

# GENELEC®

## The Biway 1049A

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The GENELEC 1049A is a 2 way speaker carefully designed and manufactured with the aim of obtaining the highest possible sound quality in a normal listening room. When striving to do this, component quality is essential, and Genelec use only the highest quality components available. When comparing both size and price against sound quality, this speaker makes a hard combination to beat.

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### Speaker cabinet

The cabinet and braces are constructed of MDF so as to maximise cabinet stiffness and minimise vibration. Carefully placed damping material is employed to eliminate standing waves within the cabinet, which leads to a clearer sound without midrange coloration.

### Bass driver

The bass driver we use is a 170 mm long throw woofer with very high magnetism. The driver is capable of handling continuous power of 60 W and with broadband music, 150 W peaks. The voice coil has a diameter of 40 mm and works in a symmetric magnetic field which reduces THD and IM distortions. In addition, the drivers frequency response extends to 6kHz, but is limited by the crossover to 3.6kHz.

### Tweeter driver

We have used a 25 mm soft dome tweeter with ferrofluid cooling for the voice coil. We modify the tweeter so as to



optimise its high frequency response, which ranges from 1kHz to 25kHz.

### Crossover network

The crossover is designed with the aim of matching the drivers in terms of phase difference and time delay. At the crossover frequency the phase difference between the drivers is within  $\pm 10$  degrees and the time delay within  $\pm 0.16$  ms, so that drivers are never in antiphase. We have designed the crossover so that the speakers free field and acoustic power responses are best suited for use in a normal listening room. The crossover network consists of 12 passive components, each individually tested. All inductors are in-house wound, so that we don't have to depend on the accuracy of other manufacturers.

### Frequency response

Both bass and treble channels have separate inputs making biwiring possible. The speaker terminals allow for the use of

cable upto 30 mm<sup>2</sup>.

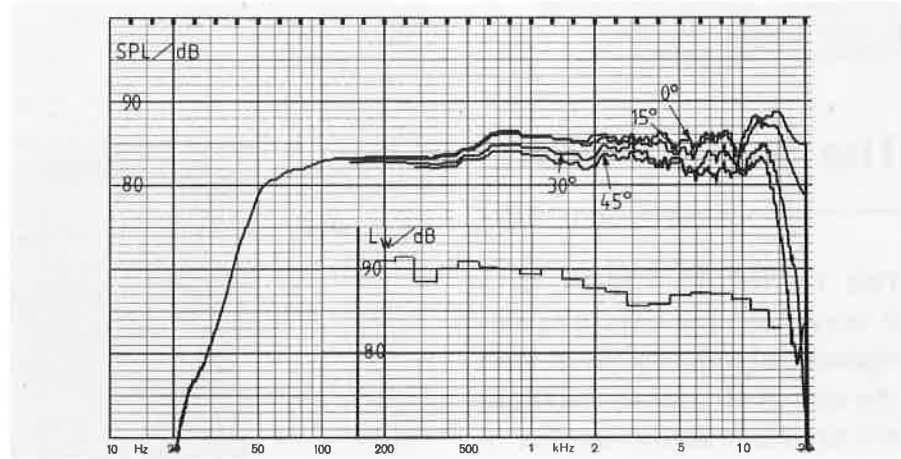
Speakers with a flat free field response, seldom sound good in normally reverberant room due to room reflections.

At bass frequencies where the wavelength is large, the speaker is omnidirectional. But at mid and treble frequencies the speaker becomes directional. So for the bass driver most of the sound is not radiated in the listening direction, thus resulting in room reflections. This is the reason for bass boost in normally reverberant rooms. According to GENELEC measurements over many years, we think that bass level should be 2-3 dB below the midrange level, so that the speaker produces a flat response in a normal room.

It is this feature that makes the 1049A's frequency response different from other speakers, as the bass level is cut by 3 dB below 800 Hz, which in turn improves the acoustic power response. This is essential for a good sound balance in normally reverberant rooms.

## Guarantee

This product is supplied with a ONE YEAR guarantee against manufacturing faults or defects that might alter the performance of the 1049A unit. Please refer to your supplier for full sales and guarantee terms.



1049A Free field frequency and acoustic power response at 1m

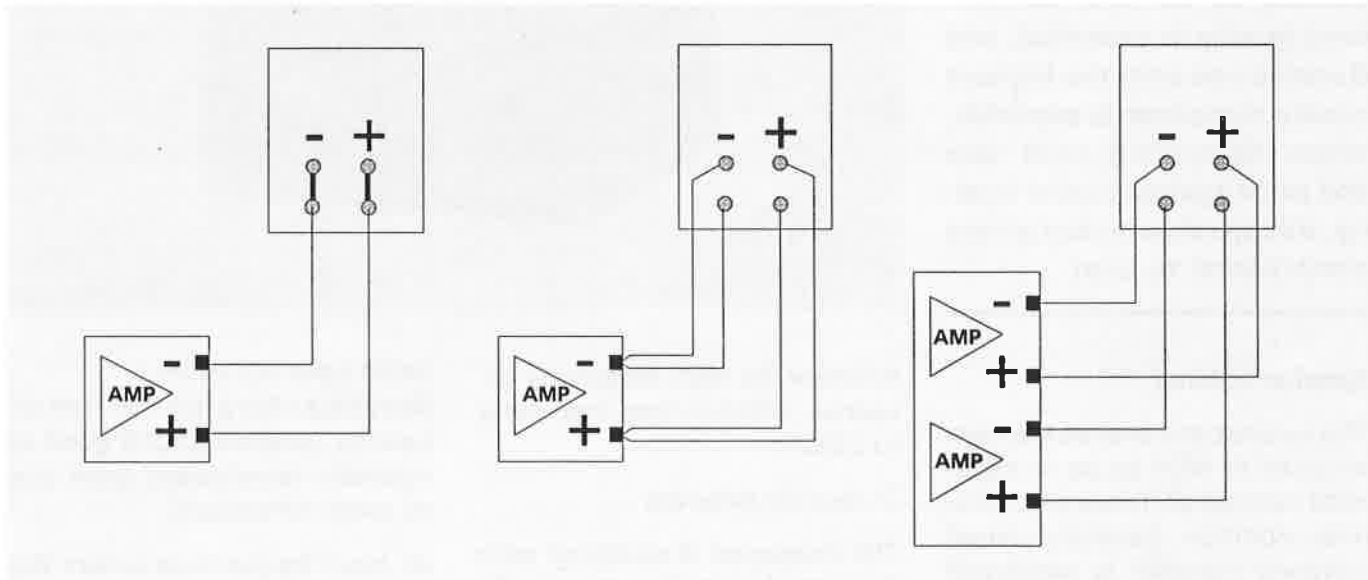


Figure 1. Normal connection

Figure 2. Bi-wiring connection

Figure 3. Bi-amp connection

## Specification

Type: 2 way bass reflex

Frequency response:

57 - 18000 Hz  $\pm$  2 dB

Sensitivity: 86 dB/2.83V/m

Input impedance: 8 Ohms

Power amplifier rating: 25 - 150 W

Elements: 170 mm Polypropylene cone woofer with 40 mm voice coil, 25 mm soft dome tweeter

Crossover frequency: 3.6 kHz

Position of listening axis: centred between both drivers

Phase angle at crossover:  $< \pm 10^\circ$

Time delay at crossover:  $< \pm 0.16$  ms

Connectors: 4 post allowing Biwiring

Weight: 6.7 Kg

Dimensions (H,W,D): 310x225x230 mm

Finish: Black wood veneer

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