

Genelec 1022B
Monitoring Speakers

Operating
Manual



GENELEC®

1. General Description

System

The GENELEC 1022B is a three-way monitor, combining drivers, amplifiers and active crossovers in a single unit. The 1022B is designed as a standard reference monitor where moderately high SPL's in medium sized rooms are required from a compact unit. This unit is designed for use as a free standing monitor which may be flush wall mounted. The 1022B monitor may be used in broadcasting, recording, editing and post production as well as acoustic instrument sound reinforcement.

Drivers

Low frequencies are reproduced by a 300 mm bass driver loaded in a 70 litre vented cabinet. The bass driver uses a very large magnet and high power handling capability to ensure high SPL's at low frequencies. The lower -3 dB point lies at 38 Hz, and the low frequency response extends to 28 Hz.

The midrange frequencies are reproduced with a very carefully designed 80 mm softcone driver, specially impregnated to minimise coloration.

The high frequency driver is a 25 mm soft dome tweeter loaded in a short horn. The upper -3 dB point lies at 22 kHz.

The enclosure is manufactured from polyurethane integral foam and specially contoured to minimise acoustic diffraction from the enclosure edges and to increase overall directivity. Increased directivity helps to minimise 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 the driver roll-off is of 24 dB/octave. Bass, midrange and treble balance can be varied to match the acoustic environment by the use of three tone controls, using 1 dB increments.

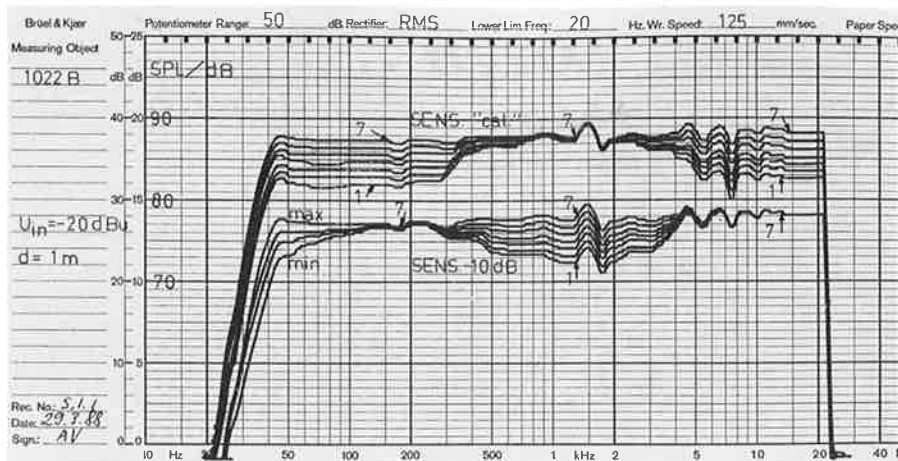


Figure 1. Effects of tone control settings measured in free field conditions

The low frequency roll-off control (located within the amplifier unit), which is effective below 38 Hz, has four 2 dB steps to allow refined equalization for differing loudspeaker locations. The crossover network also contains an active balanced input stage and an input level control,

Amplifier

The bass, midrange and treble amplifiers produce 190, 150 and 150 watts, respectively, of peak power. The amplifiers are capable of driving the system to peak acoustic levels of 121 dB SPL (per pair). Electronic driver protection is incorporated to protect the midrange

and tweeter drivers against overload. Continuous output powers are limited for the midrange and tweeter to protection levels of 14 and 8 V RMS respectively. Both the THD and IM distortion are kept to a minimum within the amplifier (< 0.1 %). The power consumption when idling and at maximum output are 30 and 400 VA respectively.

Integrated construction

Maintenance of the 1022B is minimised by its highly integrated and rugged construction. The amplifier unit is mounted to the speaker enclosure on vibration absorbing, quick release hinge, giving easy

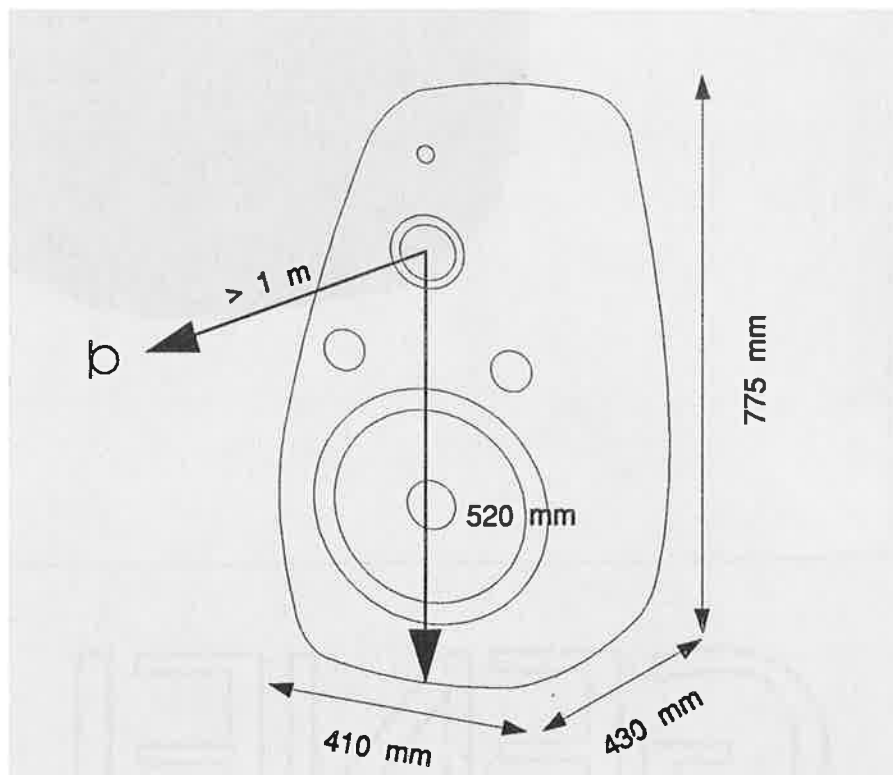


Figure 2. Speaker acoustic axis.

access to both sides of the circuit board. A shortened version of this manual is printed on the rear panel of the amplifier.

2. Installation

Each 1022B monitor is supplied with an integrated amplifier unit, a mains cable and an operating manual. Once unpacked, place the loudspeaker in its required listening position, taking note of the listening axis (see figure 2). If the speaker is to be flush mounted, ensure that there is sufficient ventilation behind the speaker for amplifier cooling.

Before connecting up, ensure that the mains switch is off (see figure 4) and that the mains supply matches that required by the speaker, nominally 220 V 50 Hz, unless otherwise stated. Audio input is made via a 10k Ohm balanced XLR, but unbalanced leads may be used as long as pin 3 is grounded to pin 1 in the XLR (see figure 3).

Once connection has been made, the speakers are ready to be powered-up. Adjustment of the input sensitivity of each speaker can be made to match that of the mixing desk, by use of the input level control on the rear panel of the amplifier (see figure 4). The acoustic response of the system may also have to be adjusted to match the acoustic environment. This is done by adjusting the three tone controls on the rear panel of the amplifier. The manufacturers settings of these controls is 7,7,7 to give a flat anechoic response. Figure 6 shows suggested settings for differing environments. Figure 1 shows the effects of the controls on the anechoic response.

3. Maintenance

No user serviceable parts are to be found within the amplifier unit. Any maintenance or repair of the 1022B unit should only be undertaken by qualified service personnel. Ensure that if fuse replacement is required, only fuses of the appropriate voltage and current ratings

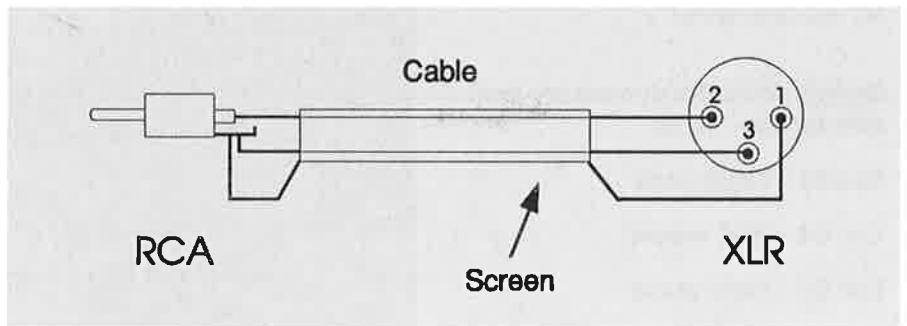


Figure 3 . XLR connection if unbalanced output is required.

are used. REMEMBER to disconnect the power supply by removal of the mains cable, before fuse replacement.

4. Safety Considerations

Although the 1022B has been designed in accordance with international safety standards, to ensure the safe operation and to maintain the instrument under safe operating conditions, the following warnings and cautions should be observed. Servicing and adjustment should only be performed by qualified service personnel. Opening the

amplifier unit is strictly prohibited except by qualified service personnel who are aware of the hazards involved. It is forbidden to use this product with an unearthed mains cable, which may lead to personal injury.

WARNING! This equipment is capable of delivering Sound Pressure Levels in excess of 90 dB, which may cause permanent hearing damage.

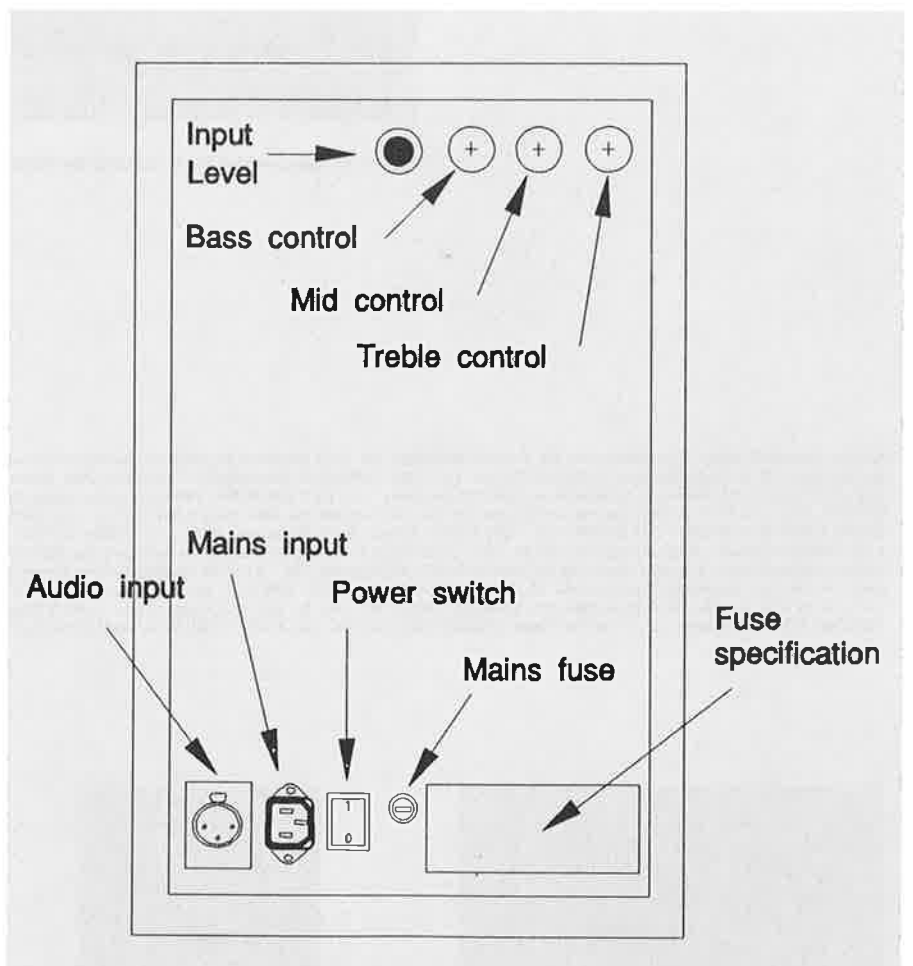


Figure 4. Rear panel layout.

5. Accessories

Several additional options are available for the 1022B:

- Opt 01 - Flight case
- Opt 04 - Wall mount
- Opt 05 - Floor stand

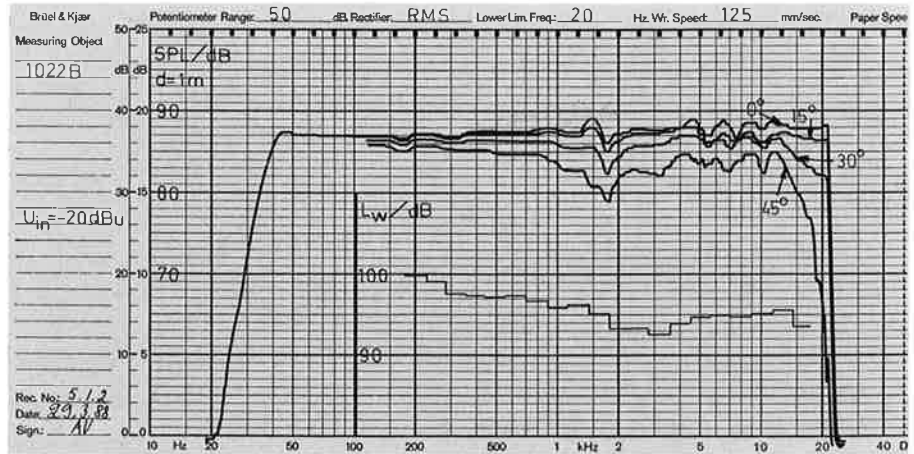


Figure 5. 1022B Directivity characteristic and power response

6. Guarantee

This product is supplied with a ONE YEAR guarantee against manufacturing faults or defects that might alter the performance of the S30 unit. Refer to supplier for full sales and guarantee terms.

Speaker Mounting Position	Switch			
	Level			Roll-off
	B	M	T	B
Flat anechoic response (CAL)	7	7	7	4
Free standing in a heavily damped room	7	7	7	4
Free standing in a reverberant room	5	7	7	4
Flush mounted in a hard wall	2	7	7	4
In a corner	1	7	7	2

Figure 6. Suggested tone control settings

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