DOLBY® Digital Cinema System

At the core of the complete Dolby® Digital Cinema solution is the Dolby Screen Server (DSS200). The DSS200 is the all-in-one platform for storing and decoding pristine movies and delivering them to your digital projector. With a FIPS-certified media block, the DSS200 offers the highest quality industry security along with better storage, performance, serviceability, and interoperability.

The media block is reprogrammable to accommodate future developments in image and sound formats. Remote capabilities make software updates simple. For security, when the content is decoded, it is re-encrypted before being passed on within secure hardware to protect valuable movie data.

The DSS200's hardware-controlled storage subsystem moves disk-hungry feature content around your network effortlessly. Flexible serial and GPI/O (General Purpose Input/Output) automation and SMPTE standard closed captions support your automation and accessibility needs. Integrated Dolby Show Manager software provides a complete, easy-to-use interface for building, scheduling, and monitoring shows locally or remotely, and open Web Services allow third-party integrators complete control.

The DSS200 supports the JPEG 2000 playback format, as specified by DCI, and MPEG-2 for compatibility with alternative content. A RAID 5 hard-disk array stores digital content for playback. For delivery, a removable drive bay accommodates industry-standard hard drives. Content can also be loaded via a DVDROM drive or over a network.

Designed to be serviced easily, the DSS200 unit slides out from the rack on rails, and the top lifts up for easy access to the hardware inside.

Dolby Screen Server DSS200 Features

- All-in-one design, combining image processor and storage. Flexibility in installation; convenient remote control.

- Purpose-designed image decoder. Supports JPEG 2000 for feature presentations and MPEG-2 for alternative content.

- The ultimate 3D playback system. Supports Dolby 3D color management as well as ghostbusting capability compatible with other 3D systems.

- CAT862 secure media block is FIPS 140-2 level 3 certified FIPS certificate number 1376.

- RAID 5 hard disk array with 3.0 TB of internal storage. High reliability, including automatic RAID rebuild even during playback.

- Hot-swappable internal components: hard disks, dual-redundant power supplies, cooling fans. User-serviceable; keeps the show onscreen with zero downtime.

- SMPTE-standard closed caption protocol.

- Rack mount with integral rails. Unit slides out for easy servicing and component upgrades.

- Industry-standard removable hard disk drive bay; DVD-ROM drive. Flexibility for content and key delivery.

- Remote software upgrade capability. New features added easily.

- 16-channel digital audio output (8 AES/EBU, balanced). Connects to Dolby CP750, CP650, DMA8Plus, or other cinema sound processor.

- General purpose input/output. Four automation inputs and 10 relay outputs are standard on every unit.

DOLBY Screen Server (DSS200)
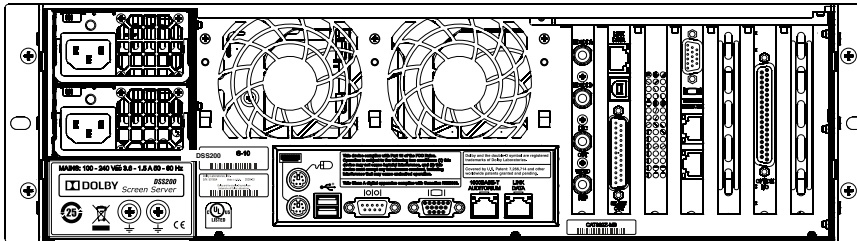
General

Image Decoding

Purpose-designed digital cinema image decoder supports content in JPEG 2000 and MPEG-2 formats; JPEG 2000 maximum bit rate 250 Mbps; supported frame rates 2D at 24, 25, 30, and 48 fps, 3D at 24, 25, and 30 fps; 2K or 4K content playback at progressive scan 2048 x 1080; MPEG-2 maximum bit rate 140 Mbps; supported frame rates 23.98, 24, 25, 29.97, 30 fps; progressive scan 1920 x 1080; MP@HL

Packaging Format

Supports MPEG Interop, JPEG Interop, and SMPTE packaging formats

Audio Processing

16-channel audio on 8 x AES/EBU balanced digital audio outputs

Security

2,048-bit RSA decryption for key delivery; 128-bit AES decryption for content; internal security manager for secure image and sound processing, SMPTE-standard security logging, secure real-time clock; supports insertion of video forensic marking for encrypted content; supports industry-standard key delivery messages (KDMs) and TI™ CineLink™ II (Diffie-Hellman and TLS). Cat862 secure media block is FIPS 140-2 level 3 certified FIPS certificate number 1376.

Projectors

Supports all Series 1 and Series 2 DLP Cinema® projectors

Subtitles

Serves TI CineCanvas™ and SMPTE 428-7-2007 subtitles to compatible projectors

3D

Compatible with Dolby 3D, RealD Cinema, XpanD, and MasterImage 3D systems; Ghostbusting for RealD included; Dual projector 3D supported with separate projectors for left and right image

Internal Storage Capacity

3.0 TB RAID 5 internal storage

Content Hard Disk Drives

Hardware-controlled RAID 5 system for performance and redundancy; user-serviceable, hot-swappable hard disk drives

Power Requirements

100–240 VAC; 50–60 Hz; 250 W; front-panel power switch; dual redundant power supply

Dimensions and Weight

3-U rackmount chassis; 686 x 483 x 133 mm (27 x 19 x 5.25 inches); net: 29.5 kg (65 lb)

Environmental Conditions

Operating 0°C–40°C (32°F–104°F), fan cooling, 20%–80% relative humidity (noncondensing)

Automation

Digital Failsafe to enable "lights on" automation if playback stops; serial RS-232 port directly connects to cinema automation with serial control; general purpose I/O (GPI/O relays) for input and output automation

Regulatory Notices

UL, FCC, CE, and RoHS compliant

Front Panel

Removable Media

Industry-standard removable hard disk drive bay and DVD-ROM drive for content and key delivery

Status LEDs

Bicolor LEDs show status of power supply, temperature, and internal hard disk drives

USB 2.0

Type A connector for key or content delivery, optional keyboard/mouse input

Monitor Output

15-pin high-density female D-connector for optional VGA-compatible monitor to display user interface

Rear Panel

USB 2.0

Two type A connectors, for optional keyboard and mouse to operate user interface

Network Connections

Three RJ-45 female connectors; 10/100/1,000Base-T with auto detection for auditorium network, theatre network, and future expansion; 1,000Base-LC optical fiber (optional, for theatre network)

Serial Data

9-pin male D-connector, RS-232

General Purpose Input/Output

Digital Failsafe to enable "lights on" automation if playback stops; general purpose I/O (GPI/O relays); four automation inputs and 10 relay outputs are standard on every unit

Monitor Output

15-pin high-density female D-connector for optional VGA-compatible monitor to display user interface

Image Output

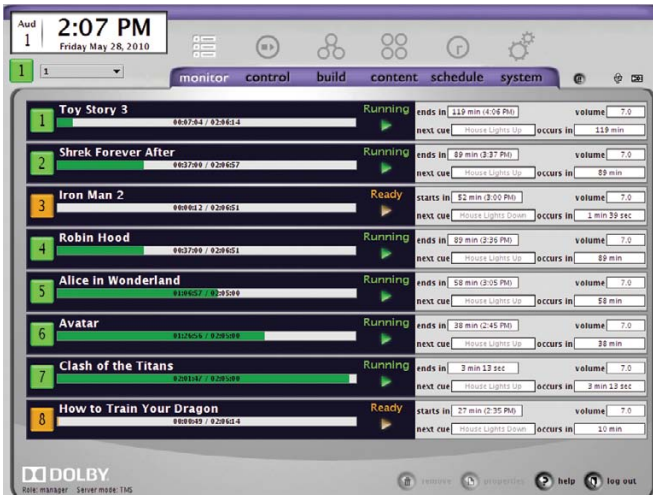Two BNC female connectors, 75Ω, HD-SDI per SMPTE 292M

Digital Audio Output

25-pin male D-connector, 16-channel output on 8 x AES/EBU balanced, 110Ω, transformer isolated, per AES3-1992

Video Reference Input/Output

BNC female connector; currently output only, reference signal automatically matches the content being played

DOLBY Show Manager

Dolby Show Manager simplifies and streamlines digital screen operations. It gives theatre personnel and network operations centers (NOCs) comprehensive central control over all presentations—for a single screen, a large multiplex, or a system integrator's entire network.

From ingesting content and moving it, even while playing, to drag-and-drop show assembly, Dolby Show Manager features operational simplicity, at-a-glance monitoring, and comprehensive remote control. Dolby Web services now allow interoperability with third-party control systems, too. The playback system supports SMPTE-standard closed caption protocols, and the entire system can be upgraded remotely via your digital cinema network.

System alerts notify every client of content or hardware problems, so no matter which console theatre staff are watching, they instantly know the state of the entire multiplex. And these same alerts are available via SNMP for remote monitoring of both DSS200 and DSL100.

As an integral part of a networked Dolby Digital Cinema system, Dolby Show Manager enables network control of up to three Dolby Screen Servers with no additional equipment. It also enables central network control of all the Dolby Screen Servers in a multiplex when deployed with a Dolby Show Library.

Show Manager's complete user interface is available, preinstalled, with localized versions in Chinese and Russian.

Software Menu Options

Monitor
View-only screen that allows the user an at-a-glance status report of all auditoriums in the complex.

Control
Gives the user manual control of each Dolby Screen Server from anywhere in the complex.

Build
Allows the user to assemble entire shows (ads, trailers, cues, features) from content anywhere on the network and easily copy missing clips where they are needed.

Content
Provides easy access to manage or move content already loaded in the Dolby Screen Server, Dolby Show Library, or attached FTP storage servers. Also provides a rich, clear display of available playback licenses and license load history.

Schedule
Allows the user to schedule all shows in a complex using a monthly calendar and to review intermission durations to avoid scheduling errors. Complete daily and even weekly scheduling in a few minutes. Drive the Show Manager schedule from your existing box-office system with a simple FTP/XML interface.

System
Utilized during installation for configuring the entire system, adjusting local settings, and manually controlling and monitoring RAID rebuild when necessary.

DOLBY Show Library (DSL100)

Dolby Show Library (DSL100) is a high-capacity central server designed to facilitate the networking of a multiplex and meet its content storage needs. The Dolby Show Library acts as the heart of your digital cinema network, giving you the ability to load all content at one central location, then distribute files electronically to networked Dolby Digital Cinema systems within the multiplex. For full specifications on the Dolby Show Library, contact Dolby Laboratories or visit www.dolby.com/digitalcinema.

Installation Options: CP750 and DMA8Plus

CP750 Digital Cinema Processor

The CP750 Digital Cinema Processor is a key part of Dolby's digital cinema solution, combining high performance, practical functionality, and legendary Dolby quality. It accommodates eight digital audio channels from any cinema server, three additional digital sources of preshow and alternative content, and an existing film sound processor. It can be updated, controlled, and monitored remotely via your circuit's Wide Area Network to ensure glitch-free presentations. Dolby Surround 7.1 (digital cinema audio), 5.1 digital PCM (digital cinema audio), Dolby Digital Surround EX (bitstream), Dolby Pro Logic II, and Dolby Pro Logic decoding are all included to deliver the best in surround sound before and during the show.

DMA8Plus Digital Media Adapter

The Dolby DMA8Plus interfaces the Dolby Screen Server with a cinema's existing sound processor. It decodes the original digital audio to six analog channels compatible with the Dolby CP200, CP45, CP55, CP65, CP500, and most other processors. It can also be used with a CP650 processor not equipped with a Cat. No. 790 digital input card (and is not needed for CP650s that are).

Digital Cinema Installation Kit
(Cat. No. 899-CP650, Cat. No. 899-DMA8)

This kit includes such items as Ethernet cables, HD-SDI cables, digital audio cables, and Gigabit Ethernet switches (jumbo frame).

For full specifications on the CP750 and DMA8Plus contact Dolby Laboratories.

Visit www.dolby.com/warranty for the latest product warrenty information.