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DATA SHEET 1003-0107-1



**GENELEC® S30B NF
MONITORING SYSTEM**

S30B NF APPLICATIONS

- A NEAR FIELD VERSION OF THE GENELEC S30 FOR CONSOLE TOP USE
- BROADCAST REFERENCE MONITOR
- BROADCAST CONTROL ROOMS
- MODERATE SIZED STUDIO CONTROL ROOMS
- MOBILE VANS
- VOICE MONITORING
- TELEVISION CONTROL ROOMS
- POST PRODUCTION
- WORK STATIONS
- VIDEO AND FILM EDITING SUITES

GENERAL DESCRIPTION

SYSTEM

The Genelec S30B NF is a three-way monitor that includes drivers, amplifiers and active crossovers. The S30B NF is designed as a special horizontal and high output version of the GENELEC S30 for near field monitoring applications where sound quality at moderately high SPL levels is essential. The S30B NF is used for monitoring in studios, broadcast, work station environments, post production facilities, and mobile vans.

DRIVERS

The bass frequencies are reproduced by an 8" bass driver loaded with a 0.8 cubic feet (24 liters) vented box. The bass driver has a very large magnet and long excursion capability (± 9 mm). Both features of the bass driver are needed to reach low frequencies with reasonable efficiency and high acoustic output (SPL) in a small enclosure. The -3dB point is 42 Hz and the low frequency response extends to 38 Hz. The midrange frequencies are reproduced with a very carefully designed 3 1/2" cone driver specially impregnated to minimize coloration. As a result, the midrange driver's response actually extends well beyond the range required by the crossovers. The entire driver is sealed in a cast aluminium alloy housing to prevent chassis ringing and interference from other drivers. The high frequency driver is a ribbon tweeter with a moving mass of only 0.0012 oz. (32 mg) and it is loaded by a small Directivity Control Waveguide (DCW). The high frequency response of the tweeter is down only 3 dB at 30 kHz.

CROSSOVER

The active crossover network consists of three parallel bandpass filters. The crossover frequencies are 420 Hz and 4 kHz and acoustically the slopes are 18 dB/octave. Bass, midrange and treble controls with 1 dB steps are included in the crossover to change the balance between the drivers in different acoustic conditions. The

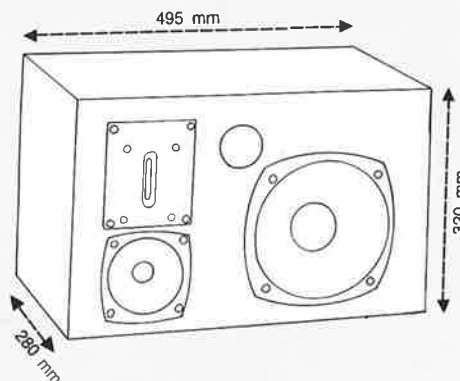
low frequency roll-off control, which is effective at 43 Hz, has four 2 db steps to allow refined equalization for different loudspeaker locations. The crossover network contains also an active balanced input stage and a volume control.

AMPLIFIERS

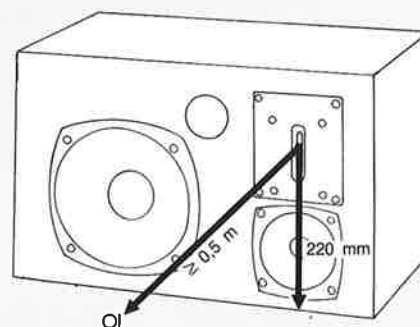
The bass, midrange and treble amplifiers produce 110, 110 and 90 watts, respectively, of peak power. The bass amplifier has a continuous output of 90 watts, the midrange amplifier 25 watts and treble amplifier has 8 watts. The lower levels of continuous power protect the drivers, but the amplifiers are capable of driving the system to short term sine wave levels of 117 dB SPL at 0.5 m. Electronic overload protection is incorporated into the design of both the midrange and treble amplifiers. THD and IM distortion are low in all amplifiers.

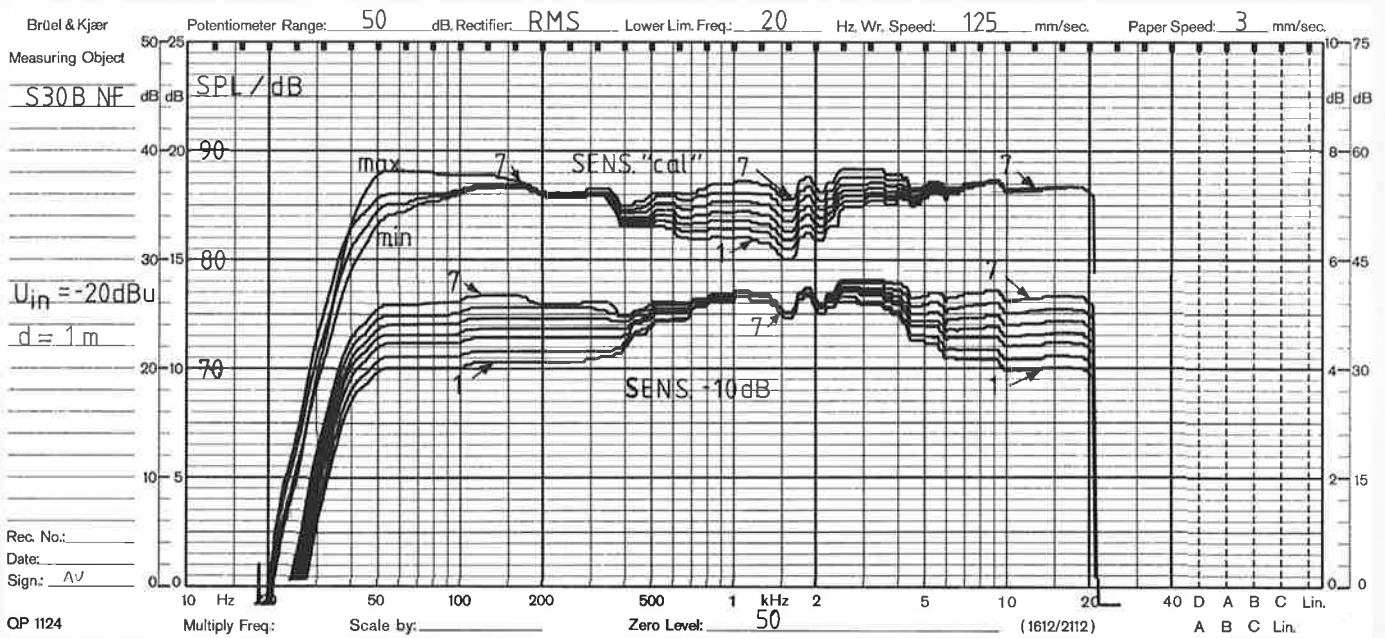
INTEGRATED CONSTRUCTION

Maintenance is straightforward and very easy due to rugged, but highly integrated simple construction. The amplifier chassis is mounted to into the enclosure with quick release hinges. A similar method is used to mount the amplifier circuit board to the amplifier chassis, giving easy access to both sides of the circuit board. A shortened version of the operating and service manuals is printed on the amplifiers's rear panel.

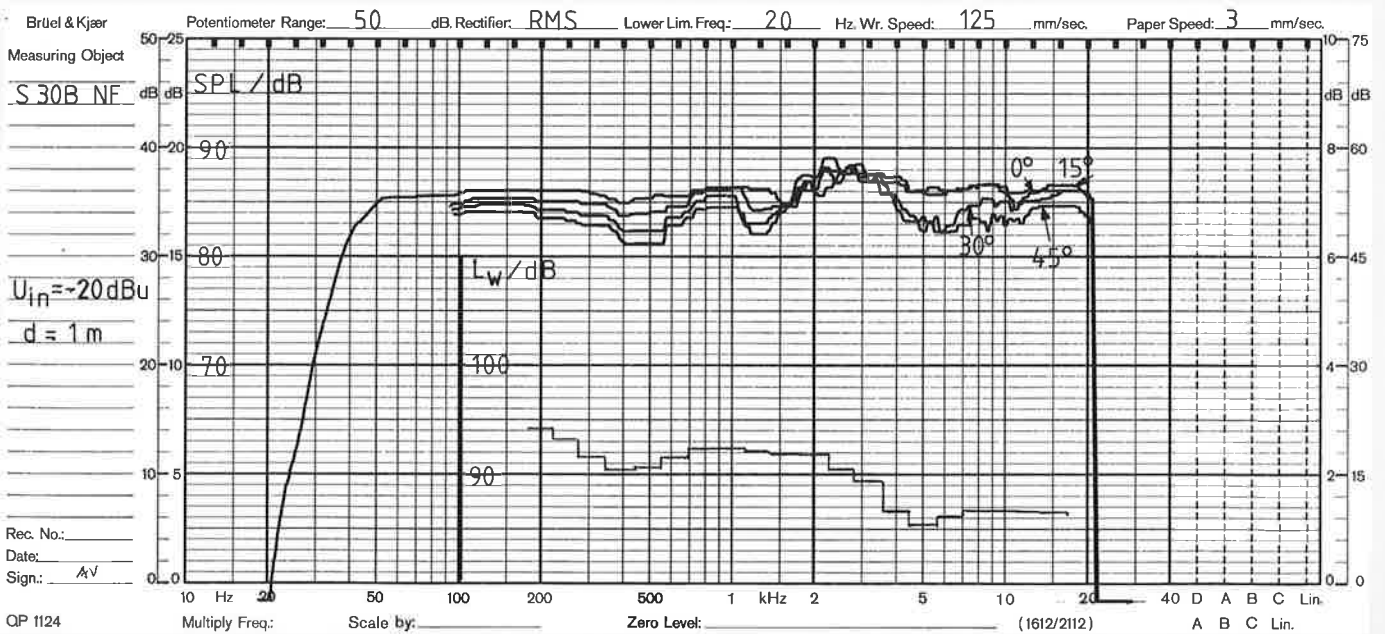


The system acoustical axis:





Effect of control settings measured in free field conditions.



Directional characteristics

SYSTEM SPECIFICATIONS

Lower cut-off frequency, -3dB:	≈ 42 Hz
Upper cut-off frequency, -3dB:	≈ 25 kHz
Free field frequency response tolerance of system:	± 3 dB
Maximum short term sine wave acoustic output on axis in half space, integrated from 100 Hz to 3 kHz	@ 1 m ≥ 111 dB SPL @ 0.5 m ≥ 117 dB SPL
Maximum continuous RMS acoustic output in same conditions with IEC-weighted noise:	@ 1 m ≥ 104 dB SPL @ 0.5 m ≥ 110 dB SPL
Maximum peak acoustic output per pair on top of a console, speakers @ 1 m from the engineer, with music material:	≈ 125 dB
A -20 dBu signal input will produce 87 dB SPL in free field @ 1 m on axis with all controls set at the "CAL" position. The "CAL" position is the 0 dB position of all tone controls and the maximum sensitivity position of the input level control. See specification in the Crossover Section.	
Input level for maximum short term output	+4 dBu
Input sensitivity adjusting range, continuously variable	0...-20 dB (0 dB "cal")
Self generated noise level in free field @ 1 m on axis:	≤ 10 dB (A weighted)
Harmonic distortion at 90 dB SPL at 1 m on axis:	Freq. ≤ 200 Hz ≤ 3 % Freq. > 200 Hz ≤ 1 %
Drivers:	Bass 8" cone (210 mm) Mid 3 1/2" cone (80 mm) Treble 3/8"x 2 1/2" ribbon (9 x 65 mm)
Weight:	44 lb. (20 kg)
Dimensions:	Width 12 5/8" (320 mm) Height 19 1/2" (495 mm) Depth 11" (280 mm)

CROSSOVER SECTION

Input connector:	XLR female pin 2 + pin 3 -
Input impedance:	10 k balanced
Subsonic filter:	down 12 dB @ 20 Hz re 100 Hz level
Ultrasonic filter:	down 12 dB @ 50 kHz re 10 kHz level
Crossover frequency:	bass/ midrange 420 Hz midrange/ treble 4 kHz
Crossover acoustical slopes:	> 18 dB/octave
Tone control operation range in 1 dB steps:	bass from 0 dB to -6 dB midrange from 0 dB to -6 dB treble from 0 dB to -6 dB

The 0 dB position is the "CAL" position (switch position number 7)

Bass roll-off filter in 2 dB steps: from -4 dB to +2 dB @ 43 Hz

The 0 dB position is the "CAL" position (switch position number 3)

AMPLIFIER SECTION

Bass amplifier output power at 8 ohm load:	continuous 90 W momentary 110 W
Mid amplifier output power at 8 ohm load:	continuous 25 W momentary 110 W
Treble amplifier output power at 8 ohm load:	continuous 8 W momentary 90 W
Mid and treble channel continuous output power is limited by the electronic overload protection. Slew rate	> 20 V/us
Amplifier system distortion at nominal output:	THD ≤ 0.1 % SMPTE-IM ≤ 0.1 % CCIF-IM ≤ 0.1 % DIM100 ≤ 0.1 %

The amplifier system has passed the following tests:

Dry heat, stock (72 hours at +55°C, +131°F)	IEC 68-2, Bd
Dry heat, operation (20 hours at +40°C, +104 °F)	IEC 68-2-2, Bd
Shock (1000 shocks at 25 G in each direction)	IEC 68-2-29, Eb
Vibration (from 10 to 150 Hz at 1 G, 2 hours at each direction)	IEC 68-2-6, Fc
Damp heat, cyclic (RH 93 %, 12 hours at +40°C, +104°F, 12 hours at +25°C, +77°F)	IEC 68-2-30, Db
Cold, operation (20 hours at -10°C, 14°F)	IEC 68-2-1, Ab
Cold, stock (72 hours at -40°, -40°F)	IEC 68-2-1, Ab
Temperature changes (4 cycles from -40° to +55°C and back, from -40° to +131°F)	IEC 68-2-14, Nb
Signal to Noise ratio, from shorted system input to channel output, referred to full output:	bass 98 dB midrange 101 dB treble 97 dB
Mains voltage:	110/220/240 VAC
Voltage Operation Range:	± 10 %
Power consumption:	idle 30 VA full output 220 VA

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All data subject change without prior notice.