

7000 Series

Data Sheet
Genelec 7050A
Active Subwoofer

GENELEC®





Main Features:

- LSE™ Power efficient port/ enclosure design
- Minimal port turbulence noise
- Unparalleled low frequency performance
- Precise integration to Genelec 1029/2029 systems

Active Subwoofer 7050A

System

Genelec 7050A active subwoofer is a very compact low frequency loudspeaker, incorporating all the amplifier and crossover electronics needed to combine it with Genelec 1029 or 2029 series loudspeakers. Adding the 7050A to a 1029/2029 system creates a compact nearfield monitoring system capable of a flat frequency response from 38 Hz to 20 kHz (± 2.5 dB).

The amplifier unit, which is integrated into the cabinet, consists of the active crossover filter, driver overload protection circuits and a power amplifier. The subwoofer has two input connectors and adjustable sensitivity. This provides great flexibility.

LSE™ cabinet construction

Like the larger Genelec 7000 series subwoofers, the 7050A features the new Genelec Laminar Spiral Enclosure™ (LSE™) bass reflex cabinet. The cabinet is made of sheet metal rolled into a spiral shape and clamped between thick MDF side panels. The spiral forms a seamless, gently curving reflex tube with excellent laminar flow characteristics and minimal turbulence noise. The curved shape also offers excellent structural stiffness and optimal packing of a very long reflex tube into a small space.

The amplifier unit is mounted on vibration absorbers, to ensure rattle-free operation.

This results in a robust and reliable system. The handsome cast-aluminium grille protects the magnetically shielded 8 inch driver.

Driver

The 7050A is equipped with a 200 mm (8") magnetically shielded long throw cone driver capable of producing SPLs up to 105 dB in half space.

Amplifier

The amplifier produces 70 W of output power, with very low THD and IM distortion. It is mounted on thick aluminium, which provides excellent heat dissipation. Driver overload protection and power-on signal muting is included in the amplifier circuitry. This makes the system immune to overloads and spurious signals. Power-on signal muting electronically disconnects the drive unit when the power is turned on. The amplifier also incorporates thermal overload and short circuit protection.

Crossover filters

The active crossover contained within the amplifier unit filters the input signals. This accurately rejects the higher frequencies that the monitors reproduce, and allows the lower frequencies to pass. The sensitivity can be attenuated by from 0 dB to -18 dB for easy level matching with the main speakers for

varying positions.

Balanced XLR female connectors are used for the system inputs. This allows for easy integration with Genelec 1029 and 2029 series active monitors.

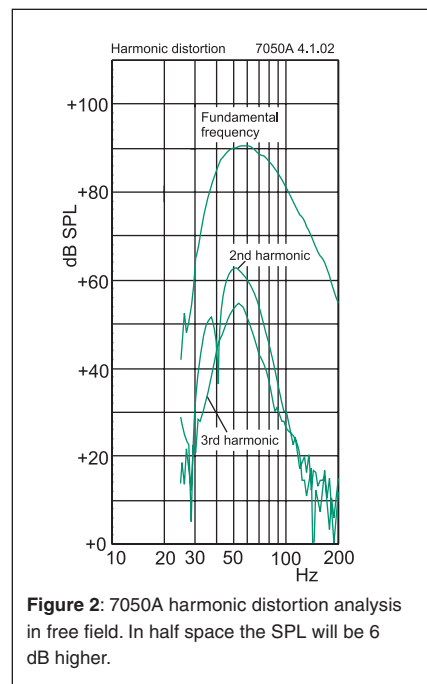
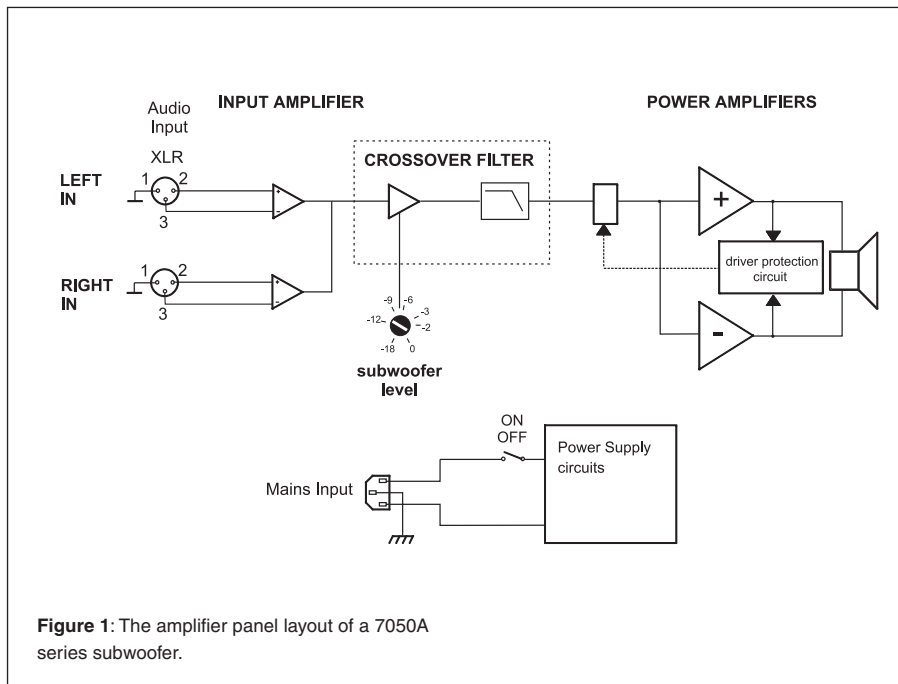
Cabling and connections

Figure 3 shows the 7050A and the 1029A's. Figure 4 shows how the system should be cabled. The input to the 1029/2029 monitor is made by an XLR connection. This can be either balanced (e.g. output of mixing console) or unbalanced (e.g. output of CD player). The subwoofer output of the 1029/2029, and hence the inputs to the 7050A are balanced. The wiring diagrams for these configurations can be found in the operating manual which is supplied with the systems.

Why a subwoofer?

For applications, such as computer multimedia work and most types of near field monitoring, the 1029/2029 is an appropriate monitor system. However if lower LF cutoff and more SPL are required, for example in a home theatre system, the 7050A subwoofer has been designed for this requirement.

The 7050A has been specifically designed to complement Genelec 1029/2029 series active monitors. When combined they give a frequency response comparable to some larger Genelec monitors - one of the



differences is the greater SPLs offered by larger systems.

The 1029/2029 and 7050A combination offers greater flexibility on placement positions. Due to the 1029/2029's physical size it can be located on desks and, if carefully placed appear fairly innocuous in a room. Further advice on how to place the monitor is described in the operating manual.

If the subwoofer and main speakers are placed properly some of the low frequency problems associated with free standing speakers can be avoided.

Why active speakers?

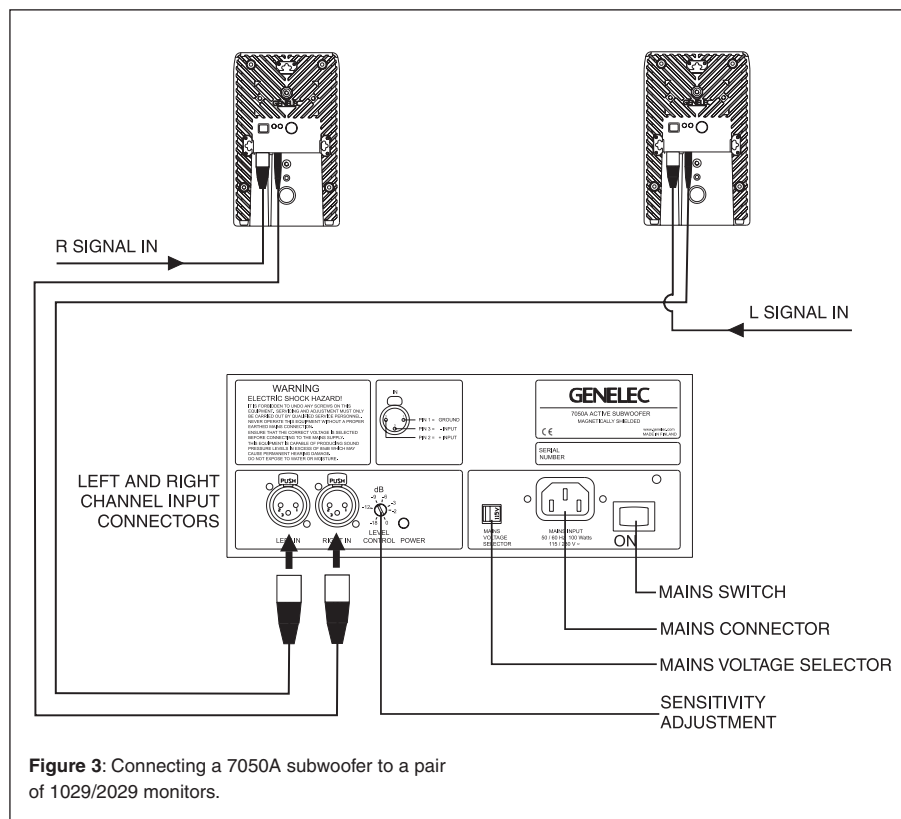
There are various reasons why active speakers are preferable to passive alternatives, the most dominant being the integrated construction allowing better optimization of the system performance. The monitors are always delivered as a complete factory calibrated system, consisting of all amplifiers, crossover electronics and speaker cabinets.

In an active monitor system the amplifiers are connected directly to the drive units. Distortion anomalies and losses caused by passive crossovers are completely avoided resulting in better sound quality and maximum acoustic efficiency.

For every model of monitor the associated amplifiers have a unique design including driver overload protection. The overload protection detects signals that are above the drivers safe limits preventing damage. This makes the system immune to overloads and spurious signals which synthesizers,

sequencers and multimedia sources, such as sound cards, can occasionally produce.

The crossover and phase responses are optimized for each particular model to achieve highly accurate system performance. Consequently every model has the same neutral sound.



7050A Data Sheet

SYSTEM SPECIFICATIONS

| | 7050A |
|--|--|
| Free field frequency response (+/- 3 dB) | 38 Hz...85 Hz |
| Maximum short term sine wave SPL output averaged from 45 to 85 Hz, measured in half space at 1 meter | ≥ 100 dB SPL |
| Maximum peak SPL output with random pink noise, measured in half space at 1 meter | ≥ 105 dB SPL |
| Self generated noise level in free field @ 1 m on axis (a-weighted) | ≤ 15 dB |
| Harmonic distortion at @ 1 m on axis in half space 2nd 3rd | @ 95 dB SPL 40 ... 85 Hz ≤ 3 % ≤ 2 % |
| Driver, magnetically shielded | 200 mm (8") |
| Weight | 15 kg (33 lbs) |
| Dimensions Height Width Depth | 410 mm (16 1/8") 350 mm (13 3/4") 314 mm (12 3/8") |

CROSSOVER SECTION

| | 7050A |
|--|-------|
| Subsonic filter (18 dB/octave) below | 38 Hz |
| Crossover frequency, (sub/main channels) | 85 Hz |

AMPLIFIER SECTION

| | 7050A |
|---|-------------------------|
| Short term amplifier output power (Long term output power is limited by driver unit protection circuitry) | 70 W |
| Amplifier system distortion at nominal output THD | ≤ 0.08% |
| Mains voltage | 100/200V or 115/230V |
| Power consumption (average) Idle Full output | 10 VA 100 VA |

INPUT SECTION

| | 7050A |
|---|---|
| Input connector XLR female pin 1 pin 2 pin 3 | gnd + - |
| Input impedance | 10 kohm balanced |
| Input level for 100 dB SPL output @ 1 m | 0...-18 dB (referenced to 1029/2029 output) |

CONTROLS

| | 7050A |
|-------------------|------------|
| Input sensitivity | 0...-18 dB |