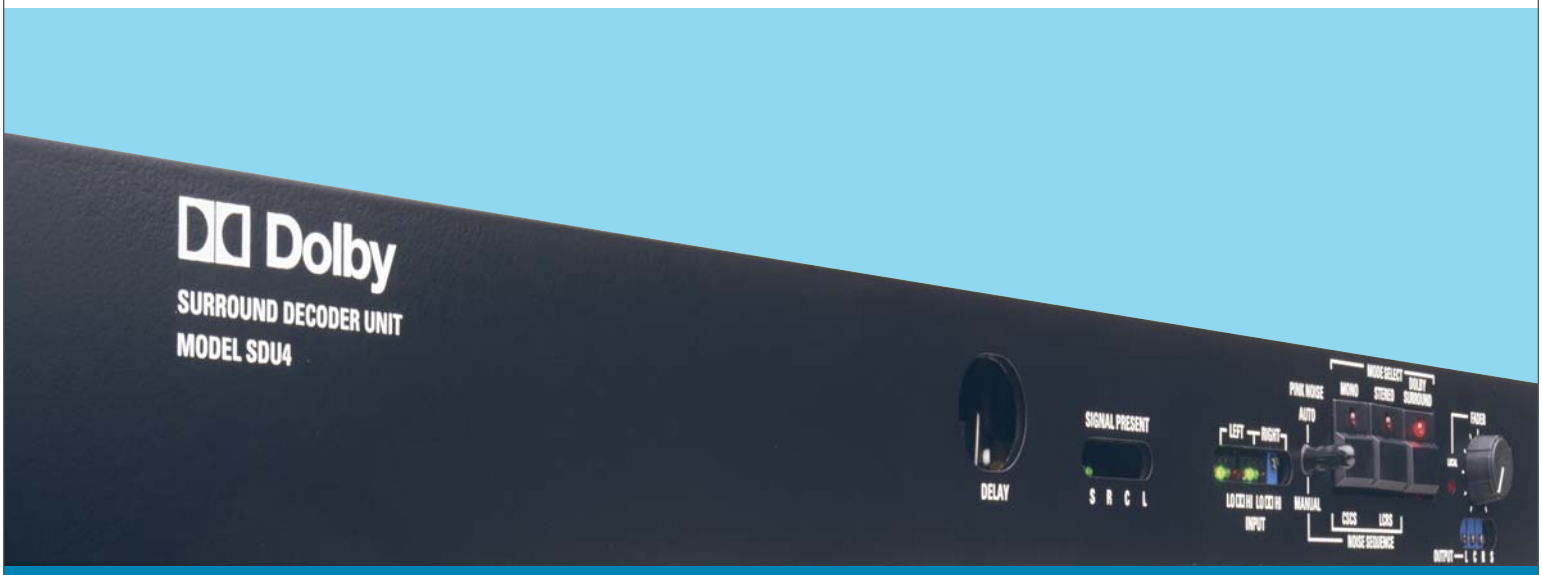
SDU4
Dolby Surround Decoder



The Dolby SDU4 is for use during soundtrack production to decode and monitor materials encoded in Dolby Surround.

Monitoring Dolby® Surround program material during production and postproduction is essential to ensure proper surround playback as well as compatibility with stereo and mono playback. The SDU4 Dolby Surround Reference Decoder provides these functions for recording, mixing, postproduction, and broadcast facilities. Applications include media for stereo broadcast television; cable and satellite transmissions; advertising spots; VHS tapes; and computer and console games.

At the heart of the SDU4 is a reference Dolby Surround Pro Logic® 2:4 matrix decoder that is featured in over 100 million home A/V receivers worldwide. The decoder derives separate left, center, right, and surround output signals from the matrix-encoded Left total/Right total (Lt/Rt) input signals.

The SDU4 can also be used for monitoring the mono compatibility of conventional stereo material, and previewing the effects of the matrix process on discrete four-channel elements (4:2:4 monitoring) that subsequently will be included in a film soundtrack's final mix.

A built-in, channel-sequenced pink noise generator ensures easy calibration and verification of monitor levels. Internal logic enables monitoring surround-encoded program material with or without a center loudspeaker. The surround channel delay can be adjusted in 10 ms increments from 20 to 150 ms with a front-panel accessible control. Other features include front-panel mode selection (Dolby Surround, Stereo, and Mono) and a ganged, four-channel master level control.

The SDU4 is intended for use in conjunction with the SEU4 Dolby Surround Encoder for mixing Dolby Surround productions in a calibrated surround monitoring environment.

SDU4 Dolby Surround Decoder

Front Panel Controls and Indicators
Mode select; toggle switch for internal pink noise calibration signal; four-channel master output level fader; screwdriver-adjustable trimpots for input/output calibration (recessed behind panel); surround delay adjustable in 10 ms increments from 20–150 ms; LEDs for level calibration of Lt/Rt signal; LEDs for signal presence, L, C, R, and surround outputs

Inputs for Lt/Rt XLR (0 dBr = 0.775 Vrms)
Two balanced floating transformerless inputs; input gain adjustment accommodates a range of 300 mV (–8.2 dBr) to 2 V_{RMS} (+8.2 dBr); input impedance is ›10 kΩ; maximum common mode voltage is 4 V_{RMS} (5.8 V peak)

Main Outputs
Balanced floating XLR outputs for L, C, R, S; output gain adjustment accommodates a range of 250 mV (–9.8 dBr) to 2.5 V (+10.2 dBr) at the normal master level control setting; output impedance is 25Ω; maximum output voltage is +26 dBr into balanced 600Ω loads, less into lower impedances; maximum output is +20 dBr into unbalanced 600Ω loads

Monitor Outputs
Single-ended monitor outputs are provided for Lt, Rt, L, C, R, and S signals via 25-pin female D-connector; Dolby level is 500 mV (–3.8 dBr) at these outputs; output impedance is 200Ω or less, and these outputs can drive loads ›10 kΩ

Frequency Response
20 Hz–20 kHz ±1 dB (L, C, and R channels)
100 Hz–7 kHz ±3 dB (Surround channel)

Signal-to-Noise Ratio (S/N)
›80 dB (Left, Center, and Right channels, CCIR/ARM weighting, referenced to Dolby level); ›70 dB (Surround channel); master level control at normal setting

Total Harmonic Distortion (THD)
0.25% or less at the main balanced outputs into balanced loads of 600Ω or greater, at any output level up to +24 dBr, and at any master level control setting
0.1% typical at Dolby level, 1 kHz, with input and output levels adjusted to +4 dBr

Center Speaker In/Out Function
This function, available by an internal switch, is used to select the user's monitoring system configuration, either three-front or two-front loudspeakers; Center Speaker Out mode routes spatially decoded center signals to Left and Right main outputs at a reduced level

Pink Noise Calibration Function
Internally generated pink noise can be sent to the outputs in several ways: automatically cycled between Left, Center, Right, Surround, remaining for 3 seconds at each output (LCRS sequence); cycled between Center and Surround, remaining for 3 seconds at each output (CSCS sequence); sent to any desired channel, under manual control

Power Requirements
230 V version: 198–264 VAC, 50–60 Hz, uses one 20 mm T250 mA fuse
Multivoltage version: 85–132 VAC, 50–60 Hz, uses one 1.25-inch 500 mA slow-blow fuse, or 187–264 VAC, 50/60 Hz, uses one 20 mm T250 mA fuse
Power consumption 20 W; designed for operation from a centrally switched power source

Dimensions and Weight
1-U rackmount: 44 x 483 x 260 mm (1.75 x 19 x 10.25 inches)
Net: 5 kg (11 lb)

Environmental Conditions
0° to 40°C (32° to 104°F)

Regulatory Notices
US: This unit complies with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules.
Europe: The 230 V unit complies with the requirements of Low Voltage Directive 73/23/EEC and 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.

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