DOLBY®

DSP100, DSS100
Dolby Digital Cinema System

A digital cinema solution that supports both JPEG 2000 and MPEG-2 image formats, and features outstanding quality, reliability, and adaptability to future needs.

The Dolby® Digital Cinema system is a real-world solution for real-world cinemas. It is manufactured entirely by Dolby Laboratories, taking advantage of more than 30 years' experience in developing, building, installing, and supporting cinema equipment.

Overview
The system comprises Dolby Show Store (DSS100) and Dolby Show Player (DSP100) units in the booth, plus Dolby Show Manager software. Dolby Show Store holds up to ten hours of programming, while Dolby Show Player decrypts the movie data, decodes the image and sound, and outputs reencrypted image data to the digital cinema projector. Audio data is fed to the cinema's sound processor, such as a Dolby CP650, or a Dolby DMA8 Digital Media Adapter paired with another Dolby sound processor model.*

A projectionist can run the show locally from controls built into the Dolby Show Player, or Dolby Show Manager software can set up, schedule, run, and monitor all-digital, all-film, or hybrid presentations on one or more screens automatically. Dolby Show Manager can run locally on the Dolby Show Store or on a remote PC connected to the booth units via Ethernet.

Features
Dual hot-swappable power supplies, RAID 5 hard disk arrays with hot-swappable drives, and rapid restart in the event of a power failure keep the show on screen. For security's sake, when the content is decoded, it's reencrypted before being passed on within secure hardware so pirates cannot reach valuable movie data even if they take the unit apart. The highest picture quality is ensured by a custom-designed image decoder, which is reprogrammable and modular to accommodate future developments in image formats.

*CP200, CP45, CP55, CP65, CP500, CP650, DA20, or SA10.
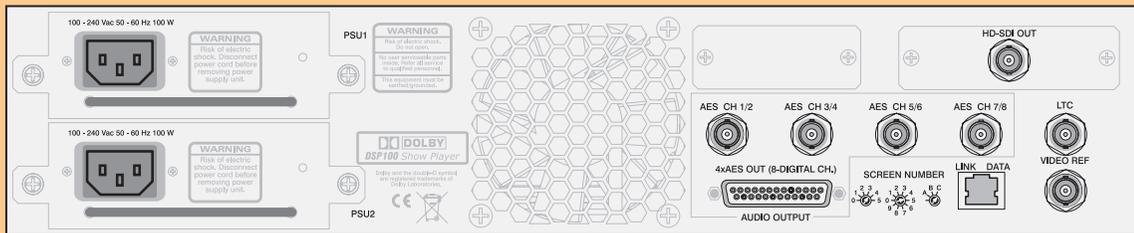
Front Panel

Main Display
Full color; displays current show status, schedule information, unit status, and configuration

Menu Buttons
For navigation of main display

Status LEDs
Bicolor LEDs show status of input, output audio, and output image streams

USB
Type B connector, for installer setup and software upgrades

Transport Controls
Play/pause, stop, forward, rewind, next, previous

Auto Button
Selects either manual (local) control or automatic (scheduled) control

A/V Mute Button
Mutes audio; image goes to black

Rear Panel

Image Output
BNC female connector, 75Ω, HD-SDI per SMPTE 292M

Digital Audio Output
Two sets of eight-channel outputs (future software upgrade to 16 channels of discrete audio); four BNC female connectors, unbalanced, 75Ω, per AES-3ID-2001 and SMPTE 276M; 25-pin female D-connector, balanced, 110Ω, transformer isolated, per AES3-1992

Video Reference Input
BNC female connector; supported video formats; 23.98, 24, 25, 29.97, 30 fps tri-level sync per SMPTE 274M; 50, 59.94, 60 fps tri-level sync per SMPTE 296M; 23.98, 24 fps tri-level sync per SMPTE RP211-2000

Timecode Output
BNC female connector, unbalanced, output impedance 50Ω per SMPTE 12M

Network Connection
RJ-45 female connector; 1,000 Base-T

General

Image Decoding
Purpose-designed digital cinema image decoder supports content format JPEG 2000 and MPEG-2 file formats; JPEG 2000 maximum bit rate greater than 350 Mbps at 24 fps; progressive scan 2048 x 1080; MPEG-2 maximum bit rate of 150 Mbps at 24 fps; supported frame rates 23.98, 24, 25, 29.97, 30 fps; progressive scan 1920 × 1080, 720 × 1280 resolution; MP@HL

Packaging Format
MXF; based on MXF OP-ATOM (SMPTE 390M) for D-cinema; uses XML-based composition play list and packing list

Audio Processing
Eight channels supported in PCM or coded audio formats

Security
2,048-bit RSA decryption for key delivery; 128-bit AES decryption for content; internal security manager for secure image processing, audit logging, real-time clocking; supports industry standard key messages and TI Cinelink™

Subtitles
Supports TI Cinecanvas™

Construction
Secure, tamper-resistant 2-U rackmount chassis

Power Requirements
100–240 VAC, 50–60 Hz, 55 W designed to operate from a centrally switched power source; dual redundant power supply
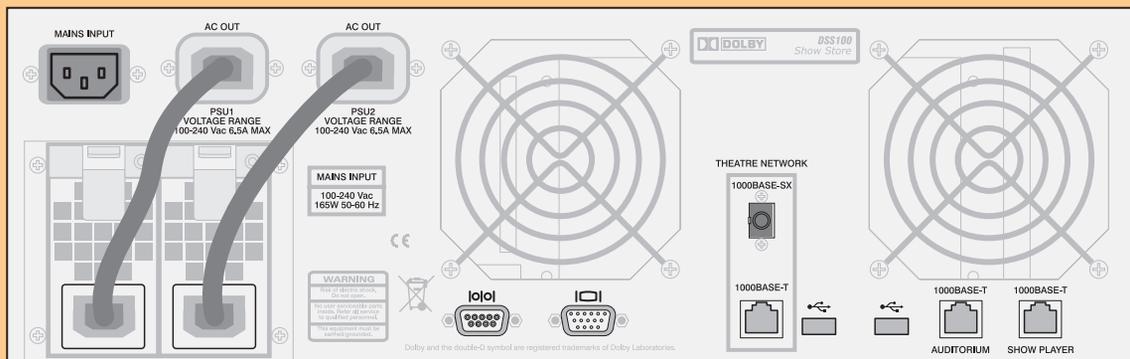
Dimensions and Weight
2-U rackmount chassis, 88 x 483 x 450 mm (3.5 x 19 × 17.7 inches); net: 11.5 kg (25.5 lb)

Environmental Conditions
Operating: 0 to 40ºC (32 to 104ºF), fan cooling, 20 to 80% relative humidity (noncondensing)

Front Panel

Removable Media
Removable hard disk drive 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
Type A connector for key delivery

Rear Panel

USB
Two type A connectors, for optional keyboard and mouse for Dolby Show Manager software

Network Connections
Three RJ-45 female connectors; 10/100/1,000 Base-T with auto detection; one SC connector; 1,000 Base-SX (optional)

Serial Data
9-pin female D-connector, RS232

Monitor
15-pin high-density female D-connector for optional VGA monitor for Dolby Show Manager software

General

Show Storage Capacity
Standard configuration ten hours at 80 Mbps; higher-capacity options are available for additional storage

Content Hard Disk Drives
Fully redundant RAID 5 system; user-serviceable, hot-swappable hard disk drives

Power Requirements
100–240 VAC, 50–60 Hz, 175 W designed to operate from a centrally switched power source; dual redundant power supply
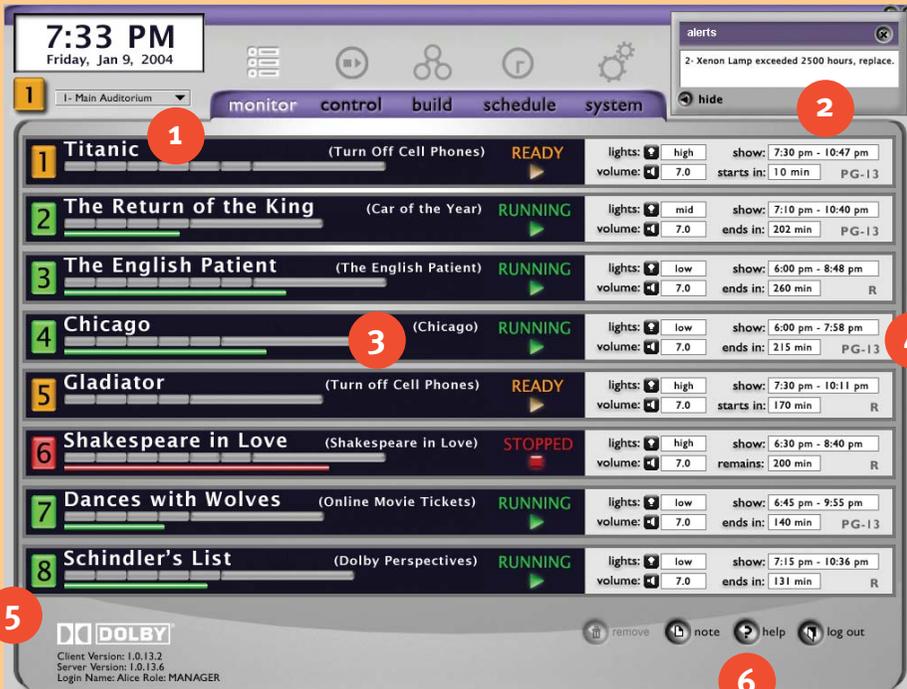
Dimensions and Weight
3-U rackmount chassis; 132 × 483 × 580 mm (5.25 × 19 × 23 inches); net: 16.3 kg (36 lb)

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

Dolby Show Manager

Monitor screen

Control screen

Show Manager, Menu Options

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

Control: Allows manual control for each screen from anywhere within the complex.

Build: Allows user to assemble entire shows (ads, trailers, cues, feature presentation) and view content already loaded in the Dolby Show Store.

Schedule: Allows user ability to schedule all shows in a complex using a monthly calendar feature. This feature allows user to schedule intermission, print custom schedules, and avoid scheduling errors. Complete daily and even weekly scheduling in a few minutes.

System: Utilized during installation for configuring the entire system.
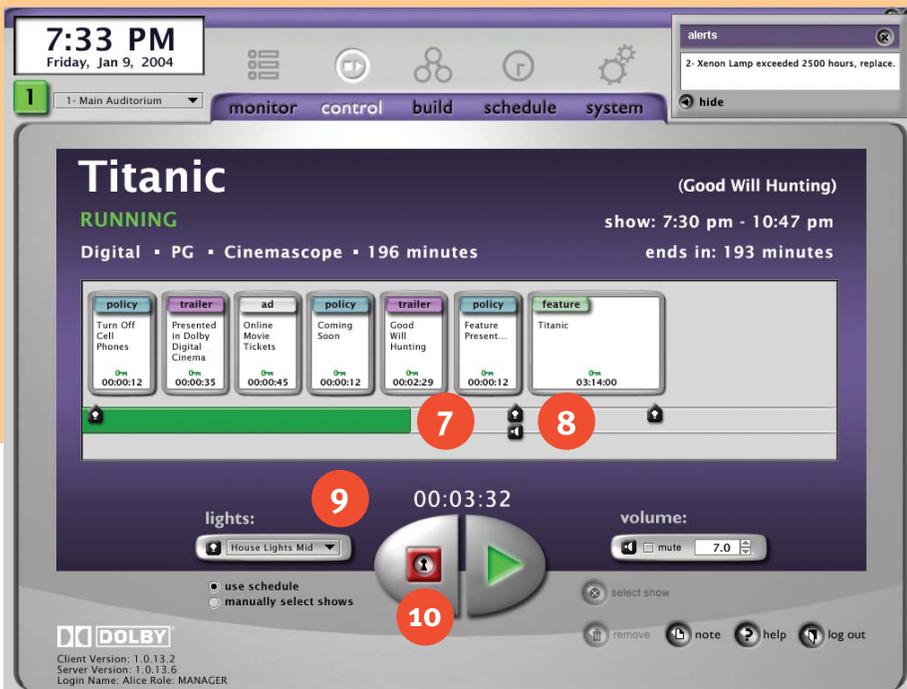
Monitor screen:
1. User-defined show titles
2. Display for messages, reminders, and system status updates
3. Displays current or upcoming content title
4. Quickly identifies start and stop times and identifies status of light and audio
5. Able to accommodate each auditorium in even the largest complexes
6. Extensive built-in intuitive help guide

Control screen:
7. Progress bar provides quick glance of current status of show
8. Cues for lighting, masking, audio control, curtains, and more
9. Instant light and sound adjustments
10. Locked stop button

DMA8 Digital Media Adapter

The Dolby DMA8 interfaces the Dolby Digital Cinema system with a cinema's existing sound processor. It decodes the original digital audio, to six analog channels compatible with 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 those that are).

NA10 Network Automation Interface

The Dolby NA10 interfaces the Dolby Digital Cinema system with a cinema's existing automation system, enabling fully automated film, digital, and mixed-content presentations. Lighting, curtain, masking, and audio format changes can be scheduled for each show via the Show Manager software; as the show plays, the NA10 converts these digital cues to the electrical signals necessary to trigger various automation functions.

For full specifications on the NA10 and DMA8, contact Dolby Laboratories or visit *www.dolby.com*.

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