363
SR/A Noise Reduction Unit

The Dolby 363 provides two channels of noise reduction switchable between Dolby Spectral Recording (SR) and Dolby A-type.

Dolby® noise reduction is a family of signal processes that reduce the noise inherent in analog recording media, without affecting the sound quality of the recorded audio.

Dolby SR improves the dynamic range of analog recordings and transmissions by as much as 24 dB, providing the performance typically associated with digital recording formats while maintaining the desirable features of analog recording. It essentially eliminates tape hiss, modulation noise, print-through, and crosstalk, increases low- and high-frequency headroom, and decreases distortion. Dolby A-type is the original professional system, providing 10 dB overall of noise reduction.

The 363 provides Dolby SR and Dolby A-type noise reduction for all audio facilities: music recording, postproduction, broadcast, multimedia, and film. Record/playback changeover of each channel can be controlled individually from the front panel, or automatically from a tape recorder, so that a single 363 can serve as both an encoder and decoder for stereo recording applications. A setup button and four-element LED calibration displays allow quick alignment using an internally generated Dolby tone for A-type or Dolby noise for SR.

The 363 is also ideal for applications requiring dedicated encode or decode operation. A pair of 363 units can be used for simultaneous record and playback on two-channel tape recorders, or for transmission systems where the encoder and decoder are physically separated. In single-channel recording applications, a single unit can be used for simultaneous record and playback.

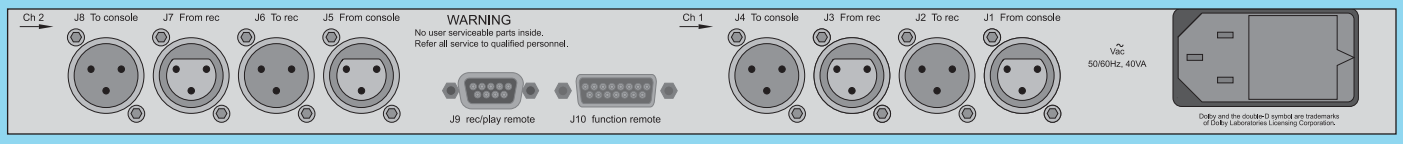
The 363 is normally supplied with two Cat. No. 300 modules, which contain both Dolby SR and Dolby A-type processing. A version incorporating Dolby SR only (using Cat. No. 350 modules) is also available.

Dolby 363 SR/A Noise Reduction Unit

363 Front Panel

Controls and Indicators (individual for each channel)
SR/Off/A selection; normal/check tape; record/play; bypass; setup; four adjustable trims for input/output level settings; four LEDs for setting Dolby level

363 Rear Panel



Analog Audio Inputs (0 dBr = 0.775 V_{RMS})
XLR connectors, balanced, 20 kΩ; common mode rejection: ›55 dB, 50 Hz to 10 kHz; maximum input level: +27 dBr balanced, +21 dBr unbalanced; input line levels from –10 dBr to +10 dBr can be adjusted to give Dolby level
Built-in Dolby tone and Dolby noise generators for calibration and channel identification

Analog Audio Outputs
XLR connectors, balanced, 20Ω; output level balance: within 1 dB into symmetrical 600Ω load; output float[1] better than –40 dB, 50 Hz to 1 kHz; maximum signal level into 600Ω: +26 dBr balanced, +21 dBr unbalanced; output line levels in the range –10 dBr to +10 dBr can be adjusted to give Dolby level

Remote Control and Status Ports
9-pin male D-connector for individual-channel record/play changeover for remote control by the tape recorder; connector may be wired to allow remote-only or combined local and remote operation; changeover time: 3 ms maximum
15-pin female D-connector for remote control of SR or A-type in and out and Setup functions; also provides a remote status indication of A/SR and Auto Compare function

Frequency Response[2]
20 Hz to 20 kHz, ±l dB encode/decode, at any level

Overall Distortion (THD)[2]
≤0.2% at Dolby level

Processor Headroom
+21 dB above Dolby level

Overall Dynamic Range[2]
SR: 105 dB, clipping level to CCIR/ARM noise level; 105 dB, clipping level to NAB A-weighted noise level[3]; 95 dB, clipping level to unweighted noise level, 20 Hz to 20 kHz[4]
A-type: 104 dB, clipping level to CCIR/ARM noise level; 105 dB, clipping level to unweighted noise level, 20 Hz to 20 kHz

Typical Obtainable Dynamic Range
SR: 90–95 dB; A-type: 75–80 dB; typical at 38 cm/s (15 ips) tape speed

Matching Between Units
±1 dB at any level and any frequency, 20 Hz to 20 kHz

Crosstalk
‹–100 dB, 20 Hz to 20 kHz processor off, or encode/decode

Signal Delay
6 µs for a single channel, 12 µs for overall encode/decode system

Power Requirements
230 V version: 198–264 VAC, 50–60 Hz, 40 W; uses one 20 mm T250 mA fuse
Multivoltage version: User selected 85–132 VAC, 50–60 Hz, 40 W; uses one 1.25-inch 500 mA slow-blow fuse, or 187–264 VAC, 50–60 Hz, 40 W, uses one 20 mm T250 mA fuse; this unit is designed to operate from a centrally switched power source

Dimensions and Weight
1-U rackmount: 44 × 483 × 285 mm (1.75 × 19 × 10.2 inches); a further 65 mm (2.5 inches) in depth required for standard XLR connectors
Net: 6.3 kg (14 lb) including two Cat. No. 300 modules

Environmental Conditions
Up to 40°C (104°F)

Regulatory Notices
US: This unit is UL listed.
Europe: The 230 V unit complies with the requirements of Low Voltage Directive 73/23/EEC.

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

All specifications apply with input and output controls set for Dolby level equal to +4 dBr = 1.23 V_{RMS}, balanced source and load.

0 dBr is defined as 0.775 V without regard to impedance.

[1]Output float is the level across a balanced load relative to an interfering signal injected at one end of the load.

[2]Two units back-to-back, encode/decode.

[3]Weighting filter supplemented by 25 kHz 4-pole lowpass filter to ensure that only audible noise is measured.

[4]Average-responding or RMS meter, 4-pole filters.

Part No. 91117, Issue 7

Dolby Laboratories, Inc. 100 Potrero Avenue, San Francisco, CA 94103-4813 Telephone 415-558-0200 Fax 415-863-1373
Wootton Bassett, Wiltshire SN4 8QJ, England Telephone (44) 1793-842100 Fax (44) 1793-842101 www.dolby.com