

8030A

Operating Manual
Genelec 8030A
Active Monitoring System

GENELEC®



8030A Active Monitoring System

General description

The bi-amplified GENELEC 8030A is a two way active monitoring loudspeaker designed to be small but still have high output, low coloration, and broad bandwidth.

The 8030A is ideal for near field monitoring, mobile vans, broadcast and TV control rooms, surround sound systems, home studios, multimedia applications and also for use with computer soundcards. As an active loudspeaker, it contains drivers, power amplifiers, active crossover filters and protection circuitry. The MDE™ (Minimum Diffraction Enclosure™) loudspeaker enclosure is made of die-cast aluminium and shaped to reduce edge diffraction. Combined with the advanced Directivity Control Waveguide™ (DCW™), this design provides excellent frequency balance in difficult acoustic environments. If necessary, the bass response of the 8030A's can be extended with a Genelec 7050A or 7060A subwoofer.

Positioning the loudspeaker

Each 8030A monitor is supplied with an integrated amplifier unit, mains cable and an operating manual. After unpacking, place the loudspeaker in its required listening position, taking note of the line of the acoustic axis (see Figure 1).

Connections

Before connecting up, ensure that the mains switch is off and the volume control fully counter-clockwise (see Figure 1). Do not connect the loudspeaker to an unearthed mains supply or using an unearthed mains cable.

Audio input is via a 10 kOhm balanced female XLR connector labelled "INPUT". An unbalanced source may be used as long as pin 3 is grounded to pin 1 at the unbalanced source connector (see Figure 2).

The male XLR "OUTPUT" connector can be used for daisy-chaining up to six 8030A's together or for connecting a Genelec 7050A stereo subwoofer. The volume control attenuates the signal on this output, so the first "master" loudspeaker on a daisy chain can be used to adjust the level on the whole

chain. The volume controls on the "slave" loudspeakers should be set fully clockwise.

Once the connections have been made, the loudspeakers are ready to be switched on.

Setting the volume control

The input sensitivity of the loudspeakers can be matched to the output of the mixing console or other source by adjusting the volume control on the front panel (see Figure 1).

Setting the tone controls

The frequency response of Genelec 8030A can be adjusted to match the acoustic environment by setting the tone control switches on the rear panel. The controls are "treble tilt", "bass tilt" and "bass roll-off". An acoustic measuring system such as MLSSA or WinMLS is recommended for analyzing the effects of the adjustments, however, careful listening with suitable test recordings can also lead to good results if a test system is not available. Table 1 shows some typical settings in various situations. Figure 4 shows the effect of the controls on the anechoic response.

Treble tilt

Treble tilt (switch 1) attenuates the treble response above 5 kHz by 2 dB, which can be used for smoothening down an excessively bright sounding system.

Bass tilt

Bass tilt offers three attenuation levels for the bass response below 1 kHz, usually necessary when the loudspeakers are placed near room boundaries. The attenuation levels are -2 dB (switch 3 "ON"), -4 dB (switch 4 "ON") and -6 dB (both switches "ON").

Bass roll-off

Bass roll-off (switch 2) activates high-pass filtering at 85 Hz to complement the low-pass filter on a Genelec 7050A subwoofer. This switch should always be set to "ON" when using the 8030A with 7050A subwoofers.

The factory setting for all tone controls is "OFF" to give a flat anechoic response.

Always start adjustment by setting all switches to "OFF" position. Measure or listen systematically through the different combinations of settings to find the best frequency balance.

Mounting considerations

Align the loudspeakers correctly

Always place the loudspeakers so that their acoustic axes (see figure 1) are aimed towards the listening position. Vertical placement is preferable, as it minimises acoustical cancellation problems around the crossover frequency.

Maintain symmetry

Check that the loudspeakers are placed symmetrically and at an equal distance from the listening position. If possible, place the system so that the listening position is on the centerline of the room and the loudspeakers are placed at an equal distance from the centerline.

Minimise reflections

Acoustic reflections from objects close to the loudspeakers like desks, cabinets, computer monitors etc. can cause unwanted colouration blurring of the sound image. These can be minimised by placing the loudspeaker clear of reflective surfaces. For instance, putting the loudspeakers on stands behind and above the mixing console usually gives a better result than placing them on the meter bridge.

Minimum clearances

Sufficient cooling for the amplifier and functioning of the reflex port must be ensured if the loudspeaker is installed in a restricted space such as a cabinet or integrated into a wall structure. The surroundings of the loudspeaker must always be open to the listening room with a minimum clearance of 5 centimeters (2") behind, above and on both sides of the loudspeaker. The space adjacent to the amplifier must either be ventilated or sufficiently large to dissipate heat so that the ambient temperature does not rise above 35 degrees Celsius (95°F)

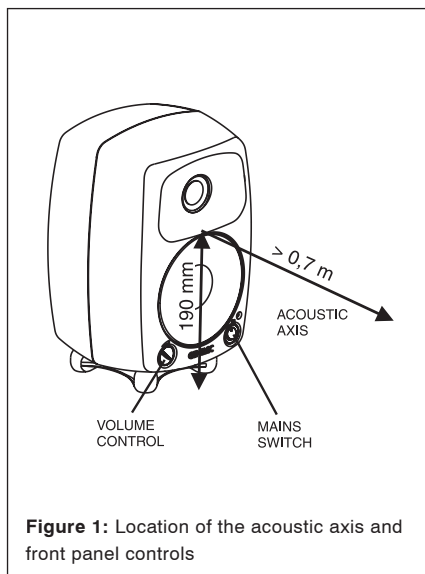


Figure 1: Location of the acoustic axis and front panel controls

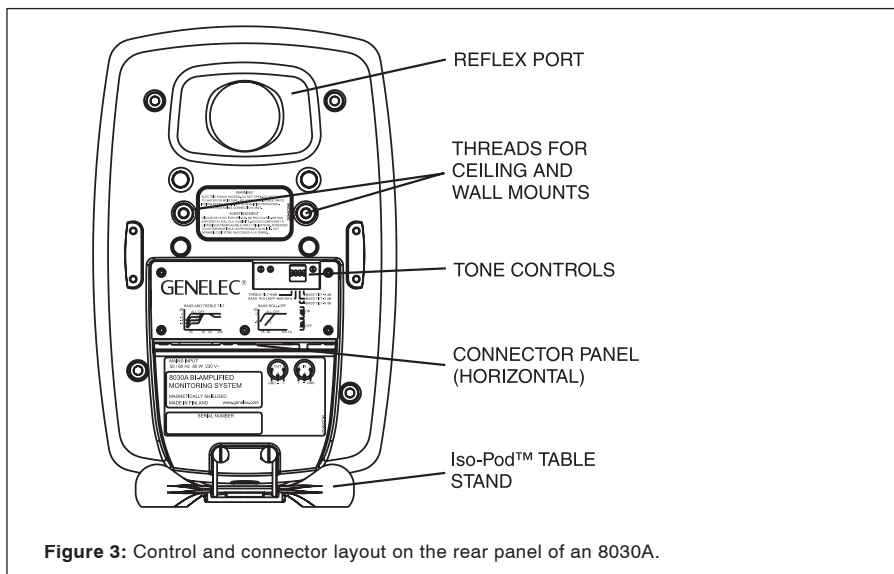


Figure 3: Control and connector layout on the rear panel of an 8030A.

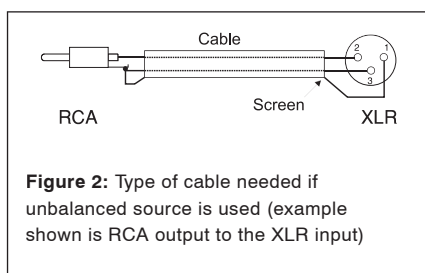


Figure 2: Type of cable needed if unbalanced source is used (example shown is RCA output to the XLR input)

Speaker Mounting Position	Treble tilt	Bass tilt	Bass roll-off
Flat anechoic response	OFF	OFF	OFF
Free standing in a damped room	OFF	OFF	OFF
Free standing in a reverberant room	OFF	-2 dB	OFF
Near field or console bridge	OFF	-4 dB	OFF
Near to a wall	OFF	-6 dB	OFF
With a 7050A subwoofer	See above	See above	ON

Table 1: Suggested tone control settings for differing acoustical environments

Mounting options

The 8030A offers several mounting options: The Iso-Pod™ (Isolation Positioner/Decoupler™) vibration insulating table stand allows tilting the loudspeaker for correct alignment of the acoustic axis. The stand can be attached to three mounting points allowing vertical and symmetrical horizontal positioning. On the base of the loudspeaker is a 3/8" UNC threaded hole compatible with a standard microphone stand. On the rear there are two M6x10 mm threaded holes for Omnimount® size 20.5 brackets.

Maintenance

No user serviceable parts are to be found within the amplifier unit. Any maintenance or repair of the 8030A unit should only be undertaken by qualified service personnel.

Safety considerations

Although the 8030A has been designed in accordance with international safety standards, the following warnings and cautions should be observed to ensure

safe operation and to maintain the loudspeaker under safe operating conditions:

- Servicing and adjustment must only be performed by qualified service personnel. The loudspeaker must not be opened.
- Do not use this product with an unearthed mains cable as this may compromise electrical safety.
- Do not expose the loudspeaker to water or moisture. Do not place any objects filled with liquid, such as vases on the loudspeaker or near it.
- This loudspeaker is capable of producing sound pressure levels in excess of 85 dB, which may cause permanent hearing damage.
- Free flow of air behind the loudspeaker is necessary to maintain sufficient cooling. Do not obstruct airflow around the loudspeaker.
- Note that the amplifier is not completely disconnected from the AC mains service unless the mains power cord is removed from the amplifier or the mains outlet.

Guarantee

This product is guaranteed for a period of one year against faults in materials or workmanship. Refer to supplier for full sales and guarantee terms.

EC Declaration of Conformity

This is to certify that the Genelec Monitoring System 8030A conforms to the following standards:

Safety:
EN 60065 / IEC 60065:1998 6th Edition

EMC:
EN 55013: (2001)
EN 55020: (1994), A11: (1996), A12: (1999), A13: (1999), A14: (1999)
EN 61000-3-2 (2000)
EN 61000-3-3 (1995)

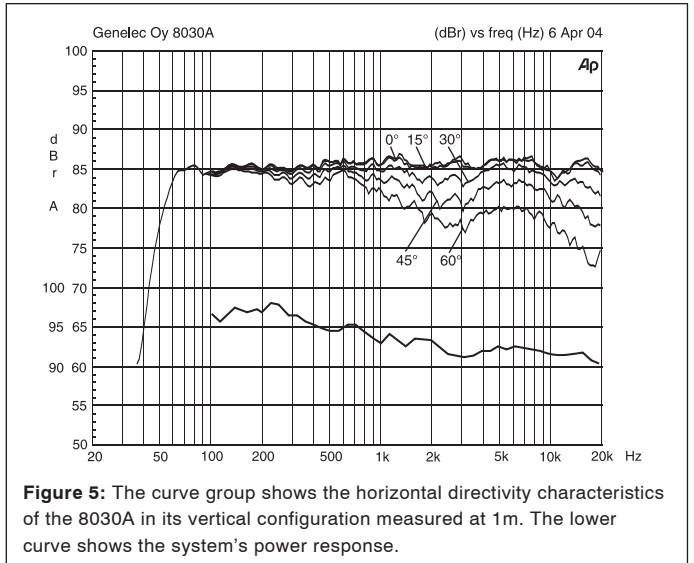
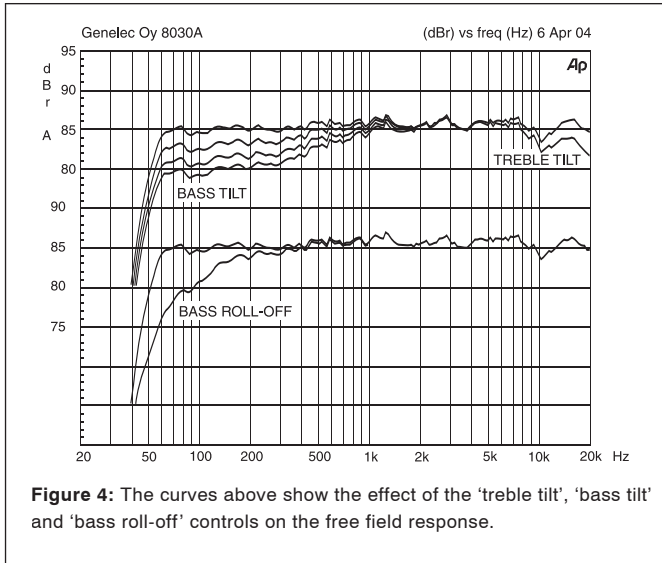
The product herewith complies with the requirements of The Low Voltage Directive 73/23/EEC, EMC Directive 89/336/EEC and 93/68/EEC

Signed:

Position:
Date:

Ilpo Martikainen
Managing Director
20-April-2004

8030A Operating Manual



SYSTEM SPECIFICATIONS

Lower cut-off frequency, -3 dB:	≤ 55 Hz
Upper cut-off frequency, -3 dB:	≥ 21 kHz
Free field frequency response of system:	58 Hz – 20 kHz (± 2.0 dB)
Maximum short term sine wave acoustic output on axis in half space, averaged from 100 Hz to 3 kHz:	
@ 1m	≥ 100 dB SPL
@ 0.5m	≥ 106 dB SPL
Maximum long term RMS acoustic output in same conditions with IEC weighted noise (limited by driver unit protection circuit):	@ 1m ≥ 97 dB SPL
Maximum peak acoustic output per pair on top of console, @ 1 m from the engineer with music material:	≥ 108 dB
Self generated noise level in free field @ 1m on axis:	≤ 10 dB (A-weighted)
Harmonic distortion at 85 dB SPL @ 1m on axis:	
Freq: 50...100 Hz	< 2 %
> 100 Hz	< 0.5 %
Drivers:	
Bass	130 mm (5") cone
Treble	19 mm (3/4") metal dome
	Both drivers are magnetically shielded
Weight:	5.6 kg (12.3 lb)
Dimensions:	
Height (including Iso-Pod™ table stand)	299 mm (11 ^{13/16} ")
Height (without Iso-Pod™ table stand)	285 mm (11 ^{1/4} ")
Width	189 mm (7 ^{7/16} ")
Depth	178 mm (7")

CROSSOVER SECTION

Connectors:	
Input: XLR female, balanced 10 kOhm, pin 1 gnd, pin 2 +, pin 3 -	
Output: XLR male, balanced 100 kOhm Pin 1 gnd, pin 2 +, pin 3 -	
Input level for 100 dB SPL output at 1 m:	-6 dBu at volume control max
Volume control range:	-80 dB relative to max output
Output signal level is 0 dB relative to input signal level but adjustable by volume control	
Crossover frequency, Bass/Treble:	3.0 kHz
Treble tilt control operating range:	0 to -2 dB @ 15 kHz
Bass roll-off control operating in a -6 dB step @ 85 Hz (to be used in conjunction with a 7050A subwoofer)	
Bass tilt control operating range in -2 dB steps:	0 to -6 dB @ 100 Hz
The 'CAL' position is with all tone controls set to 'off' and the input sensitivity control to maximum (fully clockwise).	

AMPLIFIER SECTION

Bass amplifier output power with an 8 Ohm load:	40 W
Treble amplifier output power with an 8 Ohm load:	40 W
Long term output power is limited by driver unit protection circuitry.	
Amplifier system distortion at nominal output:	
THD	≤ 0.05 %
SMPTE-IM	≤ 0.05 %
CCIF-IM	≤ 0.05 %
DIM 100	≤ 0.05 %
Signal to Noise ratio, referred to full output:	
Bass	≥ 100 dB
Treble	≥ 100 dB
Mains voltage:	100, 120, 220 or 230 V according to region
Voltage operating range:	± 10 %
Power consumption:	
Idle	10 VA
Full output	80 VA

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International enquiries:
Genelec, Oivitie 5
FIN-74100, Ilisalmi, Finland
Phone +358 17 83 881
Fax +358 17 812 267
Email genelec@genelec.com

In the U.S. please contact
Genelec, Inc., 7 Tech Circle
Natick, MA 01760
Phone +1 508 652 0900
Fax +1 508 652 0909
Email genelec.usa@genelec.com

In China please contact:
Genelec China Representative Office
SOHO New Town, 88 Jianguo Road
D-1504, Chaoyang District, Beijing 100022, China
Phone +86 10 8580 2180 Fax +86 10 8580 2181
Email genelec.china@genelec.com