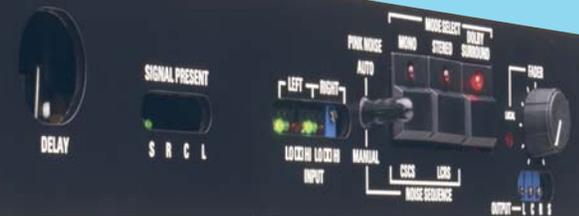




## SDU<sub>4</sub> Dolby Surround Decoder

 **Dolby**  
SURROUND DECODER UNIT  
MODEL SDU<sub>4</sub>



**The Dolby SDU<sub>4</sub> 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 SDU<sub>4</sub> 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 SDU<sub>4</sub> 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 SDU<sub>4</sub> 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 SDU<sub>4</sub> is intended for use in conjunction with the SEU<sub>4</sub> 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 trim pots 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<sub>RMS</sub> (+8.2 dBr); input impedance is >10 kΩ; maximum common mode voltage is 4 V<sub>RMS</sub> (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.

## 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).

## Limitation of Liability

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