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DATA SHEET 1022-0107-6



**GENELEC® 1022B
MONITORING SYSTEM**

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1022B APPLICATIONS

- BROADCAST CONTROL ROOMS
- MODERATE SIZED RECORDING STUDIOS
- DRAMA AND MUSIC STUDIOS
- TELEVISION CONTROL ROOMS
- POST PRODUCTION
- WORK STATIONS
- VIDEO AND FILM EDITING SUITES
- ACOUSTIC INSTRUMENTS SOUND FILL

GENERAL DESCRIPTION

SYSTEM

The Genelec 1022B is a three-way monitor that includes drivers, amplifiers and active crossovers. The 1022B is designed as a standard reference monitor for broadcast, recording, editing and post production, music and drama studios, as well as acoustic instrument sound reinforcement. The 1022B is designed as a free-standing monitor but can also be flush-mounted into control room wall.

DRIVERS

The bass frequencies are reproduced by a 12" bass driver loaded with a 2.5 cubic feet (70 liters) vented box. The bass driver has a very large magnet and high power handling capability. The -3dB point is 38 Hz and the low frequency response extends to 28 Hz. The midrange frequencies are reproduced with a very carefully designed 3 1/2" soft cone driver specially impregnated to minimize coloration. The high frequency driver is a 1" soft dome tweeter loaded with a short horn. The enclosure is manufactured from polyurethane integral foam and specially contoured to minimize acoustical diffraction from enclosure edges and to increase directivity. Increased directivity helps to minimize room reflections and improves stereo imaging.

CROSSOVER

The active crossover network consists of three parallel bandpass filters. The crossover frequencies are 400 Hz and 3.8 kHz and acoustically the slopes are 24 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 38 Hz, has four 2db steps to allow refined equalization for different loudspeaker locations. The crossover network contains also an active balanced input stage and a volume control.

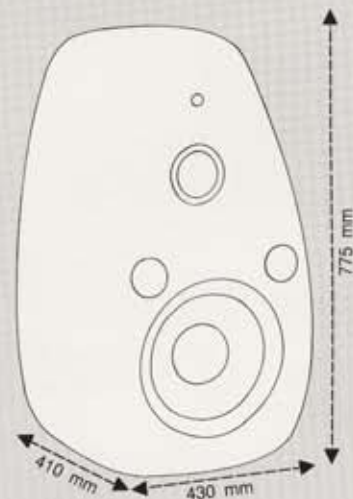
AMPLIFIERS

The bass, midrange and treble amplifiers produce 190, 150 and 150 watts, respectively, of peak power. The bass amplifier has a continuous output of 150 watts, the midrange amplifier 24 watts and treble amplifier has

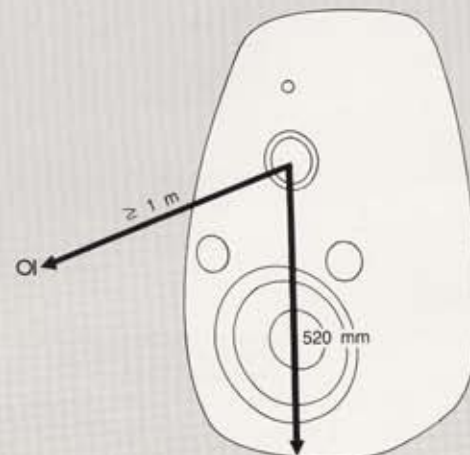
8 watts. The lower levels of continuous power protect the drivers, but the amplifiers are capable of driving the system to peak levels of 121 dB SPL. Electronic overload protection is incorporated into the design of both the midrange and treble amplifiers. THD and IM distortion are low in all amplifiers.

INTEGRATED CONSTRUCTION

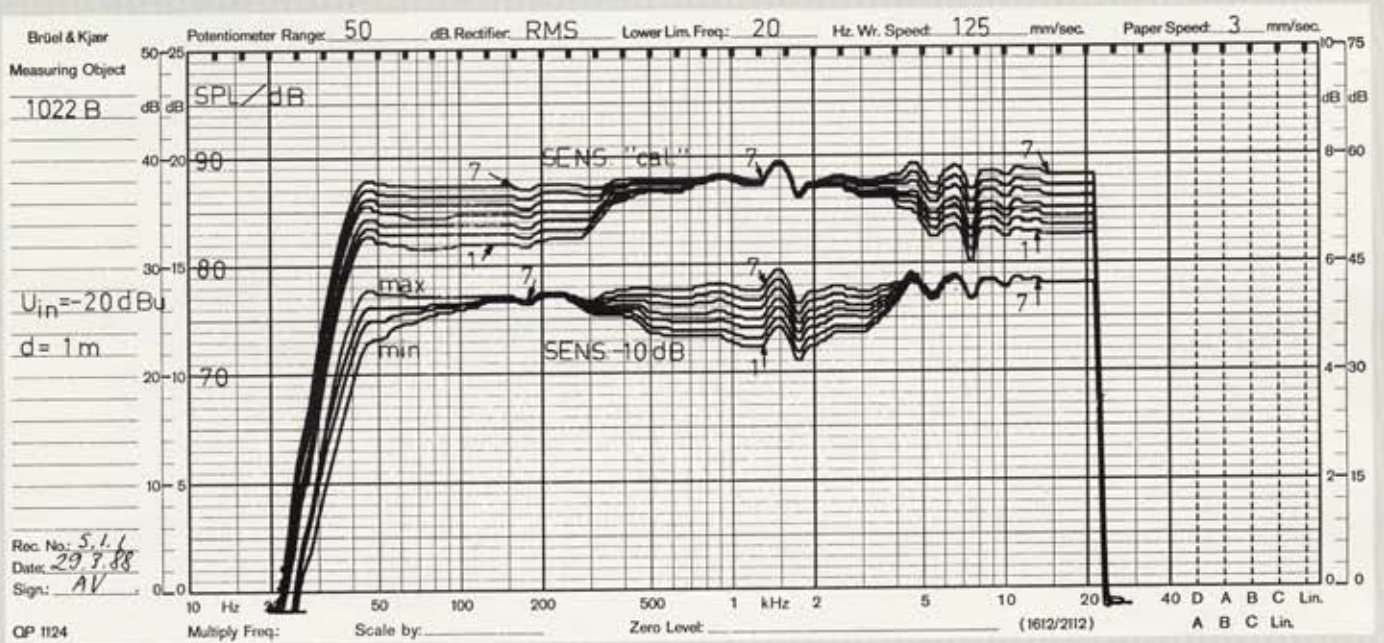
Maintenance is straightforward and very easy due to rugged, but highly integrated simple construction. The amplifier chassis is mounted into the enclosure with vibration absorbing quick release hinges. A similar method is used to mount the amplifier circuit board to the amplifier chassis, giving easy 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.



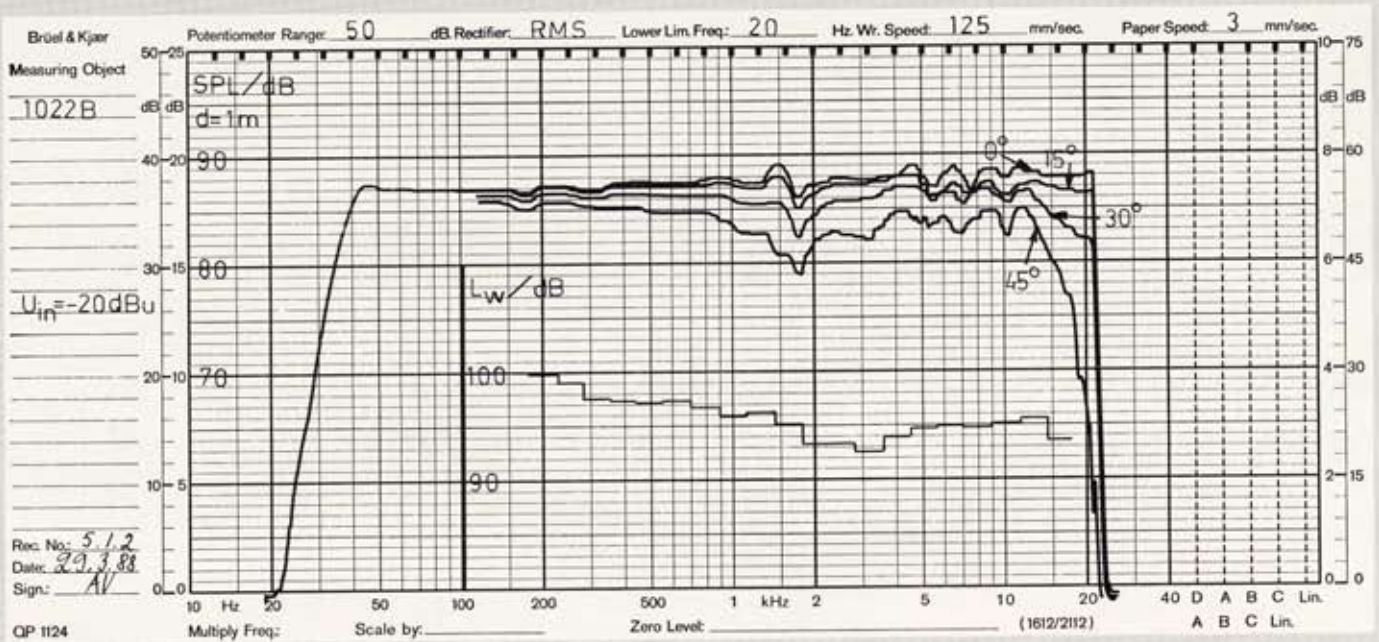
The system acoustical axis:



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Effect of control settings in free measured in field conditions.



Directional characteristics

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SYSTEM SPECIFICATIONS

Lower cut-off frequency, -3dB: ≤ 38 Hz

Upper cut-off frequency, -3dB: ≥ 20 kHz

Free field frequency response tolerance of system: ± 3 dB

Maximum continuous sine wave acoustic output @ 1 m on axis in a half space: ≥ 110 dB SPL

Maximum continuous RMS acoustic output in same conditions with IEC-weighted noise: ≥ 110 dB SPL

Maximum peak acoustic output per pair behind a console, speakers @ 1.7 m from the engineer, with music material: ≥ 121 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.

Self generated noise level in free field @ 2 m on axis: ≤ 15 dB (A weighted)

Harmonic distortion at 98 dB SPL at 1 m on axis: Freq. ≤ 200 Hz $\leq 3\%$
Freq. > 200 Hz $\leq 1\%$

Directivity: see graphs

Drivers: Bass 12" cone (300 mm)
Mid 3 1/2" cone (80 mm)
Treble 1" dome (25 mm)

Weight: 44 lb. (20 kg)

Dimensions Width 17 7/16" (443 mm)
Height 30 1/2" (775 mm)
Depth 16 1/8" (410 mm)

AMPLIFIER SECTION

Bass amplifier output power at 8 ohm load:
continuous 150 W
momentary 190 W

Mid amplifier output power at 8 ohm load:
continuous 24 W
momentary 150 W

Treble amplifier output power at 6 ohm load:
continuous 8 W
momentary 150 W

Mid and treble channel continuous output power is limited by the driver unit protection processor.

Slew rate 30 V/us

Amplifier system distortion at nominal output:

THD	$\leq 0.1\%$
SMPTE-IM	$\leq 0.1\%$
CCIF-IM	$\leq 0.1\%$
DIM100	$\leq 0.1\%$

Signal to Noise ratio, from shorted system input to channel output, referred to full output:

bass	101 dB
midrange	105 dB
treble	108 dB

Mains voltage: 110/220/240VAC

Voltage Operation Range: $\pm 10\%$

Power consumption:
idle 30 VA
full output 400 VA

CROSSOVER SECTION

Input connector: XLR female pin 2 + pin 3 -

Input impedance: 10 k balanced

Continuously variable input level for maximum output:
from +23 dBu to +3 dBu

Subsonic filter: down 12 dB @ 15 Hz
re 100 Hz level

Ultrasonic filter: down 12 dB @ 50 kHz
re 10 kHz level

Crossover frequency,
bass/midrange 400 Hz
midrange/treble 3.8 kHz

Crossover acoustical slopes
 > 24 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 -6 dB
to 0 dB @ 38 Hz

The 0 dB position is the "CAL" position (switch position number 4)

GENELEC

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All data subject to change without prior notice.