



DM100 Dolby Bitstream Analyzer



The Dolby DM100 is a portable, handheld diagnostic tool that can monitor and generate Dolby Digital, Dolby E, and PCM bitstreams.

The DM100 Dolby® Bitstream Analyzer is a uniquely efficient tool for end-to-end system testing. With its built-in test-signal generator, the DM100 allows audio system integrators and service engineers to quickly monitor and check the integrity and composition of Dolby Digital, Dolby E, and PCM signals routed through production, broadcast, cable, and satellite facilities, or even a home theater system.

The DM100 accepts digital input signals via XLR, BNC, and Toslink™ optical connectors. The unit identifies the format of the input signal—Dolby Digital, Dolby E, or PCM—and activates the appropriate built-in decoder. A standard 1/8-inch stereo headphone jack can be switched to monitor any two decoded channels or a downmix of the whole program, while a small built-in speaker provides a mono output.

A preselected set of useful Dolby Digital and Dolby E test bitstreams is stored in internal nonvolatile RAM, and users can change the set in the field via software download from the

included CD-ROM. The DM100 can generate the selected bitstream simultaneously on all the output connectors, even while receiving and decoding an input signal. The DM100 is also capable of generating two-channel PCM signals. In this mode, the user can select the output waveform type (white noise, pink noise, sine, square), amplitude, and frequency. A serial port allows software upgrades and logging via a Windows®-based PC.

A pass-through mode permits modification of the input signal's AES channel status bits before passing the signal to the output connectors. The input signal can still be monitored at the same time. Monitoring capabilities include error detection at the AES3 layer and within the coded audio layers (that is, for Dolby Digital and Dolby E bitstreams), including SMPTE 337 formatting information.

The DM100 is powered by four AA batteries or by an included wall-mounted DC power supply, and it ships with a soft carrying case.

DM100 Dolby Bitstream Analyzer

DM100 Front Panel

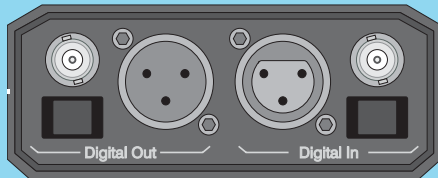
Display and Controls

Two-line by 16-character LCD for status indication with control keys for unit setup

Status LEDs

Indicate critical bitstream and system information

DM100 Top Panel



Digital Audio Inputs

AES/EBU 110Ω via XLR female connector
BNC female connector, unbalanced, 75Ω, signal levels per AES-31D-1995 (SMPTE 276M)
Fiber-optic via Toslink connector
One input active at any time

RS-232 Serial Input/Output Port

For software upgrades and logging functions;
8-pin female mini-DIN

Volume Control

Headphone and speaker level

Digital Audio Output

AES/EBU 110Ω via XLR male connector
BNC female connector, unbalanced, 75Ω, signal levels per AES-31D-1995 (SMPTE 276M)
Fiber-optic via Toslink connector

DM100 Side Panels

Reference Video Input

NTSC/PAL program or black; signal level per SMPTE RP 154-1994; RCA female connector

Headphone Output

+11.5 dBu max into 600Ω, adjustable level
1/8-inch standard headphone jack



Sampling Rates

32, 44.1, and 48 kHz for Dolby Digital and PCM
48 kHz for Dolby E

Video Frame Rates

29.97 or 25 fps

Frequency Response

Digital outputs: 20 Hz to 20 kHz, ± 0.25 dB

Distortion

<0.01% at 1 kHz
<0.02%, 20 Hz to 20 kHz

Dynamic Range

>100 dB

Output Word Length

Up to 24 bits

Case

ABS plastic handheld enclosure

Power Requirements

External 6 VDC, 400 mA power adapter (included), or four AA batteries

Dimensions and Weight

100 × 200 × 41 mm (4 × 7.9 × 1.6 inches)
Net: 0.68 kg (1.5 lb)

Environmental Conditions

Operating: 0° to 50°C (32° to 122°F), natural convection cooling
0–98% relative humidity (noncondensing)
Nonoperating: –20° to +70°C (–4° to +158°F)

Supplied Accessories

Owner's manual
Warranty card
Carrying case
DC power adapter
RCA-to-BNC and BNC-to-RCA adapters
CD-ROM of Dolby Digital and Dolby E test bitstreams

Regulatory Notices

North America: This unit complies with the limits for a Class A digital device pursuant to Part 15 of the FCC rules. The unit also complies with Industry Canada ICES-003 Class A requirements. The 110 V power transformer is UL listed.

Europe: This unit is designed to comply with the requirements of EMC Directive 89/336/EEC and carries the CE marking accordingly.

Warranty

One-year limited, parts and labor; see disclaimer. Specifications subject to change without notice.

Disclaimer of Warranties

Equipment manufactured by Dolby Laboratories is warranted against defects in materials and workmanship for a period of one year from the date of purchase. There are no other express or implied warranties and no warranty of merchantability or fitness for a particular purpose, or of noninfringement of third-party rights (including, but not limited to, copyright and patent rights).

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