

1030A

Data Sheet
Genelec 1030A
Monitoring System

GENELEC®





Genelec 1030A Monitoring System

System

The Genelec 1030A is a very compact bi-amplified active monitoring system, which has performance comparable to much larger systems. The vented speaker enclosure has an amplifier unit set into the back. This unit contains an active electronic crossover, overload protection circuitry and two power amplifiers, one for each driver. The system's excellent dispersion and precise imaging together with its compact size make it ideal for near field monitoring, broadcast and TV control rooms, mobile vans, home studios and travelling engineers.

Genelec's unique Directivity Control Waveguide™ (DCW™) technology is used to provide excellent stereo imaging and frequency balance even in difficult acoustic environments. The versatile crossover controls (treble tilt, bass roll-off and bass tilt) allow further matching of the system to its surroundings. A pair of 1030A's can produce peak acoustic levels of over 115 dB SPL at 1 meter measuring distance. The speakers may be used in vertical or horizontal orientation, however, vertical orientation is recommended.

Integrated construction

Because the amplifiers are built into the speaker enclosure, the only connections required are the mains supply and the line level input signal, making the 1030A very easy to set up and use. The integrated design allows the amplifiers and the drivers to be calibrated as a single unit, thus eliminating the effects of component tolerances and ensuring consistent quality. The MDF cabinet has rounded corners and a hard-wearing painted outer surface. The amplifier unit is mounted on pivoting vibration isolators for improved reliability. This simple, rugged construction also makes maintenance very easy and straightforward.

Amplifiers

The bass and treble amplifiers produce 80 Watts and 50 Watts of short term power respectively, with very low THD and IM distortion values, and are designed to ensure the highest subjective sound quality currently possible. The amplifier unit also contains circuitry that detects levels above the drivers' safe limits and prevents any

Applications:

- Near Field Monitoring
- Broadcast Monitoring
- Surround Sound Monitoring
- TV Control Rooms
- Mobile Vans
- Video Post Production
- Project / Home Studios
- Digital Workstations.

damage, making the system immune to overloads and spurious signals which digital equipment and synthesizers often produce.

Drivers

A 18 mm ($\frac{3}{4}$ ") metal dome driver, loaded by a proprietary DCW, is used to reproduce the high frequencies.

The bass driver is a high efficiency 170 mm (6 $\frac{1}{2}$ ") polymer composite cone driver in a 6.5 liter vented cabinet. The -3 dB frequency is 52 Hz and the low frequency response extends down to 47 Hz. (-8 dB)

Both drivers are magnetically shielded for applications such as video post production, where stray magnetic fields must be minimized.

Crossover filters

The amplifier unit contains an active crossover, a feature more commonly used in large and expensive control room monitors. This is the ideal method for dividing the input signal between the driver units, and allows the overall response of the system to be optimized to an extent impossible with a passive system.

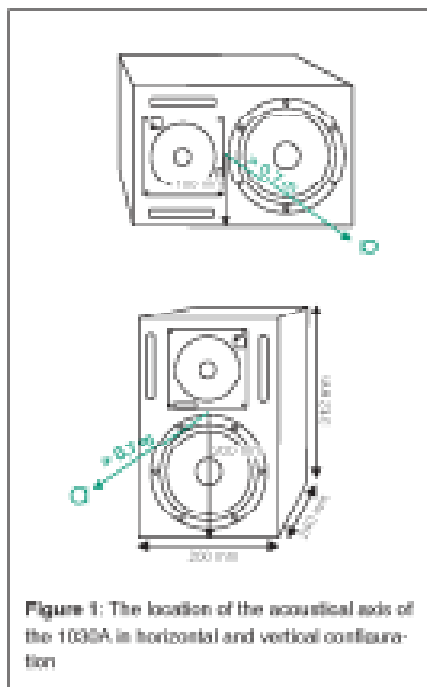


Figure 1: The location of the acoustical axis of the 1030A in horizontal and vertical configuration

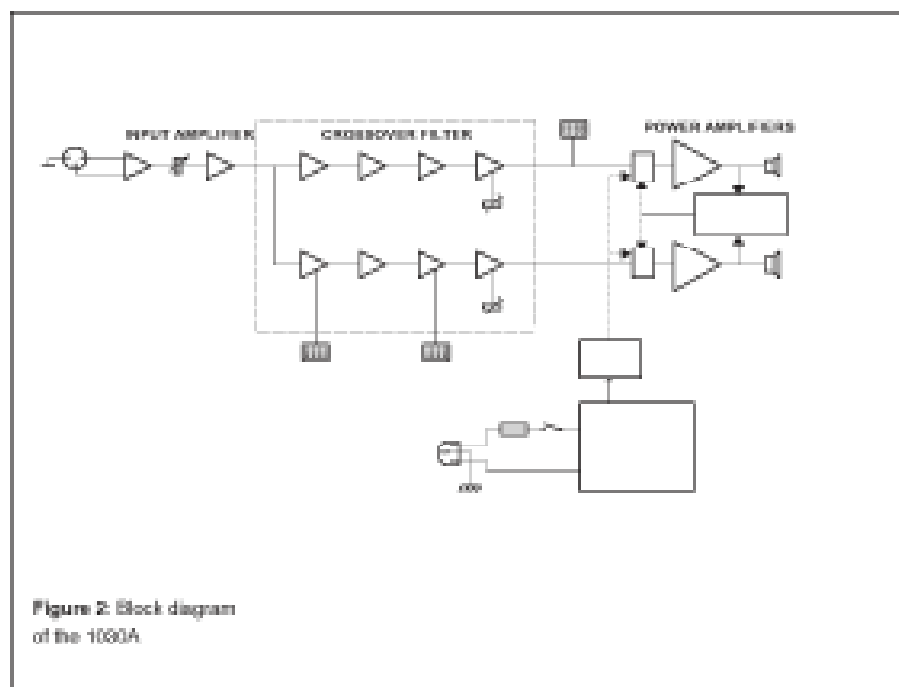


Figure 2: Block diagram of the 1030A

To maintain uniform frequency balance in differing acoustic environments, three special calibrated control groups are included in the active crossover network: treble and bass 'tilt' and bass 'roll-off' switches, which make adjustments in 2 dB steps. The system input is a balanced XLR, with adjustable sensitivity, to allow easy signal matching with the mixing console output.

Options

	Order code
Opt-04 Wall mount	1030-404V
	1030-404H
Opt-05 Floor stand	1030-105V
Opt-09 Grille	1030-409

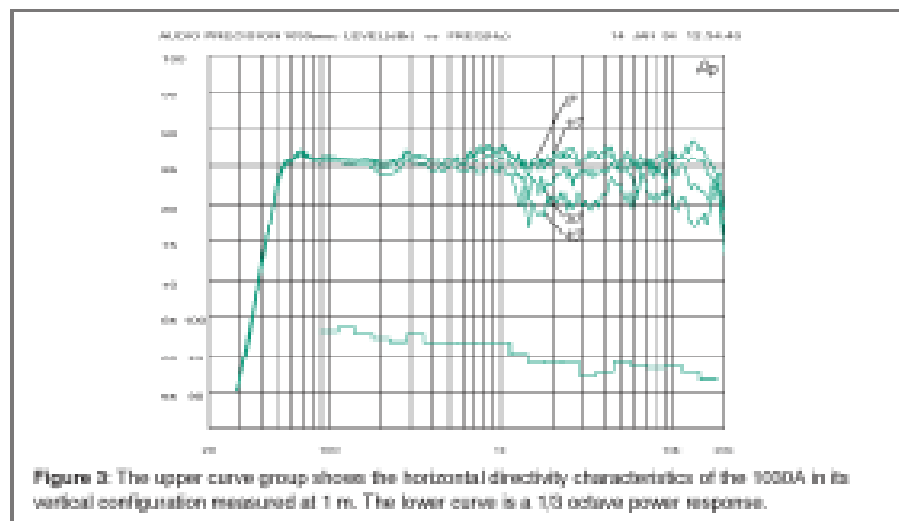


Figure 3: The upper curve group shows the horizontal directivity characteristics of the 1030A in its vertical configuration measured at 1 m. The lower curve is a 1/3 octave power response.

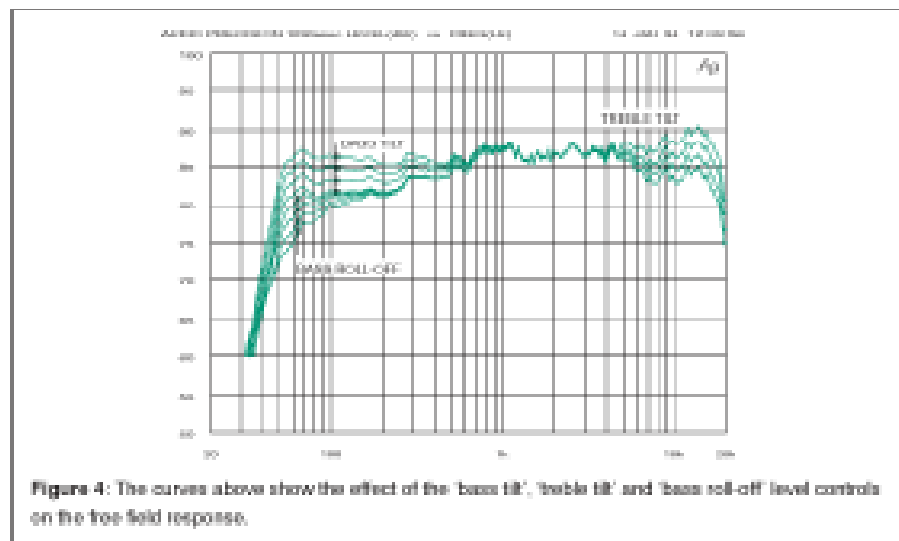


Figure 4: The curves above show the effect of the 'bass tilt', 'treble tilt' and 'bass roll-off' level controls on the free-field response.

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SYSTEM SPECIFICATIONS	
	1030A
Lower cut-off frequency: -3 dB Upper cut-off frequency: -3 dB Free field frequency response	< 50 Hz > 20 kHz 50 Hz - 15 kHz (± 0.5 dB)
Maximum short term sine wave acoustic output on axis in half space, averaged from 100 Hz to 3 kHz	@ 1 m > 105 dB SPL @ 0.5 m > 111 dB SPL
Maximum long term HMT acoustic output in same conditions with IEC-weighted noise (limited by driver unit protection circuit)	@ 1 m > 98 dB SPL @ 0.5 m > 105 dB SPL
Maximum peak acoustic output per pair @ 1 m from the engineer with music material	> 115 dB
Self generated noise level in free field @ 1 m on axis	> 15 dB (A-weighted)
Harmonic distortion at 90 dB SPL, @ 1 m on axis	Freq: 60 - 150 Hz < 3% > 150 Hz < 0.5%
Drivers	Base: 170 mm (6.7") cone Tweeter: 18 mm (0.7") horn driver (Both drivers are magnetically shielded)
Weight	7.6 kg (17 lb)
Speaker dimensions	Height: 312 mm (12.3") Width: 290 mm (11.4") Depth: 240 mm (9.4") Note that the cable connectors require additional 100 mm (4") of space behind the speaker cabinet.

AMPLIFIER SECTION	
	1030A
Base amplifier output power with an 8 Ohm load	1000 W @ 0.1%
Treble amplifier output power with an 8 Ohm load	Short term 20 W Long term output power is limited by driver unit protection circuitry.
Amplifier system distortion at nominal output	THD < 0.5% THD+N @ 100 < 0.5% CCM @ 100 < 0.5% CIS @ 100 < 0.5%
Signal to Noise ratio, referred to full output	Base > 95 dB Treble > 95 dB
Maximum voltage	0dB, 4000Vrms @ 4 meters U according to region
Voltage operating range	>10%
Power consumption	Idle: 10 VA Full output: 100 VA

CROSSOVER SECTION	
	1030A
Input connector: XLR female	pin 1: gnd pin 2: + pin 3: -
Input impedance	10 kOhm balanced
Input level for 100 dB SPL, output @ 1m	variable from -6 to +8 dBu
Input level for maximum short term sine wave output of 105 dB SPL, @ 1m	variable from +11 to +1.0dB
Subsonic filter below 50 Hz, maximum, 120 ms, 20 Hz	18 dB/octave 12 attenuative
Crossover frequencies Crossover associated slopes	Base/Treble: 3.5 kHz 24 - 30 dB/octave
Treble (H) control operating range in 3 dB steps	+2 to -4 dB & MUTE
Base (L) control operating range in 3 dB steps	from 0 to -8 dB, @ 100 Hz
Base tilt control operating range in 3 dB steps	from 0 to -6 dB, @ 150 Hz & MUTE
	The 'CAD' position is with all tone controls set to 'flat' and input sensitivity control to maximum and corresponds to a maximum flat free field response.

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