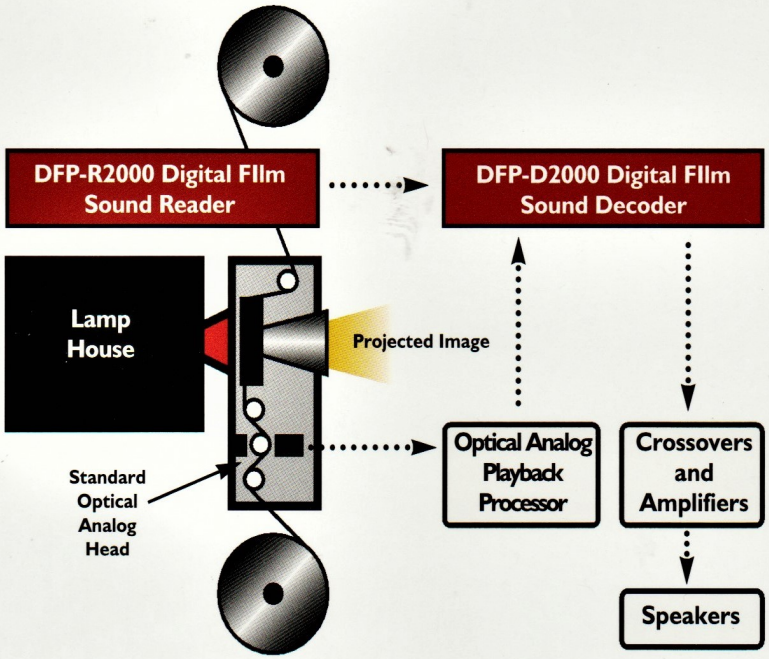
Evolving from decades of Sony's rigorous, precision engineering and manufacturing, SDDS is designed to carry motion picture exhibition into the 21st century. SDDS completely immerses the audience in the motion picture by creating a truly multi-dimensional cinematic sound environment. At last, soundtracks are reproduced, without degradation, exactly as originally intended by the filmmaker.

NO LIMITS.

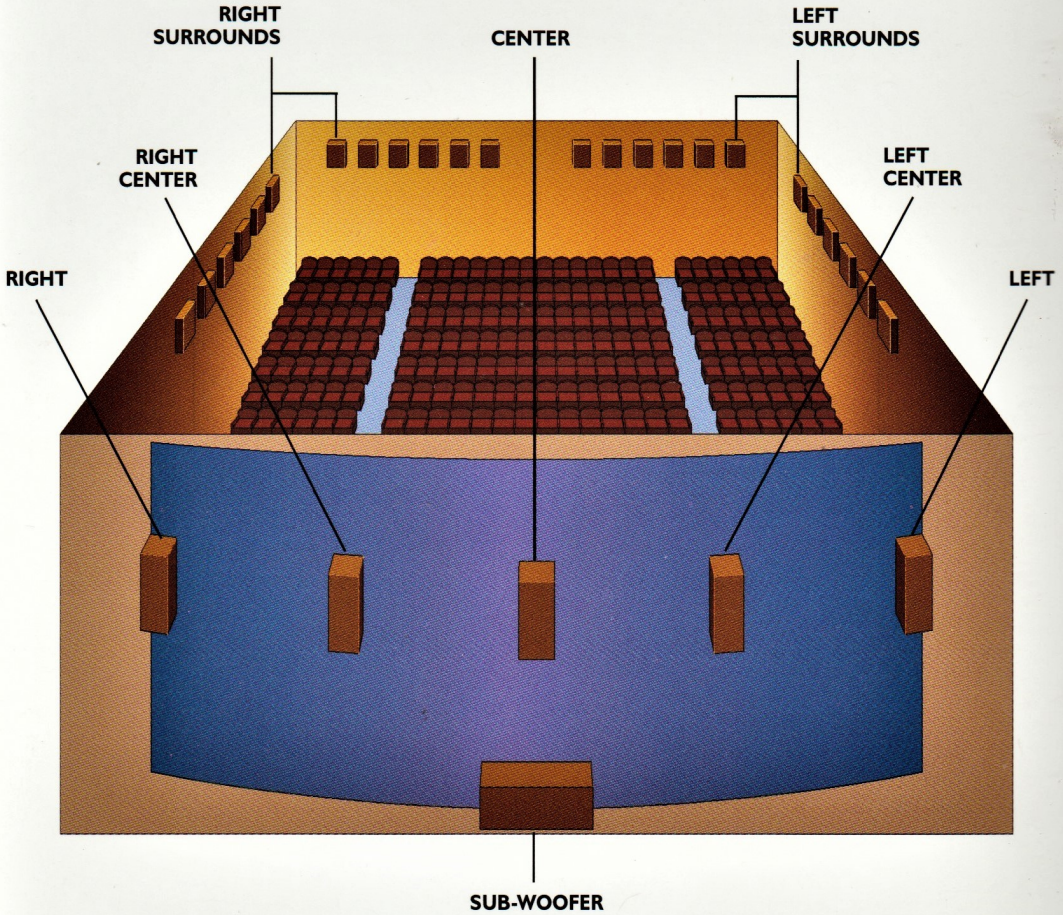
MAXIMUM EIGHT CHANNEL CAPABILITY WITH FIVE FULL RANGE SPEAKER CHANNELS BEHIND THE SCREEN, SPLIT SURROUNDS AND SUB-WOOFER.

ABSOLUTE FLEXIBILITY FOR ALL THEATRE CONFIGURATIONS.

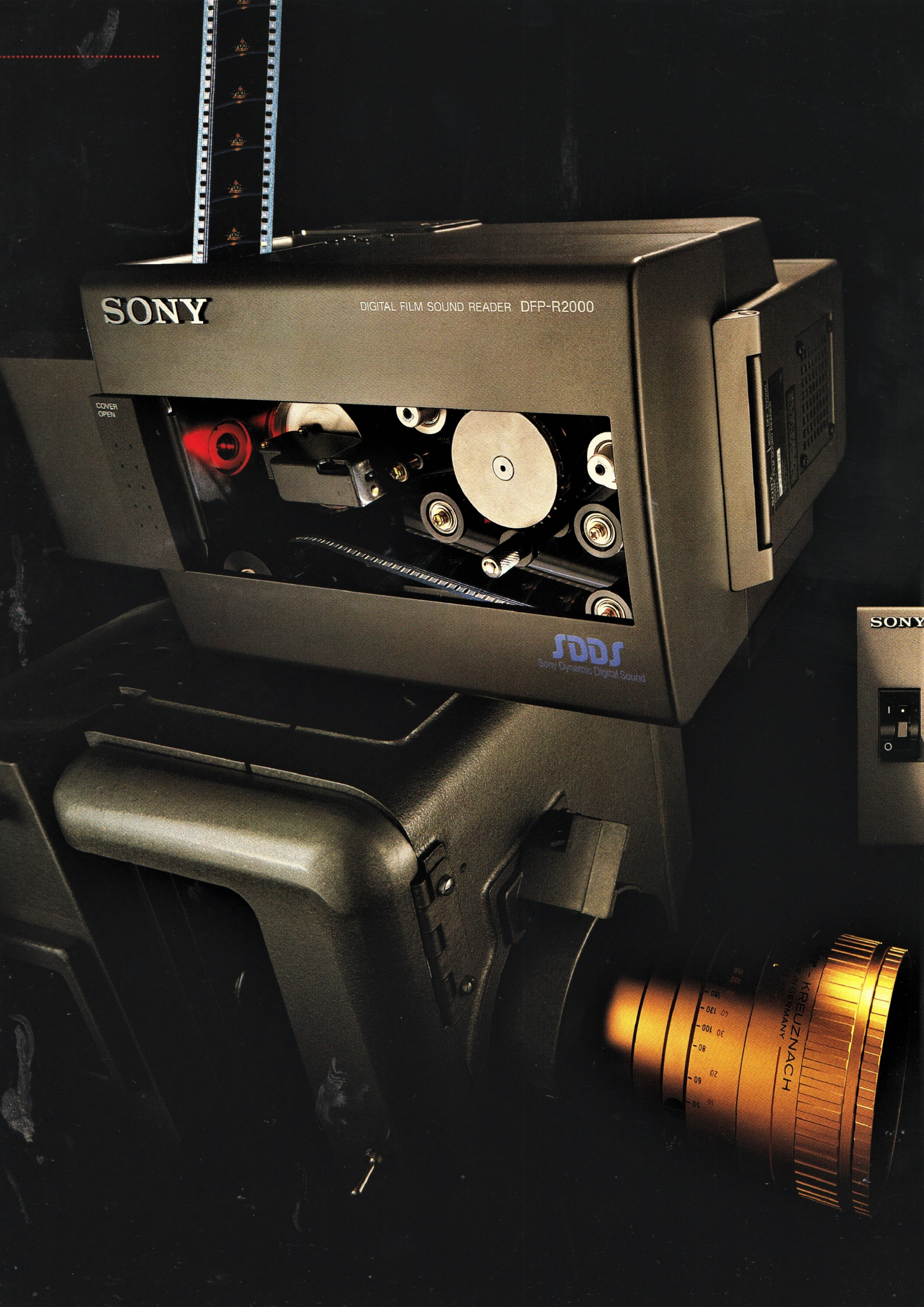
IN THE MOVIE THEATRE



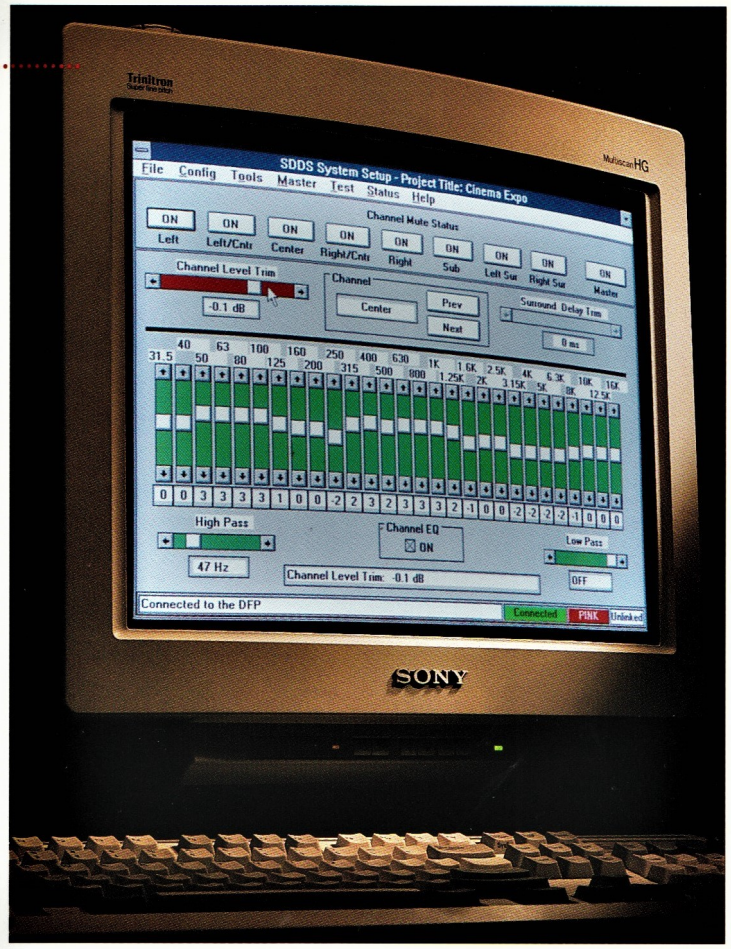
The SDDS film playback system in the projection booth consists of a projector-mounted Digital Film Sound Reader, the SDDS DFP-R2000 and a Digital Film Sound Decoder, the SDDS DFP-D2000. The SDDS system is completely adaptive to any booth setting, change-over or platter equipped.

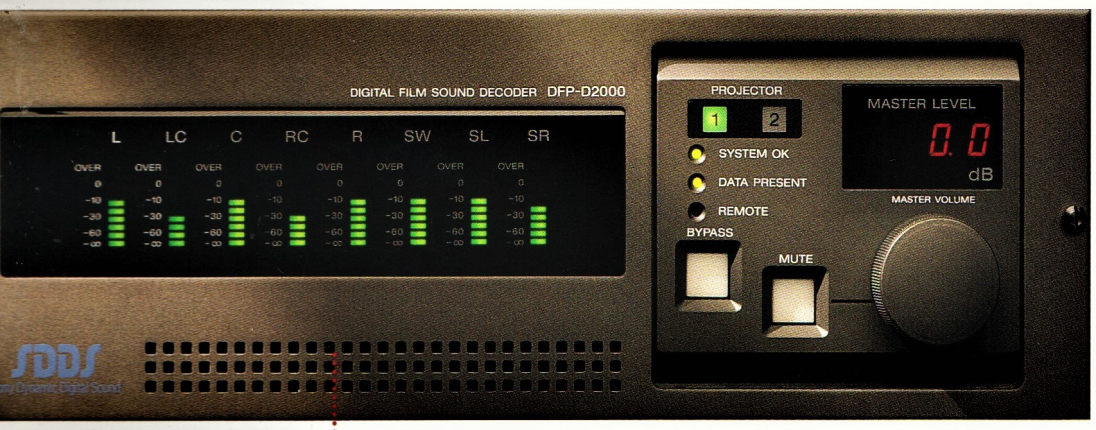


Filmmakers, sound crews and composers are thrilled by the creative freedom offered by the eight channels of SDDS, each delivering a powerful dynamic range greater than 90dB. Yet, the SDDS system is designed for all theatre projection auditoriums, any size, any condition, anywhere in the world. The eight channel playback capacity is an option. As needed, the same 35mm print soundtrack can be played back in either eight, six or four channels due to a specifically designed fold-down mechanism within the SDDS Decoder.


SONY
DIGITAL FILM SOUND READER DFP-R2000
COVER OPEN
SDDS
Sony Dynamic Digital Sound
SONY
KREUZNACH
IN GERMANY

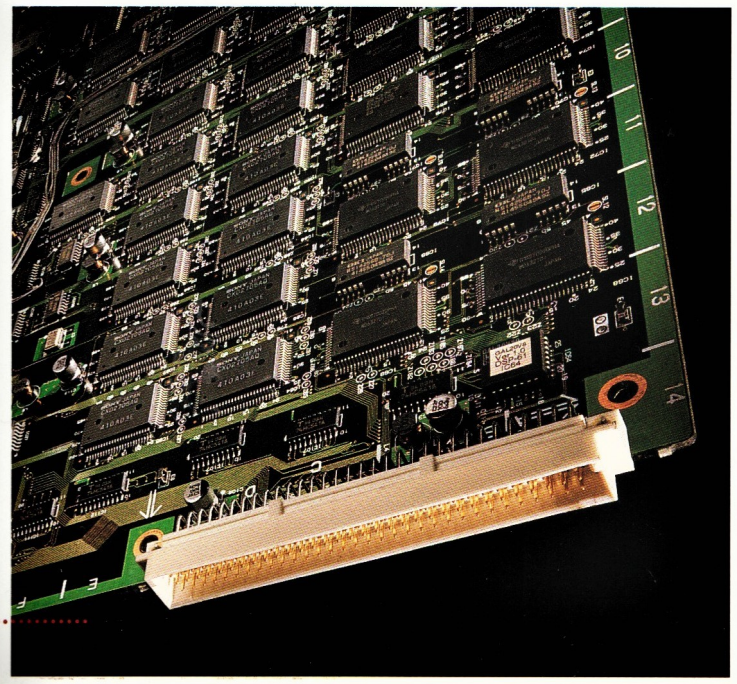
It's a computer age. The SDDS Decoder interfaces with a Microsoft® Windows™ based computer, which enables theatre technicians to easily and accurately install, adjust and maintain the SDDS system.





The DFP-D2000 Digital Film Sound Decoder processes digital audio signals, received from the DFP-R2000 Digital Film Sound Reader.

A DSP (Digital Signal Processing) circuit board within the SDDS Decoder, the heart of the system.



Individual screen characteristics such as room equalization and projector setup can be easily stored and immediately recalled via this practical computer link or by using an optional accessory product, the setup storage unit.

One SDDS Decoder can also be easily moved from one screen to another within a multiple theatre complex, by connecting to the setup storage unit, thus increasing the adaptability of the SDDS system.

A core feature of the SDDS system is its use of Digital Signal Processing (DSP) which performs a multitude of crucial functions, all designed to deliver and maintain the highest quality digital sound performance.

DSP improves the signal to noise ratio, thus increasing dynamic range. Level settings and control, sync delay and full one-third digital room equalization are performed entirely in the digital domain, via DSP. SDDS data completely bypasses the theatre's existing analog processor, thus preserving clarity, maximum dynamic range and system alignment stability. Only after all processing has been performed entirely in the SDDS digital domain is the data actually converted into analog audio signals and sent directly to the power amplifiers and speakers.

STAY IN THE DIGITAL DOMAIN

The SDDS system has been carefully designed to endure the rigors of the film exhibition industry. Reliability is essential. In the event of digital data corruption, instead of just reverting to the concurrent stereo optical analog soundtrack, the SDDS system is reinforced by a sophisticated two-fold digital back-up, consisting of Reed-Solomon error correction and redundant digital data tracks. By utilizing this unique and intricate digital safeguard mechanism, SDDS ensures that the movie-going audience receives a seamless digital sound presentation, (even during film splices), uninterrupted by the distracting effect of an intermittently diminishing sound field.

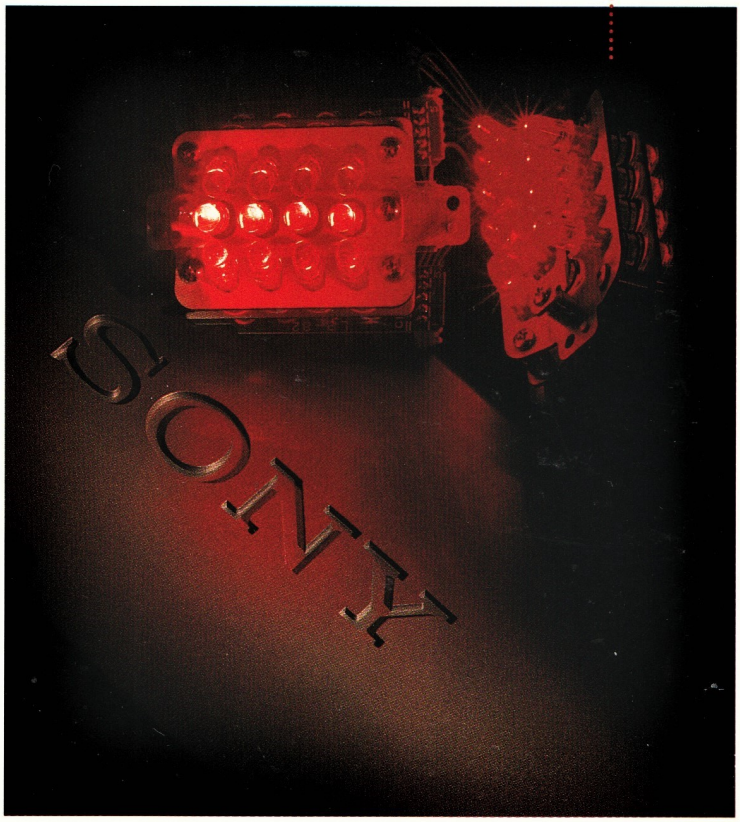
Upgrading from using conventional, incandescent bulbs, the SDDS Reader is equipped with high intensity, low heat, red LED arrays, the light source for the two discrete CCD (charged coupled device) cameras in the SDDS Reader. LEDs only operate when activated by the film running through the Reader, which increases their already long life expectancy of 10,000 hours, ultimately meaning greater system reliability and less maintenance for theatre owners. As the film passes through the Reader, the LEDs turn on and off, at a rate of 17,000 times per second, thus resulting in an extraordinarily high level of accurate audio data acquisition from the film. Red LEDs also significantly conceal hazardous film scratches, common on regular film prints.

SDDS audio tracks are optically printed on both outer edges of 35mm film, in addition to the standard analog stereo track on the same print, satisfying industry demand for single inventory.

Only SDDS delivers a totally digital presentation, without analog interruptions.

PRECISION AND RELIABILITY

Red LED (light emitting diodes) solid state illumination, inside the robust SDDS Reader, the eye of the system.



SDDS Sony Dynamic Digital Sound™

S P E C I F I C A T I O N S

SDDS DIGITAL AUDIO SIGNALS

Number of channels	8
Channel assignments	Channel 1: Left Channel 2: Left Center Channel 3: Center Channel 4: Right Center Channel 5: Right Channel 6: Sub-woofer Channel 7: Surround Left Channel 8: Surround Right
Sampling frequency	44.1 kHz
Frequency response	20Hz to 20kHz±1.0dB
Dynamic range	90dB min.
Distortion	0.07% max.
Crosstalk	80dB max.
Output level	Low: -10dB balanced High: +4dB balanced (factory setting)
Headroom	20dB min.

DFP-2000 DIGITAL FILM SOUND SYSTEM GENERAL

DFP-R2000 Digital Film Sound Reader

Power Requirements	DC +24 V (1A)
Power Consumption	24W
Operating Temperature	5°C to 40°C (41°F to 104°F)
Operating Humidity	10% to 90% (relative humidity)
Mass	10kg (22 lb)
Dimensions (w/h/d; excluding projections)	325mm x 158mm x 232mm (12 7/8 x 6 1/4 x 9 1/4 inches)
Film width	35mm

DFP-D2000 Digital Film Sound Decoder

Power Requirements	100 V AC (Japan) 120 V AC (United States and Canada) 230 to 240 V AC (Europe) 50/60 Hz
Power Consumption	200W (United States, Canada and Japan) 2.3 A (Europe)
Operating Temperature	5°C to 40°C (41°F to 104°F)
Operating Humidity	10% to 90% (relative humidity)
Mass	Approx. 14.5 kg (31 lb 15 oz)
Dimensions (w/h/d; excluding projections)	424mm x 132mm x 490mm (16 3/4 x 5 1/4 x 19 3/8 inches)
Lock range	Rated speed ±5%

INPUT/OUTPUT CHARACTERISTICS

DFP-D2000

BYPASS INPUTS connectors	L, LC, C, RC, R, SW, SL, SR XLR 3-pin, female (8) Reference level +4dBu/-10dBu Maximum level +24dBu/+10dBu Impedance 10kΩ min. Connected in parallel with AUX-IN connector.
SYSTEM OUTPUTS connectors	L, LC, C, RC, R, SW, SL, SR XLR 3-pin, male (8) Reference level +4dBu/-10dBu Maximum level +24dBu/+10dBu Impedance 100Ωmax. Connected in parallel with AUX-OUT connector.
AUX-IN connector	D-sub 25-pin, female (1) Connected in parallel with BYPASS INPUTS connectors.
AUX-OUT connector	D-sub 25-pin, male (1) Connected in parallel with SYSTEM OUTPUTS connectors.
READER I/O connector	PROJ 1, PROJ 2 CCZ-A (2)
SDDS REMOTE connector	D-sub 15-pin, male (1)
RS-232C connector	D-sub 9-pin, female (1)
AUTOMATION I/O connector	D-sub 37-pin, male (1)

SUPPLIED ACCESSORIES:

DFP-R2000

Fly wheel
Operation Guide
Reader Cable (CCZ-A, 10 meter length)
Reader Mounting Hardware Kit

DFP-D2000

Operation Manual
Power Cord

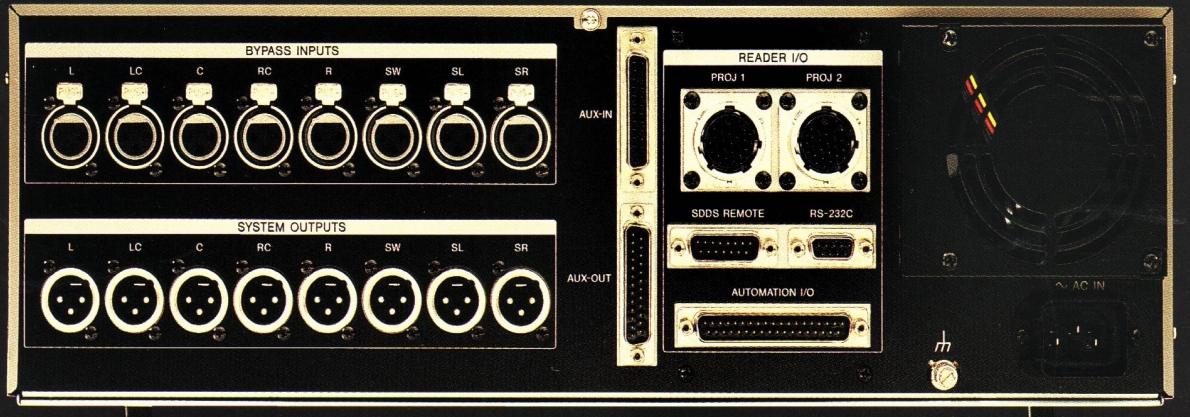
OPTIONAL ACCESSORIES:

Change Over Kit
DFRM-2001, Remote Controller
SSU-1000, Setup Storage Unit

SERVICE TOOLS & ACCESSORIES:

DFBK-2001, Service Spares Kit (boards & reader unit)
SDDS Setup & Installation Software Package
DFP-2000 Series Service Manual
SDDS Alignment Film

Above listed specifications are subject to change, without notice.



Sony Cinema Products Corporation
10202 West Washington Blvd., Culver City, California 90232, U.S.A. Tel: (310) 280-5777 Fax: (310) 280-2024
25 Golden Square London, W1R 6LU, United Kingdom. Tel (44) 171 533 1475 Fax (44) 171 533 1590