

The TASCAM 238S is an 8-track/8-channel "multitrack recorder" equipped with the Dolby S-type NR system which is known for its significant noise reduction effect and its enhancement of the quality of audio recordings.

The 238S does not differ from the 238 (without "S") in operation and the provided manual for the 238 is valid for the 238S too, except for information on the noise reduction system and some details of the specifications. For operation instructions and all others which are not contained in this sheet, please refer to the provided 238 manual.


Specifications

Mechanical

Tape : C-30 to C-90 cassette tapes, CrO₂ (TYPE II)
Track Format : 8-track, 8-channel, one-way record/play
Head Configuration : 8-channel record/play back head
(permalloy) × 1
8-channel erase head (ferrite) × 1
Motor : FG servo DD capstan motor × 1
DC reel motor × 1
DC ancillary motor × 1
Tape Speed : 9.5 cm/sec.(3-1/2 ips) ± 0.5%
Pitch Control : ± 12% of standard speed
Wow and Flutter : 0.04% WRMS (NAB weighted)
± 0.08% W.PEAK (DIN/CCIR/IEC/ANSI weighted)
Fast Winding Time : 70 sec. (approx.) with C-60
Recording Time : 15 min. with C-60
Dimensions (W × H × D) : 480 × 149 × 345 mm
(19" × 5-7/8" × 13-9/16")
(Mount brackets, feet and other protruding parts included)
Weight : 9.5 kg (20.94 lbs)

Electrical

Line Input (× 8)
Input Impedance : 30k ohms, unbalanced
Nominal Input Level : - 10 dBV (0.3 V)
Line Output (× 8)
Output Impedance : 470ohms, unbalanced
Nominal Output Level : - 10 dBV (0.3 V)
Record Channel : 8 (Dolby S NR ch. 1-4 / 5-8 switchable)
Playback Channel : 8 (Dolby S NR ch. 1-4 / 5-8 switchable)
Bias/Erase Frequency : 85 kHz ± 5 kHz
Equalization : 3,180 +35 μ s
Frequency Response : 30 Hz to 16 kHz ± 3.0 dB
Signal-to-Noise Ratio (ref. to 3% distortion) :
52 dB (NR OFF, CCIR/ARM Weighted, 400 Hz)
51 dB (NR OFF, not weighted, 20 Hz to 20 kHz)
75 dB (NR ON, CCIR/ARM Weighted, 1 kHz)
64 dB (NR ON, not weighted, 20 Hz to 20 kHz)
Distortion : Less than 0.8% (at 400 Hz, 0 VU, NR OFF)
Crosstalk (Adjacent Channels) :
More than 70 dB (at 1 kHz, 0VU, NR ON)
Erase : More than 70 dB (at 1 kHz, +10 VU)
Power Requirements :
USA/CANADA : 120 V AC , 60 Hz
U.K./AUSTRALIA : 240 V AC , 50 Hz
EUROPE : 230 V AC , 50 Hz
Power Consumption : 51 Watts

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
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- In these specifications: 0 dBV=1.0 V(0.316 V for -10 dBV rounded to 0.3 V).
- Changes in specifications and features may be made without notice or obligation.

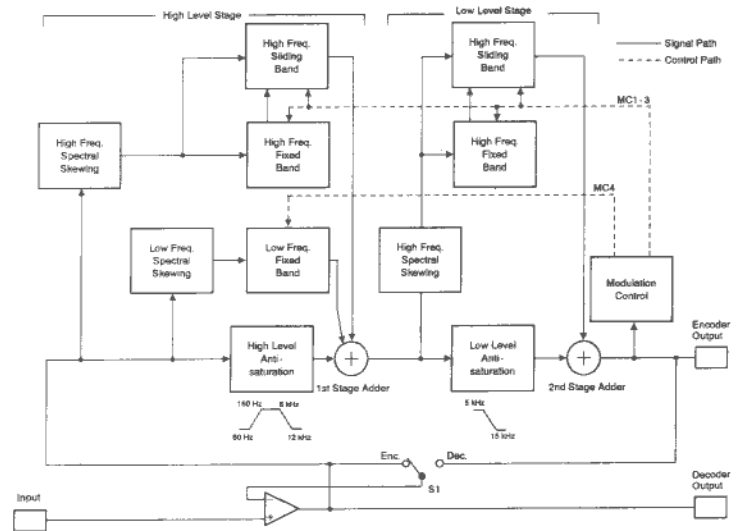
Dolby S-type NR Recording System

The Dolby S-type NR System is a newly developed recording system, and its features include the following:

- Dolby S-type NR is based on the same operating principles as Dolby SR NR, the professional Spectrum Recording system, and enhances the quality of audio recordings.
- The system boosts low-level signals during recording and cuts them during playback, providing a noise reduction of 10 dB at low frequencies and a 24 dB at the higher frequencies.
- To prevent side effects such as noise modulation, Dolby S-type NR operates with what is called *the principle of least treatment* and applies constant gain wherever there are no high-level signals, even if such signals exist somewhere else inside the spectrum.

Note: For material recorded with Dolby S-type NR to be correctly decoded, record and playback of encoded material should be done at similar speeds.

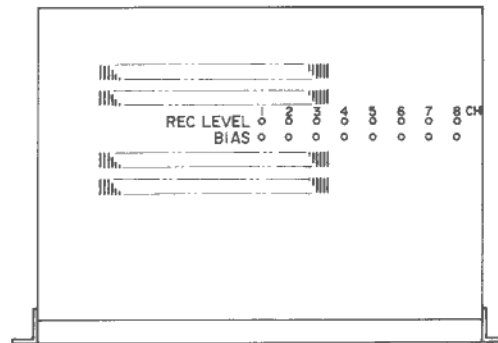
- A fixed band NR at low frequencies and a combination of fixed and sliding band NR at high frequencies operate to complement each other in a technique known as *action substitution* and gives less overall noise modulation.
- *Antisaturation* provides a wide headroom both at low and high frequencies and less distortion



S-TYPE ENCODER BLOCK DIAGRAM

Adjustment pots

The 238S has adjustment potentiometers for REC LEVEL and BIAS. They are accessible from the top of the machine.



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