

LSE Series

Operating Manual
Genelec 7050A
Active Subwoofer

GENELEC®





Genelec 7050A Active Subwoofer

General description

Genelec 7050A active subwoofer is a very compact low frequency loudspeaker, designed to extend the bass reproduction of Genelec 1029A, 2029A or 2029B active monitors in stereo applications. 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 (± 3 dB).

Driver

The 7050A contains a single 200 mm (8") magnetically shielded low frequency driver, housed in Genelec Lamina Spiral Enclosure™ (LSE™).

Crossover

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 from 0 dB to -18 dB for easy level matching with the main loudspeakers. Due to the input sensitivity of the 7050A subwoofer it can only be used with Genelec 1029A, 2029A and 2029B active monitors.

Amplifier

The amplifier produces 70 W of output power, with very low THD and IM distortion. Driver

overload protection and power-on signal muting is included in the amplifier circuitry. The amplifier also incorporates thermal overload and short circuit protection.

Installation

The subwoofer is supplied with a mains cable, signal cables to go between the main monitors and the subwoofer and this operating manual. Once unpacked inspect the subwoofer to ensure that it has not been damaged in transport. Check that the mains voltage selector switch is set to your local mains voltage (Subwoofers sold in Europe have a fixed 230 V setting). Ensure that both the subwoofer and the main monitors are switched off before making any connections.

Audio connections to the subwoofer are made with balanced 1/4" Jack / XLR cables supplied with the subwoofer. Signals from the source are fed to the XLR input connectors of the 1029A/2029A/2029B monitors. The 7050A gets its input signal from the 1/4" Jack "SUB OUT" output connectors of the 1029A/2029A/2029B monitors (see Figure 1). When used in conjunction with the 7050A the "BASS ROLL-OFF" dip switch (switch 2) on the 1029A/2029A/2029B should be switched to position "ON". Once all connections have been made, the subwoofer and main monitors are ready to be powered up.

Positioning in the room

The placement of the subwoofer in the room affects the overall frequency response and sound level of the system dramatically, as at low frequencies the effects of the room are strong. Even a slight change in the subwoofer's location can make a marked difference in the frequency balance and often a patient and methodical experimentation and testing is needed to find the optimum placement. The placement will affect the phase difference between the main monitors and the subwoofer and the bass roll-off rate.

First place the subwoofer slightly offset from the center of the front wall. The recommended distance to the wall is less than 90 cm / 36" measured from the subwoofer's driver. This position gives increased acoustic loading (and SPL) due to the proximity of the front wall and floor. Cancellations from the front wall and floor are also avoided. Front wall cancellation for the 85 Hz high pass filtered main speakers can be eliminated by placing them at least 110 cm / 43" away from the front wall (see Figure 2).

If the frequency balance does not seem right, try moving the subwoofer slightly to the left or right so that different room modes are excited at different levels. Positioning the subwoofer close to a corner will boost

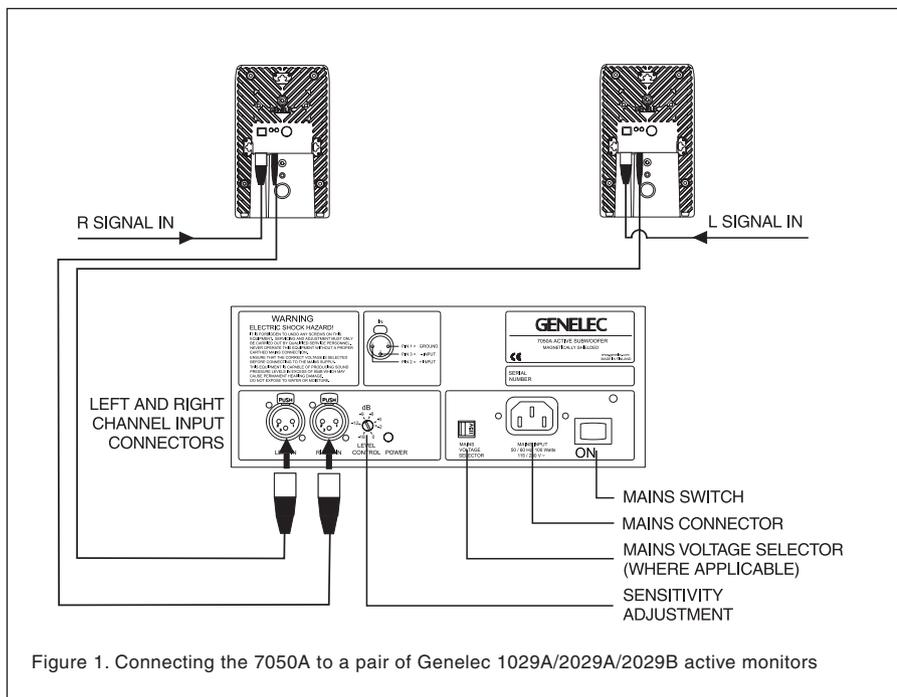


Figure 1. Connecting the 7050A to a pair of Genelec 1029A/2029A/2029B active monitors

the bass level at lower frequencies and may cause asymmetrical spatial imaging.

Although the 7050A is magnetically shielded, it may cause colour distortion if placed near to very sensitive video monitors or computer displays. Move the subwoofer further away or try turning the driver side of the subwoofer away from the screen.

Minimum clearances to walls or other objects

Do not cover the driver side of the subwoofer or place the subwoofer so that there is less than 10 centimeters (4") of free space in front of the grille.

Make sure that the space underneath the subwoofer is clear from obstructions. Thick carpets may block the ventilation clearance needed for cooling the amplifier unit.

The reflex port side (opposite of the connector panel side) should always have a clearance of at least 7,5 centimeters (3") to any objects to ensure proper functioning of the reflex port.

Flush mounting the subwoofer

If the subwoofer is flush mounted into a wall or a cabinet, it is important to ensure amplifier cooling and unrestricted airflow from the reflex port. This can be done by making the recess 7,5 centimeters (3") wider than the

subwoofer. Place the subwoofer into the right end of the recess with the driver side facing the room. This leaves sufficient 7,5 centimeters (3") of free space on the reflex port side. The height and depth of the recess should not be any bigger than what is needed to fit the subwoofer flush with the wall surface.

Setting the input sensitivity

The 7050A is set to the same sensitivity as the 1029A/2029A/2029B monitors in free field conditions. However, when placed near reflecting surfaces the sensitivity typically needs to be attenuated due to increased room loading. A typical starting point would be -4 dB. This is achieved by adjusting the rotary level control on the amplifier plate. The use of proper measuring equipment together with careful listening is highly recommended. The maximum attenuation is -18 dB.

Safety considerations

Genelec 7050A subwoofer has been designed in accordance with international safety standards. However, to ensure safe operation and maintain the unit in safe operating condition, the following warnings and cautions must be observed:

- Do not expose the subwoofer to water or moisture. Do not place

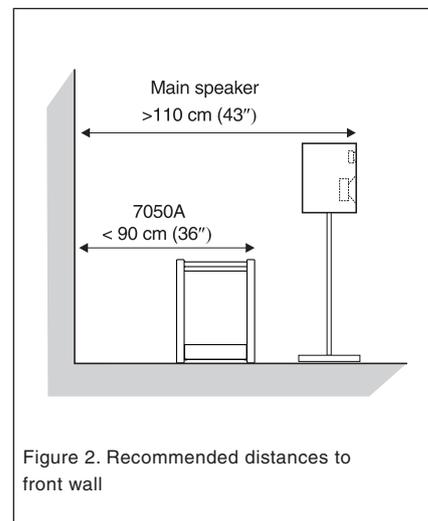


Figure 2. Recommended distances to front wall

any objects filled with liquid, such as vases on the subwoofer or near it.

- Servicing and adjustment must only be performed by qualified service personnel.
- Opening the amplifier unit is strictly prohibited except by qualified service personnel.
- Always use a mains power connection with protective earth. Failing to do this may lead to personal injury.

Warning!

This equipment is capable of delivering sound pressure levels in excess of 85dB, which may cause permanent hearing damage.

Maintenance

No user serviceable parts are inside the amplifier unit. Any maintenance of the unit must only be performed by qualified service personnel.

Guarantee

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

7050A Operating Manual

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	230 V, 115/230V or 100/200V according to region
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